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Table B-1: LPV Habitat Impacts as Documented During Completion of the IERs (Final Resolution)

LPV FINAL HABITAT IMPACTS from IERs																							
	Protected Side										Flood Side												
IER+	Fresh and Intermediate Marsh		Brackish Marsh		Swamp		BLH wet		BLH dry		Fresh and Intermediate Marsh		Brackish Marsh		Swamp		BLH wet		BLH dry		Open Water	TOTAL**	
	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	AAHUs	Acres	**AAHUs**	**Acres**
1	0	0	0	0	137.05	73.99	1.50	0.19	0	0	0	0	0	0	143.60	110.97	11.33	8.09	0	0	19.41	**293.48**	**193.24**
2	0	0	0	0	0	0	0	0	0	0	0	0	31.50	20.45	2.00	1.55	0	0	0	0	78.00	**33.50**	**22.00**
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	417.00	**0**	**0**
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.90	**0**	**0**
6	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	68.80	**0**	**0**
7	119.00	42.90	0	0	0	0	169.00	89.20	0	0	0	0	126.00	67.40	0	0	32.80	12.20	0	0	6.76	**446.80**	**211.70**
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.30	**0**	**0**
9	0	0	0	0	0	0	0	0	0	0	1.90	1.20	0	0	0	0	1.20	0.66	10.02	4.65	1.80	**13.12**	**6.51**
10	106.47	57.26	0.08	0.05	0	0	38.32	16.44	0	0	53.20	31.26	269.84	178.68	0	0	35.31	15.22	0	0	50.00	**503.22**	**298.91**
11	0	0	0	0	0	0	0	0	2.46	0.41	0	0	80.84	34.70	0	0	0	0	9.48	1.59	45.00	**92.78**	**36.70**
18	0	0	0	0	0	0	0	0	44.00	14.65	0	0	0	0	0	0	0	0	0	0	0	**44.00**	**14.65**
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0.00**	**0.00**
Total	**225.47**	**100.16**	**0.08**	**0.05**	**137.05**	**73.99**	**208.82**	**105.83**	**46.46**	**15.06**	**55.10**	**32.46**	**508.18**	**301.23**	**145.60**	**112.52**	**80.64**	**36.17**	**19.50**	**6.24**	**695.97**	**1426.90**	**783.71**

+Includes IERs and supplements
****Total does not include impacts to open water as stated in this table**

Table B-2: Risk and Reliability Data Matrix

Risk & Reliability - LPV	Uncertainty Relative to Achieving Ecological Success	Uncertainty Relative to Implementability Concerns**	Adaptability	Long-term Sustainability
LPV ALTERNATIVES	Qualitative	Qualitative	Qualitative	% land @ TY50 (marsh)/ HSI @ TY50 (forest)
Non-Refuge BLH-Dry/BLH-Wet				
Bonnet Carre Restore	Uncertainty relative to spillway operation during early plant establishment; later spillway operation could impact mid-story -	Real Estate Ownerships: Public +	If all project components are implemented there is minimal room to add acreage. Manipulating elevation after planting is not practical. -	.98/.96
Frenier Restore	Minimal uncertainty related to existing hydrology 0	Real Estate Ownerships: Private; Coordination may be necessary regarding surface drainage issues - -	Additional acreage can be added. Manipulating elevation after planting is not practical, but there are options for manipulating surface hydrology. 0	.98/.95
Fritchie Restore/Enhance	Restoration feature only: uncertainty associated with fill (quality/quantity/settlement/location) and unproven methodology associated with BLH creation from open water -	Real Estate Ownership: Private -	There is only room to add acreage through restoration. Manipulating elevation after planting is not practical. -	.93(BLH-D)/.69(BLH-W-E)/.68(BLH-W-R)
Mitigation Bank (mitigate BLH-Dry impacts with BLH-Wet credits)	Minimal uncertainty; no adaptive mgmt need. 0	Real Estate Ownership: N/A; Minimal uncertainty ++	After credits are purchased no adaptation is necessary. +	0.63-0.96

**Alternatives with any private ownerships are penalized because it is assumed that there is more uncertainty relative to the acquisition of private ownerships than public ownerships.

Risk & Reliability - LPV	**Self-Sustainability**			**Risk of Exposure to Stressors/ Reliability of Design**			**Financial Assurances**
LPV ALTERNATIVES	Active engineering features?	Anticipated OMRR&R Activities	Relative difficulty OMRR&R	Relative probability of exposure to stressors [Note: Although subsidence is addressed via land loss in the WVA it is noted here as a stressor for enhancement projects where elevation cannot be adjusted without destroying existing vegetation	Project performance relative to stressors	Resiliency after exposure to stressors	Relative differences
	Yes/No	Anticipated OMRR&R Activities	Qualitative	Qualitative	Qualitative	Qualitative	Qualitative
Non-Refuge BLH-Dry/BLH-Wet							
Bonnet Carre Restore	No +	Inv species control, additional planting (if needed),general monitoring, and weir maintenance.-	Standard 0	Susceptible to storm surge, spillway operations, and storm-induced salinity impacts -	Storm-induced salinity and surge could stress trees, spillway opening could impact mid-story requiring replanting -		YES +
Frenier Restore	No +	Inv species control, additional planting (if needed), general monitoring, and weir maintenance -	Standard 0	Susceptible to storm-induced salinity impacts, storm surge, sea-level rise -	Salinity could stress trees; sea level rise could convert BLH to different habitat. -		YES +
Fritchie Restore/Enhance	No +	Inv species control, additional planting (if needed) and general monitoring. 0	Standard 0	Susceptible to periodic storm-induced salinity impacts, storm surge/wave action, sea-level rise, and subsidence - -	Salinity and storm surge/wave action could stress/kill trees; sea level rise could convert BLH to different habitat. -		YES +
Mitigation Bank (mitigate BLH-Dry impacts with BLH-Wet credits)	n/a (because the bank is responsible) 0	n/a (because the bank is responsible) +	n/a (because the bank is responsible) +	unknown location and age 0	unknown 0		Some banks have financial assurances and some don't 0

Risk & Reliability - LPV	Uncertainty Relative to Achieving Ecological Success	Uncertainty Relative to Implementability Concerns	Adaptability	Long-term Sustainability
LPV ALTERNATIVES	Qualitative	Qualitative	Qualitative	% land @ TY50 (marsh)/ HSI @ TY50 (forest)
Non-Refuge Swamp				
Bonnet Carre Restore	Uncertainty relative to spillway operation during early plant establishment; later spillway operation could impact mid-story -	Real Estate Ownerships: Public +	There is some room to add acreage. Manipulating elevation after planting is not practical. 0	0.68
Caernarvon Restore	Uncertainty relative to diversion operation during early plant establishment; future diversion operation; achieving appropriate design elevation and hydrologic conditions. Unproven methodology associated with swamp creation from open water. Uncertainty associated with fill (quality/quantity/settlement/location) - -	Real Estate Ownerships: Private -	There is minimal room to add acreage. Manipulating elevation after planting is not practical. -	0.66
Mitigation Bank	Minimal uncertainty; no adaptive mgmt need.0	Real Estate Ownerships: N/A; Minimal uncertainty ++	After credits are purchased no adaptation is necessary. +	0.60-1.00
Milton Island Restore	Uncertainty associated with fill (quality/quantity/settlement/location); Some uncertainty related to existing hydrology and interactions with surrounding area; Some uncertainty related to stressors currently affecting surrounding swamp habitat and southern portion of proposed mitigation site. -	Real Estate Ownerships: Private; Coordination may be necessary regarding surface drainage issues - -	There is room to add acreage. Manipulating elevation after planting is not practical, but there are options for adapting hydrology. +	.58(R)/.29(E)

Risk & Reliability - LPV	**Self-Sustainability**			**Risk of Exposure to Stressors/ Reliability of Design**			**Financial Assurances**
LPV ALTERNATIVES	Active engineering features?	Anticipated OMRR&R Activities	Relative difficulty OMRR&R	Relative probability of exposure to stressors	Project performance relative to stressors	Resiliency after exposure to stressors	Relative differences
	Yes/No	Anticipated OMRR&R Activities	Qualitative	Qualitative	Qualitative	Qualitative	Qualitative
Non-Refuge BLH-Dry/BLH-Wet							
Bonnet Carre Restore	No +	Inv species control, additional planting (if needed), general monitoring, and weir maintenance. -	Standard 0	Susceptible to storm surge, spillway operations, and storm-induced salinity impacts -	Storm-induced salinity and surge could stress trees, spillway opening could impact mid-story requiring replanting -		YES +
Caernarvon Restore	No +	Inv species control, additional planting (if needed) and general monitoring, possible channel maintenance, and scour issues. - -	Standard 0	Susceptible to change in diversion operations which could impact hydrology; storm-surge, storm-induced salinity impacts, sea-level rise. - -	Storm-induced salinity, surge, change in diversion flow could stress trees, and sea level rise could convert swamp to different habitat. -		YES +
Mitigation Bank	n/a (because the bank is responsible) 0	n/a (because the bank is responsible) +	n/a (because the bank is responsible) +	unknown location and age 0	unknown 0		Some banks have financial assurances and some don't 0
Milton Island Restore	No +	Inv species control, additional planting (if needed) and general monitoring. 0	Standard 0	Susceptible to storm-surge, storm-induced salinity impacts, sea-level rise. -	Storm-induced salinity and surge could stress trees; sea level rise could convert swamp to different habitat. -		YES +

Risk & Reliability - LPV	Uncertainty Relative to Achieving Ecological Success	Uncertainty Relative to Implementability Concerns	Adaptability	Long-term Sustainability
LPV ALTERNATIVES	Qualitative	Qualitative	Qualitative	% land @ TY50 (marsh)/ HSI @ TY50 (forest)
Non-Refuge Intermediate Marsh				
Bayou Des Mats Restore	Minimal uncertainty 0	Real Estate Ownerships: Public & Private -	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	79%
Big Branch Restore	Minimal uncertainty 0	Real Estate Ownerships: Public & Private -	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	66%
Caernarvon Restore	Minimal uncertainty 0	Real Estate Ownerships: Private -	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	0%
Fritchie Restore	Minimal uncertainty 0	Real Estate Ownerships: Public & Private -	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	62%
LaBranche Restore	Minimal uncertainty 0	Real Estate Ownerships: Private; CWPPRA Phase I project (PO-75) would have to be deauthorized prior to implementation of mitigation project - -	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	90%
Milton Island Restore	Minimal uncertainty 0	Real Estate Ownerships: Private -	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	87%

Risk & Reliability – LPV	Self-Sustainability			Risk of Exposure to Stressors/ Reliability of Design			Financial Assurances
LPV ALTERNATIVES	Active engineering features?	Anticipated OMRR&R Activities	Relative difficulty OMRR&R	Relative probability of exposure to stressors	Project performance relative to stressors	Resiliency after exposure to stressors	Relative differences
	Yes/No	Anticipated OMRR&R Activities	Qualitative	Qualitative	Qualitative	Qualitative	Qualitative
Non-Refuge Intermediate Marsh							
Bayou Des Mats Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to sea level rise 0	Sea level rise could convert marsh to different habitat (open water) 0		YES +
Big Branch Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +
Caernarvon Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +
Fritchie Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +
LaBranche Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +
Milton Island Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +

Risk & Reliability - LPV	Uncertainty Relative to Achieving Ecological Success	Uncertainty Relative to Implementability Concerns	Adaptability	Long-term Sustainability
LPV ALTERNATIVES	Qualitative	Qualitative	Qualitative	% land @ TY50 (marsh)/ HSI @ TY50 (forest)
Non-Refuge/Refuge Brackish Marsh				
Bayou Sauvage Restore	Minimal uncertainty 0	Real Estate Ownerships: Public & Private; Does not require USFWS exception to Final Policy on the NWR System and Compensatory Mitigation under Section 10/404 Prgm. USFWS has indicated that this would be acceptable mitigation for refuge impacts. 0	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	81%
Big Branch Restore	Minimal uncertainty 0	Real Estate Ownerships: Public & Private; Will require USFWS exception to Final Policy on the NWR System and Compensatory Mitigation under Section 10/404 Prgm, which could impact schedule. USFWS has indicated that this would be acceptable mitigation for refuge impacts.-	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	66%
Fritchie Restore	Minimal uncertainty 0	Real Estate Ownerships: Public & Private; Will require USFWS exception to Final Policy on the NWR System and Compensatory Mitigation under Section 10/404 Prgm, which could impact schedule. USFWS has indicated that this would be acceptable mitigation for refuge impacts.-	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	62%

Risk & Reliability - LPV	Uncertainty Relative to Achieving Ecological Success	Uncertainty Relative to Implementability Concerns	Adaptability	Long-term Sustainability
LPV ALTERNATIVES	Qualitative	Qualitative	Qualitative	% land @ TY50 (marsh)/ HSI @ TY50 (forest)
Golden Triangle Restore	Uncertainty relative to project area hydrodynamics during storm events due to surge barrier. -	Real Estate Ownesrhips: Public & Private; Does not require USFWS exception to Final Policy on the NWR System and Compensatory Mitigation under Section 10/404 Prgm. USFWS has indicated that this may not be acceptable mitigation for refuge impacts due to sustainability concerns.- -	Opportunity to add acreage. Could be adapted with marsh nourishment, supplemental plantings, or shoreline protection/maintenance. 0	59%
Refuge PS BLH Wet				
Bayou Sauvage Restore	Uncertainty associated with fill (quality/quantity/ settlement/location). Unproven methodology associated with BLH creation from open water.	Real Estate Ownerships: Public; Coordination required regarding western drainage structure operation and water management master plan.	There is room to add acreage. Manipulating elevation after planting is not practical. Some possibility for future hydrologic adaptations.	0.86
Refuge FS BLH-Wet				
Fritchie Enhance	Minimal uncertainty based on current data.	Real Estate Ownerships: Private	There is no room to add acreage. Manipulating elevation after planting is not practical.	0.69
Refuge PS Intermediate Marsh				
Bayou Sauvage Restore	Minimal uncertainty	Real Estate Ownerships: Public	Opportunity to add acreage. Could be adapted with marsh nourishment, shoreline protection/maintenance and supplemental plantings. Some possibility for future hydrologic adaptations.	36%

Risk & Reliability - LPV	**Self-Sustainability**			**Risk of Exposure to Stressors/ Reliability of Design**			**Financial Assurances**
LPV ALTERNATIVES	Active engineering features?	Anticipated OMRR&R Activities	Relative difficulty OMRR&R	Relative probability of exposure to stressors [Note: Although subsidence is addressed via land loss in the WVA it is noted here as a stressor for enhancement projects where elevation cannot be adjusted without destroying existing vegetation]	Project performance relative to stressors	Resiliency after exposure to stressors	Relative differences
	Yes/No	Anticipated OMRR&R Activities	Qualitative	Qualitative	Qualitative	Qualitative	Qualitative
Non-Refuge/Refuge Brackish Marsh							
Bayou Sauvage Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +
Big Branch Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +
Fritchie Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to wave action and sea level rise -	Sea level rise and wave action could convert marsh to different habitat (open water) 0		YES +
Golden Triangle Restore	No +	Possible planting, general monitoring. 0	Standard 0	Susceptible to sea level rise 0	Sea level rise could convert marsh to different habitat (open water) 0		YES +
Refuge PS BLH Wet							
Bayou Sauvage Restore	No	Inv species control, additional planting (if needed) and general monitoring.	Standard	Possible susceptibility to storm-induced salinity impacts if levees are overtopped	Salinity could stress/kill trees		YES

Risk & Reliability – LPV	**Self-Sustainability**			**Risk of Exposure to Stressors/ Reliability of Design**		**Financial Assurances**
LPV ALTERNATIVES	Active engineering features?	Anticipated OMRR&R Activities	Relative difficulty OMRR&R	Relative probability of exposure to stressors [Note: Although subsidence is addressed via land loss in the WVA it is noted here as a stressor for enhancement projects where elevation cannot be adjusted without destroying existing vegetation]	Project performance relative to stressors	Resiliency after exposure to stressors
Refuge FS BLH-Wet						
Fritchie Enhance	No	Inv species control, additional planting (if needed) and general monitoring.	Standard	Susceptible to periodic storm-induced salinity impacts, storm surge/wave action, sea-level rise, subsidence.	Salinity and storm surge/wave action could stress/kill trees; sea level rise could convert BLH to different habitat.	YES
Refuge PS Intermediate Marsh						
Bayou Sauvage Restore	No	Possible planting, general monitoring.	Standard	Possible susceptibility to wave action	Salinity could stress/kill trees	YES

Table B-3: Watershed & Ecological Site Considerations Data Matrix

Watershed & Ecological - LPV	**Watershed Considerations/Significance in Watershed**					**Ecological Site Considerations (swamp and marsh only)**	
LPV ALTERNATIVES	Contiguous with or within resource managed area	Located in Parish with Impacts	Critical Geomorphic Feature	LaCPR Critical Landscape Feature	Habitat Linkage	fragmentation within site boundary	Habitat connectivity to larger project area given future land use trends
	Yes (name area) / No	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	Qualitative
Non-Refuge BLH-Dry/BLH-Wet							
Bonnet Carre Restore	Completely within the Bonnet Carre Spillway +	No (St Charles) - No Impacts for LPV, but BLH-Wet impacts for WBV (St Charles) 0	No 0	No 0	Yes ++	n/a 0	n/a 0
Frenier Restore	No -	No (St John the Baptist) 0	No 0	No 0	Partial +	n/a 0	n/a 0
Fritchie Restore/Enhance	In close proximity to Big Branch Marsh National Wildlife Refuge and Completely within PO-06 (CWPPRA) Fritchie Marsh Restoration +	No (St Tammany) 0	Yes (chenier) +	Yes, BLH-Dry is completely within Critical Feature # 2, Pontchartrain Landbridge/Highway 90 - BLH-Wet Majority covered in Critical Feature #2 +	No -	n/a 0	n/a 0
Mitigation Bank (mitigate BLH-Dry impacts with BLH-Wet credits)	A mitigation bank is a resource managed area. +	No 0	No 0	No 0	No -	n/a 0	n/a 0

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Non-Refuge BLH-Dry/BLH-Wet				
Bonnet Carre Restore	Yes. Objective 1 - Addition of BLH outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. Potential borrow source from Mississippi River. +	Yes - Strategic Goals (Create wetlands, dedicated dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Yes, Not coincident with a coastal measure. Project is located on the flood side of existing levees but on the protected side of proposed LaCPR levees. +
Frenier Restore	Yes. Objective 1 - Addition of BLH outside of levee protection, Objective 2, Objective 3 - Conversion of Ag land to BLH. *The Governor's office commissioned an Advisory Panel to define stakeholder issues and make associated policy recommendations for sustainable management of coastal forests in Louisiana based upon the Coastal Wetland Forest Conservation and Use Science Working Group, 2005 report. One of the major recommendations was to develop state programs for restoration of existing coastal wetland forests or creation of new coastal wetland forests on agricultural or other suitable open lands, and ensure these programs work in concert with relevant federal programs.* +	Yes - Strategic Goals (Create wetlands, dedicated dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Yes, Not coincident with a coastal measure. Project is located on the flood side of existing levees but on the protected side of proposed LaCPR levees. +

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Fritchie Restore/Enhance	Yes. Objective 1 - Addition of BLH outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. For Restoration Feature: Conversion of open water to BLH +	Yes - Strategic Goals (Create wetlands, dedicated dredging, maintain critical landforms) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Yes, Completely within coastal measure 2-5 East New Orleans Land Bridge Marsh Creation - 7,996 @ 900 acres/year (ENHANCE BLH DRY ONLY); On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. +
Mitigation Bank (mitigate BLH-Dry impacts with BLH-Wet credits)	No change since banks are already in place 0	No change since banks are already in place 0	No change since banks are already in place 0	No change since banks are already in place 0

**The predicted reductions in high and low monthly salinity provided in this table are derived from the results of the UNO Mass Balance Model which was used to complete the Environmental Impact Statement for the Mississippi River Gulf Outlet Ecosystem Restoration Project. This model produced predicted monthly high and low salinities for the Pontchartrain Basin under scenarios with and without the Hope Canal and Convent/Blind River diversions, and LCA modification to Caernarvon Diversion.

Watershed & Ecological - LPV	**Watershed Considerations/Significance in Watershed**					**Ecological Site Considerations (swamp and marsh only)**	
LPV ALTERNATIVES	Contiguous with or within resource managed area	Located in Parish with Impacts	Critical Geomorphic Feature	LaCPR Critical Landscape Feature	Habitat Linkage	Fragmentation within site boundary	Habitat connectivity to larger project area given future land use trends
	Yes (name area) / No	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	Qualitative
Non-Refuge Swamp							
Bonnet Carre Restore	Completely within the Bonne Carre Spillway +	Yes (St Charles) +	No 0	No 0	Yes ++	Yes, fragmented by canals and roads --	No -
Caernarvon Restore	Completely within the BS-03a and BS-08 Caernarvon Freshwater Diversion and Outfall Management +	No (Plaquemines) 0	No 0	No 0	No -	Yes, fragmented by diversion bifurcation canals. --	No -
Mitigation Bank	A mitigation bank is a resource managed area. +	No 0	No 0	No 0	No -	unknown 0	unknown 0
Milton Island Restore	No -	No (St Tammany) 0	No 0	No 0	Yes ++	Yes, due to transmission line. --	No -

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Non-Refuge Swamp				
Bonnet Carre Restore	Yes. Objective 1 - Addition of swamp outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. Potential borrow source from Mississippi River. +	Yes - Regional Ecosystem Strategies (Restore swamps) Strategic Goals (Create Wetlands, dedicated dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Yes, Not coincident with a coastal measure. Project is located on the flood side of existing levees but on the protected side of proposed LaCPR levees. +
Caernarvon Restore	Yes. Objective 1 - Addition of swamp outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to swamp. +	Yes - Regional Ecosystem Strategies (Restore swamps) Strategic Goals (Create Wetlands, dedicated dredging) +	Yes/No, The LCA Modification to Caernarvon project assumes that Big Mar is open water; therefore, the proposed cypress swamp mitigation must be modeled for impacts on existing diversion operations as well as any modifications it would have to the assumptions for the LCA Modification to Caernarvon feasibility study. The proposed swamp mitigation could increase sediment trapping within Big Mar and could also aid in re-distributing diversion (and diversion modification) benefits within the Caernarvon basin. The mitigation project would benefit from nutrients, fresh water, and sedimentation from the LCA Modification to Caernarvon project, but would duplicate some benefits for marsh creation assigned to the LCA Modification to Caernarvon project (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. 0	Yes, Completely within coastal measure 2-12 Caernarvon Diversion – sized to sustain all marshes between Bayou Terre aux Boeufs and the Miss. River; Project is located adjacent to the existing East Plaquemines Non-Federal Levee on the floodside. It is also on the floodside of the Lake Pontchartrain and Vicinity Levees ++

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Mitigation Bank	No change since banks are already in place 0	No change since banks are already in place 0	No change since banks are already in place 0	No change since banks are already in place 0
Milton Island Restore	Yes. Objective 1 - Addition of swamp outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to swamp. +	Yes - Regional Ecosystem Strategies (Restore swamps) Strategic Goals (Create Wetlands, dedicated dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Not coincident with a coastal measure; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. 0

Watershed & Ecological - LPV	**Watershed Considerations/Significance in Watershed**					**Ecological Site Considerations (swamp and marsh only)**	
LPV ALTERNATIVES	Contiguous with or within resource managed area	Located in Parish with Impacts	Critical Geomorphic Feature	LaCPR Critical Landscape Feature	Habitat Linkage	Fragmentation within site boundary	Habitat connectivity to larger project area given future land use trends
	Yes (name area) / No	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	Qualitative
Non-Refuge Intermediate Marsh							
Bayou Des Mats Restore	Partially within the St Tammany Wildlife Refuge and Big Branch Marsh National Wildlife Refuge ++	No (St Tammany) 0	No 0	No 0	No -	No +	No -
Big Branch Restore	Majority within Big Branch Marsh National Wildlife Refuge ++	No (St Tammany) 0	No 0	No 0	Partial +	No +	No -
Caernarvon Restore	Completely within the BS-03a and BS-08 Caernarvon Freshwater Diversion and Outfall Management, Completely within the Caernarvon 4th Supplemental Project Area +	Yes (St Bernard) +	Yes (lake rim) +	No 0	Partial +	No +	No -
Fritchie Restore	Partially within Big Branch Marsh National Wildlife Refuge, Completely within PO-06 (CWPPRA) Fritchie Marsh Restoration ++	No (St Tammany) 0	No 0	No 0	Partial +	No +	No -

Watershed & Ecological - LPV	**Watershed Considerations/Significance in Watershed**					**Ecological Site Considerations (swamp and marsh only)**	
LPV ALTERNATIVES	Contiguous with or within resource managed area	Located in Parish with Impacts	Critical Geomorphic Feature	LaCPR Critical Landscape Feature	Habitat Linkage	Fragmentation within site boundary	Habitat connectivity to larger project area given future land use trends
	Yes (name area) / No	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	Qualitative
LaBranche Restore	Slight overlap with PO-03b LaBranche Shoreline Protection Project ++	No (St Charles) 0	Yes (lake rim) +	No 0	Partial +	No +	No -
Milton Island Restore	No -	No (St Tammany) 0	Yes (lake rim) +	No 0	No -	No +	No -

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Non-Refuge Intermediate Marsh				
Bayou Des Mats Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 3 ppt in high monthly salinity and 2 ppt in low monthly salinity)**. +	Not coincident with a coastal measure; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. 0
Big Branch Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3, and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 3 ppt in high monthly salinity and 2 ppt in low monthly salinity)**. +	Not coincident with a coastal measure; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. 0
Caernarvon Restore	Yes. Objective 1 - shoreline protection and addition of marsh outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh, maintain critical landforms) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes/No, This project will benefit from nutrients and fresh water from the LCA Modification to Caernarvon project. This project will likely duplicate some benefits for marsh creation assigned to the LCA Modification to Caernarvon project (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. 0	Yes, Completely within coastal measure 2-12 Caernarvon Diversion – sized to sustain all marshes between Bayou Terre aux Boeufs and the Miss. River. Project is located on the floodside of existing Lake Pontchartrain and Vicinity Levees and East Plaquemines Non-Federal Levee ++

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Fritchie Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3, and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Portions may be consistent with Measure 1-12 St Tammany Marsh Restoration. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Not coincident with a coastal measure; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. 0
LaBranche Restore	Yes. Objective 1 - shoreline protection and addition of marsh outside of levee protection, Objective 2, Objective 3 and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh, maintain critical landforms) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high mon thly salinity and 1 ppt in low monthly salinity)**. +	Yes, Completely within coastal measure 2-3 LaBranche Diversion – diversion directly into LaBranche wetlands to sustain those wetlands; Project is located on the flood side of existing levees but on the protected side of proposed LaCPR levees. ++
Milton Island Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3, and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh, maintain critical landforms) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Not coincident with a coastal measure; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. 0

Watershed & Ecological - LPV	**Watershed Considerations/Significance in Watershed**					**Ecological Site Considerations (swamp and marsh only)**	
LPV ALTERNATIVES	Contiguous with or within resource managed area	Located in Parish with Impacts	Critical Geomorphic Feature	LaCPR Critical Landscape Feature	Habitat Linkage	Fragmentation within site boundary	Habitat connectivity to larger project area given future land use trends
	Yes (name area) / No	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	Qualitative
Non-Refuge/Refuge Brackish Marsh							
Bayou Sauvage Restore	Partially within Bayou Sauvage National Wildlife Refuge, Completely within PO-02c Bayou Chevee, Completely within PO-22 (CWPPRA) Bayou Chevee Shoreline Protection ++	Yes (Orleans) +	Yes (lake rim, land bridge) +	Yes, Partial coverage by Critical Feature #2, Pontchartrain Landbridge/Highway 90 +	Yes ++	Yes --	No -
Big Branch Restore	Partially within Big Branch Marsh National Wildlife Refuge ++	No (St Tammany) 0	No 0	No 0	Partial +	No +	No -
Fritchie Restore	Partially within Big Branch Marsh National Wildlife Refuge, Completely within PO-06 (CWPPRA) Fritchie Marsh Restoration ++	No (St Tammany) 0	No 0	No 0	Partial +	No +	No -
Golden Triangle Restore	Partially within Bayou Sauvage National Wildlife Refuge and completely within the acquisition boundary, Adjacent to PO-36 (EB) CIAP Orleans Land bridge shoreline protection and marsh creation ++	Yes (Orleans) +	No 0	Adjacent to Critical Feature #2, Pontchartrain Landbridge/Highway 90 0	Partial +	No +	No -

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Non-Refuge/Refuge Brackish Marsh				
Bayou Sauvage Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3, Objective 4 (some restoration within Bayou Sauvage National Wildlife Refuge) and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Consistent with Measure 1-14 East Orleans Landbridge Restoration. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh, maintain critical landforms) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Yes, partially within coastal measure 2-5 East New Orleans Land Bridge Marsh Creation - 7,996 @ 900 acres/year; On protected side of proposed Lake Pontchartrain surge barrier-weir but on floodside of LPV levee. + +
Big Branch Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3, Objective 4 (some restoration within Big Branch National Wildlife Refuge) and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 3 ppt in high monthly salinity and 2 ppt in low monthly salinity)**. +	Not coincident with a coastal measure; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. 0
Fritchie Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3, Objective 4 (some restoration within Big Branch National Wildlife Refuge) and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Portions are consistent with Measure 1-12 St Tammany Marsh Restoration. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**. +	Not coincident with a coastal measure; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment. 0

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Golden Triangle Restore	Yes. Objective 1 - Addition of marsh outside of levee protection, Objective 2, Objective 3, Objective 4 (some restoration within Bayou Sauvage National Wildlife Refuge) and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore. Consistent with Measure 1-18 Marsh Restoration using Dredge Material at Golden Triangle. Conversion of open water to marsh. +	Yes - Regional Ecosystem Strategies (Restore and sustain marsh) Strategic Goals (Create Wetlands, Dedicated Dredging) +	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**.+	Yes, completely within coastal measure 2-4 Bayou Bienvenue Diversion – to reduce East New Orleans landbridge loss rates by 50%; On protected side of proposed LaCPR levee but on floodside of LPV levee. + +

Watershed & Ecological - LPV	**Watershed Considerations/Significance in Watershed**					**Ecological Site Considerations (swamp and marsh only)**	
LPV ALTERNATIVES	Contiguous with or within resource managed area	Located in Parish with Impacts	Critical Geomorphic Feature	LaCPR Critical Landscape Feature	Habitat Linkage	Fragmentation within site boundary	Habitat connectivity to larger project area given future land use trends
	Yes (name area) / No	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	Qualitative
Refuge PS BLH Wet							
Bayou Sauvage Restore	Completely within Bayou Sauvage National Wildlife Refuge, Completely within PO-16 (CWPPRA) Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1.	Yes (Orleans)	No	Yes, Critical Feature # 2, Pontchartrain Landbridge/Highway 90	No	Yes, due to drainage channel	No
Refuge FS BLH-Wet							
Fritchie Enhance	In close proximity to Big Branch Marsh National Wildlife Refuge and Completely within PO-06 (CWPPRA) Fritchie Marsh Restoration	No (St Tammany)	Yes (chenier, land bridge)	Yes, Critical Feature # 2, Pontchartrain Landbridge/Highway 90	No	n/a	n/a
Refuge PS Intermediate Marsh							
Bayou Sauvage Restore	Completely within Bayou Sauvage National Wildlife Refuge, Completely within PO-16 (CWPPRA) Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1.	Yes (Orleans)	No	Yes, Critical Feature # 2, Pontchartrain Landbridge/Highway 90	No	Yes, due to drainage channel	No

Watershed Considerations/Significance in Watershed (Consistency)				
Watershed & Ecological - LPV	With State Master Plan	With Coast 2050 Plan	With LCA	With LACPR
LPV ALTERNATIVES	Yes / No (objective)	Yes / No (objective)	Yes / No	Yes / No
Refuge PS BLH Wet				
Bayou Sauvage Restore	Yes. Objective 3, Objective 4 (project located within Bayou Sauvage National Wildlife Refuge) and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. Potential borrow source from Mississippi River. Consistent with Measure 1-14 East Orleans Landbridge Restoration. Conversion of open water to BLH.	Yes - Strategic Goals (Create wetlands, dedicated dredging)	Because the project is located on the protected side of the levee system, it does not affect, nor is it affected by proposed LCA projects.	Not coincident with a coastal measure; On protected side of Lake Pontchartrain and Vicinity Levee so it will not add benefit to the levee system.
Refuge FS BLH-Wet				
Fritchie Enhance	Yes. Objective 2, Objective 3, Objective 4 (restoration within Big Branch National Wildlife Refuge) and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. However plan prefers dredge material from rivers and offshore.	Yes - Strategic Goals (maintain critical landforms)	Yes, It may experience some freshening as diversions at Hope Canal and Convent/Blind River are implemented (predicted max. reduction of 2 ppt in high monthly salinity and 1 ppt in low monthly salinity)**.	Partially within coastal measure 2-5 East New Orleans Land Bridge Marsh Creation - 7,996 @ 900 acres/year; On protected side of proposed Lake Pontchartrain surge barrier-weir so it would not add benefit to this proposed levee alignment.
Refuge PS Intermediate Marsh				
Bayou Sauvage Restore	Yes. Objective 3, Objective 4 (restoration within Bayou Sauvage National Wildlife Refuge) and also measure LSP-5 Sediment Inventory and Allocation; sub-measure B. Potential borrow source from Mississippi River. Consistent with Measure 1-14 East Orleans Landbridge Restoration. Conversion of open water to marsh.	Yes - Region 2 Objectives, and Regional Ecosystem Strategies (Restore and sustain marsh) Strategic Goals (Create wetlands, dedicated dredging)	Because the project is located on the protected side of the levee system, it does not affect, nor is it affected by proposed LCA projects.	Not coincident with a coastal measure; On protected side of Lake Pontchartrain and Vicinity Levee so it will not add benefit to the levee system.

Table B-4: Environmental Impact Summary Data Matrix

	Hydrology/ Hydraulics	**Navigable Waters**	**Scenic Rivers**	**Water Quality**	**Wildlife & Habitats**	**Water Bottoms/ Benthic**	**T & E**	**EFH**
	Qualitative	*Yes/No; Extent of impact; Perm/Temp*	*Coordination or permitting necessary? Yes/no; Perm/Temp*	*Qualitative*	*Acreage of habitat by type impacted; acreage of habitat by type created*	*Acreage; perm/temp*	*Species; critical habitat*	*Acreage; species impacted/ life stage; temp/perm*
Non-Refuge BLH-Dry/Non-Refuge BLH-Wet								
General Mitigation Bank	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0
Bonnet Carre BLH-Dry and BLH-Wet Restoration	improved hydrology, decreased runoff +	Yes, if Miss. River used; 50 acres; Temporary -	No 0	Turbidity; temporary -	110 acres shallow water/scrub-shrub converted to 110 acres BLH W/D; improved habitat for various species +	mit. Site:~110 acres; permanent; borrow site: 50-120 acres; temp --	mit. Site: manatee, gulf sturgeon borrow: pallid sturgeon -	Mit site: no EFH; Borrow: if in lake 120 acres; brown shrimp, white shrimp, red drum; poslarval and juvenile; perm --
Frenier BLH-Dry and BLH-Wet Restoration	manipulated to natural hydrology, decreased runoff +	No 0	No 0	Turbidity; temporary -	115 acres of ag converted to 115 acres of BLH; improved habitat for various species +	0	none in area 0	no EFH 0

Fritchie Non-Refuge BLH-Dry Enhancement/ BLH-Wet Enhancement-Restoration	Increased then decreased runoff enhancement feature; conversion from permanently to seasonally flooded in restoration feature, but increased runoff 0	No 0	No 0	Turbidity; temporary -	385 acres of BLH improved; 45 acres open water converted to BLH; improved and increased habitat for various species; elimination of 45 acres waterfowl habitat; eagle and osprey nests present +	44 acres; permanent -	borrow and mit site: manatee; site: gulf sturgeon critical habitat --	enhancement: no EFH; restoration: 45 acres; post larval and juvenile brown shrimp, white shrimp, red drum; permanent; borrow: 25 acres; post larval and juvenile brown shrimp, white shrimp, red drum, juvenile spanish mackerel; perm -

SUBCRITERIA	**Aquatic/ Fisheries**	**Prime Farmland**	**Cultural Resources**	**Recreation**	**Noise**	**Aesthetics**	**HTRW**	**Environmental Justice**	**Socioeconomics/ Land Use**
	Acreage of habitat created; acreage of habitat eliminated	*Yes/no; acreage*	*Qualitative*	*Acreage of recreational resource impact; recreational resources impacted; acreage of recreation resources created/enhanced/ restored*	*# commercial/ residential within 100 ft.*	*Qualitative*	*Probability of encountering HTRW*	*# low - income/minority populations disproportionately impacted*	*# comm/indust properties impacted; # residential units impacted; # public properties impacted; Acres ag land converted; acres forest land converted*
Non-Refuge BLH-Dry/Non-Refuge BLH-Wet									
General Mitigation Bank	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0
Bonnet Carre BLH-Dry and BLH-Wet Restoration	0 created; 110 scrub-shrub/limited open water eliminated; eliminates habitat for fish, crab, shrimp --	No 0	previous investigations show low probability of encountering resources -	100 acres fishing/crawfishing/ crabbing eliminated; 110 acres hiking/birding/limited crawfishing created 0	0 0	no impact 0	Low 0	0	0 0
Frenier BLH-Dry and BLH-Wet Restoration	none created nor eliminated 0	yes; 114 acres -	no previous surveys -	0 acres impacted; up to 115 acres hunting/birding created +	residential subdivision and several individual residences --	no impact 0	Low 0	0	115 acres of ag land converted -

Fritchie Non-Refuge BLH-Dry Enhancement/ BLH-Wet Enhancement-Restoration	45 acres open water/mud bottom eliminated; decreased habitat for fish, crab and shrimp -	yes; 237 acres --	Previous partial survey showed 1 non-eligible site; moderate probability of additional sites in Lake --	44 acres fishing converted to hunting; 385 acres hunting improved ++	residences, but little noise created by enhancement -	no impact 0	Low 0	0	0 0

SUBCRITERIA	**Hydrology/Hydraulics**	**Navigable Waters**	**Scenic Rivers**	**Water Quality**	**Wildlife & Habitats**	**Water Bottoms/ Benthic**	**T & E**	**EFH**
	Qualitative	*Yes/No; Extent of impact; Perm/Temp*	*Coordination or permitting necessary? Yes/no; Perm/Temp*	*Qualitative*	*Acreage of habitat by type impacted; acreage of habitat by type created*	*Acreage; perm/temp*	*Species; critical habitat*	*Acreage; species impacted/ life stage; temp/perm*
Non-refuge Swamp								
General Mitigation Bank	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0
Bonnet Carre Swamp Restoration	improved hydrology, reduced runoff +	no impact 0	no impact 0	Turbidity; temporary -	250 acres shallow water/scrub-shrub converted to 250 acres swamp; improved habitat for various species +	mit. Site:~250 acres; permanent; borrow site: 120 acres; temp -	borrow: manatee and gulf sturgeon -	Mit site: no EFH; Borrow: if in lake 120 acres; brown shrimp, white shrimp, red drum; poslarval and juvenile; perm -
Caernarvon Swamp Restoration	convert from permanently flooded to semi-permanently flooded; could impact flows from Big Mar; increased runoff -	no impact 0	no impact 0	Turbidity; temporary -	660 acres of open water converted to 660 acres of swamp; colonial nesting rookery present; increased habitat for various species +	Mit site: 660 acres; permanent; borrow site: 290 acres; temp --	no species present 0	Mit site: 660 acres; postlarval and juvenile brown shrimp, white shrimp, red drum; permanent temporal loss; Borrow: 290 acres; poslarval and juvenile brown shrimp, white shrimp, red drum; perm --

Milton Island Swamp Restoration	improved hydrology; conversion from permanent flooding to seasonal flooding, increased runoff 0	no impact 0	no impact 0	Turbidity; temporary -	70 acres swamp enhanced; 280 acres of open water converted to swamp; colonial nesting rookery present; decreased habitat for certain waterfowl; increased habitat for various species; +	Mit site: 280 acres; permanent; borrow site: 106 acres; temp -	borrow site: manatee and gulf sturgeon -	Mit site: 0 acres EFH. Borrow: 106 acres; postlarval and juvenile brown shrimp and red drum; perm -

SUBCRITERIA	**Aquatic/ Fisheries**	**Prime Farmland**	**Cultural Resources**	**Recreation**	**Noise**	**Aesthetics**	**HTRW**	**Environmental Justice**	**Socioeconomics/ Land Use**
	Acreage of habitat created; acreage of habitat eliminated	*Yes/no; acreage*	*Qualitative*	*Acreage of recreational resource impact; recreational resources impacted; acreage of recreation resources created/enhanced/ restored*	*# commercial/ residential within 100 ft.*	*Qualitative*	*Probability of encountering HTRW*	*# low - income/minority populations disproportionately impacted*	*# comm/indust properties impacted; # residential units impacted; # public properties impacted; Acres ag land converted; acres forest land converted*
Non-refuge Swamp									
General Mitigation Bank	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0	no impact 0
Bonnet Carre Swamp Restoration	250 acres swamp created; 250 acres scrub-shrub/limited open water eliminated; continued use by fish, crab and shrimp 0	No 0	previous investigations show low probability of encountering resources -	250 acres of fishing becomes more limited; 250 acres of crawfishing and crabbing enhanced; 250 acres of birding habitat created. 0	0 0	no impact 0	Low 0	0 0	0 0

Caernarvon Swamp Restoration	660 acres swamp created; 660 acres open water/emergent marsh eliminated; continued use by fish, crab and shrimp 0	No 0	previous investigations found 2 non-eligible sites; no additional discoveries anticipated -	660 acres reduced fishing, improved duck hunting 0	0 0	no impact 0	Low 0	0 0	0 0
Milton Island Swamp Restoration	70 acres swamp enhanced, 280 acres swamp created; 280 acres open water eliminated; continued use by fish and shrimp 0	yes; 244 acres -	no previous surveys of open water site; 1 site ident. 100 meters south; moderate to high probability of encountering during gapping --	280 acres reduced fishing, increased hunting, crawfishing and crabbing 0	0 0	no impact 0	Low 0	0 0	0 0

SUBCRITERIA	**Hydrology/ Hydraulics**	**Navigable Waters**	**Scenic Rivers**	**Water Quality**	**Wildlife & Habitats**	**Water Bottoms/ Benthic**	**T & E**	**EFH**
	Qualitative	*Yes/No; Extent of impact; Perm/Temp*	*Coordination or permitting necessary? Yes/no; Perm/Temp*	*Qualitative*	*Acreage of habitat by type impacted; acreage of habitat by type created*	*Acreage; perm/temp*	*Species; critical habitat*	*Acreage; species impacted/ life stage; temp/perm*
Non-Refuge Intermediate Marsh								
Bayou Des Mats Marsh Restoration	Increased runoff -	no impact 0	no impact 0	Turbidity; temporary -	280 acres open water eliminated; 280 acres emergent marsh created; increases bird habitat +	Mit site: 280 acres; permanent; borrow site: 125 acres; temp -	borrow: manatee and gulf sturgeon critical habitat --	mit site: impact offset; borrow: 125 acres; postlarval and juvenile brown shrimp, white shrimp, red drum, juvenile Spanish mackerel; permanent -
Caernarvon Marsh Restoration	reduced wave energy, increased runoff 0	no impact 0	no impact 0	Turbidity; temporary -	570 acres open water eliminated; 570 acres emergent marsh created; increases bird habitat ++	Mit site: 570 acres; permanent; borrow site: 290 acres; temp - -	no species present 0	mit site: impact offset; borrow: 290 acres; postlarval and juvenile brown shrimp, white shrimp, red drum; permanent --
Fritchie Marsh Restoration	Increased runoff -	no impact 0	no impact 0	Turbidity; temporary -	325 acres open water eliminated; 325 acres marsh created; increases bird habitat +	mit site: 325 acres; permanent: borrow site: 125 acres; temporary -	borrow: manatee; gulf sturgeon critical habitat; mit site: manatee --	mit site: impact offset; borrow: 125 acres; postlarval and juvenile brown shrimp, white shrimp, red drum, juvenile Spanish mackerel; permanent -
Big Branch Marsh Restoration	Increased runoff -	no impact 0	no impact 0	Turbidity; temporary -	300 acres open water eliminated; 300 acres marsh created; increases bird habitat +	mit site: 300 acres; permanent; borrow site: 103 acres; temporary -	borrow: manatee; gulf sturgeon critical habitat; mit site: manatee --	mit site: impact offset; borrow: 103 acres; postlarval and juvenile brown shrimp, white shrimp, red drum, juvenile Spanish mackerel; permanent -

LaBranche Marsh Restoration	Increased runoff -	no impact 0	no impact 0	Turbidity; temporary -	320 acres open water eliminated; 320 acres marsh created; increases bird habitat +	mit site: 320 acres; permanent; borrow site: 160 acres temporary -	borrow: manatee; gulf sturgeon; mit site: manatee -	mit site: impact offset; borrow: 160 acres; postlarval and juvenile brown shrimp, white shrimp and red drum; permanent --
Milton Island Marsh Restoration	Increased runoff -	no impact 0	no impact 0	Turbidity; temporary -	275 acres open water eliminated; 275 acres marsh created; increases bird habitat +	mit site: 275 acres; permanent; borrow site: 106 acres; temporary -	borrow: manatee and gulf sturgeon -	mit site: impact offset; borrow: 106 acres; postlarval and juvenile brown shrimp, white shrimp and red drum; permanent -

SUBCRITERIA	**Aquatic/ Fisheries**	**Prime Farmland**	**Cultural Resources**	**Recreation**	**Noise**	**Aesthetics**	**HTRW**	**Environmental Justice**	**Socioeconomics/ Land Use**
	Acreage of habitat created; acreage of habitat eliminated	*Yes/no; acreage*	*Qualitative*	*Acreage of recreational resource impact; recreational resources impacted; acreage of recreation resources created/enhanced/ restored*	*# commercial/ residential within 100 ft.*	*Qualitative*	*Probability of encountering HTRW*	*# low - income/minority populations disproportionately impacted*	*# comm/indust properties impacted; # residential units impacted; # public properties impacted; Acres ag land converted; acres forest land converted*
Non-Refuge Intermediate Marsh									
Bayou Des Mats Marsh Restoration	280 acres marsh created; 280 acres open water eliminated; increase in habitat diversity +	No 0	no previous survey; high probability on lake shoreline --	280 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0
Caernarvon Marsh Restoration	290 acres marsh created; 290 acres open water eliminated; increase in habitat diversity +	No 0	Previous survey ident. 1 non-eligible site; no impact and no additional surveys needed 0	570 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0
Fritchie Marsh Restoration	mit site: 325 acres marsh created; 325 acres open water eliminated; increased habitat diversity +	No 0	Previous partial survey showed 1 non-eligible site; moderate probability of additional sites in Lake --	325 acres; fishing and duck hunting improved 0	1 -	no impact 0	Low 0	0 0	0 0

Big Branch Marsh Restoration	mit site: 300 acres marsh created; 300 acres open water eliminated; increased habitat diversity +	No 0	previous survey: several sites; more surveys needed -	300 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0
LaBranche Marsh Restoration	mit site: 320 acres marsh created; 320 acres open water eliminated; increased habitat diversity +	No 0	previous partial survey ident. on lakeshore, more may be present; borrow survey showed no sites; low probability within site -	320 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0
Milton Island Marsh Restoration	mit site: 275 acres marsh created; 275 acres open water eliminated; increased habitat diversity +	No 0	no previous surveys of open water site; 1 site ident. 100 meters south; moderate to high probability of encountering during gapping --	275 acres; fishing and duck hunting improved 0	several residences -	no impact 0	Low 0	0 0	0 0

SUBCRITERIA	**Hydrology/ Hydraulics**	**Navigable Waters**	**Scenic Rivers**	**Water Quality**	**Wildlife & Habitats**	**Water Bottoms/ Benthic**	**T & E**	**EFH**
	Qualitative	*Yes/No; Extent of impact; Perm/Temp*	*Coordination or permitting necessary? Yes/no; Perm/Temp*	*Qualitative*	*Acreage of habitat by type impacted; acreage of habitat by type created*	*Acreage; perm/temp*	*Species; critical habitat*	*Acreage; species impacted/ life stage; temp/perm*
Non-Refuge/Refuge Brackish Marsh								
Big Branch Marsh Restoration	Increased runoff -	No 0	No 0	Turbidity; temporary 0	225 acres open water eliminated; 225 acres marsh created; increases bird habitat -	mit site: 225 acres; permanent; borrow site: 103 acres; temporary +	borrow: manatee and gulf sturgeon critical habitat; mit site: manatee -	mit site: impact offset; borrow: 103 acres; postlarval and juvenile brown shrimp, white shrimp and red drum, juvenile Spanish mackerel -
Golden Triangle Marsh Restoration	Increased runoff -	No 0	No 0	Turbidity; temporary 0	255 acres open water eliminated; 255 acres marsh created; increases bird habitat -	mit site: 255 acres; permanent; borrow site: 200 acres; temporary +	borrow: manatee, sea turtle and gulf sturgeon critical habitat; mit site: manatee -	mit site: impact offset; borrow: 200 acres; postlarval and juvenile brown shrimp, white shrimp and red drum, juvenile Spanish mackerel --
Fritchie Marsh Restoration	Increased runoff -	No 0	No 0	Turbidity; temporary 0	280 acres open water eliminated; 280 acres marsh created; increases bird habitat -	mit site: 280 acres; permanent; borrow site: 125 acres; temporary +	borrow: manatee, gulf sturgeon critical habitat; mit. Site: manatee -	mit site: impact offset; borrow: 125 acres; postlarval and juvenile brown shrimp, white shrimp and red drum, juvenile Spanish mackerel -
Bayou Sauvage Floodside Marsh Restoration	Increased runoff; reduced wave energy 0	No 0	No 0	Turbidity; temporary 0	250 acres open water eliminated; 250 acres marsh created; increases bird habitat -	mit site: 250 acres; permanent; borrow site: 150 acres; temporary +	borrow: manatee, sea turtle, gulf sturgeon critical habitat; mit. Site: manatee -	mit site: impact offset; borrow: 150 acres; postlarval and juvenile brown shrimp, white shrimp, red drum, juvenile Spanish mackerel-

SUBCRITERIA	**Aquatic/ Fisheries**	**Prime Farmland**	**Cultural Resources**	**Recreation**	**Noise**	**Aesthetics**	**HTRW**	**Environmental Justice**	**Socioeconomics/ Land Use**
	Acreage of habitat created; acreage of habitat eliminated	*Yes/no; acreage*	*Qualitative*	*Acreage of recreational resource impact; recreational resources impacted; acreage of recreation resources created/enhanced /restored*	*# commercial/ residential within 100 ft.*	*Qualitative*	*Probability of encountering HTRW*	*# low - income/minority populations disproportionately impacted*	*# comm/indust properties impacted; # residential units impacted; # public properties impacted; Acres ag land converted; acres forest land converted*
Non-Refuge/Refuge Brackish Marsh									
Big Branch Marsh Restoration	mit site: 225 acres marsh created; 225 acres open water eliminated; increased habitat diversity +	No 0	previous survey: several sites; more surveys needed -	225 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0
Golden Triangle Marsh Restoration	mit site: 255 acres marsh created; 255 acres open water eliminated; increased habitat diversity +	No 0	survey for site and borrow complete; no eligible sites identified. 0	225 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0

Fritchie Marsh Restoration	mit site: 280 acres marsh created; 280 acres open water eliminated; increased habitat diversity +	No 0	Previous partial survey showed 1 non-eligible site; moderate probability of additional sites in Lake --	280 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0
Bayou Sauvage Floodside Marsh Restoration	mit site: 250 acres marsh created; 250 acres open water eliminated; increased habitat diversity +	No 0	No survey; low prob in open water but survey needed of ridges -	250 acres; fishing and duck hunting improved 0	0 0	no impact 0	Low 0	0 0	0 0

SUBCRITERIA	**Hydrology/Hydraulics**	**Navigable Waters**	**Scenic Rivers**	**Water Quality**	**Wildlife & Habitats**	**Water Bottoms/ Benthic**	**T & E**	**EFH**
	Qualitative	*Yes/No; Extent of impact; Perm/Temp*	*coordination or permitting necessary? Yes/no; Perm/Temp*	*Qualitative*	*Acreage of habitat by type impacted; acreage of habitat by type created*	*Acreage; perm/temp*	*Species; critical habitat*	*Acreage; species impacted/ life stage; temp/perm*
Refuge Protected Side BLH-Wet and Intermediate Marsh								
Bayou Sauvage BLH-W and Intermediate Marsh Restoration	Increased runoff	no	no	Turbidity; temporary	355 acres open water eliminated; 110 acres marsh and 245 acres BLH-W created; increases bird habitat	mit site: 355 acres; permanent; borrow site: 300 acres; temporary	borrow: manatee, gulf sturgeon critical habitat	mit site: no EFH; borrow: 300 acres; postlarval and juvenile brown shrimp, white shrimp and red drum; juvenile Spanish mackerel
Refuge Floodside BLH-Wet								
Fritchie Refuge BLH-Wet Enhancement	Increased then decreased runoff	no	no	no impact	55 acres BLH enhanced; improved habitat for various species	0	0	no EFH

SUBCRITERIA	**Aquatic/ Fisheries**	**Prime Farmland**	**Cultural Resources**	**Recreation**	**Noise**	**Aesthetics**	**HTRW**	**Environmental Justice**	**Socioeconomics/ Land Use**
	Acreage of habitat created; acreage of habitat eliminated	*Yes/no; acreage*	*Qualitative*	*Acreage of recreational resource impact; recreational resources impacted; acreage of recreation resources created/enhanced/restored*	*# commercial/ residential within 100 ft.*	*Qualitative*	*Probability of encountering HTRW*	*# low - income/minority populations disproportionately impacted*	*# comm/indust properties impacted; # residential units impacted; # public properties impacted; Acres ag land converted; acres forest land converted*
Refuge Protected Side BLH-Wet and Intermediate Marsh									
Bayou Sauvage BLH-W and Intermediate Marsh Restoration	mit site: 110 acres marsh and 245 acres BLH-W created;355 acres open water eliminated; overall reduction in habitat for blue crab, bass and catfish	no	partial survey; low probability	245 improved birding; improved fishing from 110 acres marsh	0	no impact	low	0	0

Refuge Floodside BLH-Wet									
Fritchie Refuge BLH-Wet Enhancement	no aquatic/ fisheries	yes; 26 acres	Previous partial survey showed 1 non-eligible site; more survey needed	55 acres improved hunting	residential subdivision	no impact	low	0	0

Table B-5: Time to Contract Award Matrix

Project Alternative	Total Duration
Mitigation Bank BLH-W/D Non-Refuge	1 year, 3 mos
Bonnet Carre FS BLH-W/D Restoration	1 year, 5 mos
Frenier Area FS BLH-W/D Restoration	2 yrs, 7 mos
Non-Refuge Fritchie FS BLH-W/BLH-D Enhancement/BLH-W Restoration	2 yrs, 7 mos
Mitigation Bank Swamp Non-Refuge	1 year, 3 mos
Bonnet Carre FS Swamp Restoration	1 year, 5 mos
Caernarvon FS Swamp Restoration	2 yrs, 7 mos
Milton Island FS Swamp Restoration	2 yrs, 7 mos
Bayou Des Mats FS IM Restoration	2 yrs, 7 mos
Caernarvon FS IM Restoration	2 yrs, 7 mos
Fritchie FS IM Restoration	2 yrs, 7 mos
Big Branch FS IM Restoration	2 yrs, 7 mos
LaBranche FS IM Restoration	2 yrs, 7 mos
Milton Island FS IM	2 yrs, 7 mos
Big Branch FS BM Restoration	2 yrs, 7 mos
Golden Triangle FS BM Restoration	2 yrs, 7 mos
Fritchie FS BM Restoration	2 yrs, 7 mos
Bayou Sauvage FS BM Restoration	2 yrs, 7 mos
Bayou Sauvage PS IM/BLH-W Restoration	1 yrs, 5 mos
Refuge Fritchie FS BLH-W Enhancement	2 yrs, 7 mos

Table B-6: Time to NCC Matrix

Project Alternative	Total Duration
Mitigation Bank BLH-W/D Non-Refuge	1 year, 3 mos
Bonnet Carre FS BLH-W/D Restoration	6 yrs, 7 mos
Frenier Area FS BLH-W/D Restoration	7 yrs, 7 mos
Non-Refuge Fritchie FS BLH-W/BLH-D Enhancement/BLH-W Restoration	8 yrs, 7 mos
Mitigation Bank Swamp Non-Refuge	1 year, 3 mos
Bonnet Carre FS Swamp Restoration	6 yrs, 7 mos
Caernarvon FS Swamp Restoration	8 years, 7 mos
Milton Island FS Swamp Restoration	8 yrs, 7 mos
Bayou Des Mats FS IM Restoration	5 yrs, 7 mos
Caernarvon FS IM Restoration	6 yrs, 7 mos
Fritchie FS IM Restoration	5 yrs, 7 mos
Big Branch FS IM Restoration	5 years 7 mos
LaBranche FS IM Restoration	5 yrs, 7 mos
Milton Island FS IM	5 yrs, 7 mos
Big Branch FS BM Restoration	5 yrs, 7 mos
Golden Triangle FS BM Restoration	5 yrs,7 mos
Fritchie FS BM Restoration	5 yrs, 7 mos
Bayou Sauvage FS BM Restoration	5 yrs, 7 mos
Bayou Sauvage PS IM/BLH-W Restoration	7 yrs, 7 mos
Refuge Fritchie FS BLH-W Enhancement	7 yrs, 7 mos

Table B-7: Other Cost Considerations Matrices

Swamp OCC			
		Total Project Cost	Average Annual Cost
Bonnet Carre Restore		~116% > least cost	~107% > least cost
Caernarvon Restore		~660% > least cost	~682% > least cost
Mitigation Bank	High	~3% > least cost	3% > least cost
	Low	Least Cost	Least Cost
Milton Island Restore		~179% > least cost	~184% > least cost

BLH OCC			
		Total Project Cost	Average Annual Cost
Bonnet Carre		~122% > least cost	~117% > least cost
Frenier		~15% > least cost	~11% > least cost
Fritchie		~201% > least cost	~186% > least cost
Mitigation Bank (Lo/Hi)	High	~10% > least cost	~10% > least cost
	Low	Least cost	Least cost

Intermediate Marsh OCC		
	Total Project Cost	Average Annual Cost
Bayou Des Mats	~24% > least cost	~24% > least cost
Big Branch	~28% > least cost	~29% > least cost
Caernarvon	~181% > lest cost	~190% > lest cost
Fritchie	~74% > least cost	~75% > least cost
LaBranche	~88% > least cost	~90% > least cost
Milton Island	least cost	least cost

Brackish Marsh OCC		
	Total Project Cost	Average Annual Cost
Bayou Sauvage Floodside Marsh Restoration	~32% > least cost	~34% > least cost
Big Branch Marsh Restoration	~3% > least cost	~3% > least cost
Fritchie Marsh Restoration	~46% > least cost	~49% > least cost
Golden Triangle Marsh Restoration	least cost	least cost

Table B-8: Cost Effectiveness Matricies

Swamp CE (AAHUs/$)		
Bonnet Carre Restore		~99% > least cost
Caernarvon Restore		~565% > least cost
Mitigation Bank	High	~3% > least cost
	Low	Least Cost
Milton Island Restore		~151% > least cost

BLH CE		
Bonnet Carre		~108% > least cost
Frenier		~2% > least cost
Fritchie		~153% > least cost
Mitigation Bank (Lo/Hi)	High	~10% > least cost
	Low	Least cost

Intermediate Marsh CE	
Bayou Des Mats	~24% > least cost
Big Branch	~29% > least cost
Caernarvon	~178% > least cost
Fritchie	~75% > least cost
LaBranche	~90% > least cost
Milton Island	least cost

Brackish Marsh CE	
Bayou Sauvage Floodside Marsh Restoration	~34% > least cost
Big Branch Marsh Restoration	~3% > least cost
Fritchie Marsh Restoration	~49% > least cost
Golden Triangle Marsh Restoration	least cost

Table B-9: Three SLR Scenario Analysis

Project Group	SLR	Project area (starting area)	FWP Mit Hab AAHUs	FWOP mit Hab AAHUs	FWP open water AAHUs	FWOP open water AAHUs	Mitigation Hab Net AAHUS	Open Water Hab Net AAHUs	Net benefits AAHUs	Long Term Sustainability 3 SLR reruns
Bayou Des Mats FS IM Restoration										
	Low	536	445.18	8	23.33	259.03	437.19	-235.7	220.12	0.87
	Intermediate	536	420	8	34.56	249.82	412	-215.26	209.66	0.78
	High	536	312.21	7.71	65.11	232.64	304.5	-167.53	152.23	0.00
Big Branch FS IM Restoration										
	Low	519	391.3	0.56	24.89	188.92	390.74	-164.03	211.78	0.81
	Intermediate	519	350.5	0.45	36.69	184.61	350.04	-147.91	189.41	0.65
	High	519	212.76	0.13	72.32	175.59	212.64	-103.27	110.73	0.00
Caernarvon FS IM Restoration										
	Low	430	283.9	0.64	34.61	174.29	283.27	-139.69	146.83	0.61
	Intermediate	430	224.17	0.29	57.86	165.68	223.88	-107.82	116.88	0.21
	High	430	70.29	0.02	119.62	145.84	70.27	-26.21	39.15	0.00
Fritchie FS IM Restoration										
	Low	847	618.07	0	51.17	363.55	618.07	-312.38	317.93	0.78
	Intermediate	847	556.93	0	73.9	351.93	556.93	-278.04	287.59	0.61
	High	847	324.34	0	141.66	305.31	324.34	-163.64	166.93	0.00
La Branche FS IM Restoration										
	Low	402	343.72	3.16	6.62	197.75	340.56	-191.13	169.05	0.93
	Intermediate	402	335.9	3.16	12.53	190	332.73	-177.47	168.15	0.89
	High	402	203.56	1.62	58.66	161.83	201.94	-103.17	103.52	0.00
Milton Island FS IM Restoration										
	Low	408	349.87	1.73	11.23	207.6	348.13	-196.37	172.49	0.92
	Intermediate	408	335.98	1.73	16.17	200.1	334.24	-183.93	167.09	0.87
	High	408	214.49	1.61	55.68	185.76	212.87	-130.07	102.24	0.00

Project Group	SLR	Project area (starting area)	FWP Mit Hab AAHUs	FWOP mit Hab AAHUs	FWP open water AAHUs	FWOP open water AAHUs	Mitigation Hab Net AAHUS	Open Water Hab Net AAHUs	Net benefits AAHUs	Long Term Sustainability 3 SLR reruns
Bayou Sauvage FS BM Restoration										
	Low	386.6	325.2	0.76	15.9	263.64	324.44	-247.75	165.5	0.91
	Intermediate	386.6	311.39	0.75	19.9	247.92	310.54	-228.03	160.94	0.83
	High	386.6	244.51	0.26	40.74	199.58	244.25	-158.84	132.28	0.52
Big Branch FS BM Restoration										
	Low	285	214.87	0.27	17.79	122.16	214.6	-104.37	126	0.81
	Intermediate	285	193.7	0.27	23.3	119.36	193.42	-96.06	113.01	0.65
	High	285	118.56	0.14	46.52	117.6	118.42	-71.08	65.78	0.00
Fritchie FS BM Restoration										
	Low	847	622.79	0	53.63	405.29	622.79	-351.66	352.11	0.78
	Intermediate	847	562.57	0	78.01	392.6	562.57	-314.58	318.91	0.61
	High	847	329.76	0	149.73	342.76	329.76	-193.03	184.54	0.00
Golden Triangle FS BM Restoration										
	Low	430.59	315.99	0.08	28.16	122.32	315.92	-94.16	202.01	0.71
	Intermediate	430.59	287.07	0.08	31.88	122.32	286.99	-90.44	182.15	0.57
	High	430.59	137.31	0.05	79.73	122.34	137.25	-42.61	87.29	0.00
Frenier Area FS BLH-W Restoration										
	Low	93	57.89	0.14			57.75			0.95
	Intermediate	93	57.89	0.14			57.75			0.95
	High	93	57.45	0.14			57.31			0.94
Bonnet Carre FS BLH-W Restoration										
	Low	93	58.9	0.24			58.66			0.96
	Intermediate	93	58.9	0.24			58.66			0.96
	High	93	58.58	0.24			58.34			0.92
Fritchie FS BLH-W Restoration										
	Low	26	11.46	0.01			11.45			0.68
	Intermediate	26	11.46	0.01			11.45			0.68
	High	26	9.99	0.01			9.98			0.49
Fritchie FS BLH-W Enhancement										
	Low	265	149.64	97.76			52.87			0.69
	Intermediate	265	149.64	96.76			52.87			0.69
	High	265	142.14	129.83			12.31			0.59

Project Group	SLR	Project area (starting area)	FWP Mit Hab AAHUs	FWOP mit Hab AAHUs	FWP open water AAHUs	FWOP open water AAHUs	Mitigation Hab Net AAHUS	Open Water Hab Net AAHUs	Net benefits AAHUs	Long Term Sustainability 3 SLR reruns
Bonnet Carre FS BLH-D Restoration										
	Low	26.7	17.2	0.07			17.13			0.98
	Intermediate	26.7	17.2	0.07			17.13			0.98
	High	26.7	17.29	0.07			17.22			0.96
Frenier Area FS BLH-D Restoration										
	Low	32	18.78	0.15			18.62			0.89
	Intermediate	32	18.78	0.15			18.62			0.89
	High	32	19.27	0.15			19.12			0.89
Fritchie FS BLH-D Enhancement										
	Low	153	115.59	110.98			4.61			0.93
	Intermediate	153	115.59	110.98			4.61			0.93
	High	153	115.98	111.37			4.61			0.94
Bonnet Carre FS Swamp Restoration										
	Low	204	95.57	16.46			79.11			0.68
	Intermediate	204	95.57	16.46			79.11			0.68
	High	204	91.44	16.46			74.98			0.68
Caernarvon FS Swamp Restoration										
	Low	199.3	85.55	54			31.55			0.76
	Intermediate	199.3	82.3	53.86			28.44			0.66
	High	199.3	77.69	49.68			28.01			0.50
Milton Island FS Swamp Restoration										
	Low	56	14.02	7.19			6.83			0.29
	Intermediate	56	14.02	7.19			6.83			0.29
	High	56	12.12	7.19			4.92			0.19
Milton Island FS Swamp Restoration OW Fish Pond										
	Low	158	69.26	18.14			51.13			0.58
	Intermediate	158	69.26	18.14			51.13			0.58
	High	158	56.63	18.14			38.49			0.37

Note: BLH and Swamp WVAs do not assess impacts to open water.

Table B-10: Previously Constructed Wetland or Ecosystem Restoration Projects in Lake Pontchartrain Basin

Program	Parish	Year Constructed	Description	Direct Overlap	Extended Boundary Overlap
CIAP PO-39: Bald Cypress/Tupelo Coastal Forest	Livingston	2011	Acquisition and preservation of approximately 2,600 contiguous acres of coastal wetland forest, specifically bald cypress-tupelo swamp within the Maurepas Swamp in Livingston Parish, Louisiana.	No	No
CIAP PO-48: Green Property Preservation Project	St. Tammany	2011	Property acquisition and preservation of approximately 27 acres of cypress swamp and bottomland hardwood forests within the Bayou Lacombe watershed in St. Tammany Parish, Louisiana. Purchase completed August 2011.	No	No
CIAP PO-49: French Property Preservation Project	St. Tammany	2009	Property acquisition of approximately 40 acres of pine trees and mixed hardwoods to aid in the extension of the wildlife corridor between critical habitats along Bayou Liberty in St. Tammany Parish, Louisiana. The property will also be utilized for educating the public on wetland value.	No	No

CIAP PO-51: Mandeville Aquatic Ecosystem Restoration Project	St. Tammany	2010	Upgrade of the existing wastewater treatment plant including the addition of a wetland assimilation system for disbursement of treated sewerage effluent into an adjacent wetland area on to the western border of the City of Mandeville, Louisiana. Added benefits of the assimilation will be the increase of wetland vegetation to an area impacted during Hurricanes Katrina and Rita.	No	No
CWPPRA BS-03a: Caernarvon Diversion Outfall Management	Plaquemines	2002	Effective management of the diverted freshwater and nutrients from the Mississippi River through the Caernarvon diversion structure into the surrounding marsh areas in Plaquemines Parish, Louisiana by the use of water control structures.	Yes	Yes
CWPPRA PO-06: Fritchie Marsh Restoration	St. Tammany	2001	The introduction of freshwater and nutrients in the Fritchie marsh area in St. Tammany Parish, Louisiana to decrease salinities, improve hydrologic conditions and enrich the marsh habitat.	Yes	Yes
CWPPRA PO-16: Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1	Orleans	1996	The enhancement of marsh vegetation within the Bayou Sauvage National Wildlife Refuge impounded area by improving hydrologic conditions including the removal of excess water.	Yes	Yes

CWPPRA PO-17: Bayou LaBranche Wetland Creation	St. Charles	1994	Marsh creation project located within the Bayou Labranche wetland area near the southwestern Lake Pontchartrain shoreline which included the placement of dredged material into a confined open water area to create marsh vegetation.	No	No
CWPPRA PO-18: Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 2	Orleans	1997	A hydrologic restoration project which included the construction of a pump station near the confluence of the hurricane protection levee and Irish Bayou Canal in Orleans Parish, Louisiana to lower water levels in an impounded area of the Bayou Sauvage National Wildlife Refuge for the promotion of wetland vegetation growth.	No	Yes
CWPPRA PO-19: Mississippi River Gulf Outlet (MRGO) Disposal Area Marsh Protection	St. Bernard	1999	The preservation of vegetated wetlands in the MRGO disposal area by repairing two breaches in the back levee of the MRGO south of the La Loutre ridge to prevent ponding of water in the disposal area.	No	No
CWPPRA PO-22: Bayou Chevee Shoreline Protection	Orleans	2001	The construction of a rock dike from Stump Bayou to Bayou Chevee on the southeastern shore of Lake Pontchartrain and an additional rock dike which ties into the USFWS dike at the southern end near Bayou Chevee and continues east for approximately 2,300 feet. The project was designed to protect and promote growth of the wetland habitats behind the structure.	Yes	Yes

CWPPRA PO-24: Hopedale Hydrologic Restoration	St. Bernard	2005	Hydrologic restoration of the marsh area northeast of the community of Hopedale including the replacement of culverts to prevent ponding of water on the marsh surface and promote growth of wetland vegetation.	No	No
CWPPRA PO-30: Lake Borgne Shoreline Protection	St. Bernard	2008	A shoreline protection project which included the construction of rock breakwaters to prevent the marsh area between Lake Borgne and MRGO from converting to open water. The breakwater was constructed just south of Fort Bayou along the Lake Borgne shoreline to Doulluts Canal. An additional CWPPRA shoreline protection project (PO-31) Lake Borgne Shoreline Protection at Bayou Dupre with similar project goals was merged with this project. The project included the construction of breakwater structures on either side of Bayou Dupre along the Lake Borgne shoreline.	No	Yes
CWPPRA PO-33: Goose Point/Point Platte Marsh Creation	St. Tammany	2009	A marsh creation project constructed by the placement of dredged material into open water areas behind the Lake Pontchartrain shoreline and within containment dikes. Two areas were built east of Point Platte and two areas north of Goose Point. The goal of this project was to create and nourish degraded marsh and help prevent breaches into the northern shoreline of Lake Pontchartrain. All marsh creation areas are located within the Big Branch National Wildlife Refuge.	No	Yes

DOTD: I-310 Mitigation	St. Charles	1993	Mitigation for environmental impacts associated with the construction of Interstate 310 which was completed in 1993 in St. Charles Parish, Louisiana.	No	Yes
State of Louisiana BS-06: Lake Lery Hydrologic Restoration	St. Bernard	1997	A hydrologic restoration project which provides freshwater enhancement to the marsh areas north of Lake Lery and includes the construction of a pumping station located south of the Chalmette Loop levee in St. Bernard Parish, Louisiana.	No	Yes
State of Louisiana PO-01: Violet Siphon	St. Bernard	1992	Repair and enlargement of the existing siphon to allow increased flow of freshwater and nutrients into the surrounding marsh areas to enhance wetland vegetation growth and decrease salinity.	No	No
State of Louisiana PO-02c: Bayou Chevee	Orleans	1994	The placement of approximately 2,000 feet of Christmas tree fencing at the mouth of Bayou Chevee within the Bayou Sauvage National Wildlife Refuge to provide shoreline stability and protect the interior wetland habitat from wave induced erosion.	Yes	Yes
State of Louisiana PO-03: LaBranche Shoreline Stabilization and Canal Closure	St. Charles	1987	Restoration of the southwestern Lake Pontchartrain shoreline in the vicinity of LaBranche wetlands by the placement of shoreline protection features including a canal closure.	No	Yes

State of Louisiana PO-03b: LaBranche Shoreline Protection	St. Charles	1996	A shoreline protection project which included the construction of rock breakwater along the southwestern Lake Pontchartrain shoreline east of Bayou LaBranche to protect the wetlands behind the structure from erosion caused by high wave energy.	Yes	Yes
State of Louisiana PO-08: Central Wetlands Pump Outfall	St. Bernard and Orleans	1992	The construction of a pump station on the Forty Arpent Canal levee to increase freshwater salinities and enhance wetland vegetation growth in an area located in the northwest portion of the Central Wetlands in St. Bernard Parish, Louisiana.	No	No
State of Louisiana PO-10: Turtle Cove Shore Protection	St. John the Baptist	1994	A shoreline protection project which includes a rock breakwater constructed along the Lake Pontchartrain shoreline in the Manchac Wildlife Management Area approximately 4 miles southwest of Pass Manchac. The project goal is to maintain and protect the fragile marshes behind the structure which separate interior open water areas from Lake Pontchartrain.	No	No

State of Louisiana PO-4355NP4 Fontainebleau State Park Mitigation	St. Tammany	1999	A mitigation project for impacts associated with the construction of park cabins along the northern Lake Pontchartrain shoreline east of Bayou Castine within the Fontainebleau State Park, St. Tammany Parish. The project involved the deposition of sand in the near shore zone to supply sediment to close approximately 600 feet of breaches east of the Fontainebleau State Park cabins along the shoreline.	No	No
US Army Corps of Engineers: Caernarvon Freshwater Diversion Structure	Plaquemines	1991	The Caernarvon Freshwater Diversion structure is located on the east bank of the Mississippi River near the community of Caernarvon, Louisiana. The structure contains five gated culverts and an outflow channel designed to discharge freshwater from the Mississippi River at no greater than a maximum rate of 8,000 cubic feet per second into Breton Sound Basin to increase the productivity of fish and wildlife habitat.	No	No
US Army Corps of Engineers: LPV Pre-Katrina Mitigation (Manchac Shoreline)	St. John the Baptist	1995	The project is located along the Lake Pontchartrain shoreline south of Pass Manchac near the southern border of the Manchac Wildlife Management Area (WMA) and consists of approximately 5 miles of segmented rock breakwater designed for wetland habitat protection in the WMA.	No	No

US Army Corps of Engineers: MRGO O&M (MRGO East Bank Shoreline Protection in the vicinity of Bayous Bienvenue and Dupre)	St Bernard	1992	The project is located along the eastern bank of the MRGO in the vicinity of Bayous Bienvenue and Dupre. It consists of approximately 24,000 feet of rock breakwaters to provide wave reduction and protect the marshes behind the structure. Additional maintenance was performed on the structure in 2007/2008 to repair damages from Hurricane Katrina.	No	No
US Army Corps of Engineers: MRGO O&M (MRGO West Bank Shoreline Protection in the vicinity of Stump Bayou)	St Bernard	Late 1990s	The project is located along the western bank of the MRGO in the vicinity of Stump Bayou. It consists of approximately 3,000 feet of rock breakwaters to provide wave reduction and enhance protection to the marshes behind the structure.	No	No
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental and MRGO O&M (MRGO East Bank Shoreline Protection in the Vicinity of Bayou Yscloskey)	St Bernard	2008	The project is located along the eastern bank of the MRGO in the vicinity of MRGO river mile 39 to 44 near Bayou Yscloskey. The reach consists of approximately four miles of segmented foreshore rock dikes to reduce wave action and enhance protection to the marshes behind the structure.	No	Yes
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (Doulluts Canal to Jahnckes Ditch)	St Bernard	2008	This shoreline protection project is located along the southeastern shoreline of Lake Borgne between Doulluts Canal and Jahnckes Ditch. The design for this reach was funded and completed in 2005 by CWPPRA PO-29 project; however, the reach was funded and built with 3rd Supplemental funds.	No	No

WRDA BS-08: Caernarvon Freshwater Diversion	Plaquemines, St. Bernard	1991	A freshwater diversion located on the Mississippi River near the community of Caernarvon with a maximum flow capacity of 8,000 cfs. designed to divert freshwater, nutrients, and sediment from the Mississippi River through the diversion structure to the surrounding marshes to enhance wetland habitat.	Yes	Yes

Table B-11: Wetland or Ecosystem Restoration Projects Under Construction or Partially Constructed in the Lake Pontchartrain Basin

Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
CIAP PO-73: EB-Central Wetlands Assimilation	St. Bernard & Orleans	Construction of a wetland assimilation system in the northwest corner of the Central Wetlands near Bayou Bienvenue in Orleans and St. Bernard Parishes for the disbursement of treated sewerage effluent into the adjacent wetland areas for wetland habitat enhancement. The project also includes the planting of cypress seedlings. The project is currently under construction and is anticipated for completion in January 2013.*	No	No
CIAP PO-36: EB-Orleans Land Bridge Shoreline Protection and Marsh Creation	St. Bernard & Orleans	Construction of a shoreline protection feature on the northwestern shoreline of Lake Borgne to protect the marshes behind the structure from wave-induced shoreline erosion. The project construction began in January 2011and is projected to be complete by May 2013.*	No	Yes
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (Bayou Bienvenue Shoreline Protection)	St Bernard	A rock shoreline protection feature is being constructed along the Lake Borgne shoreline from Bayou Bienvenue south to Bayou Mercier to provide protection to the adjacent marshlands. Construction began January 2012 and is anticipated for completion by June 2012.	No	Yes
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (Bayou Dupre Shoreline Protection)	St Bernard	A rock shoreline protection feature is being constructed along the Lake Borgne shoreline from an area south of Bayou Dupre to the vicinity of Mosquito Bayou to provide protection to the adjacent marshlands. Construction began December 2011 and is anticipated for completion by April 2012.	No	Yes

Table B-12: Reasonably Foreseeable Future Wetland or Ecosystem Restoration Projects in Lake Pontchartrain Basin

Program	Parish	Description	Direct Overlap	Extended Boundary Overlap
CIAP BS-17: Lake Lery Rim Reestablishment and Marsh Creation	St. Bernard	The use of dredged material from Lake Lery to create and enhance marsh habitat along a 5 mile strength of the western bank of Bayou Terre aux Boeufs north of Delacroix, Louisiana. The project also includes the construction of a rock dike along the northern and eastern shoreline of Lake Lery to protect the adjacent marshes from wave induced erosion. Anticipated construction start date is June 2013 with an anticipated construction end date of October 2014.	No	Yes
CIAP PO-40: Hydrologic Restoration in Swamps West of Lake Maurepas	Livingston	A hydrologic restoration project which includes the introduction of freshwater and sediments from the Amite River Diversion Canal into the western Maurepas swamp to enhance the overall health of the existing cypress/tupelo swamps. The project is currently in the design phase, with an anticipated construction start date of January 2013 and anticipated construction end date of December 2013.	No	No
CIAP PO-42: West LaBranche Shoreline Protection	St. Charles	A shoreline protection project which includes the construction of a rock dike along the southern shoreline of Lake Pontchartrain from the entrance of Bayou LaBranche and continuing east and tying into the existing LaBranche Wetlands shoreline protection project (PO-03). The project is designed to stop wave-induced shoreline erosion and protect the wetland habitat behind the structure. The project is currently in design and construction is anticipated to begin September 2012 and is expected to be completed by December 2012.	No	Yes
CIAP PO-43: East LaBranche Shoreline Protection	St. Charles	A shoreline protection project which includes the construction of a rock dike along the southern shoreline of Lake Pontchartrain which will tie into the existing PO-03b LaBranche Wetland shoreline protection project and continue east along the shoreline. The project is designed to stop wave-induced shoreline erosion and protect the	No	Yes

		wetland habitat behind the structure. The project is currently in design and will commence construction as soon as the PO-42 West LaBranche shoreline protection project is complete. Construction completion date is expected prior to December 2016.		
CIAP PO-44: Blind River Freshwater Diversion Property Purchase	St. James	The project involves the acquisition of approximately 68 acres of land from the Mississippi River to Parish Canal near Romeville, Louisiana for the opportunity to construct a freshwater diversion project in the future. Property purchase anticipated prior to December 2016.	No	No
CIAP PO-45: East Bank Wastewater Assimilation	St. James	Construct a wetland assimilation treatment plant in Grand Point, Louisiana for disbursement of treated sewerage effluent into a predominantly cypress/tupelo forested wetland area in Maurepas Swamp Wildlife Management Area to increase wetland vegetation health. Grant application is anticipated in the near future with construction scheduled to begin in July 2013 and anticipated construction completed by August 2014.	No	No
CIAP PO-46: Reserve Relief Canal Shoreline Protection	St. John the Baptist	A shoreline protection project to include the construction of a rock dike along the shoreline to the east and west of the confluence between the Reserve Relieve Canal and Lake Maurepas to protect the integrity of the shoreline and prevent wetland loss. The project is currently in design with an anticipated construction start date of September 2012. Construction is expected to be completed by May 2013.	No	No
CIAP PO-52: Lake Pontchartrain Shoreline Protection	Tangipahoa	A shoreline protection project to include the construction of a foreshore dike along the western Lake Pontchartrain shoreline from the Tangipahoa River south to the Pass Manchac. The goal of the proposed project is to protect the integrity of the shoreline and prevent wetland loss. The project is currently in design with an anticipated construction start date of May 2012 and an anticipated construction completion date of April 2013.	No	No
CIAP PO-70: Northshore Beach	St.	The use of dredged material to create and restore marsh in open water areas adjacent to the northern Lake Pontchartrain shoreline southeast	No	Yes

Marsh Creation/ Restoration	Tammany	of Bayou Bonfouca in St. Tammany Parish, Louisiana. The goal of the project is to protect the interior marshes by reducing shoreline erosion. Grant application is complete. The project is expected to begin construction in March 2013 and be completed by February 2014.		
CIAP BS-13: EB Bayou Lamoque Floodgate Removal	Plaquemines	A hydrologic restoration project which includes the removal of floodgates from the Bayou Lamoque freshwater diversion structure to introduce a greater amount of freshwater, sediment and nutrients from the Mississippi River into the adjacent marsh areas. The goal of the project is to enhance the growth and health of the wetland vegetation. In design phase, scheduled construction start date is March 2012 and anticipated construction completion date is September 2012.	No	No
LCA BS-20: Medium Diversion at White Ditch	Plaquemines	Medium sized diversion to provide freshwater, nutrients, and fine sediment to wetlands between Mississippi River and River aux Chenes ridges. Facilitate organic sediment deposition, improve biological productivity, and prevent further marsh deterioration. The final feasibility study and supplemental environmental impact statement was completed in September 2010.	No	No
LCA PO-68: Small Diversion at Convent/Blind River	St. James & Ascension	A freshwater diversion project proposed for construction near Convent, Louisiana which includes a diversion structure to deliver freshwater, nutrients and sediment into the Maurepas swamp via the Mississippi and Blind Rivers. The project objectives are to improve vegetative health and prevent habitat deterioration. The final feasibility study and supplemental environmental impact statement were completed in October 2010.	No	No
LCA PO-69: Amite River Diversion Canal Modification	Ascension & Livingston	Construct gaps in spoil banks of Amite River Diversion Canal to introduce nutrients and sediment into western Maurepas Swamp. Facilitate organic deposition, improve biological productivity, and prevent further swamp deterioration. The final feasibility study and supplemental environmental impact statement were completed in October 2010	No	No

State of Louisiana Surplus Fund 2007 PO-72: Biloxi Marsh Shoreline Protection	St. Bernard	A shoreline protection project to be constructed along the southeastern shoreline of Lake Borgne tying into the northernmost section of the Doulluts Canal to Jahnckes Ditch shoreline protection project and extending approximately 5 miles northeast along the Lake Borgne shoreline. Anticipated construction start date is July 2012 and anticipated construction end date is August 2013.	No	No
US Army Corps of Engineers: Modification to Caernarvon 4th Supplemental	St. Bernard	Marsh and hydrologic restoration including shunt channel construction, canal dredging, marsh nourishment, and breach construction to allow for distribution of fresh water to areas that are currently not hydraulically connected to the Caernarvon diversion structure. The project will provide a direct benefit of 670 AAHUs and create 65 acres of intermediate marsh over the 50 year planning horizon. Anticipated construction start is September 2012 and construction is expected to be completed by May 2013.	Yes	Yes
US Army Corps of Engineers: LPV Pre-Katrina Mitigation (Manchac Shoreline)	St. John the Baptist	Mitigation for the habitat impacts which occurred during the construction of the LPV Hurricane Protection System. The project is to be located along the Lake Pontchartrain shoreline south of Pass Manchac in the Turtle Cove area. The project consists of the construction of approximately 5 miles of rock breakwater for wetland habitat protection and wetland habitat creation by the deposition of dredged material between the structure and shoreline in the Manchac WMA. Notice to proceed with construction was issued February 2012. Anticipated construction end date is May 2013.	No	No
US Army Corps of Engineers: LPV Task Force Guardian Mitigation (Bayou Sauvage)	Orleans	Mitigation for New Orleans East and Walker Road borrow pit impacts associated with post-Katrina restoration efforts by Task Force Guardian. Anticipated construction start date is May 2012; anticipated construction end date is August 2014.	No	No

US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (West of Shell Beach Shoreline Protection)	St Bernard	A rock shoreline protection feature is to be constructed along the Lake Borgne shoreline south of Proctor Point in the vicinity of Shell Beach to provide protection to the adjacent marshlands. Also, marsh creation will be implemented at specific locations behind the shoreline protection features. The project is currently in design. Anticipated construction start date is March 2012 with an anticipated completion date of late summer 2012.	No	No

Table B-13: Plant Species Referenced in PIER 36	
Common Name	**Scientific Name**
Alligator weed	*Alternanthera philoxeroides*
American elm	*Ulmus americana*
American sycamore	*Platanus occidentalis*
Bald cypress	*Taxodium distichum*
Bedstraw	*Galium spp.*
Bermuda grass	*Cynodon dactylon*
Black willow	*Salix nigra*
Boxelder	*Acer negundo*
Bushy beardgrass	*Andropogon glomeratus*
Buttonbush	*Cephalanthus occidentalis*
Carpetweed	*Mollugo verticillata*
Cedar elm	*Ulmus crassifolia*
Chinese tallow tree	*Sapium sebiferum*
Cocklebur	*Xanthium spp.*
Coffeeweed	*Sesbania spp.*
Common persimmon	*Diospyros virginiana*
Dallis grass	*Paspalum dilatatum*
Delta duck potato	*Sagittaria platyphylla*
Eastern cottonwood	*Populus deltoides*
Floating water primrose	*Ludwigia peploides*
Goldenrod	*Solidago spp.*
Green ash	*fraxinus pennsylvanica*
Honey locust	*Gleditsia triacanthos*
Ironweed	*Vernonia spp.*
Marshhay cordgrass	*Spartina patens*
Mock bishopweed	*Ptilimnium macrospermum*
Mosquito fern	*Azolla caroliniana*
Nuttall oak	*Quercus nuttallii*
Peppergrass	*Lepidium spp.*
Peppervine	*Ampelopsis arborea*
Pickerelweed	*Pontederia rotundifolia*
Pignut hickory	*Carya glabra*
Pigweed	*Amaranthus spp*
Planertree	*Planera aquatica*
Ragweed	*Ambrosia spp.*
Red maple	*Acer rubrum*
Red mulberry	*Morus rubra*
Smooth cordgrass	*Spartina alterniflora*
Southern waterhemp	*Amaranthus sp.*
Spiny thistle	*Cirsium horridulum*
Sugarberry	*Celtis laevigata*
Sweetgum	*Liquidambar styraciflua*
Three-corner grass	*Schoenoplectus americanus*

Vervain	*Verbena spp.*
Water hyacinth	*Eichhornia crassipes*
Water Oak	*Quercus nigra*
Water pennywort	*Hydrocotyle umbellata*
Water tupelo/tupelogum	*Nyssa aquatica*
Wire grass	*Spartina patens*
Woolly croton	*Croton capitatus*
Wood sorrel	*Oxalis spp.*
Yankeeweed	*Eupatorium compositifolium*

Table B-14: Common Wildlife Species Found in the LPV Basin	
Common Name	**Scientific Name**
American alligator	*Alligator mississippiensis*
American beaver	*Castor canadensis*
American coot	*Fulica americana*
American kestrel	*Falco sparverius*
American white pelican	*Pelecanus erythrorhynchos*
American widgeon	*Anas americana*
Bald eagle	*Haliaeetus leucocephalus*
Banded water snake	*Nerodia fasciata*
Barred owl	*Strix varia*
Belted kingfisher	*Ceryle alcyon*
Black skimmer	*Rynchops niger*
Black-necked stilt	*Himantopus mexicanus*
Blue-winged teal	*Anas discors*
Boat-tailed grackle	*Quiscalus major*
Bobcat	*Lynx rufus*
Bottlenose dolphin	*Tursiops truncatus*
Brazilian free-tailed bat	*Tadarida brasiliensis*
Bronze frog	*Rana clamitans*
Brown pelican	*Pelecanus occidentalis*
Bufflehead	*Bucephala albeola*
Bullfrog	*Rana catesbeiana*
Carolina wren	*Thryothorus ludovicianus*
Cattle egret	*Bubulcus ibis*
Clapper rail	*Rallus longirostris*
Common grackle	*Quiscalus quiscalus*
Common moorhen	*Gallinula chloropus*
Common snapping turtle	*Chelydra serpentine*
Common yellowthroat	*Geothlypis trichas*
Cotton mouse	*Peromyscus gossypinus*
Coyote	*Canis latrans*
Diamondback terrapin	*Malaclemys terrapin*
Double-crested cormorant	*Phalacrocorax auritus*
Eastern pipistrelle	*Pipistrellus subflavus*
Eastern cottontail rabbit	*Sylvilagus floridanus*
Eastern wood-pewee	*Contopus virens*
Evening bat	*Nycticeius humeralis*
Feral hog	*Sus scrofa*
Forster's tern	*Sterna forsteri*
Fulvous harvest mouse	*Reithrodontomys fulvescens*
Gadwall	*Anas strepera*
Glossy ibis	*Plegadis falcinellus*
Gray fox	*Urocyon cinereoargenteus*
Great blue heron	*Ardea herodias*

Great egret	*Casmerodius albus*
Greater yellowlegs	*Tringa melanoleuca*
Green anole	*Anolis carolinensis*
Green-backed heron	*Butorides striatus*
Green sea turtle	*Chelonia mydas*
Green treefrogs	*Hyla cinerea*
Green-winged teal,	*Anas crecca*
Ground skink	*Scincella lateralis*
Gulf coast toad	*Bufo valliceps*
Gull-billed tern	*Sterna nilotica*
Herring gull	*Larus argentatus*
Hispid cotton rat	*Sigmodon hispidus*
House mouse	*Mus musculus*
Kemp's ridley sea turtle	*Lepidochelys kempii*
Killdeer	*Chardrius vociferous*
Laughing gull	*Larus atricilla*
Lesser scaup	*Aythya affinis*
Lesser yellowlegs	*Tringa flavipes*
Loggerhead sea turtle	*Caretta caretta*
Lesser Scaup	*Aythya affinis*
Mallard	*Anas platyrhyncos*
Marsh rice rat	*Oryzomys palustris*
Marsh wren	*Cistothorus palustris*
Mink	*Mustela vison*
Mottled duck	*Anas fulvigula*
Mourning Dove	*Zenaida macroura*
Muskrat	*Ondatra zibethicus*
Nine-banded armadillo	*Dasypus novemcinctus*
Northern cardinal	*Cardinalis cardinalis*
Northern mockingbird	*Mimus polyglottos*
Northern pintail	*Anas acuta*
Northern raccoon	*Procyon lotor*
Northern Shoveler	*Anas clypeata*
Northern yellow bat	*Lasiurus intermedius*
Norway rat	*Rattus norvegicus*
Nutria	*Myocastor coypus*
Olivaceous cormorant	*Phalacrocorax brasilianus*
Pig frog	*Rana grylio*
Rafinesque's big-eared bat	*Plecotus rafinesquii*
Red bat	*Lasiurus borealis*
Red-eared slider	*Trachemys scripta*
River otter	*Lutra canadensis*
Red fox	*Vulpes vulpes*
Redhead	*Aythya americana*
Red-shouldered hawk	*Buteo lineatus*

Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Ring-billed gull	*Larus delawarensis*
Roof rat	*Rattus rattus*
Seaside sparrow	*Ammodramus maritimus*
Seminole bat	*Lasiurus seminolus*
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*
Snowy egret	*Egretta thula*
Southern leopard frog	*Rana sphenocephala*
Squirrel treefrogs	*Hyla squirella*
Stinkpot	*Sternotherus odoratus*
Swamp rabbit	*Sylvilagus aquaticus*
Tricolored heron	*Egretta tricolor*
West Indian manatee	*Trichechus manatus*
Western cottonmouth	*Agkistrodon piscivorus*
White-eyed vireo	*Vireo griseus*
White-faced ibis	*Plegadis chihi*
White-footed mouse	*Peromyscus leucopus*
White ibis	*Eudocimus albus*
White-tail deer	*Odocoileus virginiana*
Wood duck	*Aix sponsa*
Yellow-crowned night-heron	*Nycticorax violaceus*

Table B-15: Fish and Aquatic Species Found in the LPV Basin (Bonnet Carré, Mississippi River and Lake Ponchartrain)	
Common Name	**Scientific Name**
Atlantic croaker	*Micropogonias undulatus*
American oyster	*Crassostrea virginica*
Asiatic clam	*Corbicula fluminea*
bay anchovy	*Anchoa mitchilli*
bighead carp	*Hypophthalmichthys nobilis*
black drum	*Pogonias cromis*
blue crab	*Callinectes sapidus*
blue catfish	*Ictalurus furcatus*
bluegill	*Lepomis macrochirus*
bowfin	*Amia calva*
brown shrimp	*Farfantepenaeus aztecus*
channel catfish	*Ictalurus punctatu*s
common carp	*Cyprinus carpio*
crawfish	*Procambarus sp.*
freshwater drum	*Aplodinotus grunniens*
grass carp	*Ctenopharyngodon idella*
Gulf menhaden	*Brevoortia patronus*
Gulf sturgeon	*Acipenser oxyrinchus desotoi*
hardhead catfish	*Ariopsis felis*
inland silverside	*Menidia beryllina*
largemouth bass	*Micropterus salmoides*
least killifish	*Heterandria formosa*
paddlefish	*Polyodon spathula*
pallid sturgeon	*Scaphirhynchus albus*
rainwater killifish	*Lucania parva*
redear sunfish	*Lepomis microlophus*
redfish/ red drum	*Sciaenops ocellatus*
Rio Grande cichlid	*Cichlasoma cyanoguttatum*
sand sea trout	*Cynoscion arenarius*
sailfin molly	*Poecilia latipinna*
sheepshead	*Archosargus probatocephalus*
sheepshead minnow	*Cyprinodon variegatus*
shovelnose sturgeon	*Scaphirhynchus platorynchus*
silver carp	*Hypophthalmichthys molitrix*
southern flounder	*Paralichthys lethostigma*
Spanish mackerel	*Scomberomorus maculatus*
spot	*Leiostomus xanthurus*
spotted/speckled sea trout	*Cynoscion nebulosus*
striped mullet	*Mugil cephalus*
warmouth	*Lepomis gulosus*
white shrimp	*Litopenaeus setiferus*
yellow bullhead	*Ameiurus natalis*

Zebra mussel	*Dreissena polymorpha*

Table B-16: FY 2012 Fishing/ Hunting Licenses[1], Boater Registrations

Parish/County	Fishing Licenses		Hunting Licenses	
	Resident-Freshwater	Resident–Saltwater	Resident	Boater[2] Registrations
St. Bernard	4,628	4,565	1,711	2,702
Plaquemines	4,229	4,165	1843	3,927
Orleans	15,127	14,612	4,325	4,649
St. Tammany	29,732	28,495	11,707	18,716
Jefferson	39,090	38,253	11,938	18,627
St. John the Baptist	4,922	4,558	1,773	2,269
Tangipahoa	13,859	12,581	6,886	7,242
St. James	3,072	2,643	1,363	2,135
Ascension	15,365	12,331	6,394	8,530
Livingston	18,759	14,539	8,723	11,092
Study Area Total	148,783	136,742	56,663	79,889
Study Area Percent of State	27%	35%	20%	25%

[1] Number of licenses issued in Parish granting residents fishing or hunting privileges.
[2] Boater registration data is for 2011.

Table B-17: State and Federal Recreation Areas

Name	Parish location	Managed by	Size in acres	Brief description	Trails	Boating	Hunting or trapping	Fishing	Observe Birds, Wildlife	Educational programs	Play, picnic, swim	Camping	Other
Bayou Sauvage NWR	Orleans	U.S. Fish and Wildlife Service	23,000	Park is entirely within the city limits of New Orleans and is the nation's largest urban wildlife refuge.	3-mile hiking trail; another 9-mile biking trail	1 boat ramp; motor boating and non-motor boating	No	Fishing from boat, bank; craw-fishing, crabbing	Yes; observation deck	Classroom space, educational programming, interpretive panels	Yes; 1 picnic shelter	No	
Biloxi WMA	St. Bernard	Louisiana Department of Wildlife and Fisheries	39,583	Biloxi WMA is accessible only by boat via commercial launches at Hopedale and Shell Beach. The area is owned and leased to the Louisiana Department of Wildlife and Fisheries by the Biloxi Marsh Lands Corporation.	No	Motor boating	Small game, waterfowl, birds, alligator	Boat, bank fishing, crabbing, shrimping, shellfishing	Yes	No	No	No	
Fort Pike SHS	St. Tammany	Louisiana Department of Culture, Recreation and Tourism	94	Fort Pike, a military installation, was completed in 1826. The park offers educational programs and demonstrations.	No	1 boat ramp	No	No	Yes	Museum, historic site, educational programming, interpretive panels	Picnic tables	No	
St. Bernard SP	St. Bernard	Louisiana Department of Culture, Recreation and Tourism	NA	The park contains a network of man-made lagoons and offers many amenities and activities.	Nature trail	Boat launch nearby	No	Yes	Yes	No	Swimming pool, picnic shelters	Yes	

Name	Parish location	Managed by	Size in acres	Brief description	Trails	Boating	Hunting or trapping	Fishing	Observe Birds, Wildlife	Educational programs	Play, picnic, swim	Camping	Other
Big Branch Marsh NWR	St. Tammany	U.S. Fish and Wildlife Service	19,000	Environmental education, birding, fishing, hunting, biking, hiking, wildlife observation, photography and canoeing. A major public use area is the Boy Scout Road boardwalk and trail.	4.5 mile hiking and biking trail, ¼ mile boardwalk	2 boat ramps	Deer, small game, waterfowl, alligator	Yes, from boat and bank	Yes, one observation deck	Classroom space in visitor center attended by 1,000 people annually		No	Visitor Center, interpretive panels
St. Tammany Wildlife Refuge	St. Tammany	State Parks Commission	NA	Refuge extends 10 miles along Lake Pontchartrain and inland 100 – 1,300 feet	No	No	No	No	Yes	No	No	No	
Fontainebleau SP	St. Tammany	Louisiana Department of Culture, Recreation and Tourism	2,800	Offers a variety of activities including hiking, cycling, in-line skating, swimming, picnicking, fishing	2 walking trails (6 miles), 1 biking trail (23 miles)	No	No	Yes, 300' fishing pier	Yes	Conference room, educational programming, interpretive panels	Lake swimming with sandy beach, 1 picnic shelter	Improved campsites, Group camp, cabins, trailer camping	Visitor Center
Manchac WMA	St. John the Baptist	Louisiana Dept. of Wildlife and fisheries	8,328	Manchac WMA is popular for duck hunting in the Prairie Pond, also allows fishing and wildlife viewing	No	1 boat launch just north of the WMA	Small game, waterfowl, alligator	Yes	Yes	No	No	No	
Fairview Riverside SP	St. Tammany	Louisiana Department of Culture, Recreation and Tourism	99	State Park offers a variety of activities including fishing, picnicking and a playground	½ mile walking trail/boardwalk	1 boat ramp	No	Yes	Yes	Museum, historic site, educational programming	Play area, picnic tables	101 improved campsites	

Name	Parish location	Managed by	Size in acres	Brief description	Trails	Boating	Hunting or trapping	Fishing	Observe Birds, Wildlife	Educational programs	Play, picnic, swim	Camping	Other
Joyce WMA	Tangipahoa	Louisiana Dept. of Wildlife and fisheries	16,394	Access into the interior of the property is extremely limited. Access mainly via abandoned logging canals. Boat access limited to upper reaches.	Elevated boardwalk to swamp	Limited, boat trail, 1 launch within, 2 nearby WMA	Deer, rabbits, waterfowl, alligator	Yes	Yes	No	No	No	
Maurepas Swamp WMA (Eastern and Western Tracts)	Livingston, Ascension and St. James	Louisiana Dept. of Wildlife and fisheries	103,263	Majority of access by boat, limited foot access.	½ mile nature trail	7 boat launch sites	Deer, rabbit, alligator	Freshwater fishing	Yes	No	No	Yes	
Tickfaw SP	Livingston	Louisiana Department of Culture, Recreation and Tourism	1,183	Tickfaw State Park, of which the Tickfaw River is the western boundary, includes a cypress/tupelo swamp, a bottomland hardwood forest, and a mixed pine/hardwood forest.	5 hiking trails (4.75 miles)	2 boat ramps	No	Yes, from boat and bank	Bird watching	Classrooms, educational programming, interpretive panels	1 play area, picnic tables, 2 picnic shelters	30 improved campsites, 20 unimproved, 14 group, 1 lodge	Visitor Center

The State- and Federally-managed facilities in the study area vary widely in terms of the recreational opportunities provided. The table is based on data gathered through a review of publicly available brochures, contacts with park or refuge managers, and site visits. It provides details about the availability of different types of recreational opportunities at each of the facilities.

Table B-18: LWCF Expenditures in Study Area for Rec Resources

Parish	Number of Projects	Actual* LWCF funds expended
Orleans	25	$6,610,701
St. Bernard	4	$1,359,347
St. Tammany	13	$1,757,207
Jefferson	41	$7,576,079
St. John the Baptist	10	$524,212
Livingston	17	$1,589,164
Tangipahoa	21	$1,525,996
Total	131	$20,942,706

*Dollar values expended in the years since 1964 are not adjusted for inflation.

Table B-19: Cumulative Impacts of Past Present and Reasonably Forseable Projects in the LPV Basin

Project Name	Project Type	Wetlands and Other Surface Waters	Wildlife	Threatened and Endangered Species	Fisheries, Aquatic Resources, and Water Quality	Essential Fish Habitat	Cultural Resources	Recreational Resources	Aesthetic Resources	Air Quality	Noise	Socioeconomics	Environmental Justice
CIAP PO-44: Blind River Freshwater Diversion Property Purchase	Diversion	+	+/-	+	+/-	+/-	o	+/-	o	o	o	o	o
LCA BS-20: Medium Diversion at White Ditch	Diversion	+	+/-	+/-	+/-	+/-	o	+/-	o	o	o	o	o
LCA PO-68: Small Diversion at Convent/Blind River	Diversion	+	+/-	+/-	+/-	+/-	o	+/-	o	o	o	o	o
LCA PO-69: Amite River Diversion Canal Modification	Diversion	+	+/-	+/-	+/-	+/-	o	+/-	o	o	o	o	o
State of Louisiana PO-01: Violet Siphon	Diversion	+	+/-	+/-	+/-	+/-	o	+/-	o	o	o	o	+/-
WRDA BS-08: Caernarvon Freshwater Diversion	Diversion	+	+/-	+/-	+/-	+/-	o	+/-	o	o	o	o	o
CIAP PO-45: East Bank Wastewater Assimilation	Habitat Enhancement	+	+	o	o	+/-	o	+/-	o	o	o	o	o
CIAP PO-51: Mandeville Aquatic Ecosystem Restoration Project	Habitat Enhancement	+	+	+/-	+/-	+/-	o	+/-	o	o	o	o	o
CIAP PO-48: Green Property Preservation Project	Habitat Preservation	+	+	+	o	o	o	o	+	o	o	o	o
CIAP PO-49: French Property Preservation Project	Habitat Preservation	+	+	+	o	o	o	o	+	o	o	o	o
CWPPRA PO-19: Mississippi River Gulf Outlet (MRGO) Disposal Area Marsh Protection	Habitat Preservation	+	+	o	+/-	+/-	o	o	+	o	o	o	o
CWPPRA PO-30: Lake Borgne Shoreline Protection	Habitat Preservation	+	+	+/-	+/-	+/-	o	o	+	o	o	o	o
US Army Corps of Engineers: MRGO O&M (MRGO East Bank Shoreline Protection in the vicinity of Bayous Bienvenue and Dupre)	Habitat Preservation	+	+	o	+/-	+/-	o	o	+	o	o	o	o
US Army Corps of Engineers: MRGO O&M (MRGO West Bank Shoreline Protection in the vicinity of Stump Bayou)	Habitat Preservation	+	+	o	o	o	o	o	+	o	o	o	o
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental and MRGO O&M (MRGO East Bank Shoreline Protection in the Vicinity of Bayou Yscloskey)	Habitat Preservation	+	+	o	+	+/-	o	o	+	o	o	o	o

Project Name	Project Type	Wetlands and Other Surface Waters	Wildlife	Threatened and Endangered Species	Fisheries, Aquatic Resources, and Water Quality	Essential Fish Habitat	Cultural Resources	Recreational Resources	Aesthetic Resources	Air Quality	Noise	Socioeconomics	Environmental Justice
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (Bayou Bienvenue Shoreline Protection)	Habitat Preservation	+	+	o	+	+/-	o	o	+	o	o	o	o
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (Bayou Dupre Shoreline Protection)	Habitat Preservation	+	+	o	+	+/-	o	o	+	o	o	o	o
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (Doulluts Canal to Jahnckes Ditch)	Habitat Preservation	+	+	o	+/-	+/-	o	o	+	o	o	o	o
CIAP PO-39: Bald Cypress/Tupelo Coastal Forest	Habitat Restoration	+	+	o	+/-	+/-	o	+	o	o	o	o	o
CIAP PO-42: West LaBranche Shoreline Protection	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o
CIAP PO-43: East LaBranche Shoreline Protection	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o
CIAP PO-46: Reserve Relief Canal Shoreline Protection	Habitat Restoration	+	+	o	+/-	+/-	o	+	o	o	o	o	o
CIAP PO-52:Lake Pontchartrain Shoreline Protection	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o
CIAP PO-73: EB-Central Wetlands Assimilation	Habitat Restoration	+	+	o	+/-	+/-	o	+	o	o	o	o	o
CWPPRA BS-03a: Caernarvon Diversion Outfall Management	Habitat Restoration	+	+	o	+/-	+/-	o	+	o	o	o	o	o
CWPPRA PO-22: Bayou Chevee Shoreline Protection	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o
State of Louisiana PO-02c: Bayou Chevee	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o
State of Louisiana PO-03: LaBranche Shoreline Stabilization and Canal Closure	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o
State of Louisiana PO-03b: LaBranche Shoreline Protection	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o
State of Louisiana PO-10: Turtle Cove Shore Protection	Habitat Restoration	+	+	o	+	+/-	o	+	o	o	o	o	o

Project Name	Project Type	Wetlands and Other Surface Waters	Wildlife	Threatened and Endangered Species	Fisheries, Aquatic Resources, and Water Quality	Essential Fish Habitat	Cultural Resources	Recreational Resources	Aesthetic Resources	Air Quality	Noise	Socioeconomics	Environmental Justice
State of Louisiana PO-4355NP4 Fontainebleau State Park Mitigation	Habitat Restoration	+	+	o	+/-	+/-	o	+	o	o	o	o	o
CIAP BS-13: EB Bayou Lamoque Floodgate Removal	Hydrologic Restoration	+	+	o	+/-	+/-	o	o	o	o	o	o	o
CIAP PO-40: Hydrologic Restoration in Swamps West of Lake Maurepas	Hydrologic Restoration	+	+	o	+/-	+/-	o	o	o	o	o	o	o
CWPPRA PO-06: Fritchie Marsh Restoration	Hydrologic Restoration	+	+	o	+	+	o	o	o	o	o	o	o
CWPPRA PO-16: Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1	Hydrologic Restoration	+	+	o	+/-	+/-	o	o	o	o	o	o	o
CWPPRA PO-18: Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 2	Hydrologic Restoration	+	+	o	+/-	+/-	o	o	o	o	o	o	o
CWPPRA PO-24: Hopedale Hydrologic Restoration	Hydrologic Restoration	+	+	o	+	+	o	o	o	o	o	o	o
State of Louisiana BS-06: Lake Lery Hydrologic Restoration	Hydrologic Restoration	+	+	o	+/-	+/-	o	o	o	o	o	o	o
State of Louisiana PO-08: Central Wetlands Pump Outfall	Hydrologic Restoration	+	+	o	+/-	+/-	o	o	o	o	o	o	o
US Army Corps of Engineers: Modification to Caernarvon 4th Supplemental	Hydrologic Restoration	+	+	o	+/-	+/-	o	o	o	o	o	o	o
CIAP BS-17: Lake Lery Rim Reestablishment and Marsh Creation	Marsh Creation	+	+	o	+	+/-	o	+	o	o	o	o	o
CIAP PO-36: EB-Orleans Land Bridge Shoreline Protection and Marsh Creation	Marsh Creation	+	+	o	+	+/-	o	+	o	o	o	o	o
CIAP PO-70: Northshore Beach Marsh Creation/ Restoration	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
CWPPRA PO-17: Bayou LaBranche Wetland Creation	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
CWPPRA PO-33: Goose Point/Point Platte Marsh Creation	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o

Project Name	Project Type	Wetlands and Other Surface Waters	Wildlife	Threatened and Endangered Species	Fisheries, Aquatic Resources, and Water Quality	Essential Fish Habitat	Cultural Resources	Recreational Resources	Aesthetic Resources	Air Quality	Noise	Socioeconomics	Environmental Justice
DOTD: I-310 Mitigation	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
State of Louisiana Surplus Fund 2007 PO-72: Biloxi Marsh Shoreline Protection	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
US Army Corps of Engineers: LPV Pre-Katrina Mitigation (Manchac Shoreline)	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
US Army Corps of Engineers: LPV Pre-Katrina Mitigation (Manchac Shoreline)	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
US Army Corps of Engineers: LPV Task Force Guardian Mitigation (Bayou Sauvage)	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
US Army Corps of Engineers: MRGO O&M 3rd and 4th Supplemental (West of Shell Beach Shoreline Protection)	Marsh Creation	+	+	o	+/-	+/-	o	+	o	o	o	o	o
Bonnet Carre Spillway	Structure	+/-	+/-	+/-	+/-	+/-	+/-	-	-	o	o	+	o
CIAP PO-71: Waterline Booster Pump Station	Structure	+/-	+/-	o	+/-	o	+/-	-	-	o	o	+	o
East Plaquemines Non-Federal Levee	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
Forty Arpent Levee	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
GIWW Navigation System	Structure	+/-	+/-	o	+/-	+/-	+/-	+/-	o	o	o	+	o
Hurricane and Storm Damage Risk Reduction System, Lake Pontchartrain and Vicinity (HSDRRS-LPV)	Structure	+/-	+/-	o	-	-	+/-	-	-	o	o	+	o
I-10 Mile 246 to 248 Non-federal Levee	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
Inner Harbor Navigation Canal (IHNC) Lock Replacement	Structure	+/-	+/-	o	-	-	+/-	+/-	-	o	o	+	o
Little Woods/Maxent Non-federal Levee	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
Lower Ninth Ward Non-federal Levee	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
Maxent Lagoon Non-federal Levee	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
Mississippi River Gulf Outlet (MRGO)	Structure	+/-	+/-	o	+/-	+/-	+/-	-	o	o	o	+	o

Project Name	Project Type	Wetlands and Other Surface Waters	Wildlife	Threatened and Endangered Species	Fisheries, Aquatic Resources, and Water Quality	Essential Fish Habitat	Cultural Resources	Recreational Resources	Aesthetic Resources	Air Quality	Noise	Socioeconomics	Environmental Justice
Mississippi River Levees: Mississippi River & Tributaries (MR&T) Project	Structure	+/-	+/-	-	-	-	+/-	-	-	o	o	+	o
Mississippi River Navigation Channel	Structure	+/-	+/-	o	+/-	+/-	+/-	-	o	o	o	+	o
Monticello Non-federal Levee	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
MRGO Closure at Bayou La Loutre	Structure	+/-	+/-	o	+/-	+/-	+/-	-	-	o	o	o	o
New Orleans to Venice Levee System, Phoenix to Bohemia	Structure	+/-	+/-	o	-	-	+/-	-	-	o	o	+	o
Ormond Non-federal Levees	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	+	o
US Army Corps of Engineers: Caernarvon Freshwater Diversion Structure	Structure	+/-	+/-	o	o	o	+/-	-	-	o	o	o	o