



# Mitigation in the Coastal Zone of Louisiana

Sharon Pecquet, Mitigation Coordinator  
Kelley Templet, Mitigation Manager  
Office of Coastal Management  
Department of Natural Resources



# Local Coastal Programs

This presentation is intended to assist Local Coastal Program coordinators in their understanding of the mitigation process, the Wetland Value Assessment (WVA) methodology, how compensatory mitigation is determined, on the importance of documentation and filling out code sheets.



# Understanding the Steps in the Mitigation Process utilized by the state office



Field Report



Needs, Alternatives, Justification Process



Notification Letter to Applicant of Impacts and Mitigation Options



Run the WVA on impacted habitat



Receive Mitigation Intent/Determine Appropriate Type and amount of Compensatory Mitigation



Notification Letter to Applicant of Compensatory Mitigation



Receipt of Mitigation/Issuance of Authorization with Conditions





# Alternative Steps in the Mitigation Process utilized by some Local Coastal Programs



Field Report



Needs, Alternatives, Justification Process



Run the WVA on impacted habitat



Determine Appropriate Type and amount of  
Compensatory Mitigation



Notification Letter to Applicant of Impacts to be  
assessed and options for Compensatory Mitigation



Receipt of Mitigation/Issuance of Authorization with  
Conditions



# Introduction to the WVA

- Review examples of WVAs run on both marsh and forested habitats in the excel spreadsheets previously provided to the LCP.
- Review how parameters (V1 – V7) are derived from the Biological Field Investigation, aerial imagery/GIS Live Map analysis, and the WVA Methodology Handbook.



# Marsh Habitat Assessment Variables

- Variable V1:** Percent of wetland area covered by persistent emergent vegetation within the wetland area to be assessed; this should not include non-vegetated open water areas within the permitted footprint of the project that do not contain non-rooted aquatic vegetation. (Parameter Sheet)
- Variable V2:** Percent of open water area dominated by aquatic vegetation. Should not include floating non-rooted aquatic vegetation as this type of aquatic vegetation is mobile, that is, it moves with the current or wind patterns in that area. (Parameter Sheet)
- Variable V3:** Marsh edge and interspersion; takes into account the relative juxtaposition of marsh and open water for a given marsh:open water ratio; it is measured by comparing the project area to sample illustrations depicting different degrees of interspersion or some might refer to as degrees of marsh degradation within the vicinity of the impacts being assessed. (GIS/Live Map)



# Marsh Habitat Assessment Variables Cont'd:

- Variable V4:** Percent of open water area  $<$  or  $=$  to 1.5 feet deep in relation to marsh surface. This applies only if there are small areas of open water within the marsh habitat or vegetated aquatic habitat to be impacted. If there are none, then 0 should be entered. (Parameter Sheet)
- Variable V5:** Mean high salinity during the growing season for fresh/intermediate marsh habitats or average annual salinity for brackish/saline marsh habitats; as this information is not readily available for specific impact sites, it is recommended that you use the mean salinity for the four coastal wetland types as reported by Chabreck (1972). (Parameter Sheet)
- Variable V6:** Aquatic organism access; utilize chart to determine this variable; dependent upon the existence or lack of water control structures within the vicinity of the impact site. Ex. open culverts, flap-gated culverts, weirs, or plugs. (Parameter Sheet)

# Bottomland Hardwood Habitat Assessment Variables



- Variable V1:** **Measures tree species association:** Dependent upon the percent overstory canopy which consists of soft mast/hard mast tree species. Divided into five (5) classes of varying percentages. Important to know your non-mast, soft-mast, and hard-mast species by referring to the WVA Methodology handbook. (Parameter Sheet)
- Variable V2:** **Stand Maturity;** average age of canopy-dominant and canopy-codominant trees. Dbh is utilized to determine the average age of a stand of timber at TY 0. The WVA spreadsheet requires the average dbh of all canopy-dominant and codominant tree species that occur within the impacted site. Therefore, you must add all dbhs listed on the parameter sheet and divide by the number of species to arrive at your average dbh. For subsequent years, use the chart provided in the handbook to convert dbh to age in years. (Parameter Sheet)
- Variable V3:** **Understory/Midstory;** Estimated on (Parameter Sheet.)

# Bottomland Hardwood Habitat Assessment Variables Cont'd



- Variable V4:** **Hydrology;** Divided into three classes 1) Forced drainage system; 2) Water table lowered or raised to cause unnatural dry and wet periods 3) Essentially unaltered. (Parameter Sheet and WVA Handbook)
- Variable V5:** **Size of Contiguous Forested Area;** Divided into five classes depending on acreage: 1) 0-5 acres 2) 5.1 – 20 acres 3) 20.1 – 100 acres 4) 100.1 – 500 acres and 5) over 500 acres. Any break or corridor greater than 75 feet wide constitutes a break in the contiguous forest area. (WVA Handbook and GIS Map)
- Variable V6:** **Surrounding Land Use;** Percentages of forested/marsh areas, abandoned agriculture, pasture/hayfields, active agriculture, and non-habitat such as residential, commercial, or industrial development. (GIS Live Map)
- Variable V7:** **Disturbance;** Includes four type classes and three distance classes. (Reference Handbook and GIS Live Map)



How the state determines which mitigation options are available to the applicant?



# CHAPTER 7, TITLE 43 – Coastal Management Regulations

Rules for Selecting Compensatory Mitigation, §724.J:  
(revised and Final Rule on January 2014)



Mitigation Options:

- 1) Individual Mitigation Measure – Project on Landowner(s) Property
- 2) Mitigation Banks – Acquire Credits
- 3) In-Lieu-Fee Program – purchase of credits from the State's Corps approved ILF Program.
- 4) Coastal Mitigation Account – Monetary contribution

However, Mitigation Options are dependent upon several criteria:



- 1) Whether or not the applicant is the sole landowner.
- 2) Whether or not there are available mitigation banks within the hydrologic basin where impacts are anticipated.
- 3) Whether or not the Army Corps of Engineers is also requiring compensatory mitigation and if so, what they are requiring or are willing to accept as mitigation.

Applicant's who are not the sole landowner upon which impacts are to occur are provided three similar options:



\_\_\_\_\_ I request to implement the attached landowner coordinated individual mitigation plan on the landowner's property in accordance with the required technical items as outlined in the Mitigation Proposal Requirements.

The following options are only available if the applicant has documentation that the landowner(s) has/have waived their right to have compensatory mitigation to be performed on their property:

\_\_\_\_\_ I request to implement the attached individual mitigation plan off of the landowner's property in accordance with the required technical items as outlined in the Mitigation Proposal Requirements.

\_\_\_\_\_ I request to purchase the appropriate type and quantity of mitigation credits from a mitigation bank approved by OCM or from an approved In-Lieu Fee Program, or where applicable, through a contribution to the Coastal Mitigation Account.

Applicant's who are the sole landowner or have less than one acre of wetland impacts are provided three options:

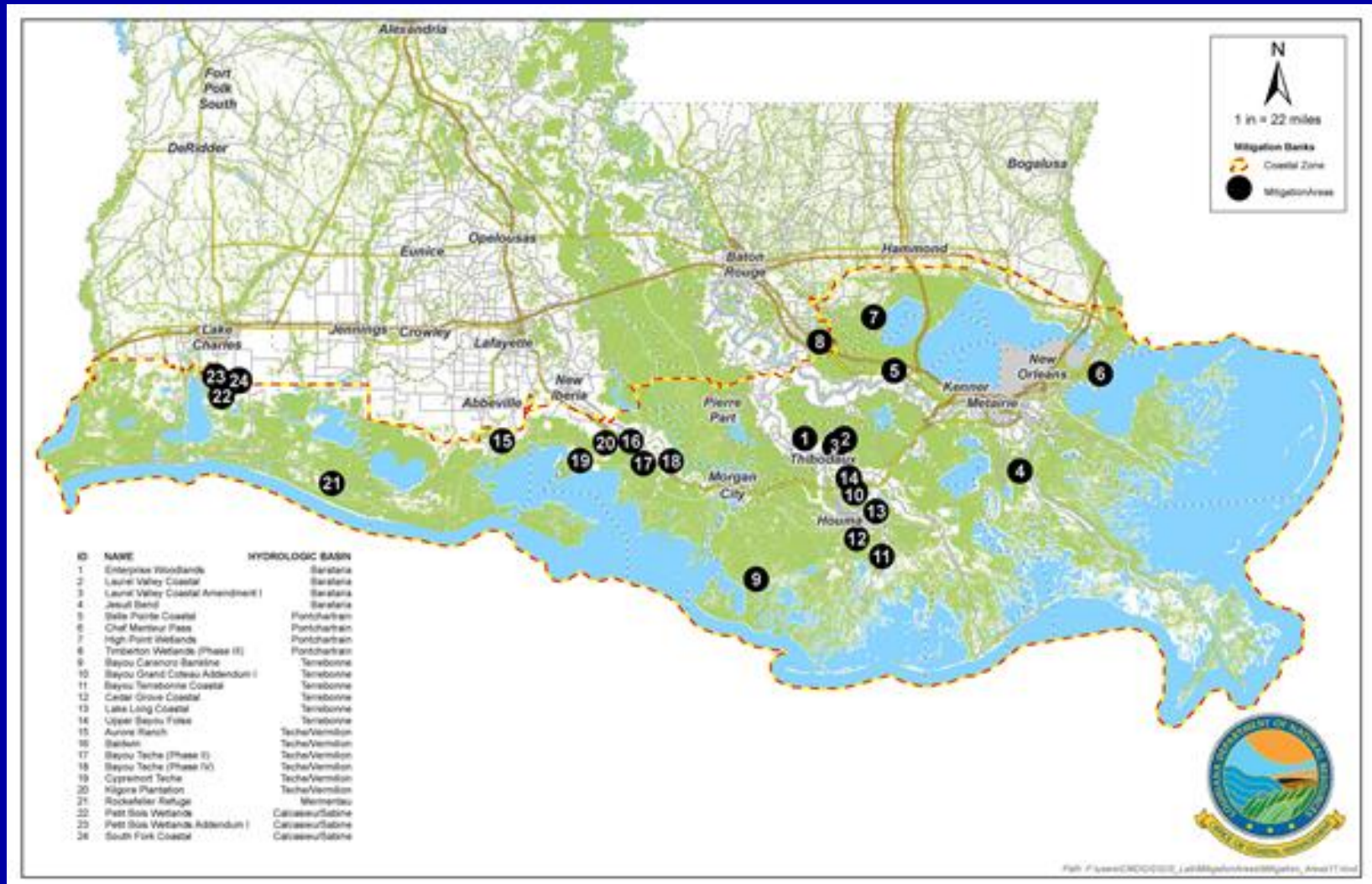


\_\_\_\_\_ I do not waive my right to mitigation on my property and I request to implement the attached individual mitigation plan on my property in accordance with the required technical items as outlined in Mitigation Proposal Requirements.

\_\_\_\_\_ I request to implement the attached individual mitigation plan off of my property in accordance with the required technical items as outlined in the Mitigation Proposal Requirements.

\_\_\_\_\_ I request to purchase the appropriate type and quantity of mitigation credits from a mitigation bank approved by OCM or from an approved In-Lieu Fee Program, or where applicable, through a contribution to the Coastal Mitigation Account.

# Location of Mitigation Banks





# State and Federal Mitigation Programs

- State and Federal Mitigation Programs are different.
- Our separate rules, regulations and in some cases policies mandate our mitigation process.
- The Office of Coastal Management (OCM) and the U.S. Army Corps of Engineers (Corps) continue to work together to coordinate mitigation for impacts to coastal resources in an effort to minimize impacts of program differences on applicants and achieve our primary goal of no net loss.



# A Few Requirements that Differ Between the Two Programs:



- The habitat assessment tools used to quantify net gains and unavoidable net losses; State program utilizes the WVA and the Corps utilizes the LRAM.
- The State determines the use of mitigation banks by the Hydrologic Basin (9 Basins) the impacts occur in whereas the Corps utilizes the Deltaic and Chenier coastal plains for marsh habitat and the Hydrologic Basins for forested habitats under the LRAM.



Option 3: If the applicant is the landowner or has less than an acre of impacts upon some else's property and chooses the purchase of the appropriate type and quantity of mitigation credits from a mitigation bank approved by OCM or from an approved In-Lieu Fee Program, or where applicable, through a contribution to the Coastal Mitigation Account,

How does the state determine which option is appropriate?





The answer is dependent upon whether the Hydrologic basin of impact contains a mitigation bank with the appropriate type and quantity of mitigation credits available.

How do we determine this? By referencing the OCM Mitigation Bank List available on the DNR website and by accessing the Corps RIBITS website to check for the balance of credits.



If you determine there is a Mitigation Bank(s) available, the following formula can be utilized to determine the number of acres required for purchase:

$$\frac{\text{AAHUs of impacted area}}{\text{Mitigation Potential of Bank}} = \# \text{ of acres required for purchase}^*$$

\* For Mitigation Banks, round up the acreage required for purchase to the nearest tenth (0.1) of an acre since mitigation banks are required to sell credits in tenths of an acre. In order to check whether this purchase is sufficient to offset impacts, multiply the acreage by the MP to determine if the AAHUs to be benefited by the purchase are equal to or above the AAHUs lost. Benefit AAHUs are never rounded up. If the benefit AAHUs are not equal to or above the AAHUs lost, round up to the next tenth of an acre appropriately.



## Checking the RIBITS Website

Once the number of acres required has been determined\*\*, the RIBITS website is accessed to determine if the bank has the required credits available within the hydrologic basin of impact prior to considering it as a potential bank. Be advised that some banks are allowing applicant's to reserve credits which are not reflected in RIBITS and require a phone call to determine the actual credits still available for purchase.

In addition, it is possible there may be multiple banks available within the hydrologic basin of impact, if so, the above acreage calculation will have to be completed for each bank and checked in RIBITS. List all potential banks that the applicant could purchase from and the benefit information for each.



There is one exception to the mitigation bank credit purchase requirement. Even if there are mitigation banks available within the hydrologic basin of impacts with the appropriate type and quantity of credits but the impacts are so small that requiring a mitigation bank credit purchase would cause the applicant to over mitigate by 2 to 3 times, then the In-Lieu Program purchase or Coastal Mitigation Account options may be available.

## If there are no mitigation banks available within the hydrologic basin of impact:

- For impacts assessed to marsh habitat only, if approved by the Corps, the In-Lieu Fee Program option may be available to the applicant. If it is not, then depending on whether the Corps is requiring a mitigation bank credit purchase, the states look to the adjacent Hydrologic basins for an out-of-basin credit purchase in order to avoid double mitigation by the applicant.
- For impacts assessed to forested habitat, mitigation banks within the nearest adjacent hydrologic basin may be considered for out-of-basin credit purchases since the In-Lieu Fee Program and contributions to the Coastal Mitigation Account are not currently available for impacts to forested habitat.

# How to Calculate the purchase of mitigation credits from the In-Lieu Fee Program:



Utilizing ILF Mitigation Potential (MP) for the appropriate habitats listed below, calculate the number of acres to be purchased.

Approved Mitigation Potentials (MP) for ILF:

Fresh/Intermediate Marsh Habitat - 0.45

Brackish/Saline Marsh Habitat - 0.49

$$\frac{\text{AAHUs of impacted area}}{\text{Mitigation Potential of ILF}} = \text{\# of acres required for purchase}^{***}$$

Approved Per Acre In-Lieu Fee Mitigation Rate: \$64,820.00

\*\*\* For ILF, round up to the nearest 1/100<sup>th</sup> of an acre not 1/10<sup>th</sup> of an acre, prior to multiplying by the mitigation rate to determine the cost.

# When is a contribution to the Coastal Mitigation Account available to the applicant?



Only when the following are true:

- 1) Impacts are to marsh habitat and there are no mitigation banks available within the Hydrologic basin of impact and the Corps is not requiring compensatory mitigation under the DA permit or is not requiring a DA permit for the activity. Or
- 2) Impacts are to marsh habitat and the acreage of impact is so small that requiring a mitigation bank credit purchase would cause the applicant to over-mitigate 2-3 times and and the Corps is not requiring compensatory mitigation under the DA permit or is not requiring a DA permit for the activity.

\*Calculations are the same as for the In-Lieu Fee Program. 27





Options 1 & 2: If the applicant/landowner opts to propose an Individual Mitigation Project on his property or off his property, the following steps are needed to determine whether it is sufficient?

- 1) Determine whether the proposal is an appropriate:
  - a. Does it propose in-kind mitigation, that is fresh marsh restoration to offset impacts to fresh marsh impact?
  - b. Is it located within the same hydrologic basin as the impacts, in-basin.
- 2) Determine whether the proposed acreage is sufficient by running a benefits WVA.
- 3) Determine whether the proposal is sustainable. Is it proposed within a high energy area.



# Once the Required Compensatory Mitigation has been determined, What's next?



- Depending on whether you opted to send a notification letter at the beginning of this process to inform the applicant of the assessed impacted acres and habitat type and requested their mitigation intent/preferred option, then you would notify the applicant in the form of a Mitigation Plan Approval letter of the required compensatory mitigation or a Mitigation Plan Review Letter if additional information is required for an individual mitigation measure.
- If you opted to wait until after you determined what option would be appropriate and the amount, then you would send a letter which informed the applicant of the assessed impacted acres and habitat type and their mitigation options including the option to propose an individual mitigation measure.

One of the following must be received/completed:



1) Mitigation Bank/In-Lieu Fee Program credit purchase confirmation letter has been received

Or

2) The contribution to the Coastal Mitigation Account is received by OCM

Or

3) The Mitigation Plan Proposal has been incorporated into the permit plats,

Once received, you are ready to begin preparing the permit authorization with the appropriate mitigation conditions and to fill out the HABITAT IMPACTS and HABITAT BENEFITS CODE SHEETS.

# Documentation



- It is important to note that uploading the required documentation such as Biological Investigation Reports, WVA, applicant notification letters applicant/landowner intent forms, and CODE SHEETS into the permit comments section should be done as soon as possible after review and approval from your LCP Coordinator.



I am available to answer questions about any part of this presentation anytime and you are encouraged to walk through the mitigation process with us.

# Status of the State's Current In-Lieu Fee Program



- A Corps approved In-Lieu Fee (ILF) Program is required to fulfill the April 10, 2008, federal regulations “Compensatory Mitigation for Losses of Aquatic Resources” (33 CFR Parts 325 and 332) requirements.
- On January 24, 2014, the Corps approved the State’s ILF Instrument and the State’s ILF Program became available as a mitigation option to satisfy mitigation requirements.
- On April 10, 2014 the Office of Coastal Management received its first credit purchase and we continue to work closely with CPRA and other resources to piggy-back onto projects when possible.
- At the direction of the Interagency Review Team (IRT), Revision One of the ILF Instrument was approved on June 2, 2017.

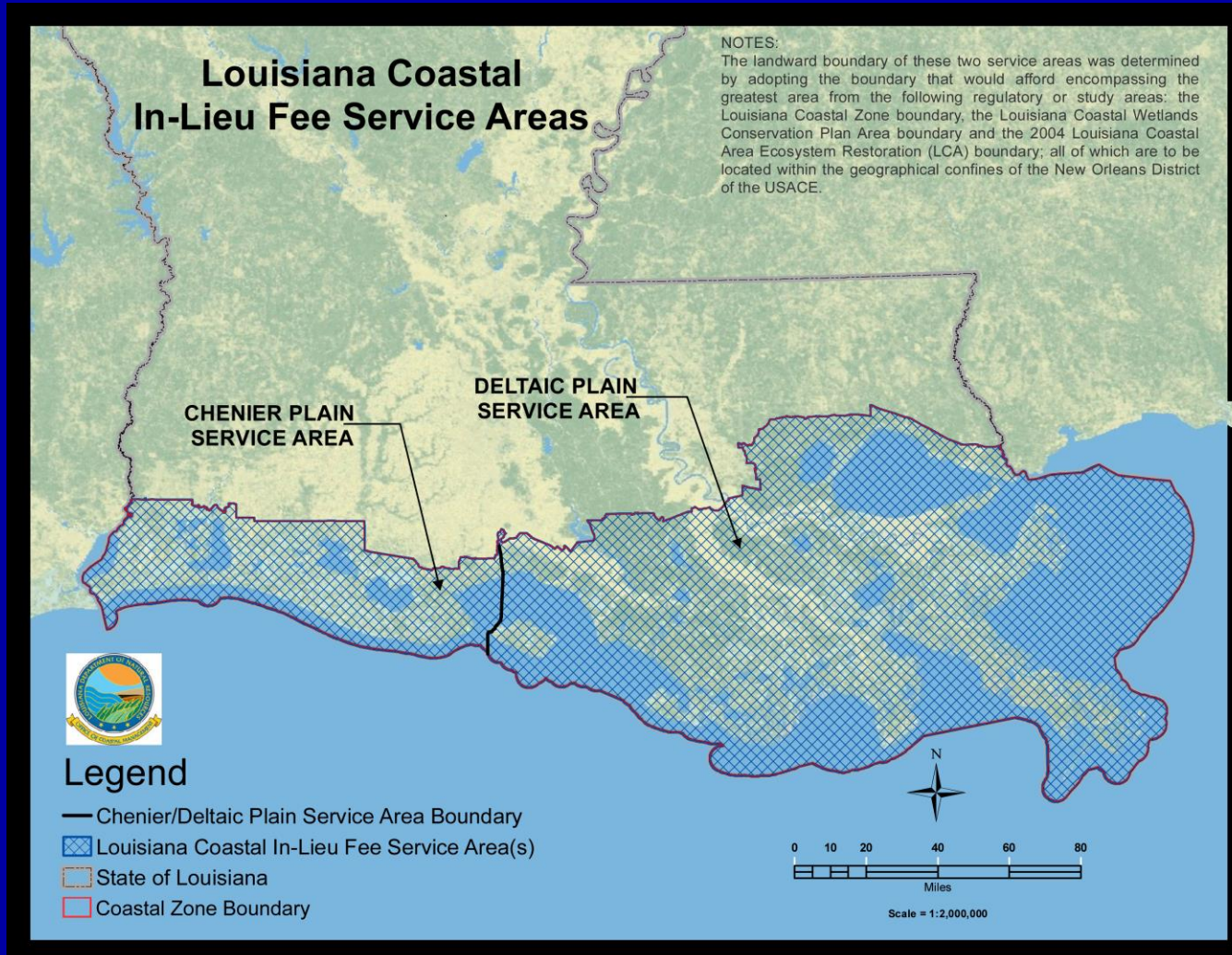
# Revisions to the ILF Instrument



- **Page 9 Section 3.2:** Change boundary line between Deltaic and Chenier Plains from a geopolitical boundary to a USGS hydrologic unit boundary and the expansion westward of the Chenier Plain to the LA state boundary. Revised Attachment 4 (Coastal Service Areas Map)
- Page 13, Section 3.7: Revised the submittal date of the Annual Program Account Report from November 1 to August 1.
- Page 27, Revised Attachment 6 (Assessment tool) by removing the MVN MCM and replacing it with the Louisiana Wetland Rapid Assessment Methodology (LRAM).
- Revise Attachment 7 (Projected Program Costs)

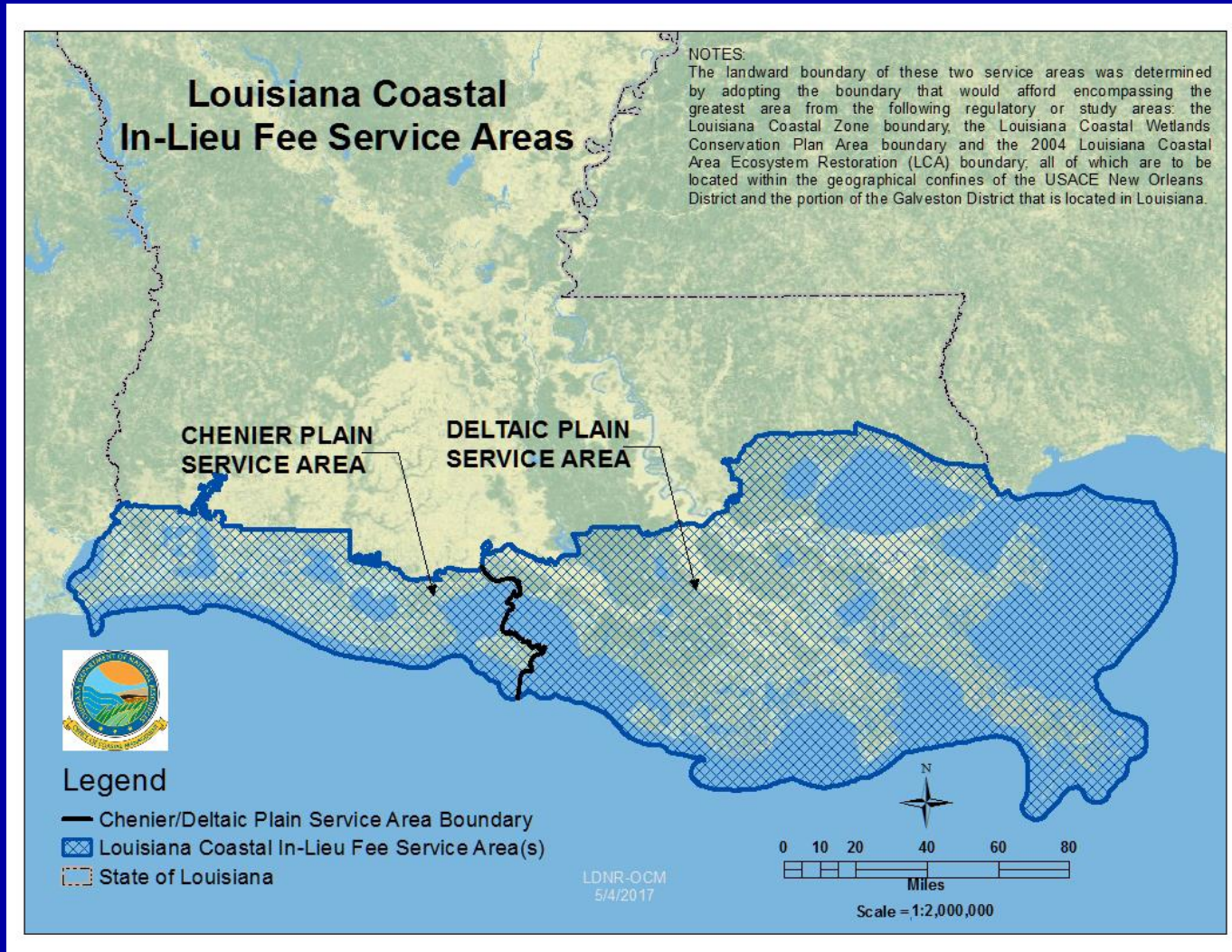


# Previous Attachment 4 Coastal Service Area Map





# Revised Attachment 4 Coastal Service Area Map





# Attachment 6 : LRAM



## Louisiana Wetland Rapid Assessment Method (LRAM)

CEMVN Acct # **MVN-2010-00847** Bank Name **LDNR ILF**  
 Acres Mitigation **25**  
 Watershed Basin

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Re-Est	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Management	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	Low	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Size	Less than 10	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Buffer / Upland	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	25.0							
	Sum x Area Affected:	137.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
									Σ Mitigation: 137.5
									Mitigation Potential: 5.5

### COMMENTS

Mitigation Type	dredge for marsh crestion
Management	none presumed
Negative Influences	minor negative influences presumed
Size	approximated value
Buffer/Upland	none presumed

# Revised Attachment 7 Projected Program Costs



The April 2016 bid tabulations represent marsh creation project construction costs for seven (7) projects. Based on the project cost per acre provided, the cost per acre has been revised from \$64,600 to \$64,820.00 for an increase of \$220.00 per credit acre.



Funding Source	Project	Date	Acres	Project Cost/Ac
CWPPRA/CIAP	Long Distance Sediment Pipeline and Bayou Dupont 2	Oct-13	784	\$82,077.00
CWPPRA	Grand Liard	Feb-14	436	\$68,107.55
CWPPRA	Bayou Bonfuca (95%)	Jan-16	620	\$35,028.00
CWPPRA	Lost Lake (95%)	Jan-16	502	\$45,465.00
CWPPRA	Cole's Bayou (95%)	Jan-16	418	\$34,910.00
CWPPRA	Cameron Creole (95%)	Jan-16	618	\$37,340.00
CWPPRA	Oyster Bayou (95%)	Jan-16	605	\$38,106.00
			<b>Average</b>	<b>\$48,720.00</b>

Other Costs Considered:	
Engineering & Design	\$4,000/acre
Vegetative Plantings	\$2,100/acre
Real Estate Costs/Legal fees	\$2,000/acre
Planning Costs	\$750/acre
Monitoring/Surveying	\$2,250/acre
Operations and Maintenance	\$2,000/acre
Administrative Costs	\$3,000/acre
<b>Total:</b>	<b>\$16,100/acre</b>

# When the ILF Payment is Received



- WVAs, applicant mitigation letters and mitigation plan approval letters are accessed, reviewed, and mitigation determination is verified.
- Access RIBITS website, enter required information, and debit credits.

# ILF RIBITS Transaction



New Transaction for Louisiana DNR In-Lieu Fee Program

<b>Cancel</b>	
<b>Create</b>	
Transaction Type:	Withdrawal ▼
• Type	Wetland ▼
• Program Service Area	▼
• Transaction Date	▼
• Permittee	▼
• Credits	▼
<b>Impact Information</b>	
Cowardin System	-- Select System -- ▼
Cowardin Subsystem	-- Select Subsystem -- ▼
Cowardin Class	-- Select Class -- ▼
Cowardin Subclass	-- Select Subclass -- ▼
HGM	--Select HGM Type-- ▼
Impact HUC	▼
Impact Quantity	▼
Impact Latitude	▼ (Decimal Degrees)
Impact Longitude	▼
Comment	▼

Compute from Deg/Min/Sec



# Entering credit sales for the LDNR ILF Program in the Regulatory ILF and Bank Information Tracking System (RIBITS)

<b>ILF Program Ledger Summary: Louisiana DNR In-Lieu Fee Program</b>							
Last Program Transaction: Jun 06, 2017							
Name	Advance Credits Available	Unfulfilled Credits	Site Credit Summary				
			Available Credits	Withdrawn Credits	Released Credits	Potential Credits	
<b>Chenier Plain</b>							
Wetland	13.02	26.98	0	0	0	0	
Stream	0	0	0	0	0	0	
<b>Deltaic Plain</b>							
Wetland	53.56	26.44	0	0	0	0	
Stream	0	0	0	0	0	0	



# ILF Credit Purchase Spread Sheet

CLIENT NAME	SERVICE AREA	Hydrologic Basin	OCM PERMIT NUMBER	DA PERMIT NUMBER	PARISH	ACRES IMPACTED	AAHU	CREDITS PURCHASED DELTAIC	CREDITS PURCHASED CHENIER	MARSH HABITAT	AMOUNT PAID
Corporation A	Deltaic Plain	Mississippi River	P20131731	MVN-2014-0018E00	Plaquemines	0.15	0.05	0.12		Intermediate	\$7,752.00
Corporation B	Deltaic Plain	Mississippi River	P20131527	MVN-2013-2818-EQ	Plaquemines	1.8	0.61	1.36		Intermediate	\$87,856.00
Corporation C	Deltaic Plain	Mississippi River	P20131749	MVN-2014-00357-ETT	Plaquemines	0.14	0.07	0.15		Brackish	\$9,690.00
Corporation D	Deltaic Plain	Terrebonne	P20141649	MVN-2014-01254-MKK	Terrebonne	0.03	0.02	0.05		Fresh	\$4,345.00
Corporation E	Deltaic Plain	Barataria	P20011641	MVN-2002-00287	Lafourche	0.89	0.25	0.56		Intermediate	\$36,176.00
Corporation F	Deltaic Plain	Barataria	P20071385	MVN-2007-03974-CS	Lafourche	0.02	0.01	0.02		Brackish	\$1,292.00
Corporation G	Chenier Plain	Calcasieu/Sabine	P20131516	MVN-2014-00174-WKK	Cameron	0.14	0.07		0.15	Saline	\$9,690.00
Corporation H	Chenier Plain	Calcasieu/Sabine	P20131515	MVN-2014-00173-WKK	Cameron	0.17	0.09		0.19	Saline	\$12,274.00





# First Project Approved Using Funds from OCM's In-Lieu Fee Program Account

## Lost Lake Marsh Creation

Select a project to construct every three years

# DNR's ILF Program Account 2016 Mitigation Expenditure



## Lost Lake Marsh Creation Project

ILF funds will go toward the construction of ~ 37 acres of intermediate marsh in the Terrebonne Hydrologic Basin. Also \$500,000 in Beneficial Use Funds





# Projects Completed Using Funds from OCM's Coastal Mitigation Account and Beneficial Use Account

# DNR's Coastal Mitigation Account 2014 Mitigation Fund Expenditure



## Freshwater Bayou Marsh Creation Project Vermilion Parish

CMA funds and BU funds were added to the Project Budget to create ~40 Acres of additional fresh/intermediate marsh.  
\$900,000 of CMA funds and \$400,000 of BU funds.  
Construction was completed in June 2015.





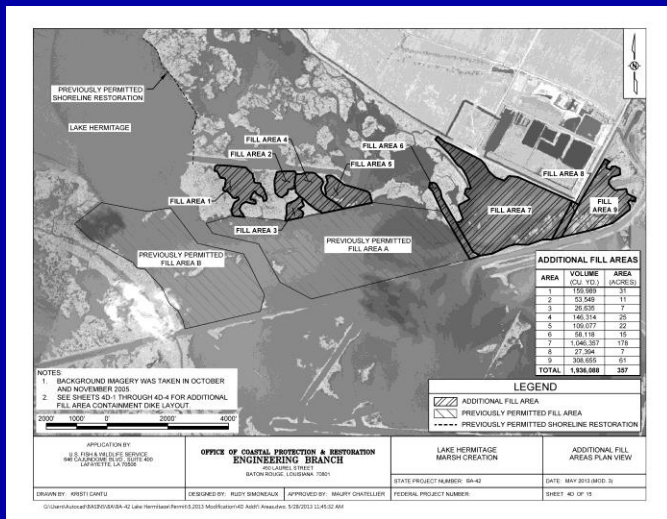
# DNR's Coastal Mitigation Account 2014 Mitigation Fund Expenditure



## Lake Hermitage Marsh Creation Project

### Plaquemines Parish

\$800,000 in CMA funds and \$575,000 in Beneficial Use funds were added to the project budget to construct ~ 40 Acres of additional marsh creation. Construction was completed on the CMA funded portion in July of 2014.



Lake Hermitage Marsh Creation BA 42

Image # 150901 6188  
Date : 09.01.2015  
Plate 888.542.0231

# Questions?

