

**Coastwide Projects**

CW-01	Coastwide Sediment Management
CW-02	Coastwide Hydrologic Improvements
CW-03	Coastwide Feral Hog Control Program

CW-01

**PPL29 PROJECT FACT SHEET**  
**February 12, 2019**

**Project Name**

Coastwide Sediment Management

**Master Plan Strategy**

This project supports all Master Plan marsh creation projects by providing access to sediment.

**Project Location**

Coastwide

**Problem**

Some projects in areas with high land loss rates are not considered for restoration due to the lack of nearby sediment. Projects are often limited in scope due to the high costs of long distance sediment transport. Many projects lack of nearby suitable sediment sources and restoration efforts are limited.

**Proposed Solution**

By strategically establishing temporary holding/accumulation sites for dredged sediment, many restoration projects that are currently not viable due to lack of suitable borrow may become more competitive for funding and subsequent construction. This project concept provides for optimizing sediment management for routine local dredging operations, by establishing temporary locations to accumulate sediment for future use in coastal restoration projects. Concept may include sourcing and moving materials into the temporary storage locations and/or direct placement. This concept is a strategic approach and methodology to ensure high need areas are constructed in a cost efficient and sustainable manner, as well as facilitates/encourages beneficial use of all dredged sediment resources.

**Project Benefits**

The project sets forth criteria (e.g. general locations, volume, placement conditions, and testing requirements) and strategically establishes several temporary material storage locations during the 20-year project life in state waters to accumulate materials for use as needed in coastal restoration projects. Costs of restoration projects are increasing and in some areas the lack of available sediment often eliminates a restoration project from consideration or implementation. By decoupling dredging events and project construction, large and small dredging projects can contribute sediment to these temporary management sites on an ongoing basis. Implementing this coastwide project can increase beneficial use and eliminate project timing issues that often present a major barrier to beneficial use.

**Project Costs**

The estimated cost including 25% contingency is \$20M - \$25M.

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# Coastwide Sediment Management

February 2019



## 2017 Master Plan Solution

This project supports all Master Plan marsh creation projects by providing access to sediment.





## EPA Region 6 CWPPRA Team Goals

- Protect human health and the environment, including water quality, by restoring coastal wetlands
- Improve local community resilience
- Restore wetland habitats and protect critical infrastructure
- Support stakeholder priorities in synergy with EPA's mission



## Problems

- Sediment starved environment
- Restoration projects lack nearby borrow
- Numerous projects using same borrow areas
- Lack of suitable sources – quality/quantity



## Project Methodology

- De-couple dredging/project timing
- Establish sediment storage sites in state waters
- Areas strategically placed as needed in preparation for future projects – advance planning
- Construction cost + 25% contingency is \$20M - \$25M



## Process - Where and How?

- Identify potential material sources
  - Port expansions
  - Routine channel maintenance activities
  - Third party dredging
  - USACE maintenance dredging
- Strategically locate and establish holding areas
  - Low energy locations
  - Refill previous borrow areas
- Match sites to restoration project needs



## Coastwide Concept/Management

- Sites would be “managed”
- Materials tested as needed
- Sites monitored for quality/quantity as needed
- Locations established or decommissioned as needed



## Example: Calcasieu River Materials

- Potential sources
  - Annual USACE maintenance dredging
  - 2019 estimate = 4 MCY biennially
  - Upland disposal areas nearing capacity
- Establish sediment storage location(s) in Calcasieu Lake for restoration projects







# Calcasieu River



November 7, 2018

-  Sediment storage location
-  Potential project areas of high loss rates/need

**USACE dredges 4 MCY biennially – upland disposal**

0 3.5 7 14 mi

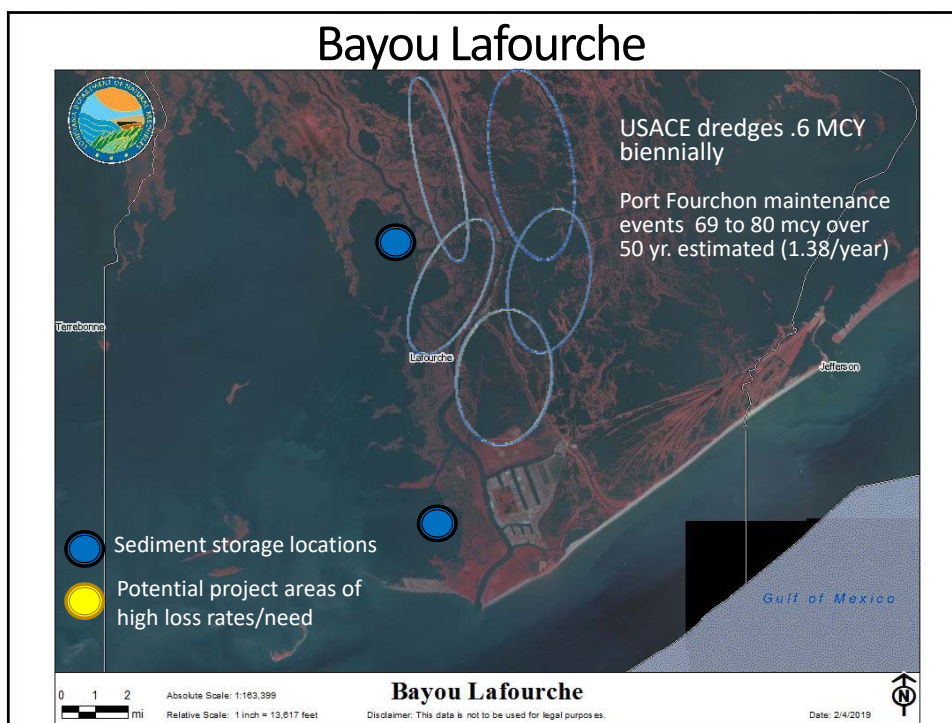
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Earth Science 101 [HERE](#) Gam

## Example: Bayou Lafourche Materials

- Potential sources:
  - USACE FY2019 dredging
    - Biennial - 625,000 CY estimated
    - 20% sand, 56% silt, 24% clay
  - Port Fourchon maintenance events
    - 69 to 80 mcy over 50 yr. estimated (1.38 mcy/year)
- Establish sediment storage location(s) near LA 1 in adjacent water bodies/previously dredged sites or oil/gas canals for restoration projects





## Project Goals

- Facilitate and optimize sediment management and storage to increase the amount of acres restored while saving mobilization, dredging, and construction costs
- Provide increased protection from storm surge and flooding
- Restore degraded wetland habitat





## Why Do This?

- Saves costs – directly/indirectly
  - Reduces mobilization costs – closer borrow source
  - Reduces/eliminates offshore exploration costs
  - Reduces/eliminates cultural resource surveys/impacts
- Facilitates 100% Beneficial Use of Dredged Materials
- Less project risk, easier projects = less costs & time
- Fewer borrow site uncertainties



## Coastal Sediment Management

- Provides reliable sources of sediment
- De-couples dredging/project construction
- Enables restoration projects in areas previously not feasible due to lack of nearby sediment sources



CW-02

**PPL29 PROJECT NOMINEE FACT SHEET**  
**February 14, 2019**

**Project Name**

Coastwide Hydrologic Restoration

**Louisiana's 2017 Coastal Master Plan**

Hydrologic restoration is considered consistent

**Project Location**

Coastwide

**Problem**

For decades, the natural hydrology and tidal flows of the Louisiana coast have been altered by development, oil and gas exploration, wetland management techniques, as well as storms, erosion, and other manmade and natural processes. These alterations can take various forms such as installation of dikes, roadways, levees, and other barriers, inadequate or failing culverts and water-control structures, etc. These modifications reduce or restrict tidal or freshwater exchanges and change the structure and function of coastal habitats, which can eliminate nursery grounds for important marine and coastal species. Coastal marshes have been altered, degraded, and lost. By focusing restoration efforts in relatively small footprints, such as removing barriers to tidal flow or freshwater exchange, hundreds or even thousands of acres of coastal marshes can be positively impacted.

**Goals**

Restore and/or improve hydrology to coastal marshes through increasing freshwater, nutrient and sediment inputs, and tidal exchange. The project will also strive to increase fisheries access to unused or underutilized nursery habitat, increase the functionality of coastal marsh habitats, and improve water quality.

**Proposed Solution**

Installation, improvement, replacement, repair, removal of water control structures (for example culverts, weirs, plugs, dikes, spoil banks, etc.). Freshwater conveyance by dredging (using material beneficially when cost effective). The project is not intended to provide for construction or maintenance of other funded projects with existing O&M funding mechanisms. The project will not provide funds for design or construction of water control features which would place new areas under management and further restrict flows and/or fisheries access. The project is not intended to rebuild deteriorated marsh management units and further restrict flows and/or fisheries access.

**Preliminary Project Benefits**

- 1) *What is the total acreage benefited both directly and indirectly?*  
The project is expected to yield benefits to approximately 2,500 acres of intermediate and/or brackish marsh with  $-0.77\%$  per year loss rate based on averages of existing hydrologic projects.
- 2) *How many acres of wetlands will be protected/created over the project life?*  
Approximately 50-100 net acres after 20 years.
- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*

A range loss rate reductions were calculated for the life of the project. That range is from 20% to 74% reduction depending on project features and marsh type.

- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*  
No.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*  
N/A
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*  
Potential for synergy with the large number of restoration projects across the state.

### **Considerations**

Pipelines, roads, and other infrastructure are considerations in project design.

### **Preliminary Construction Costs**

The preliminary construction plus 25% contingency cost range is \$0-\$5M.

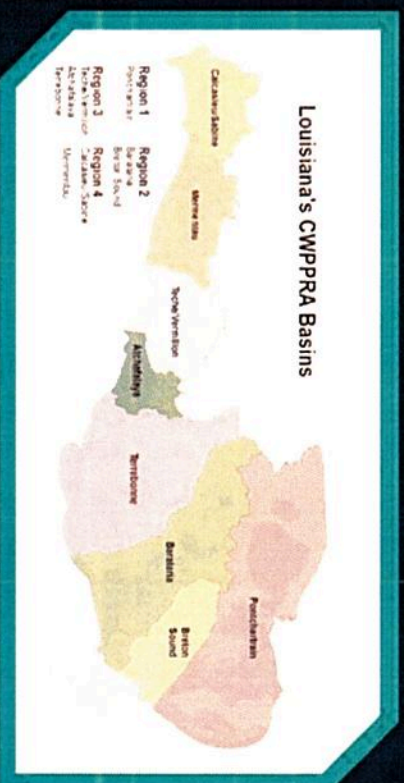
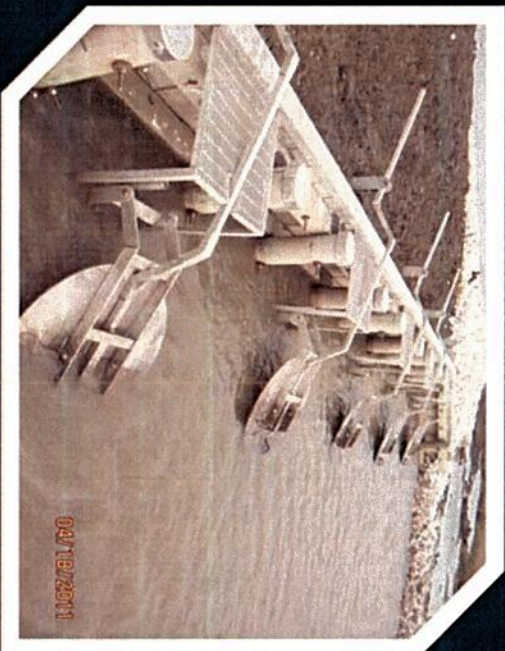
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02-12-2019





**NOAA  
FISHERIES**

# Coastwide Hydrologic Improvements



Coastal Louisiana

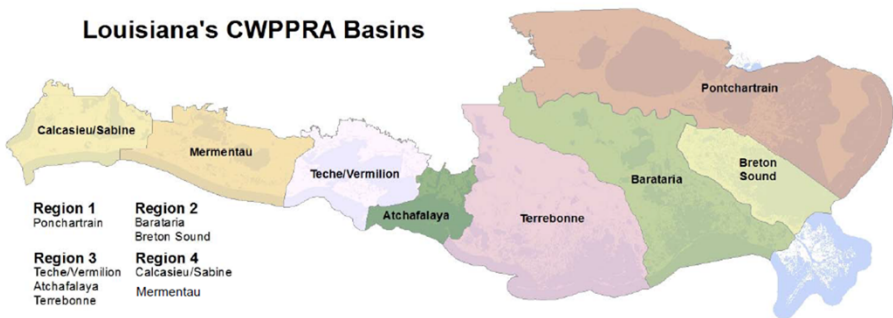
Presenter: Jason Kroll, Civil Engineer, NOAA

PPL29 CWPPRA Regional Planning Team Meetings


## Coastwide Opportunity

Coastwide Hydro Improvements

### Louisiana's CWPPRA Basins



<p><b>Region 1</b> Ponchartrain</p> <p><b>Region 3</b> Teche/Vermilion Atchafalaya Terrebonne</p>	<p><b>Region 2</b> Barataria Breton Sound</p> <p><b>Region 4</b> Calcasieu/Sabine Mermentau</p>
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## Coastal Process Problems Caused by Altered Hydrology

- Wetland degradation
- Habitat Loss
- Decreased fisheries access
- Excessive flooding stress on marshes
- Entrapment of higher salinity waters



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## Proposed Project Solution


- Replace non-functioning structures with new structures
- Increase freshwater flows carrying sediment and nutrients
- Improve tidal flows
- Restore marsh plant communities
- Increase fisheries access



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Ducks Unlimited Photo


## Coastwide Hydro Improvements

### Model Project

- Consistent with 2017 Coastal Master Plan
- Construction Cost Estimate plus 25% Contingency range = \$0-\$5M
- Approximately 2,500 acres of habitat improvement targeted, approximately 50-100 net acres over 20 year project life.

- New or replacement culvert installation
- Spoil bank gapping/degrading
- Freshwater conveyance by dredging (using material beneficially)
- Plug and Weir Removal
- Structure removal

- Replacement Structures with increased hydrologic connectivity:
  - Vertical slots
  - Boat Bays
  - Increased number of gates
  - Variable crest weirs instead of fixed crests




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## Coastwide Hydro Improvements

### What this project is NOT:

- The project is not intended to provide for construction or maintenance of other funded projects with existing O&M funding mechanisms.
- The project will not provide funds for design or construction of water control features which would place new areas under management and further restrict flows and/or fisheries access.
- The project is not intended to rebuild deteriorated marsh management units and further restrict flows and/or fisheries access.



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## Project Benefits Criteria:

- Project areas must have a clear and scientifically identifiable ecological problem leading to a measurable loss of coastal wetland habitat.
- Increase freshwater flows.
- Reduce flooding stress on marshes.
- No impact or increase fisheries access
- Increase potential for SAV growth

Great discussions during PPL28 Phase 0 Candidacy have led to refinement of benefit expectations for project sites.



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## Coastwide Project Category:

### APPENDIX F

#### COASTWIDE PROJECT GUIDELINES

1. Coastwide project nominations should include a proven technology that is routinely applied in Louisiana coastal restoration. Demonstration projects will not be considered in the coastwide category.
2. To the greatest extent practicable, coastwide nominations should include a technology that can be applied across the entire coast. Projects that are limited in scope (e.g., applicable in one marsh type within one basin) should not be considered for the coastwide category.
3. Coastwide project nominations should include relatively low-cost restoration techniques that are typically applied on a small scale. When applied in only one location, such projects are often not selected due to their limited scope. However, the opportunity to apply the technique in a coastwide fashion, across multiple project sites, allows greater project consideration. Examples of coastwide project nominations include vegetative plantings, canal backfilling, and sand fencing.
4. The coastwide category should not be viewed as an opportunity to divide a traditional site-specific technique/project into smaller, multi-basin sites simply to allow consideration. Some examples of traditional site-specific techniques include marsh creation, shoreline protection, and hydrologic restoration. Allowance of traditional site-specific techniques into the coastwide category should be discussed by the Regional Planning Team at the time of project nomination.
5. Coastwide nominations can include installment of project features across multiple years. Construction across multiple sites does not have to occur within the same year. This process allows for a project site approval process with the CWPRA community and application of an adaptive management process.



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## Summary

- Approx. 2,500 Acres Benefited
- Construction Cost plus 25% contingency range \$0-5M
- 50-100 NET ACRES

### Implementation Note:

- Phase 1 would include collaborative creation of an Implementation Guide and Solicitation and Selection Process.
- 30% and 95% design review prior to Phase 2 request.
- For implementation information contact Jason Kroll.

Coastwide Hydro Improvements



Ducks Unlimited Photo

### Contact information:

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CW-02

## PPL29 PROJECT NOMINEE FACT SHEET

February 14, 2019

### Project Name

Coastwide Feral Hog Control Program (CFHCP)

### Louisiana's 2017 Coastal Master Plan

Herbivory Control

### Project Location.

Coastwide (Louisiana Coastal Zone)

### Problem

Feral hogs (*Sus scrofa*) are an invasive species that eat birds, mammals, amphibians, reptiles – some of which are listed as threatened or endangered species. Wild pigs also damage marsh habitat by rooting and upturning fragile marsh soils in their quest to consume subsurface portions of common marsh plants and burrowing invertebrates. Noted as having the highest reproduction capacity of any large mammal in North America, feral swine can degrade and modify natural plant communities more than any other vertebrate (Wood and Barrett, 1979). Rooting can damage/destroy marsh plants, adversely affect succession and influence changes in species composition (Bratton, 1977); or worse, cause exposure of bare soils that become subjected to erosion, degradation and loss. The animals contribute to the degradation of water quality and are known to transmit a number of diseases.

### Goals

Goals include significantly reducing the physical and economic impacts of wild hogs to the natural environment. The primary goal is to reduce the feral hog population in the state's coastal zone by eliminating up to 100,000 animals per year over a three-year period. Other goals and objectives include recruiting a large number of participants, initiating development of a feral hog database similar to CNCP

### Proposed Solution

Generally modeled after, and administered similar to, the Coastwide Nutria Control Program (LA-03b) (CNCP), the CFHCP would begin the systematic eradication of feral swine in Louisiana's coastal zone. An incentive program to reduce the growing numbers of feral swine in Louisiana's coastal zone would be initiated and supported by the documentation of kill data. As with the CNCP, respective landowners and lease holders/hunters would be approved as a prerequisite to qualifying as program participants. Hog tails would be collected during the same time periods at the same seven locations that are currently used for the collection of nutria tails. Once verified, the number of hog tails, harvested from previously approved properties, would be recorded/processed for each participant and CFSCP checks mailed to the participants after the reported kills have been processed.

If the CFHCP is shown to be successful and additional funding sources are identified, the program can be expanded to include all or additional parts of the state.

### Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*  
To be determined.
- 2) *How many acres of wetlands will be protected/created over the project life?*  
To be determined.



- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*  
To be determined.
- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*  
To some degree, the eradication of feral hogs would result in the reduction of rooting and resulting disturbance of the ground surface and shallow root zone of some geomorphic features.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*  
To be determined.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*  
Results of the program could conceivably have a positive benefit on some of the CWPPRA projects and other conservation/mitigation projects constructed to date throughout the coastal zone.

#### **Other Considerations**

The program would be administered similarly to, and from lessons learned from, the Coastwide Nutria Control Program (CNCP), but would be conducted independently. The CFSCP and CNCP would run concurrently as a means of providing an efficient one-stop collection system for both programs that would better accommodate participants and, hopefully, promote and maximize the take of both species.

#### **Preliminary Construction Costs:**

While there are no construction costs, the estimated costs of modifying CNCP database/software program; recruiting and registering participants, collecting tails, recording kills, scheduling and conducting random inspections of reported kills at reported kill locations, paying bounties, administering the CFSCP for three years, producing three annual reports, and federal and state agency oversight and administrative costs (assuming current budgets of the USDA-NRCS, LDWF and LDNR) is \$3,430,615. The total proposed maximum budget for Year 1 would be \$1,137,000. It includes the proposed bounty budget of \$800,000 which is based on \$8/hog x 100,000 kills and CEI and agency administration costs of \$168,000 and \$169,000. Based on 75,000 kills, the cost for eradicating each hog in Yr 1 would be \$12.49. A kill total of 50,000 would raise the cost to \$14.74/hog; while the full 100,000 would lower the cost to \$11.37/hog.

The total proposed maximum budgets for Years 2 and 3 would be \$1,143,000 and \$1,150,614; but revised if the bounty program is lengthened in duration and/or expanded. Unused bounty funds could be applied to the following year with excess funds at the end of Year 3 returned to CWPPRA.

#### **Preparer(s) of Fact Sheet:**

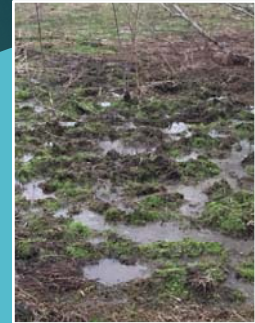
Ed Fike: Coastal Environments, Inc. 225-383-7455, x 128; efike@coastalenv.com

#### *References*

- Bratton, S. P.  
1977. Wild hogs in the United States – origin and nomenclature. Pp 1-4 in *Research and Management of Wild Hog Populations* (G. W. Wood, ed.). The Belle W. Baruch Forest Science Institute of Clemson University, Georgetown, SC.
- Wood, G. W. and R. H. Barrett  
1979. *Status of wild pigs in the United States*. Wildlife Society Bulletin 7:237-246.

# Proposal to Implement Coastwide Feral Hog Control Program (CFHCP)

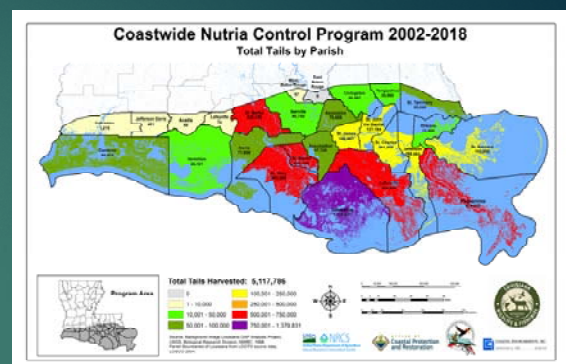
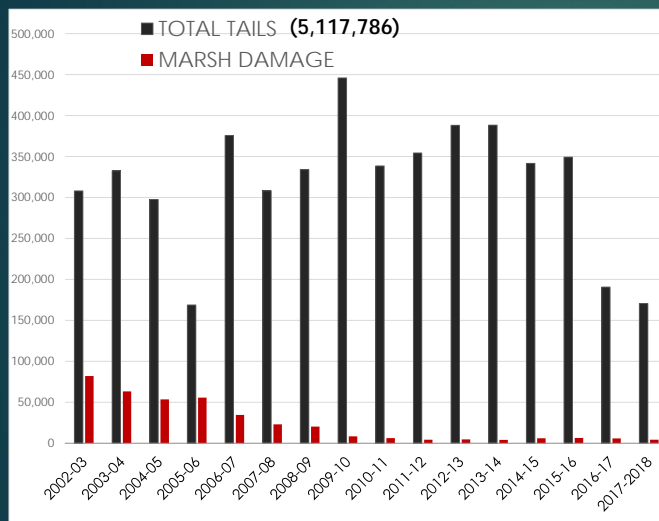
February 14, 2019



**Coastal Environments, Inc**  
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Baton Rouge, LA 70802  
(225) 383-7455



## Nutria Tail Collection and Marsh Damage



LDWF References:  
Jennifer H. Manuel  
Catherine Normand  
Lafayette LDWF Office  
337-735-8675

CEI has 16+ years of experience operating the CNCP



# CFHCP Project Goals and Objectives

Reduce the growing population of feral hogs in the state's coastal zone by eliminating up to 100,000 animals per year over a three-year period with a maximum budget of \$3.4M

Reduce physical and economic impacts of wild hogs to the natural environment and attempt to quantify same

Encourage large numbers of landowner and leaseholder/hunter participants by recruiting existing Coastal Nutria Control Program (CNCP ) (CWPPRA LA-03b) participants as well as new landowners and leaseholders/hunters

Initiate development of feral hog database similar to the one currently used for the CNCP

Provide recommendations on measures to initiate and encourage a program that would allow for trapping, delivery and processing of live hogs for human consumption that would meet applicable USDA and state laws and regulations

## 3-YEAR BUDGET PROJECTIONS

### MAXIMUM TOTAL COST/KILL SCENARIOS

Kills	Collection	CEI Admin	Agencies Admin	Total	Grand Total	Yr 1
100,000	\$8.00	\$1.68	\$1.69	\$11.37	\$1,137,000.00	
75,000	\$8.00	\$2.24	\$2.25	\$12.49	\$936,750.00	
50,000	\$8.00	\$3.36	\$3.38	\$14.74	\$737,000.00	
						Yr 2 (Yr 1 x 1.02%)
100,000	\$8.00	\$1.71	\$1.72	\$11.43	\$1,143,000.00	
75,000	\$8.00	\$2.28	\$2.30	\$12.58	\$943,485.00	
50,000	\$8.00	\$3.43	\$3.45	\$14.87	\$743,740.00	
						Yr 3 (Yr 2 x 1.02%)
100,000	\$8.00	\$1.75	\$1.76	\$11.51	\$1,150,614.80	
75,000	\$8.00	\$2.33	\$2.34	\$12.67	\$950,354.70	
50,000	\$8.00	\$3.50	\$3.52	\$15.01	\$750,614.80	

**\$3,430,614.80 Total Yrs: 1 - 3 maximum**



## Key Components of CFHCP

- ▶ Established landowners and leaseholders/hunters, participating in CNCP, would be recruited for CFHCP along with new participants coastwide
- ▶ All participants would be required to sign affidavit-like agreements attesting to qualifying and disqualifying terms of program
- ▶ Feral hog tails would be collected from November through March at same time/day/check-in stations currently used for nutria tail collections, but with different personnel. CNCP and CFHCP would otherwise be run as separate programs
- ▶ Hunters would be paid \$8.00/tail with checks mailed to each hunter after reported kill data has been processed
- ▶ Hogs killed under any other funding program such as USDA APHIS Wildlife Service aerial gunning would not qualify for CFHCP pay incentive
- ▶ Program budget would include funding for select field verifications of reported kills
- ▶ Custom-software, previously developed for CNCP, would be updated for tracking feral hog data and compilation of annual reports

## Questions?

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- ▶ Gwen Wang  
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- ▶ Kaitlin O'Shee  
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