

## **COASTWIDE PROJECTS**

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<b>Project Number</b>	<b>Project Proposals</b>
CW-01	Feral Swine Control
CW-02	Floating Marsh Creation

**COASTWIDE**  
**Feral Swine Control**

PPL27 PROJECT NOMINEE FACT SHEET  
January 2017

**Project Name**  
Feral Swine Control

**Louisiana's 2012 Coastal Master Plan**  
Determined consistent (Stuart Brown – Jan. 10, 2017)

**Project Location**  
Coastwide Project

**Problem**

Feral swine are found throughout the southern U.S., and in all parishes of the State. In the last 5 to 10 years, hog populations in coastal marshes have increased, resulting in increasing rooting/foraging and wallowing damage to marshes. The hogs eat tubers of common marsh vegetation such as cattails, 3-corner grass, duck potato, elephant ear, plus other vegetation such as alligator weed (2015 USFWS/LDWF 2015). Hog rooting has also been reported along the Gulf shoreline at Chenier au Tigre and along the north shore of Lake Pontchartrain. Such disturbances may accelerate shoreline erosion during storm events. Hogs may also root up saltmarsh substrate to consume fiddler crabs that have retreated into borrows. Hogs also may prey heavily on alligator nests, and eggs of ground-nesting birds, eggs of endangered sea turtles, and virtually any other wildlife that they can catch.

**Goals**

The project goal is to reduce marsh damage by working with coastal landowners to reduce hog populations in impacted marshes.

**Proposed Solution**

Make \$200,000 available annually (\$4M over 20 yrs) to cooperating marsh landowners to initiate annual or biannual helicopter gunning on their properties. Gunning would be conducted using USDA APHIS (Animal and Plant Health Inspection Service) personnel and equipment. In the event that APHIS resources are insufficient, private helicopter services may be used. Depending upon demand, shooting would be reduced from 2x per year to 1x per year. Given the annual funding amount, and established operation costs, approximately 121,000 acres to 242,000 acres could be treated. Based on a study from Pass a Loutre Wildlife Management Area (USFWS/LDWF 2915), these efforts may reduce hog damage by 1,343 to 2,685 acres annually.

**Preliminary Project Benefits**

- 1) *What is the total acreage benefited both directly and indirectly?*  
Approximately 1343 acres would be benefitted directly. Indirect benefits would occur to 121,000 acres of marsh.
- 2) *How many acres of wetlands will be protected/created over the project life?*  
If 2% of damaged marshes convert to open water annually, the project would save 27 acres per year (537 acres over 20 yrs).

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)?*

The anticipated loss rate reduction throughout the area of direct benefit is estimated to be 0 to 25%.

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?*

This cannot be determined until landowner response to the program is obtained.

5) *What is the net impact of the project on critical and non-critical infrastructure?*

This cannot be determined until landowner response to the program is obtained.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*

This cannot be determined until landowner response to the program is obtained.

**Other Considerations**

Helicopter availability/scheduling & insurance/liability

**Preliminary Construction Costs:**

The estimated construction cost including 15% contingency is \$4.6M.

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

Ronny Paille: U.S. Fish and Wildlife Service; 337-291-3117; Ronald\_Paille@fws.gov



Hog Damage – Sabine NWR



Hog Damage – Sabine NWR

## PPL27 Feral Swine Control Demo

U.S. Fish and Wildlife Service  
PPL27 Nominee  
Jan. 2017

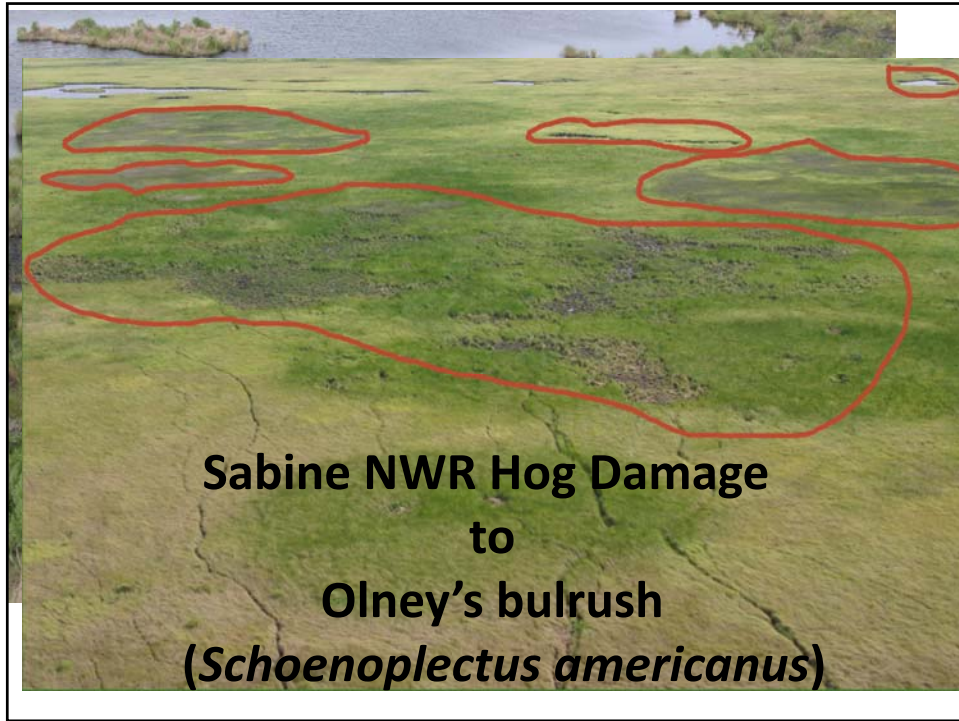


Photo: *Google photos*

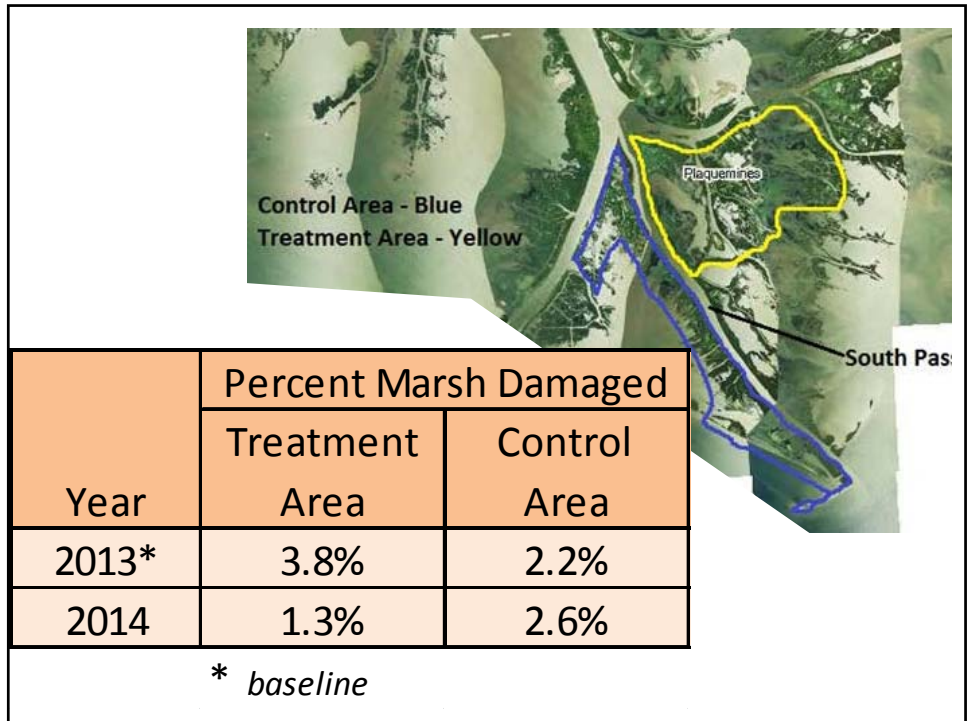
- 2 litters per year
- Ave 6 piglettes per litter
- Reproduce at 6 months old

**70 – 75% of population must be removed annually to maintain stabile population!!**









## 51% of alligator nests damaged by hogs\*

### Other Potentially Impacted Species:

- Turkeys
- Mottled ducks
- Rails, bitterns, ga
- Brown pelicans ?
- Colonial seabirds
- Whooping crane
- Diamond-backed
- Sea turtles
- Alligator snapping turtle
- Turtles & other herptiles
- Fiddler crabs

### Other Adverse Impacts:

- Competition with deer and other wildlife
- Agricultural crop damage
- Livestock diseases
- Human diseases
- Levee damage

\* Elsey et al. 2012. Effects of feral swine on alligator nests in LA. Southeastern Naturalist 11(2): 205-218

## Coastwide Feral Swine Control

- Coastal landowners sign-up to participate
  - Provide shapefile of boundary
- CWPPRA pays 100% of APHIS Aerial Shooting
  - shoot 2x per year 121,000 acres treated (15 sites)
  - shoot 1x per year 242,000 acres treated (30 sites)
- 90\* ac damage reduced per site - 1 shoot per yr
  - Shoot 2x per year – 1343 ac damage reduced (15 sites)
  - Shoot 1x per year – 2685 ac damage reduced (30 sites)

**Cost = \$4,600,000** *hog removal only*  
(\$4M + 15% conting.)

\* 50% of measured acres

**COASTWIDE**  
**Floating Marsh Creation**

**PPL27 PROJECT NOMINEE FACT SHEET**  
**January 31, 2017**

**Project Name**

Coastwide Floating Marsh Creation

**Project Location**

Coastwide

**Problem**

Significant areas of fresh marsh have converted to open water, and vegetation associations have changed from thick-mat maidencane (*Panicum hemitomon*) dominated marsh to thin-mat spikerush (*Eleocharis baldwinii*) dominated marsh. On a coastwide scale, there are about 290,000 acres of fresh interior open water and there are additional acres of thin mat floating marsh. Except for the active deltas receiving high mineral input (Atchafalaya Delta, Wax Lake Delta, Mississippi River Delta), much of this area has a high potential for creation (or restoration to) stable thick-mat maidencane dominated marsh.

**Goals**

At selected areas across the coast various floating marsh creation / restoration techniques will be used to 1) create islands of fresh marsh, 2) divide large areas of open water into smaller compartments, creating smaller water bodies with less wave energy, 3) connect shorelines to isolate existing coves; and 4) form grids to establish the nucleus of new marsh that would expand over time and connect and intermesh with other natural or restored marsh units.

**Proposed Solution**

Selection of areas and techniques will utilize an Advisory Group process similar to LA-39 (Coastwide Vegetative Project). The first installation (Increment 1 / Year 1) will utilize a combination of the following techniques: 1) floating marsh terraces, 2) water hyacinth fields, 3) critical area bank repair, 4) potentially increased incentives for nutria control, and 5) other techniques brought forth in the selection process.

This first installation would serve to advance the knowledge gained and scale-up the size of floating marsh techniques used in previous efforts, including those from CWPPRA Floating Marsh Creation Demonstration Project (LA-05). Allowing time to learn from and improve upon the first installation, subsequent installations are expected to occur in Years 5, 8, 11, and 14.

**Preliminary Project Benefits**

**Increment 1 only.** Assuming 50/50 split of floating marsh terraces and water hyacinth fields, 42 acres created. The project will serve to create islands and lines of floating vegetation which will "weave" or "knit" together small islands, thereby restoring even larger areas of floating marsh.

**Identification of Potential Issues**

The proposed project has the following potential issues: no issues presently identified.

### Preliminary Construction Costs

Project Year	Approx \$ (Inflated)
1	\$3,000,000
5	\$3,402,828
8	\$3,740,065
11	\$4,110,723
14	\$4,518,115
Total	\$18,771,732

### Preparer of Fact Sheet

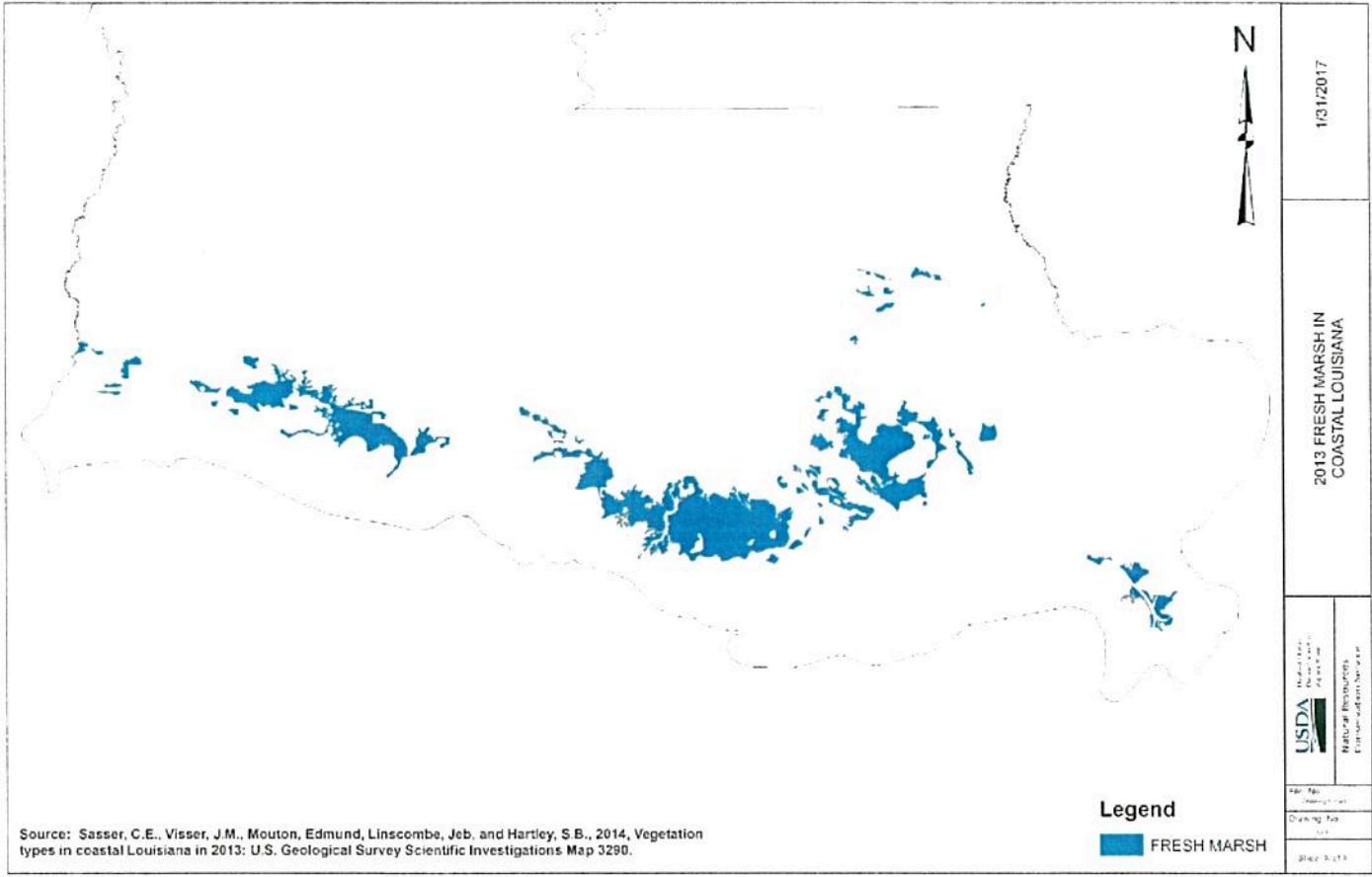
Quin Kinler

USDA-NRCS

225-382-2047

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Sasser, C.E. , J. M. Visser, C. E. Mayence, M.W. Hester, B.J. Milan, J. Gore, L.Stanton,M.D.  
Materne, E. Evers. 2010. Floating marsh Creation Demonstraion Project (LA-05) Monitoring  
and Comprehensive Final Project Report 2004-2009. 108pp, plus Appendix



Source: Sasser, C.E., Visser, J.M., Mouton, Edmund, Linscombe, Jeb, and Hartley, S.B., 2014, Vegetation types in coastal Louisiana in 2013: U.S. Geological Survey Scientific Investigations Map 3290.

PPL 27  
Regional Planning Team  
February 2, 2107

Region 2  
Barataria Basin

Coastwide Floating Marsh  
Creation

MONITORING AND COMPREHENSIVE FINAL PROJECT REPORT  
2004-2009

FLOATING MARSH CREATION DEMONSTRATION PROJECT (LA-05)

Submitted to:  
Office of Coastal Protection and Restoration  
450 Laurel Street, Suite 1200  
P.O. Box 44027  
Baton Rouge, LA 70804-4027

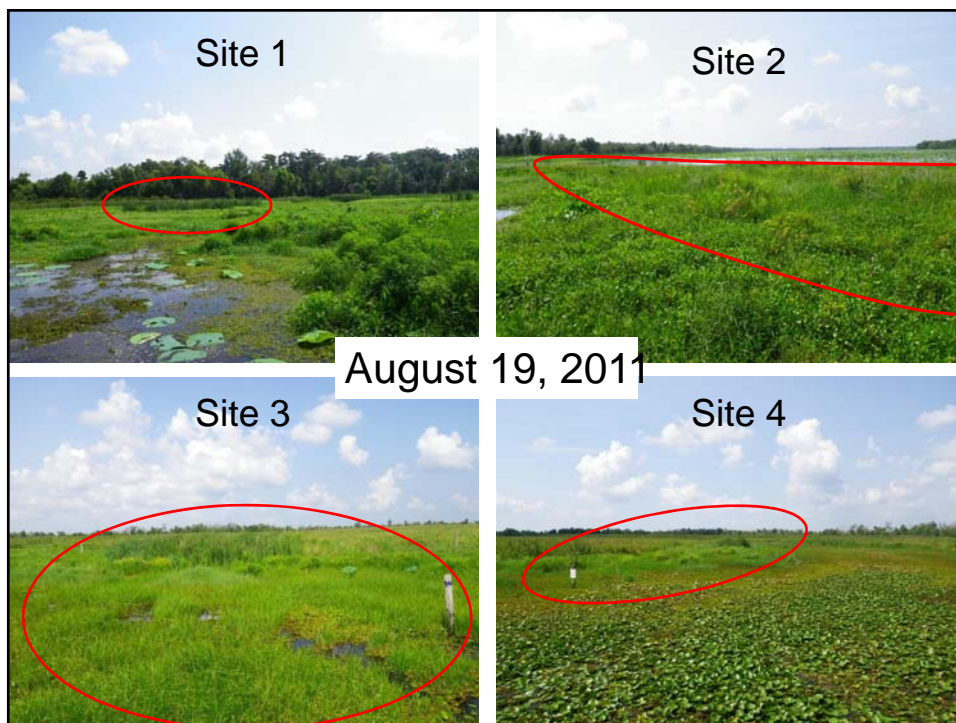
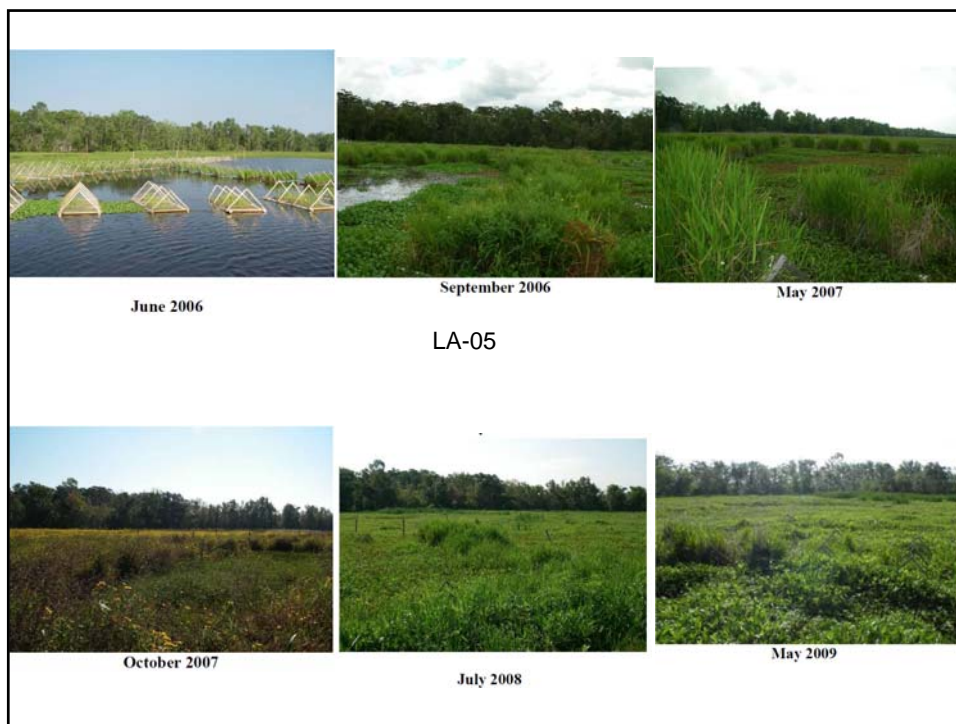
Submitted by:  
LSU Agricultural Center  
P.O. Box 25071  
Baton Rouge, LA 70894-5071

Charles E. Sasser, Project Director  
Professor-Research, LSU Agricultural Center  
School of Plant, Environmental and Soil Science

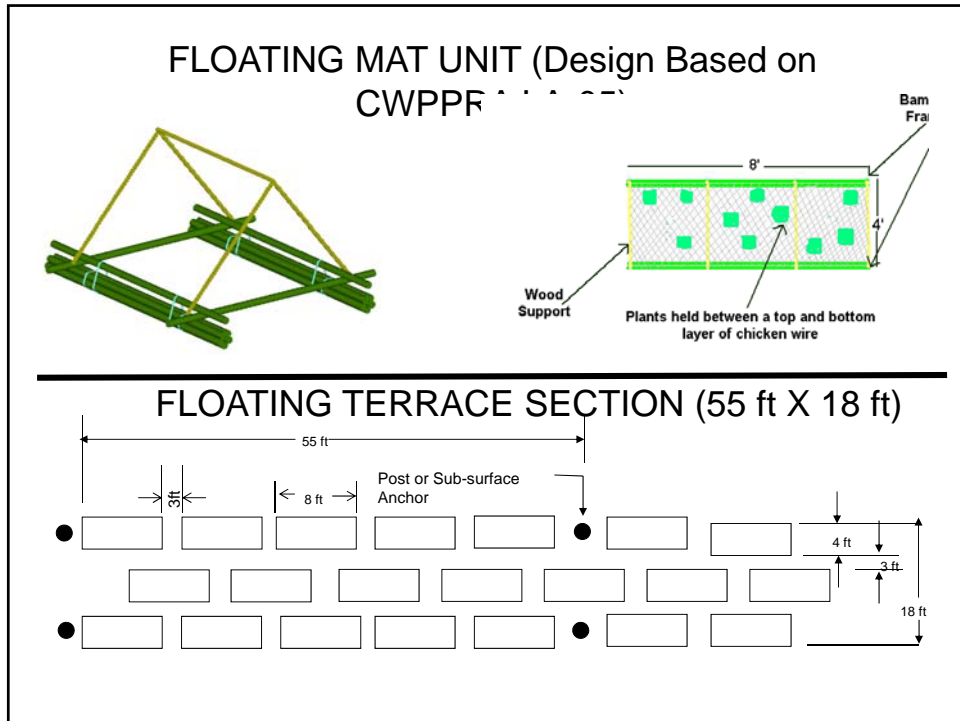
Prepared by:  
Charles E. Sasser<sup>1,2</sup>, Jenneke M. Visser<sup>2,3</sup>, C. Ellery Mayence<sup>4</sup>, Mark W. Hester<sup>1,3</sup>,  
Brian J. Milan<sup>3</sup>, Joseph Gore<sup>3</sup>, Lee Stanton<sup>3</sup>, Michael D. Materne<sup>3</sup>, and Elaine Evers<sup>2</sup>

<sup>1</sup>LSU Agricultural Center  
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<sup>3</sup>U/L Institute for Coastal Ecology and Engineering  
<sup>4</sup>UNO Department of Biological Sciences  
<sup>5</sup>U/L Department of Biology

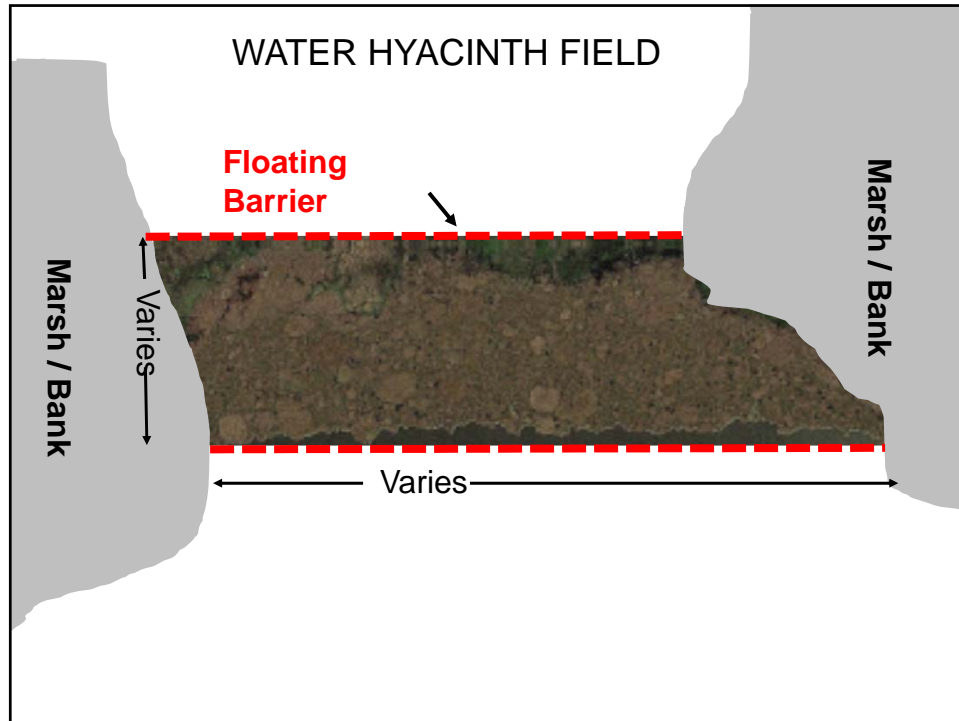
December, 2010







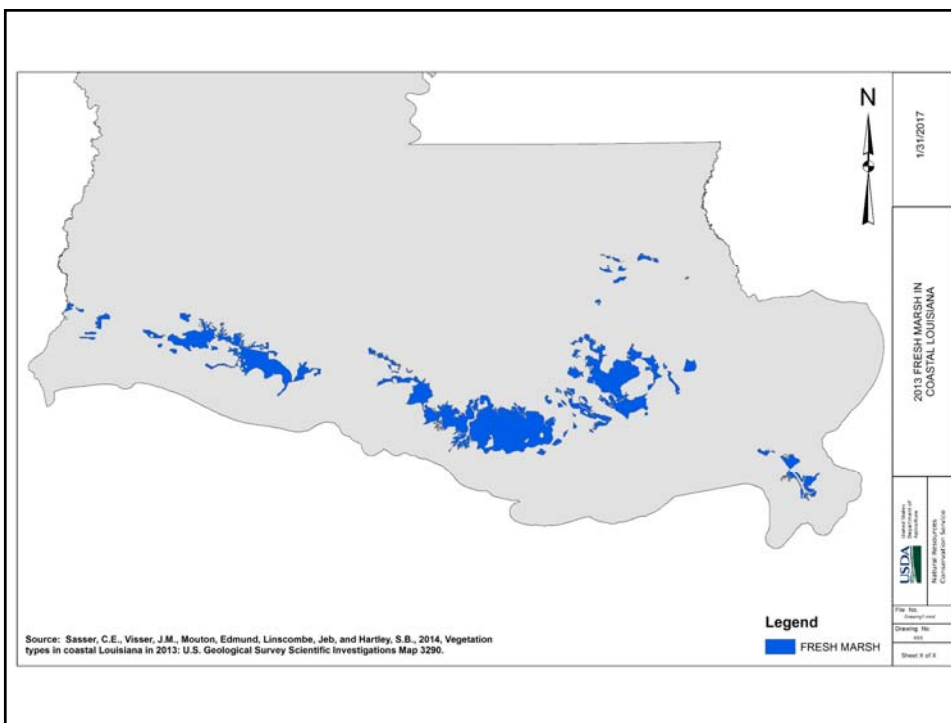
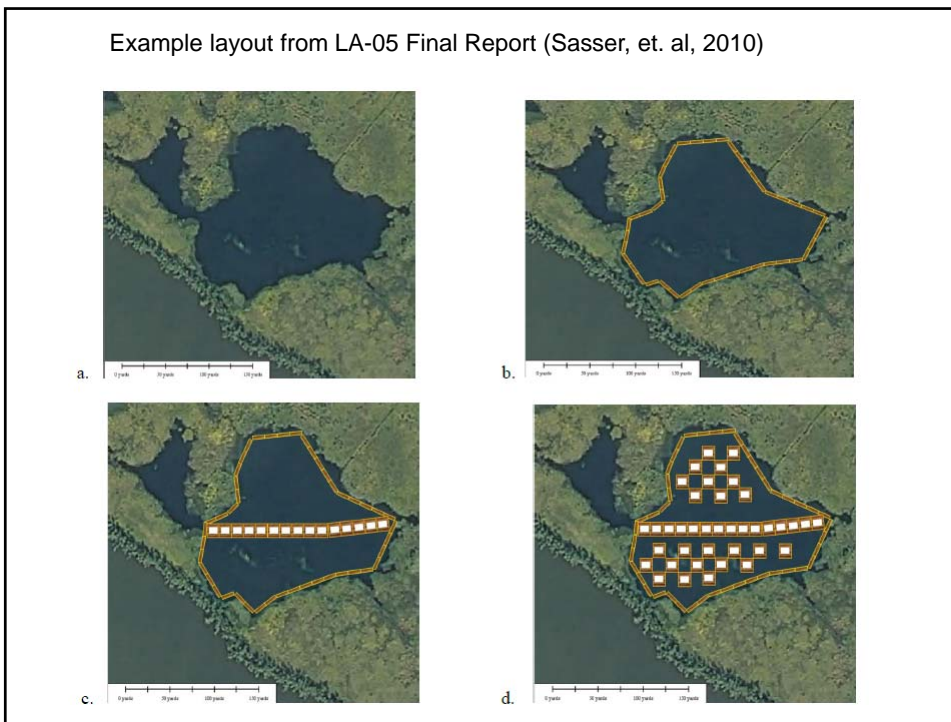
- ### FLOATING MARSH TERRACES
- Create Floating Marsh Acres
  - Reduce Wave Action to Protect Existing Floating Marsh
  - Create Environment for Expansion of Existing Floating Marsh



## WATER HYACINTH FIELDS

- Potentially create a “platform” upon which “self-sustaining” floating marsh would form
- Reduce the movement of “free-floating” hyacinth rafts that tend to break existing floats apart and drag them out of the marsh complex
- Reduce fetch and wave energy which would better allow the “floating terraces” to grow and spread
- Reduce fetch, wave energy, and turbidity which would improve conditions for growth of submerged aquatic vegetation.

Example layout from LA-05 Final Report (Sasser, et. al, 2010)



COASTWIDE FLOATING MARSH CREATION

Build on lessons learned in CWPPRA Demo Project (LA-05)

First Installation / Increment 1 (Year 1):

- Floating marsh Terraces
- Water Hyacinth Fields
- Critical Area Bank Repair
- Potentially Increased Incentives for Nutria Control

Selection of Area and Techniques via Advisory Group Process similar to LA-39

Subsequent Installations / Increments in Years 5, 8, 11, 14

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1	\$3,000,000
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