

Lecture 3.1 Coastal Restoration: CWPPRA

Associated Reading: Louisiana Coastal Wetlands Conservation and Restoration Task Force. 2012. The 2012 Evaluation Report to the U.S. Congress on the Effectiveness of Coastal Wetlands Planning, Protection and Restoration Act Projects.

Introduction to CWPPRA



- Public Law 101-646 Coastal Wetlands Planning Protection and Restoration Act of 1990
- 28-80 million dollars per year for restoration in Louisiana
 - 5 million per year for planning
- Projects have 20 year lifespan
- Authorized through 2019

Total Federal Funds through 2019
2.3 Billion Dollars

CWPPRA Funding

- The Sport Fish Restoration and Boating Safety Trust Fund (Trust Fund) is the funding source supported by excise taxes on fishing equipment, small engine, and motorboat fuel taxes. This Trust Fund contributes 18.5 percent of its annual revenues to CWPPRA appropriations and that amount is divided as follows:
 - 70 percent Louisiana CWPPRA program
 - 15 percent Coastal Wetland Conservation Grants
 - 15 percent North American Wetlands Conservation Act (to coastal States only)

Coastal Wetlands Planning, Protection and Restoration Act



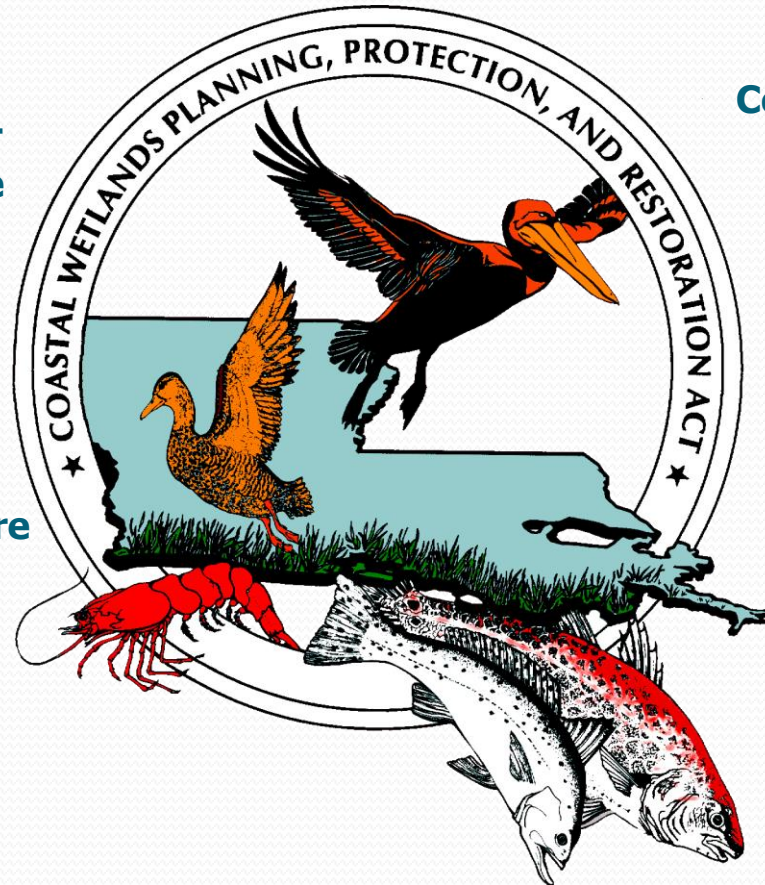
**U.S. Department of Interior -
U.S. Fish and Wildlife Service**



**U.S. Department of
Commerce – NOAA, National
Marine Fisheries Service**



**U.S. Department of Agriculture
- Natural Resources
Conservation Service**



**US Army Corps
of Engineers®**
New Orleans District

**U.S. Department of the
Army - U.S. Army Corps of
Engineers**



**U.S. Environmental
Protection Agency**




**Louisiana Governor's
Office**

Selection of Projects

Phase 0: Nominations (Jan-Feb)
Anyone can nominate a project



Phase 0: Candidates (Mar-Dec)
Environmental and Engineering Preliminary Review

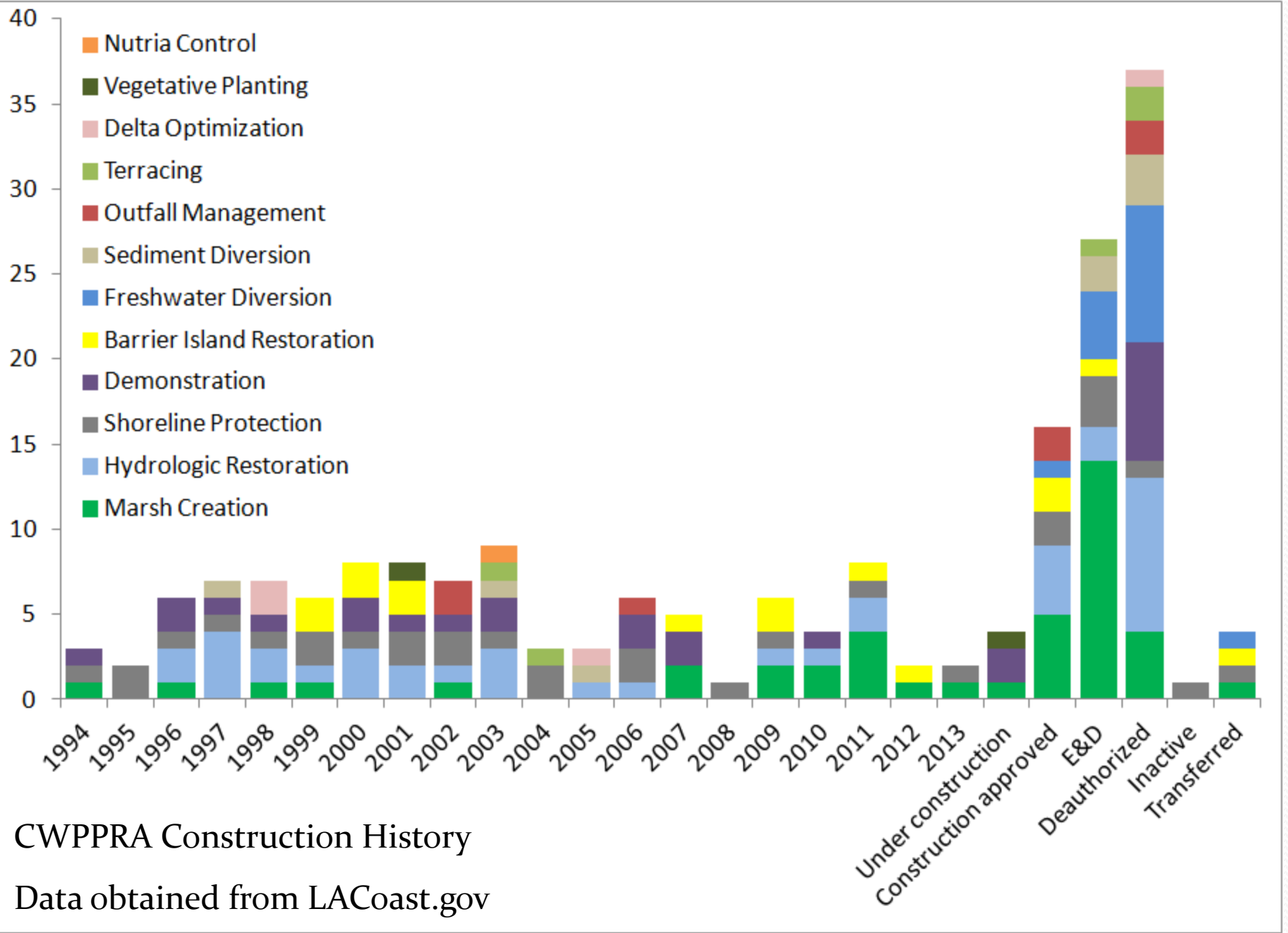


**Phase 1:
Engineering and Design**



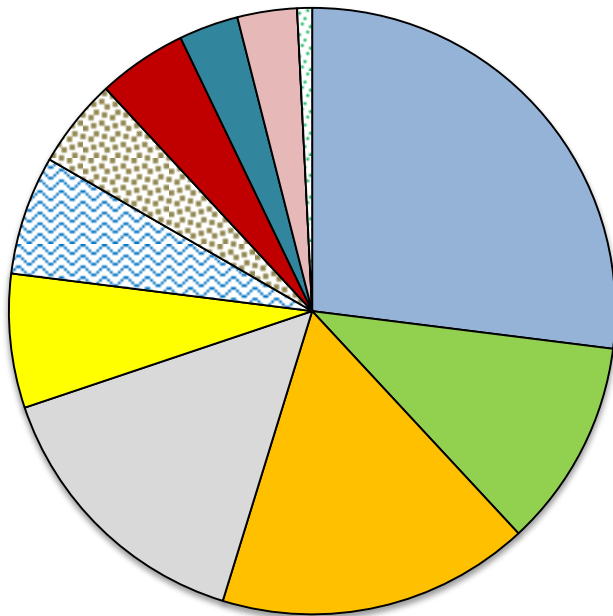
**Phase 2:
Construction**

Priority Project List (PPL)
Process

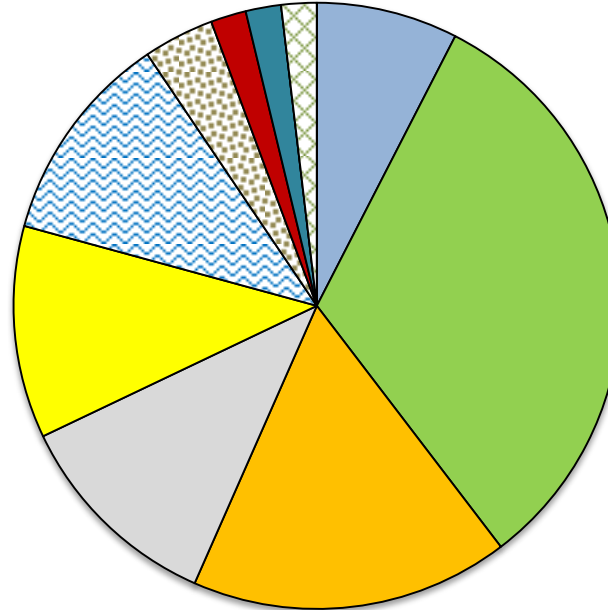


Change in Selection of Project Types

PPL 1 to 10



PPL 11 to 19



- Hydrologic Restoration
- Marsh Creation
- Shoreline Protection
- Demonstration
- Barrier Island Restoration
- Freshwater Diversion
- Sediment Diversion
- Outfall Management
- Terracing
- Delta Optimization
- Nutria Control
- Vegetative Planting

PPL20 4 Marsh Creation Projects, 1 Vegetative Planting

PPL21 3 Marsh Creation Projects, 1 Hydrologic Restoration

PPL22 4 Marsh Creation Projects

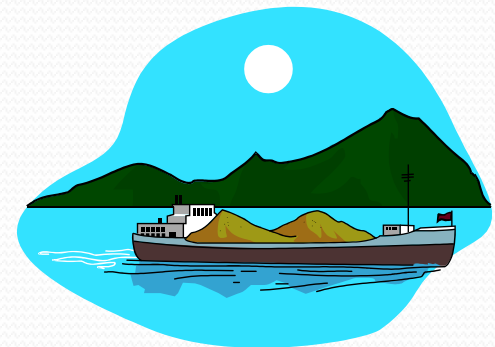
Demonstration Projects

- Goal
 - Develop new methods for wetland restoration
- Methods
 - 7 Shoreline Protection
 - 4 Marsh Creation / Enhancement
 - 4 Vegetative Planting
 - 2 Sediment Trapping
 - 1 Nutria Harvest
 - 7 Deauthorized Projects



Deauthorized Demonstrations

- Dewitt-Rollover Vegetative Plantings
- Southwest Shore White Lake
- Red Mud
- Compost
- Beneficial Use of Hopper Dredged Material
- Flotant Marsh Fencing
- Periodic Introduction of Sediment and Nutrients at Selected Diversion Sites



Monitoring Program

- Administered by CPRA and USGS
- Each project monitored for 20 years
- Monitoring Plan developed for each project.
 - Reviewed by Technical Advisory Group
 - Compared project to adjacent reference
- Coastwide Reference Monitoring Program, started in 2005
 - Original Design Required 612 stations over 3 years (200 fixed annual, 33% of remainder sampled each year)
 - Changed to 392 Station sampled yearly

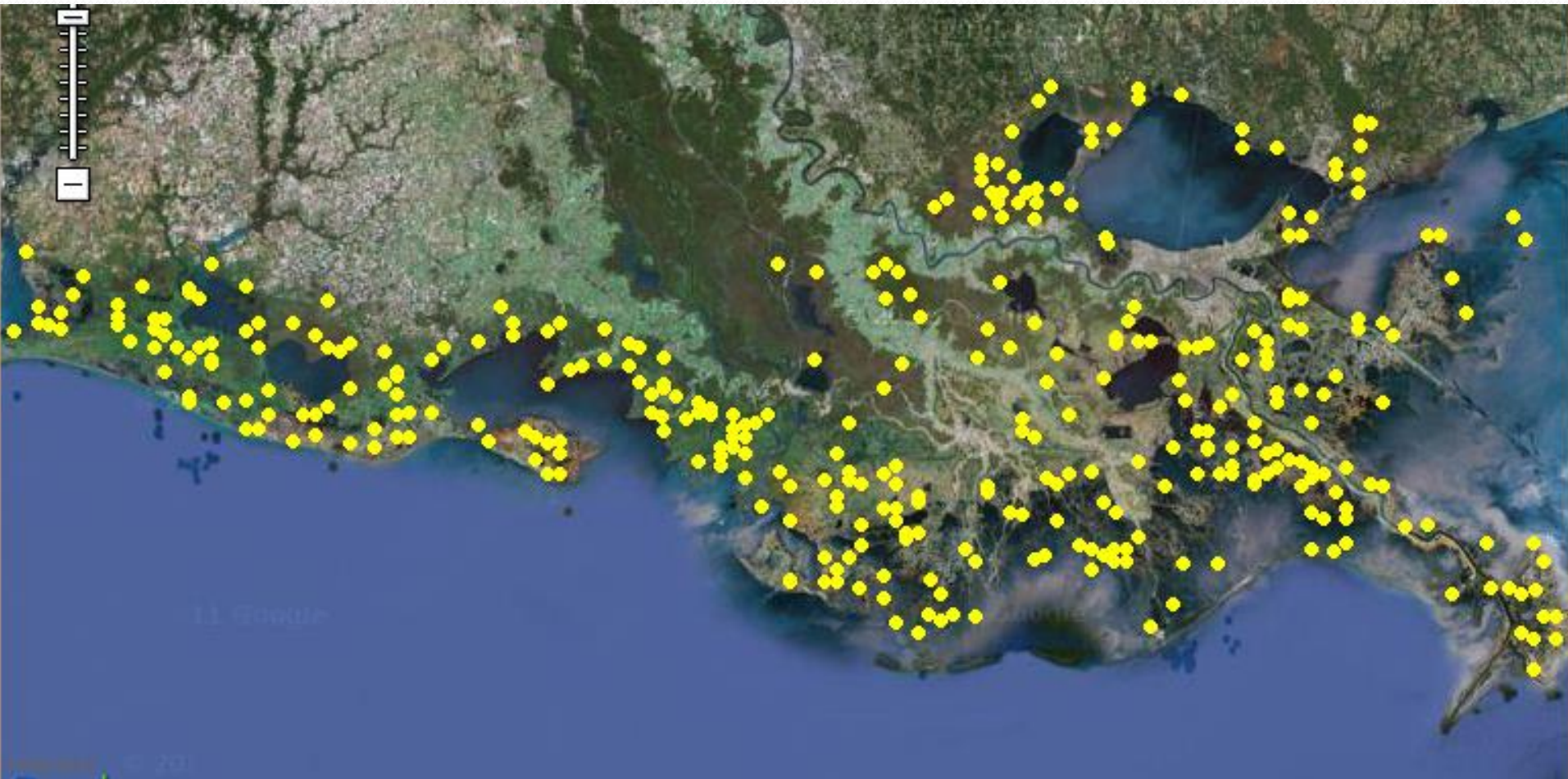
http://www.lacoast.gov/crms_viewer2

a CWPPRA funded project

Coastwide Reference Monitoring System



CRMS Site Distribution



CRMS Parameters

- Each site 1 km²
 - Land / Water cover
- One continuous recorder
 - Water level
 - Water salinity
 - Water temperature
- One Sediment Erosion Table (SET)
- Accretion (over feldspar marker)
- Vegetation (10 plots)
 - Species
 - Cover
 - Average Stem Height

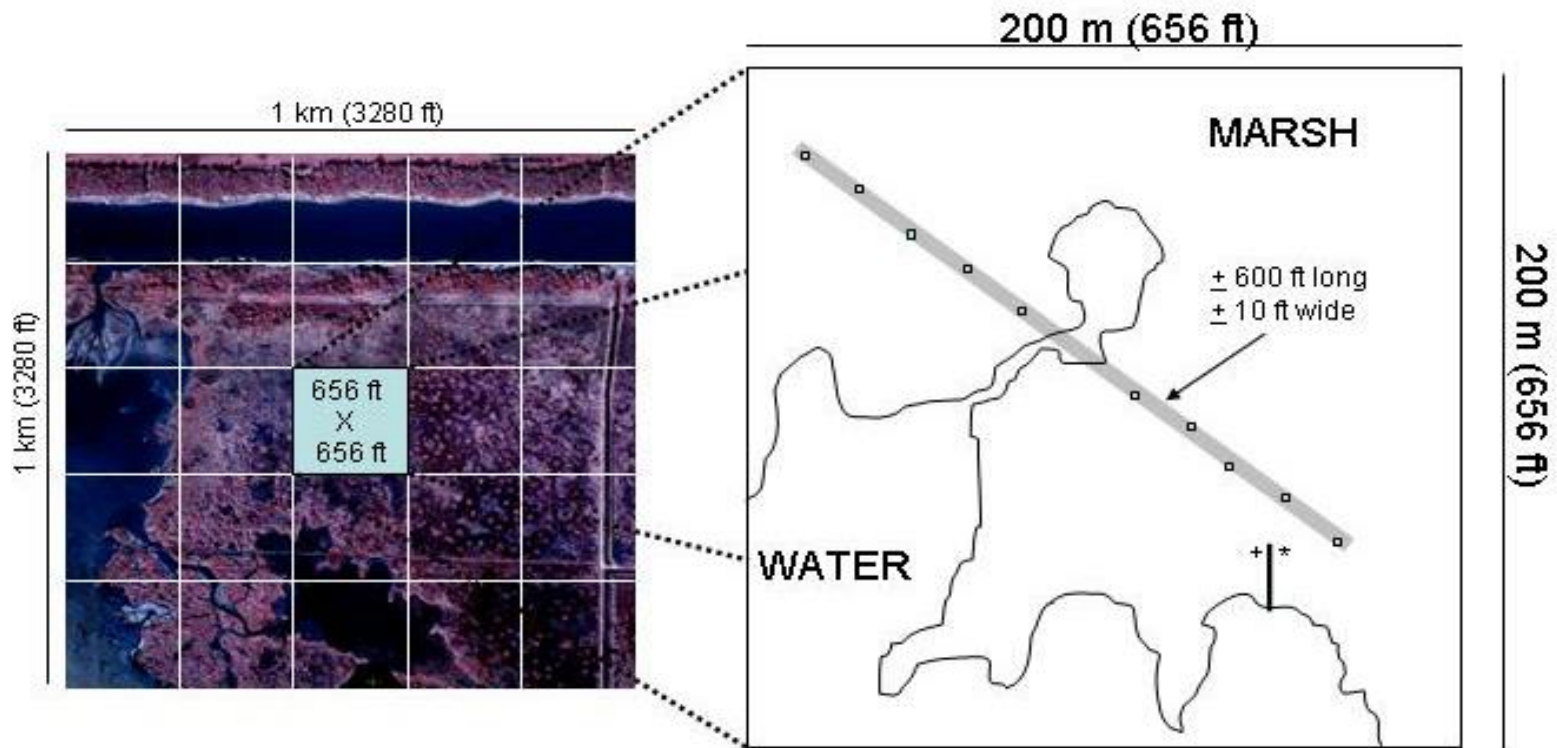


<http://www.lacoast.gov/crms2>

Typical CRMS Site Sampling & Data Collection Areas

CRMS Sampling Area:
1 km² aerial photo area

CRMS Sampling Area:
200m X 200m data collection area



- ▣ 2m X 2m vegetation station for collecting % cover and species abundance (within 10 ft X 600 ft area)
- * Sediment Elevation Table (SET) for collecting elevation data
- + Data Sonde collecting water level and salinity

— Boardwalk

CRMS Site





Single-click the yellow symbology on the map to view CRMS Site information.



Layers Menu

- CRMS
- CWPRA
- Hydro Basins
- Vegetation
- Soils
- Public Lands
- Land/Water
- Base Layer

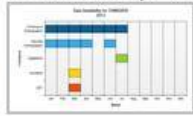
Tools Menu

- Classify
- Assessment


Info Water Vegetation Soil Spatial Report Card Tools

Site ID: CRMS2830
Lat, Long: 30.0362, -90.3407
Marsh Elevation: 1.48ft NAVD1988 GEOID99


Data Availability: 2013




Pre/Post Construction Pictures:




Preliminary Site Visit North



Pre Construction



Post Construction

 [Survey Report](#)



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- Tools Menu**
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Info | Water | Vegetation | Soil | Spatial | Report Card | Tools

[Salinity](#) | [Water level](#) | [Temperature](#) | [Hydro Index](#) | [Water Level Range](#)

Mean 2012 Growing Season Salinity (March 1 - Nov 30): 3.04 ppt
 Water Salinity (ppt) at the CRMS hydro station, CRMS2830-H01.

	7/2012 - 7/2013	Mar 1 - Jun 30	Jul 1 - Oct 31	Nov 1 - Feb 28
Min	0.63	0.63	1.14	1.12
Mean	2.28	1.22	1.29	3.14
Max	5.65	1.58	1.39	5.18

Salinity

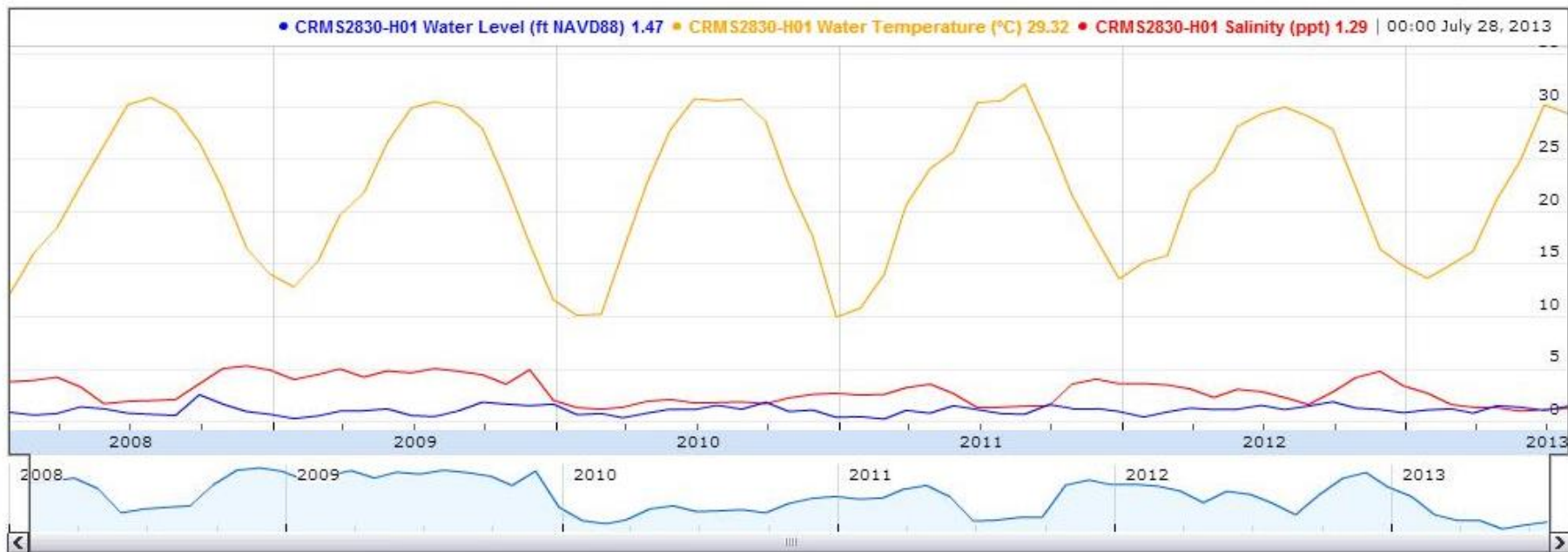
30 days

June 15 2013 - July 14 2013
Data Source: Continuous Hourly Observations

[Interactive Hydro Chart](#)



CRMS2830-H01 <input type="button" value="v"/>	Salinity <input type="button" value="v"/>	Red <input type="button" value="v"/>
CRMS2830-H01 <input type="button" value="v"/>	Water Level <input type="button" value="v"/>	Blue <input type="button" value="v"/>
CRMS2830-H01 <input type="button" value="v"/>	Water Temperature <input type="button" value="v"/>	Orange <input type="button" value="v"/>



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Info Water **Vegetation** Soil Spatial Report Card Tools

Herbaceous **FQI** Marsh Classification

Floristic Quality Index for Intermediate Marsh, Site CRMS2830

Year	Spartina patens(9)	Ipomoea sagittata(8)	Polygonum punctatum(5)	Distichlis spicata(2)	Baccharis halimifolia(4)	Iva frutescens(4)	Other	FQI
2008	55	35	10	5	5	5	10	75
2009	45	45	10	5	5	5	10	75
2010	55	70	10	5	5	5	10	75
2011	50	35	10	5	5	5	10	75
2012	60	15	10	5	5	5	10	75
2013	55	10	10	5	5	5	10	70

What does this chart mean?

Single-click the yellow symbology on the map to view CRMS Site information.



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Info Water Vegetation Soil Spatial Report Card Tools

Marsh Elevation: 1.48ft NAVD1988
CRMS Measured Bulk Density: 0.220 g cm⁻³
NRCS Soil Type: Lafitte muck

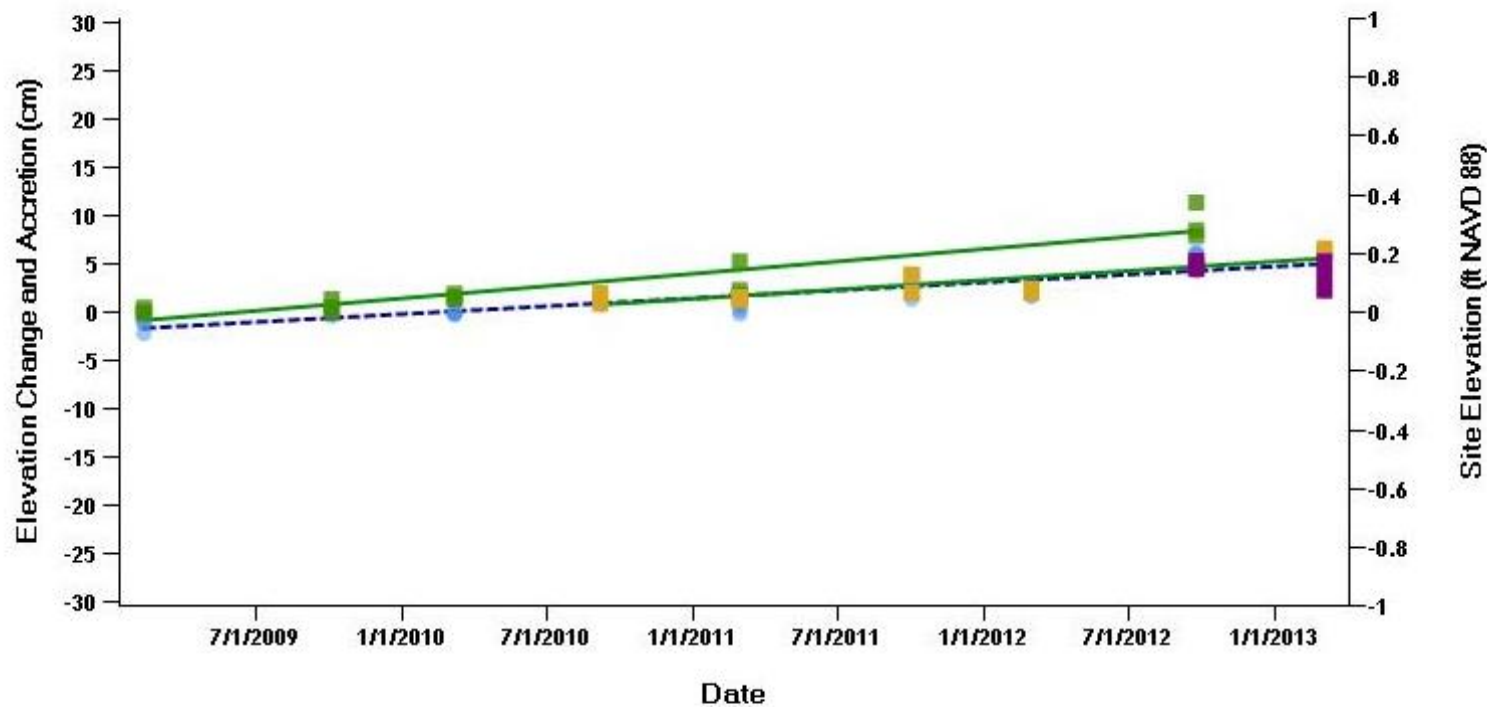
[Percent Organic](#) [Bulk Density](#) [Surface Elevation/Accretion/SVI](#)

What does this chart mean?

Long: -90.595, Lat: 30.748



CRMS2830 Elevation Change and Vertical Accretion (cm)



- Elevation Change (cm)
- Elevation Data Points
- Vertical Accretion (cm)
- Accretion Data Points - Est Date 11/4/2008
- Accretion Data Points - Est Date 3/8/2010
- Accretion Data Points - Est Date 3/1/2012

Rates:

Elevation Changes = 1.64 cm/yr

Vertical Accretion Est Date 11/4/2008 = 2.55 cm/yr

Vertical Accretion Est Date 3/8/2010 = 1.93 cm/yr

Coastwide Reference Monitoring System

Home Data Mapping Library Visualization Program

Single-click the yellow symbology on the map to view CRMS Site Information.

Navigation icons: Home, Data, Mapping, Library, Visualization, Program, and a globe icon.

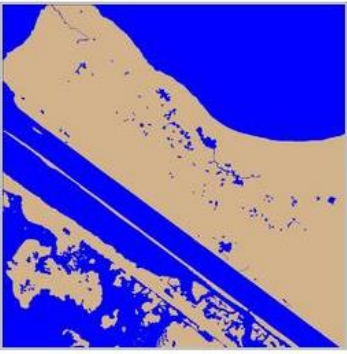
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Info Water Vegetation Soil Spatial Report Card Tools

Land/Water Maps Aerial Photography

Land/Water 2008



	Acres	Percent
Land	128	51.61
Water	120	48.39
Flooded	0	0

Land Water

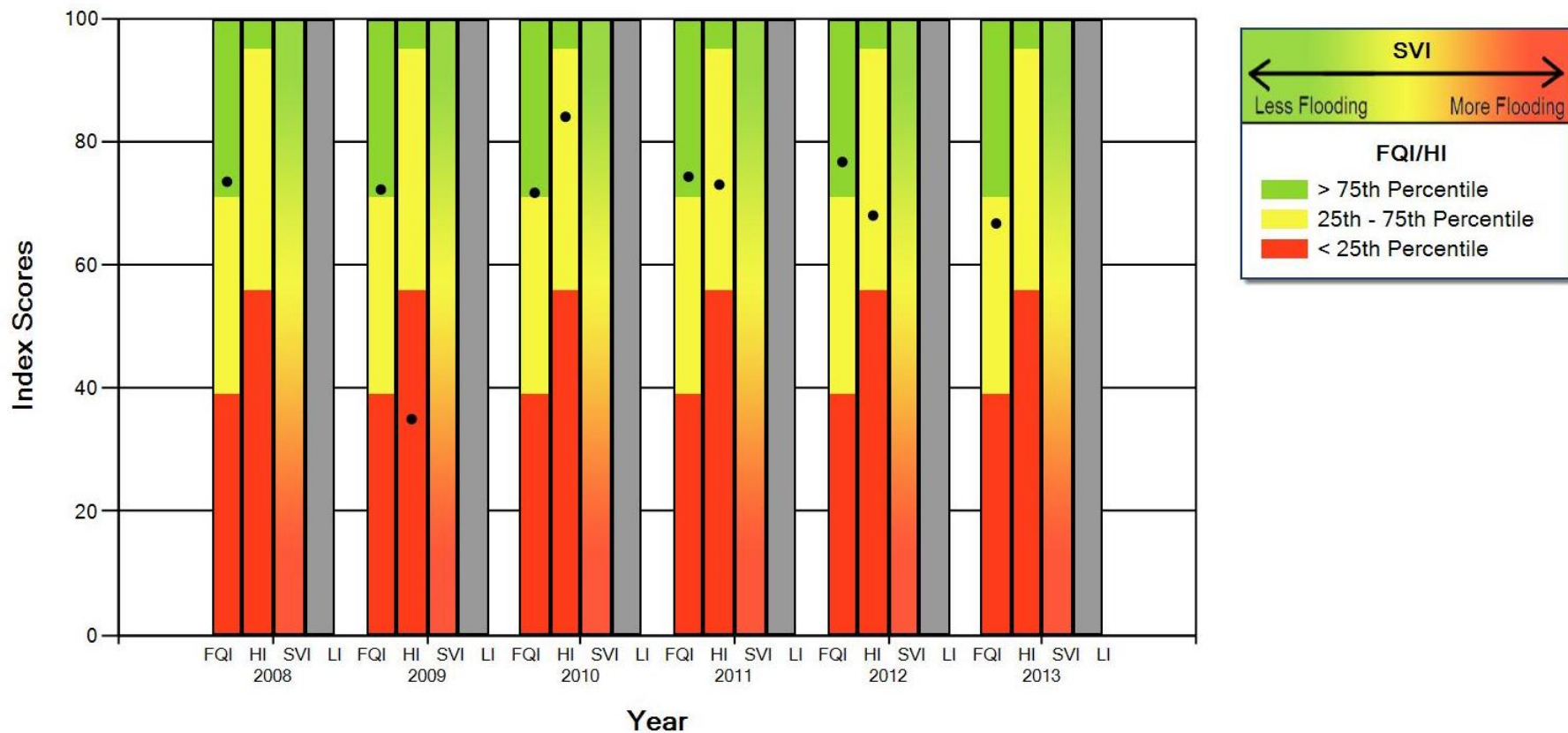
Long: -91.371, Lat: 32.854

0 15 30mi

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA

Report Carding

CRMS2830 Report Card Indexes





Long: -88.830, Lat: 29.879

Map **Satellite** Hybrid

Project Info Water Vegetation Report Card

State ID: PO-27

Name: Chandeleur Islands Marsh Restoration

Sponsors: NMFS and OCPD

Type: Barrier Island Restoration

Links:

- [PO-27 General Fact Sheet \(1.91 MB\)](#)
- [PO-27 Operations, Maintenance, and Monitoring Report \(5.08 MB\)](#)

Objectives:

- Stabilize hurricane overwash deposits through the use of vegetation plantings to trap and hold sediments.

Goals:

- Increase % cover of emergent vegetation in planting areas.
- Maintain or increase intertidal area, as indexed by elevation data, within and adjacent to the planting sites. Areas within the elevation range of mean low water and mean high water will be defined as "intertidal".

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Layers Tools

- CRMS Sites
 - 1 Km Buffer
 - Zoom To: CRMS0002
- CWPBRA Projects
 - Constructed
 - Not Constructed
 - Infrastructure
 - Legend
 - Zoom To: AT-02
- Hydro Basins
- Vegetation
- Land/Water
- Soils
- CMS

Project Info

Single-click inside a red polygon on the map to view CWPBRA Project information.

Beta: Fullscreen

