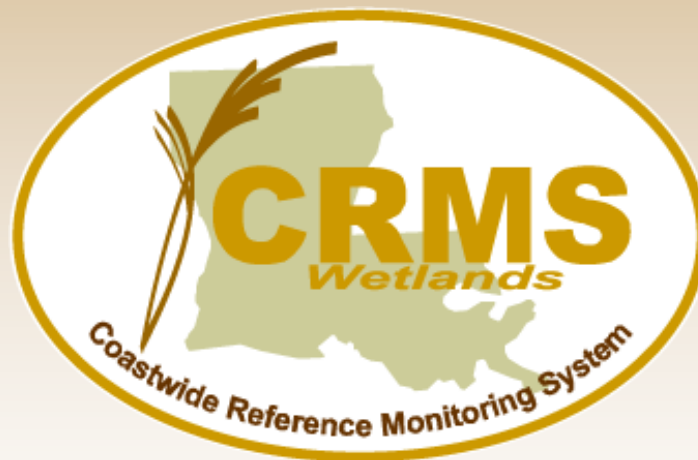




CRMS Update to the CWPPRA Task Force



Dona Weifenbach
Coastal Protection and Restoration Authority
and
Sarai Piazza
USGS National Wetlands Research Center
January 29, 2013



CRMS Implementation Status

Milestones:

- Report to Congress complete
- 13 OM&M reports for 2012 finalized and available on the website
- 12 OM&M reports planned in 2013
- CWPPRA Project Planning - PPL22 WVA's
- Conferences
 - Restore America's Estuaries, October 2012
- Initial planning stages of a CRMS document for CWPPRA with Outreach
- Hydrologic Index Open File Report released –
<http://pubs.er.usgs.gov/publication/ofr20121122>
- Submergence Vulnerability Index Open File Report in final review



CRMS Implementation Status

- CRMS coastwide aerial photography flown in mid Oct-Nov. Data available for land/water analysis by USGS mid April.
- Coastwide Elevation Survey of all CRMS sites planned for 2013
- Vegetation Helicopter Survey scheduled for summer 2013
- GOMA/GCERTF Gulf of Mexico Monitoring Plan - CRMS could be a model for wetland monitoring
- CRMS Website training open to everyone to be scheduled in early spring
- CWPPRA “Roadshows” are being scheduled for early spring
 - USACOE: March 5 in New Orleans
 - NRCS: TBD
 - USFWS: March 7 in Lafayette
 - EPA: TBD
 - NMFS: TBD



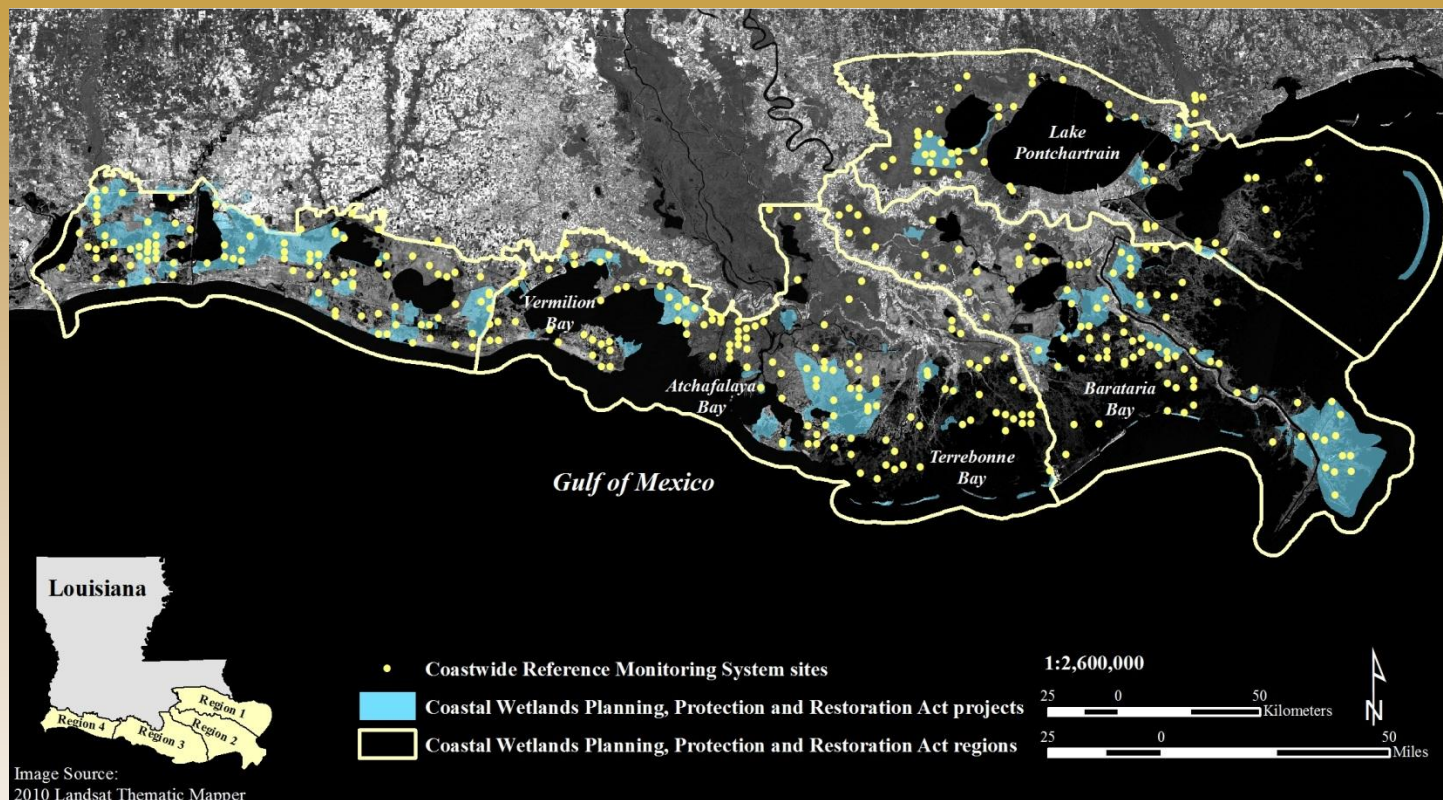
Utility of CRMS data for CWPPRA community

- Identify potential areas in need of restoration
- Plan a new project on the priority list
- Evaluate the performance of an constructed project
- Perform water control structure operations based on data
- Adaptively manage an existing project that is not meeting the project goals
- Identify damages to projects whether constructed or in planning following a major disturbance



Coastwide Reference Monitoring System - Wetlands

Distribution of sites



- Provide information to evaluate coastal wetlands at the ecosystem, basin, and restoration project scale.
- To improve our ability to determine the effectiveness of individual coastal restoration projects and the CWPPRA Program



Coastwide Reference Monitoring System - *Wetlands*

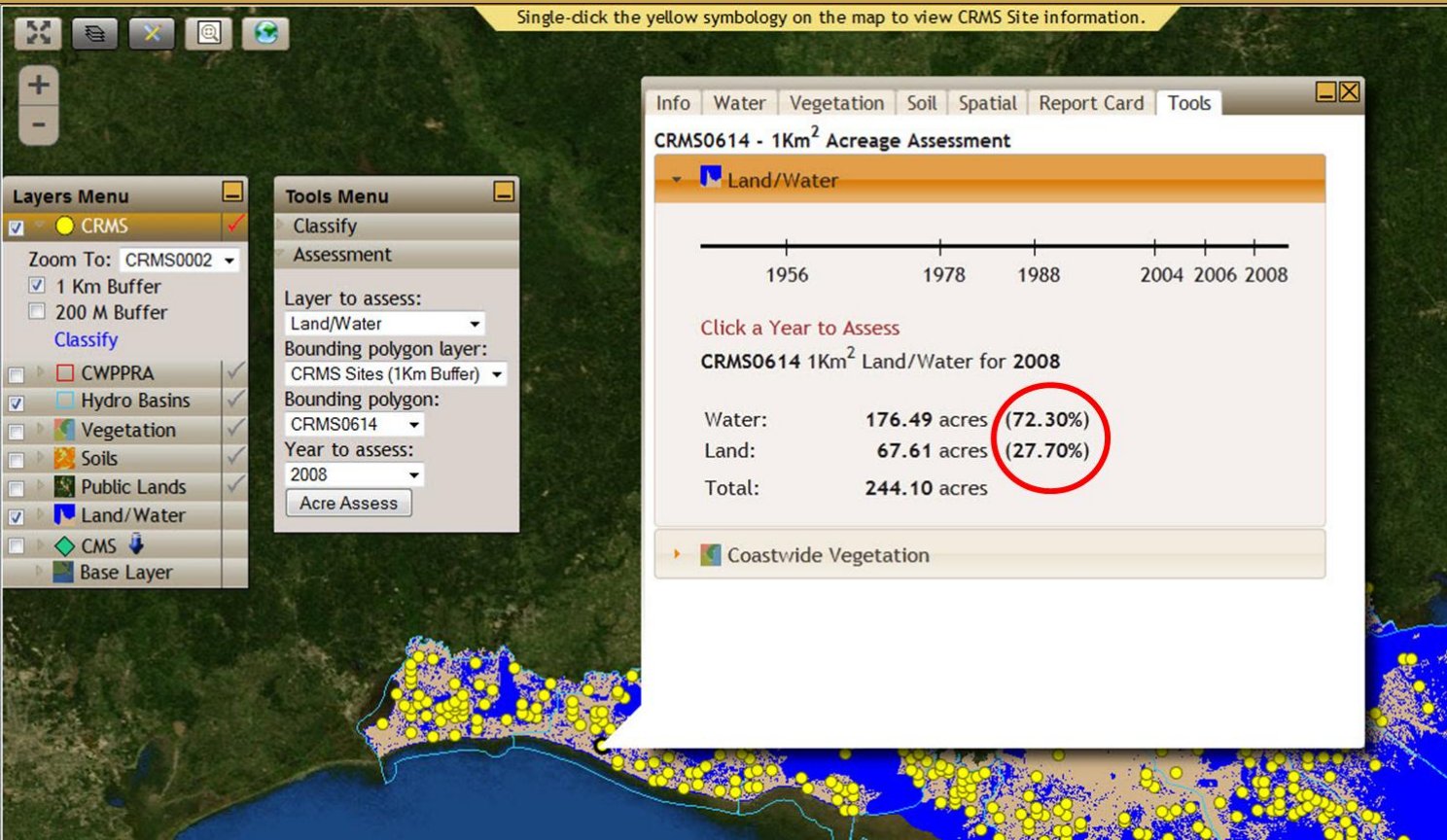
Site Data Collection

Parameter	Method	Scale	Frequency
Land/Water Ratio	Aerial photography	CRMS Site (1 Km ²)	5 years
Emergent Vegetation	Braun Blanquet: % cover, species composition, height of dominant species	(10) 2m x 2m plots/CRMS Site	Annually during peak biomass
Forested Vegetation	DBH and canopy cover	(3) 20m x 20m plots/CRMS Site	3 yrs during peak biomass
Vertical Accretion	Feldspar plots/cryogenic cores	3 plots/CRMS Site	Bi-annually
Marsh Elevation Change	Rod Surface Elevation Table (RSET)	4 directions/CRMS Site	Bi-annually
Porewater Salinity	10 and 30 cm syringe sippers	CRMS site and vegetation plots	Monthly Annually
Surface Water Salinity, Temp and Water Level	Submersible data sondes	200 m of CRMS Site or in a well	Hourly
Soil Characteristics	Core samples profiled into 4 cm increments to 24 cm. Bulk density, OM%, soil salinity, pH, and moisture.	3 cores, 18 archived samples/CRMS Site	5 years



Identify potential areas in need of restoration

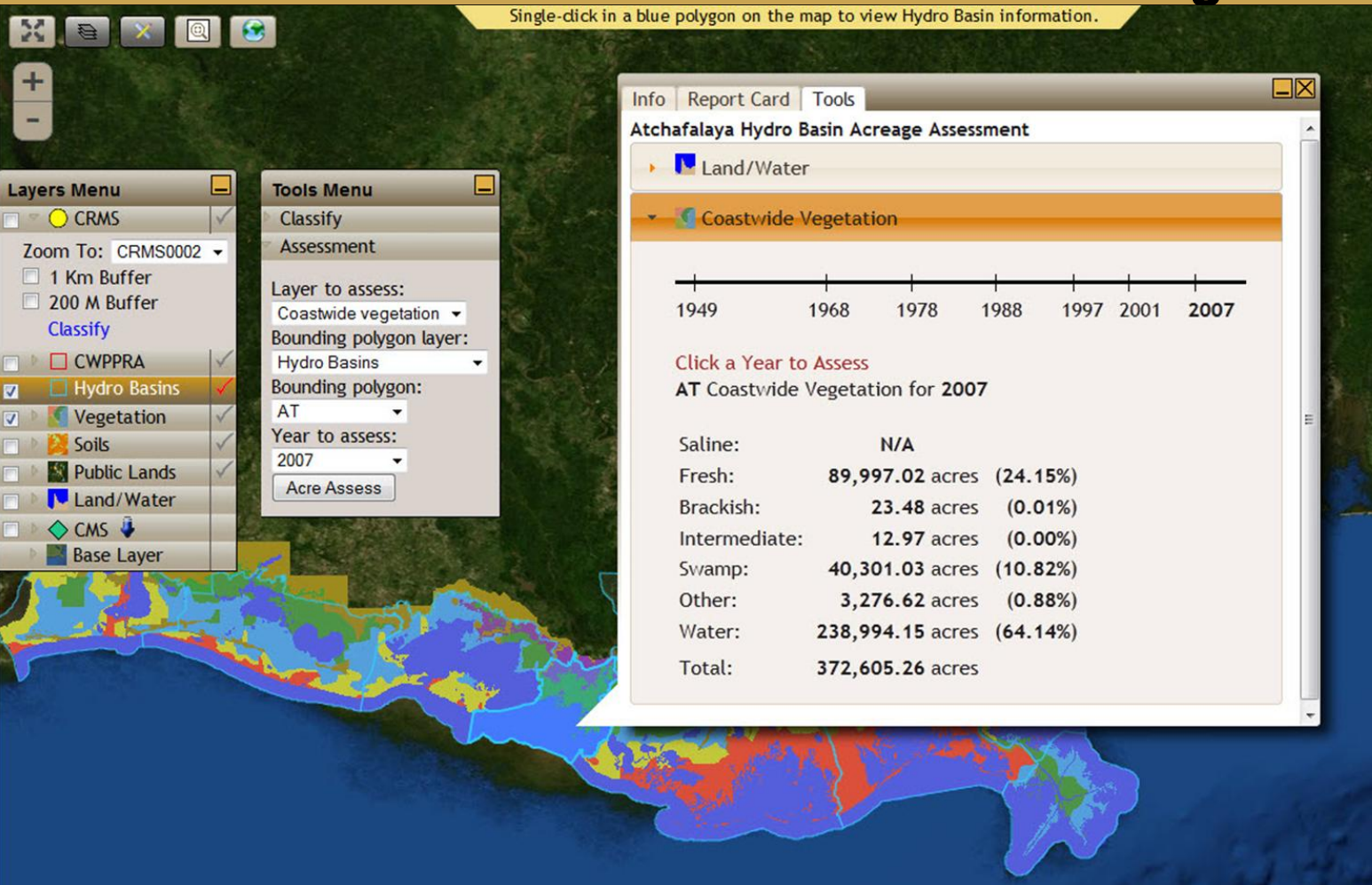
Land/Water Change



How much land has the area lost over time?



Identify potential areas in need of restoration Vegetation Change



How has the marsh type changed over time?



Plan a new project on the priority list Set Goals and Objectives

a CWPRA funded project

Coastwide Reference Monitoring System



[Home](#)

[Data](#)

[Mapping](#)


[Library](#)

[Visualization](#)

[Program](#)

CRMS Support Documentation

Bass, A. S., C. F. Robertson, W. K. Rhinehart. 2003. [Office of Coastal Restoration and Management quality management plan: 2003](#). Louisiana Department of Natural Resources. Baton Rouge, LA. 98pp.

Coastal Protection and Restoration Authority of Louisiana. 2012. [Louisiana's Comprehensive Master Plan for a Sustainable Coast](#). Coastal Protection and Restoration Authority of Louisiana. Baton Rouge, LA. 

Cretini, K.F., Visser, J.M., Krauss, K.W., and Steyer, G.D., 2011, [CRMS vegetation analytical team framework—Methods for collection, development, and use of vegetation response variables](#): U.S. Geological Survey Open-File Report 2011-1097, 60 p.

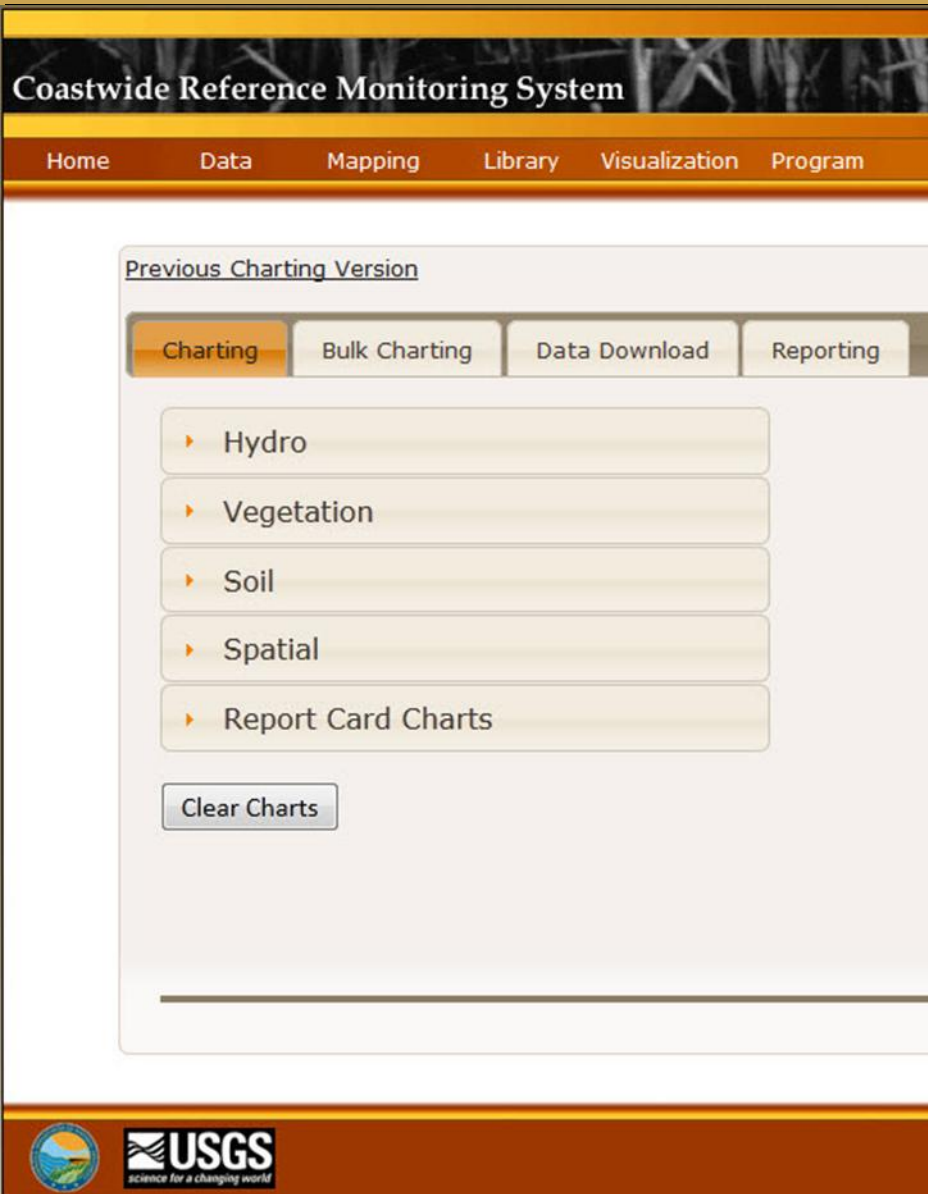
Cretini, K.F., Visser, J.M., Krauss, K.W., and Steyer, G.D. (2012). [Development and use of floristic quality index for coastal Louisiana marshes](#). Environmental Monitoring and Assessment 184:2389-2403.

Folse, T. M., J. L. West, M. K. Hymel, J. P. Troutman, L. A. Sharp, D. Weifenbach, T. McGinnis, L. B. Rodrigue, W. M. Boshart, D. C. Richardi, C. M. Miller, and W. B. Wood. 2012. [A Standard Operating Procedures Manual for the Coast-wide Reference Monitoring System-Wetlands: Methods for Site Establishment, Data Collection, and Quality Assurance/Quality Control](#). Louisiana Coastal Protection and Restoration Authority, Office of Coastal Protection and Restoration. Baton Rouge, LA. 207 pp.



Plan a new project on the priority list

Characterize the project area



Visualization/Charting

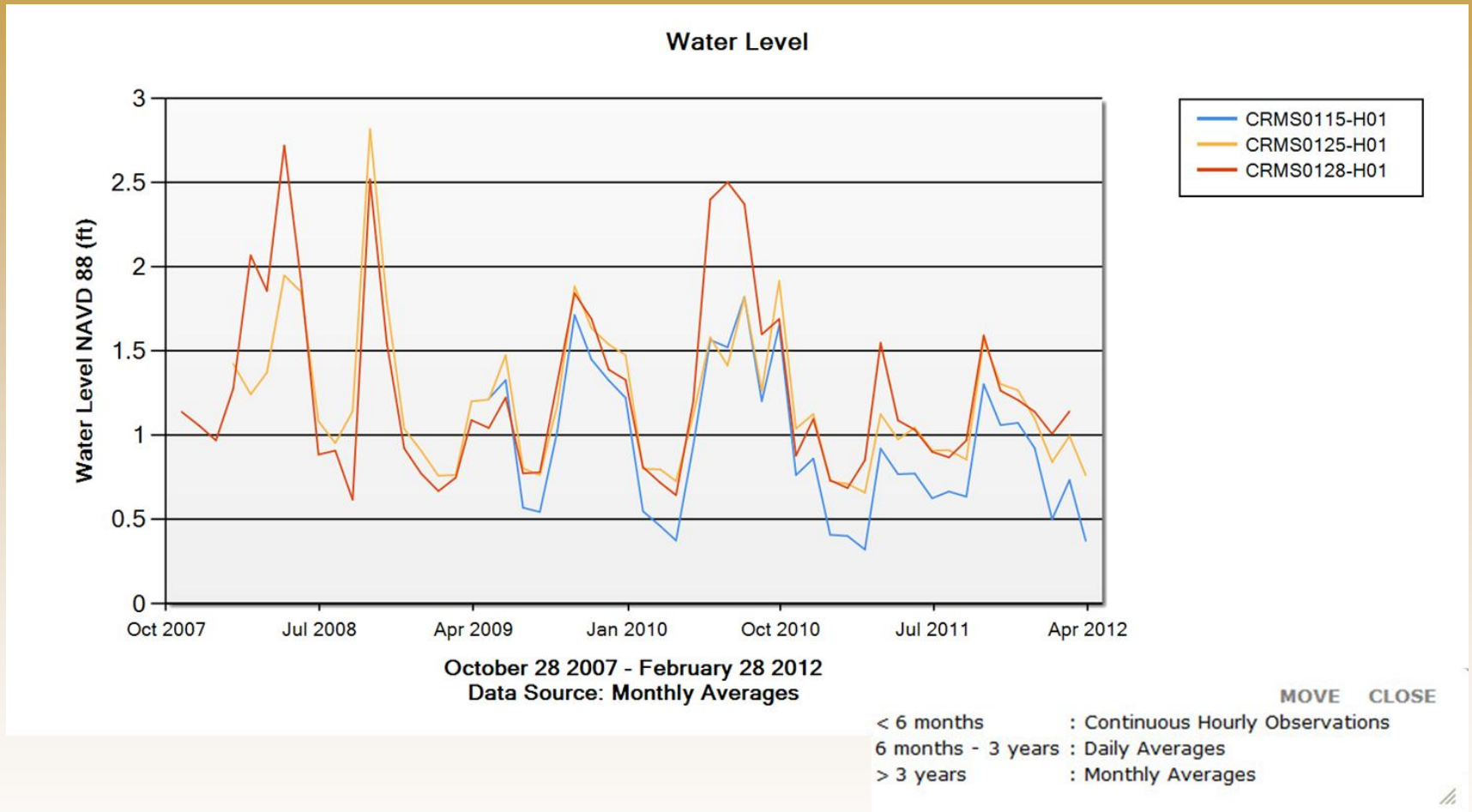


- **Charting:**
 - Individual charts
 - Site, multi-station, project
- **Bulk Charting:**
 - Generate & download sets of charts
 - Custom colors
- **Data Download:**
 - Download derived values



Plan a new project on the priority list

Characterize the project area



Set goals for the restoration project

Set target ranges that can be measured using the data



Plan a new project on the priority list Set Goals and Objectives

Coastwide Reference Monitoring System

a CWPBRA funded project

Home

Data

Mapping

Library

Visualization

Program

Long: -91.588, Lat: 29.668

Map

Satellite

Hybrid

Project Info

Water

Vegetation

Report Card

State ID: TV-04

Name: Cote Blanche Hydrologic Restoration

Sponsors: NRCS and OCPR

Type: Hydrologic Restoration

Links: None available.

Objectives:

- Reduce water exchange between marshes of Cote Blanche and West and East Cote Blanche Bays to prevent scouring of interior marsh and protect approximately 31,637 ac (12,803 ha) of fresh marsh.
- Protect shoreline on southern boundary between Humble and British-American canals from wave erosion.

Goals:

- Decrease variability in water level within the project area.
- Reduce erosion rate of shoreline along southern project boundary.
- Decrease rate of marsh loss.

Layers

Tools

☐ CRMS Sites

☒ CWPBRA Projects

☒ Constructed

☒ Not Constructed

☐ Infrastructure

☐ Legend

Zoom To: TV-04

☐ Hydro Basins

☐ Vegetation

☐ Land/Water

☐ Soils

☐ CMS

Project Info

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

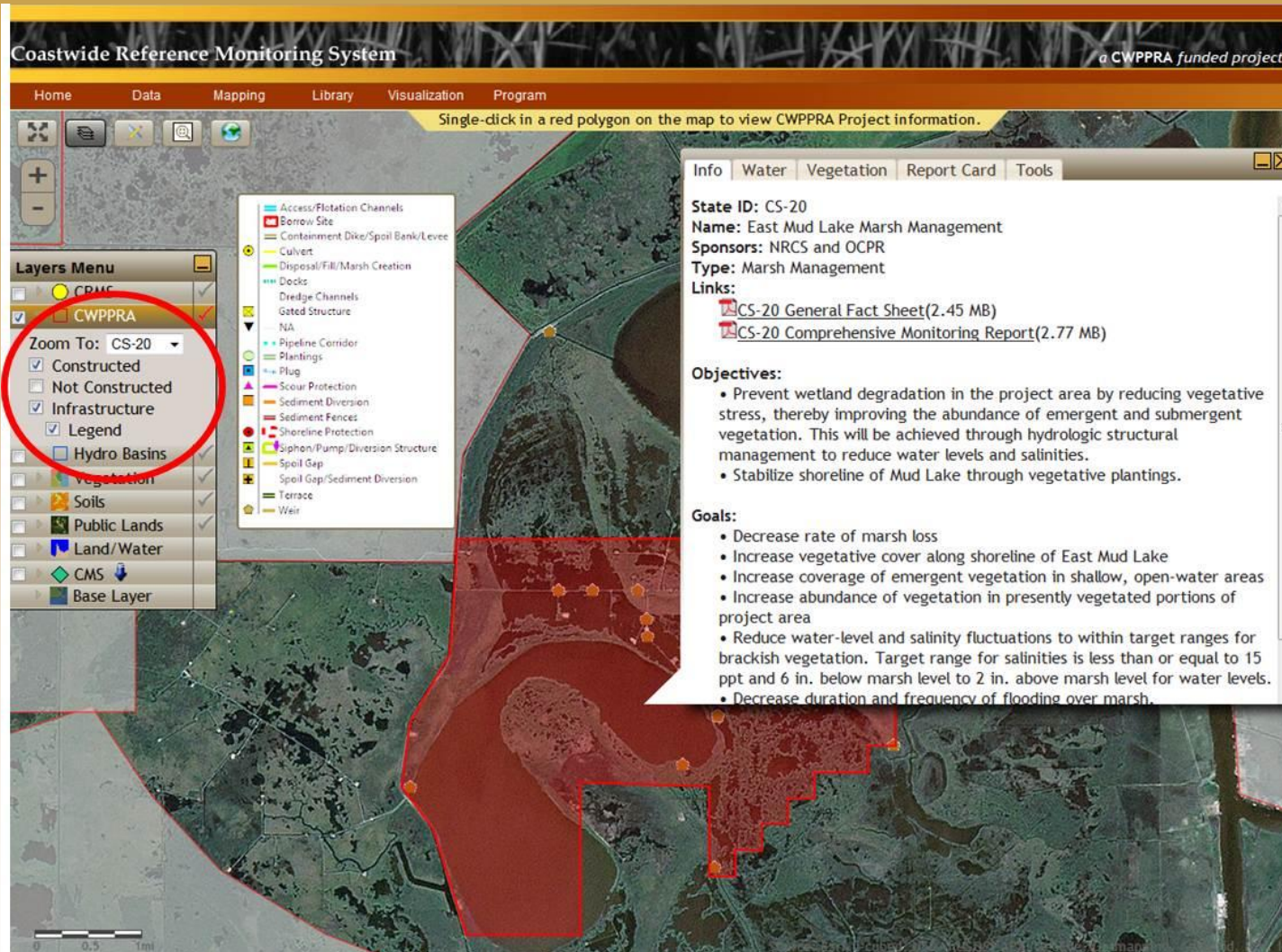
Beta: Fullscreen

Google

©2008, 2010 DOQQ, USGS

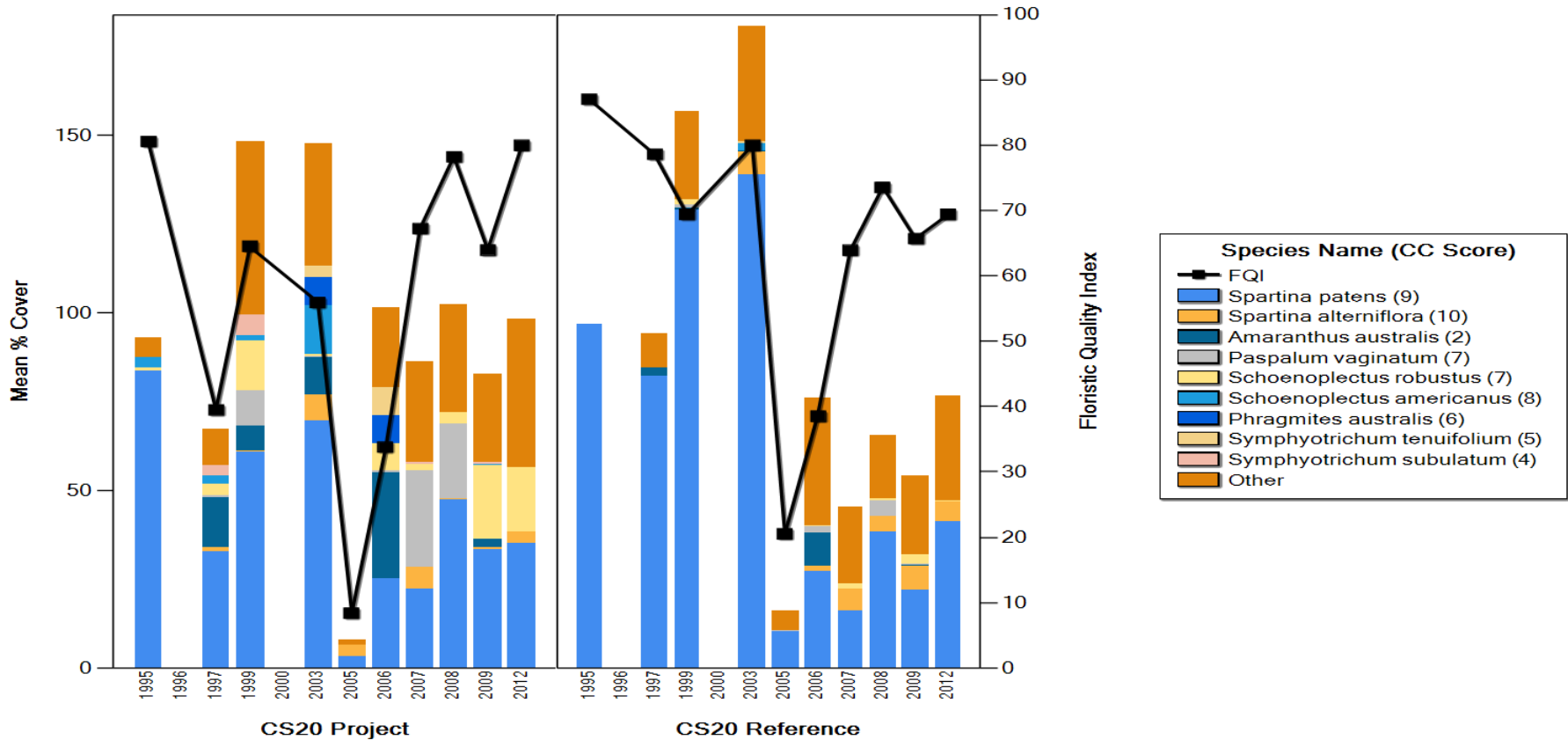
DISCLAIMER: PROVISIONAL DATA SUBJECT TO REVISION.

Evaluate the performance of a constructed project



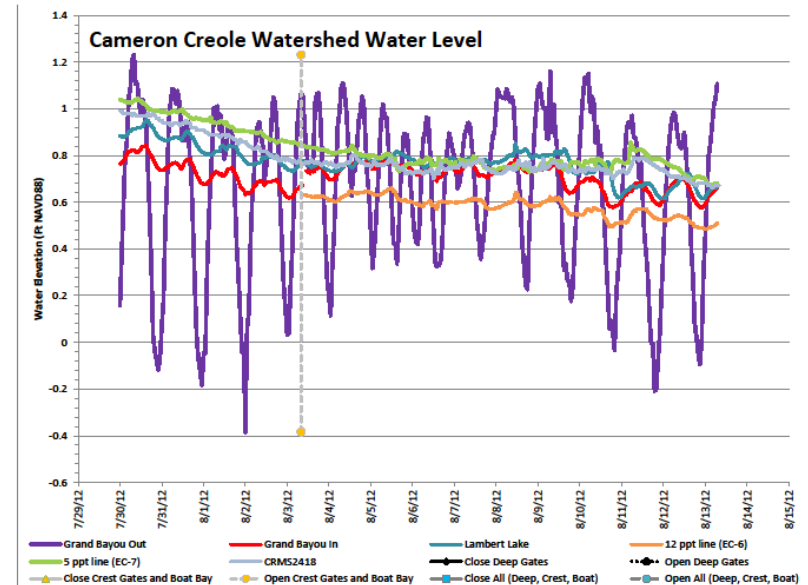
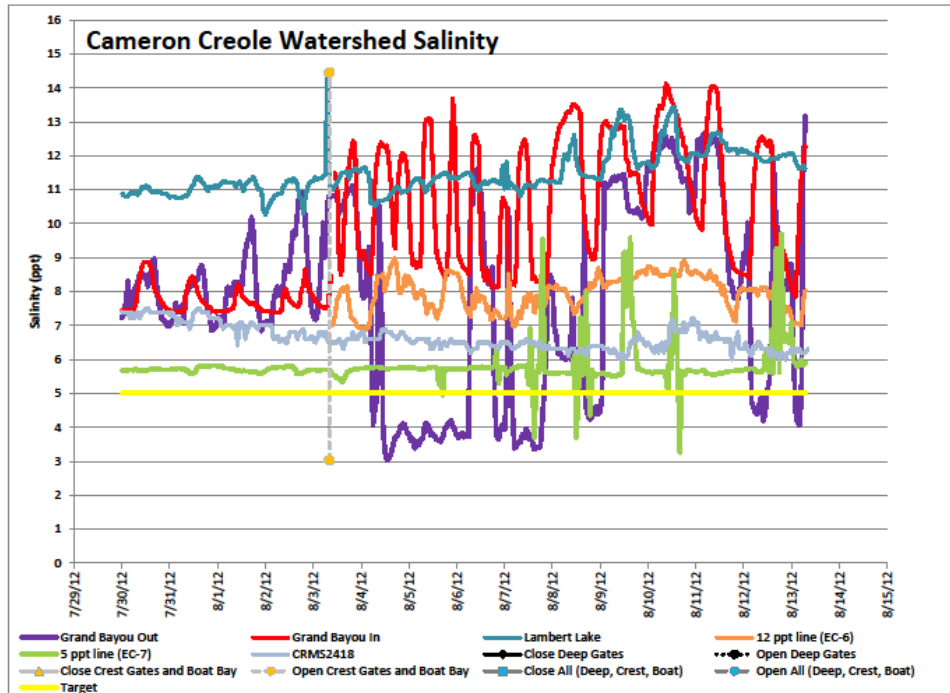
Evaluate the performance of a constructed project

Floristic Quality Index for CS20



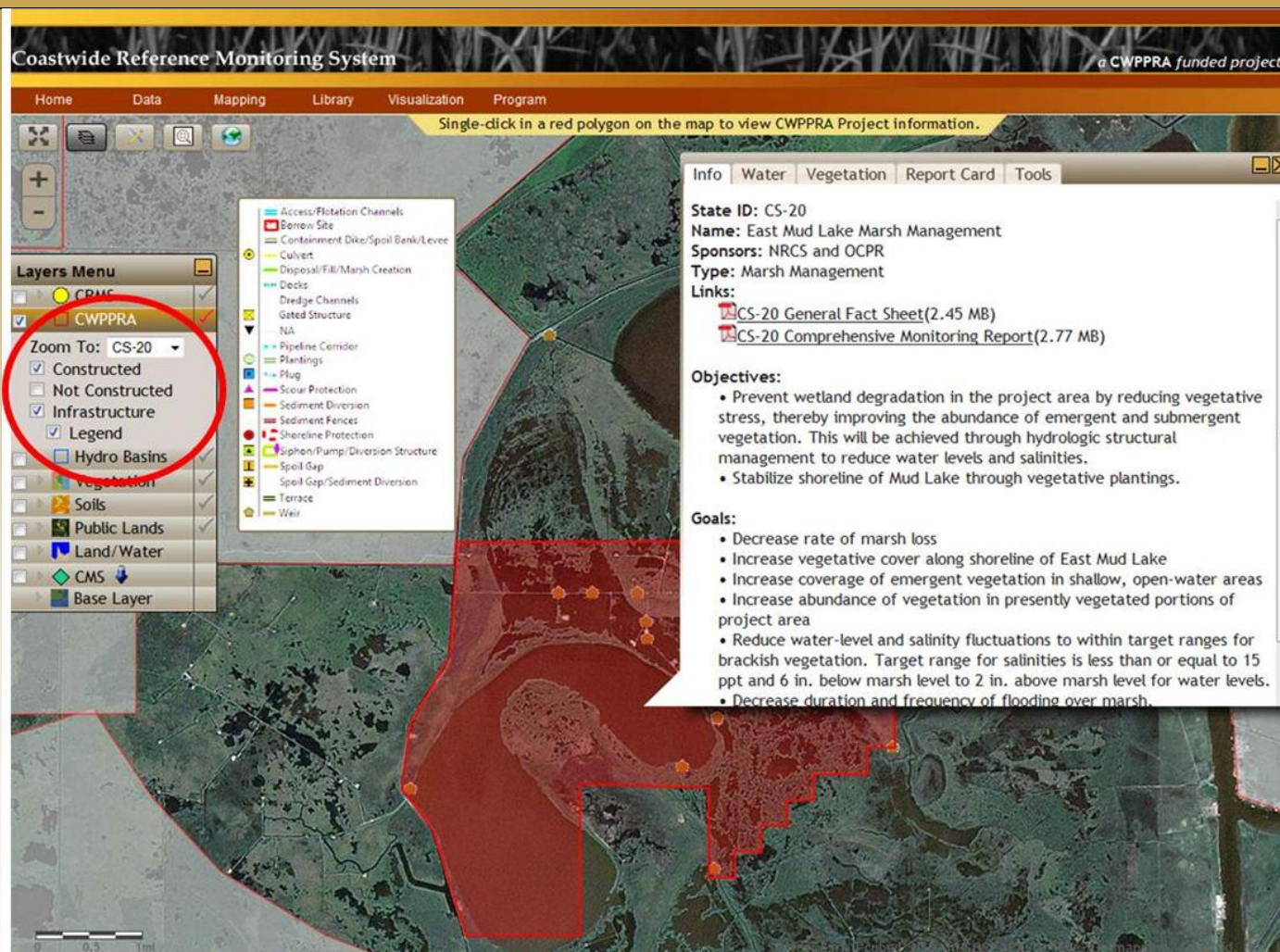
Water control structure operations

CS-04





Adaptively manage an existing project that is not meeting the project goals



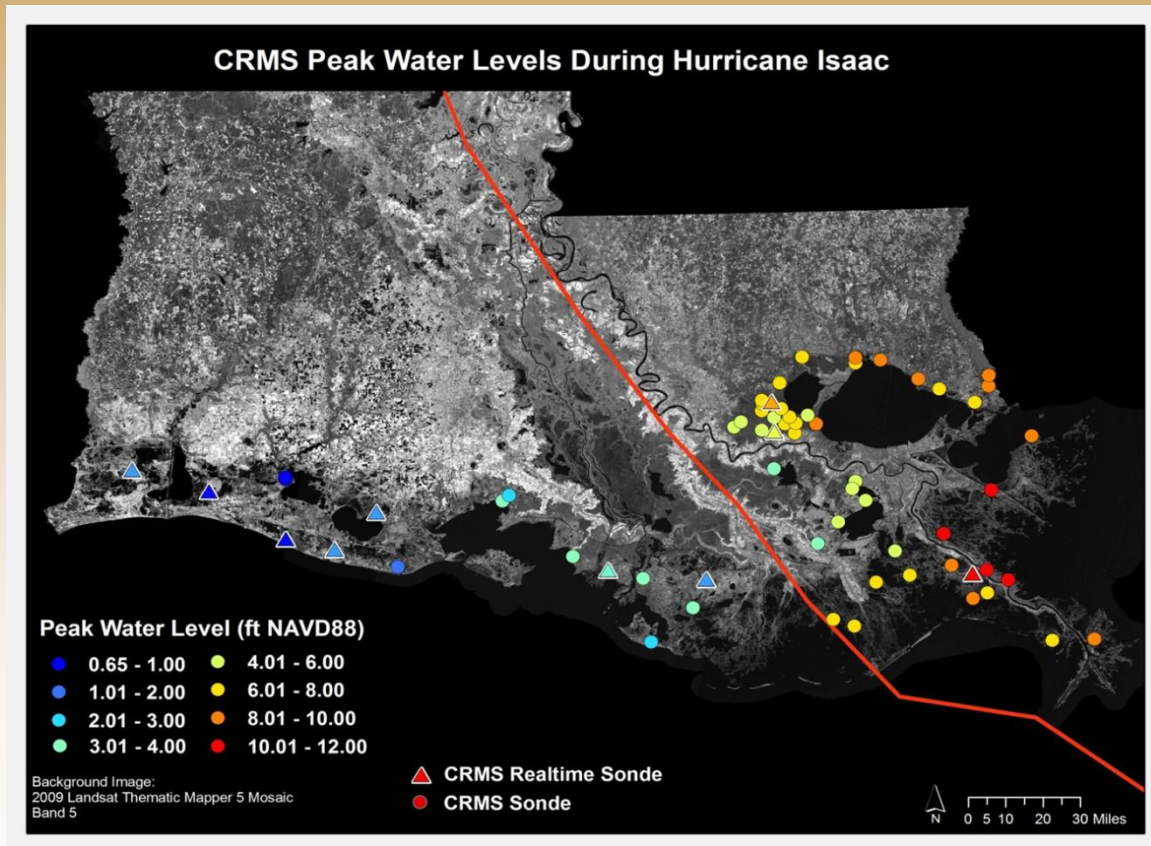
The project was constructed in a year of severe drought .

Water level data in the managed units were above the target range after construction for prolonged periods.

New elevation surveys were conducted and heights of stop logs were adjusted according to the Most recent survey.



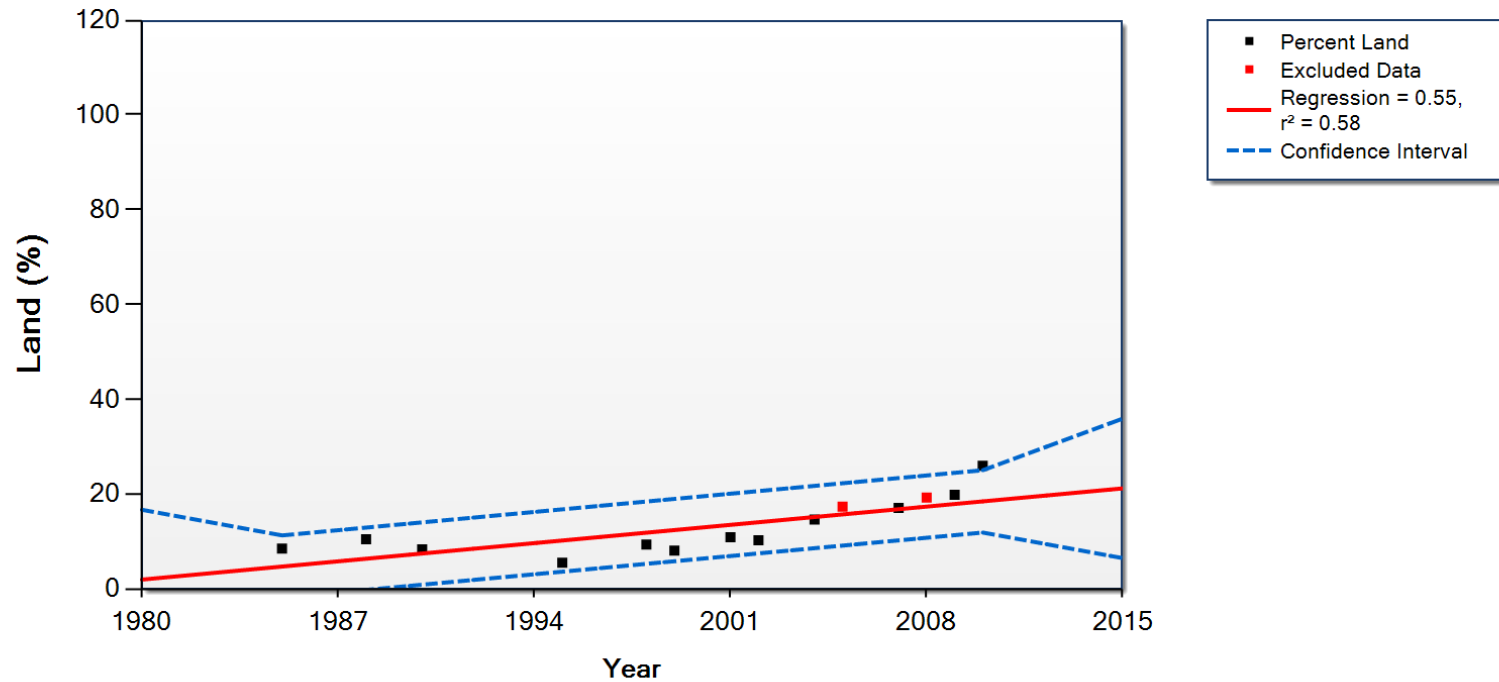
Identify damages to projects whether constructed or in planning following a major disturbance





Identify damages to projects following a major disturbance: Resiliency

Project Scale: CS28 - 1985 through 2010





The CRMS dataset is robust and has many uses.

CRMS Roadshows are scheduled for the federal sponsors to provide feedback on the products provided by the website team.

CRMS website training is available to restoration professionals as well as the general public.

The seal is circular with a double-lined border. The outer ring contains the text "COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT" in a serif font, with a five-pointed star on each side. The inner circle features a detailed illustration of a coastal wetland scene. At the top, a woodcock stands on a patch of grass. Below it, a blue marshy area is depicted. In the foreground, a large red crayfish is on the left, and a speckled fish, possibly a catfish, is on the right. The background of the inner circle is a light blue color.

For more information

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

<http://www.nwrc.usgs.gov/>

<http://www.coastal.louisiana.gov/>

Steyer, G.D. and others 2003. A Proposed Coast-wide Reference Monitoring System for Evaluating Wetland Restoration Trajectories in Louisiana. *Environmental Monitoring and Assessment*. 81:107-117.