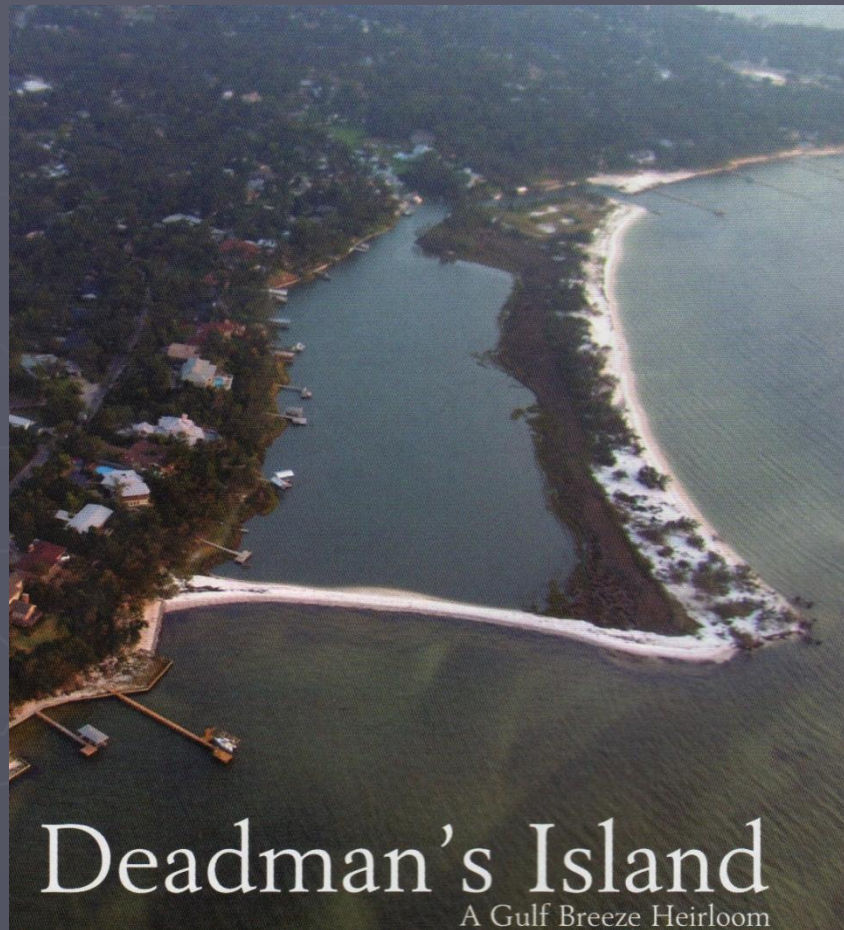


# Deadman's Island

*Appreciation for past, present and future*



*Project Manager- Heather Reed  
Ecological Consulting Services Inc.*

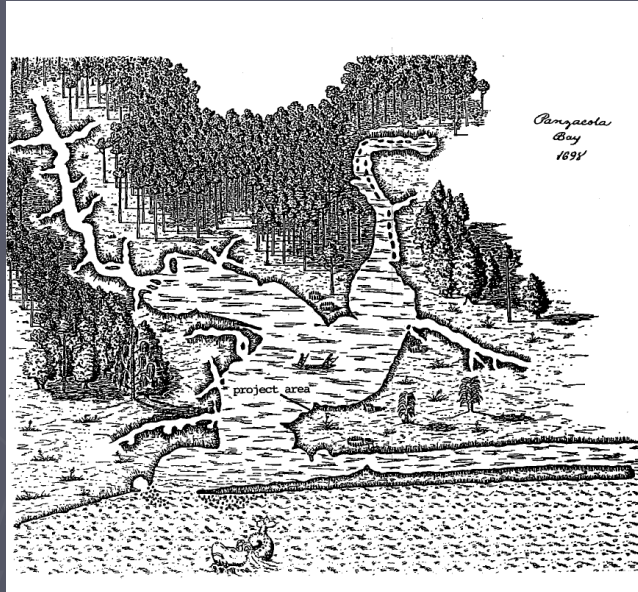
# Deadman's Island



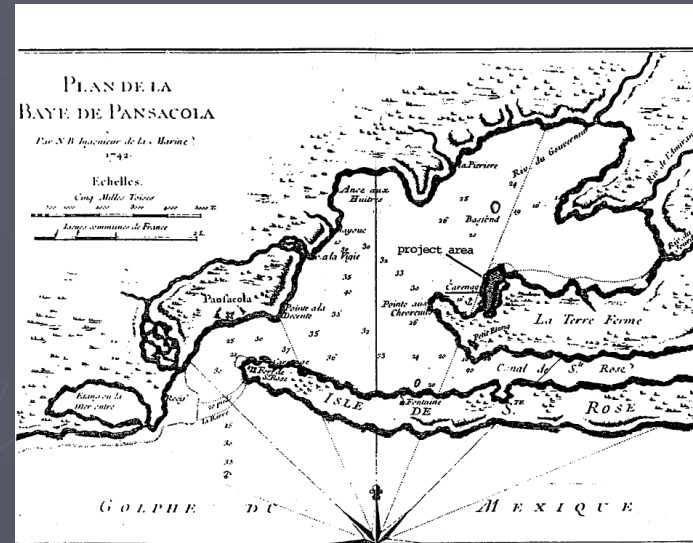
# Rare Gem



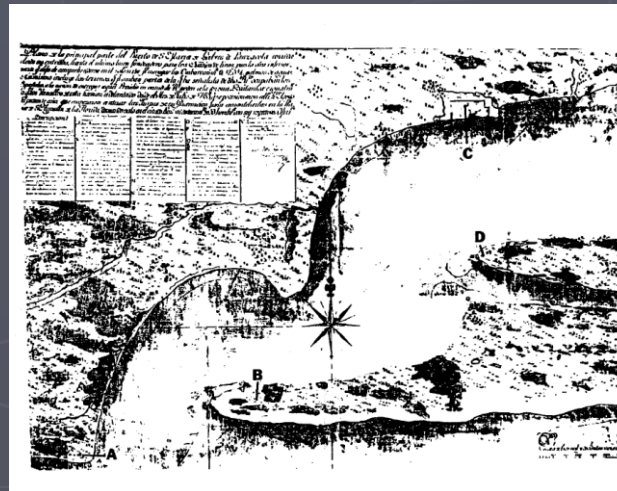
1698



1742

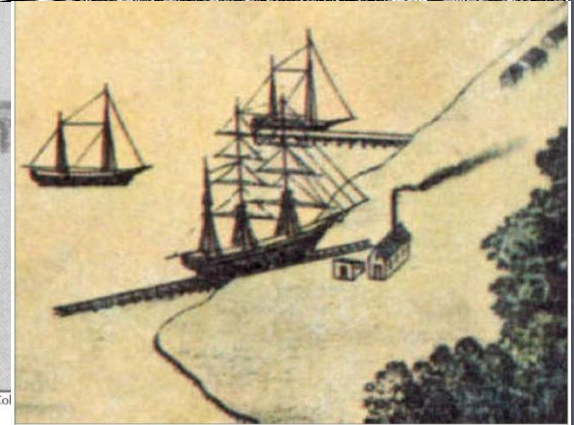
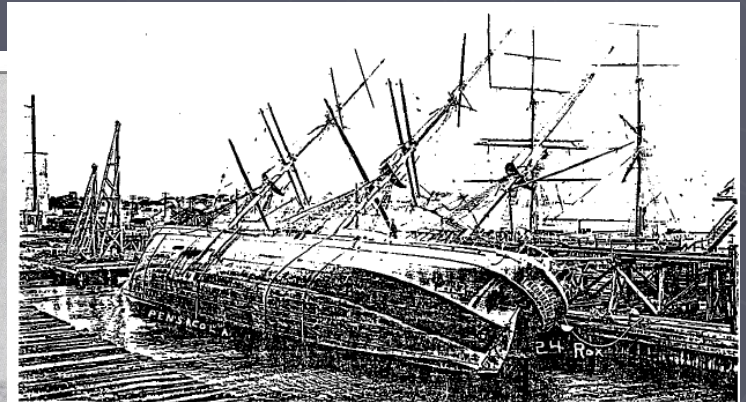


1743



# 18<sup>th</sup> Century

- ▶ Used by the Spanish and British throughout the 18<sup>th</sup> century as a careening ground
- ▶ George Gauld 1764- west end of Island was used as a wharf for careening but became in bad shape and had to be moved.



Historic Pensacola Photographs Col

*In Spanish, the careening grounds at Town Point in Navy Cove were officially named "Carenero," indicating that the area was used to careen wooden ships over onto their sides in order to remove barnacles and make repairs.*

# Sold from Spanish 1818

Book B, Translations Relating to Land Titles in West Florida-  
continued page 2.

may grant him the land he solicits causing no injury to a third person under the conditions prescribed in the Regulation of Seventeenth July one thousand seven hundred and Ninety nine, in consideration that the Board of Royal Finance held on the Twenty second of November 1799 reserving to the Intendency the faculties of making gratuitous concessions to deserving petitioners, at the same time when the successive measures for the sale of public lands were established; if, your Honor considered the petitioner a meritorious person, in order to obtain the improvement of this Province with subjects of the King of Spain by previously declaring upon oath, that no foreigner has any part in his petition, and that he will not alienate it to any such, in order to comply with the Royal Order of his Majesty bearing date thirty first of March one thousand eight hundred and six. The tribunal will nevertheless resolve what may be most proper and agreeably to justice which the Fiscal ask. Pensacola September Twenty third one thousand eight hundred and seventeen. John M. Losado.

DECREE: Pensacola September twenty fourth, one thousand eight hundred and seventeen. Let these proceedings be shown once more to the assessor General. Masot.

DECREE OF CONCESSION: Pensacola September twenty fifth, one thousand eight hundred and seventeen. Having seen the above and the statement of the said Eugenio Lavalle being truth in every respect; the tract of land which he solicits is hereby granted to him administering the oath required by the preceding opinion Fiscal. Let the same be shown to the Surveyor General in order that he may proceed to measure it and mark out its boundaries, forming a figurative Plot of the Survey which with the proceeding herein will be annexed to this expedient, and when done, let the title be granted to him under the terms provided by the regulations of Seventeenth July, one thousand seven hundred and ninety nine, submitting the same to the Superior authorities for its due approbation. Assessors fee two dollars, which with the costs shall be paid by the petitioner. (Sgd) Masot. Hernandez. Domingo Sausa. Joseph Cevallos.

OATH: On the same day, before his honor the Governor ad interim of this Province and the assessor General Charles Hernandez Y. Barrutia, appeared Eugenio Lavalle for the purpose of taking the oath, and being duly sworn according to law and informed of the opinion Fiscal of Royal Finance says: That the tract of land he solicits is for his own use, that no stranger is interested in said Petition and that he will not alienate it to any such, and the foregoing been read to him, declared that the same is the truth, and signed it with the said Gentlemen with us to which we certify. Eugenio Lavalle "Two Flourishes" Domingo Sausa. Joseph Cevallos.

SURVEYOR'S CERTIFICATE: I Don Pedro Reggio Lieutenant of the Regiment Infantry of Louisiana, Deputy Surveyor for the Province of West Florida, by Don Vicente Sebastian Pintado Captain of Infantry, Surveyor General and Real of the same, do hereby certify that on the seventeenth day of May of the present year in the presence and at the request of Eugenio Lavalle inhabitant of this place, and in pursuance to a Decree of his Excellency Don Joseph Masot Governor and Subdelegate of Royal Finance in this Province bearing date twenty fifth of September, one thousand eight hundred and seventeen, I marked out, surveyed and bounded for the aforesaid Eugenio Lavalle a tract of land containing eight hundred superficial arpents, measured by the perch of Paris of eighteen lineal feet of same City, counting one hundred square superficial perches to the arpent in superficies according to the land custom of this Province, which tract of land is situated on the South shore of this Bay, between Southeast One Degree South, and South twenty three Degrees East of the town of Pensacola, so that the beginning of the boundary East bears South East to the Barrack of the Louisiana Regiment, and to the Southwest twenty three Degrees East of the same building, bounded on the North by the aforesaid Bay of Pensacola, and on the East, South and West by vacant and Royal Lands, as more clearly appears from the annexed Plot representing the tract, the dimensions of the sides in lineal perches of Paris, their directions by the compass, the

Book B, Translations Relating to Land Titles in West Florida  
continued, page 3.

declination N. E. of the same, the trees, marks and other natural and artificial designations of boundary. In testimony whereof, I give the present, at Pensacola this eighteenth day of May in the year one thousand eight hundred and eighteen.

(Signed) Pedro Reggio

ITEM NO. 2  
DEED

Eugenio Lavalle  
To  
John Innerarity, his heirs  
and assigns forever

Book B, page 446 (also designated "Record Book No. 5")  
Spanish Archives in custody of the Commissioner of Agriculture of Florida, at Tallahassee  
Dated: June 5, 1818  
Ask: See below  
Three witnesses; Seal  
Cons: \$2200.00

All that tract of land on the Bay of Pensacola opposite the Town of Pensacola commonly called and known by the name of the Carenero or Carenning Ground, alias Navy Cove.

Appended to this instrument is a receipt signed by the grantor for the amount of the consideration.

It shows acknowledgment June 10, 1818, before George W. Brooke, Col. U. S. Army Commanding the United States Forces in West Florida.

ITEM NO. 3  
DEED

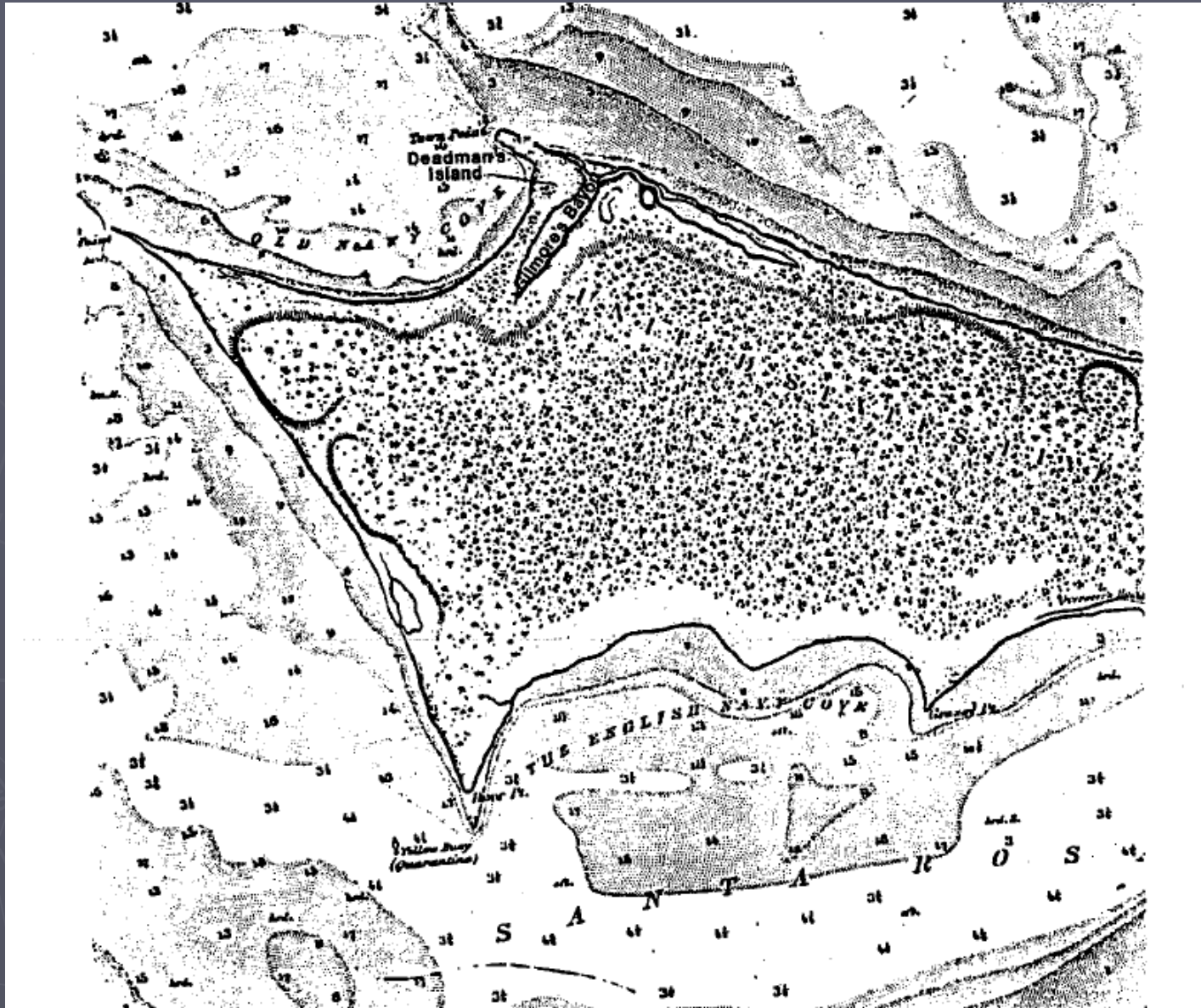
John Innerarity  
To  
William P. Anderson, his heirs  
and assigns forever

Book B, page 446 (also designated "Record Book No. 5")  
Spanish Archives in custody of the Commissioner of Agriculture of Florida, at Tallahassee  
Dated: June 6, 1818  
No acknowledgment  
Two witnesses; Seals  
Cons: \$2200.00

All that tract of land on the Bay of Pensacola, commonly called and known by the name of the Carenero, or Carenning Ground, alias Navy Cove.

There is a memorandum attached, dated May 18, 1822, signed by John Innerarity, stating that this deed is a duplicate of a similar deed, bearing the date fifth of June 1818, which has been lost or misplaced.

# 1882



# 19<sup>th</sup> Century

- ▶ 19th Century used to quarantine ships during yellow fever epidemics
- ▶ 1888 work started on construction of a marine slip on the island capable of lifting 2000 lb – Marine Rail Slip (brick boat slips which are slowly being uncovered to this day).
- ▶ 1891 Quarantine station was built



Historic Pensacola Photographs Collection

The "Santa Rosa", a Corps of Engineers survey schooner involved in the surveying of the Intracoastal Waterway system between Pensacola and St. Marks, was tossed ashore in the Hurricane of 1906. Captain George Addison Duncan, Sr., was captain of "Santa Rosa" during the Hurricane of 1916. As the storm approached, Capt. Duncan, having the obligation to save the vessel under his command, stayed aboard and anchored her near the Pensacola waterfront to protect the ship from northerly winds. During the eye of the storm, Duncan motored the "Santa Rosa" to Old Navy Cove on the south side of the bay, in order to have a lee anchorage when the wind changed, thereby saving the ship from destruction.



Photo courtesy of Pensacola Historical Society

The U. S. Quarantine Station Boat Landing on Santa Rosa Island, formerly located at Navy Cove .

1876 Pensacola had become known the world over as a great seaport. In 1876, there was a quarantine station at Navy Cove and a small quarantine hospital near Grassy Point. Yellow Fever was a common cause of death and there was a need for quarantine stations

away from town to insure the wellness of the disembarking passengers and crew, and to fumigate vessels arriving from all around the world. Later the quarantine station was moved to Santa Rosa near Little Sabine.



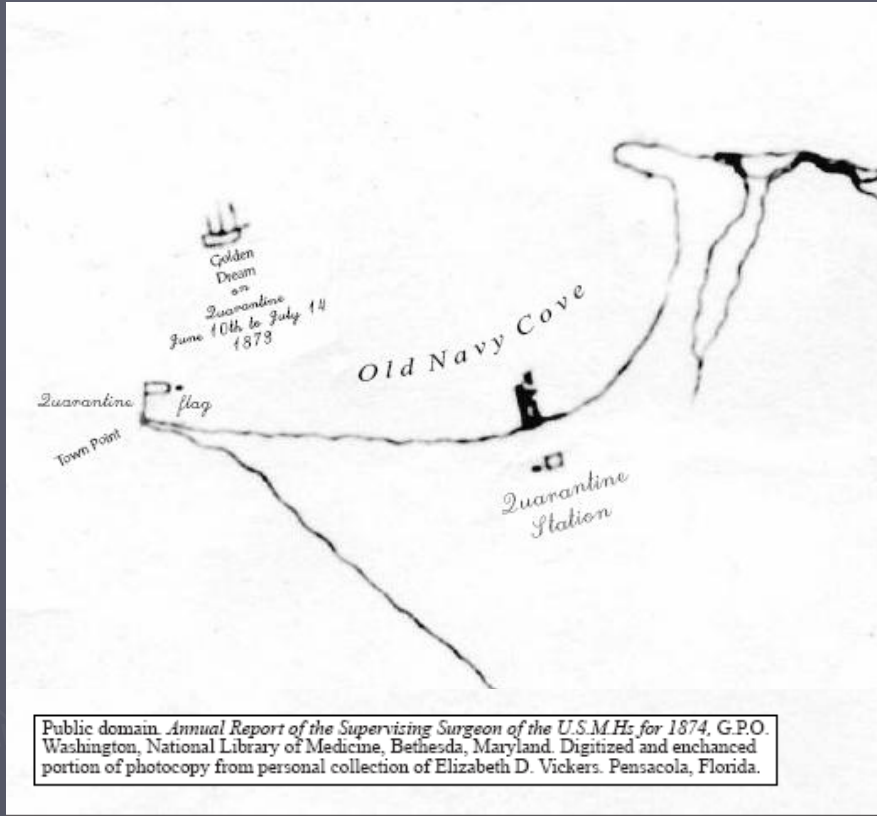
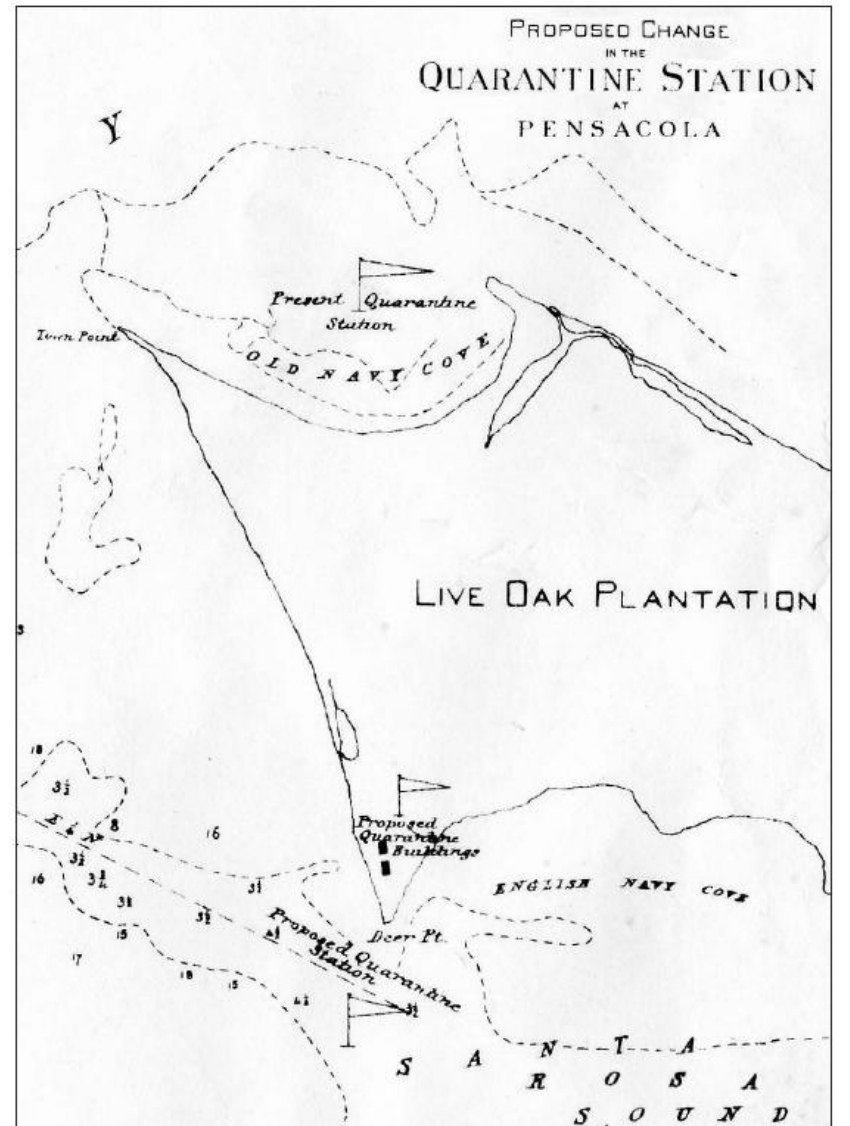


Figure 7. 1874 map of quarantine station location in Old Navy Cove.

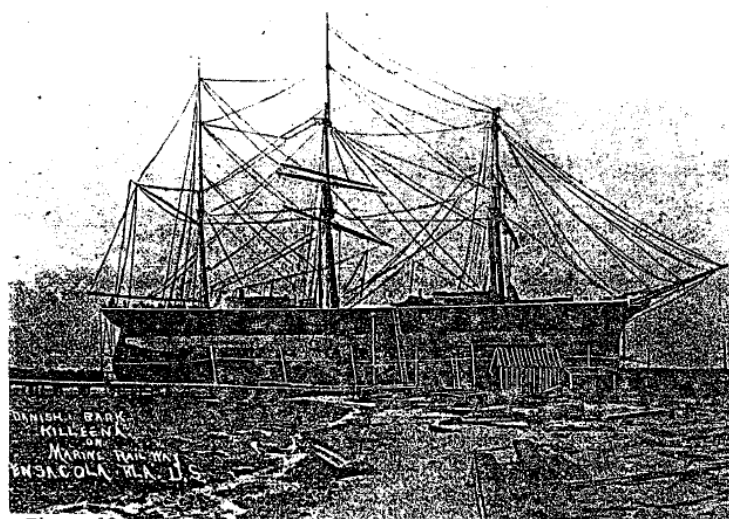
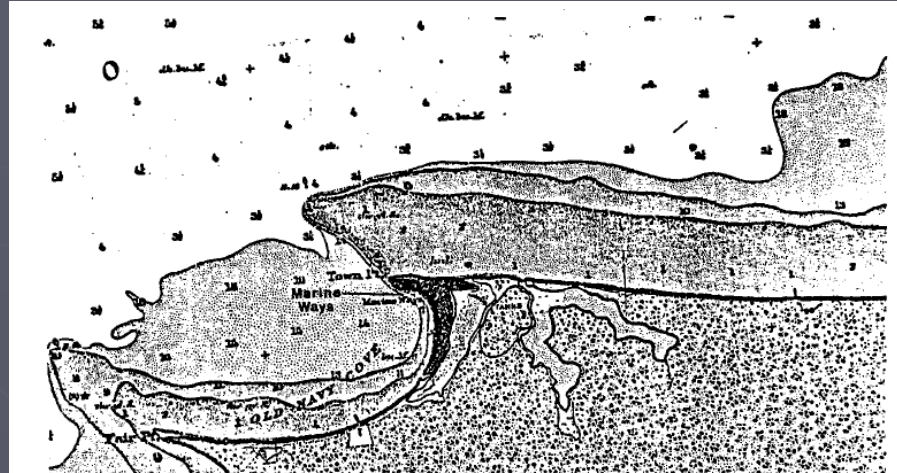


1879

# 1904

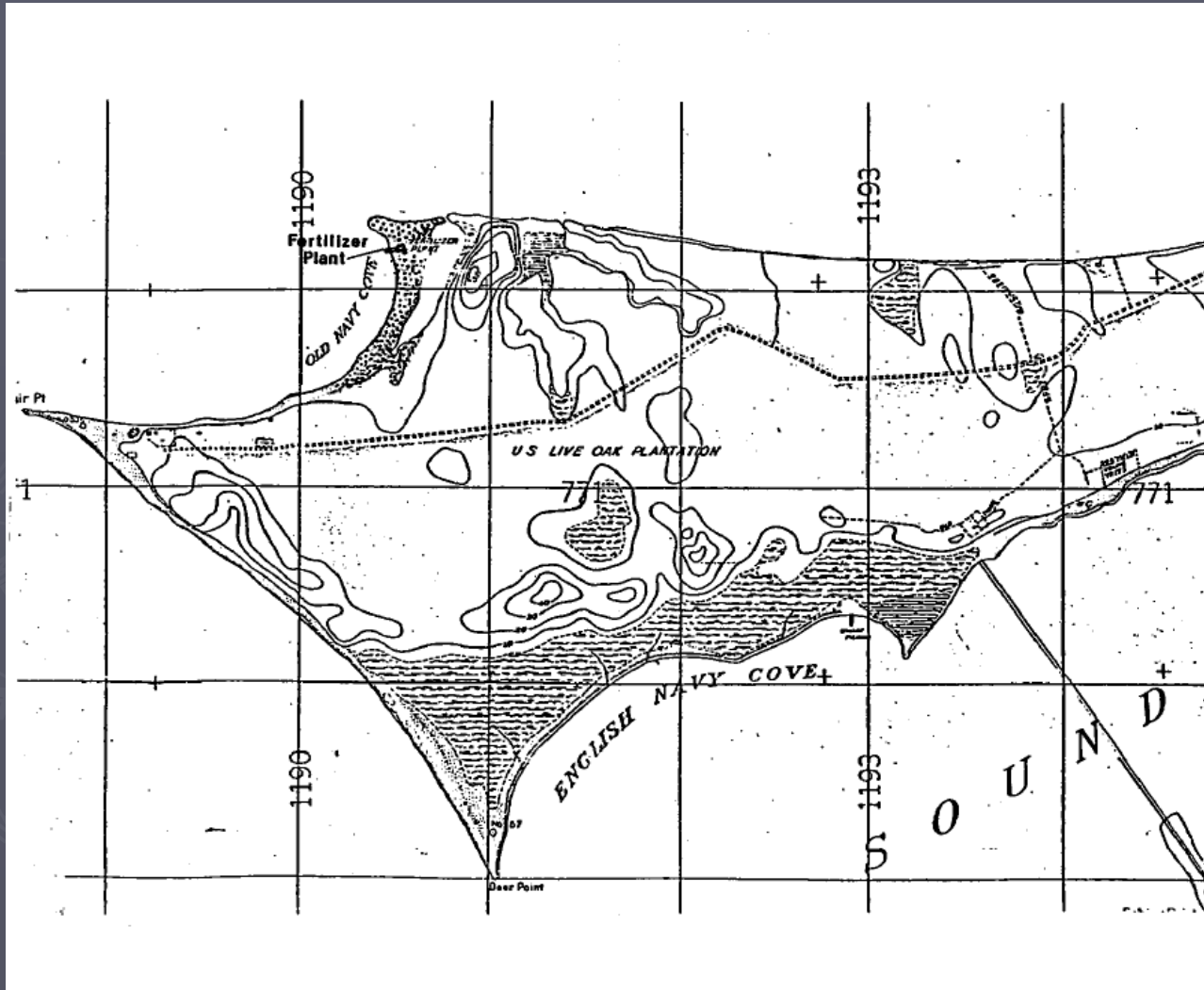
1890-1906

Gulf Marine  
Way



# 1919

Fertilizer  
Plant

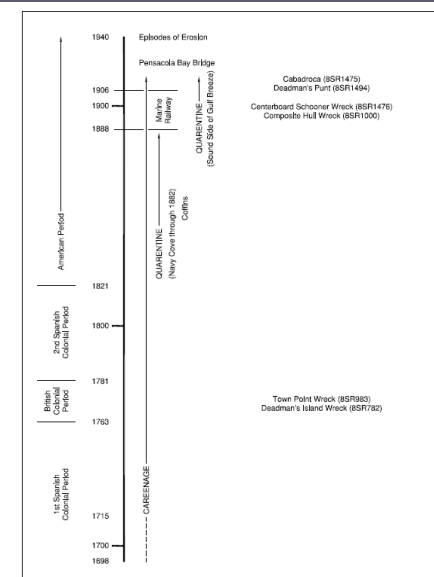
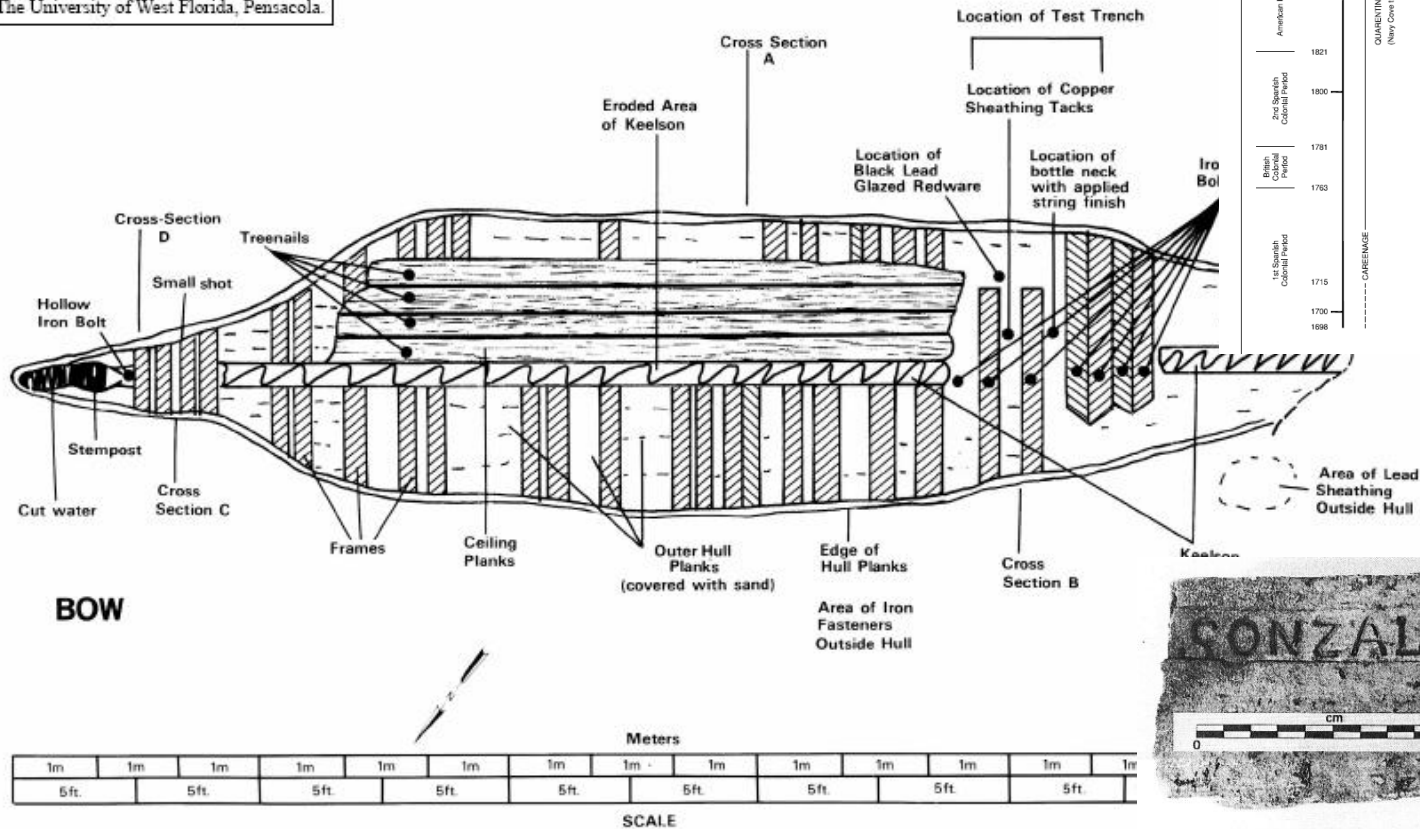


# 20<sup>th</sup> Century

- ▶ \*\*Hurricane 1906 obliterated the effort
- ▶ 1906 Remains were used to build a glue factory then a fish fertilizer plant
- ▶ Partnership of Coe and Gilmore bought the Island from the Lewis Bear estate and remained private until 1977
- ▶ 1977 City purchased part of it and then was later donated the rest in 1978

# Shipwreck Found at Deadman's Island

Courtesy of The Archaeology Institute,  
The University of West Florida, Pensacola.



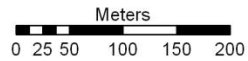
# Erosion problems and proposed restoration

- ▶ Bridge construction, dredging, sea walls and revetment are making the sediment budget out of balance
- ▶ Concerned residents
- ▶ 2005 Hurricane Ivan exposed historic archeological artifacts.
- ▶ The City did not have the funding to restore the Island.
- ▶ The USACOE began the restoration effort and permit.
- ▶ The City and Coastal Aquatic Managed Areas of FLDEP have partnered to restore Deadman's Island and achieve the 1992 Aquatic Preserve mission to make Deadman's Island an Aquatic Preserve to be protected by the State.











# 2006

## Deadman's Island Shoreline Change

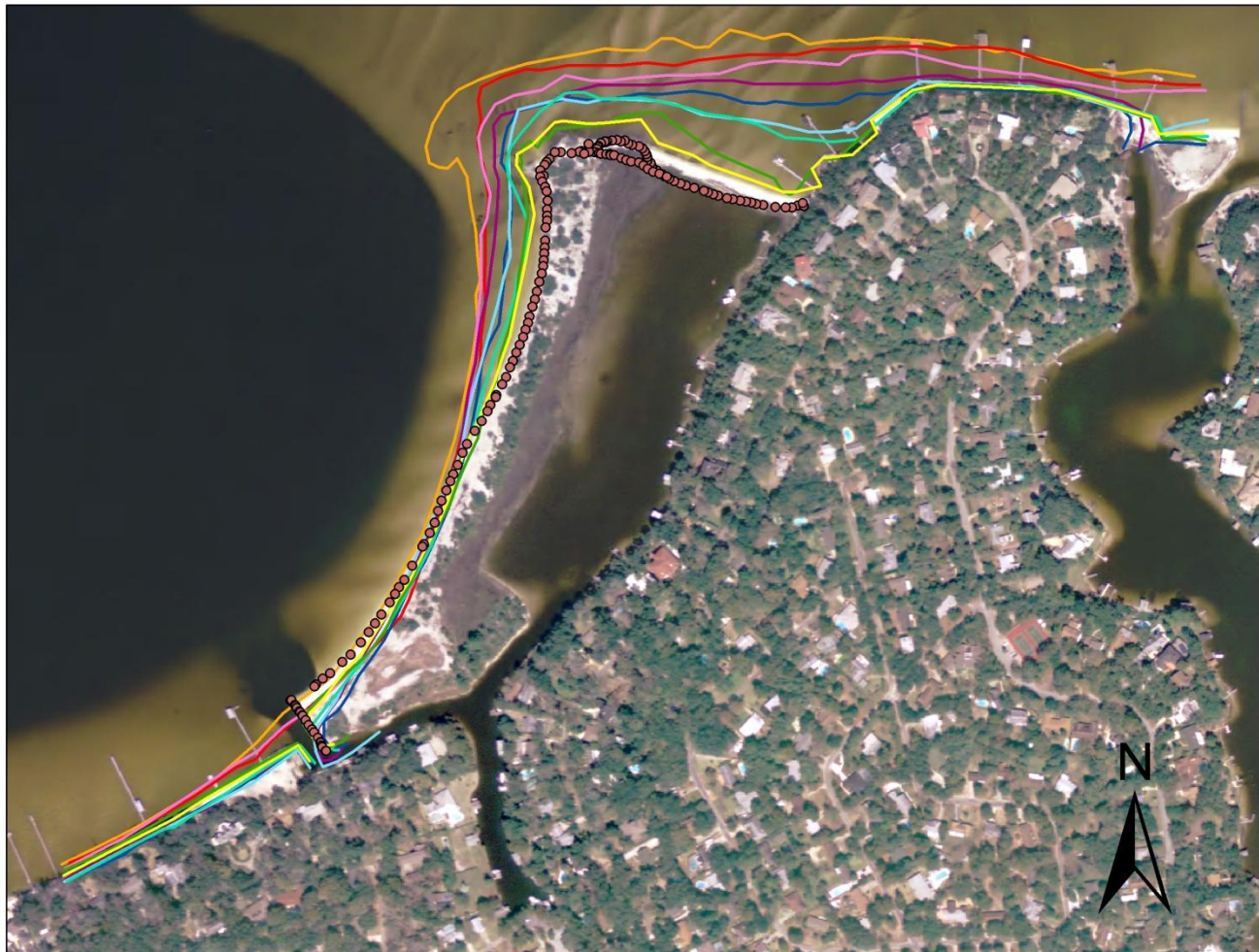
Image: 2004



### Legend

-  line1992
-  line1987
-  line1982
-  line1978
-  line1972
-  line1968
-  line1951
-  line1946
-  line1940
-  GPS 2006

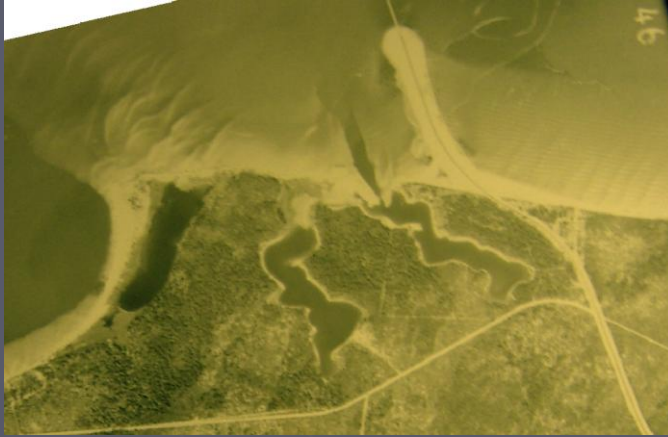
Map Prepared by:  
Nathan McKinney  
5-2006







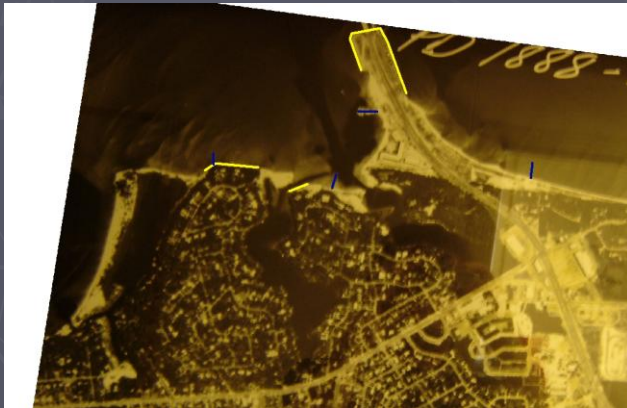
# Historical Erosion of Dead Man's Island



Dead Man's Island 1946



Dead Man's Island 1968



Dead Man's Island 1976  
Note the seawalls in  
yellow



Dead Man's Island 2005  
Note the seawalls in  
yellow

# Hurricane Dennis

Courtesy of the  
University of West  
Florida and State  
Archeologist, Ryan  
Wheeler



Coffins dated from the 1800's were unearthed by erosion from Hurricane Dennis. It is unknown what other artifacts have been lost to shifting tides and other storms which cause further erosion.

Oct 2011

● Ensley

● Ferry Pass

● Brent

● Pensacola

● ew

● West Pensacola

● Grove

● Warrington

20475 ft  
3.88 miles

61078.95 ft  
11.57 miles

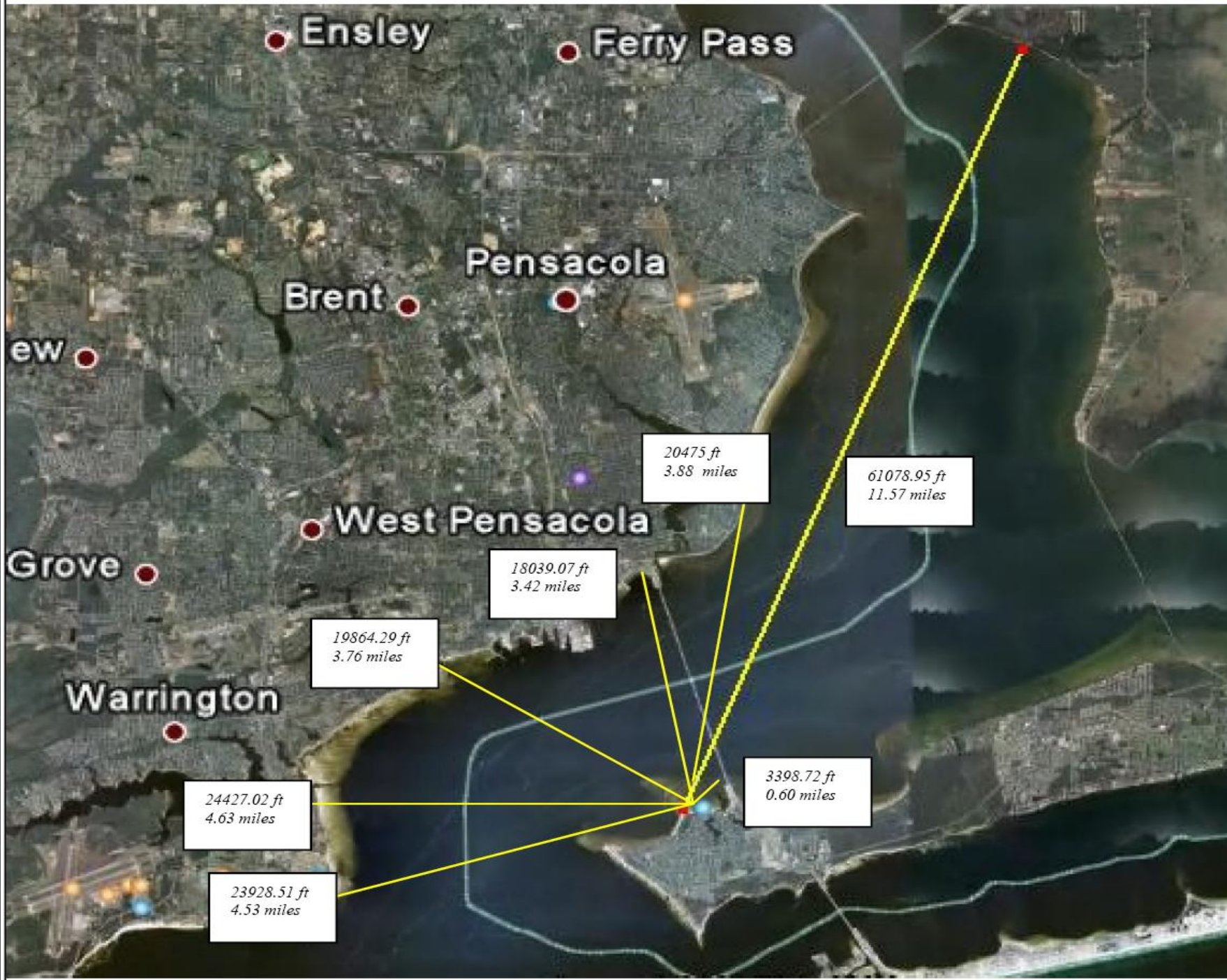
18039.07 ft  
3.42 miles

19864.29 ft  
3.76 miles

3398.72 ft  
0.60 miles

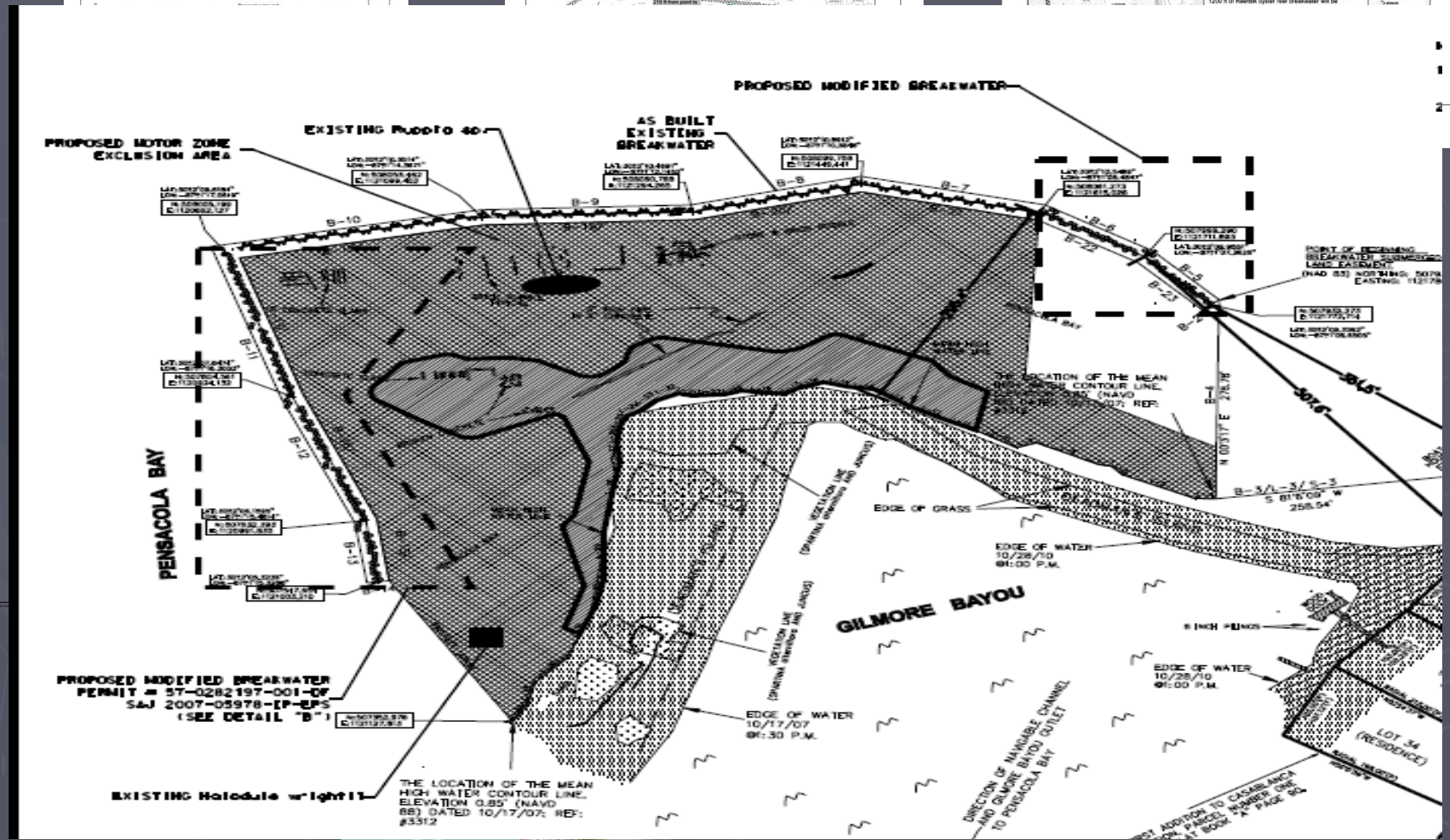
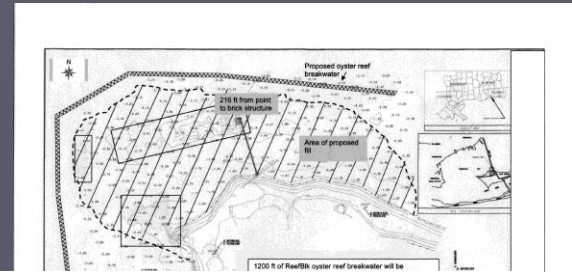
24427.02 ft  
4.63 miles

23928.51 ft  
4.53 miles



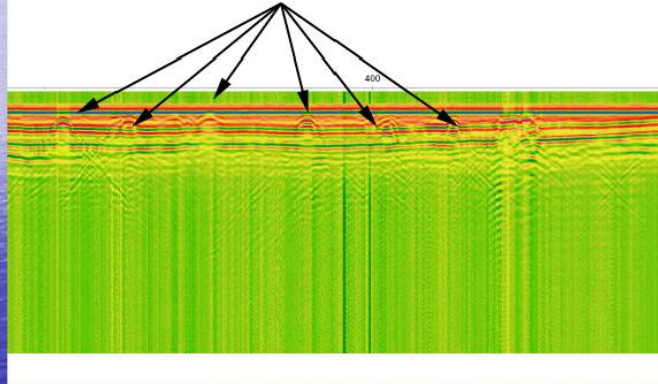
- Breakwater
- Shoreline Stabilization
- Fill/renourishment

# Design plans



# Deadman's Island GPR Test

Objects roughly evenly spaced



- The regularly spaced objects noted above do not appear to be natural.

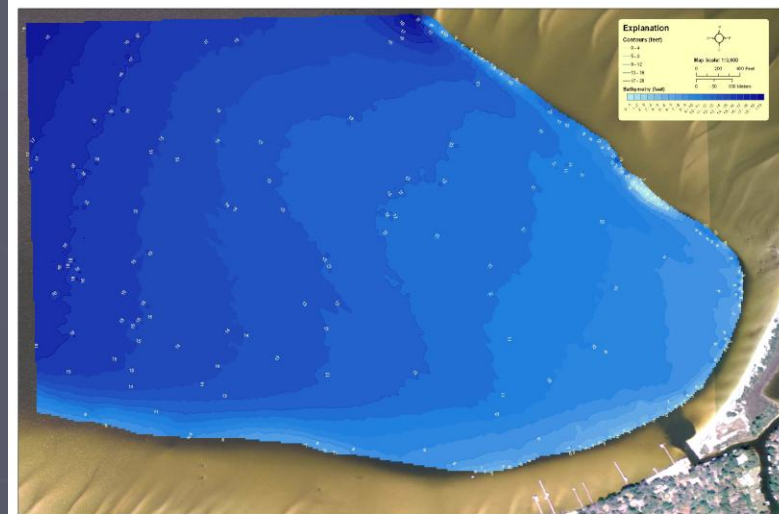


Figure 7 - Bathymetric chart of Old Navy Cove

# Granulometric Analysis

Beach Sediment Samples

Hammer Cores

Vibracores

VSRB-04

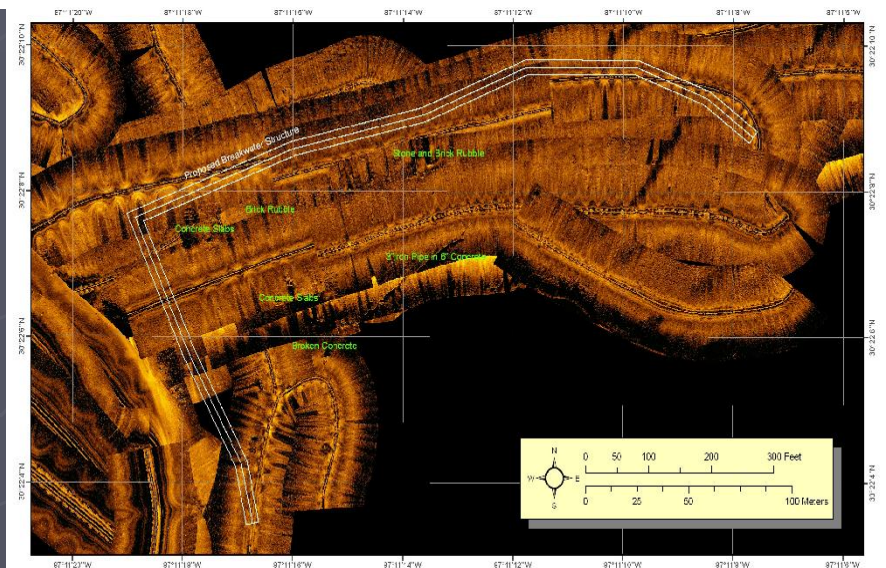
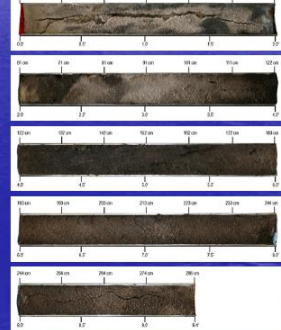
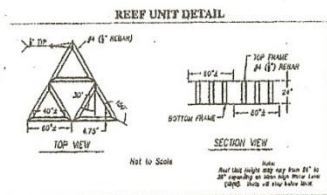
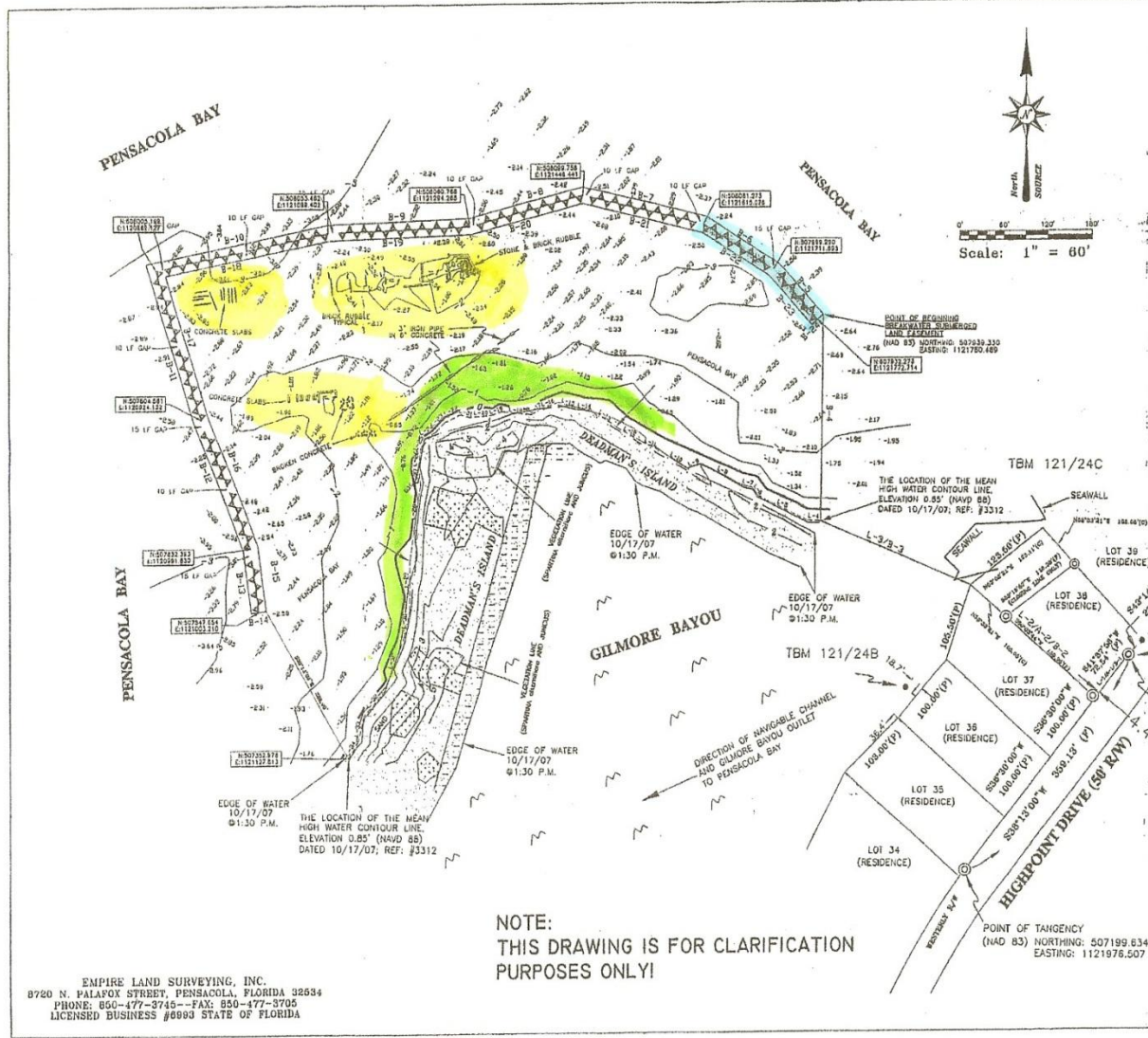


Figure 16 - Data example from side scan sonar mosaic: Area of proposed restoration

**TOPOGRAPHIC SURVEY  
(BATHYMETRIC)  
NOT A BOUNDARY SURVEY  
THIS IS A FIELD SURVEY**

DEADMAN'S ISLAND  
A PORTION OF SECTION 6  
TOWNSHIP 3 SOUTH, RANGE 29 WEST  
GULF BREEZE, FLORIDA



APPROVED: *Leonard J. Chauvin Jr.*  
LEONARD J. CHAUVIN JR. P.E.  
FEBRUARY 29, 2008  
COASTAL ENVIRONMENTAL INC.  
10000 N. PALAFOX STREET, SUITE 200  
GULF BREEZE, FLORIDA 32564

POINT OF COMMENCEMENT  
BREAKWATER SUBMERGED LAND EASEMENT  
SOUTHEAST CORNER  
LOT 38, PARCEL 1, FIRST  
ADDITION TO CASABLANCA  
(PLAT BOOK A, PAGE 80)  
(NAD 83) NORTHING: 507481.793  
EASTING: 1122198.677

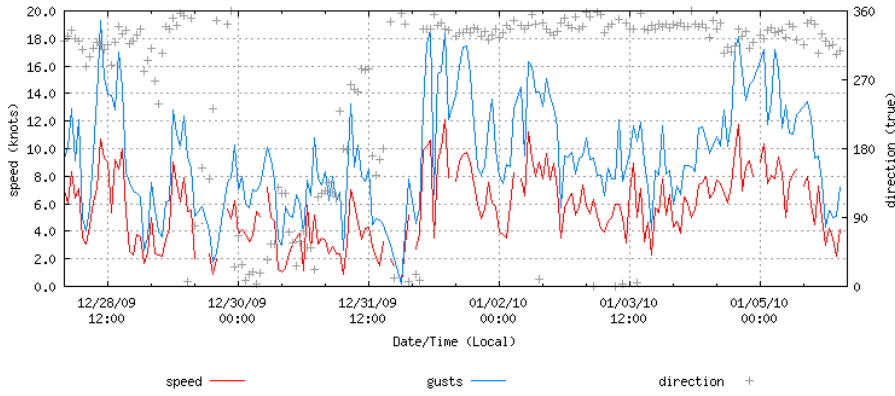
- LEGEND**
- N/A HEIGHT OF TIDE
  - O.R. OFFICIAL RECORD BOOK
  - L.F. LINEAR FOOT
  - OP OPEN SPACES WITHIN THE REEF BREAKWATER WALL
  - FOUND 1/2" IRON ROD
  - FOUND IRON PIPE
  - FOUND WAS NAIL & DISK
  - FOUND 4" SQUARE CONCRETE MONUMENT
  - TBM TEMPORARY BENCHMARK - SEE SURVEYOR'S REPORT FOR DETAILS
  - TEMPORARY BENCHMARK - SEE SURVEYOR'S REPORT FOR DETAILS
  - ELEVATION MANDAL CORRELUM LINE (IN FEET) (NAVD 83)
  - ELEVATION MANDAL CORRELUM LINE (IN FEET) (NAVD 83)
  - 508 SPOT ELEVATIONS IN FEET WITH LOCATION (NAVD 83)
  - GILMORE BAYOU
  - BREAKWATER WALL (FOR PROPOSED EASEMENT)
  - LIVE OAK TREE LINE
  - BLACKSPIN NEEDLE RUSH
  - SAND (DEADMAN'S ISLAND PROJECT SITE)
  - AREA NOT TO BE INCLUDED IN SUBMERGED LAND EASEMENT

**NOTE:**  
THIS DRAWING IS FOR CLARIFICATION  
PURPOSES ONLY!

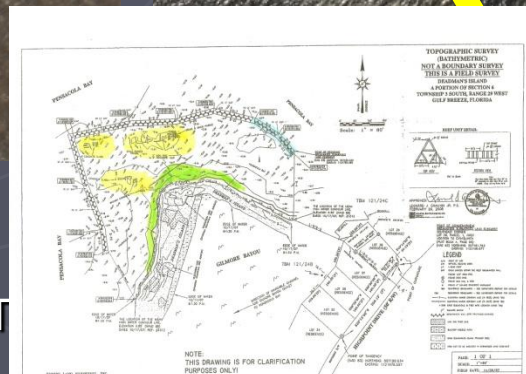
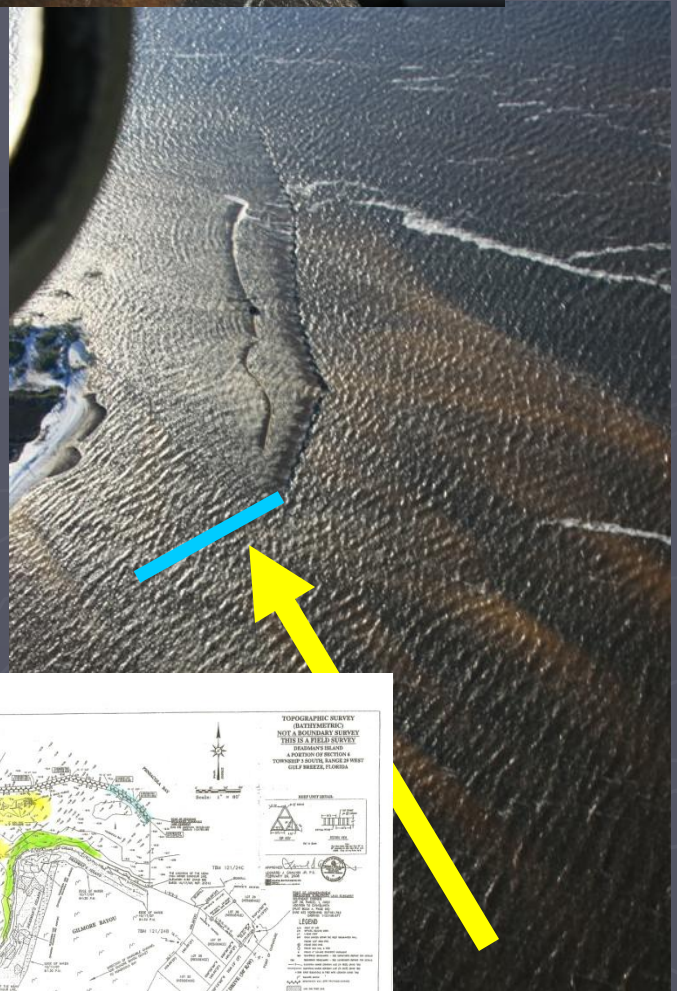
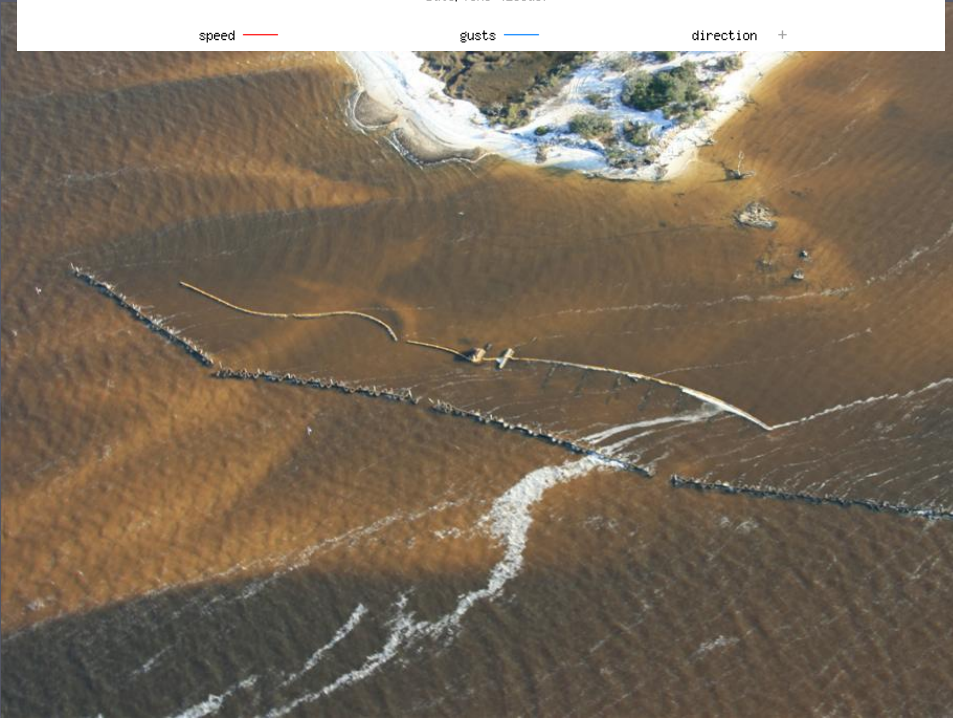
EMPIRE LAND SURVEYING, INC.  
8720 N. PALAFOX STREET, PENSACOLA, FLORIDA 32564  
PHONE: 850-477-3745 -- FAX: 850-477-3705  
LICENSED BUSINESS #8693 STATE OF FLORIDA

PAGE: 1 OF 1
SCALE: 1"=60'
FIELD DATE: 11/08/07
ORDER NO.: 458-07 R1
FIELD BOOK: 121/20-37

NOAA/NDS/CO-OPS  
 Wind Speed/Gusts/Dir  
 8729840 Pensacola, FL  
 from 2009/12/28 - 2010/01/05



a



► 01/03/2010 Photos Bob Han and Van Van T

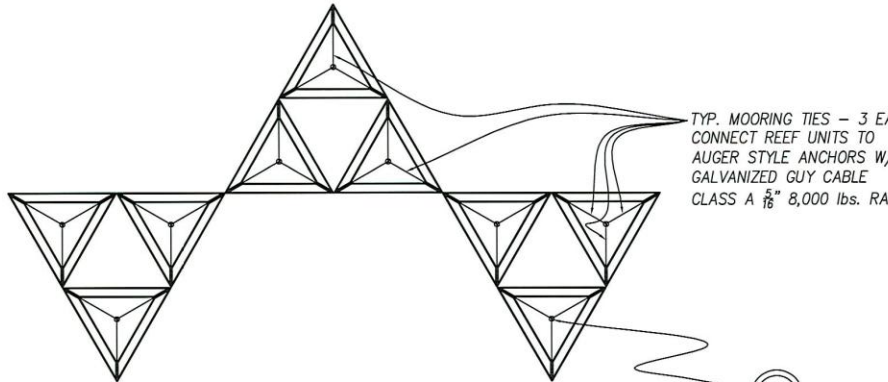
# Community Involvement

- ▶ Community has shown support for many years-grassroots effort
- ▶ Educational outreach and community efforts-Georgestown Technical school and Escambia County, Gulf Breeze High School, Dive Pros dive Shop, US NAVY, Rotary Clubs, FAEP, other professional clubs for planting, placement and monitoring assistance.



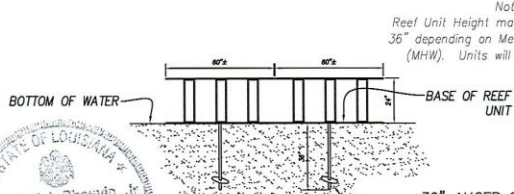


# Phase 1 Design



PLAN VIEW  
OYSTER REEF ANCHOR

TYP. MOORING TIES - 3 EA  
CONNECT REEF UNITS TO  
AUGER STYLE ANCHORS W/  
GALVANIZED GUY CABLE  
CLASS A  $\frac{3}{8}$ " 8,000 lbs. RA



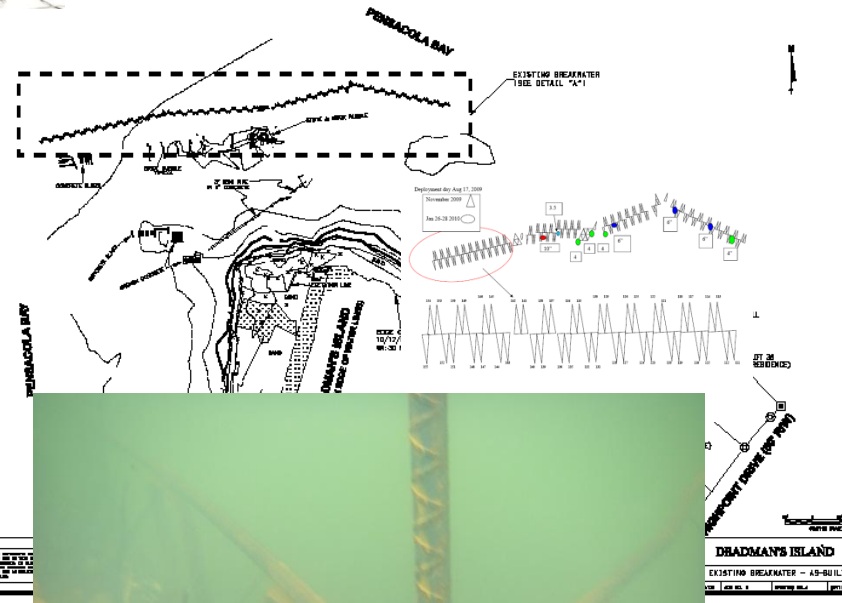
PROFILE VIEW  
OYSTER REEF ANCHOR

Note:  
Reef Unit Height may vary from 24" to  
36" depending on Mean High Water Level  
(MHW). Units will stay below MHW.

TYP. ANCHOR  
UTILITY TYPE  
PREFORMS W/  
GALVANIZED G  
CLASS A  $\frac{3}{8}$ " &

36" AUGER STYLE ANCHOR  
IN CENTER OF EACH REEF UNIT  
9,000 lbs. RATING IN CLASS 6 SOIL (LOOSE SAND)  
11,000 lbs. RATING IN COMPACT SAND

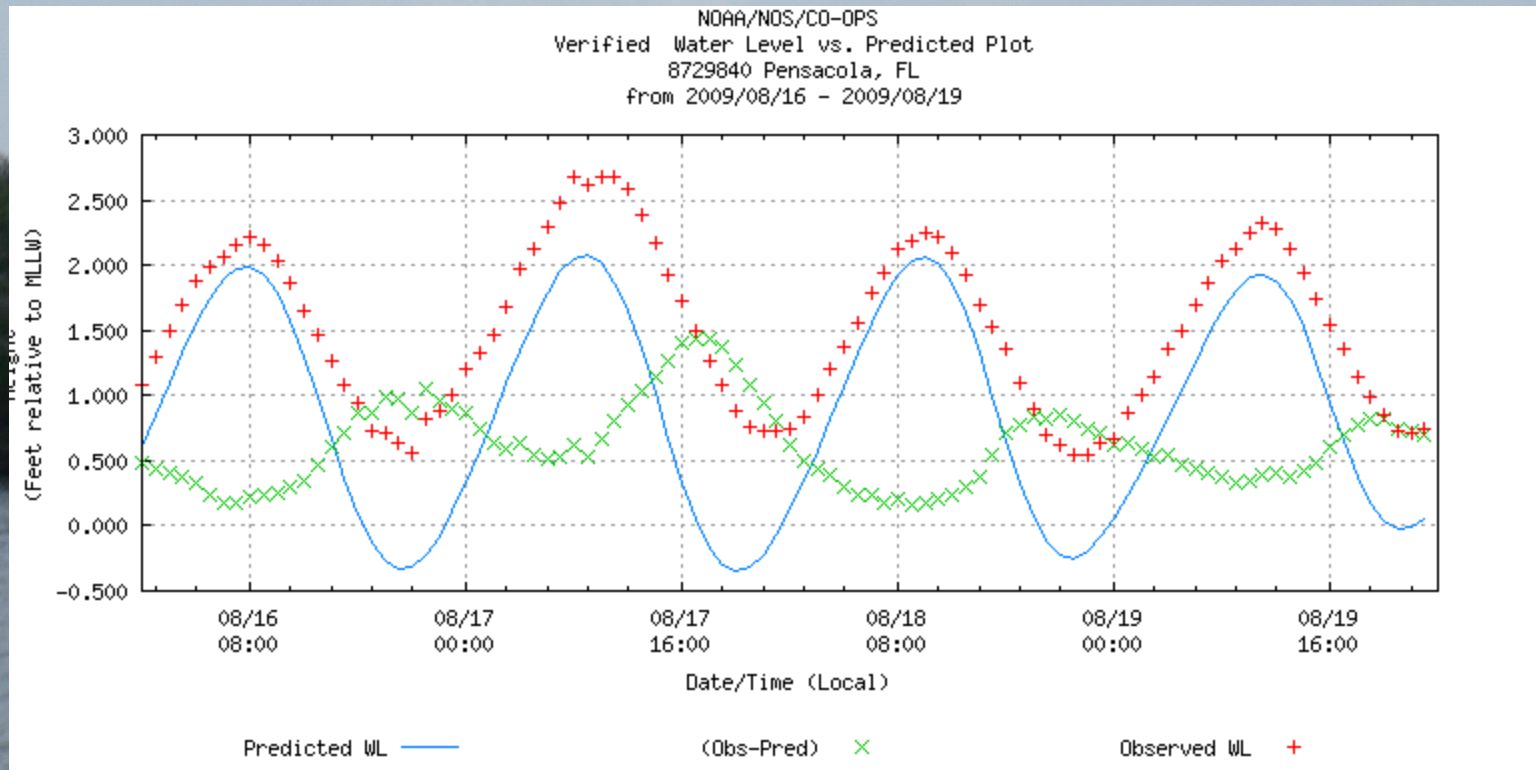
APPROVED:  
LEONARD J. CHAUHAN, P.E.  
FEBRUARY 29, 2008



# 2009 Storms

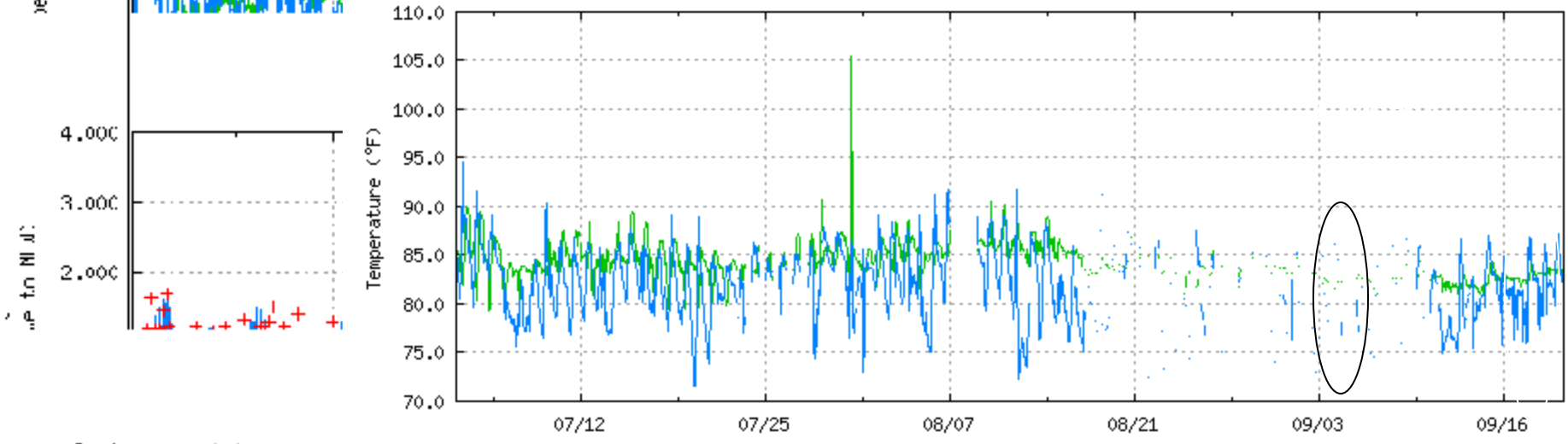
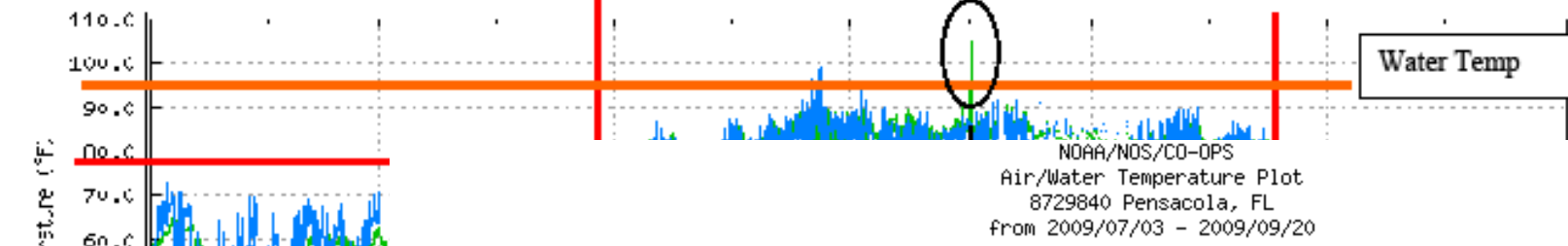


August 18, 2009

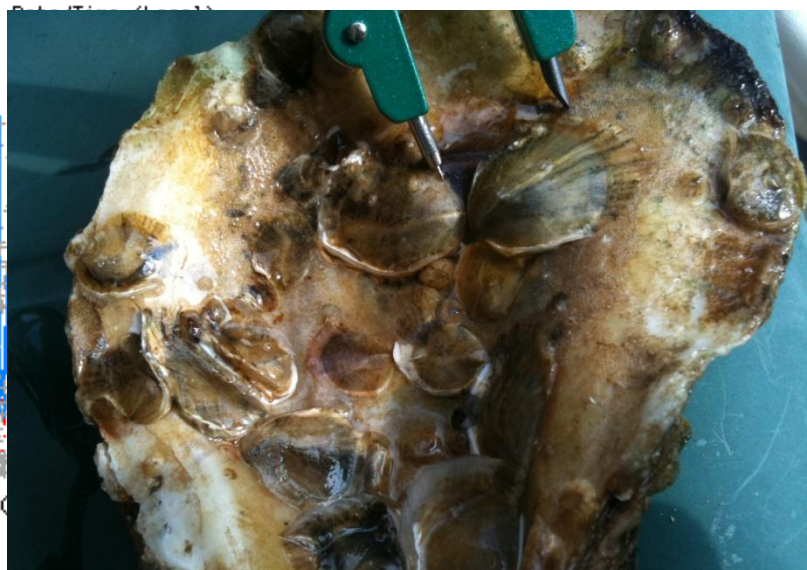
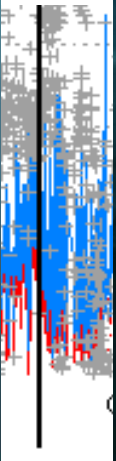
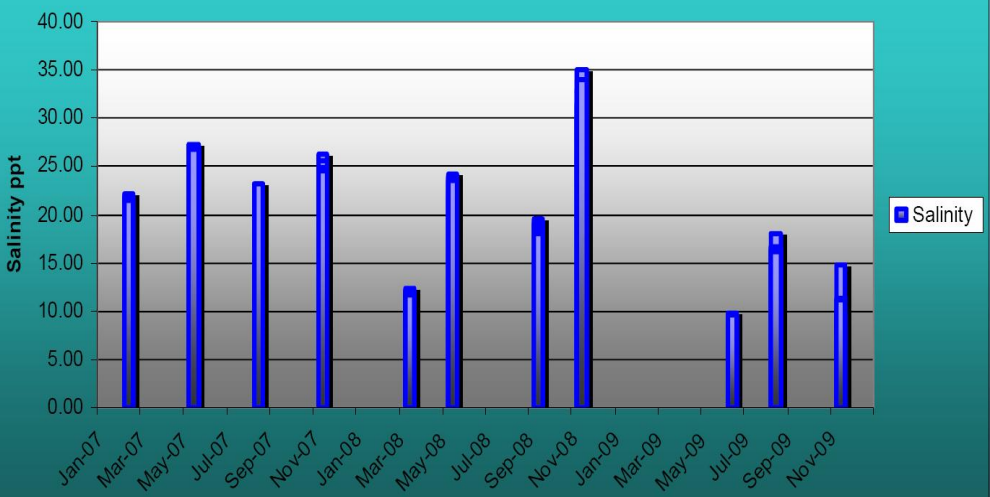




Air/Water Temperature Plot  
 8729840 Pensacola, FL  
 from 2009/01/01 - 2010/01/01



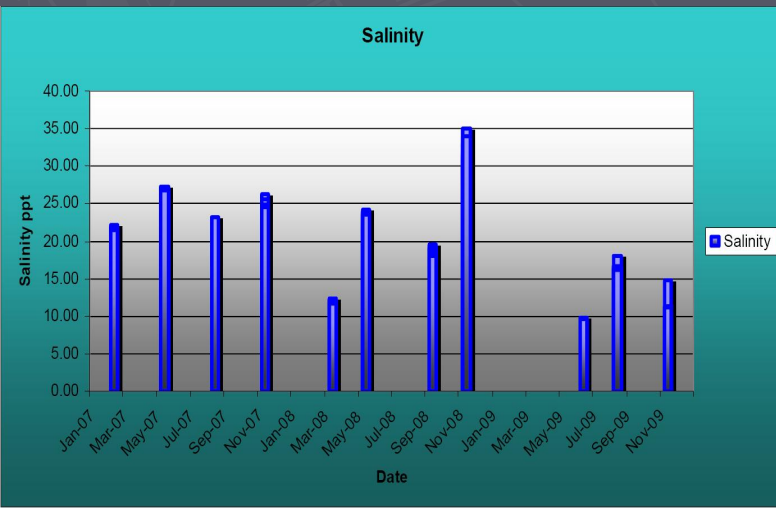
Salinity



# New growth within two weeks



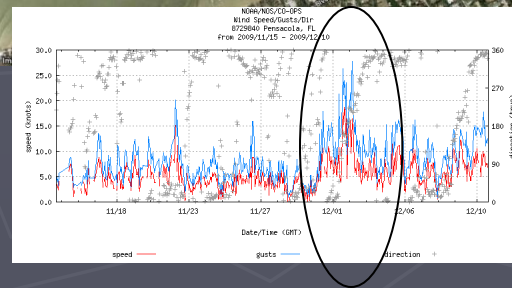
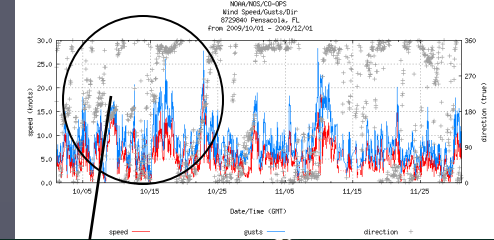
Photo by Krista Reed



# Hurricane Ida

November 4-10, 2009

December 2, two day surge had winds comparable to IDA and did MORE damage on the west sides (scarps and tree loss)



During hurricane winds came out of Northeast lifted the structures repeatedly for three or four days



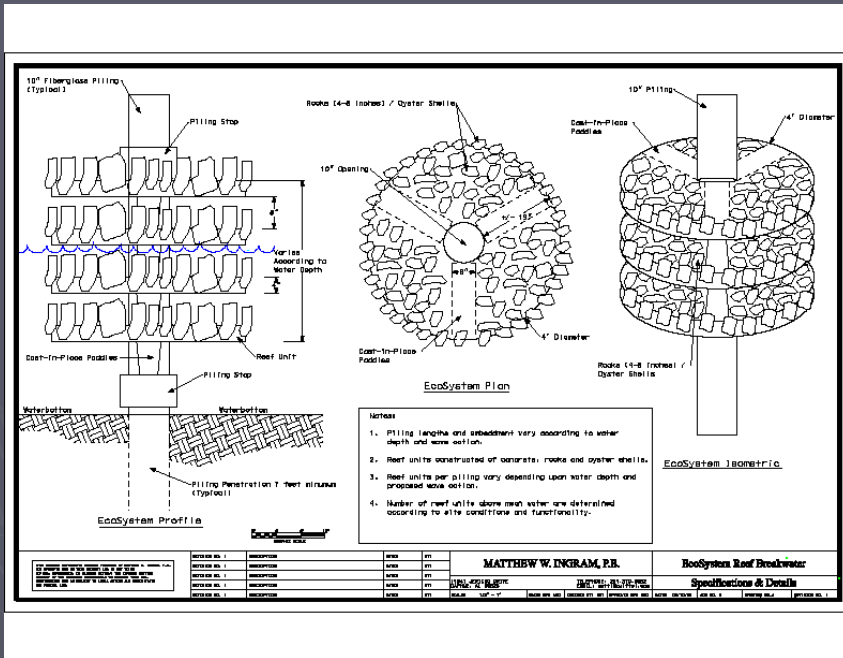
# Observations



- ▶ Depth limited- 3ft breakwater in 2-6ft water
- ▶ When lowered bags flair out and the oyster shell height drop
- ▶ Exposure to tides- oysters can remain closed for over eight hours but this is at risk- leaving them open to potential stress and disease
- ▶ The oysters growth rate increases on the inside of the unit rather than out side. More circulation, less wave action
- ▶ Unsure of salinity to sustain the reef



# Phase 2 Design



Ecodiscs by Walter Marine

- Not Depth limited
- No Anchoring
- Three substrate compositions for strength includes oyster shell
- Will not be affected by Tide exposure or salinity changes
- More effective as a wave attenuator

# First Ecodisc




A large colony of seabirds, likely terns, nesting on a rocky island. The birds are densely packed across the landscape, which is composed of numerous light-colored, irregularly shaped rocks and boulders. The scene is captured from a slightly elevated perspective, showing the vast expanse of the nesting site. The text 'The Deadman's Island Restoration Project Phase II 2010' is overlaid in red at the top of the image.

The Deadman's Island Restoration Project  
Phase II 2010

# The Deadman's Island Restoration Project Phase II 2010

ECS 110

The City of Gulf Breeze  
Deep Water Horizon Oil Spill Response Plan



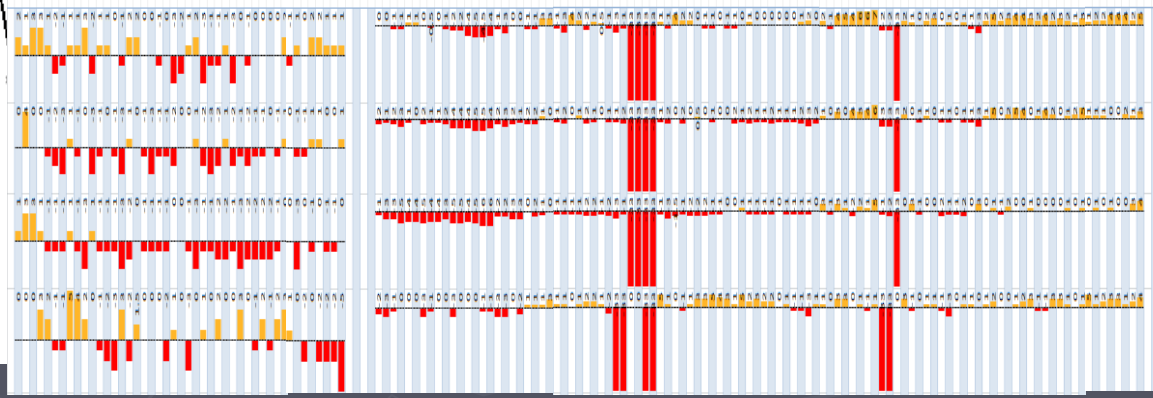
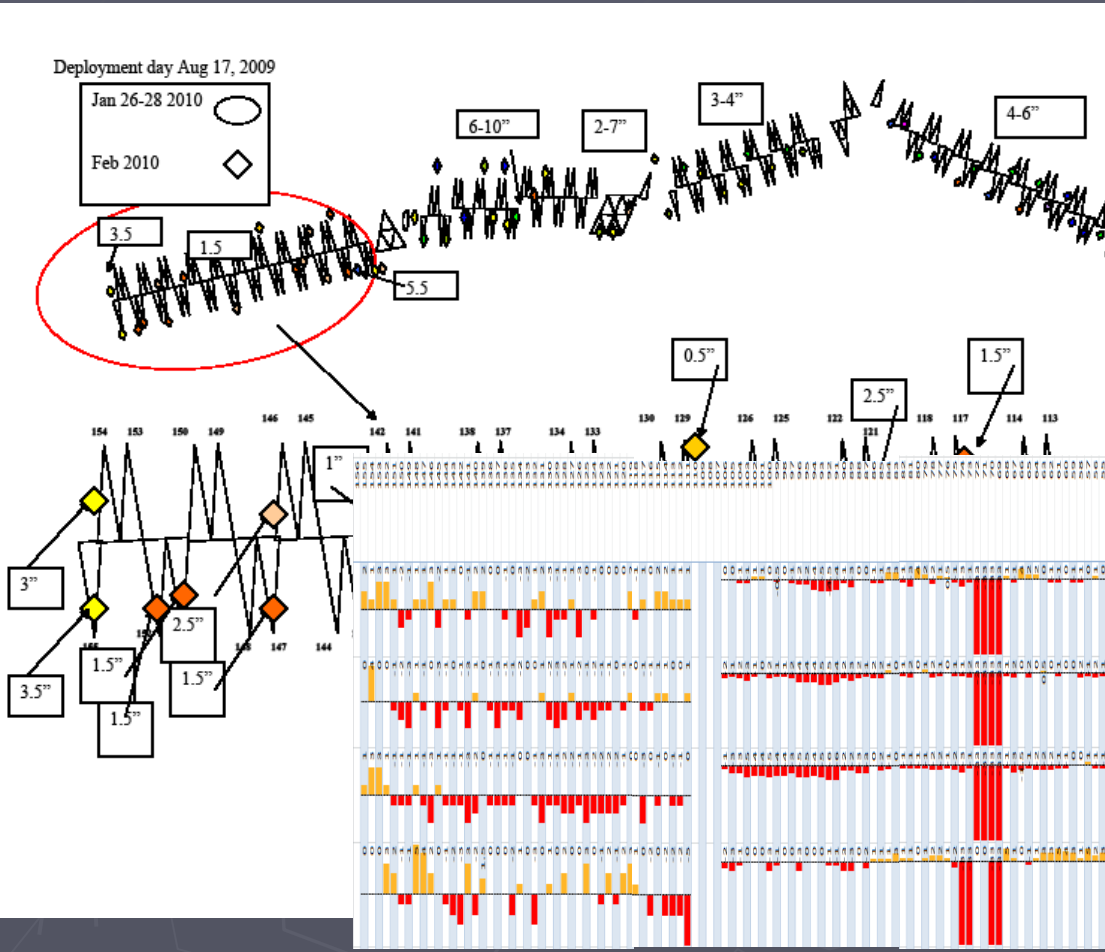
Prepared for the City of Gulf Breeze  
By Ecological Consulting Services, Inc.



# Ecosdiscs July and Sept 2011



# Accretion Monitoring





# Fish monitoring/predation

- ▶ Sheepshead (*Archosargus probatocephalus*)
- ▶ Pinfish (*Lagodon rhomboides*)
- ▶ Grey/Mangrove snapper (*Lutjanus griseus*)
- ▶ Mojarras (*Diapterus auratus*)
- ▶ Mullet (*Mugil cephalus*)
- ▶ Pufferfish (*Spheroidea nephalus*)
- ▶ Ladyfish (*elops saurus*)
- ▶ Flounder (*Paralichthys sp*)





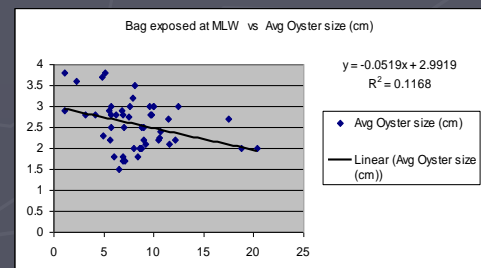
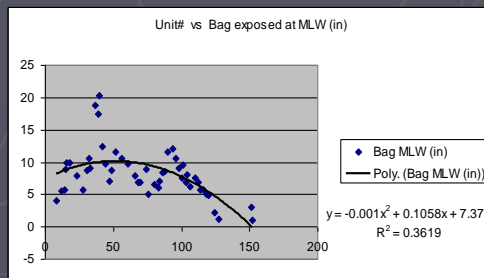
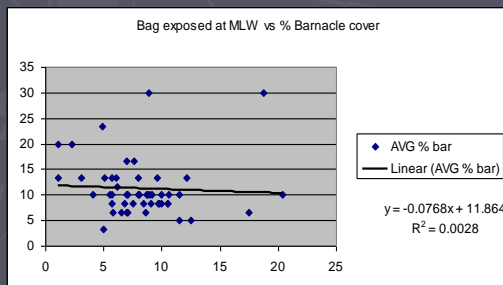
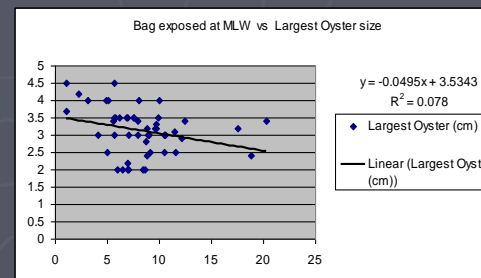
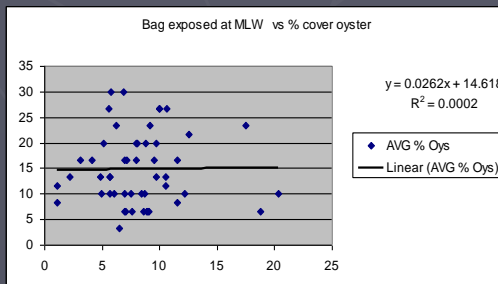
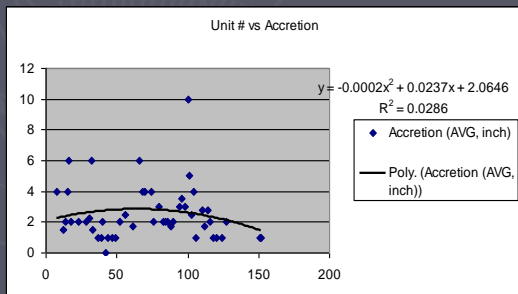
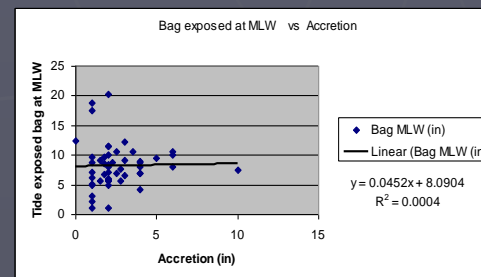
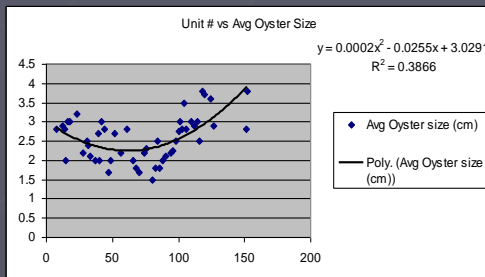
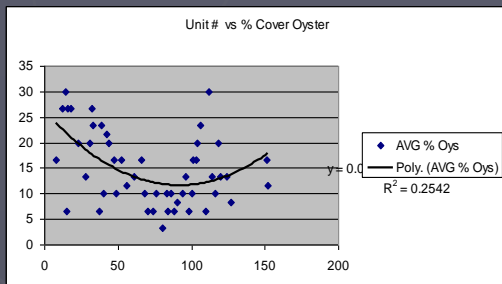
# Predation

- ▶ Oyster Drills (drill holes)
  - Tulips
  - Herons
  - Some fish
- ▶ Crabs (crush)
  - Flounder
  - Snapper
- ▶ Sheepshead and snapper





# Monitoring Statistics



- Percent Cover
- Average Size
- Bag exposure
- Oyster Drills/crabs
- Barnacle

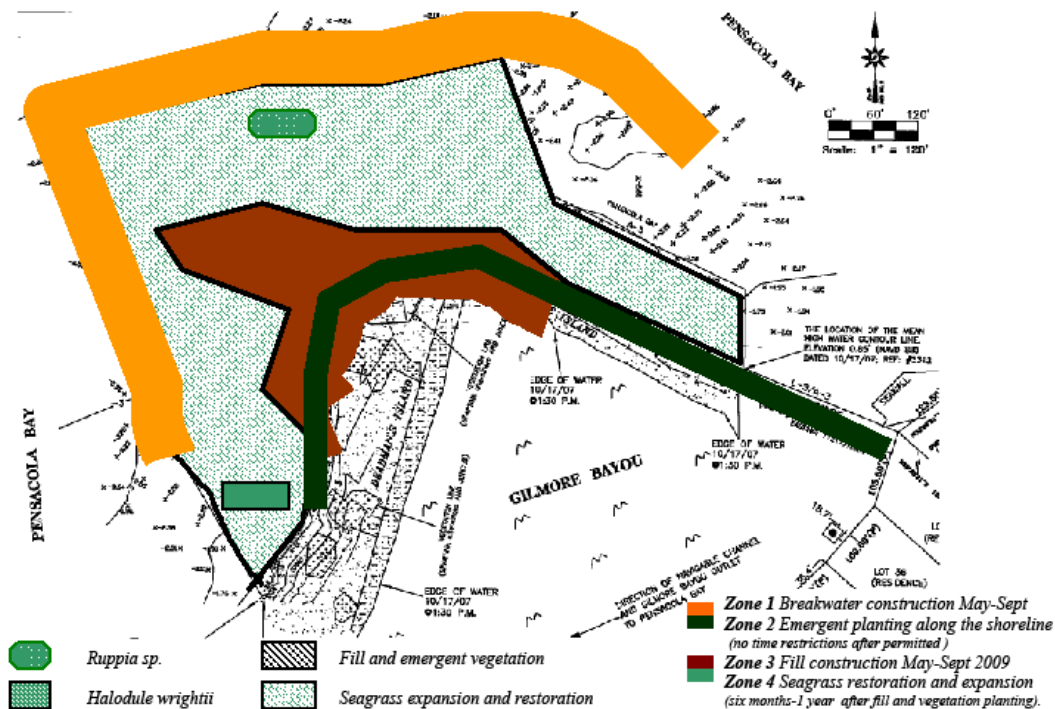
# Ecology

- ▶ Predation
- ▶ Species competition
- ▶ Population growth
- ▶ Invasive species
- ▶ Disease



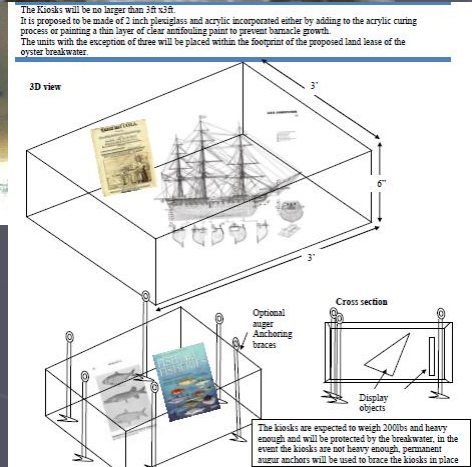
# What's next ?

## Deadman's Island Habitat Restoration Project Phases and Zones

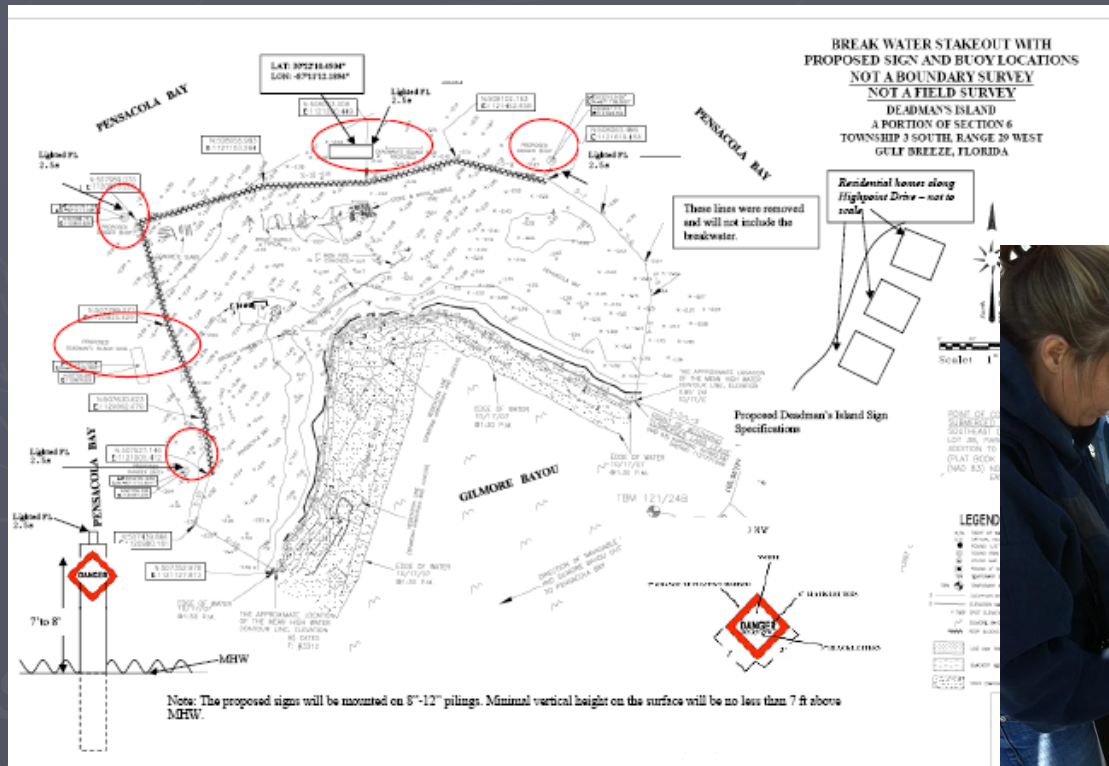


# Underwater Education Snorkel Park

- ▶ Under water Kiosks of Fish/Invertebrate Identification and information
- ▶ Replicas of Historic resources



# Navigational Aids/Gulf Sturgeon Monitoring



# Partnerships

- ▶ Army Corps of Engineers
- ▶ FLDEP Coastal Aquatic Managed Areas
- ▶ NOAA
- ▶ National Fish and Wildlife Foundation
- ▶ Five Star Partners
- ▶ UWF Archeology Dept
- ▶ Escambia County Board of Education
- ▶ Georgestone Technical School
- ▶ Santa Rosa County
- ▶ US Fish and Wildlife





# Tribute to the history of Deadman's Island

- ▶ Upon completion of the project a plaque when be placed on the highest brick structure in memory of those who died on Deadman's Island.



# Questions?

*Visit*



**ECS**

*[www.deadmansisland.org](http://www.deadmansisland.org)*

The banner features a blue background. On the left is a circular award logo for 'Mar Spots PEOPLE'S CHOICE 2010'. Next to it is the ECS logo icon and the text 'ECS'. To the right, the text 'Ecological Consulting Services Inc.' is written in a cursive font. The background of the banner is a photograph of a beach with driftwood and a clear blue sky. At the bottom, the tagline 'Earth Friendly Solutions for Complex Environmental Issues' is on the left, and the website 'www.ecoconsultingservices.com' and phone number '850-417-7008' are on the right.

[www.ecologicalconsultingservices.com](http://www.ecologicalconsultingservices.com)

***Heather Reed, Project Manager***

<http://www.linkedin.com/in/heatherreedpensacola>

[hreed@ecoconsultingservices.com](mailto:hreed@ecoconsultingservices.com)