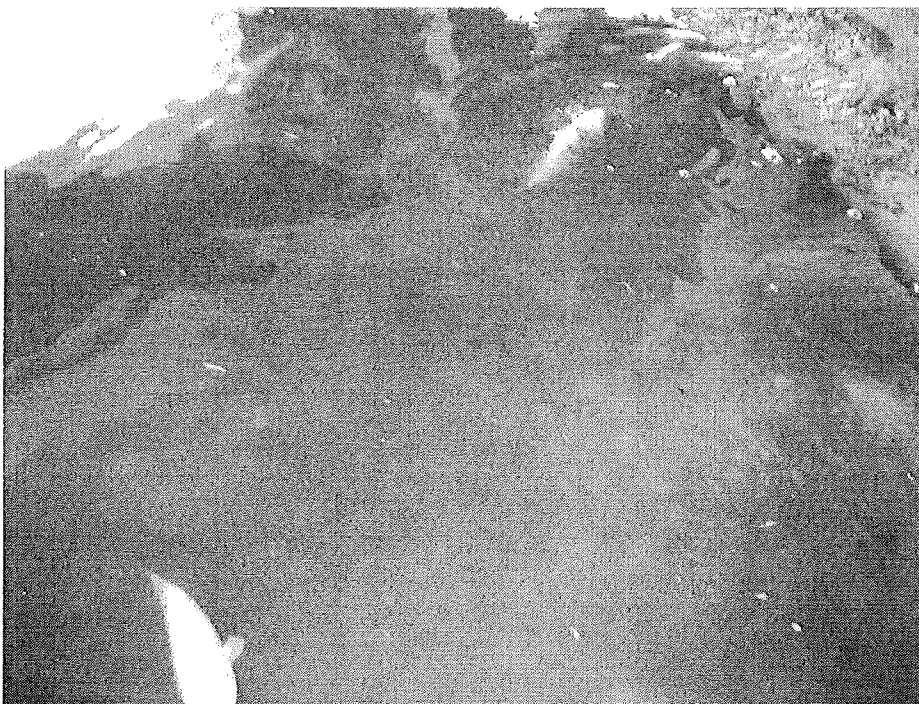
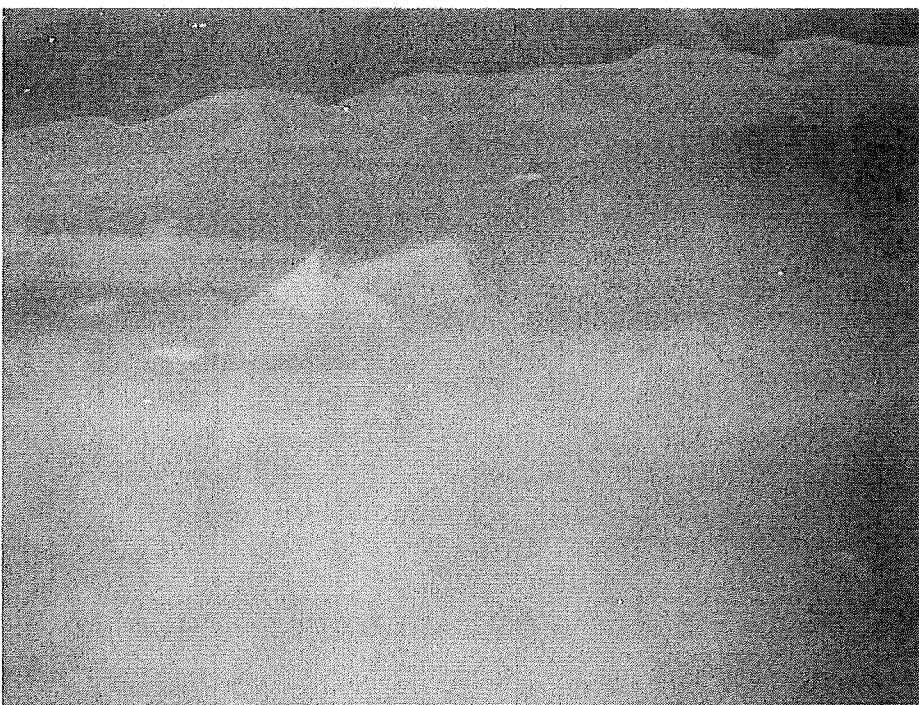


# Appendix A



Picture 1: Dead fish at site#1 Bayou Casotte Parkway Bridge 081913



Picture 2: Dead fish lying along the bottom at site#1 Bayou Casotte Parkway Bridge 081913





Picture 3: Dead Stripped Mullet near dock right before site#1 Bayou Casotte Parkway Bridge 081913



Picture 4: At site#2 Concrete Ditch/Break. Heavy machinery moving dirt to repair dike. 081913





Picture 5: Site#2 Concrete Ditch/Break 081913



Picture 6: Liquid discharging into Bayou Casotte at site#2 Concrete Ditch/Break. 081913





Picture 7: Liquid discharging into Bayou Casotte at site#2 Concrete Ditch/Break continued. 081913



Picture 8: Liquid discharging into Bayou Casotte at site#2 Concrete Ditch/Break continued. 081913



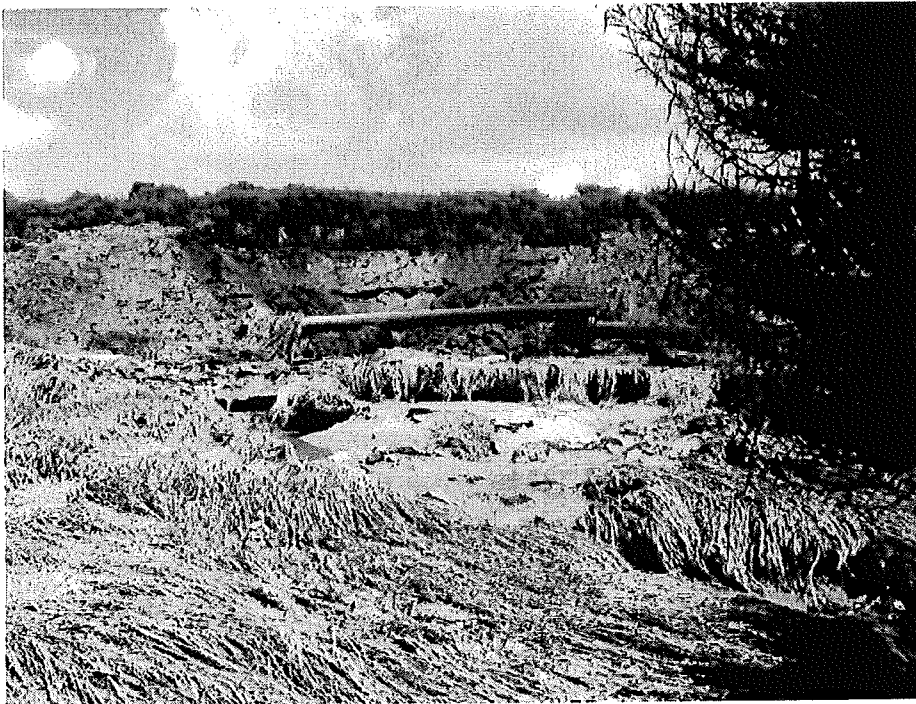


Picture 9: Liquid discharging into Bayou Casotte at site#2 Concrete Ditch/Break continued. 081913



Picture 10: Liquid discharging into Bayou Casotte at site#2 Concrete Ditch/Break continued. 081913





Picture 11: Liquid discharging into Bayou Casotte at site#2 Concrete Ditch/Break continued. 081913

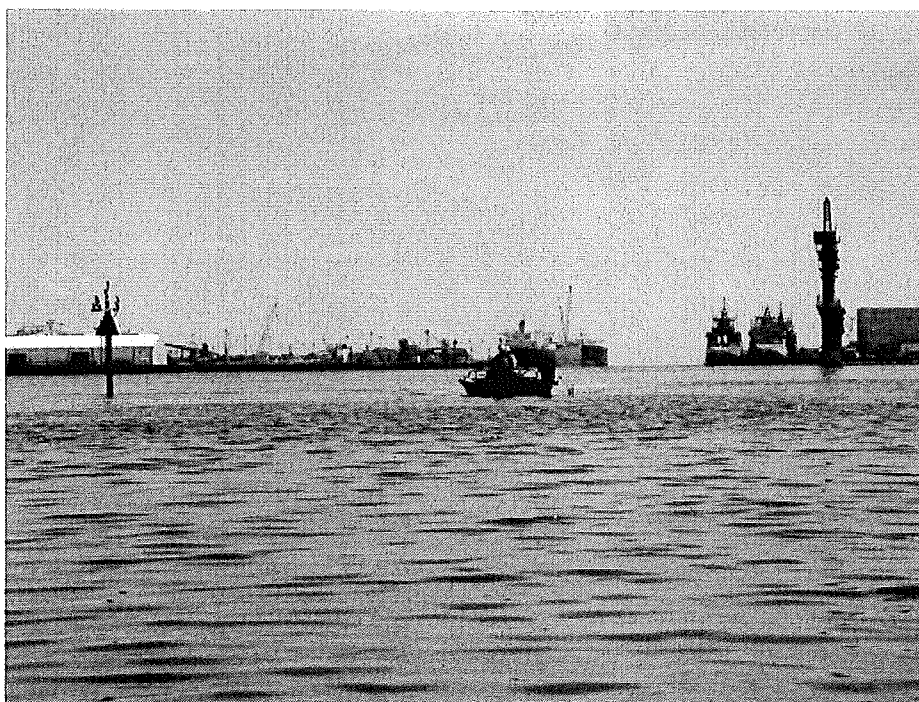


Picture 12: Site#3 MS Phosphates, Inc. outfall 081913



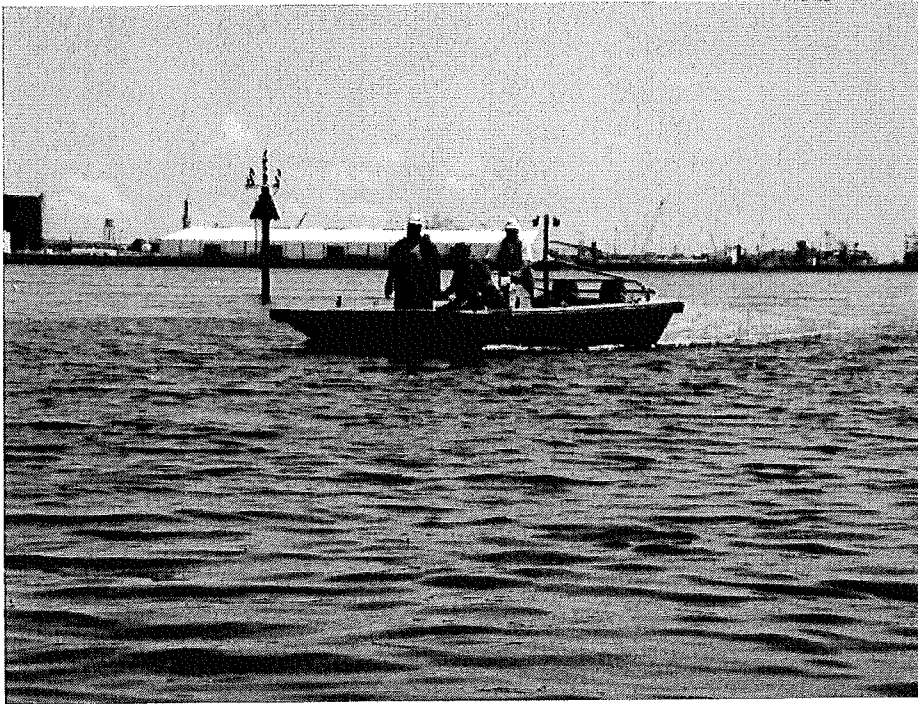


Picture 13: Dead fish at site#3 MS Phosphates, Inc. outfall 081913

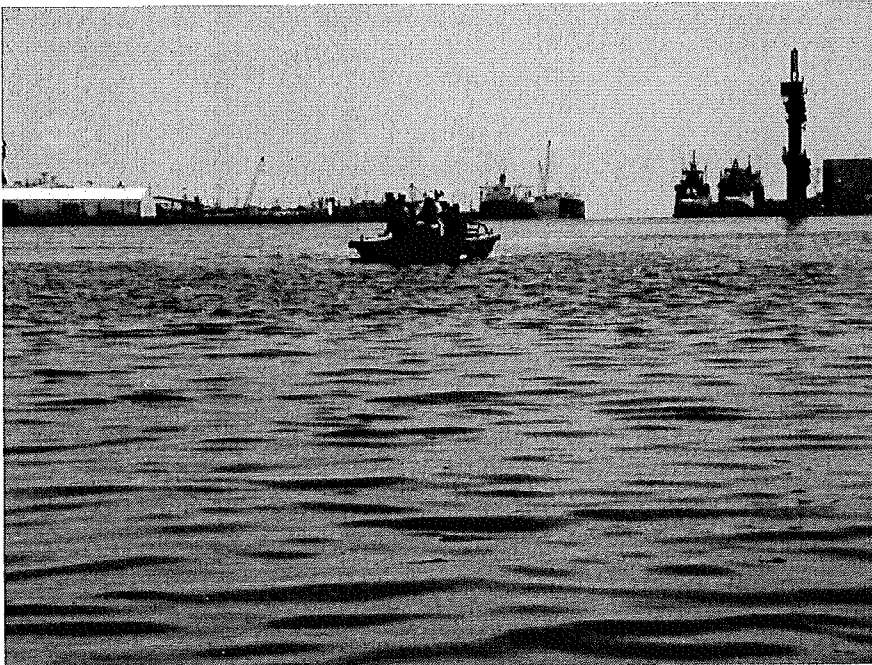


Picture 14: MS Phosphate crew boat collecting dead fish near site#4 Channel Marker 12 near boat ramp 081913





Picture 15: MS Phosphate crew boat collecting dead fish near site#4 Channel Marker 12 near boat ramp continued 081913

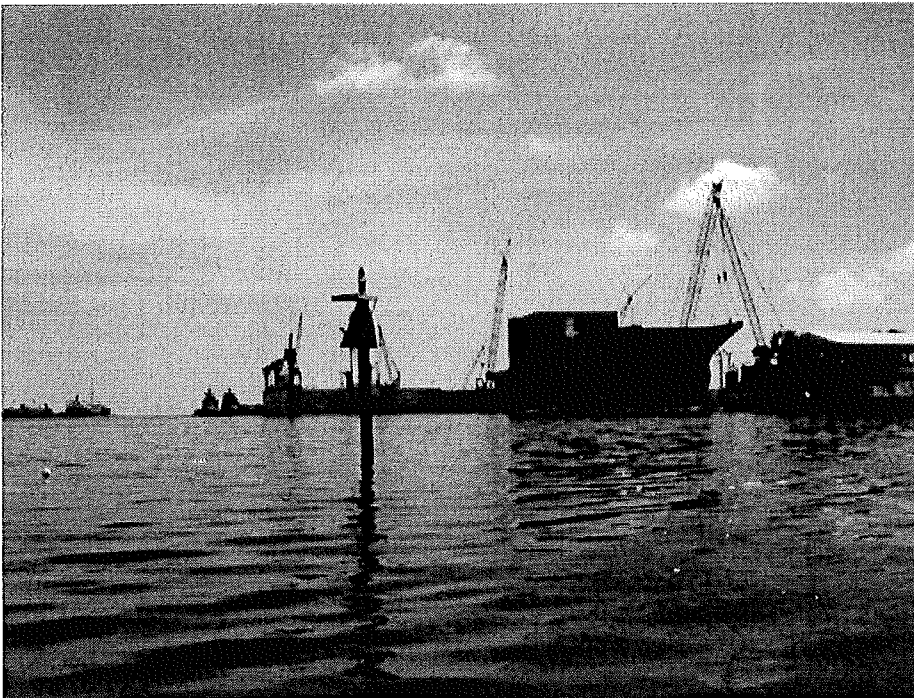


Picture 16: MS Phosphate crew boat collecting dead fish near site#4 Channel Marker 12 near boat ramp continued 081913



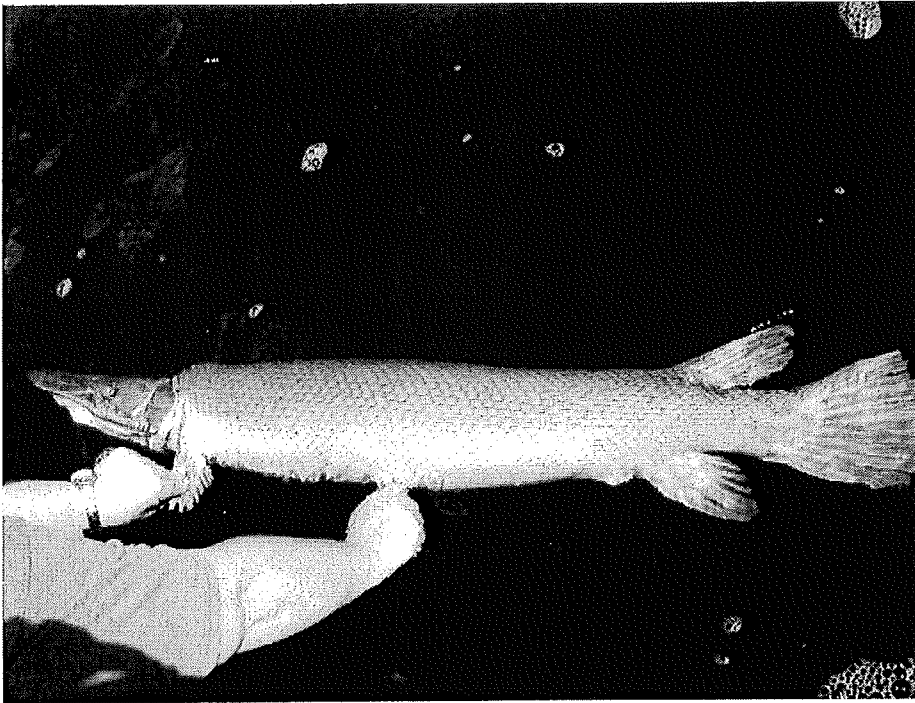


Picture 17: Site#4 Channel Marker 12 near boat ramp 081913

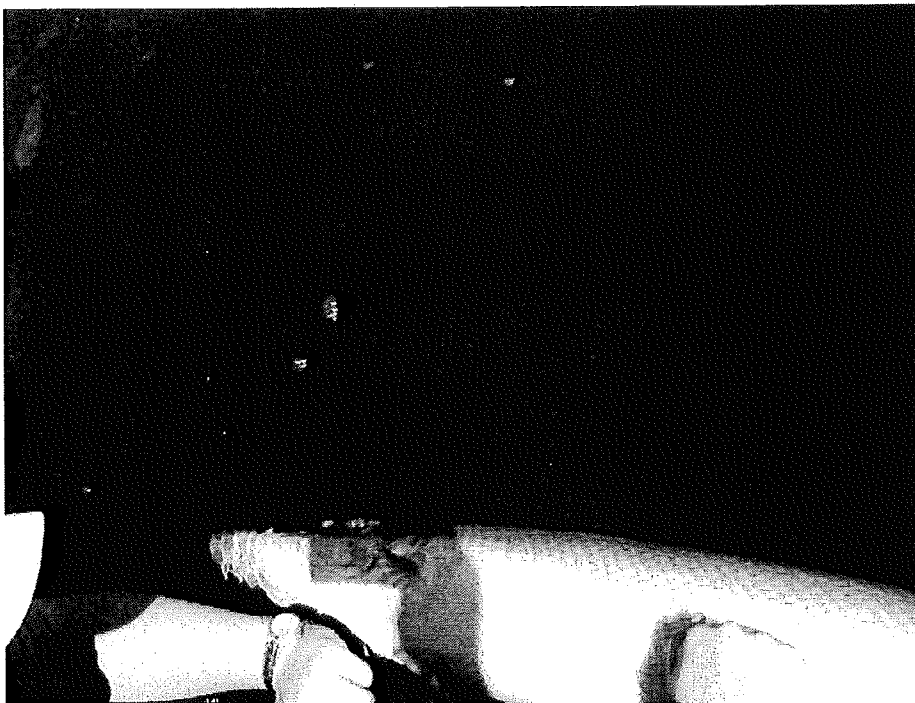


Picture 18: Another view point of site#4 Channel Marker 12 near boat ramp 081913

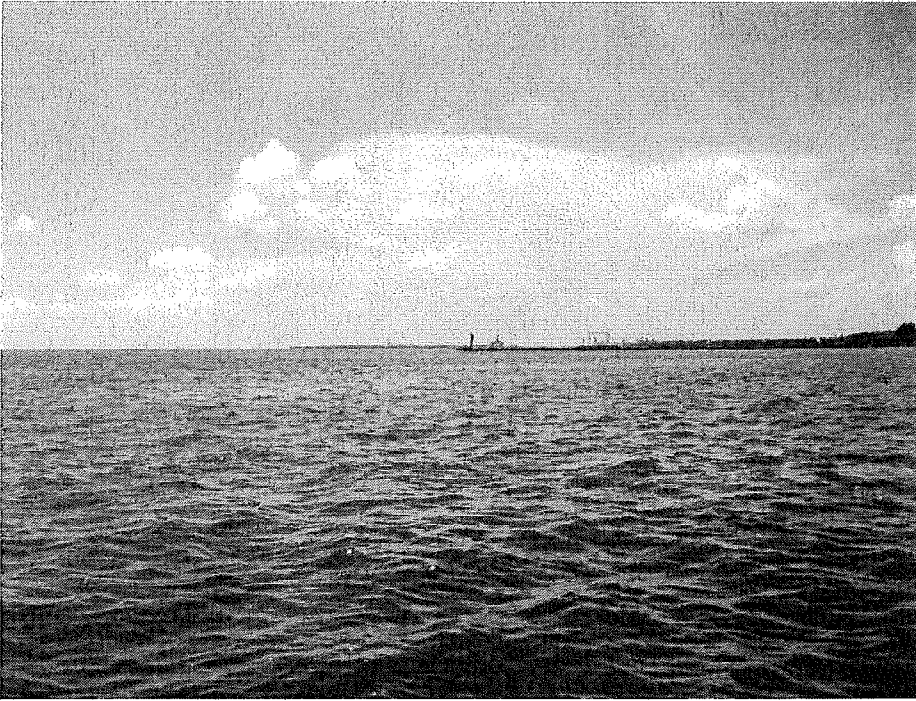




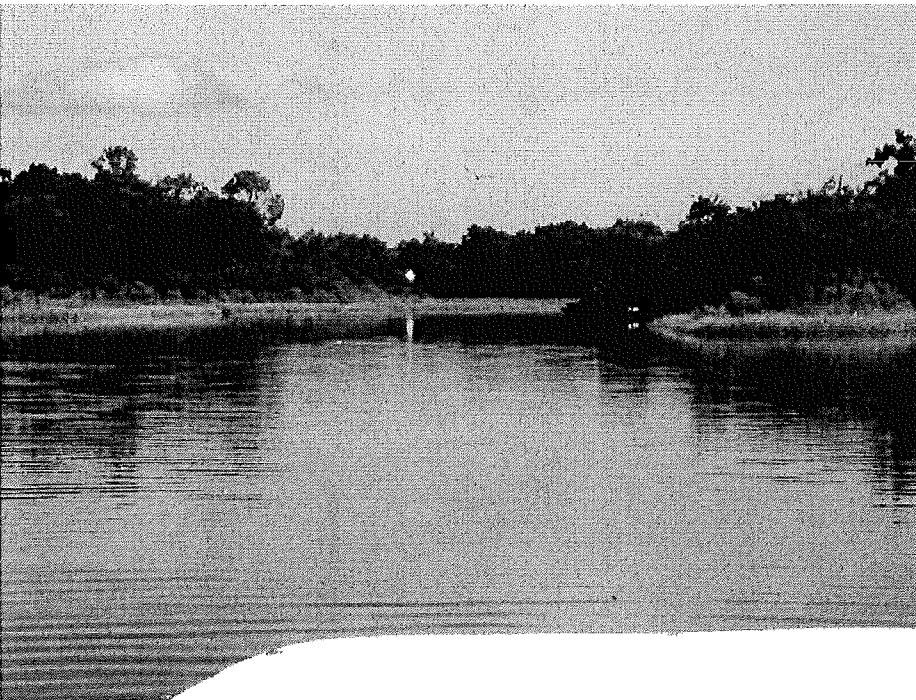
Picture 19: Dead gar found floating mid channel between site#4 and VT Halter dock 081913



Picture 20: Estimated size~4ft. 081913



Picture 21: Mouth of Channel of Bayou Casotte Site#5 081913



Picture 22: 082013 Day 2 of Investigation





Picture 23: 082013 Day 2 of Investigation



Picture 24: 082013 Flow continues down the hill at site#2 Concrete Ditch/Break



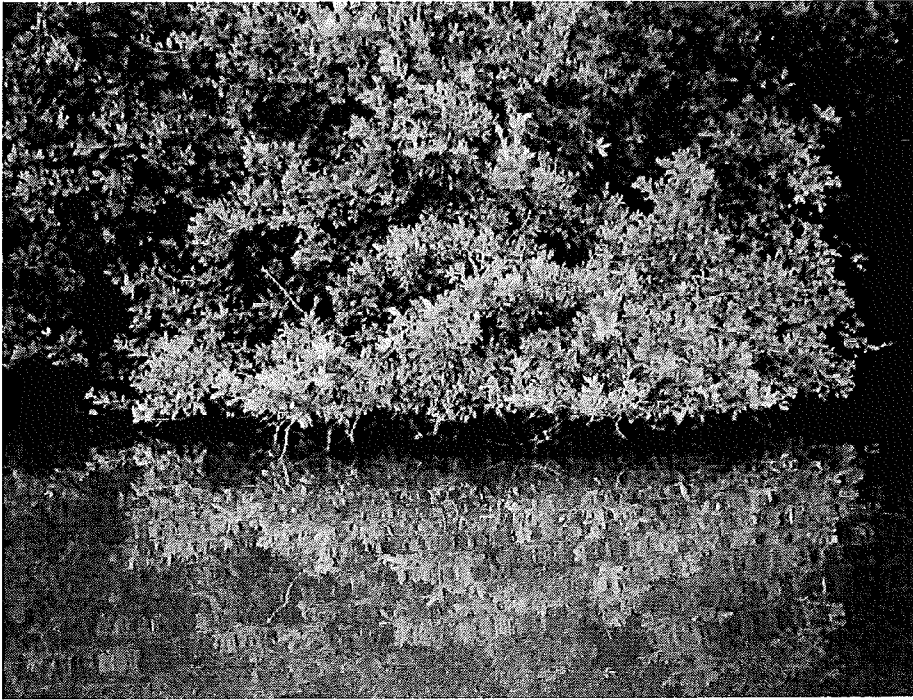


Picture 25: 082013 Flow continues down the hill at site#2 Concrete Ditch/Break



Picture 26: Second dead gar. Approx. 3ft in length.





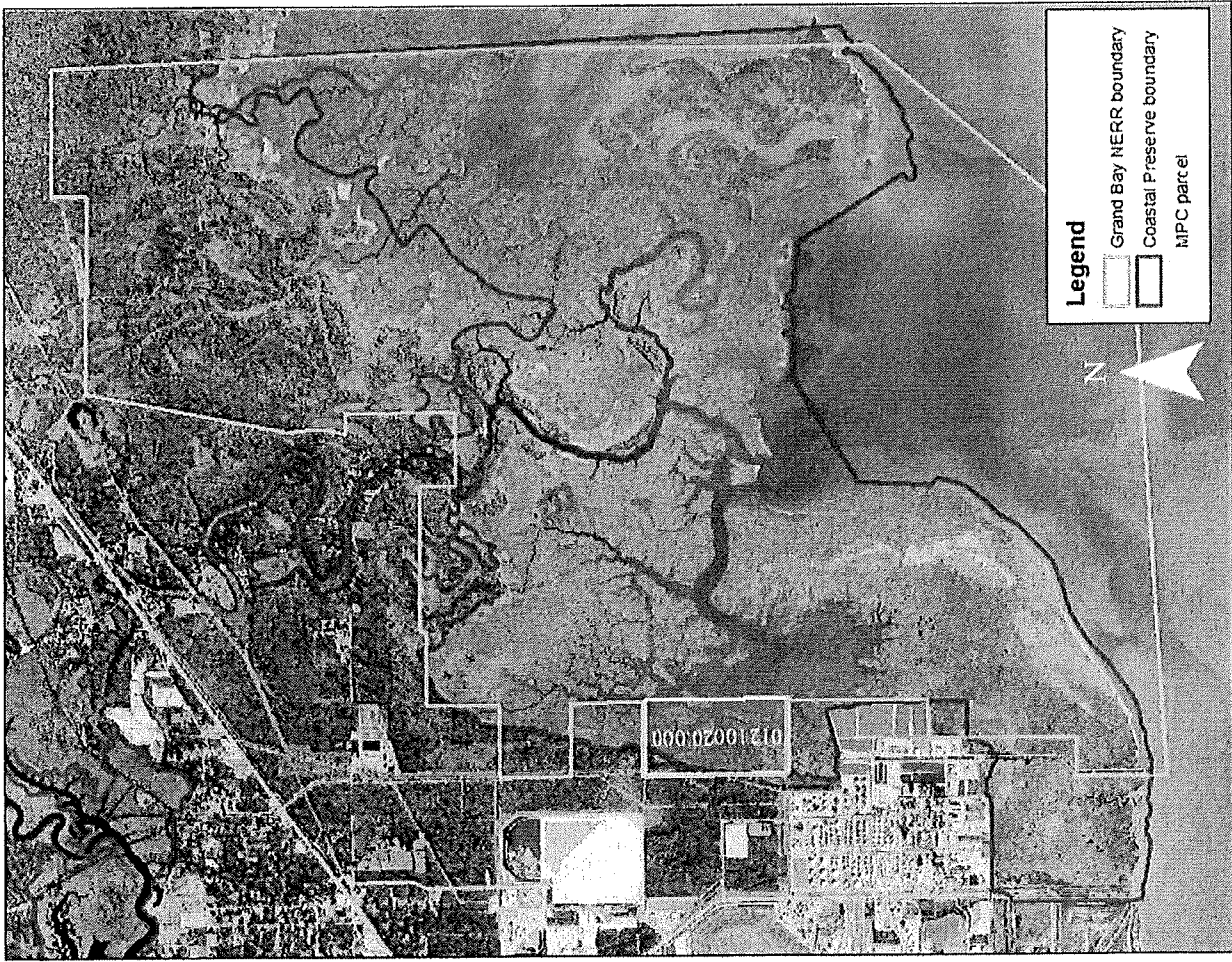
Picture 27: Overhanging shrubs/trees



Picture 28: Overhanging shrubs/trees



**Map of Parcel  
012100200.000  
location in reference  
to Grand Bay NERR  
and Coastal Preserve  
Boundaries**





## Valuable Habitat Types





~100 acres of open water/benthic habitat providing recreational and commercial fishing opportunities

~60 acres of slash pine/maritime forest providing critical nesting and loafing areas for resident and migrant birds

~160 acres of regularly and irregularly flooded salt marsh providing ecosystem services such as resiliency to storm surge impacts, nesting and foraging habitat for secretive marsh birds, and high primary and secondary productivity in vegetative, invertebrate, and vertebrate communities

~estuarine edge providing habitat for oysters, crabs, wading birds, and many others

**Habitat Type**

-  Flooded marsh
-  Irregularly flooded marsh
-  Open water
-  Upland





## Human Impacts

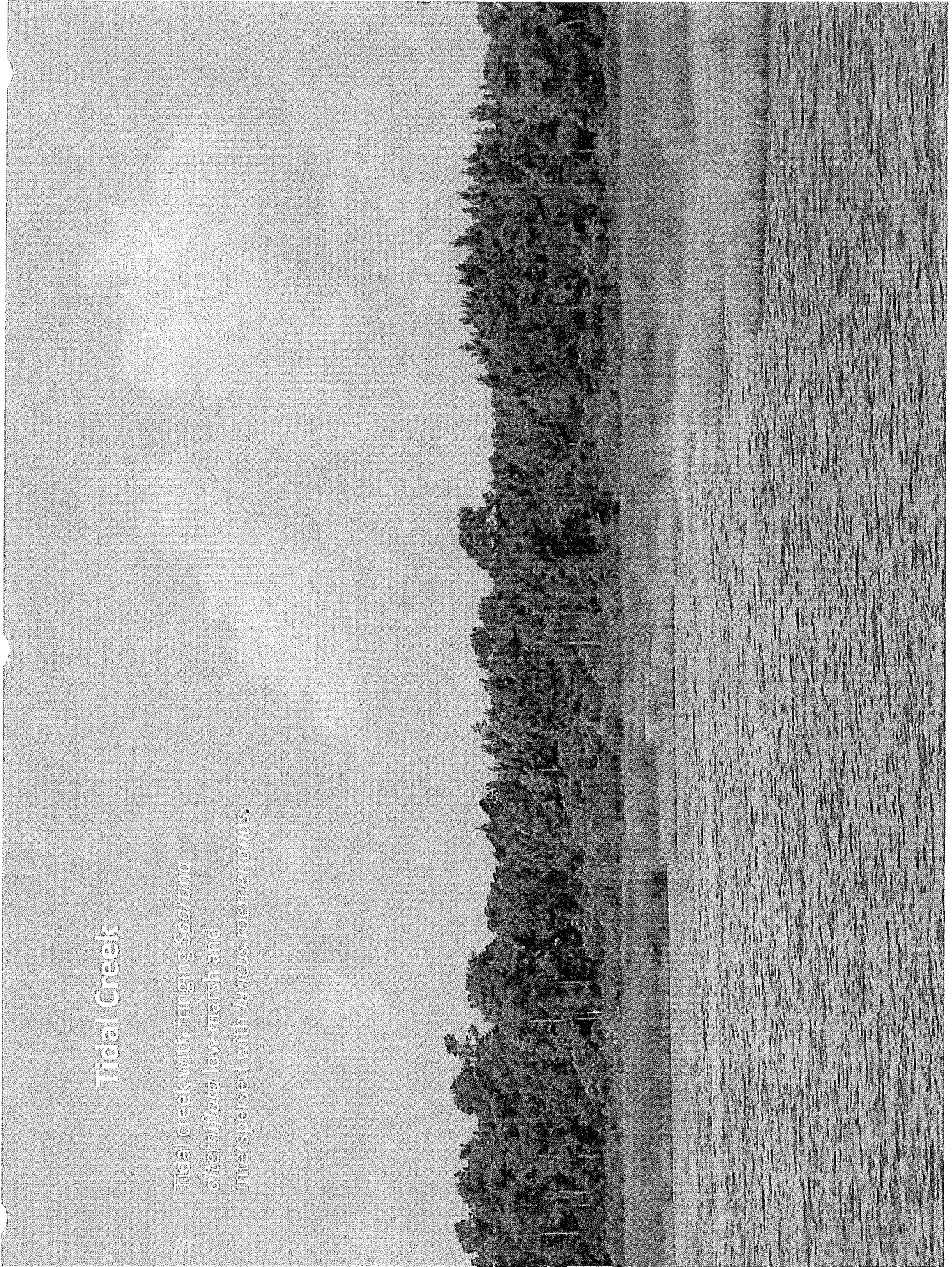
Power transmission line, pipeline, right of way and limited ditching on the western (upland) side of the parcel have degraded the site somewhat. Marsh components of the site are largely unimpacted by these activities.





## Tidal Creek

Tidal creek with fringing *Spartina*  
*alterniflora* low marsh and  
interspersed with *Juncus roemerianus*.





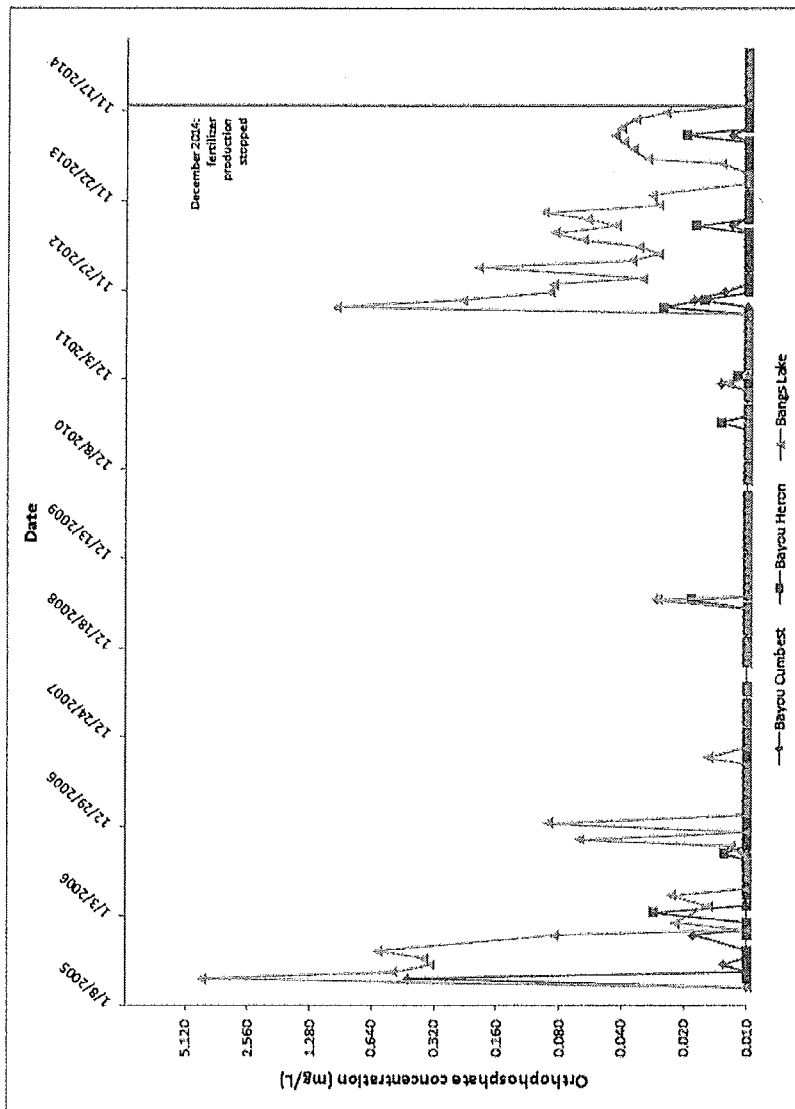
## Intact Coastal Transition Zone

The parcel contains a relatively intact transition from open water through emergent marsh and into the adjacent slash pine uplands. The marsh is typical of the Grand Bay area, with *Spartina alterniflora* and *Juncus roemerianus* distributed along an elevation and salinity gradient. The elevation gradient on the parcel is largely undisturbed.





# Graph of Phosphorus levels at three locations the Grand Bay NERR



Graph shows levels of phosphorus (measured by orthophosphate) in the water at three sampling stations (locations indicated on the map on the following page). Phosphate in Bangs Lake spiked after the levee break in 2005, then decreased over several months to what we consider typical levels, with only occasional, short-lived increases. After hurricane Isaac in August 2012, phosphate spiked again, and stayed high through November 2014 (>2 years). Since the plant stopped production, phosphate has been low again



