

The Coastal Waters Consortium Presents:

Project Spotlight

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What is the topic of your research within the CWC?

One is to document how much oil is there and how long it takes for decomposition; another is to study the effects of the oil on marsh stability/erosion.

What methods are you using to answer your questions?

We measure the strength of the soil at 10 cm intervals down to 1 m. This is done at 13 sites in Barataria and Terrebonne bay estuaries; it is also at 30 closely-located stations in Barataria Bay. At the same time we measure the changes in shoreline shape from marsh to 1.5 m in the water, vegetation characteristics, and marsh sediment oil content. We also examined the erosion rates of islands that were oiled or not.

What results have you gotten thus far?

The response was that the shoreline eroded faster in the first 6 months and slower in the next 3 years at oiled sites. It seems that the initial response was to kill the plants in the first 1 or 2, which resulted in immediate sloughing of the soil – which collapsed. The next phase was the cantilevered overhang developing at > 50 cm, which eventually toppled into the water. Some promontories developed between the oiled sites, which then eroded as the marsh edge reformed.

Did any of these results surprise you?

We didn't know what to expect.

What are the next steps in your research?

We will continue measurements at all sites (oil, vegetation, shoreline measurements) for as long as funding is available. An equilibrium of marsh shape and oiling has not been reached.



What are the "big picture" implications of your study?

The initial oiling was toxic to the marsh, and the legacy of oiling continues over years. The amount of marsh erosion, while significant, is not as large as from permitted dredging each year.