

TECHNICAL SUMMARY

Louisiana Offshore Terminal Authority
Environmental Monitoring 2001-2002
Marine/Estuarine

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INTRODUCTION

The Louisiana Offshore Terminal Authority (LOTA) Monitoring Program was initiated in 1979 and began with pre-construction monitoring of the Louisiana Offshore Oil Port (LOOP) and associated facilities (Clovelly, offshore brine diffuser, pipelines). The LOOP facilities were monitored yearly for 15 years, after which monitoring was performed every five years. Barry A. Vittor & Associates, Inc. (BVA) was contracted by LOTA to carry out the 2001-02 marine/estuarine monitoring.

OBJECTIVE

The objectives of the monitoring program are (1) to maintain seasonal environmental and ecological data so that conditions existing during operations can be related to historical baseline conditions; (2) to detect any adverse alterations or damages to the environment during the operation of the deepwater port so that corrective action can be taken as soon as possible; (3) to maintain sufficient data to determine the cause or causes of environmental damages or alterations so that responsibility can be properly placed; and (4) to provide information to evaluate long- and short-term impacts of the deepwater port.

METHODOLOGY

BVA conducted each study element of the monitoring program in accordance with the specifications in the previous section, using methodologies similar to the past program to ensure that proposed program data were compatible with previously collected data.

BVA's principal modifications to the present program included use of the Differential Global Positioning System for sample station positioning, availability of back-up field equipment for all survey tasks, use of certified analytical laboratories for water and sediment chemistries, and use of a database management system that provides monthly data compilation/reduction.

CONCLUSIONS

Clovelly

Sediments at the Clovelly stations during all seasons were dominated by silt+clay (except Station 464 in June). Sediments at Station 464 were greater than 20 percent sand during August and November, but were completely organic during June.

There were significant differences in density and

taxa richness between stations for each season. In no instance was the control station significantly different than both of the test stations. These differences could be explained by subtle variations in sediment type between stations as well as stochastic variability inherent in benthic assessments.

There was no measurable impact of the LOOP facilities on benthic macroinfaunal assemblages at the Clovelly site.

Lake Jesse

Sediments at the Lake Jesse stations during all seasons were dominated by silt+clay.

There were no significant differences in density or taxa richness between stations for each season.

There was no measurable impact of the LOOP facilities on benthic macroinfaunal assemblages at the Lake Jesse site.

Brine Diffuser

Sediments at the Brine Diffuser stations during all seasons were dominated by silt+clay. The sediment at Station 475 in August was 45 percent sand.

There were no significant differences in densities between stations for each season. There were no significant differences in taxa richness between stations during August and November; however in June, Station 435 had significantly greater taxa richness than the remaining stations. It is probable that the hypoxia experienced by the benthic assemblage in June was responsible for the variations in taxa richness.

There was no measurable impact of the LOOP facilities on benthic macroinfaunal assemblages at the Brine Diffuser site.

Offshore Stations

Sediments at the offshore stations during all seasons were dominated by silt+clay.

There were significant differences in density and taxa richness between stations in August and November. Station 481 had significantly higher density and taxa richness than Stations 482 and 484. There were no significant differences in density and taxa richness between stations in June.

There was no measurable impact of the LOOP facilities on benthic macroinfaunal assemblages at the offshore site.

RECOMMENDATIONS

The sampling plan that is presently being used should be continued.

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