

JOB REPORT

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Project Name: Studies of the Blue Crab Populations of the Texas Coast
Period Covered: January 1, 1964 to December 31, 1964 Job No.: 7

Population Studies of the Blue Crabs of the Upper Laguna Madre

Abstract: All blue crabs contained in samples were taken in areas where the salinity was under 50 ppt. It was concluded that the lagoon was too salty for blue crabs in 1964.

Objectives: To study the blue crab populations of the upper Laguna Madre and determine the seasonal abundance and movements of the crabs as related to the environmental conditions.

Procedure: Original project plans called for collecting crab samples with a 10-foot trawl, a 3600-foot drag seine and a 6-foot bar seine. However, these methods were unproductive in the area and consequently they were discarded. Seining with a 60-foot seine of 3/4-inch stretched mesh proved to be the most dependable method of catching crabs of all sizes. Therefore, 10 seine stations were established over representative types of bay bottom throughout the upper Laguna Madre. These stations were seined once a month and an attempt was made to pull each seine haul over 1/10-acre of bay bottom. These stations are named and numbered in Table 1 and their locations are shown in Figure 1. No samples were taken in January. Stations 5 through 10 were not sampled in February and July.

Table 1 lists the total number and size range of all male and female blue crabs, Callinectes sapidus, caught in the Upper Laguna Madre. All stations were sampled from September through December but no crabs were caught, therefore these months were omitted from Table 1 to conserve space.

Findings and

Discussions: Only 32 blue crabs were caught in 1964 and none of these were sponge crabs. Twenty-five of these crabs were caught within 7 miles of Corpus Christi Bay and 15 were taken at Stations 1 and 2 located north of Padre Island Causeway. Usually water nearest Corpus Christi Bay is the least saline water found in the Upper Laguna Madre.

Hypersalinity appeared to be the limiting factor that kept crabs from entering the area. The average monthly water salinity for the lagoon was 50.0 ppt. and higher every month except January and December of 1964 (see Job No. 18, Hydrographic and Meteorological Study of the Upper Laguna Madre, 1964). The few crabs that did enter the bay from either end did not penetrate deep into the area. Crabs found at the landcut in June were in water with a salt content of 38 ppt. and when this salinity increased to 46 ppt. in August only one crab was caught. In April, eight juvenile crabs were seined from 39 ppt. at Tyler's Point. The following month salinity rose to 58.1 ppt. at the same location and only 2 crabs were captured.

Summary: High salinity in the Upper Laguna Madre prevented a large migration of crabs from entering the area during 1964. As a result, few crabs were available for forage and there was no commercial crab fishery.

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Table No. 1: Number and Size Range of Blue Crabs Collected by Seining 1/10-Acre Plots in the Upper Laguna Madre During 1964.

STATION No. Name	FEB.		MAR.		APR.		MAY		JUNE		JULY		AUG.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1 Boat Hole	Size No.	0	0	60 1	0	0	0	40-60 6	0	40-50 3	0	0	0	0
2 Humble Channel	Size No.	0	0	0	0	190-194 2	0	35-40 1	40-60 2	0	0	0	0	0
3 Packery Channel	Size No.	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Tyler's Point	Size No.	0	0	0	0	30-45 6	30-45 2	50 1	60 1	0	0	0	0	0
5 Mk. 65	Size No.			0	0	0	0	0	0	0	0		0	0
6 Mk. 75	Size No.			0	0	0	0	0	0	0	0		0	0
7 Green Hill	Size No.			0	0	0	0	0	0	0	0		0	0
8 Point of Rocks	Size No.			0	0	0	0	0	0	0	0		0	0
9 Yarborough Pass	Size No.			0	0	0	0	0	0	0	0		0	0
10 Land Cut	Size No.			0	0	0	0	0	0	35-50 5	40 1		75 1	0

Size = Carapace width measured in millimeters.

M = Male crabs.

F = Female crabs.

No. = Number of crabs caught per 1/10-acre sample.

Figure 1: Location of Seine Stations in the Upper Laguna Madre

