

JOB REPORT

U.R. Childress
Marine Biologist

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Project Name; Oyster and Fisheries Investigations of Area M-5.

Period Covered: May 1, 1959 - April 30, 1960 Job No. B-4

Survey of Oyster Reef Populations in San Antonio and Espiritu Santo Bays

Objectives: To determine the changes in abundance and size of the oysters on the major reefs in San Antonio and Espiritu Santo Bays. To study the organisms associated with oysters with special emphasis on oyster pests and predators.

Procedure: Monthly oyster samples were collected from stations by dredge or tongs. All oysters were measured to the nearest centimeter. Observations and collections of associated organisms were made at the time the oyster samples were taken.

Size: Throughout the duration of this study monthly oyster samples were taken on the four major reefs in this area: Mosquito Point Reef, Josephine Reef, Panther Point Reef, and Chickenfoot Reef. A standard bushel sample was taken from each reef for analysis. Specimens were measured to the nearest centimeter; and from these samples the average length of the oysters in a reef population was determined (Figure I).

It will be noted in examining the graphs of Figure I that there was a decrease in oyster size in August. This is attributed to a late spawn occurring throughout the area. Some of the reefs did not have a good early spawn. This may have been caused by excessive amounts of fresh water in April and May.

A decline is also noted in the average oyster size in November and December. This is especially noticeable on Panther Point Reef. The decrease in size here is attributed to the heavy commercial harvest from the reefs in these months. Panther Point Reef was worked extensively during these two months and hence the drop in average size of the reef population.

Growth: The integrated samples from the four major reefs in the area were used to calculate the growth and growth rate of the oyster population of Area M-5. The growth of the total population of Area M-5 for the fiscal year was approximately 18 mm (Figure II). This would show a sustained growth rate of 1.5 mm per month throughout the year.

The size decline in May and August was due to the large numbers of small oysters during the two spawning periods. The smaller average in November and December was caused by the heavy commercial harvest removing the large oysters and thus lowering the average size. After peak production on these reefs in December and January had passed there was a continued size increase through the remainder of the study period.

During the month of January several changes occurred. Low tides prevented further production from Panther Point Reef and Mosquito Point Reef due to their shallow nature. These reefs had been so heavily worked early in the season

that the commercial or legal size oysters had been depleted to some extent. The many small reefs or "tow heads" in the area had been untouched until this time, and high commercial production, with low percentages of small oysters being encountered caused a shift of the production of the area to these smaller reefs.

Later in the season some of the oystering pressure was again returned to the major reefs. Due to the widespread area of production the major reefs were not again noticeably depleted during the remainder of the oystering season.

Predators: During the course of sampling for this job a record was kept of the organisms closely associated with the oyster population. Some of these are known to cause damage to oysters while others are closely associated, but no definite damage has been observed. Part of the latter could be well named "pests" rather than predators.

Organisms associated with Area M-5 oyster reefs are here listed for reference:

Porifera

Cliona sp. Boring Sponge. Abundant on Josephine Reef and in Espiritu Santo Bay in general.

Bryozoa

Membranipora sp. and Bugula sp. Found on all reefs in the area, but most numerous on Mosquito Point Reef.

Mollusca

Brachidontes exustus. Found throughout area growing on clusters of oysters.

Martesia smithii. Boring Clam. Very scattered specimens taken in this species. Not abundant.

Annelida

Polydora sp. Mudworm. Common in area, but not overly abundant.

Dexiospira sp. Worm Tubes. Common in area. Most abundant in Espiritu Santo Bay where it is in great profusion.

Arthropoda

Pagurus floridanus. Hermit Crab. Found commonly throughout area.

Petrolisthes armatus. This crab is common of area. Most abundant in mid-summer.

Callinectes sapidus. Blue Crab. Common in area throughout year.

Panopeus herbstii. Common on all reefs in area.

Eurypanopeus depressus. Very abundant during the summer months in this area.

Menippe mercenaria. Stone Crab. Common though not overly abundant. Large numbers of the young of this species observed in Hynes Bay in February.

Infection: Periodic checks were made throughout the year for the oyster parasite Dermocystidium marinum. Samples of oysters from the four major reefs were used in the survey. Although a reasonably close check was made through the year only two incidences of infection were noted. The oyster from Panther Point Reef and two oysters from Mosquito Point Reef were found infected. Due to the very low incidence of infection monthly spot-checks will be made for D. marinum during the summer.

Prepared by: U.R. Childress

Accepted by: Howard T. Lee

Howard T. Lee

Marine Biologist

Date 7 November 1960

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FIGURE I-a

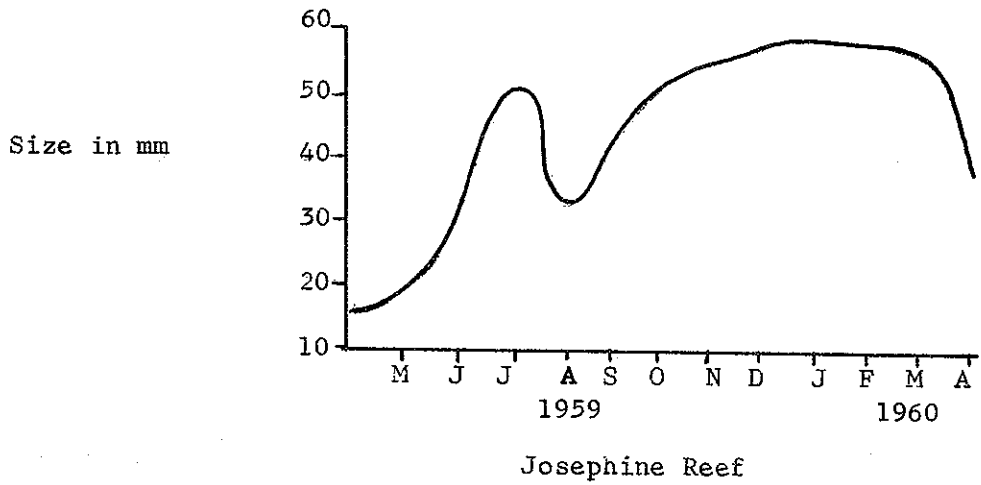


FIGURE I-b

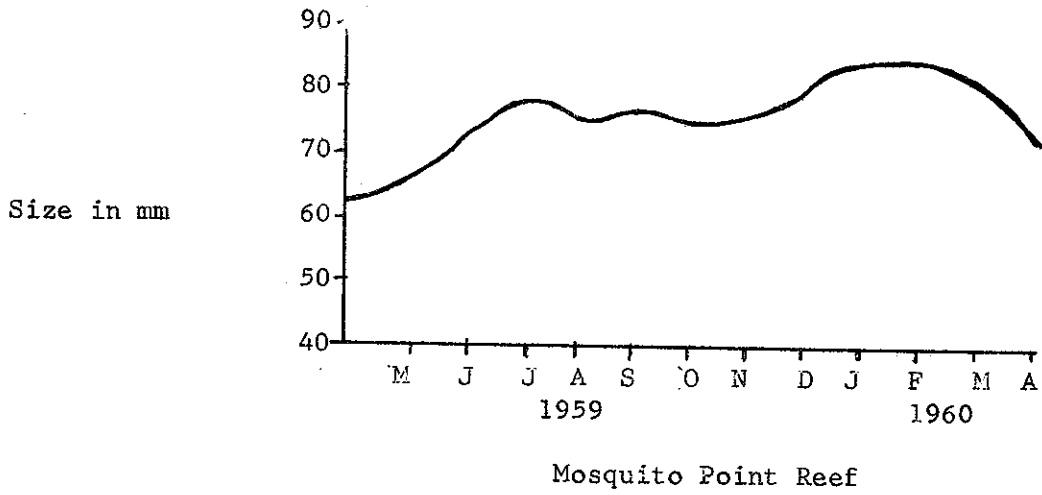


FIGURE I-c

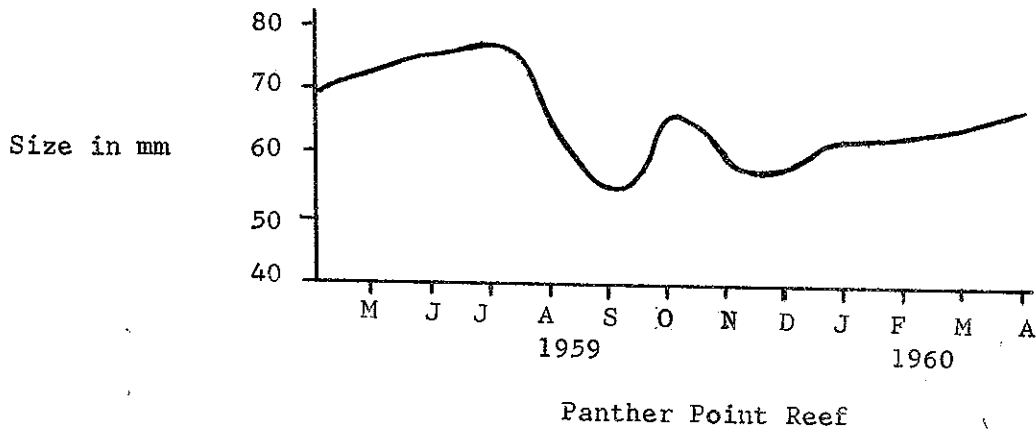


FIGURE I-d

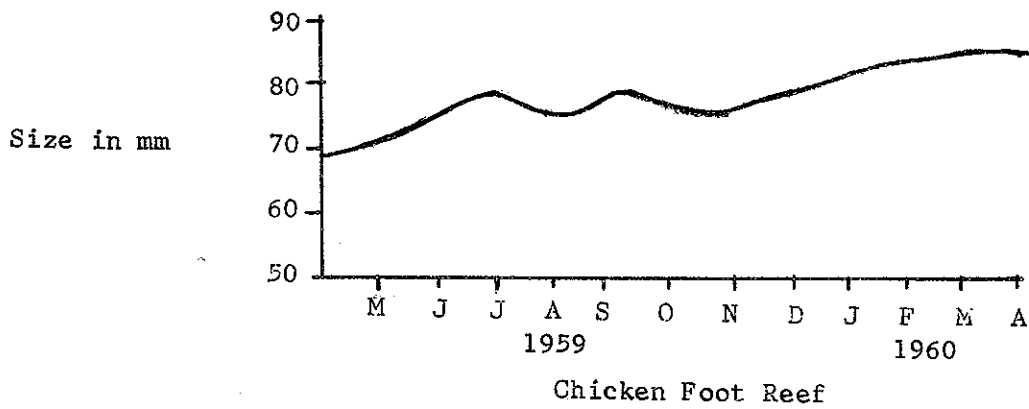
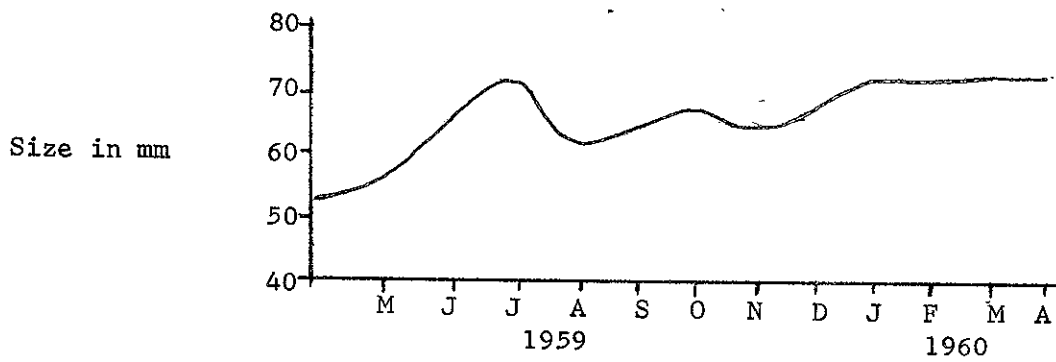


FIGURE II



Average Growth of Oysters in Area M-5 for the period, May 1959 to April 1960.