

Job Report

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Project Name: Survey of Oyster Populations and Associated Organisms
Period Covered: September 1, 1961 to December 31, 1962 Job No. 7

Survey of Oyster Diseases in Aransas Bay

Objectives: To study a controlled group of oysters through microscopic analysis to determine the oyster diseases present and to evaluate their effect upon oysters.

Procedure: Two platforms were constructed adjacent to two reefs in Aransas Bay. Platform 1 was located in a high salinity area in the southern part of the bay adjacent to Pintail Reef. Platform 2 was located in the central section of Aransas Bay near Half Moon Reef where salinities are normally between 10 and 25 parts per thousand. Each platform has 7 feet by 6 feet openings surrounded by a catwalk. From each platform 10 vinyl covered wire trays containing two hundred oysters each, were suspended approximately one foot from the bottom of the bay. Each basket was checked at weekly intervals from July 1962, until November 1962. From November through December the stations were checked every two weeks.

Ten live oysters and all gapers were removed from the trays at each visit. All oysters removed were sampled for the presence of Dermocystidium marinum.

The live oysters and those gapers not badly deteriorated were opened, the posterior gut section was removed, for D. marinum analysis, and the entire oyster was placed in Zenker's fixative. After processing, these oyster meats were sent to Dr. J. G. Mackin at Texas A & M College for further processing and for analysis of disease.

Findings and

Discussion: Dermocystidium marinum incidence recordings are shown in Table 1.

Table 1

D. marinum incidence recordings for Platforms 1 (Pintail) and 2 (Half Moon).

<u>Platform</u>	<u>Date</u>	<u>Incidence</u>
1	7/20/62	0.50
1	8/ 6/62	1.10
1	8/15/62	0.80
1	8/23/62	1.30
1	9/ 6/62	1.00
1	9/12/62	1.40
1	9/20/62	0.60

Platform	Date	Incidence
1	9/28/62	1.10
1	10/ 4/62	2.10
1	10/19/62	1.20
1	10/24/62	2.01
1	11/ 9/62	0.85
1	11/26/62	2.79
Average		1.29
2	7/20/62	1.63
2	8/ 6/62	1.90
2	8/16/62	1.10
2	8/23/62	2.00
2	9/ 6/62	2.20
2	9/13/62	2.00
2	9/20/62	1.70
2	9/28/62	1.10
2	10/ 5/62	3.60
2	10/17/62	3.30
2	10/24/62	1.45
2	11/ 9/62	2.75
2	11/26/62	1.59
Average		2.02

Field data sheets were utilized for transcribing data and a duplicate copy was maintained in the Marine Laboratory at Rockport in the event the original was lost. Data accumulated from the platform checks are presented in summarized form in Table 2.

Table 2

Platform 1 and 2 Field Data Summarized

Platform No.	Date	Live Oysters Taken	No. Gapers** Found	No. Dead* Boxes
1	9/ 6/62	10	2	41
2	9/ 6/62	10	1	74
1	9/12/62	10	4	25
2	9/13/62	10	5	75
1	9/20/62	10	0	25
2	9/20/62	10	0	66
1	10/ 4/62	10	1	17
2	10/ 5/62	10	1	26
1	10/17/62	10	0	20
2	10/17/62	10	0	20
1	10/24/62	10	2	54
2	10/24/62	10	0	98
1	11/ 8/62	10	1	14
2	11/ 8/62	10	3	45
1	11/26/62	10	1	35
2	11/26/62	10	1	15

* Boxes are the joined shell of oysters which are void of tissue.

** Gapers are oysters which are dead but still retain tissue within the joined shell or oysters which are alive but unable to close their shell tightly.

Dermocystidium marinum incidence recordings are based on an average of the accumulated values of each oyster in the ten oyster samples. Individual oyster ratings are determined by observation of the tissue and rated on a 0 to 5.0 scale corresponding to the degree of infection.

Results of Dr. Mackin's observations and study during the preliminary phase of this study were reported in September 1962. Research efforts resulted in the observation of mycelial disease from Aransas Bay; Hexamita, which appeared in aquarium studies conducted on oysters taken near Platform 2; a new type bacterial disease also found in aquaria studies; and an increase in intensity of D. marinum during summer months. Additional findings and elaboration on Dr. Mackin's study will be reported at a later date.

Comments: Field data prior to October are not shown as the records reflect culling mortalities which gave erroneous information.

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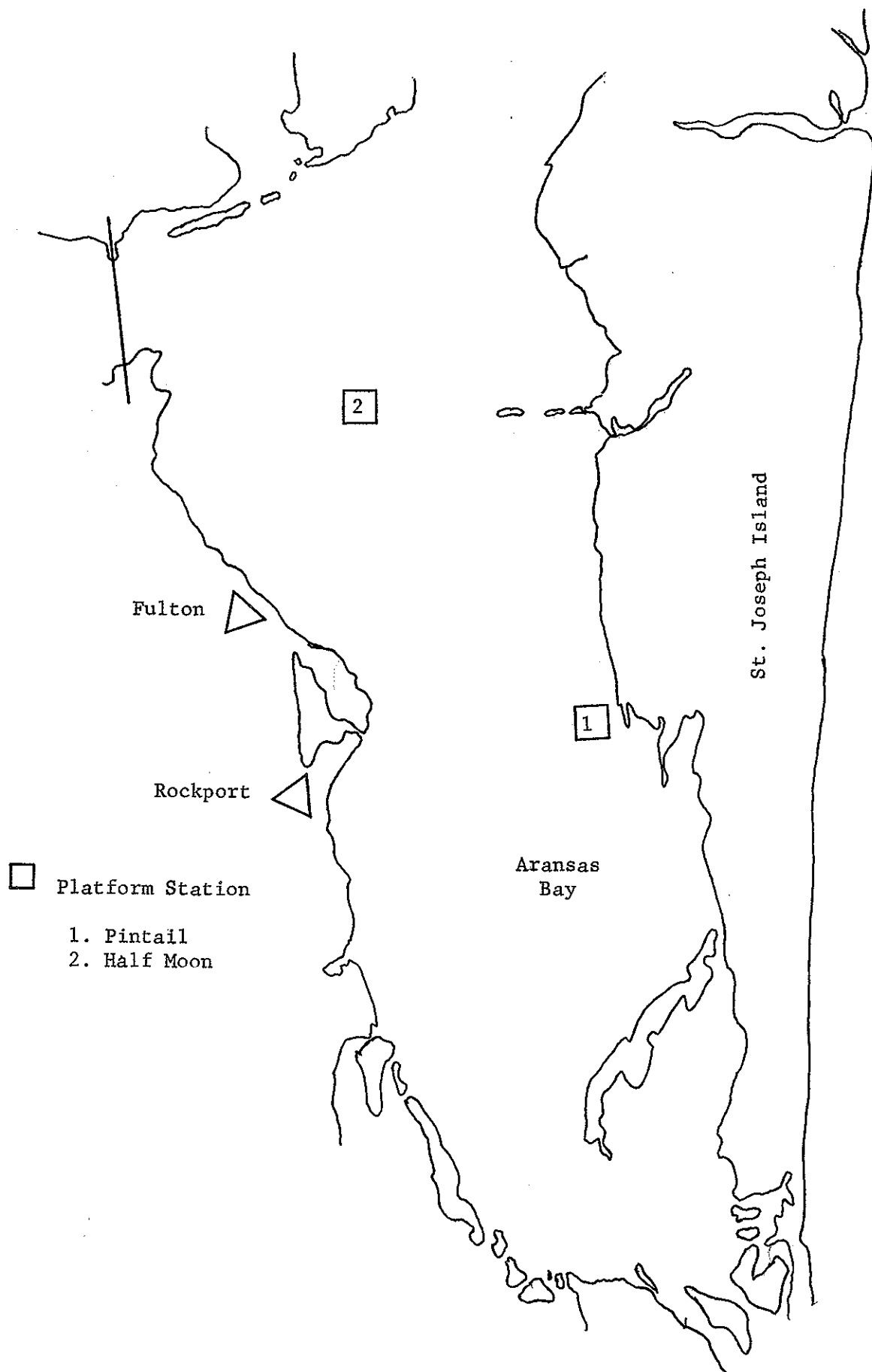


Figure 1. Aransas Bay Disease Study Platforms