

Acct# 2102

PROJECT COMPLETION REPORT

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Project No. MO-R-2 Date 30 June 1960

Project Name: A Coastal Survey of the Oyster Parasite Dermocystidium marinum.

Period Covered: June 1, 1959 - May 31, 1960.

Objective: To locate areas in which the oyster parasite is present and to determine centers of infection.

Procedure: Ray's techniques were used in the culture and examination of oyster tissues. Sections of heart, mantle and anal tissues were cultured in a thioglycollate broth containing a penicillin-streptomycin solution. After incubation for seventy-two hours, or longer, the tissues were placed on slides, stained with Lugol's iodine solution, and examined microscopically for the fungus.

Incidence of infection was classed as light, moderate, or heavy according to Ray's method. Light infections were given a value of one, moderate infections a value of two, and heavy infections a value of three. Oysters in which no parasites were found were assigned a zero value. By dividing the total sample value by the number of oysters per sample, the weighted incidence was obtained. The range in weighted incidence from uninfected to heavily infected would be zero to three.

Findings: Areas surveyed during the project year were Galveston Bay, San Antonio Bay, Aransas Bay and the lower Laguna Madre. Sample stations in each area are indicated in Figures I - V. A summary of the weighted incidence of infection among the oyster reefs sampled appears in Table 1.

As in the previous project year, infection centers have been located in Galveston Bay and Aransas Bay. Heavy infections of D. marinum have been recorded in Aransas Bay along with heavy oyster mortalities on some reefs. Galveston Bay has had consistent, but light, incidence and there has been no increase in oyster mortality due to the fungus. Very light infections were found on Panther Reef in San Antonio Bay and on State Reef #6 in the lower Laguna Madre. There does not appear to be any imminent danger from the fungus in these regions. Matagorda Bay and Copano Bay found to be fungus free last year, were not sampled this year.

Comments: Aransas Bay has been the only area on the Texas Coast where the fungus parasite has reached epidemic proportions. Galveston Bay has had light incidence during the recent years when the salinity has been low. However, during the spring of 1960 salinities began to rise, creating conditions more favorable for increased infection.

The incidence of infection should be considered before granting a permit for the transplanting of oysters from one area to another. New oyster leases have been established in the relatively fungus-free areas of Matagorda Bay and San Antonio Bay and considerable interest in obtaining seed oysters from other bays has arisen. Seed beds adjoining areas such as Aransas Bay and Galveston Bay should be checked closely for the presence of the parasite before issuing transplanting permits.

This joint project has been terminated. However, Dermocystidium marinum surveys will be continued by area biologists and the findings will be summarized in separate project reports.

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Accepted by

Howard T. Lee
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Date

7 November 1960

D. marinum sample stations in Aransas Bay 1959-1960.

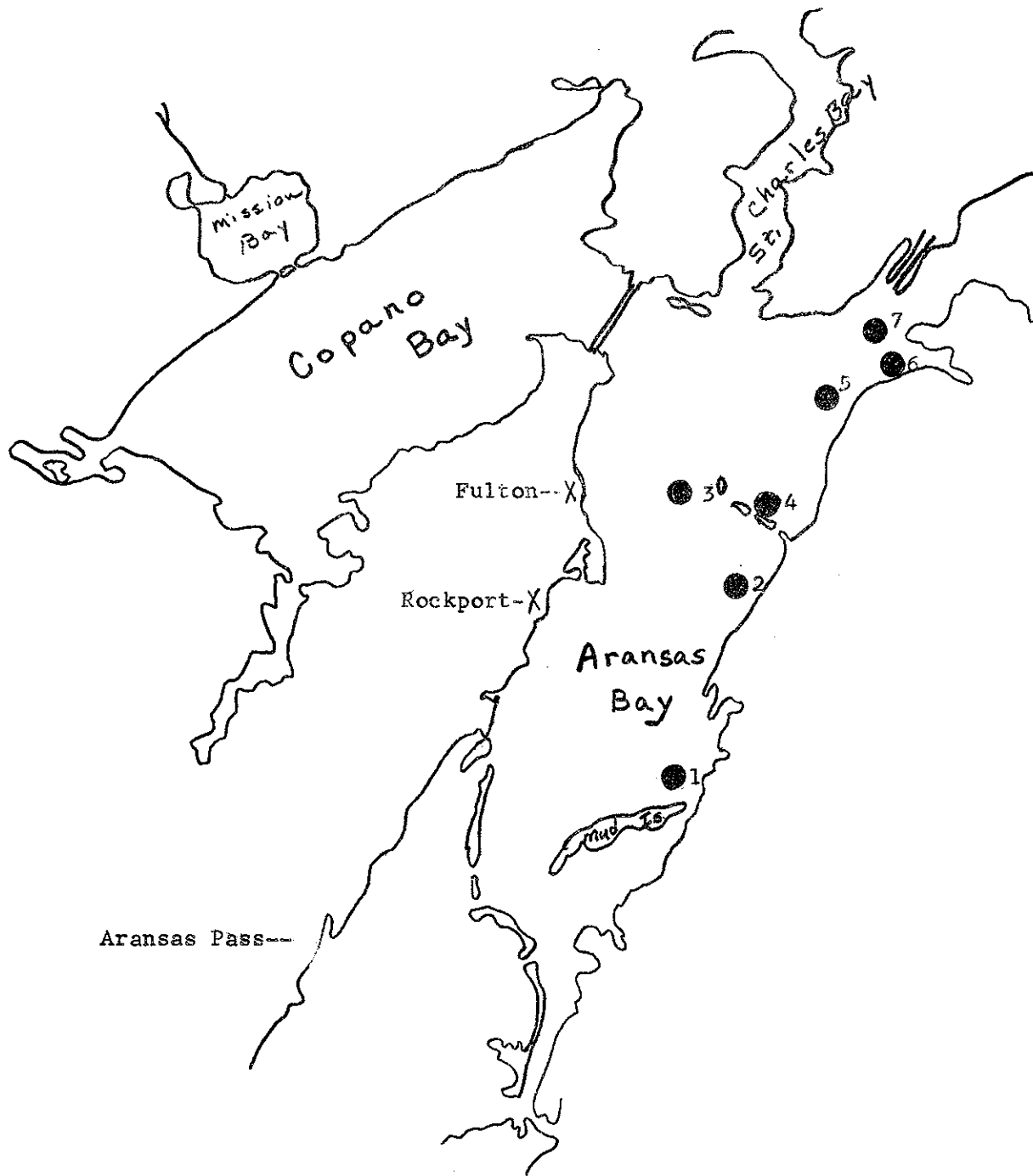
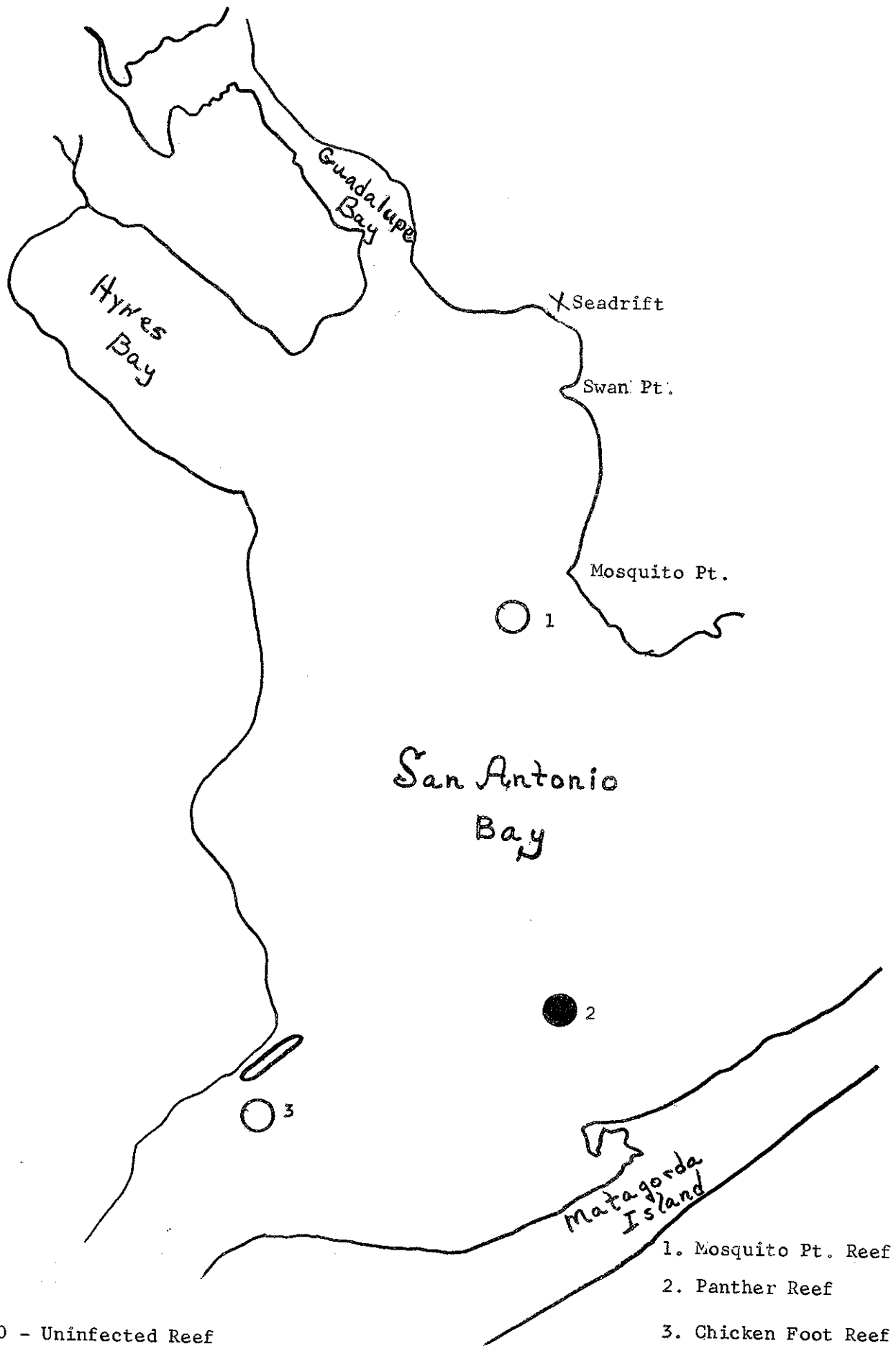


FIGURE I.

- 1 - Ranch House Reef
- 2 - Paul's Mott Reef
- 3 - Half Moon Reef
- 4 - Long Reef

- 5 - Jay Bird Reef
- 6 - Spaulding Reef
- 7 - Poverty Reef

- - Infected Reef
- - Uninfected Reef.



0 - Uninfected Reef

● - Infected Reef.

- 1. Mosquito Pt. Reef
- 2. Panther Reef
- 3. Chicken Foot Reef

FIGURE II
San Antonio Bay Sample Stations

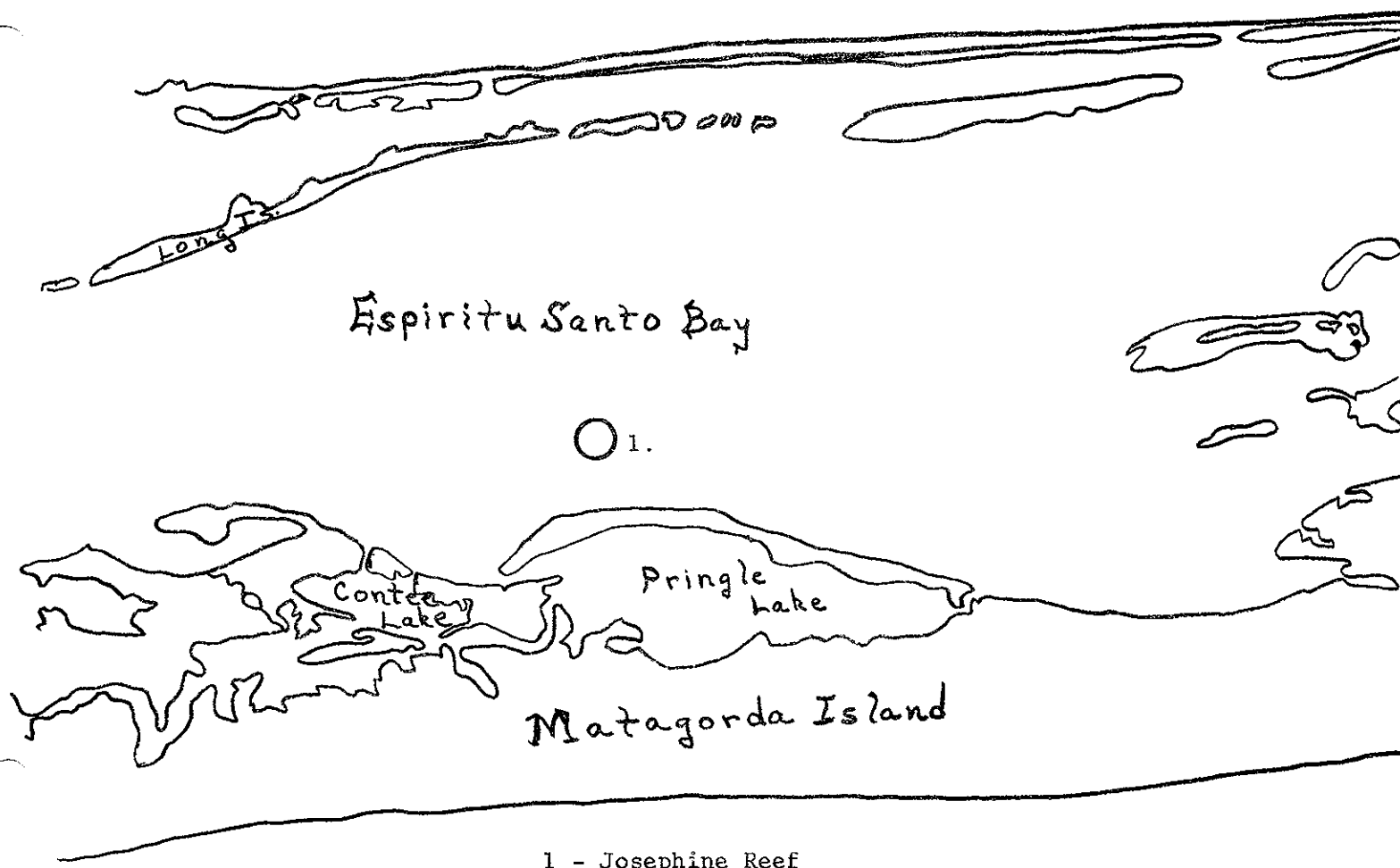
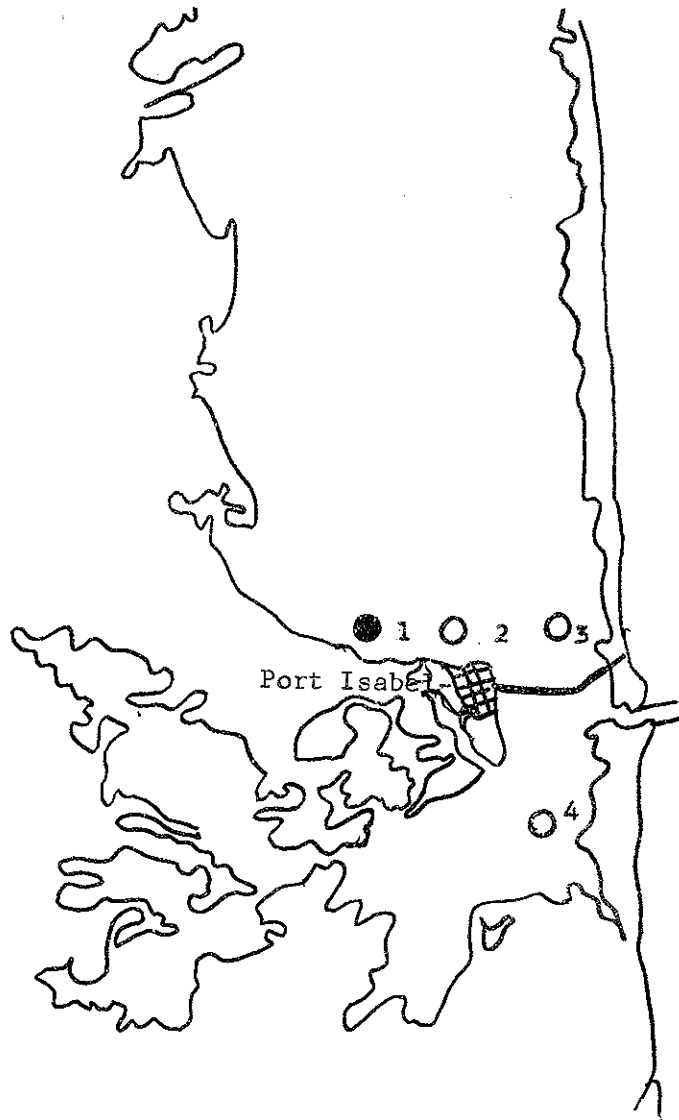


FIGURE III

Espiritu Santo Bay Sample Station

○ = Uninfected Reef

● = Infected Reef



1 - Artificial reef No. 6

3 - Artificial Reef No. 3

2 - Artificial Reef No. 4

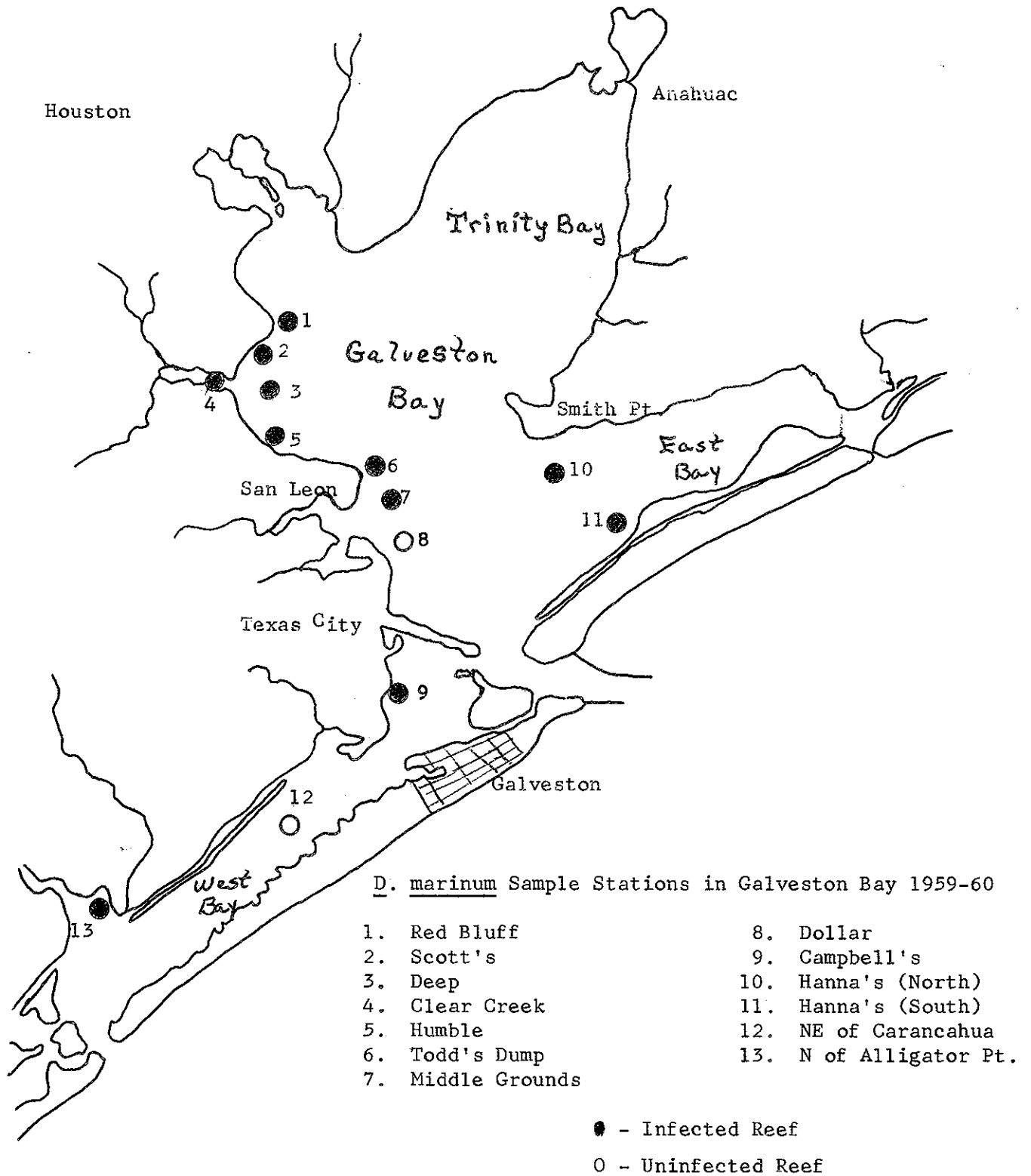
4 - South Bay Reef

FIGURE IV
Port Isabel Sample Station

○ - Uninfected Reef

● - Infected Reef

FIGURE V



Weighted Incidence of D. marinum Infection, 1959 - 1960

Area	1959												1960						
	6	7	8	9	10	11	12	1	2	3	4	5							
<u>GALVESTON BAY</u>																			
1. Red Bluff																			
2. Scott's													0.3						
3. Deep				0.5									0.2						
4. Clear Creek																			
5. Humble																			
6. Todd's Dump			0.4																
7. Middle Grounds			0.0																
8. Dollar			0.0																
9. Campbells				0.0	0.0	0.0													
<u>EAST BAY</u>																			
10. Hannas (North)					0.6														
11. Hannas (South)					0.0														
<u>WEST BAY</u>																			
12. NE of Carancahua																			
<u>CHOCOLATE BAY</u>																			
13. N. Alligator Pt.																			
<u>SAN ANTONIO BAY</u>																			
1. Panther																			
2. Josephine																			
3. Mosquito Point																			
4. Chicken Foot																			
<u>ARANSAS BAY</u>																			
1. Ranch House																			
2. Half Moon																			
3. Poverty																			
4. Spaulding (Upper)																			
5. Spaulding (Lower)																			
6. Jay Bird																			
7. Paul's Mott																			
8. Long Reef (A)																			
9. Long Reef (B)																			
<u>LAGUNA MADRE</u>																			
1. State Reef #3																			
2. State Reef #4																			
3. State Reef #6																			
4. South Bay																			