

# JOB REPORT

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Project Name: A Developmental Survey of the Commercial Oyster Population of  
the Port Isabel Area.

Period Covered: June 1, 1959 to May 31, 1960. Job No. G-1

Experimental Rehabilitation of the Commercial Oyster in the Project  
Area, Especially in the Port Isabel Area

Objectives: To determine whether or not the commercial production of oysters  
in the Port Isabel area of the work project area can be increased.

Procedures: Checks were made on the growth, condition, spawning time and  
rate, spatfall, predators, and survival rate of oysters on the six experimental  
oyster reef and these were compared with the conditions of the existing oysters  
of the area and of other areas. The feasibility of promoting or encouraging the  
building of public and/or private reefs, both for the commercial production of  
oysters and for the improvement of sports fishing in the area was investigated.

Findings: Several reports were received, second hand, regarding the  
harvest of oysters from reefs #2 and 4 during the spring months. While this  
was not verified, the reduction of commercial and near commercial sized oysters  
on these two reefs at this time would indicate that these reports are accurate.  
It is still doubtful if commercial production can be obtained in Port Isabel  
Bay at this time. See Figure I for reef location.

On June 1, 1959 the beginning of the project period, Reef #3 contained  
half horse and half commercial oysters. O. equestris ranged from 9 to 30 mm  
and C. virginica, ranging in size from 6 to 50 mm. Set was heavy. Reef #1  
contained 80% O. equestris ranging from 9 to 15 mm. Reef #4 contained half  
O. equestris of 13 to 33 mm and half C. virginica of 11 to 43 mm. Reef #5,  
a seeded reef, contained a pure set of the commercial oyster of two distinct  
size groups; 6 to 14 mm and 36 to 61 mm. Reef #6 contained one-third O.  
equestris of 13 to 18 mm and the remaining two-thirds, C. virginica, of two  
size groups, 7 to 18 mm and 39 to 41 mm.

No further sampling was made until November of 1959. Attempts to locate  
Reef #5 failed and to this date, it has not yet been found.

Since all other types of spat collectors have previously failed, a new  
collector was used starting in early September 1959. This collector was  
composed of an angle iron stake to which was attached two 30 by 100 cm sheets  
of asbestos siding. While little difficulty was found in the locating of the  
spat collectors as with previous type collectors, there is some evidence that  
data obtained from the use of these asbestos sidings may be erroneous. From  
January through May of 1960, all spat collectors had light to very heavy sets  
of barnacles and no oysters although in many cases, oyster spat appeared on the  
cultch shell of the reefs. While barnacles were abundant on the collector, few  
had set on the oyster cultch shell. It would appear, at this time, that the  
data obtained from the use of asbestos siding spat collectors must be suppli-  
mented with data obtained from the cultch shell of the reefs.

In November of 1959, a check was made of reefs 2, 3, 4, and 6. All sizes of young oysters are present on all reefs. There had been a 90% mortality of young oysters on reef #3 which was offset by a good set of spat in November. Reefs 2 and 4 had good populations of young oysters and good spat sets although those on reef #6 was light. There was a 5% mortality of spat on reef #3 caused by the oyster drill (Thais).

In January, reef #6 still had only a light set. Reefs 1 and 3, both unseeded, had a light to moderate set of O. equestris. Reef #2 showed that the excellent oyster set of the previous month was now dead. Large numbers of 40 to 70 mm oysters were present on Reef #4.

In March, it was found that reef #1 was void of any oysters while #3 contains mostly O. equestris. Reef #4 continues to be the most promising with many large clusters of almost marketable size oysters. On March 24th, four bushels of South Bay seed oysters were placed on reef #1 and another four bushels on reef #6.

At the end of the project period, no changes had taken place in the condition of any of the reefs since March. Growth and set appeared to be most promising on reef #4.

Tests run on oysters removed from reef #6 on May 5th show an average shell factor of 1.58 solids of 17%, and a condition factor of 4.1.

In June of 1959 a slight indication of D. marinum infestation on reef #5 was found although further checks in July were negative.

On June 1960 all reefs indicated moderate to heavy sets of oysters on all reefs but with O. equestris outnumbering C. virginica from 3 to 1, to 10 to 1. The spawn of the horse oysters is believed to be past its peak, however, the majority of commercial oysters have not yet spawned. The horse oyster spat ranged from 2 to 25 mm and the commercial species from 3 to 52 mm.

Comments: Some general statements can be made regarding the work on these experimental reefs to date.

Reef #3 appears to be too close to the existing O. equestris populations of the Queen Isabella Causeway. While this reef was not seeded, the sets of barnacles and horse oysters appear to be too heavy to support significant numbers of the commercial oyster. This is also very heavy on this reef.

Reef #2 appears to show promise. Commercial sized oysters were obtained from this reef, not including the seed oysters which were planted. Reef #1 showed less promise but it might be that this reef might have done as well as #2 had it been seeded, too. Thais was present on both reefs but did not appear to be responsible for any significant damage. Reef #1 might be located at the northern extreme for oyster production, however, as shown by the inability of the spat to reach seed size. Not enough work was done on reef #5 to determine the degree of success or failure of this reef although it appears that this reef, too, might be at the northern limit.

The locations of reef #4 and 6 appear to be the best locations in the area. Reef #4 produced commercial oysters without the benefit of seed. Reef #6 showed good results prior to the mortality of all the seed oysters by the influx of fresh water in late fall of 1958. It would appear that this reef could produce as well as #4 providing seed was used to start it.

Work will continue on these experimental oyster reefs for one more year in conjunction with an oyster survey of South Bay. All oyster work in this area will be under one project and job.

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Date

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FIGURE I

Location of experimental reefs.

