

Shell Management Annual Report

by Arthur L. Crowe

Management Data Series Number 19
1981

Texas Parks and Wildlife Department
Coastal Fisheries Branch



SHELL MANAGEMENT ANNUAL REPORT
SEPTEMBER 1978-AUGUST 1979

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ABSTRACT

The Texas Parks and Wildlife Department (TPWD) shell management program was designed to insure that shell mining companies comply with TPWD regulations. During fiscal year 1978-79, the shell dredge Trinity I (owned by Parker Brothers Company, Inc.) was monitored 82 times while it operated in San Antonio Bay. No citations for siltation were issued. There were no requests for special permits. During 1978-79, 1,116,405 m³ (1,460,117 yd³) of shell were removed from San Antonio Bay. The State received \$365,029.25 for the shell.

INTRODUCTION

The purpose of the Texas Parks and Wildlife Department (TPWD) shell management program is to monitor dredging activities in San Antonio Bay to insure that companies involved in mining oyster shell comply with TPWD rules. These rules require shell dredges to operate no closer than 91.4 m (300 ft) to exposed oyster beds and insure that no silt from the operation of the dredges covers any exposed reef regardless of the distance from the reef at which the dredge is working. Dredges are not allowed to operate within 0.8 km of a shoreline. In San Antonio Bay dredges may not operate north of 28°22'N latitude. Exposed reefs may be removed only with the approval of the State and such reefs must be replaced on a one-for-one basis at a location determined by the shell management biologist.

MATERIALS AND METHODS

Mudshell dredging was monitored one or two times a week, weather permitting. A 10.7-m (35 ft) twin screw diesel boat was used to get to areas where dredges were operating. A Navy Mark II sextant was used to triangulate two angles between three accurately surveyed points which were plotted on 1":2000'-scale Mylar maps. These angles were set on an engineer's three-arm protractor, the arms aligned on the three points on the map and the dredge location was plotted. Date, shot points used, angles and state land tract number were recorded.

When dredging occurred near the vicinity of an exposed shell reef, the reef edge was marked with flagged cane poles and another set of markers was placed 91.4 m (300 ft) from the reef edge. Silt traps were maintained at

various locations on major reefs and were checked throughout the year. Traps were made of galvanized sheet metal, 30.5 x 30.5 x 3.8 cm (12 x 12 x 1.5 in), and fitted with a wire cradle. Traps were tied with polyvinyl rope to wooden stakes to prevent them from sinking into the bottom.

If gray, unoxidized sediment resuspended by a dredge was noticed approaching an exposed reef, a warning was given to the dredge operator. If reef siltation by a dredge exceeded a "trace" (as defined by TPWD rule 127.30.04.004) a siltation citation was issued and the dredge was required to move.

RESULTS AND DISCUSSION

Only one dredge (Trinity I), owned by Parker Brothers Company, Inc., operated only in five tracts in San Antonio Bay (Figures 1-3) during 1978-79. Dredge activities were monitored 82 times (Table 1).

During 1978-79, 1,116,405 m³ (1,460,117 yd³) of shell were removed from San Antonio Bay (Table 2). The State received \$365,029.25 for the shell.

All siltation observed in the silt traps was brownish in color and originated from natural causes. No siltation violations occurred during 1978-79 because: 1) only one dredge operated, 2) dredging was effectively monitored, 3) during most of the year dredging did not occur in areas of exposed reefs and 4) old dredge cuts located between the dredges and exposed reefs trapped sediment.

No special permits for mining exposed reefs were requested during 1978-79.

Table 1. Summary of shell dredge observations (Dredge Trinity I) in San Antonio Bay, 1978-79.

Month	No. of observations	State Land Tract
September 1978	9	107
October	3	107
October	5	99
November	4	99
November	1	98
December	2	98
December	1	77
January 1980	6	77
February	4	77
March	10	77
April	10	77
May	5	77
May	4	108
June	7	108
July	6	108
August	<u>5</u>	108
Total	82	

Table 2. Shell removed by Parker Brothers, Inc. during September 1978-August 1979.

<u>Month</u>	<u>Shell removed</u>	
	<u>m³</u>	<u>yd³</u>
September	119,278	156,001
October	109,719	143,499
November	91,815	120,083
December	70,026	91,585
January	82,475	107,867
February	94,227	123,237
March	99,942	130,711
April	89,915	117,597
May	90,746	118,684
June	91,516	119,691
July	96,121	125,714
August	80,626	105,448
Total	<u>1,116,405</u>	<u>1,460,117</u>

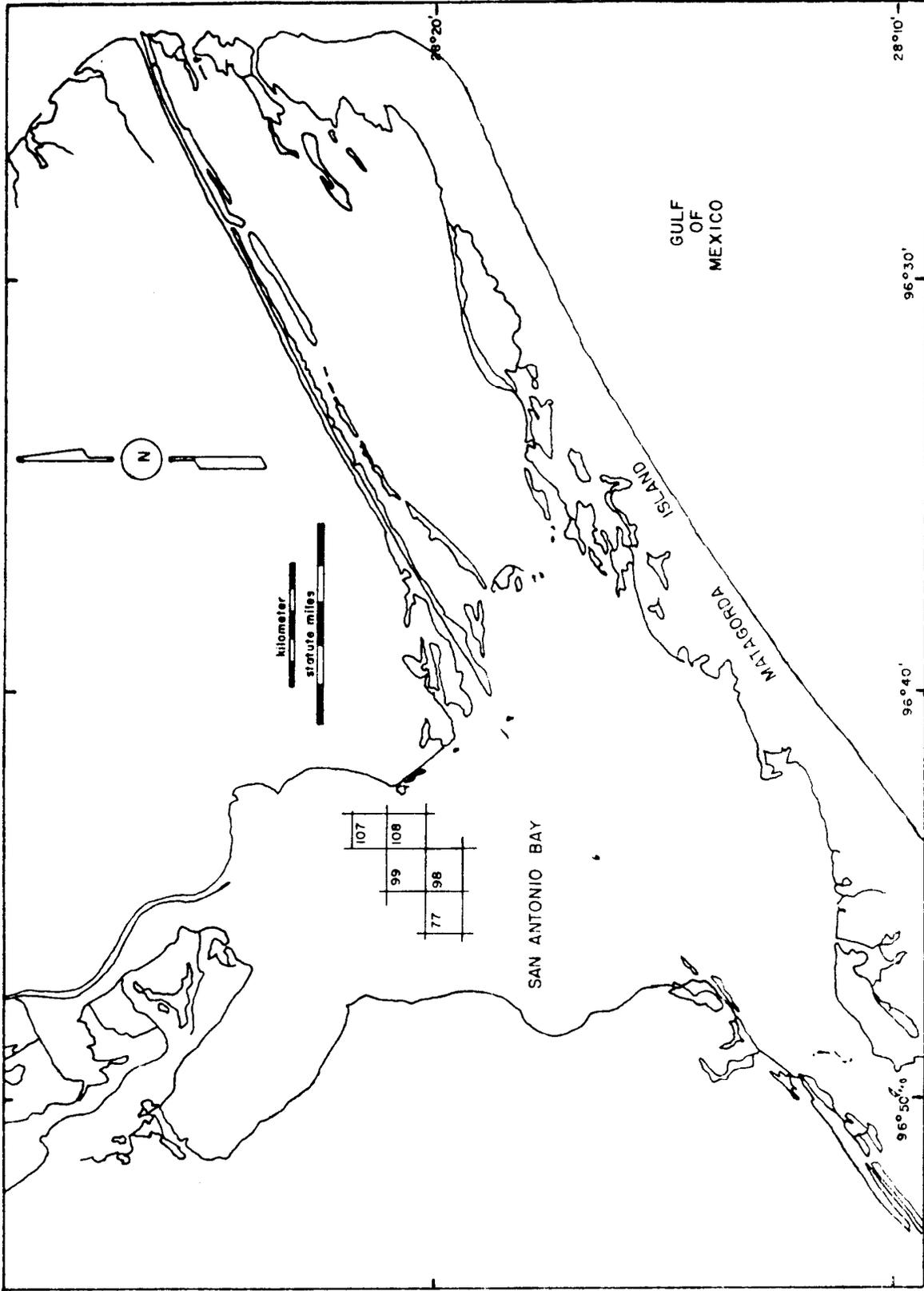


Figure 1. Location of state tracts in San Antonio Bay dredged during 1978-79.

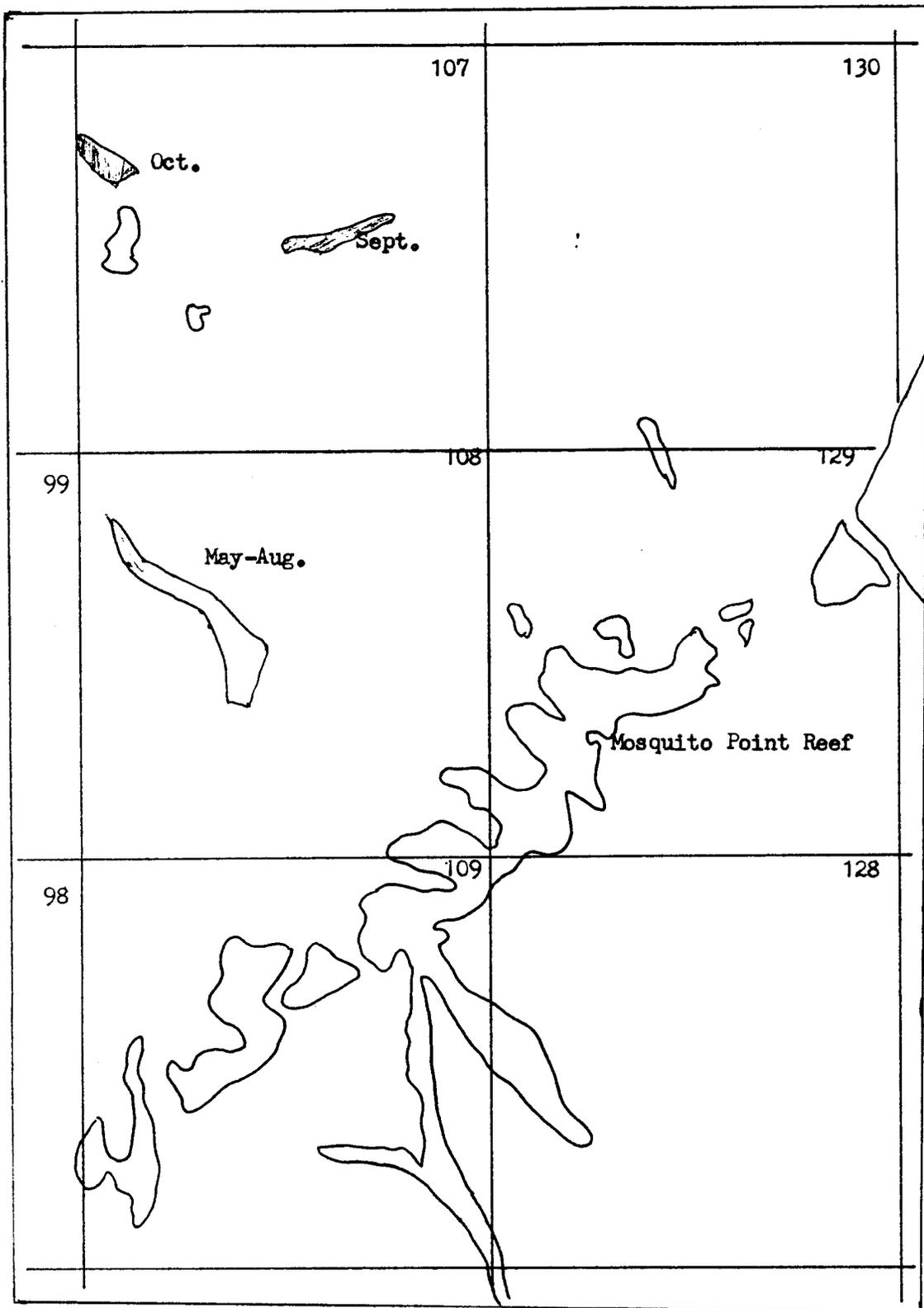


Figure 2. Location of major reefs and dredge cuts in state tracts in San Antonio Bay during 1978-1979. Dredged areas are shaded.

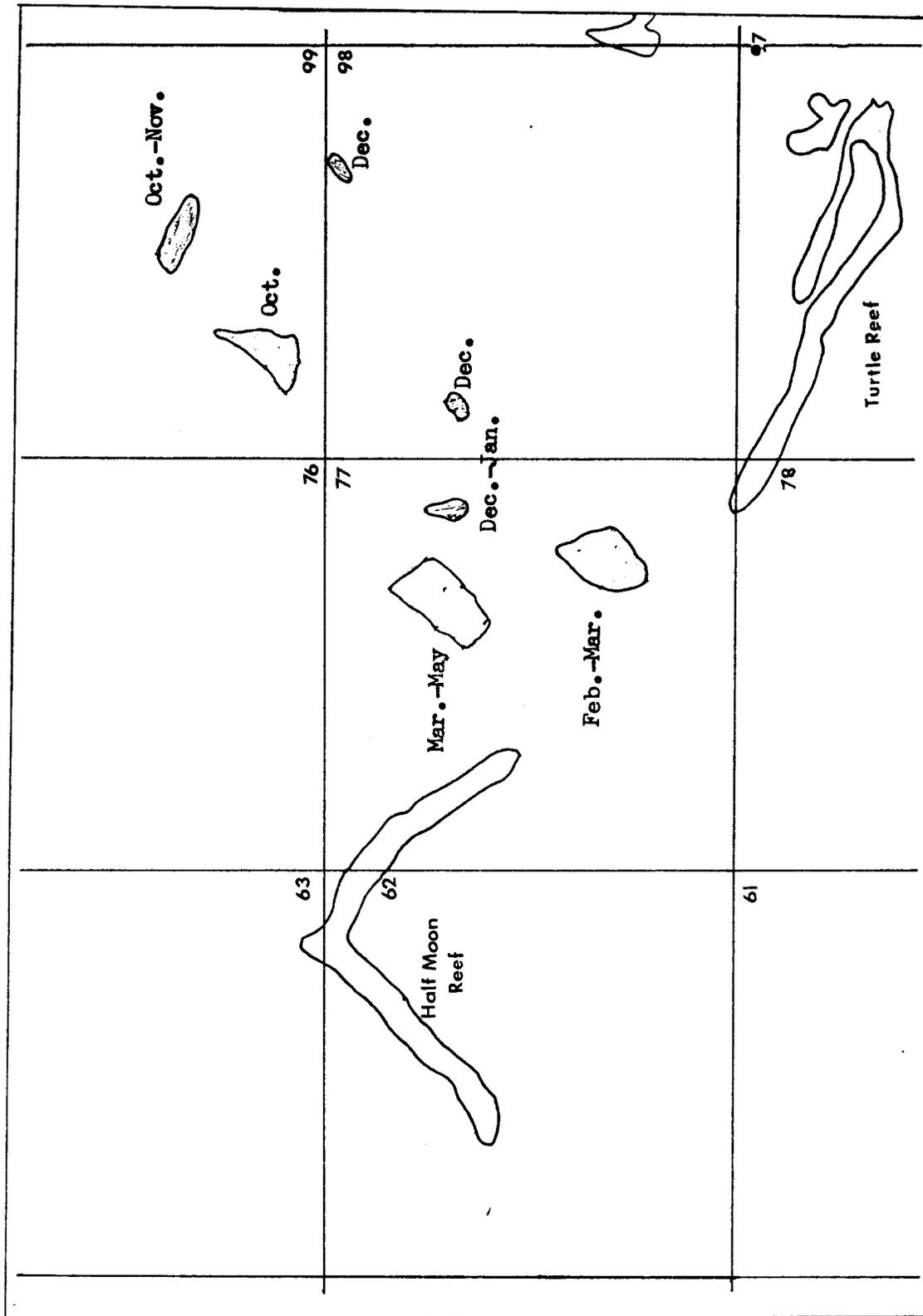


Figure 3. Location of major reefs and dredge cut in state tracts in San Antonio Bay during 1978-1979. Dredged areas are shaded.

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