

Job Report

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Project Leader

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Project Name: Analysis of Populations of Sports and Commercial Fin-fish and of Factors which Affect these Populations in the Coastal Bays of Texas.

Period Covered: June 18, 1962 to August 30, 1962 Job No. 23

Creel Census of San Antonio and Espiritu Santo Bays

Abstract: Creel census data were obtained by interviewing fishermen and measuring their catch at a single fishing camp in the San Antonio Bay Area. Other camp owners were asked to keep records on numbers of fishermen using their camps during the survey, but such records were not kept.

Census was taken on Monday and Tuesday of the first week, Tuesday and Wednesday of the second week, and this same frequency of beginning one day later each week was followed throughout the survey. Crews, each composed of three Game and Fish Commission employees, conducted the census work.

Results of the census showed the catch per man-hour to be small in both numbers and pounds. This may be partially attributed to the hot weather present during the survey.

Objective: To conduct a creel census in San Antonio and Espiritu Santo Bays during June, July, and August 1962 in order to gain information on the sports fishermen's catch of that area.

Procedure: Based on experience gained through a creel census conducted in the Upper Laguna Madre in 1959 and 1960 (Simmons, 1960), it was decided to select a single fishing camp in the San Antonio Bay Area to serve as a census station. Other fishing camps in the area would be asked to maintain records of the numbers of boats and fishermen using their facilities during the period of this study. With such information available, the data gathered at this selected station could be expanded to represent the total catch of all those fishermen fishing San Antonio and Espiritu Santo Bays.

A pre-census check of fishing camps was made by Biologist U. R. Childress. Upon his advice and with the consent of the owners of Bob and Leonard's Fishing Camp, this camp was chosen to serve as the census station. This camp is located on the Intracoastal Waterway on the northwest shore of Espiritu Santo Bay about 7 miles east of Seadrift, Texas.

Three man crews, consisting of one biologist and two summer assistants or one summer assistant and one field assistant, did the census work. The dates, days of week, and names of personnel conducting the censuses are shown below.

Dates	Days of Weeks	Biologist	Assistants
June 18 & 19	Monday & Tuesday	Heffernan	Thompson & Scott
June 26 & 27	Tuesday & Wednesday	Simmons	Bock & Rowe
July 4 & 5	Wednesday & Thursday	Martinez	More & Watson
July 12 & 13	Thursday & Friday	Childress	Kelly & Metteauer
July 20 & 21	Friday & Saturday	Schultz	Thompson & Scott
July 28 & 29	Saturday & Sunday	Moffett	Elder & Rowe
August 5 & 6	Sunday & Monday	Hawley	More & Watson
August 13 & 14	Monday & Tuesday	Murray	Kelly & Metteauer
August 21 & 22	Tuesday & Wednesday	Bradley	Thompson & Scott
August 29 & 30	Wednesday & Thursday	Stevens	Bock & Rowe

Fishermen returning from the bay were interviewed by one member of the crew. If the fishing party approved, their catch was weighed and counted by species by the other crew members. Figure I is a duplicate of the data sheet used for recording the interview data and catch figures for each fishing party. As may be seen, the questions asked concerned the number of fishermen, the total hours fished, the residence of the party, the area fished, and the types of bait used.

In some instances the fish brought in had been "gutted and gilled" or "gutted and headed". For such cases an assumed weight loss of 25% was assigned to all fish that had been "gutted and gilled" and an assumed weight loss of 40% was assigned to all fish that had been "gutted and headed". These assumed values were used on all species as a matter of convenience, but when the corrected weight values were averaged and checked against the average weight of unprocessed fish, the difference was negligible.

Acknowledgement: Sincere appreciation is expressed to the proprietors of Bob and Leonard's Fishing Camp for the splendid cooperation shown to the Game and Fish Commission employees conducting this survey.

Findings: Unfortunately, the requested records on numbers of boats and fishermen were not kept by any of the other fishing camp operators. This lack of information makes the accurate expansion of the acquired data impossible.

Since the survey was of such short duration, all of the data acquired were combined and the figures presented represent the entire census. No monthly or weekly breakdowns were made.

A total of ten repetitions of two days duration each were completed for a total of 20 days of sampling. The study covered a period of 74 days.

A total of 165 boats containing 462 fishermen who fished a total of 2867 man-hours were checked.

Tables I through VI present the results of this census. Table I gives the total catch in numbers and pounds for the major species taken. Only the drum, flounder, and sheepshead caught would average better than one pound each in weight.

Table II presents the number and per cent of fishermen that fished in the various areas listed on the data sheet. Table III is a breakdown of the counties or states of residence of the fishermen interviewed and of the distances the fishermen had to travel to reach San Antonio Bay. The counties furnishing the largest numbers of fishermen were Victoria County, Calhoun County, and Harris County with 218, 38, and 34 fishermen from each respectively.

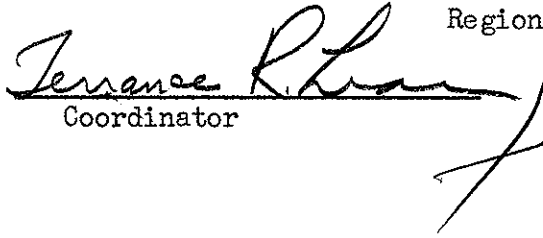
The catch per unit of effort of those fishermen interviewed is shown in Table IV. The total figures indicated that the catch per man-hour of all species was just over one-half fish in number and just under one-half pound in weight. This represents very slow fishing, but this study period is probably not representative of an entire year.

Table V deals with the numbers and per cent of fishermen catching different numbers of fish. A total of 56.06 per cent of the fishermen interviewed caught 2.0 fish or less. Table VI presents the numbers and per cent of fishermen interviewed who caught certain species and combinations of species. The popularity and catchability of the speckled trout is demonstrated by observing the numbers of fishermen who caught only one species. Seventy-five fishermen caught only speckled trout followed by thirteen fishermen who caught only redfish.

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Simmons, Ernest G., 1960, Evaluation of Sportsfish Catch and Recall Methods of Survey. Project Reports for 1959-1960, Marine Fisheries Division, Texas Game and Fish Commission.

Table 1
Total Catch

TOTALS FOR ALL DAYS: (10 repetitions - two days each.)

165 Boats
462 Fishermen
2867.0 Man-hours

<u>Catch</u>	<u>Number</u>	<u>Pounds</u>
Spec. Trout	699	579.24
Sand Trout	170	61.12
Redfish	279	210.27
Drum	40	74.86
Flounder	70	91.46
Sheepshead	11	16.58
Croaker	77	23.52
Other	<u>217</u>	<u>283.19</u>
	1,563	1,340.24

Table II
Where Fished

<u>Where Fished</u>	<u>Number</u>	<u>Per cent</u>
San Antonio Bay	175	37.9
Espiritu Santo	214	46.3
Gulf	3	0.6
San Antonio & Esp. Santo	70	<u>15.2</u>
		100.00

Table III
Residence

County	Number	Miles 0-50	Miles 50-100	Miles 100-200	Miles 200+
Victoria	218	218			
Brazos	2			2	
Lavaca	20		20		
Montgomery	8			8	
Bexar	30			30	
Calhoun	38	38			
Williamson	2			2	
Colorado	4		4		
Jackson	16	16			
Harris	34			34	
Jefferson	3				3
Dallas	5				5
Fayette	19			19	
Nueces	2		2		
Kleberg	2		2		
Wharton	6		6		
Travis	17			17	
Cherokee	4				4
Runnels	3				3
Goliad	7	7			
Bee	4		4		
Gonzales	4		4		
Ector	2				2
Jim Hogg	1			1	
Tarrant	2				2
Unknown	3				
<u>Out of State</u>					
New Mexico	4				4
Oklahoma	2				2
Totals		279	42	113	25
Per cent		60.4	9.1	24.5	5.4

Table IV
Catch per Man-hour

<u>Species</u>	<u>No. per man-hour</u>	<u>Pounds per man-hour</u>
Speckled Trout	0.244	0.202
Sand Trout	0.059	0.021
Redfish	0.097	0.073
Drum	0.014	0.026
Flounder	0.024	0.032
Sheepshead	0.004	0.006
Croaker	0.027	0.008
Other	0.076	0.099
Totals	0.545	0.467

Table V
Numbers of Fish Caught by Fishermen

<u>Catch</u>	<u>Number</u>	<u>Per cent</u>
None	56	12.12
.1 to 1	112	24.24
1.1 to 2	91	19.70
2.1 to 3	42	9.09
3.1 to 4	25	5.41
4.1 to 5	32	6.93
5.1 to 6	17	3.68
6.1 to 7	16	3.46
7.1 to 8	19	4.11
8.1 to 9	10	2.16
9.1 to 10	9	1.95
10.1 to 15	27	5.84
15.1 to 20	0	0.00
20.1 plus	<u>6</u>	<u>1.30</u>
	462	99.99

Table VI
Numbers and Per cent of Fishermen Who Caught Certain Species
and Combinations of Species.

	<u>Number</u>	<u>Per cent</u>
Speckled Trout Only	75	16.23
Speckled Trout & Redfish	126	27.27
Redfish Only	13	2.81
Speckled Trout	311	67.32
Redfish	164	35.50
Drum	71	15.37
Drum Only	5	1.08
Flounder	79	17.10
Flounder Only	7	1.52
Sand Trout	79	17.10
Sand Trout Only	0	0.00
Speckled Trout or Redfish or Drum or Flounder or Sand Trout	373	80.74
Sheepshead or Croaker or Other Species Only	26	5.63
None	56	12.12

Figure I

ROUGH DATA SHEET

Station: _____ Day and Date: _____

No. of Fishermen: _____ Hours Fished: _____

Wind and Weather: _____

Residence of Party: _____
(County or State)

Area Fished: (Circle)

San Antonio Bay

Espiritu Santo

Gulf

Type Bait: (Circle)

Artificial

Live

Dead

Catch:

No.	Species	Weight
_____	Speckled Trout	_____
_____	Sand Trout	_____
_____	Red Fish	_____
_____	Drum	_____
_____	Flounder	_____
_____	Sheepshead	_____
_____	Croaker	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Remarks: