

STATE Texas

DATE January 1, 1951

A Survey of the Effects of A
Natural Pass on Fish Population
Quarterly Report

From: January 1, 1951 to March 31, 1951
Biologist: Ernest G. Simmons
Boats: Ada Lee, Skipjack, Small Barge, Large Barge
Crew: Angelo Flores, Boat Captain
Seferino Cortiniz
David Mejardo
Jose Solis
Jose Valdez
George Nava, Jr. --Part Time

INTRODUCTION

The primary objectives of the fish trap have been stated in previous reports. Determination of the role played by a natural pass is the key objective.

STATUS OF PROJECT AT TIME OF LAST REPORT

Both fish traps were operating successfully at the time of the last report.

AREA WORKED ON

The major channel in Cedar Bayou near the gulf has shifted from the east side to the west side. The entrance to Vincent's Slough has been closed entirely by sand. No other changes have occurred.

ACTIVITIES

The north trap has been in intermittent operation during the period. Each cold front resulted in some damage to pilings and wire. During the freeze of the last week in January, ice masses collected on the trap until many pilings and stretches of wire were destroyed. This was repaired. The wooden trap box for the south trap was not satisfactory; therefore a new box made of pipe was constructed. Fish were removed from the traps at 0800 and 1800. Trout, redfish, drum and flounder were tagged and released. Meteorological and hydrographical data were recorded. Stomach analysis and study of sexual condition was continued.

BIOLOGICAL DATA ACCUMULATED

Movement was very slight during this period. Some increase was noted in late March when the water temperature rose above 20.0° C. Flounder (Paralichthys lethostigma) moved in from the gulf in small numbers during March. Smaller numbers of trout (Cynoscion nebulosus) also entered the bayou at this time. The seminar, valuable though it may be, removed the crew from the trap at a time when the water temperature was at a level conducive to movement of fish.

The principal species taken during the three months were:

1. Flounder (Paralichthys lethostigma)--15
2. Trout (Cynoscion nebulosus)--7
3. Redfish (Sciaenops ocellatus)--3
4. Drum (Pogonias cromis)--1
5. Sheephead (Archosargus probatocephalus)--5
6. Sea catfish (Galeichthys felis)--375
7. Yellowtail (Bairdella chrysura)--188
8. Pin Perch (Lagodon rhomboides)--141
9. Cutlass Fish (Lepturus trichirus)--133
10. Mullet (Mugil cephalus)--90
11. Sea Robin (Prionotus sp.)
12. Whiting (Menticirrhus americanus)
13. Threadfin Herring (Opisthonema oglinum)
14. Menhaden (Brevoortia sp.)
15. Lizard Fish (Synodus foetens)
16. Swellfish (Spheroides sp.)
17. Citharichthys (spilopterus)
18. Tongue Fish (Symphurus Plagiusa)

19. Sand Trout (Cynoscion arenarius)
20. Pig Fish (Orthopristis chrysopterus)
21. Croaker (Micropogon undulatus)
22. Etropus sp.
23. Conger Eel (Leptocephalus conger)--2
24. Sole (Achirus fasciatus)
25. Scorpion fish (Scorpaena braziliensis)
26. Star Gazer (Astroscopus y-graecum)
27. Midshipman (Nautopaedium porosissimus)
28. Spot (Leiostomus xanthurus)
29. Spiny Box Fish (Chilomycterus schoepfi)
30. Fundulus sp.
31. Silversides (Menidia beryllina peninsulae)
32. Family Gobiidae
33. Shad (Dorosoma cepedianum)
34. Common Eel (Anguilla rostrata)
35. Florida Ling (Urophycis floridanus)
36. Pipe Fish (Syngnathus sp.)
37. Lookdown (Selene vomer)
38. Spade Fish (Chaetodipterus faber)

The following tables show the total number of fish caught in the north trap which secures organisms traveling from the bay areas to the gulf, the total caught in the south trap which secures organisms traveling from the gulf to the bay areas, and the number per hour for each trap for each month, diurnally and nocturnally.

January 1, 1951-March 31, 1951

	Total Hrs.	Diur. Hrs.	Noc. Hrs.	Fish/ Total Hrs.	Fish/ Diur. Hrs.	Fish/ Noc. Hrs.	Total Fish
North	467	152	315	2.35	1.35	2.84	1099
South	102	39	63	1.41	.74	1.83	144
Total	569	191	378	2.18	1.23	2.67	1243

January, 1951

	Total Hrs.	Diur. Hrs.	Noc. Hrs.	Fish/ Total Hrs.	Fish/ Diur. Hrs.	Fish/ Noc. Hrs.	Total Fish
North	230	70	165	1.82	1.67	1.88	427
South	78	--	---	.75	----	----	59
Total	308	70	165	1.61	1.67	1.88	496

February, 1951

	Total Hrs.	Diur. Hrs.	Noc. Hrs.	Fish/ Total Hrs.	Fish/ Diur. Hrs.	Fish/ Noc. Hrs.	Total Fish
North	60	40	20	1.95	3.95	.95	117
South	12	--	12	2.91	----	2.91	35
Total	72	40	32	2.11	3.95	2.28	152

March, 1951

	Total Hrs.	Diur. Hrs.	Noc. Hrs.	Fish/ Total Hrs.	Fish/ Diur. Hrs.	Fish/ Noc. Hrs.	Total Fish
North	172	62	110	3.23	.15	4.96	555
South	12	--	12	4.16	----	4.16	50
Total	184	62	122	3.28	.15	4.95	605

Paralichthys lethostigma captured in the area were observed to be in very poor physical condition. All Bairdella chrysura, Menticirrhus americanus and Brevoortia sp. captured were ripe

with roe. Approximately 450 crabs were captured in the north trap during the period; none in the south trap.

Tagging has not been intense during this period of cold weather. The fish were not available but those few which entered the trap have been tagged. The following have been returned this quarter.

Tag 1569. Redfish. Tagged September 8, 1950 at South Bird Island. Recovered January 6, 1951 at Point of Rocks. Movement of 14 miles.

Tag 1526. Redfish. Tagged September 8, 1950 at South Bird Island. Recovered January 6, 1951 at Marker 51. Movement of 2 miles.

Tag 641. Redfish. Tagged July 20, 1950 at Mud Island. Recovered February 9, 1951 at 9-Mile Point. Moved 9 miles and grew 4 inches in 204 days.

Tag 2103. Trout. Tagged November 22, 1950 in Allyn's Bay. Recovered in Rockport Basin (during freeze) February 5, 1951.

Tag 2077. Trout. Tagged November 22, 1950 in California Hole. Recovered February 10, 1951 in Shamrock Cove. Movement of 18 miles in 80 days.

Tag 4050. Redfish. Tagged November 11, 1950 in Big Bayou. Recovered February 9, 1951 on the beach 10 miles south of Port Aransas. Grew 1-1/2" in 3 months. Moved out to Gulf.

Tag 2063. Redfish. Tagged November 22, 1950 in California Hole. Recovered March 11, 1951 on beach at Port Aransas. Moved to Gulf.

Tag 2074. Redfish. Tagged November 22, 1950 in California Hole. Captured on beach at Port Aransas.

Tag 265. Redfish. Tagged October 3, 1950 at Bull Red Reef. Recovered December 12, 1950 on beach at Port Aransas. No movement.

Tag 1534. Redfish. Tagged September 8, 1950 at North Bird Island. Recovered dead at Yaurbough Pass March 2, 1950.

OTHER ACTIVITIES

The period from January 10 to January 12 was spent in Brownsville attending the sessions of the Gulf States Marine

Fisheries Commission.

The committee hearing on the Menhaden Bill was attended January 29 to February 1, 1951.

Early fish mortality due to extremely low temperatures was investigated from February 2 to February 3, 1951. The area from Corpus Christi to Brownsville was checked. At that early date few fish were observed dead but many were moribund.

The semi-annual seminar was attended March 22 to March 25, 1951.

An article entitled "Facts About Flounders" was written for the Texas Game and Fish Magazine.

An article entitled "Fish Tagging On The Texas Coast" was written for the Texas Game and Fish Magazine.

UTILIZATION OF TIME

Field			
Job	Biologist	Labor	Total
I. 1a, 1b, Analysis of Movement of Fish	32	32	64
II. 1a, 1b, Tagging operations	12	0	12
III. 1a, 1b, Stomach analysis	2	0	2
IV. 1a, 1b, Sex Determination	1	0	1
V. 1a, 1b, Age Determination	2	0	2
VI. Meteorological & Hydrographical	2	0	2
VII. Maintenance	192	768	960
Incidental Laboratory Time			
Running Time	40	160	200
Working Traps	36	144	180
seining	0	0	0
Travel Time	130	0	130
Seminar	32	0	32
Reports etc. (Flounder, Tagging, Quarterly)	59	0	59
Laboratory Duty	24	0	24

A total of 319 hours was spent in the field by the biologist and 1104 hours were utilized by the crew, giving a total of 1423

hours in the field. In the laboratory and on the road the biologist spent 245 hours. Thus, a total of 564 hours was utilized by the biologist and 1104 hours by the crew. Grand total was 1668 hours. This includes labor by a regular four man crew plus occasional part time labor.

SUMMARY

1. The new spiral type trap show indications that it will be successful in capturing redfish, trout and flounder.
2. Movement of fish through the pass in winter after the spawning time of the flounders, is practically nil. This agrees with the findings for the early part of 1950.
3. During the colder periods movement seems to be diurnal; as the water becomes warmer the movement becomes nocturnal.
4. Temperature appears to be the deciding factor on the movement of certain species.