

STATE Texas

DATE Jan. 1, 1951 to Mar. 31, 1951

QUARTERLY REPORT

Biologist: Dewey W. Miles
Boat: Manatee
Crew: Santos Pulido, Boat Captain

INTRODUCTION

The quarterly period of January, February, and March, 1951, was spent searching for adult sea-trout of the year class I and older.

Ovaries and testes from spent, maturing, and mature sea-trout were collected in the field and preserved in Bouin's solution for histological sectioning in order to make later comparisons of developmental stages.

STATUS OF THE PROJECT AT TIME OF LAST REPORT DECEMBER 31, 1950

The study of small trout and redfish of the 0 year class had been completed except for egg collections and artificial propagation which is to be pursued for the next quarter period ending June 30, 1951.

Data for a good overall picture of the sexual development of fish during the winter months has been obtained.

AREAS WORKED

Areas worked during the quarterly period ending March 31, 1951 were as follows:

Aransas Bay: Big Bayou, Mud Island, Allyn's Baye,
Trout Bayou, Turtle Bayou, Long Reef,
and Nine-Mile Point.

Copano Bay: Turtle Pen Flats, Port Bay, Palmetto Point, and Redfish Point.

Redfish Bay: Cummings Bayou.

BIOLOGICAL DATA

The sea-trout, Cynoscion nebulosus, reaches early maturity at about 165 to 180 mm. The three old fish at a length of 300 to 330 mm. constitute the majority of fish caught by sportsmen during the winter months and this class seems to be dispersed throughout the primary and secondary bays, and coastal lagoons.

The sexual resting stage or inactive stage is quite short for mature sea-trout and lasts from December through January.

Two small strips of fat are laid down on the dorsal wall of the body cavity of sea-trout just prior to spawning time. This may serve as a form of nourishment during spawning activities.

There is a possibility of reabsorption of ova of some mature fish otherwise we must have a large number of spawning sea-trout from April through November or a peak number during May and June. If reabsorption is a reality, the spawning potential is not so high. The first granular roe trout was caught in Big Bayou on March 8, 1951.

OTHER ACTIVITIES

I attended the Gulf Fisheries Commission meeting at Brownsville, Texas from January 10th to 12th inclusive.

I attended the Menhaden Committee Hearing in Austin, Texas from January 29th to February 2nd, and was delayed in returning due to icy roads.

I assisted biologists Nichols and Breuer in the poisoning of a land-locked lake at Nine-Mile Point on February 12th, 13th and 14th.

Biologist Nichols, and I made a check of the fish kill in Laguna Madre from February 14th to 19th inclusive. We covered an area from Port Isabel to Baffin Bay and made actual counts of sea trout, redfish, drum, golden croaker, and sheepshead on both sides of the intercoastal canal system.

We also checked the Arroya Colorado and a small salt water lake on the King Ranch.

On February 22nd and 23rd, I accompanied biologist, Joe Breuer, to Gilchrist, Texas to obtain the skeleton of a small whale which had been washed ashore. We did not obtain the whale but got pictures and measurements.

On March 3rd, several member of the legislature were taken on a trawl trip in Aransas Bay to observe collecting methods.

On March 5th, I assisted on a trawl trip for Dr. Talmadge's biology class at Rice Institute. We identified marine forms and described our methods of study.

On March 13th to 16th, I assisted the biologists on board the CARY to the snapper banks for the purpose of collecting seminar specimens.

On Sunday, March 25, 1951, I presented a paper on the sea-trout and redbfish to attendees of the 4th semi-annual Marine Seminar held by the Marine Laboratory at Rockport, Texas.

UTILIZATION OF TIME

Project	Biologist Hours	Crew Hours
Collecting and examining fish	200	200
Microscopy in Laboratory	75	
Photomicrography	45	
Trawl trips other than project work	100	30
Seminar and preparation	125	
Compilation of data	50	
Trips and Meetings	120	
Fish kill investigation	<u>60</u>	<u>60</u>
Total Hours	775	290

SUMMARY

Sea-trout one year and older have been caught and examined for sexual development through the winter months. Sampling was unusually slow through February and March after the fish kill. The length of the sexual resting stage of trout has been determined as two or three months.

The five day freeze which occurred along the Texas Coast from January 29th to February 2nd killed some 30,000 tons of fish. The largest kill was mullet, with drum, trout, redfish, golden croaker, and sheepshead next in number respectively. Five to twelve year old fish were killed in the Laguna Madre and one to three year old fish in the Rockport and Matagorda areas.

Sexual maturity of the sea-trout is reached at a length of 165 to 185 mm. or at the end of the first year of life.

If reabsorption of trout ova is possible, the spawning potential of one, two, and three year old fish may not be very high.

Additional fat develops in the sea-trout just prior to spawning time.