

FILE

Report of Fisheries Investigations

Basic Survey and Inventory of Fish Species in Murvaul Bayou Reservoir

by

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Dingell-Johnson Project F-3-R-5, Job B-13
December 1, 1957 - May 31, 1958

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SEGMENT COMPLETION REPORT

Investigations Project

State of TEXAS

Project No. F3R5

Name: Fisheries Investigations and Surveys of the Waters of Region 5-B.

Job No. B-13

Title: Basic Survey and Inventory of Fish Species in Murvaul Bayou Reservoir.

Period Covered: _____

December 1, 1957 to May 31, 1958

ABSTRACT:

This is only a brief report covering the activities and findings on the first half of a year-long survey on Lake Murvaul, a new lake near Carthage, Panola County. Recommendations are made to prepare a full report at the end of the year covering the entire years work.

OBJECTIVES:

To gather fundamental data on this newly impounded reservoir in regard to its physical, chemical and biological aspects. To determine the growth rates and food of game species stocked. To observe the influx of other fish species and to record chemical changes, if any, of the water. This is a follow up job to Job 16a-8, Project F14D1, whereby the fish population in Murvaul Bayou were eradicated as nearly as possible by the use of Pro-Noxfish.

PROCEDURE:

This job is set up to run for one year from the initial work in December 1957. This starting date was set at that time to coincide as nearly as possible to the date of impoundment. For this reason only a brief report is presented at this time with the complete, fully detailed report to follow at the end of the job year.

Lake Murvaul is a new 3,890 surface acre (at spillway crest) lake located near Carthage in Panola County.

A. Netting

Six net sets are made at randomly selected locations either on or close to the 20th of each month. A total of eight experimental type gill nets are used. A tabulation is made of the numbers of rough fish caught. All game fish and bull-head catfish are saved, weighed, measured and their stomach and sex are spot checked.

Condition factors are determined on these fish.

B. Seining

At least ten drags with a 26 foot bag seine are made each month at random locations. The catches are preserved in 10% formalin and brought back to the laboratory for identification and counting. A record is kept of the numbers of each species.

C. Water Samples

There are three water sample stations set up on the lake - one near the dam, one at mid lake and one in the upper end. Water samples are taken at five foot intervals from surface to bottom at each station. Dissolved oxygen, pH, alkalinity and chlorides are determined. This data is collected each month.

D. Temperature and Turbidity

Temperatures of the water is taken at the same locations as the water samples. A reversing thermometer is used. Turbidity is determined with a seechi disk.

FINDINGS:

A. Netting

The first month only 47 fish were caught; however, the following month 144 fish were caught of which approximately 90% were rough fish species (70% bullheads). A high catch of bullheads was encountered for the next three months. There were numerous warmouth and bluegills caught also. All fish caught were exceptionally fat and chunky. During February contract commercial fishermen removed 1,449 bullhead catfish weighing 1,270 pounds. They also removed over 1,700 small bluegills as a overpopulation control measure.

B. Seining

Hardly any fish were caught by seining until March when several minnows and Gambusia were caught. In April a few more species showed up and in May fifteen species were collected including a good bass spawn and a large school of shad. There appear to be good populations of bass, shad, various minnows, bullhead catfish and sunfish in the lake.

C. Water Quality

The water of this lake appears to be of a good quality for fish life. The chlorides are low (14-78 ppm), the alkalinity is comparatively high for East Texas (26-115 ppm), the pH is slightly acid (6.2-7.1) and the dissolved oxygen ranged from 0.0 to 10.0 ppm. It was noted that there was an oxygen deficiency below the 10 foot level in May.

STOCKING RECORD:

During the first six months there was a total of 185,000 largemouth bass fry placed in the lake by the Tyler Hatchery as follows:

May 5, 1958	75,000
May 8, 1958	100,000
May 22, 1958	10,000
Total	<hr/> 185,000

Additional stockings of channel catfish, crappie and possibly redear sunfish will be made as the fish become available.

TENTATIVE CHECKLIST OF SPECIES:

Below is a list of species found in the lake as of May 1958:

1. Amia calva
2. Dorosoma cepedianum
3. Esox americanus
4. Ictiobus bubalus
5. Carpionodes carpio
6. Moxostoma poecilurum
7. Minytrema melanops
8. Erimyzon sucetta
9. Notemigonus crysoleucas
10. Notropis venustus
11. N. lutrensis
12. N. atrocaudalis
13. N. maculatus
14. Pimephales vigilax
15. Ictalurus melas
16. I. natalis
17. Fundulus notatus
18. Gambusia affinis
19. Aphredoderus sayanus
20. Micropterus salmoides
21. Chaenobryttus gulosus
22. Lepomis cyanellus
23. L. punctatus
24. L. macrochirus
25. L. auritus
26. Pomoxis annularis
27. P. nigromaculatus
28. Centrarchus maculatus
29. Ammocrypta vivax
30. Etheostoma gracile

CONCLUSIONS AND RECOMMENDATIONS:

From the data collected to date the following can be concluded:

1. The water quality is good for fish life.
2. There is a large population of rough fish present but the game fish population is improving.
3. All fish are in excellent condition due to a large fauna of natural foods.

It is therefore recommended that:

1. This survey be continued until the end of the originally planned time of one year.
2. That a fully detailed report be submitted at the end of the year-long segment covering the entire year.

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Date: July 7, 1958