

FILE

JOB COMPLETION REPORT

As required by

FEDERAL AID IN WILDLIFE RESTORATION ACT

TEXAS

Federal Aid Project No. F-2-R-9

Fisheries Investigations and Surveys of the
Waters of Region II-B

Job No. E-6 Inks Lake Fish Population Control
Experiment

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ABSTRACT

The rough fish population control project on Inks Lake has completed its first year, and to date there has been little success.

The use of gill nets has provided limited harvesting of rough fish. Employment of baits, hoop nets, fyke nets, etc. did not yield a sufficient catch of rough fish to warrant the further use of these methods.

An attempt was made to selectively rotenone a slough for gizzard shad, but visual evidence of the success of this selective kill was lacking.

The project has yielded for the most part negative results, judging from creel census and resurvey data.

JOB COMPLETION REPORT

State of TEXAS

Project No. F-2-R-9

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

Job No. E-6

Title: Inks Lake Fish Population Control
Experiment

Period Covered: February 1, 1961 - January 31, 1962

Objectives:

To intensively remove rough fish species from Inks Lake as an experiment to determine the effect of such removal upon the specific composition of the total fish population and angling success.

Techniques Used:

A total of 97,350 feet of gill net was set during the twelve month segment in an effort to intensively remove smallmouth buffalo (Ictiobus bubalus), river carpsucker Carpionodes carpio, and longnose gar Lepisosteus osseus from the lake. Of this total 86,200 feet consisted of 2-inch square mesh and 11,150 feet was 3-inch square mesh.

In certain areas of the lake baiting was employed to attract fish into the netted area. The baits used were cottonseed cake and sour corn.

One slough of the lake, Devil's Waterhole, was treated with rotenone on December 12, 1961 at a concentration of 0.12 ppm to selectively remove gizzard shad. Other sloughs were measured for future treatments.

Approximately eight experimental gill nets were set each month under Job B-24 (Resurvey). These collections were made at designated stations in an attempt to obtain data which could be compared with previously collected information. From this, an attempt was made to determine any population changes resulting from rough fish removal efforts.

A three month creel census was conducted during the summer of 1961. Approximately two days each week were spent on Inks Lake during the census period carrying out this phase of the job.

Findings:

Less than four tons (7,960.62 pounds) of rough fish were removed from the lake in a twelve month period. In considering this data it should be remembered that commercial fishermen are capable of removing much larger quantities. For example, over 200,000 pounds of smallmouth buffalo were removed from Lake Belton during a ten month period in 1958-59. Even though the project has been primarily concerned with selectively removing buffalo and carpsucker and the commercial netter's principle aim is only for the buffalo, the above comparison will give some idea of the ineffectiveness of the netting thus far. Only 8.9 pounds of rough fish per surface acre of water have been removed from the lake. Table 1 shows the number and pounds of rough fish harvested each month by netting activities.

Baited areas which were netted did not seem to increase net catches..

Devil's Waterhole, a slough in the East portion of the lake, was selectively treated with rotenone 60W in an attempt to remove gizzard shad. This treatment met with little apparent success. The application may not have been heavy enough to accomplish the desired results, and the fact that the water was quite cold may have contributed to the failure of the treatment. Another factor to be considered is that the specific rotenone formulation used reportedly does not cause affected fish to break the surface, but rather causes them to die and sink to the bottom. This may account for the absence of visual evidence of success of the treatment.

The following shows the per cent of rough fish by weight and number as determined by experimental gill netting during the past seven years. As shown, rough fish have had a decided edge in both numbers and weights and this indicated majority of rough fish has not decreased during the project period.

Lake Inks Rough Fish Ratio, 1955-1961.

	1955	1956	1957	1958	1959	1960	1961
Per cent rough fish (number)	63	78	63	71	65	70	73
Per cent rough fish (weight)	74	74	78	71	74	79	85

A limited creel census, which was conducted during June, July and August of 1961, reveals the success of anglers on Inks Lake during this period. Table 2 shows the number, size of fish and other data collected during the creel census. As can be seen in the table, the total fish per-man-hour for Inks Lake was 0.92. This figure seems to represent fair success for the fishermen, but it should be pointed out that 37 per cent of the total catch was white bass Roccus chrysops, which are only caught seasonally. Also, 39 per cent of the total fish per-man-hour consisted of sunfish Lepomis sps.. From this, it may be concluded that fishing success on Inks Lake is not as good as the table indicates. The creel census data will be used for comparison purposes in future work.

Recommendations:

This project is in its second year, and to date, there has been no discernible reduction of rough fish in Inks Lake. Netting techniques used have resulted in no longnose gar harvest. In the next segment, new methods of rough fish removal will be screened in an effort to obtain a higher degree of success in removing rough fish from Inks Lake. Emphasis will be directed toward studying and developing rough fish removal methods rather than toward extensive harvesting.

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Approved by Marion Toole

Date: July 31, 1962

Regional Supervisor

Table 1. Lake Inks Rough Fish Control, Netting Results, January - December, 1961*

Species	February 22-24 No. Wt. Lbs.	March 28-31 No. Wt. Lbs.	April 13-20 No. Wt. Lbs.	May 11-19 No. Wt. Lbs.	June 20-27 No. Wt. Lbs.	July 11-21 No. Wt. Lbs.
Lepisosteus osseus	10 57.81	10 47.45	39 221.36	49 302.01	34 213.54	13 80.38
Dorosoma cepedianum	29 7.13	--	3 1.87	1 .25	4 1.57	3 1.83
Ictiobus bubalus	3 22.00	2 8.50	94 595.45	105 498.75	103 476.60	162 775.31
Carpionodes carpio	--	75 163.70	163 462.35	96 273.55	163 404.85	94 237.52
Cyprinus carpio	3 12.62	2 6.87	15 47.13	91 254.13	53 148.46	112 328.00
Aplodinotus grunniens	--	--	--	2 1.00	1 11.69	3 5.12
Totals	45 99.56	89 226.52	314 1328.16	344 1329.69	358 1256.71	387 1428.16

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Species	September 14-22 No. Wt. Lbs.	October 10-17 No. Wt. Lbs.	December 5-15 No. Wt. Lbs.	Total Number	Total Weight Lbs.
Lepisosteus osseus	4 18.06	5 38.75	93 469.98	257	1449.34
Dorosoma cepedianum	2 1.56	--	--	42	14.31
Ictiobus bubalus	71 339.72	117 580.17	--	657	3296.50
Carpionodes carpio	31 89.52	47 139.90	81 271.20	750	2042.59
Cyprinus carpio	61 242.29	17 69.51	4 20.75	358	1129.76
Aplodinotus grunniens	4 1.37	6 8.94	--	16	28.12
Totals	173 692.52	192 837.27	178 761.93	2080	7960.62

*Note: No netting collections made on Inks Lake during months of January, August or November, 1961.

Table 2. Inks Lake Creel Census, Number of Fish Caught by Lengths, June - August, 1961

Species Caught	Length in Inches										Length in Inches										Totals			
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		23	24	27
Carp	-	-	-	-	-	-	-	1	-	3	2	1	2	2	4	-	2	-	4	1	-	1	1	-
Gold fish	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Spottail shiner	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Channel catfish	-	-	-	-	4	8	13	11	40	18	5	5	-	4	1	2	1	3	-	1	-	-	-	116
Yellow catfish	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Yellow bullhead	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Largemouth bass	-	-	1	1	1	3	5	16	34	22	5	1	4	2	2	2	-	1	-	-	-	-	-	101
Spotted bass	-	-	-	-	-	1	4	3	6	3	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Warmouth	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
White bass	-	-	-	-	5	27	62	68	224	84	12	-	1	1	-	-	-	-	-	-	-	-	-	484
Green sunfish	5	25	21	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59
Redear sunfish	2	8	14	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26
Orangespotted sunfish	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Bluegill	73	95	137	25	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	333
Longear sunfish	10	50	27	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97
White crappie	-	-	1	1	-	1	6	5	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Drum	-	-	-	-	-	19	6	6	6	1	-	-	1	-	-	-	-	-	-	-	-	-	-	39
Totals	91	180	207	47	15	59	96	110	312	132	24	7	8	9	7	4	3	4	4	2	1	1	1	1325

Table 2 (Con't.) Inks Lake Creel Census Data.

Number of people fishing	602
Number of man-hours fished	1,441
Number of fish caught	1,325
Number of fish caught per person	2.20
Number of fish caught per-man-hour	0.92

Principal Game Species	No. Caught Per Fisherman	No. Caught Per-Man-Hour
Number largemouth bass caught	0.17	0.07
Texas spotted bass caught	0.03	0.012
Number white crappie caught	0.03	0.012
Number channel catfish caught	0.19	0.08
Number white bass caught	0.80	0.34
Number sunfish (all species)	0.86	0.36

