

## JOB COMPLETION REPORT

State of TEXAS

Project No. F-5-R-5

Name: Fisheries Investigations and Surveys of  
the Waters of Region 3-B.

Job No. B-22

Title: Resurvey of the Waters of Region 3-B.

Period Covered:

April 16, 1957 through April 15, 1958

### ABSTRACT:

Three lakes were resurveyed. These were Oak Creek Reservoir, San Angelo Reservoir, and Lake Nasworthy. The netting and seining samples indicated that sunfish have become quite abundant in Oak Creek Reservoir; that gizzard shad, carp, and river carpsuckers have continued their trend toward dominance in San Angelo Reservoir; and that Lake Nasworthy's fishery population has remained relatively stable. Bulrushes and cattails, however, have become a serious vegetation problem in Lake Nasworthy.

### OBJECTIVES:

To determine the present status of waters and fish populations which have been previously surveyed in Project F-5-R.

### PROCEDURE:

Three reservoirs were resurveyed during the segment. These were Oak Creek Reservoir, San Angelo Reservoir, and Lake Nasworthy. Netting collections were made with experimental nylon gill nets, measuring 125 feet in length by 8 feet in depth and made up in five, 25 foot sections. Mesh sizes of these nets increased progressively in each following section at one-half inch intervals, beginning with one-inch mesh and terminating with a three-inch mesh section. Seining collections were made with common sense type seines.

Gill netted specimen were identified, weighed, measured and examined for stage of sexual development in the field. Seined specimens were preserved in ten percent formalin solution and taken to the laboratory for identification.

### FINDINGS:

#### Oak Creek Reservoir

Netting- Five netting samples were collected from Oak Creek Reservoir during the segment. The results of only five collections can not be considered entirely representative. As they are, however, these results indicate that bluegill sunfish have become the most abundant fish in the lake by a wide majority. The percent by number for this species jumped from 20.89 percent taken from the 1953 through 1956 segments to 66.04 percent taken in the five netting collections for this segment. The average size of these fish is very small (2 ozs.). Due to the extreme scarcity

or possible absence of gizzard shad in the lake it is considered possible that these small sunfish are the principle forage species utilized by other fish for food. Even so, the relative abundance of sunfish as indicated by the netting sample must be considered excessive.

As was mentioned above shad were not collected at all in the netting. Previously they had accounted for 14.69 percent of the netting collections. River carpsuckers, on the other hand, have apparently increased slightly in number and considered a potential problem in the future of this lake.

The percentages of abundance of other species remained relatively constant. These percentages are given in Table 1.

Seining- The results of the six seining collections bore out the netting indication that bluegill sunfish are the dominant species in Oak Creek Reservoir. It may be significant that a number of small white bass were also collected. Largemouth bass apparently had a heavy spawn during the last year.

No new species were added to the checklist compiled during the initial survey.

#### San Angelo Reservoir

Netting- Eleven netting samples were collected during the course of the resurvey. The trend toward increasing numbers of rough fish and diminishing numbers of game fish that was noted in the initial survey of this lake seems to continue. Shad have increased considerably in number although the percentage by weight of this species has declined. Carp and river carpsuckers have gained in dominance and are considered the main fishery problems in this lake.

While white crappie were at one time the most sought after game species in the lake their average size has decreased to such an extent that they are no longer as frequently fished for.

White bass are the only game fish that have increased in relative abundance according to netting samples. This species is providing a great deal of fishing pleasure for people of the area.

Channel catfish make up a smaller percentage by number in the netting samples for the resurvey than they did in the original survey. They are still ardently fished for, however, and some exceptionally large fish of this species (11 and 12 pounds) have been reported recently. The average size of channel catfish in the netting sample was 3 lbs. 2 oz.

Largemouth bass have apparently decreased in number but are usually of a very desirable size when caught. The average weight of this species in the netting sample was 4 lbs. 9 ozs.

The pertinent data for the netting collections is given in Table 2.

Seining- Four seining collections were made during the resurvey. No new species were taken. The seining samples indicated, as did the netting, that white bass were increasing rapidly in number and that largemouth bass apparently were be-

coming less plentiful.

### Lake Nasworthy

Netting- The ten netting samples collected from Lake Nasworthy indicated that the fish population in the lake has remained substantially the same as it was in the initial survey even though the lake has filled up since that initial survey when the water level was extremely low. The trend toward dominance by gizzard shad and river carpsuckers has increased slightly. Carp have shown a slight increase in percentage by number also. River carpsuckers and carp together compose over 36 percent by number and 57 percent by weight of the netting sample. All species of rough fish considered together compose over 83 percent by number and 77 percent by weight of the netting collections.

Channel catfish have increased somewhat since the initial survey and are the dominant game species according to the netting samples. It must be noted that yellow catfish provide the greatest fishing attraction in the lake. This lake has consistently produced good catches of this species for many years.

White bass and crappie were not quite as abundant as in the initial survey. Most of the fish sampled by netting and also caught by fishermen are relatively small.

Table 3 gives pertinent data for all species collected by netting.

Seining- Five seining collections were taken from Lake Nasworthy. Yellow bullheads were collected by seining from this lake for the first time. However, it is possible that this species has been present in the lake in very limited numbers for some time. Predation on this species by yellow catfish, which have always been fairly abundant in Lake Nasworthy, is a possible reason for the scarcity of bullheads. Besides minnows and sunfish, the majority of the fish collected by seining were rough species.

Vegetation- Bulrushes (Scirpus sp.) and cattails (Typha latifolia) have increased considerably in Lake Nasworthy. In fact, much of the lake area is inaccessible because of dense vegetation. The area covered by these plant species has been estimated to exceed 350 acres and is apparently steadily increasing.

#### RECOMMENDATIONS:

It is recommended that:

1. All three lakes be rechecked again during the next segment in order to ascertain if any trends now in progress continue or if any new developments in the fisheries' status occur.

2. Control measures be taken to eliminate the heavy stands of bulrushes and cattails in Lake Nasworthy.

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Table 1. Results of Five Gill Netting Collections Taken from Oak Creek Reservoir from April 16, 1957 to April 15, 1958.

Species	No.	Percent by No.	Total Wt.		Avg. Wt.		Percent by Wt.	Avg. "K"
			lbs.	ozs.	lbs.	ozs.		
River carpsucker	16	15.08	16		1		36.31	2.29
Carp	1	.94	4	5	4	5	9.79	2.42
Channel catfish	2	1.89	9	14	4	15	22.41	2.05
White bass	2	1.89	1			8	2.27	2.46
Largemouth bass	4	3.78	2	12		11	6.24	2.08
Bluegill	70	66.04	8	12		2	19.86	4.44
White crappie	11	10.38	1	6		2	3.12	2.10
<b>TOTAL</b>	<b>106</b>	<b>100.00</b>	<b>44</b>	<b>1</b>			<b>100.00</b>	

Table 2. Results of Eleven Gill Netting Collections Taken from San Angelo Reservoir from April 16, 1957 to April 15, 1958.

Species	No.	Percent by No.	Total Wt.		Avg. Wt.		Percent by Wt.	Average "K"
			lbs.	ozs.	lbs.	ozs.		
Gizzard shad	252	48.83	47	4		3	5.29	1.75
River carpsucker	127	24.62	293	11	2	5	32.88	2.43
Carp	63	12.20	378		6		42.32	2.58
Channel catfish	12	2.32	37	8	3	2	4.20	2.12
White bass	33	6.39	94	14	2	14	10.62	3.32
Largemouth bass	8	1.56	36	8	4	9	4.09	2.96
White crappie	19	3.69	3	9		3	.40	2.97
Freshwater drum	2	.39	1	12		14	.20	2.31
<b>TOTAL</b>	<b>516</b>	<b>100.00</b>	<b>893</b>	<b>2</b>			<b>100.00</b>	

Table 3. Results of Ten Gill Netting Collections Taken from Lake Nasworthy from April 16, 1957 to April 15, 1958.

Species	No.	Percent by No.	Total Wt.		Avg. Wt.		Percent by Wt.	Avg. "K"
			lbs.	ozs.	lbs.	ozs.		
Gizzard shad	319	44.37	59	13		3	7.96	1.70
Longnose gar	23	3.20	94	14	4	2	12.62	.56
River carpsucker	205	28.51	269	10	1	5	35.87	2.48
Carp	54	7.51	162		3		21.55	2.40
Channel catfish	84	11.68	120	12	1	7	16.07	1.98
Yellow catfish	4	.56	22		5	8	2.93	2.26
White bass	16	2.23	15			15	2.00	2.35
Bluegill	1	.14		4		4	.03	4.62
Largemouth bass	1	.14	2	6	2	6	.32	2.75
White crappie	6	.83	1	8		4	.20	2.88
Freshwater drum	6	.83	3	6		9	.45	2.25
<b>TOTAL</b>	<b>719</b>	<b>100.00</b>	<b>751</b>	<b>9</b>			<b>100.00</b>	