

JOB COMPLETION REPORT

As required by

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TEXAS

Federal Aid Project No. F-4-R-10

Fisheries Investigation and Surveys of the
Waters of Region II-A

Job No. B-29: Fisheries Reconnaissance

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ABSTRACT

Reconnaissance checks were made on seven major lakes in Region II-A during the period November 1, 1962 and October 31, 1963. All of these were lakes which have recently been added to this region. Lakes Grapevine, Graham, Hords Creek, Hubbard Creek, Kickapoo, Proctor, and Wichita were the concerned waters.

The results of netting in the 1962-1963 segment were compared with those of the 1960-1961 netting and it was noted that 36.84 per cent of the 1962-1963 catch were white bass which gave the game species an increase of 18.48 per cent over the 1960-1961 netting.

Lakes Graham, Hubbard Creek and Proctor are new impoundments where some rotenone treatment was done to remove rough fish populations prior to impoundment. Rough fish are present in considerable numbers in each reservoir but game fish populations are good.

Hords Creek Lake appears to be in good condition as only three species of rough fish were taken while six species of game fish were netted. A total of 58.82 per cent of the number and 36.16 per cent of the weight were game fish.

Lakes Kickapoo and Wichita are located on the Wichita River system. Lake Kickapoo has a rather large population of white crappie in poor condition while Lake Wichita has a dominant rough fish population.

JOB COMPLETION REPORT

State of Texas

Project No. F-4-R-10

Name: Fisheries Investigation and Surveys of the Waters of Region II-A

Job No. B-29

Title: Fisheries Reconnaissance

Period Covered: November 1, 1962 to October 31, 1963

Objectives:

To conduct limited investigations to obtain information concerning gross changes in fishing conditions and factors influencing fish populations.

Procedure:

Certain major lakes in Region II-A, that had been surveyed or had other work done, were revisited and net collections made. These data collected were recorded for comparison with the results of the previous work, when available, to provide a basis for determining any change that may have occurred. Lakes Grapevine, Graham, Hords Creek, Hubbard Creek, Kickapoo, Proctor and Wichita were revisited.

Findings:

Lake Grapevine

The results of netting in Grapevine Lake indicate that there has been some changes in the fish population since the 1960-1961 sample was taken. Rough species made up 61.60 per cent of the 1960-1961 sample with gizzard shad providing 36.36 per cent (Table 1). The game species provide 57.88 per cent of the 1962-1963 catch with white bass making up 36.84 per cent of the total (Table 2). The appearance of white bass in the catch for 1962-1963 was the major cause of the rise in game fish percentage. Carp is another species that was taken in the 1962-1963 sample but not in the previous one while shortnose gar, longnose gar and channel catfish appear in the 1960-1961 sample but not in that of 1962-1963.

Lake Graham

Lake Graham is one of the lakes that was added to this region during the recent reorganization and previous data is not at hand. This is a comparatively new lake and the predominance of game species is to be expected. White crappie is the most abundant species in the net samples. They provide 32.88 per cent of the game fish total of 63.13 per cent (Table 3). The rough fish make up for their lack of numbers by providing 69.30 per cent of the total weight. Smallmouth buffalo and spotted gar comprise 32.85 and 26.54 per cent respectively followed by white crappie with 21.99 per cent.

This lake was treated with rotenone soon after impoundment for the purpose of removing all the rough fish whereupon it was restocked with game species. It would not appear that the rotenone treatment was successful unless the presence of a healthy rough

fish population is due to reinfestation from an outside source.

Lake Graham has been one of the more popular fishing spots of this area with numerous catches of large bass, crappie and catfish being made. The land usage tends to favor ranching with smaller acreages devoted to raising crops.

Hords Creek Lake

Hords Creek Lake is another impoundment that was added to this project this year. The netting collections indicate a favorable ratio between game and rough fish. Only three of the nine species taken were rough species. Game fish provided 58.82 per cent of the fish caught while rough fish made up 63.84 per cent of the total weight (Table 4). White crappie and gizzard shad were the most numerous with 25.50 and 22.54 per cent respectively, followed by channel catfish with 17.65 per cent. An examination of the weights of each species taken reveals a different trend as river carpsucker and carp provide 42.15 and 22.03 per cent respectively.

Hubbard Creek Lake

Hubbard Creek Lake is a new water supply reservoir. The impoundment was completed in July 1962 and the lake basin was treated with rotenone to remove the existing fish population. This was done to eliminate the rough fish species and provide a more favorable habitat for the young game fish that were to be stocked into the lake. The success of the treatment is open to question because the rough fish make up 52.50 per cent of the total number taken and 65.43 per cent of the weight (Table 5). Carp and blue catfish are the most numerous species followed by channel catfish, largemouth bass and smallmouth buffalo. The eroded condition of the watershed together with the shallow water over much of the upper part tend to offer conditions favorable to excessive turbidity. Ranching and farming are the major land uses on the watershed but vegetative cover is slight and in dry weather is almost absent.

Considerable difficulty from salt water pollution is anticipated as the watershed has many old oil wells that produce much salt water. Some natural salt deposits are present and the saline content will be high if present efforts at control are not successful. Few facilities are available and the lake has not attained widespread fisherman use to date.

Lake Kickapoo

Lake Kickapoo is located, on the Wichita River system, near Archer City, Texas. It is a rather turbid lake which is open to high winds and has almost constant wave action which tends to disturb the silt giving the lake a red appearance.

The net samples are rather evenly divided as to species with three game species and three rough species (Table 6). The game fish provide the greatest number of specimens because of a rather large catch of small crappie. These fish appear to be stunted in many instances, despite the fact that many large crappie are taken from this lake. The 60 white crappie taken weighed a total of 4.79 pounds and had an average length of 235 millimeters which gave them a rather slender appearance. In fact none of the fish taken except the white bass were in good condition. Even the carpsucker were smaller than usual in lakes of this area.

Lake Kickapoo is fished with trotlines both legal and illegal as is evident when the number of illegal lines, confiscated by wardens, is taken into consideration. A rather constant effort is made to prevent the use of snag-lines, traps and trotlines with more than 50 hooks but there are a large number of people who continue to use these devices.

The land use on the watershed is ranching and farming with some oil production. The soil is rather badly eroded and much silt enters the reservoir.

Lake Proctor

Lake Proctor, another new lake, is located on the Leon River between Comanche and Dublin. It is between Lakes Leon and Belton and is in an agricultural district that is largely farming. The soil is sandy but has much clay so there is likely to be a considerable amount of siltation.

Two large borrow pits below the dam were treated with rotenone to remove the existing fish population in order that they might be stocked. This was done at the time the gates were closed but no attempt was made to treat the watershed as that would involve many small lakes and at least one large lake. The rotenone treatment of borrow pits prior to restocking may be of considerable value if one can assume this to be the reason for the growth of the fish stocked into this lake. It is not known that the specimens taken were those that had been stocked but they represented the species that were introduced. The fish appeared to be young and maintained good weights for fish of their length.

There is a predominance of rough species in the net catch, only five of the 16 species taken were game species (Table 7). The number of specimens taken strongly favors the game fish as more than 71 per cent were of those more desirable fish. Channel catfish and white crappie made up 24.21 and 23.32 per cent respectively. Largemouth bass provided 16.37 per cent followed by black bullhead with 5.61 per cent. Channel catfish represented 34.88 per cent of the total weight followed by largemouth bass and white crappie with 15.23 and 14.42 per cent respectively. Spotted gar led the rough fish species with 10.84 per cent as rough fish provided only 33.96 per cent of the total weight.

This impoundment is not fully developed as yet and few facilities are available but there is considerable local interest and much fishing is done with good success. The reputation of Lake Proctor will spread as additional facilities are constructed and the fish growth progresses.

Lake Wichita

Lake Wichita is the smaller of the lakes in the Wichita River system and is located in the western edge of Wichita Falls, Texas. This is a shallow lake that is subject to excessive wind action which tends to render it permanently turbid with a red color.

A check of the species taken show that the catch was made up of seven rough species and four game species (Table 8). The numbers taken favor the rough fish as 79.13 per cent of the net catch were rough fish. Gizzard shad was the predominant species with 57.91 per cent followed by white crappie and longnose gar with 13.67 and 6.84 per cent

respectively. The rough fish dominance is even more pronounced when the weights of the species taken are examined. Game species provide only 11.57 per cent of the total.

The scarcity of facilities on this lake tends to limit it's use as does the wind action from which there is little protection. The lakeshore is rather heavily settled and the land use is of little importance since little care is given lawns and garden plots. There is considerable oil production on the watershed but pollution from brine has not appeared to be a major factor.

Past attempts at shad control do not appear to have had much effect as they continue to be quite prominent in the catch from both a number and weight standpoint.

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Coordinator

Date: May 6, 1964

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Table 1. Grapevine Lake netting results, 1960-1961

Species	Number	Per Cent of Number	Weight Lbs.	Per Cent of Weight	Average length (MM)	No. Per 100 ft. of net	Lbs. Per 100 ft. of net	"K" Range	"K" Average
Spotted gar *	2	3.03	5.1	10.22	530	0.36	0.93	0.55-0.70	0.62
Shortnose gar *	4	6.06	2.8	5.61	374	0.73	0.51	0.56-0.62	0.58
Longnose gar *	1	1.51	2.3	4.61	690	0.18	0.42	0.32-0.32	0.32
Gizzard shad *	24	36.36	8.4	16.83	196	4.36	1.53	1.75-2.26	1.99
Smallmouth buffalo *	3	4.55	9.0	18.04	325	0.54	1.64	3.89-4.10	3.98
River Carpsucker *	5	7.58	9.8	19.63	303	0.91	1.78	2.61-3.10	2.90
Channel catfish	1	1.51	1.1	2.21	305	0.18	0.20	1.70-1.70	1.70
Largemouth bass	2	3.03	1.4	2.80	228	0.36	0.25	2.47-2.57	2.52
White crappie	23	34.86	9.6	19.24	178	4.19	1.74	2.65-3.20	2.89
Drum *	1	1.51	0.4	0.81	187	0.18	0.07	2.40-2.40	2.40
TOTALS	66	100.00	49.9	100.00		11.99	9.07		

* Indicates rough fish species

Table 2. Grapevine Lake Netting results, 1962-1963

Species	Number	Per Cent of Number	Weight Lbs.	Per Cent of Weight	Average length (MM)	No. Per 100 ft. of net	Lbs. Per 100 ft. of net	"K" Range	"K" Average
Spotted gar *	1	2.63	.79	2.73	390	0.20	0.15	1.50-1.50	1.50
Gizzard shad *	4	10.52	1.57	4.71	223	0.80	0.32	1.40-1.75	1.62
Smallmouth buffalo *	1	2.63	5.24	15.73	410	0.20	1.05	3.40-3.40	3.40
River carpsucker *	2	5.24	3.75	11.26	850	0.40	0.75	2.30-2.80	2.25
Carp *	7	18.42	11.05	33.19	295	1.40	2.21	2.30-3.20	2.75
Largemouth bass	4	10.52	2.67	8.02	303	0.80	0.53	1.55-2.30	1.91
White bass	14	36.84	6.81	20.45	221	2.80	1.36	2.50-3.30	2.78
White crappie	4	10.52	1.22	3.66	138	0.80	0.25	2.70-3.00	2.85
Drum *	1	2.63	.20	.61	165	0.20	0.04	2.10-2.10	2.10
Totals	38	99.95	33.30	100.36		7.60	6.66		

* Indicates rough fish species

Table 3. Lake Graham netting results, 1962-1963

Species	Number	Per Cent of Number	Weight Lbs.	Per Cent of Weight	Average length (MM)	No. Per 100 ft. of net	Lbs. Per 100 ft. of net	"K" Range	"K" Average
Spotted gar *	7	9.58	16.55	26.54	514	1.40	3.31	0.52-0.76	0.60
Gizzard shad *	12	16.44	1.92	3.08	162	2.40	0.38	1.22-1.92	1.67
Smallmouth buffalo *	3	4.11	20.48	32.85	460	0.60	4.09	3.05-3.40	3.22
River carpsucker *	1	1.37	2.68	4.30	380	0.20	0.53	2.22-2.22	1.83
Channel catfish	11	15.07	4.29	6.88	229	2.20	0.85	1.20-1.45	1.31
Black bullhead *	3	4.11	0.83	1.34	190	0.60	0.16	1.55-2.10	1.83
Largemouth bass	1	1.37	0.17	0.27	160	0.20	3.40	1.95-1.95	1.95
Green sunfish	1	1.37	0.07	0.12	100	0.20	0.01	3.55-3.55	3.55
Bluegill sunfish	9	12.33	0.90	1.44	114	1.80	0.18	2.90-3.15	3.04
White crappie	24	32.88	13.71	21.99	209	4.80	2.74	1.80-2.70	2.25
Drum *	1	1.37	0.74	1.19	260	0.20	0.14	1.95-1.95	1.95
Totals	73	100.00	62.34	100.00		14.60	15.79		

* Indicates rough fish species

Table 4. Hords Creek Lake netting results, 1962-1963

Species	Number	Per Cent of Number	Weight Lbs.	Per Cent of Weight	Average length (MM)	No. Per 100 ft. of net	Lbs. Per 100 ft. of net	"K" Range	"K" Average
Gizzard shad *	23	22.54	4.75	4.39	176	4.60	0.95	1.10-2.00	1.61
River carpsucker *	14	13.73	42.15	39.04	433	2.80	8.43	1.77-2.70	2.14
Carp *	5	4.90	22.03	20.41	403	1.00	4.41	2.22-2.85	2.45
Flathead catfish	2	1.96	8.86	8.20	510	0.40	1.77	1.47-1.55	1.51
Channel catfish	18	17.65	14.17	13.13	273	3.60	2.83	1.22-1.75	1.39
Largemouth bass	4	3.92	11.37	10.53	359	0.80	2.27	1.75-2.50	2.27
Redear sunfish	1	0.98	0.13	0.12	120	0.20	0.02	3.45-3.45	3.45
Bluegill sunfish	9	8.82	0.98	0.91	128	1.80	0.20	2.65-3.40	2.98
White crappie	26	25.50	3.53	3.27	146	5.20	0.71	1.90-2.55	2.25
Totals	102	100.00	107.97	100.00		20.40	21.59		

* Indicates rough fish species

Table 5. Hubbard Creek Lake netting results, 1962-1963

Species	Number	Per Cent of Number	Weight Lbs	Per Cent of Weight	Average Length (MM)	No. Per 100 ft. of net	Lbs. Per 100ft. of net	"K" Range	"K" Average
Spotted gar *	8	3.00	8.58	4.29	441	0.68	0.73	0.53-0.83	0.65
Longnose gar *	12	4.51	31.65	15.84	677	1.02	2.69	0.54-0.61	0.57
Gizzard shad *	22	8.27	12.07	6.05	237	1.87	1.03	1.07-2.10	1.75
Smallmouth buffalo *	31	11.65	35.39	17.71	221	2.64	3.01	2.35-3.50	2.90
River carpsucker *	3	1.13	3.37	1.69	252	0.25	0.29	2.00-2.85	2.51
Carp *	52	19.55	34.74	17.39	243	4.43	2.96	1.80-3.20	2.33
Channel catfish	33	12.41	26.35	13.19	263	2.81	2.24	1.07-1.75	1.98
Blue catfish	52	19.55	17.11	8.57	256	4.43	1.46	1.03-1.50	1.30
Black bullhead *	6	2.26	2.20	1.10	199	0.51	0.19	1.80-2.50	2.00
Flathead catfish	1	0.37	1.37	0.68	330	0.08	0.11	1.75-1.75	1.75
Largemouth bass	33	12.41	19.77	9.90	230	2.81	1.68	1.45-2.50	2.22
Bluegill sunfish	5	1.88	0.59	0.30	111	0.43	0.05	2.65-4.50	3.80
White crappie	5	1.88	3.87	1.93	228	0.43	0.33	2.60-3.30	2.76
Drum *	3	1.13	2.70	1.36	228	0.25	0.23	1.75-3.38	2.56
Totals	266	100.00	199.76	100.00		22.64	17.00		

* Indicates rough fish species

Table 6. Lake Kickapoo netting results, 1962-1963

Species	Number	Per Cent of Number	Weight Lbs.	Per Cent of Weight	Average length (MM)	No. Per 100 ft. of net	Lbs. Per 100 ft. of net	"K" Range	"K" Average
Shortnose gar *	3	3.00	4.49	15.23	567	1.00	1.50	---	---
River carpsucker *	17	17.00	9.86	33.44	257	5.67	3.29	0.98-3.00	1.68
Channel catfish	13	13.00	5.28	17.91	223	4.33	1.76	0.73-1.90	1.38
White bass	2	2.00	4.62	15.67	425	0.67	1.54	1.25-1.50	1.37
White crappie	60	60.00	4.79	16.25	235	20.00	1.60	0.70-2.50	1.85
Drum *	5	5.00	0.44	1.50	130	1.67	0.15	1.80-2.20	2.00
Total	100	100.00	29.48	100.00		33.34	9.84		

* Indicates rough fish species

Table 7. Lake Proctor netting results, 1962-1963

Species	Per Cent of		Weight Lbs.	Per Cent of Weight	Average Length (MM)	No. Per 100 ft. of net	Lbs. Per 100 ft. of net	"K" Range	"K" Average
	Number	Number							
Spotted gar *	20	4.48	31.70	10.84	462	1.05	1.67	0.54-0.88	0.72
Longnose gar *	1	0.23	2.12	0.72	600	0.05	0.11	---	--
Gizzard shad *	21	4.71	8.44	2.89	221	1.11	0.44	1.40-1.90	1.76
Smallmouth buffalo *	21	4.71	5.67	1.94	119	1.11	0.30	1.90-3.42	2.53
River carpsucker *	13	2.92	11.62	3.98	238	0.68	0.61	2.15-3.20	2.35
Carp *	22	4.93	16.50	5.64	232	1.16	0.87	1.90-2.50	2.12
Channel catfish	108	24.21	101.95	34.88	308	5.68	5.37	1.13-2.00	1.45
Black bullhead *	25	5.61	17.51	5.99	238	1.32	0.92	1.75-3.10	2.27
Yellow bullhead *	3	0.67	2.00	0.68	252	0.16	0.10	1.65-2.10	1.93
Flathead catfish	1	0.22	0.70	0.24	270	0.05	0.04	1.65-1.65	1.65
Largemouth bass	73	16.37	47.43	16.23	226	4.84	2.50	1.75-3.45	2.39
Green sunfish	8	1.80	1.60	0.55	141	0.42	0.08	2.55-3.80	3.15
Bluegill sunfish	18	4.03	1.64	0.56	105	0.95	0.09	3.00-4.80	3.90
Longear sunfish	5	1.12	0.47	0.16	105	0.26	0.02	3.50-4.30	3.81
White crappie	104	23.32	42.17	14.42	190	5.47	2.22	1.02-3.60	2.72
Drum *	3	0.67	0.79	0.28	163	0.16	0.04	2.35-3.60	2.78
Totals	446	100.00	292.31	100.00		24.47	15.38		

* Indicates rough fish species

Wichita
Table 8. Lake Whitney netting results, 1962-1963

Species	Number	Per Cent of Number	Weight Lbs.	Per Cent of Weight	Average Length (MM)	No. Per 100 ft. of net	Lbs. Per 100 ft. of net	"K" Range	"K" Average
Spotted gar *	8	2.87	19.97	6.22	543	0.89	2.22	0.56-0.74	0.61
Shortnose gar *	1	0.36	1.49	0.46	470	0.11	0.17		
Longnose gar *	19	6.84	120.51	37.57	2879	2.11	13.39	0.96-2.00	
Gizzard shad *	161	57.91	74.85	23.33	211	17.89	8.32	2.43-3.20	1.66
Smallmouth buffalo *	13	4.68	25.03	7.80	874	1.45	2.78	2.25-4.20	2.70
River carpsucker *	14	5.03	40.53	12.63	1315	1.56	4.50	1.15-1.85	2.99
Channel catfish	11	3.96	13.64	4.25	333	1.22	1.52	1.95-2.55	1.46
White bass	4	1.44	4.70	1.47	284	0.44	0.52	3.10-5.20	2.18
Bluegill sunfish	5	1.80	1.02	0.32	94	0.55	0.11	1.90-3.40	3.19
White crappie	38	13.67	17.76	5.53	218	4.22	1.97	1.40-1.80	2.40
Drum *	4	1.44	1.32	0.42	211	0.44	0.15		1.58
Totals	278	100.00	320.82	100.00		30.88	35.65		

* Indicates rough fish species