

STATE TexasPROJECT NO. F-3-R-1, Job B-6PERIOD July 1, 1953 - May 1, 1954

## Job Completion Report

by

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## TITLE

Inventory of Species Present in Those Portions of the Sabine River Within Gregg County, Texas.

## OBJECTIVES

To determine the distribution of the species present, their relative abundance and the ecological factors influencing their distribution.

## METHODS

A total of 61 collections were made at five stations on the Sabine River in Gregg County during this study. There were 25 seining collections made with a 26 x 6 ft. bag seine. Thirty-three hoop nets with 1 to 3 inch mesh were set and three 1½ inch mesh gill net, 100 x 8 ft. were set. Seining and gill net collections were made at low and normal water periods. Hoop net sets were made during "rises" in March, April and May, 1954.

Seined specimens were preserved in 10% formalin and brought into the laboratory for identification and counting. Hoop and gill net specimens were identified, counted and weighed in the field. A total count of all specimens collected was made and percentages of the total of each species calculated.

Temperature, pH, turbidity, dissolved oxygen and carbon dioxide and chlorides were determined at each station after proper equipment became available and ecological conditions were observed in conjunction with Job A-2 (Basic Survey.)

The five localities selected as collection stations were chosen for habitat and easy accessibility.

Station #1, located approximately one-half mile above Highway 149 bridge, is shallow, fast water. The bottom is gravel and rock; shore line is rocky with high clay banks; water depth normally six to twenty-four inches; the river is approximately 120 ft. wide at this point; there is no aquatic vegetation present at this station.

Station #2, located approximately two miles south of Highway 26, is moderately fast water. The bottom is bed-rock strewn with boulders; the shoreline is rocky, with steeply sloping clay banks; water depth normally six to 36 inches; the river is approximately 90 ft. wide at this point; aquatic vegetation at this station is willow. Twenty - three species were collected here.

Station #3, located at Highway 26 bridge, is moderately fast water. The bottom is sand; shore line is sand and clay with low clay banks; water depth normally six inches to six ft; river approximately 75 feet wide at this point; aquatic vegetation present at this station is willow and button bush; Station 3 is located on a sand bar running alongside a deep portion of the river; this is the best of the collecting stations, with 34 species collected here.

Station #4 located just below the Highway 259 bridge, is deep, slow, running water. The bottom is silt; shoreline is sand and silt, with steeply sloping sand and silt banks; water depth zero up to 15 ft; no aquatic vegetation present at this station. Seining very difficult due to the steep banks and depth. The river is approximately 100 ft. wide here. There were only 17 species collected here.

Station #5, located just above the Highway Bridge 271, is fairly slow running water. The bottom is sand and silt; shore line is sand and silt with gently sloping banks; river is approximately 75 ft. wide at this point; aquatic vegetation present is mostly scattered willow. There were 28 species collected at this station.

## RESULTS

There were 46 different species of fish taken in all methods of collection. Table No. 1 lists each species and the localities where each was found. Ten of the 46 species were found at all five stations. Twelve species were found at only one station each. Seining collections produced 2,139 specimens and thirty nine different species. Table No. 2 gives the results of the seining, showing the numbers of each species found at each station and the total and percent of each species. The most abundant species in the seining collections were the red shiner (16.6%); the mosquito fish (11.9%); emerald shiner (11.1%); Texas shiner (10.7%). Each remaining species made up less than 10% of the total catch.

Hoop net collections took 37 specimens, including 12 species. Five of these species, the black bullhead, channel cat, flathead cat, drum and carp, were not taken by any other means. Table No. 3 gives the location, numbers and weights of each species taken in hoop nets. Three 1½ inch mesh gill nets were set in the deep water at Station #4, but the catch was only 8 long-nose gar weighing 14.5 pounds.

Commercial fishermen report the most common fish taken by them in hoop nets are drum, carp and buffalo. However, no buffalo were taken in hoop nets during this study. The lamprey listed in the checklist was taken by a commercial fisherman, who reported lampreys to be very numerous.

## SUMMARY

1) The field work of this job was done in conjunction with Job A-2 (Basic Survey) of Sabine River in Gregg County.

2) Sixty-one collections were made at five different stations with seines, gill nets and hoop nets.

3) 2,184 specimens collected included 46 different species.

4) Minnows made up the bulk of the seining collections. Game species Centrarchids) made up approximately 8% of the seining collections.

5) Hoop nets and gill nets caught only 45 specimens, but included 7 species not taken seining.

6) Commercial fishermen reported drum, carp and buffalo their most common catch.

Table No. 1 Species Distribution Checklist

Scientific	Name of Species		#1	Stations				
		Common		#2	#3	#4	#5	
1.	<i>Ichthyomyzon castaneus</i>	Chestnut lamphrey						x
2.	<i>Lepisosteus osseus</i>	Longnose gar					x	
3.	<i>Lepisosteus productus</i>	Spotted gar				x		
4.	<i>Dorosoma cepedianum</i>	Gizzard shad	x	x	x			x
5.	<i>Dorosoma petenensis</i>	Threadfin shad		x				
6.	<i>Mugil cephalus</i>	Striped mullet						x
7.	<i>Ictiobus bubalus</i>	Smallmouth buffalo	x	x				
8.	<i>Minytrema melanops</i>	Spotted sucker						x
9.	<i>Cyprinus carpio</i>	Carp				x		
10.	<i>Notemigonus crysoleucas</i>	Golden shiner	x					x
11.	<i>Opsopoeodus emiliae</i>	Pugnose minnow	x			x		
12.	<i>Phenacobius mirabilis</i>	Suckermouth minnow				x		x
13.	<i>Notropis atherinoides</i>	Emerald shiner	x	x	x	x		x
14.	<i>Notropis percobromus</i>	Plains shiner		x	x			
15.	<i>Notropis amabilis</i>	Texas shiner	x	x	x	x		x
16.	<i>Notropis fumeus</i>	Ribbon shiner				x		
17.	<i>Notropis chalybeus</i>	Ironcolor shiner	x			x	x	
18.	<i>Notropis roseus</i>	Central weed shiner	x	x	x	x		x
19.	<i>Notropis sabiniae</i>	Longnose shiner				x		x
20.	<i>Notropis venustus</i>	Blacktail shiner		x	x			x
21.	<i>Notropis lutrensis</i>	Red shiner	x	x	x	x		x
22.	<i>Notropis deliciosus</i>	Sand shiner	x			x		x
23.	<i>Notropis atrocaudalis</i>	Blackspot shiner	x			x	x	
24.	<i>Notropis volucellus</i>	Mimic shiner				x		
25.	<i>Hybognathus nuchalis</i>	Silver minnow	x	x	x	x		x

Table No. 1 (continued)

26.	<i>Pimephales vigilax</i>	Parrot minnow	x		x	x	x
27.	<i>Ameiurus melas</i>	Black bullhead		x			x
28.	<i>Ictalurus punctatus</i>	Channel cat		x			x
29.	<i>Pilodictus olivaris</i>	Flathead cat		x			x
30.	<i>Fundulus notatus</i>	Blackstripe topminnow	x	x	x	x	x
31.	<i>Gambusia affinis</i>	Mosquitofish	x	x	x	x	x
32.	<i>Labidesthes sicculus</i>	Brook silversides	x	x		x	
33.	<i>Micropterus punctulatus</i>	Spotted bass	x	x	x		x
34.	<i>Micropterus salmoides</i>	Largemouth bass	x	x	x	x	x
35.	<i>Chaenobryttus coronarius</i>	Warmouth	x		x	x	x
36.	<i>Lepomis punctatus</i>	Spotted sunfish			x		
37.	<i>Lepomis macrochirus</i>	Bluegill	x	x	x		x
38.	<i>Lepomis auritus</i>	Yellow belly	x		x	x	x
39.	<i>Lepomis megalotis</i>	Longear	x		x		x
40.	<i>Lepomis microlophus</i>	Redear			x		
41.	<i>Pomoxis annularis</i>	White crappie	x	x	x	x	x
42.	<i>Pomoxis nigromaculatus</i>	Black crappie	x	x	x	x	x
43.	<i>Centrarchus macropterus</i>	Flier			x		
44.	<i>Ammocrypta vivax</i>	Arkansas sand darter					x
45.	<i>Etheostoma gracile</i>	Western swamp darter	x	x	x		
46.	<i>Aplodinotus grunniens</i>	Drum		x	x		x

Table No. 2 - Seining Results By Station

Species	Station 1	Station 2	Station 3	Station 4	Station 5	Total	% of Total Seining Collect.
1. Spotted gar	0	0	1	0	0	1	.%
2. Gizzard shad	4	6	24	0	11	45	2.1
3. Threadfin shad	0	4	0	0	0	4	0.2
4. Striped mullet	0	0	0	0	1	1	- %
5. Smallmouth buffalo	1	1	0	0	0	2	0.1
6. Spotted sucker	0	0	0	0	2	2	0.1
7. Golden shiner	5	0	0	0	1	6	0.3
8. Pugnose minnow	1	0	1	0	0	2	0.1
9. Suckermouth minnow	0	0	11	0	4	15	0.7
10. Emerald shiner	47	70	60	2	58	237	11.1
11. Plains shiner	0	1	5	0	0	6	0.3
12. Texas shiner	71	24	42	37	54	228	10.7
13. Ribbon shiner	0	0	4	0	0	4	0.2
14. Ironcolor shiner	11	0	8	4	0	23	1.1
15. Central weed shiner	11	53	21	8	19	112	5.2
16. Longnose shiner	0	0	15	0	3	18	0.8
17. Blacktail shiner	0	4	8	0	7	19	0.9
18. Red shiner	153	54	101	5	42	355	16.6
19. Sand shiner	4	0	53	0	9	66	3.1
20. Blackspot shiner	16	0	11	8	0	35	1.6
21. Mimic shiner	0	0	1	0	0	1	-
22. Silvery minnow	60	20	10	3	54	147	6.9
23. Parrot minnow	7	0	104	1	26	138	6.4
24. Blackstripe topminnow	60	42	45	21	27	195	9.1

Table No. 2 - Continued

25. Mosquitofish	62	122	36	49	7	276	12.9%
26. Brook silversides	4	1	2	2	0	9	0.4
27. Spotted bass	1	1	2	0	33	37	1.7
28. Largemouth bass	4	1	6	1	7	19	0.9
29. Warmouth	3	0	1	2	0	6	0.3
30. Spotted sunfish	0	0	5	0	0	5	0.2
31. Bluegill	12	1	23	0	2	38	1.8
32. Yellowbelly sunfish	1	0	2	4	25	32	1.5
33. Longear sunfish	2	0	9	0	15	26	1.2
34. Redear	0	0	2	0	0	2	0.1
35. White crappie	5	1	0	3	0	9	0.4
36. Black crappie	7	2	2	1	0	12	0.6
37. Flier	0	0	1	0	0	1	- -
38. Arkansas sand darter	0	0	0	0	1	1	- -
39. Western swamp darter	2	1	1	0	0	4	0.2
Totals						2,139	100.0%

## Table Number 3

## Hoop Net Results

Species	Stations					Total
	#1	#2	#3	#4	#5	
Sp. gar	0	0	1-1 lb, 04 oz.	0	0	1-1 lb. 04 oz.
B. bullhead	0	1-0 lb. 03 oz.	0	0	1-0lb, 06 oz.	2-0 lb. 09 oz.
Ch. Cat	0	1-0 lb. 05 oz	0	0	2-0lb. 10 oz.	3-0 lb. 15 oz.
Flathead	0	1-2 lb. 09 oz	0	0	0	1-2 lb. 09 oz.
B. Crappie	0	2-0 lb. 08 oz	1-0 lb. 2 oz.	0	1-0lb. 08 oz.	4-1 lb. 02 oz.
W. Crappie	0	0	2-0 lb. 13 oz.	0	3-0lb. 15 oz.	5-1 lb. 12 oz.
Drum	0	2-0 lb. 06 oz	2-0 lb. 12 oz.	0	2-0 lb.05 oz.	6-2lb. 07 oz.
Bluegill	0	1-0 lb. 02 oz.	0	0	0	1-0lb. 02 oz.
Carp	0	0	1-1 lb.08 oz	0	0	1-1 lb. 08 oz.
Agear	0	0	0	0	6-0 lb. 14 oz.	6-0 lb. 14 oz.
Shad	0	0	2- 0lb. 10 oz.	0	4-2 lb. 06 oz.	6-3 lb. 00 oz.
Warmouth	0	0	0	0	1-0 lb. 03 oz.	1-0 lb. 03 oz.
Total						37 - 16 lb. 5 oz.

