

STATE Texas

FILE

PROJECT NO. F-3-R-1, Job A-2

PERIOD July 1, 1953 - May 1, 1954

## Job Completion Report

by

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### TITLE

Basic survey of that portion of the Sabine River within and along the boundaries of Gregg County, Texas.

### OBJECTIVES

To gather fundamental data on the above waters in regard to their physical, chemical and biological aspects.

### METHODS

The Sabine River in Gregg County was visited in conjunction with Job B-7. In all, five stations were observed and conditions noted.

### RESULTS

Gregg County is typical East Texas land of sandy loam, clay and ferrous rock soils. The length of the river is approximately fifty-one miles in this County and approximately ninety percent of the area drains into the River. Cultivation was formerly widespread in this area but due to oil discoveries, most of the land is in pasture or is idle. Approximately twenty-five percent of the county is mixed pine and hardwoods. The fluctuation of the river annually is great but there is always flowing water even during drouth years. The Geology Survey of the Department of the Interior has a river gauge station at Gladewater where the drainage area of the Sabine River at that point is 2,846 square miles. Their records show the discharge varying from 13.2 second feet in August, 1939 to a maximum of 23,390 second feet in April, 1945.

Due to the fluctuation of the water level, aquatic vegetation was limited to willow (Salix nigra) and button bush (Cephalanthus occidentalis). The pH of the water had a range of 6.5 to 7.2 with an average of 6.8. In March 1954 dissolved oxygen varied from 6.9 to 10.0 ppm and dissolved carbon dioxide from 4 to 9 ppm. Total chlorides ran from 134.7 to 234 ppm. Turbidity varied from less than 25 ppm. to 420 ppm. during the study period.

A typical locality was Station No. 5, located just above highway 271 bridge. The water flow is fairly slow; the bottom is sand and silt; shoreline is sand and clay with a 30° slope and the river is approximately 75 ft. wide at this point with an average depth of three ft. The only aquatic vegetation present was scattered willow with an occasional clump of grass on the bank. All the seining collection data taken at Station No. 5 is shown on the Fish Cards at the end of the report. Water analysis data are shown in Table No. 1.

1. The area studied was the Sabine River in Gregg County.
2. Surrounding land is sandy loam and clay, typical of east Texas.
3. River fluctuation is great but there is always flowing water even during drouth years.
4. River is sand and clay bottomed, usually acid, varying from clear to turbid with sparse aquatic vegetation.
5. A typical locality had moderately fast water over a hard sand bottom. Shore line was sand and clay with a few scattered willows. Water depth averages three feet and width of river is 75 feet.

Table Number 1

## Sabine River Station # 5 Water Analysis

Date	Time	Sky	Wind	Surface		O <sub>2</sub>	CO <sub>2</sub>	Tur.	Sal.	pH
				Air Temp.	Water Temp.					
7/15/53	2:30 PM	Clear	None	96 <sup>o</sup> F	87 <sup>o</sup> F			None		6.8
8/26/53	2:00 PM	Clear	10-20 S	97 <sup>o</sup> F	91 <sup>o</sup> F			None		6.7
9/23/53	2:00 PM	Clear	None	89 <sup>o</sup> F	76 <sup>o</sup> F			None		6.9
10/23/53	3:00 PM	Partly Cl.		74 <sup>o</sup> F	66 <sup>o</sup> F			60		6.5
3/29/54	3:50 PM	Partly Cl.	None	87 <sup>o</sup> F	72 <sup>o</sup> F	10.0	4.0	None	41.8	7.0
5/11/54	10:10 AM	Rainy	NE 5 mph	74 <sup>o</sup> F	84 <sup>o</sup> F			420		6.8

## Fish Card

Coll. No. - S 51	Species	Number
Locality - Sabine River, Sta. 5	Spotted bass	15
Date - 7/15/53	Largemouth bass	4
Collector - R. J. Kemp, Jr.	Yellow belly sunfish	8
Time - 2:30 P. M.	Gizzard shad	9
Description	Notropis lutrensis	29
Shoreline: sand and clay with 30 <sup>o</sup> slope	Notropis sabinae	1
scattered willow and grasses	Notropis venustus	5
Bottom: sand and silt	Notropis amabilis	3
Cover: None	Hybognathus nuchalis	18
Weather: Clear and hot	Notemigonus crysoleucas	1
Water temp: surface - 87 <sup>o</sup> F	Pimephales vigilax	11
Turbidity: none	Phenacobius mirabilis	4
Vegetation: none	Gambusia affinis	4
Tackle: Bag seine; 26 x 6, $\frac{1}{4}$ " mesh	Amocrypta vevax	1
	14 species	specimens 113

## Fish Card

Coll. No. - S-52	Species	Number
Locality - Sabine River Sta. #5	Spotted bass	5
Date - 8/26/53	Largemouth bass	1
Collector - R. J. Kemp, Jr.	Longear sunfish	12
Time - 2 P. M.	Spotted sucker	1
Description (same)	Gambusia affinis	3
Shoreline	Notropis lutrensis	10
Bottom	Notropis venustus	2
Cover	Notropis amabilis	9
Weather: clear, warm, windy	Hybognathus nuchalis	12
Water temp: surface - 91 <sup>o</sup> F	Fundulus notatus	1
Vegetation: none	10 species	specimens 56
Tackle: Bag seine, 26 x 6; $\frac{1}{4}$ " mesh		

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Fish Card

Coll. No. S-53	Species	Number	Weight
Locality - Sabine River Sta. #5	White crappie	3	0.87 lb
Date - 8/27/53	Longear sunfish	6	0.87 lb
Collector - R. J. Kemp, Jr.			
Time - 3 P. M.			
Description (same)			
Shoreline	Cover		
Bottom	Weather: Clear, hot		
Water temp.	Turbidity: none		
Surface - 90°F			
Vegetation: none			
Tackle: 2hoop nets, 1 inch		2 species, 9 specimens	

Fish Card

Coll. No. S-54	Species	Number
Locality - Sabine River Sta. #5	Gizzard shad	2
Date - 9/23/53	Fundulus notatus	8
Collector - R. J. Kemp, Jr.	Notropis amabilis	42
Time - 2 PM		
Description (same)		
Shoreline	Cover	
Bottom	Weather: clear, warm	3 species specimens 52
Water temp:		
Surface - 76°F, Turbidity - 40 ppm		
Vegetation: none		
Tackle: Bag seine, 26 x 6; $\frac{1}{4}$ " mesh		

Fish Card

Coll. No. S-55	Species	Number
Locality - Sabine River Sta. #5	Largemouth bass	2
Date - 10/23/53	Spotted bass	3
Collector - R. J. Kemp, Jr.	Yellow belly sunfish	17
Time - 3 PM	Fundulus notatus	18
Description (same)		
Shoreline	Cover	
Bottom	Weather: clear to partly cloudy	5 species, specimens 43
Water temp.		
Surface - 66°F		
Turbidity - 60 ppm		
Vegetation: none		
Tackle: Bag seine, 26 x 6; $\frac{1}{4}$ " mesh		

Fish Card

Coll. No. S-56	Species	Number
Locality - Sabine River Sta. #5	Spotted bass	10
Date - 3/29/54	Longear sunfish	3
Collector - R. J. Kemp, Jr.	Bluegill	2
Time: 3:30 P. M.	Spotted sucker	1
Description (same)		
Shoreline	Cover	
Bottom	Weather: partly cl.	
Water temp.	Warm, no wind	
Surface 72°F	Turbidity, under 25	
	Hybognathus nuchalis	24
	Pimephales vigilax	12
	Notropis deliciosus	9
	Notropis atherinoides	58
	Notropis lutrensis	3
	Notropis sabiniae	2
	Notropis roseus	19
Tackle - bag seine, 26 x 6, $\frac{1}{4}$ " mesh		11 species, specimens 143

## Fish Card

Coll. No. S-57	Species	Number	Weight
Locality - Sabine River Sta. #5	Gizzard shad	4	2.37 lbs.
Date - 5/11/54	Drum	2	1.31
Collector - R. J. Kemp, Jr.	Black crappie	1	0.50
Time - 10 A. M.	Warmouth	1	0.18
Description (same)	Channel cat	2	0.62
Shoreline	Black bullhead	1	0.37
Bottom			
Cover			
Weather: cloudy, rain, no wind			
Water temp.			
Surface 84°F			
Vegetation - none			
Tackle - 10 hoop nets, 6 net - 1 inch mesh			
1 net - 2 inch mesh			
1 net - 1½ in. mesh			
2 net - 3 in. mesh			