

Job Completion Report

by

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FILE

TITLE

Basic Survey of Those Portions of the Sabine River Which Lie Within and Along the Boundaries of Van Zandt, Wood, Upshur, Harrison, Panola and Shelby Counties, Texas.

OBJECTIVES

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

METHODS

The Sabine River was visited in conjunction with Job B-8. In all, 59 stations were observed and conditions noted.

RESULTS

The counties of Van Zandt and Wood are located in the Post Oak Belt. Upshur, Harrison, Panola and Shelby are all listed on soils maps as having basically the same type soils, i. e., sandy loam overlaying clay. The river bottom itself can be divided into two distinct classifications. Since much of the upper Sabine River drains off the Blackland Prairie, the bottoms in Van Zandt and most of Wood Counties have been covered with layers of blackland silt varying in depth from a few inches to several feet. From the eastern tip of Wood County on, the bottom is typically sandy soil.

All of the water in the black bottom area as reduced to holes during the dry summer and fall months. From Upshur County on there was always a little flow even during the driest months. In the black bottom area, the pH was consistently on the alkaline side, ranging up to 7.8. Turbidity was never less than 100 ppm and ran as high as 400 ppm. In the sandy bottom area, pH was consistently on the acid side, ranging down to 6.0. The turbidity ran up to 300 ppm during high water periods but was always less than 25 ppm during low water. The salinity was lowest at 11 - 20 ppm in the upper regions where no oil wells were present. From the middle of Wood County on, salinity varied from 43 ppm during low water to 426 ppm during high water periods. The river as a whole would average 125 ppm chlorides on a yearly basis.

In the river itself, the bottom was soft and silt covered in the black bottom area, while in the sandy bottom area it was typically hard sand, with some hard clay, gravel and ferrous rock. A typical locality in the "blackland bottom" area was Station #2, located at the Highway 19 crossing in Van Zandt County. Here the river was normally fifty feet wide, up to five feet deep, with a bottom of soft, black silt. No vegetation was present in the river. The pH varied from 7.0 to 7.6 with an average of 7.3. Chlorides ran 14 ppm. Total alkalinity varied from 60 to 118 ppm. Turbidity varied from 110 ppm to 375 ppm, averaging 220 ppm. Oxygen and carbon dioxide were not tested. All collection data are shown on the fish cards at the end of the report.

A typical locality in the sandy bottom area was Station #35, located six miles northeast of Carthage in Panola County. Here the river was normally 250 feet wide, up to eight feet in depth, with a bottom of hard sand. Vegetation on the bank was pine and hardwoods. The pH varied from 6.0 to 7.2 with an average of 6.7. Chlorides ran from 46 to 234 ppm with an average of 119 ppm. Total alkalinity was 14 ppm. All collection data for a typical collection station are shown on the fish cards at the end of the report.

SUMMARY

1. The area studied was the Sabine River in Van Zandt, Wood, Upshur, Harrison, Panola and Shelby Counties, Texas.
2. Van Zandt and most of Wood County located in the Post Oak Belt, while Upshur, Harrison, Panola and Shelby Counties are located in the Pine Forest Belt.
3. Upper two counties invaded by blackland silt had corresponding high turbidity, pH and alkalinity while the lower river has low turbidity, pH and alkalinity.
4. Upper two counties the river got down into holes while lower portion had some running water the year around.
5. A typical locality in the "blackland bottom area", the river was fifty feet wide, five feet deep with soft silt bottom.
6. A typical locality in the sandy loam, the river was 250 feet wide, eight feet deep, with hard sand bottom.

Fish Card

Coll. No. S-P-1-1

SEINING COLLECTION SPOILED

Locality - Sta. #27, Sabine River

Date - 7/15-54

Collector- R. J. Kemp, Jr.

Time - 8:50 AM

Description - 125 ft. wide, up to 8 ft. deep

Shoreline - Sandy loam; clay; banks with
30° slope

Bottom - sand

Cover - Occasional log; mostly clean

Weather - Fair, Air temp. 90°F

Turbidity - less than 25 ppm

Vegetation

Submerged - none. Floating - none.

Emerged - willow; pine oak; pine

Tackle: Bag seine, 26 x 6, $\frac{1}{4}$ in. mesh

FISH CARD

Coll. No. S-P-1-2	<u>Micropterus punctulatus</u>	1
Locality - Sta. #27 -Sabine River	<u>Notropis lutrensis</u>	266
Date - 8/17/54	<u>Notropis venustus</u>	190
Collector - R. J. Kemp, Jr.	<u>Notropis atherinoides</u>	4
Time - 8:15 AM	<u>Pimephales vigilax</u>	64
Description: Same as above	<u>Notropis sabiniae</u>	225
Weather: Clear and warm	<u>Fundulus notatus</u>	28
Tackle: Bag seine, 26 x 6, $\frac{1}{4}$ " mesh	<u>Gambusia affinis</u>	17
2 hauls of 50 ft. each	<u>Amocrypta clara</u>	7
	<u>Lepomis macrochirus</u>	15
	<u>Lepomis auritus</u>	144
	<u>Carpionodes carpio</u>	22
	Total	983

FISH CARD

Coll. No. S-P-1-3	<u>Carpionodes carpio</u>	11
Locality - Sta. #27 Sabine River	<u>Notropis atherinoides</u>	50
Date - 10/7/54	<u>Notropis sabiniae</u>	29
Time - 9:45 AM	<u>Notropis buechanani</u>	145
Description - Same as above	<u>Notropis lutrensis</u>	395
Weather: Cloudy, NE wind, 5-10 mph	<u>Pimephales vigilax</u>	17
Air Temp. 80°F	<u>Notropis venustus</u>	3
Water Temp. 70°F	<u>Fundulus notatus</u>	20
Tackle: Bag seine 26 x 6, $\frac{1}{4}$ " mesh	<u>Gambusia affinis</u>	8
	<u>Labidesthes sicculus</u>	1
	<u>Lepomis auritus</u>	1
	Total	680

FISH CARD

Coll. No. S-P-1-4	<u>Notropis lutrensis</u>	2,312
Locality - Sta. #27 Sabine River	<u>Notropis sabiniae</u>	116
Date - 11/10/54	<u>Notropis buechanani</u>	82
Collector - R. J. Kemp, Jr.	<u>Notropis maculatus</u>	1
Time - 10:30 AM	<u>Pimephales vigilax</u>	50
Description - same as above	<u>Fundulus notatus</u>	1
Weather: Clear	<u>Gambusia affinis</u>	7
Tackle: Bag seine 26 x 6, $\frac{1}{4}$ " mesh	<u>Lepomis macrochirus</u>	1
	<u>Lepomis megalotis</u>	2
	<u>Carpionodes carpio</u>	1

FISH CARD

Coll. No. S-P-1-5	<u>Lepomis macrochirus</u>	4
Locality - Sta. #27 Sabine River	<u>Chaenobryttus coronarius</u>	1
Date - 11/19/54	<u>Lepomis megalotis</u>	6
Collector - R. J. Kemp, Jr.	<u>Gambusia affinis</u>	4
Time - 10:10 AM	<u>Etheostoma gracile</u>	1
Description: River up and rising; very turbid	<u>Pimephales vigilax</u>	75
Weather - clear; 15 mph NW wind	<u>Notropis venustus</u>	2
Air Temp. 54°F	<u>Notropis lutrensis</u>	480

4.
FISH CARD
(con'd)

Water Temp. 57°F	<u>Notropis sabinæ</u>	94
Tackle: 26 x 6, $\frac{1}{4}$ " mesh	<u>Notropis buechanani</u>	28
	Total	698

FISH CARD

Coll. No. S-P-1-6	<u>Notropis lutrensis</u>	389
Locality - Sta. #27 Sabine River	<u>Notropis buechanani</u>	230
Date - 12/10/54	<u>Hybopsis aestivalis</u>	7
Collector - R. J. Kemp, Jr.	<u>Hybognathus nuchalis</u>	1
Time - 10:10 AM	<u>Pimephales vigilax</u>	227
Description: Same as S-P-1-1	<u>Etheostoma gracile</u>	4
Weather: Partly cloudy	<u>Lepomis megalotis</u>	6
Air Temp. 49°F	Total	893
Water Temp. 50°F		
Tackle: 26 x 6, $\frac{1}{4}$ " mesh		

FISH CARD

Coll. No. S-P-1-7	<u>Notropis sabinæ</u>	198
Locality - Sta. #27 Sabine River	<u>Notropis lutrensis</u>	280
Date - 1/14/55	<u>Notropis buechanani</u>	110
Collector - R. J. Kemp, Jr.	<u>Pimephales vigilax</u>	63
Time - 11:45 AM	Total	651
Description: Same as S-P-1-1		
Weather - cloudy		
Air Temp. 48°F		
Water Temp. 47°F		
Tackle: 26 x 6, $\frac{1}{4}$ " mesh		

FISH CARD

Coll. No. S-P-1-N	<u>Carpoides carpio</u>	10
Locality - Sta. No. 27 Sabine River	<u>Dorosoma cepedianum</u>	3
Date - 12/17/54	<u>Aplodinotus grunniens</u>	4
Collector - R. J. Kemp, Jr.	<u>Lepisosteus productus</u>	1
Time - 2 PM to 7 AM	<u>Micropterus salmoides</u>	1
Description - River up several feet at stand still	<u>Micropterus punctulatus</u>	7
Weather - partly cloudy 20 mph wind NW	<u>Pomoxis nigro-maculatus</u>	7
Air - Temp. 38°F	<u>Pomoxis annularis</u>	14
Water Temp. 48°F	<u>Lepomis macrochirus</u>	2
Tackle: 16 hoop nets	Total	49
8 nets 1" mesh		
8 nets 2" mesh		

5.
FISH CARD

Coll. No. S-P-1-N
Locality - Sta. #27 Sabine River
Date - 12/21/54
Collector - R. J. Kemp, Jr.
Description: Same as S-P-1-1
Weather: Air Temp. 34°F
Water Temp. 46°F
Tackle: 16 hoop nets
8 nets 1" mesh
4 nets 2" mesh
4 nets 3" mesh

<u>Pomoxis annularis</u>	13
<u>Micropterus salmoides</u>	2
<u>Micropterus punctulatus</u>	1
<u>Aplodinotus grunniens</u>	1
<u>Total</u>	17
