

STATE Texas

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

PERIOD July, 1953 - May 30, 1954

Job Completion Report

by

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FILE

TITLE

Basic survey of those portions of the Little Cypress, Cypress and Black Cypress Bayous (or creeks) which lie within Marion County.

OBJECTIVES

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

METHODS

Little Cypress, Cypress and Black Cypress in Marion County were visited in conjunction with Job B-6. In all, six stations were observed and conditions noted.

RESULTS

Marion County is located in the northeast corner of Texas. It contains slightly over 250,000 acres, with about 10% in cultivation, 20% in pasture and 70% in woodlands. The woodlands are made up of 80% mixed pine and hardwoods and 20% altogether hardwoods (gum, oak and hickory). Approximately 90% of the county drains into Cypress, Black Cypress, or Little Cypress which are the main tributaries of Caddo Lake. The soil has been termed by the U. S. Soil Conservation agents as the poorest in Texas. Much of the area is deep sand with no organic matter at all. All the area is very low in lime, phosphate and potash. Watermelons and sweet potatoes are the principal crops.

Cypress Bayou extends for approximately 35 miles in Marion County. Two stations were observed in conjunction with Job B-6, one at Jefferson and one at Ferrells Bridge, nine miles west of Jefferson. The pH of the water ran from 5.6 to 7.8. Oxygen varied from 6.6 to 7.2. Dissolved carbon dioxide varied from 5 to 10 ppm. Turbidity varied from less than 25 ppm to 400 ppm. According to U. S. Engineers, the discharge varied from 371 to 832 cubic feet per second between July, 1953 and February 1954. Their records also show a maximum discharge of 22,469 cubic feet per second in February 1950 and a minimum of zero cubic feet per second nine different times since 1938. Due to the fluctuation of the water level, aquatic vegetation was limited primarily to trees and shrubs common to the area such as willow (Salix), button bush (Cephalanthus occidentalis) and bald cypress (Taxodium distichum). No submerged aquatics were observed on Cypress at these stations.

A typical cypress station was the one at Ferrell's Bridge on Farm Road 726. The rate of current is fast, flowing over a sand and gravel bottom. The water depth was normally up to four feet, width approximately 50 ft. High sand and clay banks with moderate cover. All collection records for the Ferrell's Bridge Station are in-

cluded at the end of the report and are typical of data collected at all stations.

Black Cypress extends for 14 miles in Marion County. Two stations were observed in conjunction with Job B-6, one at Highway 49 and one at Highway 59. Dissolved oxygen varied from 7.0 to 8.2 and carbondioxide from 7.0 to 8.0 ppm. Turbidity varied from less than 25 ppm to 220 ppm. The water was usually clear with a dark tannic acid stain, thus the name Black Cypress. U. S. Engineers records show a discharge of 109 cubic feet per second in December, 1953 and 321 cubic feet per second in February, 1954. They also show a maximum discharge of 9,765 cubic feet per second in September, 1950 and a minimum of zero during 21 different months since 1938. The principal aquatic vegetation included bald Cypress, button bush, willow and occasional patches of yellow waterlily (Nuphar advenum). Most of the shore line is dense brush and fallen trees make boat travel difficult so fishing pressure is not too great except in a few clear areas.

A typical black cypress locale was the station at highway 59. The creek was approximately 20 ft. wide with a normal depth of up to three feet. The bottom was sand and clay. Dense brush and trees in the water made seining difficult. Scattered lily pads were present around margins and the button bush was abundant.

Little Cypress Bayou extends for approximately nine miles in Marion County. Two stations were observed, one at Highway 59 and one at Highway 143. The pH of the water here varied from 6.2 to 6.8. Dissolved oxygen ran from 7.0 to 8.4 ppm and the carbon dioxide from 7.5 to 8.0 ppm. Turbidity varied from less than 25 ppm to 500 ppm on a Jackson Turbidimeter. U. S. Engineers records show a discharge varying from 111 cubic feet per second in September, 1953 to 638 in February 1954. They also show a maximum discharge of 18,875 in May, 1948 and a minimum discharge of zero during 16 different months since 1938. The aquatic vegetation was primarily bald cypress, button bush and willow with some scattered amounts of yellow lily pads.

A typical station would be the one at Highway 59 where the Bayou was 50 ft. wide. Water depths varied up to six feet. The bottom was sandy silt and clay. The shore line's dense brush and trees, fallen trees, logs and roots provide dense cover for fish, but made fishing and seining difficult. A small amount of lily pads was present.

SUMMARY

1. The area studied was the Cypress, Little Cypress and Black Cypress in Marion County.
2. The drainage area is mostly sand and considered the poorest soil in Texas.
3. The water fluctuations in all three bayous is great and often falls to a point of no flow, although there was flowing water at all stations during this study.
 - a. Discharge greatest in Cypress, least in Black Cypress.
4. Black Cypress is generally clearer and slightly more acid than the others.
5. All three bayous are similar in appearance, in that all are lined with moderate to dense amounts of bald cypress, button bush and willow. Fallen trees and logs make boat travel difficult.
6. Fishing pressure in all three bayous is light except in a few accessible areas.

Table No. 1

Cypress Bayou at Ferrel's Bridge
Water Analysis

Date	Time	Sky	Wind	Air Temp.	Surface Water Temp.	O ₂	CO ₂	Turbid	Sal.	pH
7/13/53	2 P. M.	Cloudy, rain	3 mph	78°F	90°F	5.6	10.0	none		6.7
11/4/53	4 P. M.	Cloudy	5-10 north	66°F	64°F	7.8	5.0	60ppm		6.7
2/5/54	11 A. M.	Clear	0	60°F	51°F	6.6	10.0			6.5
4/8/54	2 P. M.	Cloudy	10-15NE	79°F	69°F	7.0	6.0			7.0
5/7/54	10:45 AM	Cloudy	10	70°F	79°F	6.2	9.0	400		6.6

Fish Card

	Species	Number
1. No. - C-51	Chain Pickerel	1
Locality - Cypress at Ferrell's Bridge	Redear sunfish	1
Date - 7/13/53	Brook silversides	1
Collector - R. J. Kemp, Jr.	Notropis deliciosus	5
Time - 2:30 P. M.	Notropis atrocaudalis	1
Description		
Shoreline - Clay, sand, ferrous rock		
Bottom - sand and gravel at shallow riffles with clay bottom pool below	5 species	specimens 9
Cover - occasional log or tree limb; mostly bare		
Weather: slow rain; 74°F air temp.		
Surface - 90°F Turbidity - under 25		
Vegetation		
Submerged: none. Floating: none. Emerg- ed: bald cypress, willow, button bush, and pine in fairly dense shoreline growth.		
Tackle: Bag seine, 26 x 6, $\frac{1}{4}$ " mesh		

Fish Card

	Species	Number
Coll. No. C-52	Spotted bass	2
Locality - Cypress at Ferrell's Bridge	Redear sunfish	1
Date 8/6/53	Fundulus notatus	8
Collector - R. J. Kemp, Jr.	Gambusia affinis	4
Time - 3 PM	Brook silversides	1
Description (same)	Hybognathus nuchalis	7
Weather - clear and hot	Hybognathus hayi	1
Tackle: Bag seine, 26 x 6 - $\frac{1}{4}$ " mesh	Notropis venustus	1
	Notropis atrocaudalis	7
	Notropis deliciosus	4
	Notropis umbratilis	2
	Spotted sucker	3
	12 species	specimens 41

Fish Card

	Species	Number
Coll. No. - C-53	Spotted bass	1
Locality - Cypress at Ferrell's Bridge	Notropis venustus	7
Date - 9/18/53	Notropis amabilis	13
Collector - R. J. Kemp, Jr.	Notropis chalybeus	4
Time - 3 P. M.	Hybognathus nuchalis	7
Description (same)	Fundulus notatus	12
Weather partly cloudy: air 92°F	Spotted sucker	1
Tackle - 26 x 6, $\frac{1}{4}$ " mesh	Brook silversides	1
	Bluegill	1
	Western spotted sunfish	1
	Green sunfish	1
	Amocrypta vivax	1
	Etheostoma gracile	1
	Etheostoma chlorosomum	1
	Hadropterus scierus	1
	15 species	specimens 53

Fish Card

	Species	Number
Coll. No. C-54	Spotted sucker	1
Locality - Cypress at Ferrell's Bridge	Grass pickerel	1
Date - 10/14/53	Notropis amabilis	160
Collector - R. J. Kemp, Jr.	Notropis amnis	14
Time 2 P. M.	Notropis atherinoides	14
Description (same)	Notropis umbratilis	3
Weather - clear and warm	Notropis roseus	17
Tackle - Bag seine, 26 x 6, $\frac{1}{4}$ " mesh	Notropis chalybeus	3
	Hybognathus nuchalis	13
	Hybognathus hayi	1
	Gambusia affinis	1
	Fundulus notatus	2
	Redear	1
	Yellow belly sunfish	1
	14 species	specimens, 232

Fish Card

	Species	Number
Coll. No. -C-55	Hadropterus shumardi	1
Locality - Cypress at Ferrell's Bridge	Hadropterus scierus	1
Date - 11/4/53	Etheostoma gracile	2
Collector - R. J. Kemp, Jr.	Notropis lutrensis	2
Time: 4 P. M.	4 species	specimens, 6
Description (same)		
Weather: rain and north wind		
Tackle - Bag seine 26 x 6, $\frac{1}{4}$ " mesh		

Fish Card

	Species	Number	Weight
Coll. No. C-56	Spotted sucker	3	4.25
Locality - Cypress at Ferrell's Bridge	Channel cat	1	49 gm.
Date - 12/15/53			
Collector - R. J. Kemp, Jr.			
Time : 8 AM			
Description (same)			
Weather: clear, 31°F air temp.			
Tackles - 2 hoop nets, land 3" mesh			

Fish Card

	Species	Number
Coll. No. - C-57	no fish	
Locality - Cypress at Ferrell's Bridge		
Date 12/16/53		
Collector - R. J. Kemp, Jr.		
Time - 8 A. M.		
Description (same)		
Weather - clear, cold 49°F		
Tackle, 1 hoop net, 1 inch mesh		

Fish Card

	Species	Number	Weight
Coll. No. C-58	Spotted sucker	1	1.12
Locality - Cypress at Ferrell's Bridge			
Date - 2/5/54			
Collector - R. J. Kemp, Jr.			
Time - 8 A. M.			
Description (same)			
Weather - clear, warm, 51°F			
Tackle - 7 hoop nets, 3 - 1 inch, 1- $\frac{1}{2}$ inch, 2-2 inch, 1-3 inch			

Fish Card

Coll. No. C-59	Species	Number
Locality - Cypress at Ferrell's Bridge	Largemouth bass	1
Date - 4/8/54	Warmouth	1
Collector - R. J. Kemp, Jr.	Green sunfish	2
Time - 1 P. M.	Bluegill	2
Description (same)	Black crappie	3
Weather: cloudy, windy 69°F	White crappie	1
Tackle - Bag seine, 26 x 6, $\frac{1}{4}$ " mesh	Flier	7
	Golden shiner	3
	Brook silversides	36
	Fundulus notatus	15
	Gambusia affinis	4
	Schilbeodes nocturnus	1
	Notropis lutrensis	3
	Notropis percobromus	2
	14 species specimens	81

Fish Card

Coll. No. C-511	Species	Number	Weight
Locality - Cypress at Ferrell's Bridge	Longnose gar	1	3.5 lbs.
Date - 5/7/54	Channel cat	6	4.0
Collector - R. J. Kemp, Jr.	Blue cat	1	1.5
Time -	Black crappie	1	0.37
Description (same)	White bass	1	0.62
Weather - cloudy, cool, windy			
Tackle - 11 hoop nets, 6 - 1" mesh, 2-1 $\frac{1}{2}$ " mesh, 1 - 2 inch mesh, 2 - 3 inch mesh			

Fish Card

Coll. No. C-512	Species	Number	Weight
Locality - Cypress at Ferrell's Bridge	Drum	1	1.5
Date - 5/26/54	Black crappie	1	0.18
Collector - R. J. Kemp, Jr.	White crappie	1	0.25
Time: - 7 A. M.	Redear	2	0.30
Description (same)	Bluegill	1	0.30
Weather: partly cloudy, windy 78°F			
Tackle - 5 hoop nets, 1, 2 and 3 inch mesh			