

STATE Texas
PROJECT NO. F-8-R-1, Job A-1
PERIOD July 1, 1953-January 31, 1954

Job Completion Report

by

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TITLE

Basic survey of the Upper Sabine Drainage in Region 2-B (Collin, Hunt and Hopkins Counties.)

OBJECTIVES

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

METHODS

The tributaries of the Sabine River which are in Region 2-B, as shown in Figure 1, were visited in conjunction with Job B-3. In all, 29 sites were observed and conditions noted.

RESULTS

The Sabine River starts north of Greenville, Texas and flows in a southeasterly direction to the Texas - Louisiana state line and then in a general southerly direction to the Gulf of Mexico where it forms the eastern boundary of Texas. The area worked in this job was the headwaters of the Sabine River Drainage in Fisheries Region 2-B.

There are two distinct ecological regions in this area, as shown in Figure 1. The soils west of the dotted line are Blackland Prairie while to the east is the East Texas Timber Country (Tex. Agr. Exp. Sta. Bul. 431).

The Blackland Prairies that lie within the study area include the intermittent streams in the eastern edge of Collins County and all of the Hunt County drainage with the exception of the extreme southeastern portion. Three main tributaries make up this drainage, namely the Main Fork Sabine River, Caddo Fork and the South Fork Sabine River. The soils are dark colored, limy, crumbly clays. The land is used principally for cotton, small grains, corn and pasture. In recent years almost all the usable land was broken and put into cultivation. Due to the nature of the soil and the present land use, the initial run-off from rainfall is very high. Consequently the streams rise and fall rapidly. Because of the drouth, most of the water found in the tributaries was limited to shallow, silty bottom, turbid pools with little or no flow. The pH ranged from 8.2 to 7.1 with an average of 7.5. Aquatic vegetation on the streams is sparse and limited chiefly to willow (Salix nigra.) A medium growth of algae and duckweed (Lemna minor) was found in the shady pools of the Sabine River just east of Greenville, below the city reservoirs.

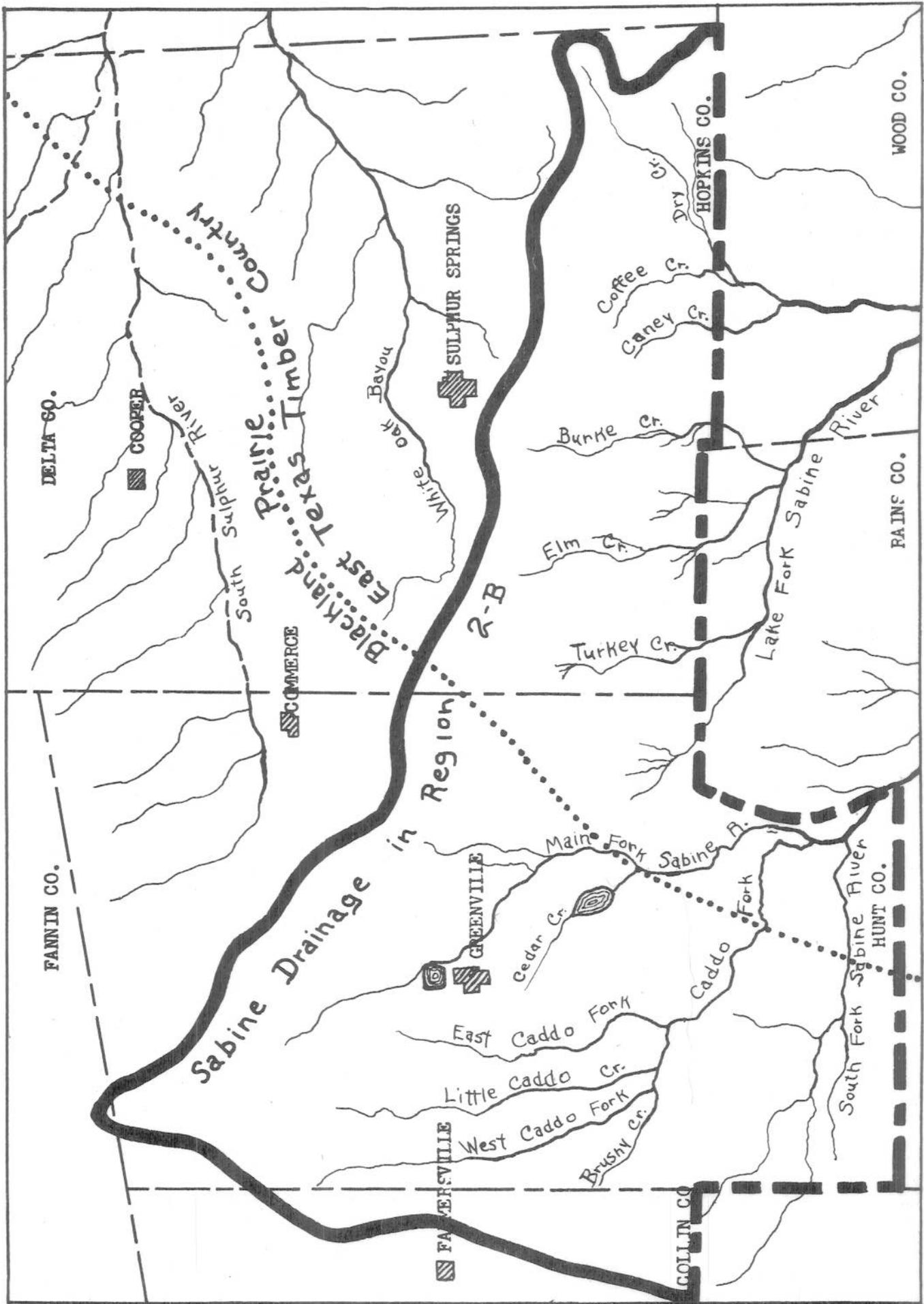
There are two major impoundments in this area, both near Greenville. The Greenville Club Lake, located on Cedar Creek, was built in 1916 by an organized group of sportsmen for fishing, hunting and boating. Dense aquatic vegetation, both native and introduced, includes algae, willow (Salix nigra), cattail (Typha latifolia), bulrush (Scirpus sp.), lotus (Nelumbo lutea), waterprimrose (Jussiaea diffusa), pondweed (Potamogeton sp.) and smartweed (Polygonum sp.). The city of Greenville dammed the Main Fork and by diverting the channel created a series of reservoirs which are used for the municipal water supply. Both controlled fishing and hunting are permitted on these city lakes. Aquatic vegetation is excluded by the city water department. The best fishing in the entire study area is found in these two impoundments.

The East Texas Timber Country includes the southeast corner of Hunt County and all of the Hopkins County drainage, which is the headwaters of the Lake Fork Sabine River. These soils are dark colored, acid sandy loams and sands, used chiefly for pasture, meadow and timber. Although in the same rainfall range (approximately 38 to 40 in. average) as the Blacklands of Hunt County, the runoff is much lower and as a result, the Lake Fork streams are only slightly turbid and have a more stable flow. Almost all were found to be running (4 to 12 cfs) even after a dry summer. The pH has a range of 6.0 to 7.1 and averages 6.6. Aquatic vegetation is medium to dense and includes such representatives as river birch (Betula nigra), willow (Salix nigra), buttonbush (Cephalanthus occidentalis), arrowheads (Sagittaria sps.), water pennywort, and milfoil (Myriophyllum sp.) There are no impoundments of importance in this portion of the drainage.

There are two possible sources of pollution in the study area, although no active pollution was observed during this period. The City of Greenville intends to revise its present sewage disposal system which now empties into the Sabine River southeast of the City. Several oil wells are located southeast of Sulphur Springs on the Caney - Coffee Creek watershed.

SUMMARY

1. The area studied in conjunction with Job B-3 is the headwaters of the Sabine River Drainage in eastern Collin, Hunt and southern Hopkins Counties.
2. The drainage is composed of two distinct ecological regions. The western portion lies in the Blackland Prairie, while the eastern side is in the East Texas Timber Country.
3. The streams in the western section are subject to great fluctuations with little sustained flow. They are mud-bottomed, alkaline and turbid with sparse aquatic vegetation.
4. The eastern streams are small, sandy bottomed, acid, slightly turbid with a relative stable flow and medium vegetation.
5. The Greenville Club Lake and the Greenville City Reservoirs, with their stable water levels, offer the best fishing in the area studied.
6. No active pollution was found during the period of observation.



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FIGURE 1. THE SABINE DRAINAGE IN FISHERIES REGION 2 - B OF TEXAS.