

FILE

STATE Texas  
PROJECT NO. F-4-R-1, Job B-7  
PERIOD June 1, 1953 - May 31,  
1954

Job Completion Report

by

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TITLE

Inventory of species present in those portions of the Bosque and Leon Rivers and their tributaries, lying within Erath, Hamilton, Bosque, Comanche, Coryell and McLennan Counties.

OBJECTIVES

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

METHODS

Seine samples were taken at established stations when water conditions would permit. The lack of rainfall prevented sampling of these streams during the majority of the project period as they were dry but some rainfall in March, April and May caused flow in the rivers and left pools that were seined.

Chemical kits were not delivered until the latter weeks of the project period and therefore chemical analyses were not made.

RESULTS

Three seine stations were established on the Bosque River and one on the Leon River (Figure 1). The stations on the Bosque all had gravel or rock bottoms while that on the Leon was sandy and clay bottomed.

Specimens collected from the Bosque River numbered 689 and included 13 species, 8 genera and six families. The Plains Red Shiner (*Notropis lutrensis*) was by far the most numerous, making up 70.25% of the total, followed by: bluegill sunfish (*Lepomis macrochirus*) 15.82%, common mosquitofish (*Gambusia affinis*) 4.35%, blackstripe topminnow (*Fundulus notatus*) 3.19% and longear sunfish (*Lepomis megalotis*) 2.18% in that order. (Table 1)

Specimens collected from the Leon River numbered 359 which included 7 species, 4 genera and 4 families with two hybrid sunfish. The plains red shiner was the most numerous species in these streams as well as the Bosque. The Plains Red Minnow made up 95.52% of the total catch with blacktail shiner (*Notropis venustus*) 1.40% being the only remaining species to make up more than 1% of the total. The three hybrid sunfish appeared to be green sunfish x bluegill hybrids.

The soil and vegetative types of these streams are very similar but the species of fish taken show a difference which may be due to the fact that drouth prevented adequate sampling until the latter stages of the project period. The following species were taken from the Bosque but not found in the Leon: gizzard shad, western creek chubsucker, broadhead shiner, Southern fathead minnow, common mosquitofish, spotted bass, largemouth bass and longear sunfish. The following species were recovered from the Leon but not the Bosque: common dusky darter, western spotted sunfish, orange spot sunfish and hybrid sunfish, apparently green sunfish x bluegill (Table 3).

Data collected from a representative station is included in the following data sheet and is typical of the data collected at the other stations.

#### SUMMARY

1. Seine samples were taken from stations established on the Leon and Boque Rivers when water conditions would permit.
2. Six hundred eighty-nine (689) specimens were collected from the Bosque River of which 70.25% were Plains Red Shiner (*Notropis lutrensis*).
3. Three hundred fifty-nine (359) specimens were collected from the Leon River of which 95.52% were Plains Red Shiner (*Notropis lutrensis*).
4. The soil and vegetation types of these rivers are very similar but some difference was noted in the fish collections which may be due to the fact that weather conditions prevented seining on either stream during the major portion of the project period. When seining was possible there was not sufficient time to obtain a satisfactory sample from the Leon River due to high water.
5. Data sheet from representative station included.

Table 1. Number and Percentages of Species Taken in Seine Collections from the Bosque River.

Species	St. 1 Clairette	St. 2 Hico	St. 3 Clifton	No.	%
<i>Dorosoma cepedianum</i>			2	2	.29
<i>Erimyzon oblongus</i>			1	1	.14
<i>Notropis venustus</i>			10	10	1.45
<i>Notropis lutrensis</i>	44	431	9	484	70.25
<i>Notropis potteri</i>		2		2	.29
<i>Ceratichthys</i> sp.	2			2	.29
<i>Fundulus notatus</i>		2	20	22	3.19
<i>Micropterus punctulatus</i>			2	2	.29
<i>Micropterus salmoides</i>			4	4	.58
<i>Lepomis cyanellus</i>	3	2	1	6	.87
<i>Lepomis macrochirus</i>		93	16	109	15.82
<i>Lepomis megalotis</i>	1	1	13	15	2.18
<i>Gambusia affinis</i>	2	18	10	30	4.35
	52	549	88	689	99.99

Table 2. Number and Percentages of Species Taken in Seine Collections from the Leon River.

Species	Sta. 2 at Gustine	No.	Percentage
<i>Notropis venustus</i>	5	5	1.40
<i>Notropis lutrensis</i>	343	343	95.52
<i>Fundulus notatus</i>	1	1	.28
<i>Lepomis cyanellus</i>	2	2	.56
<i>Lepomis punctatus</i>	2	2	.56
<i>Lepomis humilis</i>	2	2	.56
<i>Lepomix cyanellus</i> x <i>macrochirus</i>	3	3	.84
<i>Hadropterus scierus</i>	1	1	.28
Totals	359	359	100.00

Table 3. Check List of Species Collected from Bosque and Leon Rivers.

Scientific Name	Common Name
BOSQUE RIVER	
Dorosoma cepedianum	Gizzard shad
Erimyzon oblongus	Western creek chubsucker
Notropis venustus	Blacktail shiner
Notropis lutrensis	Plains red shiner
Notropis potteri	Broadhead shiner
Ceratichthys sp.	
Fundulus notatus	Blackstripe topminnow
Gambusia affinis	Common mosquitofish
Micropterus punctulatus	Spotted bass
Micropterus salmoides	Largemouth black bass
Lepomis cyanellus	Green sunfish
Lepomis macrochirus	Bluegill sunfish
Lepomis megalotis	Longear sunfish
LEON RIVER	
Notropis venustus	Blacktail shiner
Notropis lutrensis	Plains red shiner
Fundulus notatus	Blackstripe topminnow
Lepomis cyanellus	Green sunfish
Lepomis punctatus	Western spotted sunfish
Lepomis humilis	Orangespot sunfish
Hadropterus scierus	Common dusky darter

FISH CARD

Coll. No. B-7-S-2      Locality: Leon, Sta. 2      Date: 4-26-54      Collector: Lamb  
 Time: 1:00-2:30 PM

Description

Shoreline: Banks shallow, sloping and sandy

Bottom: Sand and clay with some gravel on riffles

Cover: Little cover present - some brush fallen in stream

Weather: Present: Cloudy and Warm

Preceding: Partly cloud and warm

Water: Temperature -

Color: Clear

Surface: 74°F

Turbidity: None

Bottom: 74°F

Vegetation

Submerged: None

Floating: None

Emerged: None

Predators: None observed.

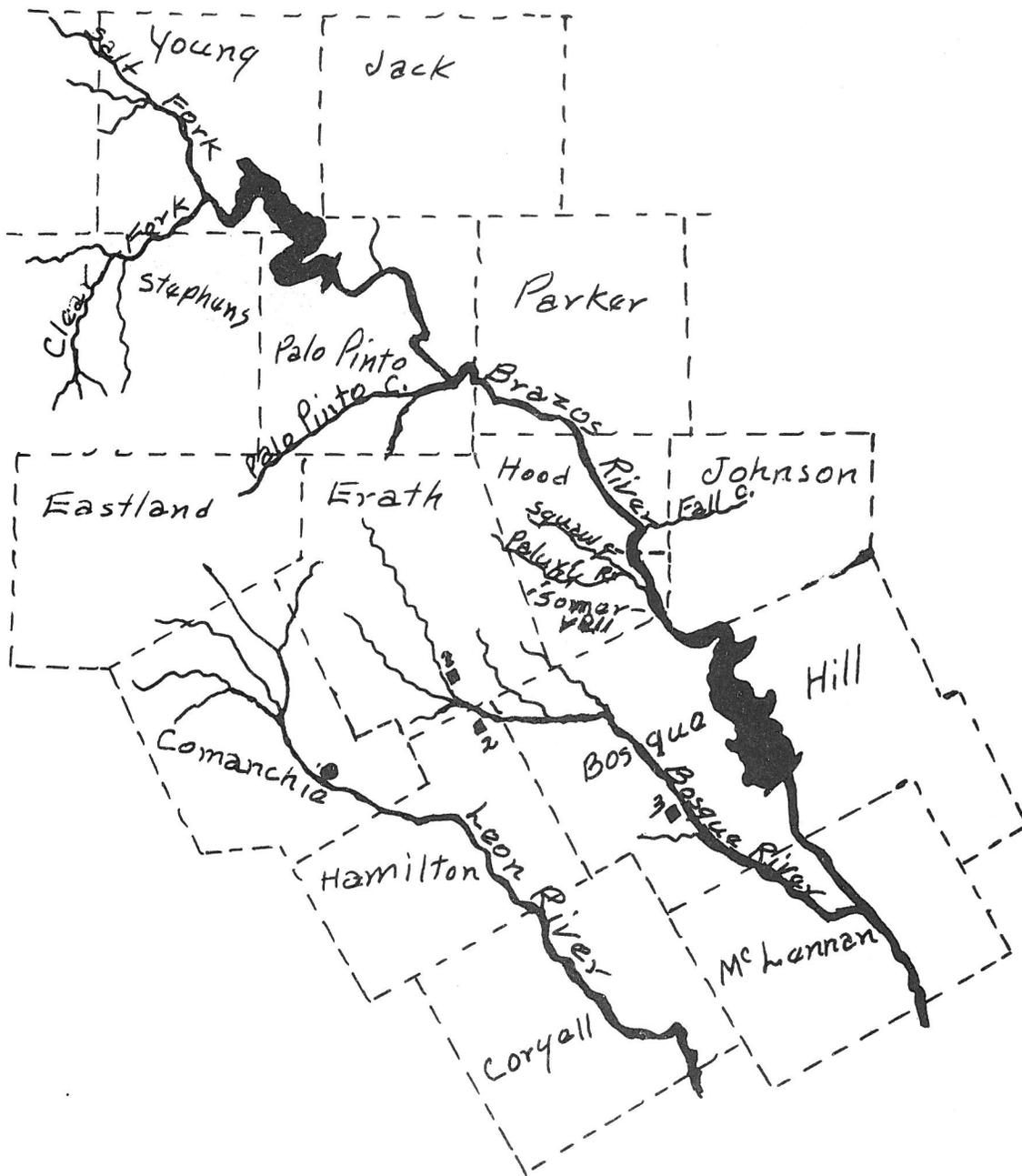
Parasites and Disease: None observed.

Tackle Used: Bag seine      Length: 30 ft.      Mesh:  $\frac{1}{4}$  in.      Depth: 6 ft.

Number of Hauls: 3      Length of Hauls: Avg. 100 ft.

Species	No.
Notropis venustus	5
Notropis lutrensis	343
Fundulus notatus	1
Lepomis cyanellus	2
Lepomis punctatus	2
Lepomis humilis	2
Lepomix cyanellus x macrochirus	3
Hadropterus scierus	1
Total	359

FIGURE 1. Map of Watershed of Bosque and Leon Rivers showing Seine Collection stations.



Solid blocks represent seine stations ----- ■ ●