

Hondo Creek

JOB COMPLETION REPORT

As required by

FEDERAL AID IN FISHERIES RESTORATION ACT

TEXAS

Federal Aid Project No. F-9-R-11

FISHERIES INVESTIGATIONS AND SURVEYS OF THE WATERS OF REGION 5-A

Job No. B-24 Basic Survey and Inventory of Fish
Species Present, as Well as Their
Distribution in Hondo Creek and Its
Tributaries Lying Within Medina County

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ABSTRACT

A total of four seining and three gill net collections for fish specimens was made on Hondo Creek during the period of study.

Gill net collections showed a large dominance of rough fish which composed 89.11 per cent of the netted specimens. Channel catfish had the highest incidence for the game species with only 5.21 per cent of the total collection.

The only feasible management recommendation for this stream at this time is to secure a competent contract fisherman in an effort to reduce the present rough fish population.

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State of Texas

Project No. F-9-R-11

Name: Fisheries Investigations and Surveys
of the Waters of Region 5-A

Job No. B-24

Title: Basic Survey and Inventory of Fish
Species Present, as Well as Their
Distribution in Hondo Creek and Its
Tributaries Lying Within Medina
County, Texas

Period Covered: December 1, 1962 through July 31, 1963

Objectives:

To gather fundamental data on the above waters in regard to their physical, chemical and biological aspects. To determine the distribution of fish species present, their relative abundance and the ecological factors influencing their distribution.

Techniques Used:

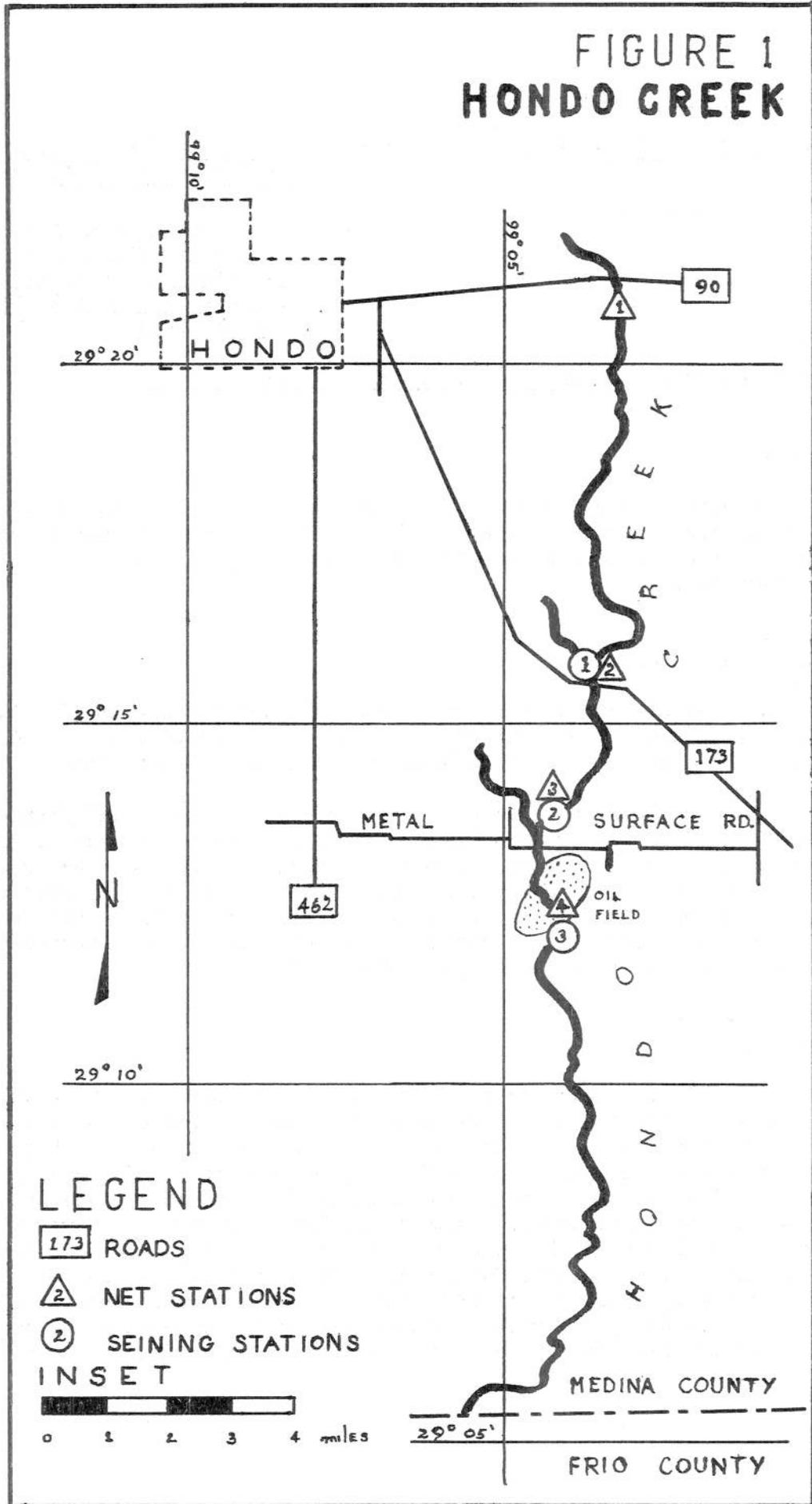
A total of four seining and three gill net collections for fish specimens was made on Hondo Creek during the period of study (Figure 1). Gill net collections were made using several net sets at each station.

Nets used were the standard type of net used by inland fisheries crews of the Parks and Wildlife Department. These nets were composed of varying mesh sizes from 1- to 3-inch square mesh. Lengths, weights and numbers of netted fish were recorded in the field. Fish collected by seining were taken in 12- by 4-foot common sense minnow seines and were preserved in 10 per cent formaldehyde solution for later identification and tabulation in the laboratory. A checklist of fish species collected is given in Table 1.

Findings:

Hondo Creek begins in the northwest corner of Medina County, well up in the Edwards Plateau, and flows in a southeasterly direction until it reaches Hondo, Medina County. At this point it flows almost due south through Medina County to its junction with the Frio River, northwest of Pearsall in Frio County. Just north of Hondo, the Balcones Escarpment crosses Medina County in an east-west direction. From this point southward the river flows through the Coastal Plains. The river bed is almost totally limestone bedrock from its beginning to the Balcones Escarpment. Most of this area is heavily fractured and flows only after runoff from the watershed. Small pools are present in some of this area, but most of these usually dry up during the summer months. The fish in this area are of very little or no significance. The first permanent

FIGURE 1 HONDO CREEK



LEGEND



ROADS



NET STATIONS



SEINING STATIONS

INSET



0 1 2 3 4 miles

MEDINA COUNTY

FRIO COUNTY

Table 1. Checklist of fish species used in this report.

Common Name	Scientific Name
Spotted gar	<u>Lepisosteus oculatus</u>
Longnose gar	<u>L. osseus</u>
Gizzard shad	<u>Dorosoma cepedianum</u>
Smallmouth buffalo	<u>Ictiobus bubalus</u>
Gray redbhorse	<u>Moxostoma congestum</u>
Carp	<u>Cyprinus carpio</u>
Blacktail shiner	<u>Notropis venustus</u>
Red shiner	<u>N. lutrensis</u>
Mimic shiner	<u>N. volucellus</u>
Channel catfish	<u>Ictalurus punctatus</u>
Mosquitofish	<u>Gambusia affinis</u>
Largemouth bass	<u>Micropterus salmoides</u>
Wormouth	<u>Chaenobryttus gulosus</u>
Green sunfish	<u>Lepomis cyanelus</u>
Bluegill sunfish	<u>L. macrochirus</u>
Redbreast sunfish	<u>L. auritus</u>
Longear sunfish	<u>L. megalotis</u>
White crappie	<u>Pomoxis annularis</u>
Freshwater drum	<u>Aplodinotus grunniens</u>
Rio Grande perch	<u>Cichlasoma cyanoguttatum</u>

water starts after the river reaches the Coastal Plains area, immediately south of U. S. Highway 90. Beginning at this point, the river bed is mostly gravel, graduating to sandy loam. The cut-banks through the sandy loam are deep and fairly narrow in the upper area. Below this point, the river valley continues to widen as the soil and river bed graduates to black loam. The pools become deeper and the cut-banks through the black loam are fifty feet deep in places.

Gill netting collections showed a large dominance of rough fish which composed 89.11 per cent of the netted specimens (Table 2). Gizzard shad (Dorosoma cepedianum) were the most numerous with 48.37 per cent. With only 5.21 per cent of the total collection, channel catfish (Ictalurus punctatus) had the highest incidence for the game species.

These collections pretty well point out the condition of this stream in regard to fish populations. The stream is murky and, in general, is poor habitat for game species. This turbidity is no doubt due to the large population of bottom feeding rough fish. During the summer of 1954, this stream was renovated with rotenone and restocked with game species. Rough fish from downstream reinfested this stream to its present population.

A good minnow population exists in the few shallow riffle areas of the stream. There is, however, only limited habitat for minnows because of the

Table 2. Gill netting results, Hondo Creek, 1963.

Species	Fish Collections					
	Numbers		Weights		Per Cent	Per Cent
	Fish	Per Cent	Pounds	Grams		
<u>Lepisosteus oculatus*</u>	1	0.47	0.38	174	0.13	
<u>L. osseus*</u>	4	1.89	10.46	4,746	3.76	
<u>Dorosoma cepedianum*</u>	102	48.37	44.75	20,296	16.07	
<u>Ictiobus bubalus*</u>	70	33.18	196.74	89,240	70.65	
<u>Cyprinus carpio*</u>	1	0.47	3.75	1,701	1.35	
<u>Moxostoma congestum*</u>	1	0.47	1.50	680	0.54	
<u>Ictalurus punctatus</u>	11	5.21	7.95	3,608	2.85	
<u>Micropterus salmoides</u>	3	1.42	1.45	658	0.53	
<u>Lepomis macrochirus</u>	7	3.32	0.73	328	0.26	
<u>L. auritus</u>	1	0.47	0.07	33	0.02	
<u>Pomoxis annularis</u>	1	0.47	0.16	75	0.06	
<u>Aplodinotus grunniens*</u>	8	3.79	9.94	4,507	3.57	
<u>Cichlasoma cyanoguttatum*</u>	1	0.47	0.57	260	0.21	
Totals	211	100.00	278.45	126,306	100.00	

*Species classified as rough fish.

large deep pools and the limited shallow areas where the water flows over rock and rubble bottom. The red shiner (Notropis lutrensis) was the most common species in the seining collections, accounting for 73.15 per cent of the total specimens collected by this method (Table 3). Other species accounted for only minor percentages of the total specimens collected by seining.

Table 3. Seining collections, Hondo Creek, 1963.

Species	Numbers	
	Number	Per Cent
<u>Dorosoma cepedianum</u>	3	0.46
<u>Notropis venustus</u>	52	8.02
<u>N. lutrensis</u>	474	73.15
<u>N. volucellus</u>	5	0.77
<u>Gambusia affinis</u>	11	1.70
<u>Micropterus salmoides</u>	11	1.70
<u>Chaenobryttus gulosus</u>	2	0.31
<u>Lepomis cyanellus</u>	5	0.77
<u>L. macrochirus</u>	48	7.41
<u>L. auritus</u>	9	1.38
<u>L. megalotis</u>	8	1.24
<u>Cichlasoma cyanoguttatum</u>	20	3.09
Totals	648	100.00

Recommendations:

Fisheries management recommendations are rather difficult for this stream because of the cost of such work and its limited fishing potential. The stream is small and has very limited access points. Property owners adjoining the stream make up the bulk of the fishing pressure. This stream would no doubt support a larger number of anglers if a good game fish population were present. However, with its limited access areas and the small size, the cost of proper management practices would be prohibitive. It is, therefore, recommended that an attempt be made to secure a competent contract fisherman for this stream in an effort to reduce the present rough fish population. This is the only feasible management recommendation for this stream at the present time.

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Date November 6, 1963

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