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JOB COMPLETION REPORT

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FEDERAL AID IN FISHERIES RESTORATION ACT

TEXAS

Federal Aid Project No. F-2-R-12

FISHERIES INVESTIGATIONS AND SURVEYS OF THE WATERS OF REGION 2-B

Job No. B-22: Fisheries Reconnaissance

Project Leader: R. L. White

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June 18, 1965

JOB COMPLETION REPORT

State of Texas

Project No. F-2-R-12

Name: Fisheries Investigations and Surveys of the Waters of Region 2-B

Job No. B-22

Title: Fisheries Reconnaissance.

Period Covered: February 1, 1964 to January 31, 1965

Objectives: To determine gross changes in fishing conditions and factors influencing fish populations.

1. To determine major changes in the balance between desirable and undesirable fish species and gross changes in abundance and condition of individual fish species.
- 2. To determine when indicated, major changes in ecological conditions including water quality, turbidity, and fish cover.
3. To determine when indicated, possible sources of pollution.
4. To determine trends in fishing pressure and harvest composition.
5. To insure the adequacy of existing fish harvest regulations.

Procedures: Fish populations of selected waters were sampled principally by use of gill nets standardized for all Dingell-Johnson projects. These nets consist of six 25-foot sections ranging between one and three and one-half inch square mesh. Mesh size increases by one-half inch per section. Seine samples were made with 20-foot straight seines.

Netting and seining collections were made at stations set up in the basic inventory of the concerned waters. An attempt was made to set up permanent collection stations on all of the waters of Region 2-B, to increase uniformity in collection methods.

The lakes to be sampled were chosen by the project leader and the choice was dependent on current weather conditions, request for surveys, and known gross changes in habitat. Seine samples were made as time and weather permitted.

Water samples were taken and analyzed for O_2 , CO_2 , total hardness, chlorides, and pH. Samples, taken from each lake surveyed were collected from a vertical series, bottom to surface in 10-foot increments.

The data collected in the field were checked monthly to determine any major trends in population ratio or relative abundance of species as well as general condition. Spot checks of creek and talks with camp operators aided in determining the fishing pressure and angler's success.

Table 1 is a checklist of the species mentioned in this report.

Findings: The results of the seining collections and the water quality studies are not given in this report as there were no unusual species collected nor any unusual readings determined during the project segment.

Lake Austin

A netting trip was made to Lake Austin on October 13, 14, 15, 1964, and a total of ten experimental gill nets were set. No unusual trends or gross changes as compared with past data in the fish population were noted from this limited sampling. Results of the netting collections are given in Table 2.

Lake Belton

On June 2, 3, 4, 1965; August 19, 20, 21, 1964; and December 17, 1964, a total of 26 experimental gill nets were set in Lake Belton. Table 3 shows the results of these netting collections.

There has been a considerable increase in the number of smallmouth buffalo and river carpsucker collected in 1964 over past years. Smallmouth buffalo comprised 17.91 per cent by number and 42.04 per cent by weight of the total harvest by netting collections as compared to 4.43 per cent by number and 15.05 per cent by weight in 1963. River carpsuckers comprised 4.93 per cent by number and 7.52 per cent by weight in 1963 as compared with 19.24 per cent and 23.94 percent respectively in 1964. Game fish species, notably channel catfish, yellow catfish, largemouth black bass, spotted black bass, white bass, and white crappie, comprised 39.16 per cent by number of the total fish collected in 1963 as compared to 20.12 per cent in 1964. The per cents by weight for 1963 and 1964 were 42.06 and 13.99 respectively. The most notable decreases in the game fish category were in the channel catfish and white bass collected. The lack of sufficient fresh water entering the lake during the past two years has retarded the white bass spawn somewhat, and the population is just now beginning to show the effects.

The abundant rainfall in the area in early 1965 may provide adequate water for a successful white bass spawn in the coming segment. Reconnaissance work on Lake Belton will be carried out under the state program in the coming segment to determine what, if any, development work is needed on the lake.

Lake Buchanan

A total of 32 experimental gill nets were set in Lake Buchanan during trips made April 2, 3, 4, 1964. Table 4 illustrates the results of these netting collections. There were changes in the percentages of rough fish by weight and number over last year's collections, but none of significance. The low water level of the lake did not lend itself to the success of the fishermen on the lake. Some good catches

of channel catfish were reported, but these were usually after slight rises in the lake. Fishing success for white bass, black bass, and white crappie were below normal.

Lake Brady

Seventeen experimental gill nets were set in Brady Lake on March 24, 25, 26, 1964 and on January 27, 1965. Although the watershed which lay in the lake basin was treated for a total fish eradication before impoundment of the lake began, rough fish already dominate the netting collections. Table 5 shows the results of netting on Lake Brady during this segment. The rough fish are assumed to have been washed down from the untreated upper ends of the watershed when the lake filled up.

Additional reclamation work on the lake may be called for in the future.

Canyon Lake

Five experimental gill nets were set in Canyon Lake on November 11, 1964. The water level of the lake was up to the base of the dam when the collections were made. Table 6 shows the results of the net sampling. The fish collected were predominately rough fish, namely, gizzard shad.

Plans call for stocking the lake in the spring of 1965 with walleyes, obtained from Iowa, followed by bass and catfish from the state hatchery system. Spot creel checks will accompany reconnaissance work in the coming segment to determine the success of these stockings.

Flatrock Lake

A total of four experimental gill nets were set in Flatrock Lake, Kerrville, Texas on April 9, 10, 1964. Table 7 shows the results of this netting collection. The high gizzard shad and sucker population, characteristic of these small man-made lakes formed by low dams on rivers, was found here. There was no major change in the species collected as compared with past segments.

Fishing for catfish and sunfish comprise the majority of the angling on this lake.

Ingram Lake

Fourteen experimental gill nets were set in Ingram Lake, Kerr County, on April 9, 10, 1964, and October 7, 1964. As in Lake Flatrock, Ingram Lake yielded high numbers of rough fish with a fair number of catfish. Very few black bass were collected in sampling operations. In the fall of 1964, yearling bass were stocked in the lake from the state fish hatchery at Ingram.

Because of the heavy use of the lake by water skiers, fishing pressure on the lake is quite low during the daylight hours. Fishermen are limited to sloughs and shoreline areas of the lake during the warm periods of the years as they yield to the boaters and water skiers.

Catfish and sunfish comprise the principal game fish collected as can be seen in Table 8.

Lake Marble Falls

Netting trips were made to Lake Marble Falls on February 27, 28, 29; August 23, 24, 25; September 17, 18, 19 and November 24, 25, 26, 1964. A total of 40 experimental gill nets were set, and Table 9 shows the results of these sampling operations. There was not much change in the fishery complex of Lake Marble Falls as compared with the last segment. Rough fish continue to dominate the harvest in both per cent by numbers and per cent by weight.

Trotline fishing and still fishing for catfish comprise the majority of the fishing pressure on Lake Marble Falls.

Town Lake

On October 15, 16, and 17, 1964, a total of 15 experimental gill nets were set in Town Lake, Austin, Texas. Table 10 shows the results of the netting collections. Despite high rough fish numbers, the lake seems to have fair channel catfish and white crappie populations.

A considerable number of pole and line fishermen can be seen fishing the lake on almost any day of the year. Although sunfish probably make up the largest portion of the fishermen's creel, good stringers of catfish and crappie are occasionally harvested.

Lake Travis

Thirty experimental gill nets were set in Lake Travis on July 15, 16, 17; October 29, 30, 31, 1964 and January 28, 29, 30, 1965. The results of these netting collections are found in Table 11. Although the water level of the lake approached an all time low, the fish population ratio of the lake did not appear to have been altered significantly over the past year. It is felt certain that the white bass population has been reduced somewhat over the past two segments because of the limited spawns resulting from lack of fresh water entering the lake. Substantial rains which fell in early 1965 may alleviate many of the problems of this nature in Lake Travis.

Because of the good harvest of blue catfish in Lake Travis by fishermen, and the apparent suitability of the species for the environment as determined from species collected, 10,200 blue catfish fingerling from the San Marcos State Fish Hatchery were put into the lake during this segment.

RIVERS

Brushy Creek

Three experimental gill nets were set in Brushy Creek, Williamson County, on May 15, 1964. The collection results are given in Table 12.

Trotline and still fishing result in a slight harvest of sunfish and catfish by fishermen.

Colorado River

On May 16, 1964, and June 19, 1964, six experimental gill nets were set in the Colorado River, Mills and San Saba Counties. As can be seen in Table 13, the collections yielded a high percentage of rough fish.

Despite the high rough fish population, fishing pressure, in the form of trotlines and throwlines, is quite heavy on the Colorado River. A number of white bass are harvested during the spawning season in the lower reaches of the river which divides these two counties.

Guadalupe River

Ten netting collections were made on the Guadalupe River, Kerr, Kendall and Comal Counties on April 10, 1964; March 22; and June 4, 1964.

Fair catches of channel catfish in netting collections are illustrated in Table 14. Some yearling bass were stocked from the Ingram State Fish Hatchery in the Guadalupe River in the Ingram-Kerrville area. An attempt to bolster an apparently sagging black bass population in the river, this stocking operation will be further evaluated by future reconnaissance work.

Sunfish and catfish comprise the majority of the fisherman's creel on the river.

Llano River

A total of eleven netting collections were made on the Llano River, Kimble, Mason, and Llano Counties on May 5, 6, and 12, 1964. Over 80 per cent of the total number of fish collected were rough fish as can be seen in Table 15.

As with most of the rivers of Region 2-B, the harvesting of catfish by trotline and throwline provide the fishermen with the most success on the Llano River.

Many areas of the Llano River were dry during the last segment, and reconnaissance work was somewhat limited.

Pedernales River

Six gill net collections were made on the Pedernales River, Gillespie and Blanco Counties on May 7, and 8, 1964. Results of the collections are given in Table 16.

Again, lack of adequate rainfall resulted in dry areas of the river, and reconnaissance work was limited.

San Gabriel River

On May 14, 1964, five experimental gill nets were set in the San Gabriel River, Williamson County. Gizzard shad and sucker type fish dominate the netting collection figures as can be seen in Table 17.

Trotline fishing provides the anglers with some fair returns on catfish and sunfish. Use of gill nets is legal in Williamson County for the taking of rough fish, and this method of harvest is used by some of the residents of the county.

San Marcos River

Three experimental gill nets were set in the San Marcos River, Hays County on April 14, 1964. Results of the netting are given in Table 18.

Because of its accessibility to project headquarters, the San Marcos River will be used for a fish production study in the coming segment.

San Saba River

On May 17, 1964, five experimental gill nets were set in the San Saba River, San Saba County. The results of these collections are given in Table 19.

Reconnaissance work on the San Saba River will be continued under the state program in the coming segment.

Recommendations:

Reconnaissance work has been carried out on all of the rivers, streams, and lakes of Region 2-B over past segments. This work has provided project personnel with a general, but fairly accurate, concept of the fishery complex of these waters.

One of the biggest problems facing the angler in this area is the lack of public access to these waters, especially rivers.

It is recommended that this job be discontinued until the amount and location of public access to the waters of Region 2-B can be determined.

Prepared by: R. L. White
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Marion Toole
(Coordinator)

Date: June 18, 1965

JOHN E. TILTON
Regional Supervisor

Checklist of Fishes

<u>Scientific Name</u>	<u>Common Name</u>
<u>Lepisosteus oculatus</u>	Spotted gar
<u>Lepisosteus osseus</u>	Longnose gar
<u>Dorosoma cepedianum</u>	Gizzard shad
<u>Ictiobus bubalus</u>	Smallmouth buffalo
<u>Carpionodes carpio</u>	River carpsucker
<u>Moxostoma valenciennianum</u>	Gray redhorse
<u>Cyprinus carpio</u>	Carp
<u>Notemigonus crysoleucas</u>	Golden shiner
<u>Notropis venustus</u>	Blacktail shiner
<u>Notropis lutrensis</u>	Red shiner
<u>Ictalurus punctatus</u>	Channel catfish
<u>Ictalurus furcatus</u>	Blue catfish
<u>Ictalurus melas</u>	Black bullhead catfish
<u>Ictalurus natalis</u>	Yellow bullhead catfish
<u>Pylodictis olivaris</u>	Flathead catfish
<u>Fundulus notatus</u>	Blackstripe topminnow
<u>Gambusia affinis</u>	Mosquito fish
<u>Mugil cephalus</u>	Striped mullet
<u>Roccus chrysops</u>	White bass
<u>Micropterus treculi</u>	Guadalupe bass (Texas Spotted Bass)
<u>Micropterus salmoides</u>	Largemouth bass
<u>Chaenobryttus gulosus</u>	Warmouth
<u>Lepomis cyanellus</u>	Green sunfish
<u>Lepomis microlophus</u>	Redear sunfish
<u>Lepomis macrochirus</u>	Bluegill
<u>Lepomis auritus</u>	Redbreast sunfish
<u>Lepomis megalotis</u>	Longear sunfish
<u>Pomoxis annularis</u>	White crappie
<u>Percina caprodes</u>	Log perch
<u>Aplodinotus grunniens</u>	Freshwater drum
<u>Cichlasomas cyanoguttatum</u>	Rio Grande perch

TABLE 14

GUADALUPE RIVER

Netting Data 1964

<u>SPECIES</u>	<u>NUMBER</u>	<u>PER CENT BY NUMBER</u>	<u>WEIGHT</u>	<u>PER CENT BY WEIGHT</u>
<u>Lepisosteus osseus</u>	42	13.59	71.45	15.76
<u>Dorosoma cepedianum</u>	121	39.16	120.20	26.52
<u>Carpiondes carpio</u>	27	8.74	77.54	17.11
<u>Moxostoma congestum</u>	66	21.36	99.73	22.00
<u>Ictalurus punctatus</u>	26	8.41	60.00	13.24
<u>Pylodictis olivaris</u>	4	1.29	14.44	3.19
<u>Micropterus salmoides</u>	7	2.26	4.32	0.96
<u>Chaenobryttus gulosus</u>	3	0.97	1.32	0.29
<u>Lepomis cyanellus</u>	1	0.33	0.19	0.04
<u>Lepomis microlophus</u>	7	2.26	1.44	0.32
<u>Lepomis macrochirus</u>	3	0.97	0.50	0.11
<u>Lepomis megalotis</u>	1	0.33	0.25	0.05
<u>Pomoxis annularis</u>	<u>1</u>	<u>0.33</u>	<u>1.88</u>	<u>0.41</u>
TOTALS	309	100.00	453.26	100.00