

Report of Fisheries Investigations

FILE

Inventory of Species Present in Hords Creek Reservoir near Coleman, Texas

by

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Dingell-Johnson Project F-5-R-5, Job B-19  
April 16, 1956 - April 15, 1958

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## JOB COMPLETION REPORT

State of TEXAS

Project No. F-5-R-5

Name: Fisheries Investigations and Surveys of the Waters of Region 3-B.

Job No. B-19

Title: Inventory of Species Present in Hords Creek Reservoir near Coleman, Texas.

Period Covered:

April 16, 1956 through April 15, 1958

### ABSTRACT:

Twenty-four netting and twenty seining collections from Hords Creek Reservoir indicate that the gizzard shad is the dominant species in the lake but are not, at this time, sufficiently abundant to require control measures. Channel catfish and largemouth bass are plentiful, while crappie and sunfish are over-abundant. Redear sunfish grow large enough to be desirable in this lake and have provided good fishing in the history of the lake. River carsuckers are abundant but are not yet a serious problem.

### OBJECTIVES:

To determine the species present and their relative abundance as well as to determine the ecological factors influencing their distribution.

### PROCEDURE:

Netting collections were made at twelve locations in the lake. Each location was used for two net sets making a total of twenty-four collections obtained from the lake. Experimental nylon gill nets, measuring 125 feet long by 8 feet in depth and made up in five, 25 foot, sections were used. Mesh size of these nets increased progressively in each following section at one-half inch intervals, beginning with one-inch mesh and terminating with a three-inch mesh section.

Seining collections were made at ten locations. Each location was seined twice during the two year period covered for a total of twenty seining collections. Common sense seines with one-fourth inch mesh were used for these collections. To estimate relative abundance a count was made of all individuals taken.

Samples from netting collections were weighed and measured in the field. Stomach contents and sexual maturity were also observed in an effort to obtain ecological information.

### FINDINGS:

Description-Hords Creek Reservoir is located on Hords Creek, about twenty-eight miles upstream from the confluence of Hords Creek and Jim Ned Creek. It is about six miles west of the City of Coleman, in Coleman County, Texas. This reservoir was

constructed by the U. S. Corp of Engineers for flood control in 1949-50. The dam is impacted earth construction and the emergency spillway elevation is 1940 feet above mean sea level. At that elevation the reservoir contains 66,018 acre feet of water and has 2,920 surface acres. There are about 48 square miles in the contributing drainage area. Water in the reservoir is clear having no recordable turbidity under normal conditions. Recorded pH was 8.3 and dissolved oxygen content was 11 ppm.

Netting Collections-Twenty-four netting collections were obtained from the lake during the two year period covered by the investigation. The result of the first years netting, which consisted of six collections, is given in Table 1. Table 2 shows the results of the eighteen netting collections obtained during the second year. Table 3 is a composite of the two years results, i.e., showing the total results for all netting done on the lake. Table 4 is a comparison by number and weight between game and rough and/or forage species.

It is apparent from the tables showing netting results that the gizzard shad is the most abundant fish in the lake and is probably the most important forage species. It is perhaps significant that the percent by number for this species was approximately the same (38%) in the samples for both years and that the average size decreased. It would be advantageous to the lake if this percentage of shad represented a "balance of nature" and did not increase. Besides shad and small fish of other species, the other important forage fish taken by netting was the golden shiner. This fish was not netted during the first segment but, possibly as a result of its larger size, was caught in gill nets during the latter segment. These fish were most likely introduced by the hatchery at one time or another and have apparently grown very fast.

River carpsuckers are the principal rough fish present in the lake but they have thus far not exhibited the malignant increase in numbers that they have in other reservoirs of this region. Other undesirable species found in the netting collections were carp, buffalo, drum and bullheads. These species are at the present time in a minority. The absence of a large percentage of bullheads in the netting collections can probably be attributed to the presence of yellow catfish in the lake as these fish seem to thrive on bullheads when they are available.

Channel catfish and largemouth bass are the two most important game species in the lake at the present time while three or four years ago the sunfish and white crappie held this distinction. The reason for this change is apparently due to the fact that the bass and channel catfish have continued to grow and many individuals in these two species are of a desirable size while on the other hand the crappie and sunfish have over-populated themselves and are for the most part fairly small fish. It should be noted, however, that the redear sunfish are still of a very desirable size and that this species is responsible for raising the average size of sunfish netted to a little over six ounces. These fish have provided some excellent fishing during the history of the lake. Some good size crappie remain but the average size is not nearly as large as it was once reported to be. As was mentioned previously the lake has some yellow catfish in it which is apparently a very healthy situation.

Summing up the netting sample collected it appears that the game fish to rough fish ratio by number is relatively good while the ratio by weight is even better. Table 4 shows these percentages.

Seining Collections-Besides many of the same species taken in netting there were several additional species collected by means of seining. Among these were several species of minnows including the redhorse shiner, plains minnow, and parrot minnow. The grey redhorse sucker was another species added to the checklist by seining. None of these species mentioned were particularly abundant.

The seining indicated that the lake was well stocked with largemouth bass and that sunfish were too abundant. Three species of sunfish were seined. These were green sunfish, bluegills and redear. The redear sunfish appeared to be slightly dominant.

A Checklist of Species Taken from Hords Creek Reservoir by Seining and Netting

<u>Common Name</u>	<u>Scientific Name</u>
Gizzard shad	<u>Dorosoma cepedianum</u>
Smallmouth buffalo	<u>Ictiobus bubalus</u>
River carpsucker	<u>Carpionodes carpio</u>
Gray redhorse sucker	<u>Moxostoma congestum</u>
Carp	<u>Cyprinus carpio</u>
Golden shiner	<u>Notemigonus crysoleucas</u>
Redhorse shiner	<u>Notropis lutrensis</u>
Plains minnow	<u>Hybognathus placita</u>
Parrot minnow	<u>Pimephales vigilax</u>
Channel catfish	<u>Ictalurus punctatus</u>
Yellow bullhead	<u>Ictalurus natalis</u>
Yellow catfish	<u>Pylodictus olivaris</u>
Gambusia	<u>Gambusia affinis</u>
Largemouth bass	<u>Micropterus salmoides</u>
Green sunfish	<u>Lepomis cyanellus</u>
Redear sunfish	<u>Lepomis microlophus</u>
Bluegill	<u>Lepomis macrochirus</u>
White crappie	<u>Pomoxis annularis</u>
Freshwater drum	<u>Aplodinotus grunniens</u>

RECOMMENDATIONS:

Since Hords Creek Reservoir has a reputation for above-average fishing and since the sampling done on this lake indicates that the ratio of game fish to rough fish is not too bad, particularly in regards to the weight ratio of game to rough species, it is recommended that no remedial measures be taken on the lake at this time. It is recommended, however, that the lake be resurveyed periodically in order to detect any drastic changes in the status of the various species involved.

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Table 1. Result of six netting collections taken from Hords Creek Reservoir during the 1956-57 segment.

Species	No.	Percent by No.	Avg. Wt. ounces	Percent by Wt.	Average K
Gizzard shad	86	38.5	5	19.2	1.89
River carpsuckers	14	6.3	17	10.6	2.45
Channel catfish	6	2.6	18	5.0	2.24
Largemouth bass	24	10.7	34	36.4	2.40
Sunfish	16	7.3	6	4.3	4.68
White crappie	74	33.3	7	23.1	3.10
Freshwater drum	3	1.3	10	1.4	2.20
Totals	223	100.0		100.0	

Table 2. Result of eighteen netting collections taken from Hords Creek Reservoir during the 1957-58 segment.

Species	No.	Percent by No.	Avg. Wt. ounces	Percent by Wt.	Average K
Gizzard shad	129	38.05	3	5.76	1.91
River carpsucker	48	14.16	32	22.87	2.56
Smallmouth buffalo	2	.59	46	1.37	2.94
Carp	8	2.36	88	10.48	2.68
Golden shiners	8	2.36	3	.36	2.12
Yellow bullhead	1	.29	9	.14	2.39
Channel catfish	62	18.29	35	32.29	2.21
Yellow catfish	3	.89	104	4.65	2.60
Largemouth bass	38	11.21	33	18.67	2.28
Sunfish	19	5.61	6	1.85	4.11
White crappie	21	6.19	5	1.56	2.89
Totals	339	100.00		100.00	

Table 3. Result of all twenty-four netting collections taken from Hords Creek Reservoir during the two year period from 1956 to 1958.

Species	No.	Percent by No.	Avg. Wt. ounces	Percent by Wt.	Average K
Gizzard shad	215	38.25	4	9.13	1.90
River carpsucker	62	11.03	29	19.84	2.53
Smallmouth buffalo	2	.36	46	1.03	2.94
Carp	8	1.42	88	7.87	2.68
Golden shiners	8	1.42	3	.27	2.12
Yellow bullhead	1	.18	9	.10	2.39
Channel catfish	68	12.10	33	25.47	2.21
Yellow catfish	3	.54	104	3.49	2.60
Largemouth bass	62	11.03	33	23.15	2.33
Sunfish	35	6.23	6	2.35	4.37
White crappie	95	16.90	6	6.97	3.05
Freshwater drum	3	.54	10	.33	2.20
<b>Totals</b>	<b>562</b>	<b>100.00</b>		<b>100.00</b>	

Table 4. A comparison of game and rough species taken by netting from Hords Creek Reservoir during the two year period from 1956 to 1958.

Utility	No.	Percent by No.	Avg. Wt. ounces	Percent by Wt.
<u>Rough and Forage Species</u> (including shad, suckers, buffalo, carp, shiners, bullheads and drum)	299	53.20	11.54	38.58
<u>Game Species</u> (including catfish, bass, sunfish, and crappie)	263	46.80	20.89	61.42
<b>Totals</b>	<b>562</b>	<b>100.00</b>		<b>100.00</b>

