

JOB COMPLETION REPORT

FILE

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FEDERAL AID IN FISHERIES RESTORATION ACT

TEXAS

Federal Aid Project No. F-4-R-13

REGION 2-A FISHERIES STUDIES

Job No. B-33: Stocking Recommendations

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December 8, 1966

ABSTRACT

Seining collections were made on ten lakes in the region during the segment reported. During this period, largemouth bass were stocked in Whitney, Pat Cleburne and Moss Lakes, and channel catfish were stocked in Amon Carter Lake near Bowie.

All the lakes checked have sufficient forage to support game fish populations. With the exception of a few rises, due to spring rains, the water levels remained fairly constant in all lakes.

Federal Aid Project No. 7-4-W-13  
SECTION 2-A FISHERIES STUDIES  
Job No. 2-53: Stocking Recommendations  
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JOB COMPLETION REPORT

State of Texas

Project No. F-4-R-13

Name: Region 2-A Fisheries Studies

Job No. B-33

Title: Stocking Recommendations

Period Covered: November 1, 1965 - October 31, 1966

Objectives:

1. To measure new or renovated lakes and to determine the area of water present for recommending stocking ratios.
2. To determine the abundance of age groups 0 to 1 (young of the year) in lakes having established fish populations.
3. To recommend stocking of lakes having established fish populations but which lack game species in age groups 0 to 1.

Procedures:

Seining collections were taken to provide data on natural reproduction by game fish species and in order to estimate availability of forage species. Water level fluctuations were noted. Supplementary stocking of game fish from State Hatchery production was based on results of the data collected.

Table 1 is a checklist of fish taken in seining samples during the segment reported. Only common names are used in the body of this report.

Two new reservoirs, Moss Lake in Cooke County and Lake Pat Cleburne in Johnson County, were recommended for stocking.

Findings:

Lake Worth

In December 1965, six random seining collections were made on Lake Worth. The results are shown in Table 2. Blacktail and red shiners comprised more than 80 per cent of the total number of fish taken. Both are good forage species and are considered an indication of available forage for game fish species. A single two-inch largemouth bass was taken in the six seining collections. This specimen was in good condition and represented successful reproduction. Since the collections were made in December, no large numbers of small bass were caught. No netting or rotenone collections were made to supplement the seining data.

No recommendations were made for stocking additional bass or catfish.

Lake Arlington

Five seining collections were made on Lake Arlington in December 1965. In all, 426 specimen of seven species were taken in the collections (Table 3). Mosquitofish,

Table 1. Checklist of fish species taken in lakes in Region 2-A.

<u>Common Name</u>	<u>Scientific Name</u>
Longnose gar	<u>Lepisosteus osseus</u>
Gizzard shad	<u>Dorosoma cepedianum</u>
Golden shiner	<u>Notemigonus crysoleucas</u>
Chub shiner	<u>Notropis potteri</u>
Blacktail shiner	<u>N. venustus</u>
Red shiner	<u>N. lutrensis</u>
Bullhead minnow	<u>Pimephales vigilax</u>
Tadpole madtom	<u>Schilbeodes gyrinus</u>
Blackstripe topminnow	<u>Fundulus notatus</u>
Mosquitofish	<u>Gambusia affinis</u>
Brook silverside	<u>Labidesthes sicculus</u>
White bass	<u>Roccus chrysops</u>
Largemouth bass	<u>Micropterus salmoides</u>
Warmouth	<u>Chaenobryttus gulosus</u>
Green sunfish	<u>Lepomis cyanellus</u>
Redear sunfish	<u>L. microlophus</u>
Bluegill	<u>L. macrochirus</u>
White crappie	<u>Pomoxis annularis</u>
Logperch	<u>Percina caprodes</u>
Orangethroat darter	<u>Etheostoma spectabile</u>
Freshwater drum	<u>Aplodinotus grunniens</u>

Table 2. Seining results, Lake Worth.

Species	Number	Per Cent of Number
Golden shiner	2	1.00
Blacktail shiner	135	67.16
Red shiner	33	16.42
Bullhead minnow	4	1.99
Tadpole madtom	1	0.49
Blackstripe topminnow	1	0.49
Largemouth bass	1	0.49
Green sunfish	2	1.00
Redear sunfish	6	2.99
Bluegill	14	6.97
Logperch	2	1.00
Total	201	100.00

Table 3. Seining results, Lake Arlington.

Species	Number	Per Cent of Number
Gizzard shad	2	0.46
Blacktail shiner	11	2.59
Red shiner	45	10.56
Mosquitofish	225	52.82
Brook silverside	138	32.39
Largemouth bass	1	0.24
Bluegill	4	0.94
Total	426	100.00

brook silversides, and red shiners, in that order, comprised more than 95 per cent of the total number of fish taken. Only one largemouth bass was taken in the collection. This four-inch specimen was taken near the dam and represented successful reproduction. Even though no channel catfish were taken in the collections, there were several reports that a good population existed in the lake.

No recommendations were made to stock additional fish.

#### Lake Grapevine

Six seining collections, made at various points on the lake, took a total of 260 fish of eight species (Table 3). Brook silversides alone comprised more than 70 per cent of the total number of fish taken. Collectively, red and blacktail shiners comprised more than 25 per cent by number. Thus there is sufficient forage in the lake.

Three largemouth bass, ranging from two and one-half to three and one-fourth inches, were taken in the seining collections. These fish indicate successful reproduction.

No recommendations were made to stock either bass or catfish.

#### Lake Whitney

In December 1965, ten seining collections were made on Lake Whitney. In all, 211 specimens were taken (Table 4). Bullhead minnows comprised more than 50 per cent by number. Red and blacktail shiners together comprised more than 20 per cent by number. Thus it seems that there is sufficient forage in the lake.

Even though four specimens were taken in the seines, it was decided to stock 280,000 largemouth bass. These fish were supplied by the Eagle Mountain State Fish Hatchery near Fort Worth.

#### Benbrook Lake

In December 1965, six seining collections were made on this lake. All told, 253 fish of 10 species were taken (Table 5). Blacktail shiners, red shiners and golden shiners, in that order, were the most abundant species taken. Together, they represented over 86 per cent of the total fish taken. In addition, 91 freshwater shrimp were collected in the six seining collections. Thus, there is ample forage in the lake.

Three specimens of largemouth bass, from 3 to 4 inches long, were taken in the seining collections. These fish represent successful reproduction in the lake.

In April, heavy rains on the watershed caused the lake level to rise about 10 feet. Otherwise, the lake level remained constant during the study period.

No recommendations were made to stock either bass or catfish.

Table 4. Seining results, Lake Whitney

Species	Number	Per Cent of Number
Chub shiner	18	8.53
Blacktail shiner	17	8.05
Red shiner	28	13.27
Bullhead minnow	108	51.19
Mosquitofish	8	3.79
Brook silverside	9	4.26
Largemouth bass	4	1.90
Warmouth	1	0.47
Green sunfish	1	0.47
Bluegill	10	4.74
Logperch	1	0.47
Orangethroat darter	6	2.86
Total	211	100.00

Table 5. Seining results, Benbrook Lake

Species	Number	Per Cent of Number
Gizzard shad	8	3.16
Golden shiner	30	11.85
Blacktail shiner	100	39.53
Red shiner	88	34.78
Bullhead minnow	6	2.37
Mosquitofish	8	3.16
Largemouth bass	3	1.19
Green sunfish	3	1.19
Bluegill	4	1.58
Logperch	3	1.19
Total	253	100.00

### Eagle Mountain Lake

Six seining collections were made on Eagle Mountain Lake in December 1965. All together, 372 fish of 10 species were taken (Table 6). Blacktail shiners alone comprised 87.90 per cent by number. These fish ranged from one-half to three inches in length. Since these fish are good forage, there seems to be ample food in the lake.

Two specimens of largemouth bass, ranging from three and one-half to five inches, were taken in the seining collections. These fingerlings represent successful reproduction.

No recommendations were made to stock either largemouth bass or channel catfish.

### Amon Carter Lake

Four seining collections were made on this lake. Two were made in March and two in June. Results are shown in Table 7. Only three species of fish were taken in the March collections. In these collections, blacktail shiners comprised 50 per cent by number and red shiners 35 per cent by number. However, in the June collections, no blacktail shiners were taken. Brook silversides comprised more than 64 per cent by number and bluegill comprised more than 14 per cent by number.

Four largemouth bass were taken representing 7.14 per cent of the total. These fish, from one and a half to six inches long, represented successful reproduction.

No recommendations were made to stock largemouth bass, but 8,000 channel catfish were stocked. The fish were stocked in the latter part of October 1966, and ranged from four to eight inches in length.

### Lake Bridgeport

Nine seining collections were made in March and June and results are shown in Table 8. Red shiners, brook silversides, mosquitofish and gizzard shad, in that order, comprised 84.33 per cent by number. One white bass, 13 largemouth bass and two white crappie were taken in the collections. The largemouth bass, which were taken in the June collections, ranged from one and a half to three and a half inches in length. Obviously these fish were spawned in the lake and represented successful reproduction. Also, evidence was found to indicate that the white crappie had spawned. Two crappie, ranging from three and a fourth to five inches, were taken in the seining collections.

The water level was normal when the seining collections were made in March, but it was above normal in June. Heavy rains on the watershed in June filled the lake to capacity and caused it to be about 15 feet above its normal level.

Since sufficient evidence of a good game fish population was found, no recommendations were made to stock either largemouth bass or channel catfish.

### Nocona Lake

In June 1966, three seining collections were made on this lake. All told, 236 fish of five species were taken (Table 9). Brook silversides comprised more than

Table 6. Seining results, Eagle Mountain Lake.

Species	Number	Per Cent of Number
Gizzard shad	1	0.26
Golden shiner	2	0.54
Blacktail shiner	327	87.90
Red shiner	5	1.35
Bullhead minnow	5	1.35
Blackstripe topminnow	2	0.54
Largemouth bass	2	0.54
Green sunfish	2	0.54
Bluegill	23	6.17
Logperch	3	0.81
Total	372	100.00

Table 7. Seining results, Amon G. Carter Lake.

Species	Number	Per Cent of Number
Blacktail shiner	7	50.00
Red shiner	5	35.71
Bluegill	2	14.29
Total	14	100.00

Seining results, Amon G. Carter Lake.

Species	Number	Per Cent of Number
Red shiner	4	7.14
Mosquitofish	4	7.14
Brook silverside	36	64.29
Largemouth bass	4	7.14
Bluegill	8	14.29
Total	56	100.00

Table 8. Seining results, Lake Bridgeport.

Species	Number	Per Cent of Number
Longnose gar	1	0.21
Gizzard shad	77	16.32
Blacktail shiner	27	5.72
Red shiner	113	23.94
Blackstripe topminnow	1	0.21
Mosquitofish	96	20.34
Brook silverside	112	23.73
White bass	1	0.21
Largemouth bass	13	2.75
Warmouth	1	0.21
Bluegill	25	5.30
White crappie	2	0.42
Freshwater drum	3	0.64
Total	472	100.00

Table 9. Seining Results, Nocona Lake.

Species	Number	Per Cent of Number
Gizzard shad	4	1.70
Red shiner	15	6.35
Brook silverside	202	85.59
Largemouth bass	4	1.70
Bluegill	11	4.66
Total	236	100.00



Table 10. Seining results, Garza Little Elm Lake.

Species	Number	Per Cent of Number
Gizzard shad	423	66.93
Blacktail shiner	7	1.10
Red shiner	81	12.82
Mosquitofish	1	0.16
Brook silverside	115	18.19
Largemouth bass	4	0.64
Bluegill	1	0.16
Total	632	100.00

