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# JOB PROGRESS REPORT

As required by

FEDERAL AID IN FISHERIES RESTORATION ACT

TEXAS

Federal Aid Project No. F-5-R-18

REGION I-B FISHERIES STUDIES

Job No. 13 Fisheries Management Recommendations

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## Summary

Fishery surveys were conducted on 19 public waters in Region 1-B. These surveys included:

(1) Fish population sampling with gill nets, seines, and trawl.
(2) Collection of physical, hydrological and ecological data.
(3) Aquatic vegetation observations, and
(4) Water analysis

Preliminary meetings and public hearings were attended for the Permian Basin and Edwards Plateau Regulatory Districts. The existing fisheries regulations were considered satisfactory and no changes were made.

Many regional waters were greatly reduced by drought during the past year. Also, the Colorado and Concho Rivers were adversely affected by the dry weather.

Four small lakes were chemically renovated when they became extremely low in late summer and early fall. Three other area reservoirs meet the criteria for renovation, and management efforts are being studied.

Eighteen public lakes and portions of three rivers received supplementary hatchery stocking. These waters received 680,970 fry and fingerling fish representing five species from local state hatcheries.

Job Progress Report

State of Texas

Name: Region 1-B Fisheries Studies

Project No.: F-5-R-18

Title: Fisheries Management Recommendations

Job No.: 13

Period Covered: March 1, 1970 to February 28, 1971

Objectives:

To determine the need for, in Region 1-B waters:

(1) Changes in fish harvest regulations

(2) Population control

(3) Stocking

(4) Vegetation control

(5) Emergency measures needed to correct unpredictable events adversely affecting fish populations

(6) Up-dating public access information

Procedures:

Existing fisheries regulations, along with data from current fisheries surveys of concerned waters, provided the basis for the proposal of fish harvest regulations. Preliminary meetings for the Edwards Plateau and Permian Basin Regulatory Districts were attended and the proposed regulations were discussed with concerned department personnel. These proposed regulations were presented to the public through public hearings in each of the counties under regulatory responsibility.

Procedures for Objectives 2 through 5 will be merged for expediency and clarity. The findings and discussion will be reported separately for each concerned body of water for the same reasons.

Fishery surveys were made on all major public waters during this segment (Table 1). The more important ones received two or more visits. The minor or small impoundments were checked once--and on one or two occasions, extremely low water inhibited a completed survey. Fish populations were sampled with standard gill nets, seines, and trawl when possible. The standard gill net used is 150 feet long and 8 feet deep with mesh sizes varying from 1 to 3½ square inches. Additional large mesh gill nets were used to more adequately sample some fish populations and will be shown on each netting table concerned.

Table 1

Waters Surveyed During This Segment

| Name | County | Number of Visits |
|---|---|---|
| Champion Creek Reservoir | Mitchell | 2 |
| Colorado City Reservoir | Mitchell | 2 |
| Colorado River | Concho | 1 |
| Concho River | Tom Green | 1 |
| Cosden Lake | Howard | 1 |
| Elm Creek Reservoir | Runnels | 1 |
| E. V. Spence Reservoir | Coke | 3 |
| J. B. Thomas Reservoir | Borden & Scurry | 2 |
| Moss Creek Reservoir | Howard | 2 |
| Mountain Creek Reservoir | Coke | 1 |
| Nasworthy Lake | Tom Green | 2 |
| Oak Creek Lake | Coke | 2 |
| San Angelo Reservoir | Tom Green | 1 |
| San Saba River | Menard & Schleicher | 2 |
| Towle Park Lake | Scurry | 1 |
| Twin Buttes Reservoir | Tom Green | 1 |
| Valley Creek Lake | Runnels | 1 |
| New Winters Lake | Runnels | 1 |
| Old Winters Lake | Runnels | 1 |

The number of nets set was determined by the size of the impoundment and water conditions. The size of seines and trawl used is given with each survey results table. A trawling sample unit was a 10-minute drag at approximately 5 mph.

All fish collected in gill nets were counted, weighed, and measured. A sample of fish (usually up to 15 of each game species) was examined to determine sexual development and stomach content. Total numbers, total weights, percentages, average weights, and condition ("K" factor) were tabulated. Fish taken in seines and trawl were counted and a length range was recorded. Several specimens of each species were preserved in formalin solution and returned to the laboratory where identifications were confirmed. A comparison of the average coefficient of condition ("K" factors) for all game species collected with gill nets at all waters surveyed is given in Table 2.

Vegetation checks were made during each survey and records were made as to the kind and abundance. This information will be discussed only when significant.

Comparison of Average "K" Factors of Game Species

| Waters | Species | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Blue Catfish | Channel Catfish | Flathead Catfish | White Bass | Striped Bass | War- mouth | Green Sunfish | Blue- gill | Longear Sunfish |
| Champion Creek Lake | - | 2.04 | 2.29 | 2.68 | - | 3.85 | 4.62 | 4.37 | - |
| Colorado City Lake | - | 1.68 | 2.00 | 2.76 | - | 3.25 | 3.24 | 3.48 | 3.32 |
| Colorado River | - | 1.64 | - | - | - | - | - | 4.59 | - |
| Concho River | - | - | - | - | - | - | - | 4.01 | - |
| Cosden Lake | - | 1.80 | - | - | - | - | - | 3.48 | - |
| Elm Creek Lake | - | 1.94 | - | - | - | - | - | 4.52 | - |
| E. V. Spence Lake | 1.73 | 1.87 | 2.15 | 3.16 | 2.04 | - | 3.92 | 4.46 | - |
| J. B. Thomas Lake | - | 1.82 | 2.27 | 2.97 | - | - | - | 4.06 | - |
| Moss Creek Lake | - | 1.83 | 2.33 | 2.77 | - | - | 3.84 | 3.90 | 4.45 |
| Mountain Creek Lake | - | 1.73 | 2.40 | - | - | - | - | 4.91 | - |
| Nasworthy Lake | - | 1.93 | 1.98 | 2.64 | - | - | - | 3.20 | - |
| Oak Creek Lake | - | 1.73 | 1.96 | 2.91 | - | 3.72 | 3.52 | 3.71 | - |
| San Angelo Lake | - | 1.79 | - | - | - | - | - | 4.86 | - |
| San Saba River | - | 1.94 | 2.25 | - | - | 3.71 | - | 3.78 | - |
| Towle Park Lake | - | - | 1.89 | - | - | - | - | 3.95 | - |
| Twin Buttes Lake | 2.34 | 1.86 | 2.11 | 2.74 | - | - | - | 4.50 | - |
| Valley Creek Lake | - | 2.03 | 2.43 | - | - | - | - | 4.35 | 4.71 |
| New Winters Lake | - | 1.74 | 1.97 | - | - | - | - | 4.24 | - |
| Old Winters Lake | - | 1.72 | - | - | - | - | - | 4.41 | - |
| Average | 2.04 | 1.83 | 2.16 | 2.83 | 2.04 | 3.63 | 3.83 | 4.15 | 4.16 |

Table 2 (Continued)

Comparison of Average "K" Factors of Game Species

| Waters | Species | | |
|---|---|---|---|
| | Redear Sunfish | Largemouth Bass | White Crappie |
| Champion Creek Lake | - | 2.34 | 2.76 |
| Colorado City Lake | 3.47 | 2.54 | 2.81 |
| Colorado River | - | - | 2.95 |
| Concho River | - | 2.73 | 3.12 |
| Cosden Lake | - | 2.81 | 2.68 |
| Elm Creek Lake | - | - | 3.13 |
| E. V. Spence Lake | - | 2.89 | 3.16 |
| J. B. Thomas Lake | - | 2.95 | 2.68 |
| Moss Creek Lake | 4.39 | 2.66 | 2.22 |
| Mountain Creek Lake | 3.97 | 2.99 | 2.69 |
| Nasworthy Lake | 3.19 | 2.65 | 2.39 |
| Oak Creek Lake | 3.21 | 2.58 | 2.49 |
| San Angelo Lake | - | 2.35 | 3.06 |
| San Saba River | 3.54 | 2.60 | 2.49 |
| Towle Park Lake | 3.70 | 2.72 | 3.32 |
| Twin Buttes Lake | - | 2.25 | 2.55 |
| Valley Creek Lake | - | - | 3.03 |
| New Winters Lake | - | 2.71 | 2.52 |
| Old Winters Lake | - | 2.27 | 3.17 |
| Average | 3.64 | 2.63 | 2.80 |

Air and water temperatures, hydrological records, turbidity, weather conditions, and other physical data were recorded in each survey. Also, water analysis including dissolved oxygen, carbon dioxide, alkalinity, total hardness, chlorides, and pH were conducted. This information will be discussed in the report when pertinent.

Statistical data for each body of water were examined to determine which waters would be considered for chemical control measures. The criteria for considering chemical management efforts were populations of undesirable species in excess of 80 per cent by either weight and/or number, lake capacities, and the "cost-benefit ratio" of a treatment.

Most of the public waters surveyed this segment were recommended for supplementary hatchery stocking for one or more of the following reasons: (1) the degree and survival of game fish reproduction, (2) water levels, (3) food availability, (4) fishing pressure, and (5) past production records. Table 3 presents the 1970 supplementary hatchery stocking for all public waters in Region 1-B.

Instances of new access and facility development were not found this segment. However, some were reported to be in the planning stage at several locations. Therefore, no addition or up-dating of the Statewide Public Access Bulletin was necessary in Fisheries Region 1-B.

Findings and Discussion:

Objective No. 1

Only one change in the fishing regulations in Region 1-B was recommended and it failed to meet Departmental approval. This proposal recommended that all trotlines provide the name and address of the fishermen on a legible permanent tag. The primary purpose of this recommendation was to assist in eliminating abandoned trotlines in most of the public waters in West Texas that are a detriment and nuisance to other sportsmen.

Otherwise, the existing fisheries regulations were found to be satisfactory for the present fishery resources in this region. Table 4 presents the locations, dates, and number of persons present at the public hearings that concern this project.

Objectives 2 through 5

Champion Creek Reservoir

Water withdrawal from this Texas Electric Service Company auxiliary lake has greatly reduced its size in the past year. It has never reached its maximum size of 1,560 acres, and the water level has dropped some 30 feet in the past three years. The water is being transferred to the nearby Colorado City Lake to serve as a supplementary coolant for operating the electric generating plant.

Table 3

Public Water Stocking - 1970, Region 1-B

| Lakes | Largemouth Bass | Channel Catfish | White Crappie | Hybrid Sunfish | Redear Sunfish |
|---|---|---|---|---|---|
| Champion Creek | 39,000* | 20,600 | | | |
| Colorado City | 15,000 | - | - | - | - |
| Cosden | - | 2,000 | - | - | - |
| Elm Creek | 3,000 | 3,000 | - | - | - |
| E. V. Spence | 26,000 | 16,000 | - | - | - |
| J. B. Thomas | 40,510 | - | - | - | - |
| Kinarum | 300 | 500 | - | 1,000 | - |
| Moss Creek | 2,000 | 2,000 | - | 4,000 | - |
| Mountain Creek | - | 3,000 | - | - | - |
| Nasworthy | 271,000* | 20,000 | - | - | 4,900 |
| Oak Creek | - | 40,000 | - | - | - |
| Robert Lee (Old) | - | 800 | - | - | - |
| San Angelo | 43,135 | - | - | - | 12,000 |
| Towle Park | - | 800 | - | 1,000 | - |
| Twin Buttes | 33,725 | 10,500 | - | - | - |
| Valley Creek | 2,000 | 5,000 | - | - | - |
| New Winters Lake | 5,000 | 1,500 | - | - | - |
| Old Winters Lake | 1,000 | 1,000 | - | - | - |
| Colorado River | | | | | |
| Robert Lee | 300 | 200 | - | - | - |
| Concho River | | | | | |
| Bell Street | - | 5,000 | 1,200 | - | - |
| Ben Ficklin | - | 4,000 | 1,000 | - | - |
| Christoval | - | 12,000 | - | - | - |
| Lone Wolf | 10,000* | 6,000 | 2,000 | - | - |
| Spring Creek | - | 3,000 | - | - | - |
| San Saba River | | | | | |
| Menard | - | 5,000 | - | - | - |

All fingerling stocking except noted, * fry or advanced fry.

Table 4

Regulatory Hearings Concerning Project F-5-R, 1970
Permian Basin Area

| County | (Town) Location | Date | Number Present |
|---|---|---|---|
| Andrews* | Andrews | 6-3-70 | 0 |
| Borden | Gail | 6-2-70 | 0 |
| Cochran* | Morton | 6-1-70 | 0 |
| Coke* | Robert Lee | 6-3-70 | 9 |
| Crosby** | Crosbyton | 6-1-70 | 0 |
| Dawson* | Lamesa | 6-3-70 | 7 |
| Ector* | Odessa | 6-4-70 | 1 |
| Gains* | Seminole | 6-3-70 | 0 |
| Garza** | Post | 6-1-70 | 0 |
| Glasscock | Garden City | 6-4-70 | 0 |
| Howard | Big Spring | 6-3-70 | 3 |
| Irion* | Mertzon | 6-4-70 | 0 |
| Kent** | Jayton | 6-1-70 | 0 |
| Martin | Stanton | 6-3-70 | 0 |
| Midland | Midland | 6-3-70 | 0 |
| Mitchell | Colorado City | 6-2-70 | 4 |
| Reagan | Big Lake | 6-4-70 | 1 |
| Runnels* | Ballinger | 6-4-70 | 0 |
| Scurry | Snyder | 6-2-70 | 0 |
| Sterling* | Sterling City | 6-3-70 | 0 |
| Terry* | Brownfield | 6-2-70 | 0 |
| Tom Green* | San Angelo | 6-4-70 | 3 |
| Yoakum* | Plains | 6-2-70 | 0 |
| | Edwards Plateau Area | | |
| Menard* | Menard | 6-2-70 | NR |
| Schleicher* | Eldorado | 6-2-70 | NR |

NR - Official Attendance Not Reported

** - Not in Region 1-B, but hearing attended by F-5-R personnel

* - In Region 1-B, but not attended by F-5-R personnel

The most significant change in the fish population is the tremendous increase in gizzard shad. Only one specimen of this problematic species had been collected in this 12-year-old lake prior to 1969, whereas netting during this period of study produced 354 shad which comprised 45.50 per cent of the netting collection (Table 5). Bluegill, white bass, channel catfish, and largemouth bass comprise the majority of the game fish taken which accounted for only 28 per cent by number and 33 per cent by weight of the combined netting. This is a substantial decrease from the 1968 collection when desirable fish represented 78 per cent by number and accounted for 47 per cent of the total weight. However, Champion Creek continues to be the most productive sunfish lake in the area.

Small bluegill, blacktail shiners, and gizzard shad were found to be the most prominent forage available. Moderate-to-heavy growths of bushy pondweed (Najas sp.) were common, but not a hindrance to fishermen. Channel catfish fingerlings were stocked fairly heavy, as shown in Table 3.

Table 5

Champion Creek Reservoir Survey Results
May 19, 20 and August 26, 1970

Results of eighteen standard gill nets and six large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 354 | 45.50 | 216.00 | .61 | 31.05 | |
| Carp | 44 | 5.65 | 210.00 | 4.77 | 30.20 | |
| Golden shiner | 156 | 20.05 | 31.41 | .20 | 4.51 | |
| River carpsucker | 3 | .39 | 9.52 | 3.17 | 1.37 | |
| Channel catfish* | 48 | 6.17 | 79.61 | 1.65 | 11.45 | 2.04 |
| Flathead catfish* | 5 | .64 | 29.84 | 5.96 | 4.29 | 2.29 |
| White bass* | 39 | 5.01 | 28.93 | .74 | 4.16 | 2.68 |
| Warmouth* | 1 | .13 | .13 | .13 | .01 | 3.85 |
| Green sunfish* | 1 | .13 | .18 | .18 | .03 | 4.62 |
| Bluegill* | 84 | 10.80 | 41.63 | .49 | 5.99 | 4.37 |
| Largemouth bass* | 12 | 1.54 | 35.55 | 2.96 | 5.11 | 2.34 |
| White crappie* | 31 | 3.99 | 12.71 | .41 | 1.83 | 2.76 |
| Total | 778 | 100.00 | 695.51 | | 100.00 | |
| Game Fish* | 221 | 28.41 | 228.58 | | 32.87 | |
| Rough Fish | 557 | 71.59 | 466.93 | | 67.13 | |

Table 5 (Continued)

Champion Creek Reservoir Seining Results
(Bag 26' x 6' x ¼-inch mesh seine and 20' x 6' x 1/8-inch mesh seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 229 | 1-4 |
| Golden shiner | 154 | 2-4 |
| Red shiner | 73 | 1-3 |
| Blacktail shiner | 314 | 1-4 |
| Mosquitofish | 10 | ½-1½ |
| Green sunfish | 23 | 1½-3 |
| Bluegill | 2,007 | 1-2 |
| Largemouth Bass | 70 | 2-7 |
| White crappie | 6 | 3-5 |
| Logperch | 2 | 3/4-1½ |
| Total | 2,888 | |

Colorado City Reservoir

This is one of the few area lakes that has not been seriously affected by the insufficient rainfall. The water level has been maintained within about 10 feet of normal with water pumped from Champion Creek Reservoir by the Texas Electric Service Company for steam generator cooling. The large restricted portion of this 1,655-acre lake located on Morgan Creek is now open to the public since being selected as a site for a new state park.

Survey results (Table 6) show the continuing dominance of game fish in this old heavily fished reservoir. Ten desirable and only 3 undesirable species were collected by nets. Flathead catfish accounted for 48.66 per cent by weight of all fish netted and about 70 per cent by weight of all game species netted. This has been the usual trend of this lake for the past several years. Now that the large, previously protected, area is available to the public, it will be of great interest to ascertain if the game fish, especially the flathead catfish, can maintain the presently high populations.

Forage species, including small gizzard shad, plains minnows, and blacktail shiners were taken in sufficient numbers by shoreline seining. Natural spawning of largemouth bass was not considered adequate and 15,000 fingerling bass were stocked.

Table 6

Colorado City Reservoir Survey Results
July 2, 3 and October 28, 1970

Results of Twenty Standard Gill Nets and Seven Large Mesh Nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Weight | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 214 | 28.53 | 32.85 | .15 | 3.41 | |
| Carp | 16 | 2.13 | 56.53 | 3.53 | 5.89 | |
| River carpsucker | 152 | 20.27 | 186.00 | 1.22 | 19.36 | |
| Channel catfish* | 85 | 11.33 | 79.62 | .93 | 8.29 | 1.68 |
| Flathead catfish* | 58 | 7.74 | 467.58 | 8.06 | 48.66 | 2.00 |
| White bass* | 69 | 9.20 | 88.28 | 1.27 | 9.19 | 2.76 |
| Warmouth* | 1 | .13 | .14 | .14 | .02 | 3.25 |
| Green sunfish* | 3 | .40 | .34 | .11 | .03 | 3.24 |
| Bluegill* | 12 | 1.60 | 1.26 | .10 | .13 | 3.48 |
| Longear sunfish* | 1 | .13 | .03 | .03 | .01 | 3.32 |
| Redear sunfish* | 8 | 1.07 | .81 | .10 | .08 | 3.47 |
| Largemouth bass* | 11 | 1.47 | 19.11 | 1.73 | 1.99 | 2.54 |
| White crappie* | 120 | 16.00 | 28.20 | .23 | 2.94 | 2.81 |
| Total | 750 | 100.00 | 960.75 | | 100.00 | |
| Game Fish* | 368 | 49.07 | 685.37 | | 71.34 | |
| Rough Fish | 382 | 50.93 | 275.38 | | 28.66 | |

Colorado City Reservoir Seining Results
(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 135 | 1-6 |
| Plains minnow | 15 | 2½-3 |
| Red shiner | 3 | 2 |
| Blacktail shiner | 20 | 2-3 |
| River carpsucker | 2 | 1½ |
| Channel catfish | 2 | 4½ |
| Green sunfish | 2 | 3 |
| Orangespotted sunfish | 2 | 3 |
| Bluegill | 19 | 1-3 |
| Longear sunfish | 18 | 3-4½ |
| Redear sunfish | 4 | 2-3 |
| Largemouth bass | 6 | 2-6 |
| Total | 228 | |

## Colorado River

One survey was conducted on the Colorado River in Concho County in late June 1970. As in most of the upper Colorado, there was little or no flow during the past year. The water was down to shallow turbid holes ¼ to ½ mile long. The fish population was considered normal with low yields of desirable fish (Table 7). However, this is better than much of the river in Coke and Runnels Counties where it is dry or too shallow to sustain utilizable fish. Several miles of Colorado below E. V. Spence Reservoir is void of fish because of the hydrogen sulfide fish kill that occurred in August 1969 when water from the bottom of the new lake was released down stream. No substantial run-off has been received since that time. Heavy irrigation withdrawals also deplete the water in many areas. The Colorado River offers very little as a fishery in Region I-B at the present time.

Table 7

Colorado River Survey Results
June 24, 25, 1970

Results of three standard gill nets and one large mesh net.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Longnose gar | 4 | 3.84 | 5.00 | 1.25 | 3.76 | |
| Gizzard shad | 32 | 30.78 | 31.00 | .97 | 23.36 | |
| Carp | 4 | 3.84 | 15.00 | 3.75 | 11.31 | |
| River carpsucker | 38 | 36.54 | 53.00 | 1.39 | 39.94 | |
| Smallmouth buffalo | 1 | .96 | 5.00 | 5.00 | 3.77 | |
| Channel catfish* | 3 | 2.88 | 1.27 | .42 | .95 | 1.64 |
| Bluegill* | 1 | .96 | .22 | .22 | .17 | 4.59 |
| White crappie* | 6 | 5.77 | 3.21 | .54 | 2.42 | 2.95 |
| Freshwater drum | 15 | 14.43 | 19.00 | 1.27 | 14.32 | |
| Total | 104 | 100.00 | 132.70 | | 100.00 | |
| Game Fish* | 10 | 9.62 | 4.70 | | 3.54 | |
| Rough Fish | 94 | 90.38 | 128.00 | | 96.46 | |

## Main Concho River

The Main Concho River was checked once in Tom Green County this segment. Like the upper Colorado, the Main Concho River received very little run-off and the flow was almost terminated--leaving small, sometimes stagnated pools. Table 8 shows a typical catch for this water, with the exception that no channel catfish were taken. Gizzard shad, river carpsucker, and smallmouth buffalo comprised the majority of both number and weight of this netting sample. Considerable stocking of game fish was done in portions of the Concho above this location. Although none were collected or deliberately

stocked by our department, several walleye have been taken by anglers along the Concho. The largest ones observed weighed about 1½ pounds. These fish probably escaped through the discharge water as fry or fingerlings from the local hatcheries during the 1968 and 1969 walleye propagation efforts.

Table 8

Main Concho River Survey Results
December 2, 1970

Results of two standard gill nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Longnose gar | 1 | 1.06 | 2.14 | 2.14 | 1.50 | |
| Gizzard shad | 66 | 70.21 | 34.00 | .51 | 23.98 | |
| River carpsucker | 14 | 14.90 | 52.00 | 3.71 | 36.66 | |
| Smallmouth buffalo | 6 | 6.38 | 46.00 | 7.67 | 32.43 | |
| Bluegill* | 3 | 3.19 | .23 | .08 | .17 | 4.01 |
| Largemouth bass* | 2 | 2.13 | 7.15 | 3.58 | 5.04 | 2.73 |
| White crappie* | 2 | 2.13 | .31 | .16 | .22 | 3.12 |
| Total | 94 | 100.00 | 141.83 | | 100.00 | |
| Game Fish* | 7 | 7.45 | 7.69 | | 5.43 | |
| Rough Fish | 87 | 92.55 | 134.14 | | 94.57 | |

## Cosden City Lake

Formerly owned and controlled by the Cosden Country Club at Big Spring, this 35-acre lake will be transferred to the city and opened to the public in 1971. It is located in the southwest city limits of Big Spring and is used for recreation. Since this has been private water in the past, very little data concerning fish population, stockings, yields, etc., are available.

Survey results (Table 9) reveals a favorable fish population. Several black bullhead catfish were taken and will probably be the most troublesome species found in this small, fairly clear impoundment. Channel catfish, largemouth bass, and white crappie were quite prominent in the netting sample. However, the size of the bass and catfish--along with the seining results--indicate that successful natural reproduction of these two game fish is low. Because of these facts and the abundance of forage found, hatchery fish were stocked at rates shown on Table 4. 3.

Table 9

Cosden City Reservoir Survey Results
September 23, 1970

Results of four standard gill nets and one large mesh net.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Goldfish | 1 | .68 | 2.91 | 2.91 | 5.11 | |
| Golden shiner | 3 | 2.04 | .41 | .14 | .72 | |
| River carpsucker | 2 | 1.36 | 4.84 | 2.42 | 8.51 | |
| Black bullhead | 17 | 11.56 | 2.58 | .15 | 4.53 | |
| Channel catfish* | 6 | 4.08 | 19.20 | 3.20 | 33.75 | 1.80 |
| Bluegill* | 19 | 12.93 | 1.62 | .09 | 2.85 | 3.48 |
| Largemouth bass* | 5 | 3.40 | 11.67 | 2.33 | 20.51 | 2.81 |
| White crappie* | 94 | 63.95 | 13.66 | .15 | 24.02 | 2.68 |
| Total | 147 | 100.00 | 56.89 | | 100.00 | |
| Game Fish* | 124 | 84.36 | 46.15 | | 81.13 | |
| Rough Fish | 23 | 15.64 | 10.74 | | 18.87 | |

Cosden City Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Plains minnow | 12 | 3 |
| Golden shiner | 352 | 2-7 |
| Red shiner | 51 | 2 |
| Bullhead minnow | 83 | 1-3 |
| Black bullhead | 21 | 3-6 |
| Mosquitofish | 2 | 1 |
| Green sunfish | 16 | 2-3 |
| Bluegill | 52 | 1-2 |
| Redear sunfish | 6 | 3-5 |
| Hybrid sunfish | 1 | 6 |
| White crappie | 3 | 4-7 |
| Logperch | 4 | 3½ |
| Total | 603 | |

## Elm Creek Reservoir

Until 1952, this 55-acre impoundment on Elm Creek in Ballinger served as a municipal water supply. Recreation and irrigation are the present primary uses. This long narrow impoundment usually remains near capacity with a little flow throughout most of the year.

Elm Creek contributes very little as a fishery in this area. Gizzard shad, river carpsucker, and smallmouth buffalo dominate the fish population as they have for several years (Table 10). Utilizable game species remain low in number and weight even though annual stocking has been done. A feasible solution to this undesirable situation is not clear at this time.

Table 10

Elm Creek Reservoir Survey Results
August 5, 1970

Results of three standard gill nets and one large mesh net.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Longnose gar | 5 | 2.64 | 12.00 | 2.40 | 6.82 | |
| Gizzard shad | 117 | 61.91 | 40.52 | .35 | 23.03 | |
| Carp | 4 | 2.11 | 16.96 | 4.24 | 9.64 | |
| River carpsucker | 11 | 5.82 | 27.69 | 2.52 | 15.75 | |
| Smallmouth buffalo | 12 | 6.35 | 63.93 | 5.33 | 36.34 | |
| Channel catfish* | 3 | 1.59 | 3.05 | 1.02 | 1.74 | 1.94 |
| Bluegill* | 1 | .53 | .07 | .07 | .03 | 4.52 |
| White crappie* | 31 | 16.40 | 4.75 | .15 | 2.71 | 3.13 |
| Freshwater drum | 5 | 2.65 | 6.93 | 1.39 | 3.94 | |
| Total | 189 | 100.00 | 175.90 | | 100.00 | |
| Game Fish* | 35 | 18.52 | 7.87 | | 4.48 | |
| Rough Fish | 154 | 81.48 | 168.03 | | 95.52 | |

Elm Creek Reservoir Seining Results

(20' x 6' x 1/8-Inch Mesh Seine).

| Species | Number | Size Range in Inches |
|---|---|---|
| Red shiner | 406 | ½-1 |
| Fathead minnow | 1 | 1½ |
| Bullhead minnow | 17 | 1½ |
| Orangespotted sunfish | 1 | 2½ |

Table 10 (Continued)

| Species | Number | Size Range in Inches |
|---|---|---|
| Bluegill | 49 | ½-4½ |
| Longear sunfish | 5 | 2½-4 |
| Largemouth bass | 2 | 3½ |
| Total | 481 | |

E. V. Spence Reservoir

The dam and related facilities of this 15,000-acre lake was completed in March of 1969 by the Colorado River Municipal Water District. The purpose of this new reservoir is to serve as a municipal water supply for Odessa, Midland, Big Spring, Snyder, and San Angelo as well as aquatic recreation for the West Texas area. Only 27,000 acre-feet of water, covering about 1,800 acres, was impounded the first year. Since that time, withdrawals and evaporation have lowered it to about one-third of its fullest mark. The water now is contained in the river bed and excavation pits.

Shortly after the initial impoundment, Spence Lake was heavily stocked with hatchery fish. At this time the lake was closed to fishing, mainly because of the many boating hazards and the lack of recreational facilities. Shortly afterwards, the lake was obviously overpopulated because of the original heavy stocking and lack of rainfall. As a result, the Colorado River Municipal Water District opened the new reservoir for fishing the third weekend in June 1970. From a limited creel census (interviews with 50 fishermen) and permit sales data, an estimated 38,000 pounds of game fish were caught by sport fishermen during the first 48 hours. Most of these were channel catfish--½ to 2 pounds in size and largemouth bass of similar size. Since the opening weekend, the fishing success has steadily decreased and is now slightly above average for this area and season. A reduction in the number of channel catfish taken in gill nets was the only immediate effect indicated by a survey made shortly after the opening of the receding reservoir.

A composite of the three collections made in 1970 are given as Table 11. Nine desirable fish species accounted for 39 per cent of both number and weight of all fish netted. Two of these desirable species--striped bass and blue catfish--did not occur naturally in this area and had been introduced. A limited number (204) of blue catfish were stocked as advanced fingerlings in June 1969. By March 1970, these fish had grown to an average size of 1.5 pounds. Later in July, two 3-pound individuals were seen and one 3.75-pound blue catfish was taken by project personnel in January 1971. Striped bass were introduced under Job 18 of Project F-21-D. The survival of stripers is very encouraging, but the growth is only that which could be expected in such a crowded, diminishing lake. The latest recaptures of the 1969 stocked

striped bass were in January 1971, when two individuals were taken in gill nets and averaged 0.65 of a pound each. This new reservoir shows a great deal of potential as an additional fishery in this area--if and when sufficient water is impounded.

Table 11

E. V. Spence Reservoir Survey Results
March 25, June 11 and August 13, 1970

Results of twenty standard gill nets and four large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Longnose gar | 28 | 4.13 | 70.28 | 2.51 | 10.54 | |
| Gizzard shad | 127 | 18.76 | 77.21 | .61 | 11.59 | |
| Carp | 77 | 11.37 | 85.82 | 1.11 | 12.88 | |
| River carpsucker | 132 | 19.50 | 145.83 | 1.10 | 21.89 | |
| Blue catfish* | 6 | .89 | 9.00 | 1.50 | 1.35 | 1.73 |
| Black bullhead | 36 | 5.32 | 8.53 | .24 | 1.28 | |
| Channel catfish* | 115 | 16.98 | 96.03 | .84 | 14.41 | 1.87 |
| Flathead catfish* | 9 | 1.33 | 82.70 | 9.19 | 12.41 | 2.15 |
| White bass* | 39 | 5.76 | 31.21 | .80 | 4.69 | 3.16 |
| Striped bass* | 4 | .59 | 1.17 | .29 | .17 | 2.04 |
| Green sunfish* | 2 | .30 | .24 | .12 | .04 | 3.92 |
| Bluegill* | 33 | 4.87 | 5.56 | .17 | .83 | 4.46 |
| Largemouth bass* | 23 | 3.40 | 29.29 | 1.27 | 4.40 | 2.89 |
| White crappie* | 34 | 5.02 | 8.06 | .24 | 1.21 | 3.16 |
| Freshwater drum | 12 | 1.78 | 15.38 | 1.28 | 2.31 | |
| Total | 677 | 100.00 | 666.31 | | 100.00 | |
| Game Fish* | 265 | 39.14 | 263.26 | | 39.51 | |
| Rough Fish | 412 | 60.86 | 403.05 | | 60.49 | |

E. V. Spence Reservoir Seining Results

(200' x 6' x ½-Inch Mesh Seine, 100' x 10' x ½-Inch Mesh Seine, Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 672 | 1-13 |
| Carp | 12 | 3-8 |
| Golden shiner | 2 | 2½ |
| Red shiner | 1,810 | 1-3 |
| Bullhead minnow | 512 | ½-3 |
| River carpsucker | 2 | ½-14 |

Table 11 (Continued)

| Species | Number | Size Range in Inches |
|---|---|---|
| Mosquitofish | 2 | ½-1 |
| White bass | 1 | 6 |
| Striped bass | 9 | 1½-3 |
| Green sunfish | 3 | ½-2 |
| Orangespotted sunfish | 1 | 2 |
| Bluegill | 6 | 1-4 |
| Longear sunfish | 6 | 3-4 |
| Largemouth bass | 8 | 2-10 |
| Logperch | 1 | 3½ |
| Total | 3,047 | |

J. B. Thomas Reservoir

This 7,820-acre municipal water supply, owned and operated by the Colorado River Municipal Water District, has continued to decrease in size. No appreciable run-off has occurred on the Borden-Scurry County watershed and this turbid reservoir is down to about one-tenth its normal capacity.

For the past 3 years, our netting collections have shown a definite increase in the game fish population. This segment's data show desirable species accounting for 60 per cent number and 83 per cent weight of the netting sample (Table 12) in contrast to 20 to 30 per cent of either weight or number of collections prior to 1968. Channel catfish and white crappie were more prominent in number, while flathead catfish was highest in per cent weight. River carpsucker had the most significant reduction of the rough species. No walleye, which were introduced in 1969, were collected this year. However, there were reports of fishermen taking a few of this new game fish in the spring.

Adequate numbers of forage species--especially young gizzard shad--were indicated by seine samples. Largemouth bass were stocked as shown on Table 3.

Table 12

J. B. Thomas Reservoir Survey Results
April 8 and July 14, 15, 1970

Results of twenty standard gill nets and six large mesh nets.

Table 12 (Continued)

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 35 | 11.18 | 4.63 | .13 | 1.46 | |
| Carp | 13 | 4.15 | 13.97 | 1.07 | 4.41 | |
| River carpsucker | 29 | 9.27 | 24.03 | .83 | 7.59 | |
| Channel catfish* | 37 | 11.82 | 51.84 | 1.40 | 16.36 | 1.82 |
| Flathead catfish* | 21 | 6.71 | 147.24 | 7.01 | 46.50 | 2.27 |
| White bass* | 18 | 5.75 | 34.07 | 1.89 | 10.75 | 2.97 |
| Bluegill* | 2 | .64 | .14 | .07 | .05 | 4.06 |
| Largemouth bass* | 6 | 1.91 | 16.79 | 2.80 | 5.30 | 2.95 |
| White crappie* | 104 | 33.23 | 14.30 | .14 | 4.52 | 2.68 |
| Freshwater drum | 48 | 15.34 | 9.69 | .20 | 3.06 | |
| Total | 313 | 100.00 | 316.70 | | 100.00 | |
| Game Fish* | 188 | 60.06 | 264.38 | | 83.48 | |
| Rough Fish | 125 | 39.94 | 52.32 | | 16.52 | |

J. B. Thomas Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine, 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 213 | 1-5 |
| Carp | 3 | 7 |
| Red shiner | 55 | ½-2 |
| Blacktail shiner | 27 | ½-4 |
| Channel catfish | 2 | 3½ |
| White bass | 7 | 2-2½ |
| Orangespotted sunfish | 2 | 1-2 |
| Longear sunfish | 2 | 2 |
| Largemouth bass | 11 | 3 |
| White crappie | 41 | 3-6 |
| Total | 363 | |

Moss Creek Reservoir

The Colorado River Municipal Water District regulates the water usage of this 145-acre lake, while the nearby city of Big Spring controls the recreation. It is used as a holding or mixing reservoir as water is continually being pumped in and out. This water level fluctuation is suspected to have adverse effects on game

fish reproduction. At the present time, the spillway and dam are undergoing modifications to enable more water to be impounded in Moss Creek Lake.

Netting results this year (Table 13) found the gizzard shad population to be as dense as it was before the selective chemical treatment to control this troublesome species in 1967. At that time, they were reduced from about 40 per cent to 0.62 per cent of netting samples. The overpopulation of small or stunted white crappie has also returned to its previous level. Utilizable game fish remain at a significant level; however, the harvest is reported to be decreasing.

Forage for small predator species was below normal and the larger game fish were feeding on the plentiful gizzard shad and small crappie. Supplementary stocking was done as shown on Table 3.

Table 13

Moss Creek Reservoir Survey Results
April 16 and July 22, 1970

Results of ten standard gill nets and three large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 164 | 47.95 | 20.25 | .12 | 4.02 | |
| Carp | 35 | 10.23 | 228.32 | 6.52 | 45.34 | |
| River carpsucker | 5 | 1.46 | 28.00 | 5.60 | 5.56 | |
| Black bullhead | 26 | 7.61 | 4.62 | .18 | .92 | |
| Channel catfish* | 40 | 11.69 | 40.52 | 1.01 | 8.04 | 1.83 |
| Flathead catfish* | 10 | 2.93 | 155.95 | 15.60 | 30.98 | 2.33 |
| White bass* | 1 | .29 | 2.91 | 2.91 | .57 | 2.77 |
| Green sunfish* | 2 | .58 | .21 | .10 | .05 | 3.84 |
| Bluegill* | 28 | 8.19 | 2.22 | .08 | .44 | 3.90 |
| Longear sunfish* | 3 | .88 | .25 | .08 | .05 | 4.45 |
| Redear sunfish* | 2 | .58 | .49 | .25 | .09 | 4.39 |
| Largemouth bass* | 10 | 2.93 | 19.28 | 1.93 | 3.83 | 2.66 |
| White crappie* | 16 | 4.68 | .52 | .03 | .11 | 2.22 |
| Total | 342 | 100.00 | 503.54 | | 100.00 | |
| Game Fish* | 112 | 32.75 | 222.35 | | 44.16 | |
| Rough Fish | 230 | 67.25 | 281.19 | | 55.84 | |

Table 13 (Continued)

Moss Creek Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Plains minnow | 2 | 1½ |
| Orangespotted sunfish | 2 | 1½-2 |
| Bluegill | 1 | 3 |
| Longear sunfish | 3 | 3 |
| Total | 8 | |

Moss Creek Reservoir Trawling Results

(8' x 15' x ½-Inch Mesh Trawl)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 3 | 6-8 |
| Black bullhead | 29 | 2½-6 |
| Channel catfish | 1 | 2 |
| Warmouth | 5 | 1½-2½ |
| Orangespotted sunfish | 9 | 1-2 |
| Bluegill | 6 | 2-3 |
| Redear sunfish | 1 | 3 |
| White crappie | 268 | 2-4 |
| Logperch | 1 | 3 |
| Total | 323 | |

## Mountain Creek Reservoir

Located at the eastern limits of Robert Lee, this normally 95-acre lake serves primarily as a municipal water supply. At the time of the late summer survey, it contained only about one-fourth of its capacity. Netting and seining (Table 14) found very little difference in the fish population from that of the past few years. Prominent game species included channel catfish, largemouth bass, and white crappie. Gizzard shad were the most abundant rough fish and accounted for 65 per cent by number of all fish netted.

By late October 1970, the drought--along with the municipal withdrawals--reduced Mountain Creek Lake to about 12 surface acres and 48 acre-feet.

Table 14

Mountain Creek Reservoir Survey Results
August 13, 1970

Results of three standard gill nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 94 | 65.27 | 10.35 | .11 | 15.57 | |
| Carp | 1 | .70 | 1.10 | 1.10 | 1.66 | |
| Channel catfish* | 19 | 13.19 | 13.21 | .70 | 19.88 | 1.73 |
| Flathead catfish* | 2 | 1.39 | 20.70 | 10.35 | 31.15 | 2.40 |
| Bluegill* | 2 | 1.39 | .17 | .09 | .25 | 4.91 |
| Redear sunfish* | 4 | 2.78 | .39 | .10 | .59 | 3.97 |
| Largemouth bass* | 4 | 2.78 | 15.96 | 3.99 | 24.02 | 2.99 |
| White crappie* | 18 | 12.50 | 4.57 | .25 | 6.88 | 2.69 |
| Total | 144 | 100.00 | 66.45 | | 100.00 | |
| Game Fish* | 49 | 34.03 | 55.00 | | 82.77 | |
| Rough Fish | 95 | 65.97 | 11.45 | | 17.23 | |

Mountain Creek Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 100 | 4-6 |
| Golden shiner | 77 | 2-6 |
| Bullhead minnow | 1 | 1½ |
| Mosquitofish | 1 | 1 |
| Warmouth | 1 | 2 |
| Green sunfish | 11 | 3-4 |
| Bluegill | 27 | 1-4 |
| Redear sunfish | 62 | 2-7 |
| Largemouth bass | 4 | 6-8 |
| White crappie | 22 | 3-7 |
| Total | 306 | |

At this time, the city of Robert Lee requested assistance to chemically remove the remaining fish population for health and water treatment reasons. This renovation was effected October 23, 1970, with the city supplying the 5 per cent powdered rotenone, labor, and clean-up operations. Apparently, a complete fish kill was achieved. Channel catfish fingerlings were stocked after the chemical detoxified.

## Nasworthy Lake

This old 1,600-acre impoundment serves as a water supply, as well as a heavily-used recreation area, for the city of San Angelo. Since a chemical treatment in the early 1960's, followed by a drought and resulting dry lake, Nasworthy regained its normal level and has provided the San Angelo area with a significant fishery. Presently, this shallow lake is lake is down approximately 5 feet. However, water is pumped into the lake from the Twin Buttes Reservoir immediately above it when water is available.

Surveys were conducted on Lake Nasworthy in April and July 1970. The total number of game fish netted was smaller than those taken during surveys in 1969. This could be partially attributed to a large number of unutilizable crappie taken in 1969. Other species remained fairly uniform in number and weight over the past few years. As in the past, the much-sought-after large-mouth bass was not as well represented in this collection as desired (Table 15). Approximately 271,000 bass fry were stocked by the nearby state hatcheries.

A few adult threadfin shad were released in this reservoir in August 1969 in an effort to provide better forage and possibly increase production. Eight young-of-the-year threadfin shad were collected with seines this segment indicating possible success of this introduction.

Table 15

Nasworthy Reservoir Survey Results
April 29 and July 8, 1970

Results of twelve standard gill nets and four large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Longnose gar | 7 | .84 | 21.08 | 3.01 | 4.78 | |
| Gizzard shad | 513 | 61.88 | 122.00 | .24 | 27.67 | |
| Carp | 44 | 5.31 | 95.00 | 2.16 | 21.54 | |
| River carpsucker | 13 | 1.57 | 41.00 | 3.15 | 9.30 | |
| Black bullhead | 1 | .12 | .14 | .14 | .03 | |
| Channel catfish* | 45 | 5.43 | 70.76 | 1.57 | 16.05 | 1.93 |
| Flathead catfish* | 4 | .48 | 22.62 | 5.66 | 5.13 | 1.98 |
| White bass* | 18 | 2.17 | 18.78 | 1.04 | 4.26 | 2.64 |
| Bluegill* | 63 | 7.60 | 5.15 | .08 | 1.17 | 3.20 |

Table 15 (Continued)

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent By Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Redear sunfish* | 3 | .36 | .27 | .09 | .06 | 3.19 |
| Largemouth bass* | 2 | .24 | 7.81 | 3.91 | 1.77 | 2.65 |
| White crappie* | 73 | 8.81 | 8.29 | .11 | 1.88 | 2.39 |
| Freshwater drum | 43 | 5.19 | 28.00 | .65 | 6.36 | |
| Total | 829 | 100.00 | 440.90 | | 100.00 | |
| Game Fish* | 208 | 25.09 | 133.68 | | 30.32 | |
| Rough Fish | 621 | 74.91 | 307.22 | | 69.68 | |

Nasworthy Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine, 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 285 | 1-12 |
| Threadfin shad | 8 | 1-1½ |
| Red shiner | 44 | 1½-3 |
| Bullhead minnow | 6 | 1-2½ |
| Orangespotted sunfish | 6 | ½-4 |
| Bluegill | 23 | 1-5 |
| Longear sunfish | 2 | 3 |
| Redear sunfish | 6 | 3-4 |
| Largemouth bass | 13 | 2-2½ |
| Logperch | 1 | 3 |
| Total | 394 | |

Nasworthy Reservoir Trawling Results

(8' x 15' x ½-Inch Mesh Trawl)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 2 | 4-6 |
| Carp | 2 | 8-10 |
| Golden shiner | 1 | 2½ |
| Channel catfish | 4 | 3-8 |
| Orangespotted sunfish | 3 | 2-3 |
| Bluegill | 32 | 2-5 |
| Longear sunfish | 1 | 4 |
| Redear sunfish | 30 | 2-4 |
| White crappie | 37 | 3-7 |
| Total | 112 | |

## Oak Creek Reservoir

The city of Sweetwater owns and controls this 2,375-acre municipal water supply, which is located in northern Coke County. The water is also used for generator cooling by West Texas Utilities. Oak Creek Lake receives heavy recreational usage throughout the year. It is one of the few reservoirs in this area that has not been seriously affected by the dry weather. Surveys were conducted on this clear, deep reservoir in March and August 1970. According to netting data (Table 16), the river carpsucker population increased and accounted for more than 50 per cent of the weight of the combined collections. Largemouth bass remain to be the most important sport species in both survey results and spot creel checks. Oak Creek is widely know in West Texas for its lunker-size bass.

Several thousand channel catfish fingerlings were stocked. Small sunfish and gizzard shad were the most abundant forage species collected. The clear water of Oak Creek Lake supports moderate-to-heavy growths of submerged plants, mainly water milfoil (Myriophyllum sp.), coontail (Ceratophyllum sp.) and bushy pondweed. These troublesome plants interfere with access and lake usage, but chemical treatment is not feasible because of the large size and domestic use of the water.

Table 16

Oak Creek Reservoir Survey Results
March 20, 1970 and August 18, 19, 1970

Results of eighteen standard gill nets and four large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 216 | 43.81 | 43.47 | .20 | 8.61 | |
| Carp | 49 | 9.94 | 64.00 | 1.31 | 12.68 | |
| River carpsucker | 102 | 20.69 | 281.00 | 2.75 | 55.68 | |
| Black bullhead | 3 | .61 | .66 | .22 | .13 | |
| Channel catfish* | 11 | 2.23 | 7.67 | .70 | 1.52 | 1.73 |
| Flathead catfish* | 3 | .61 | 21.36 | 7.12 | 4.23 | 1.96 |
| White bass* | 20 | 4.05 | 32.97 | 1.65 | 6.53 | 2.91 |
| Warmouth* | 1 | .20 | .12 | .12 | .03 | 3.72 |
| Green sunfish* | 1 | .20 | .15 | .15 | .03 | 3.52 |
| Bluegill* | 53 | 10.76 | 5.46 | .10 | 1.08 | 3.71 |
| Redear sunfish * | 1 | .20 | .11 | .11 | .02 | 3.21 |
| Largemouth bass* | 17 | 3.45 | 41.90 | 2.46 | 8.30 | 2.58 |
| White crappie* | 16 | 3.25 | 5.82 | .36 | 1.16 | 2.49 |
| Total | 493 | 100.00 | 504.69 | | 100.00 | |
| Game Fish* | 123 | 24.95 | 115.56 | | 22.90 | |
| Rough Fish | 370 | 75.05 | 389.13 | | 77.10 | |

Table 16 (Continued)

Oak Creek Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 55 | 2-10 |
| Golden shiner | 4 | 3-5½ |
| Bullhead minnow | 30 | 1-2 |
| Mosquitofish | 11 | 2 |
| Warmouth | 1 | 1½ |
| Redbreast sunfish | 5 | 1-5 |
| Green sunfish | 4 | 2-4 |
| Orangespotted sunfish | 3 | 1½-3 |
| Bluegill | 58 | 1-4 |
| Longear sunfish | 14 | 1½-3 |
| Redear sunfish | 17 | 1½-4 |
| Largemouth bass | 106 | 2-5 |
| Logperch | 7 | 2½-4 |
| Total | 315 | |

## San Angelo Reservoir

The U. S. Corps of Engineers constructed this 119,000-acre foot impoundment on the North Concho River at the northwest limits of San Angelo in the early 1950's. It filled once for a short period of time and has steadily decreased in size since then. In August 1969, after it had desiccated to only 2,800 acre feet, it was chemically renovated and stocked with forage fish, channel catfish, largemouth bass, and sunfish. Also several thousand walleye fry were released in the Spring of 1970.

One small collection was made on San Angelo Reservoir in June 1970. The findings (Table 17) are irrelevant now; however, because the remaining water was completely drained in July 1970 for municipal use, and the lake is still completely dry at the time of this writing. However, many of the young fish survived the release into the 5-mile stretch of the Concho River between the lake and the city water plant.

## San Saba River

The San Saba River was checked twice this segment, once in Schleicher County and again in Menard County. This clear, flowing, spring-fed stream provides an important fishery to the local people. Netting results (Table 18) show the usual rough fish species dominating both number and weight of the collection. However, creel checks reveal that catfish, both channel and flathead, are readily taken on trotlines and set hooks. Many anglers prefer

this stream for casting or fly fishing for largemouth and spotted bass and sunfish. Other fishermen seek the abundant smallmouth buffalo and carp. Hatchery fish are stocked annually along the San Saba River.

Table 17

San Angelo Reservoir Survey Results
June 23, 1970

Results of three standard gill nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 7 | 3.50 | .68 | .09 | .50 | |
| Carp | 118 | 59.00 | 110.26 | .93 | 82.60 | |
| River carpsucker | 2 | 1.00 | 3.30 | 1.65 | 2.47 | |
| Channel catfish* | 66 | 33.00 | 16.68 | .25 | 12.50 | 1.79 |
| Bluegill* | 5 | 2.50 | .90 | .18 | .67 | 4.86 |
| Largemouth bass* | 1 | .50 | .82 | .82 | .62 | 2.35 |
| White crappie* | 1 | .50 | .85 | .85 | .64 | 3.06 |
| Total | 200 | 100.00 | 133.49 | | 100.00 | |
| Game Fish* | 73 | 36.50 | 19.25 | | 14.43 | |
| Rough Fish | 127 | 63.50 | 114.24 | | 85.57 | |

San Angelo Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Red shiner | 202 | 1-2½ |
| Blacktail shiner | 15 | 1-2½ |
| Bullhead minnow | 100 | 1-2 |
| River carpsucker | 1 | 4 |
| Orangespotted sunfish | 5 | 2-3 |
| Bluegill | 10 | 1½-3 |
| Longear sunfish | 7 | 2-3 |
| Largemouth bass | 77 | 1½-4 |
| White crappie | 26 | 2-3 |
| Walleye | 2 | 3½-4 |
| Total | 445 | |

Table 18

San Saba River Survey Results
May 6 and December 8, 9, 1970

Results of six standard gill nets and three large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Spotted gar | 2 | 1.02 | 2.42 | 1.21 | .56 | |
| Longnose gar | 17 | 8.67 | 46.01 | 2.71 | 10.71 | |
| Gizzard shad | 73 | 37.24 | 36.05 | .49 | 8.40 | |
| Carp | 2 | 1.02 | 16.73 | 8.37 | 3.90 | |
| River carpsucker | 35 | 17.86 | 91.27 | 2.61 | 21.25 | |
| Smallmouth buffalo | 17 | 8.67 | 146.50 | 8.62 | 34.12 | |
| Gray redhorse sucker | 5 | 2.56 | 9.51 | 1.90 | 2.22 | |
| Channel catfish* | 10 | 5.10 | 11.83 | 1.18 | 2.75 | 1.94 |
| Flathead catfish* | 3 | 1.53 | 27.80 | 9.27 | 6.48 | 2.25 |
| Warmouth* | 1 | .51 | .12 | .12 | .02 | 3.71 |
| Bluegill* | 10 | 5.10 | .94 | .09 | .22 | 3.78 |
| Redear sunfish* | 1 | .51 | .29 | .29 | .07 | 3.54 |
| Largemouth bass* | 2 | 1.02 | 5.00 | 2.50 | 1.16 | 2.60 |
| White crappie* | 10 | 5.10 | 2.61 | .26 | .61 | 2.49 |
| Freshwater drum | 8 | 4.09 | 32.30 | 4.04 | 7.53 | |
| Total | 196 | 100.00 | 429.38 | | 100.00 | |
| Game Fish* | 37 | 18.87 | 48.59 | | 11.31 | |
| Rough Fish | 159 | 81.13 | 380.79 | | 88.69 | |

## Towle Park Lake

This small county park lake is located in the city limits of Snyder. Covering only 4 to 5 acres, it provides fishing mostly for children from the surrounding neighborhood. A few undesirable fish were found this segment but sunfish remain plentiful (Table 19). Channel catfish are quite common although none were captured this survey. Supplementary hatchery stocking is usually required.

## Twin Buttes Reservoir

Ths Bureau of Reclamation built this 183,000 acre-foot reservoir on the Middle and South Concho Rivers in 1963 for flood control, irrigation and municipal water supply. It has yet to impound more than 15,000 acre-feet and usually is divided into two small lakes totaling about 4,000 to 6,000 acre-feet.

The only significant change in the fish population from past surveys was a decrease in the white bass population. Normally, this species is caught in large numbers and this collection yielded only five white bass (Table 20). Gizzard shad and river carpsucker comprised the majority of undesirable fish caught. Several flathead catfish were taken and added considerably to the weight percentage of the game fish. The seining collection found a variety of available forage. Twin Buttes was stocked in hopes that it would impound additional water.

Table 19

Towel Park Reservoir Survey Results
November 4, 1970

Results of three standard gill nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Golden shiner | 5 | 6.02 | .76 | .15 | 2.68 | |
| River carpsucker | 3 | 3.61 | 7.26 | 2.42 | 25.60 | |
| Black bullhead | 3 | 3.62 | 2.14 | .71 | 7.55 | |
| Flathead catfish* | 1 | 1.20 | 7.43 | 7.43 | 26.21 | 1.89 |
| Bluegill* | 52 | 62.65 | 4.06 | .08 | 14.32 | 3.95 |
| Redear sunfish* | 9 | 10.85 | .81 | .09 | 2.86 | 3.70 |
| Largemouth bass* | 1 | 1.20 | 2.86 | 2.86 | 10.09 | 2.74 |
| White crappie* | 9 | 10.85 | 3.03 | .34 | 10.69 | 3.32 |
| Total | 83 | 100.00 | 28.35 | | 100.00 | |
| Game Fish* | 72 | 86.75 | 18.19 | | 64.17 | |
| Rough Fish | 11 | 13.25 | 10.16 | | 35.83 | |

Towel Park Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Green sunfish | 2 | 1-4 |
| Bluegill | 7 | 1-4 |
| Redear sunfish | 5 | 3-4 |
| Largemouth bass | 2 | 2 |
| Total | 16 | |

Table 20

Twin Buttes Reservoir Survey Results
May 13, 1970

Results of six standard Gill Nets and two large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Longnose gar | 4 | 1.24 | 20.00 | 5.00 | 8.56 | |
| Gizzard shad | 153 | 47.51 | 18.90 | .12 | 8.10 | |
| Carp | 24 | 7.46 | 27.79 | 1.16 | 11.90 | |
| River carpsucker | 84 | 26.08 | 50.22 | .60 | 21.52 | |
| Blue catfish* | 1 | .31 | 7.76 | 7.76 | 3.32 | 2.34 |
| Channel catfish* | 13 | 4.04 | 11.69 | .90 | 5.01 | 1.86 |
| Flathead catfish* | 11 | 3.42 | 80.56 | 7.32 | 34.51 | 2.11 |
| White bass* | 5 | 1.55 | 6.13 | 1.23 | 2.63 | 2.74 |
| Bluegill* | 9 | 2.79 | .86 | .10 | .37 | 4.50 |
| Largemouth bass* | 1 | .32 | .74 | .74 | .31 | 2.25 |
| White crappie* | 15 | 4.65 | 2.12 | .14 | .91 | 2.55 |
| Freshwater drum | 2 | .63 | 6.66 | 3.33 | 2.86 | |
| Total | 322 | 100.00 | 233.43 | | 100.00 | |
| Game Fish* | 55 | 17.08 | 109.86 | | 47.06 | |
| Rough Fish | 267 | 82.92 | 123.57 | | 52.94 | |

Twin Buttes Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 2 | 6 |
| Golden shiner | 3 | 3 |
| Red shiner | 6 | 1½-3 |
| Blacktail shiner | 3 | 2½-3 |
| Bullhead minnow | 28 | 1-1½ |
| Orangespotted sunfish | 5 | 1½-3 |
| Bluegill | 2 | 3-4½ |
| Largemouth bass | 3 | 1 |
| White crappie | 1 | 6 |
| Logperch | 1 | 1½ |
| Total | 54 | |

## Valley Creek Lake

Valley Creek Lake is located in Runnels County and provides the city of Ballinger with municipal water and recreation. It has remained near its normal level of 185 acres for the past several years. When checked in May 1970 the lake was full, but it was down about 2 feet by late fall.

The fish population, as indicated by our netting, is considered poor. Rough fish accounted for 88 per cent by number and 79 per cent by weight of the sample (Table 21). Eight flathead catfish were taken this segment which increased the weight percentage of game fish to a more than normal level. Spot creel checks found the harvest of desirable fish to be low. A chemical treatment has been considered for the past 3 years, but unchangeable circumstances have prevented plans from materializing.

Table 21

Valley Creek Reservoir Survey Results
May 28, 1970

Results of six standard gill nets and two large mesh nets.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Longnose gar | 12 | 3.79 | 57.00 | 4.75 | 19.52 | |
| Gizzard shad | 136 | 43.04 | 19.00 | .14 | 6.51 | |
| Carp | 5 | 1.58 | 35.00 | 7.00 | 12.00 | |
| River carpsucker | 81 | 25.64 | 100.00 | 1.23 | 34.26 | |
| Black bullhead | 1 | .31 | .33 | .33 | .11 | |
| Channel catfish* | 6 | 1.90 | 12.83 | 2.14 | 4.40 | 2.03 |
| Flathead catfish* | 8 | 2.53 | 39.53 | 4.94 | 13.54 | 2.43 |
| Bluegill* | 8 | 2.53 | 1.14 | .14 | .39 | 4.35 |
| Longear sunfish* | 1 | .32 | .08 | .08 | .03 | 4.71 |
| White crappie* | 16 | 5.06 | 8.96 | .56 | 3.07 | 3.03 |
| Freshwater drum | 42 | 13.30 | 18.00 | .43 | 6.17 | |
| Total | 316 | 100.00 | 291.87 | | 100.00 | |
| Game Fish* | 39 | 12.34 | 62.54 | | 21.43 | |
| Rough Fish | 277 | 87.66 | 229.33 | | 78.57 | |

Table 21 (Continued)

Valley Creek Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 42 | 2-5 |
| Red shiner | 233 | 1-3 |
| Blacktail shiner | 39 | 1-3 |
| Bullhead minnow | 9 | 1-2 |
| Mosquiteofish | 33 | 1-2 |
| Orangespotted sunfish | 7 | 2½ |
| Blue gill | 3 | 1½-2 |
| Longear sunfish | 3 | 2-3½ |
| Largemouth bass | 11 | 1 |
| White crappie | 44 | 5 |
| Logperch | 5 | 1-4 |
| Total | 429 | |

New Winters Lake

The city of Winters constructed this 250-acre impoundment in 1950 for a water supply. The water level of this shallow turbid lake remains fairly constant.

Survey results obtained during this segment (Table 22) show a slight improvement in the game - rough fish ratio. Channel catfish and white crappie were well represented. Catfish are reported to be taken regularly by drift fishing and trotlining. The large population of black bullhead catfish that existed a few years ago has now dwindled and only two were collected this year. Although there is no proof, it is believed that the 1967 release of approximately 50 adult flathead catfish has brought about this change.

Seining produced a few minnows and several small shad indicating the availability of food. Largemouth bass were stocked in an effort to improve the fishing condition of the turbid lake.

Table 22

New Winters Reservoir Survey Results
July 24, 1970

Results of six standard gill nets and two large mesh nets.

Table 22 (Continued)

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 66 | 26.08 | 16.62 | .25 | 10.19 | |
| Carp | 8 | 3.16 | 25.00 | 3.13 | 15.33 | |
| River carpsucker | 14 | 5.54 | 17.50 | 1.25 | 10.74 | |
| Smallmouth buffalo | 8 | 3.16 | 47.00 | 5.88 | 28.83 | |
| Black bullhead | 2 | .79 | .88 | .44 | .54 | |
| Channel catfish* | 32 | 12.65 | 27.57 | .86 | 16.91 | 1.74 |
| Flathead catfish* | 3 | 1.18 | 11.56 | 3.85 | 7.09 | 1.97 |
| Bluegill* | 1 | .40 | .12 | .12 | .07 | 4.24 |
| Largemouth bass* | 1 | .40 | 1.48 | 1.48 | .91 | 2.71 |
| White crappie* | 78 | 30.82 | 8.31 | .11 | 5.10 | 2.52 |
| Freshwater drum | 40 | 15.82 | 6.99 | .17 | 4.29 | |
| Total | 253 | 100.00 | 163.03 | | 100.00 | |
| Game Fish* | 115 | 45.45 | 49.04 | | 30.08 | |
| Rough Fish | 138 | 54.55 | 113.99 | | 69.92 | |

New Winters Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine, 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 205 | 1-3 |
| Golden shiner | 2 | 1-4 |
| Red shiner | 2 | 3 |
| Mosquitofish | 404 | ½-1½ |
| Green sunfish | 6 | 1-3½ |
| Bluegill | 8 | ½-2½ |
| Longear sunfish | 4 | 2½ |
| Largemouth bass | 7 | 2½ |
| White crappie | 4 | 2-6 |
| Total | 642 | |

Old Winters Lake

This 20-acre lake originally served as a water supply for the city of Winters but has been used mainly for fishing for the past 20 years. The shallow water (7 feet maximum depth) makes management efforts difficult. However, the survey conducted this segment found an abundant supply of utilizable

size white crappie (Table 23). In the past, this species has been small in size. Also, it has experienced an increase in the channel catfish population. This could possibly be the result of the previous stocking of larger size fish.

Table 23

Old Winters Reservoir Survey Results
September 17, 1970

Results of three standard gill nets and one large mesh net.

| Species | Number | Per Cent by No. | Total Wt. Pounds | Avg. Wt. Pounds | Per Cent by Wt. | Average "K" |
|---|---|---|---|---|---|---|
| Gizzard shad | 36 | 29.03 | 8.81 | .24 | 15.30 | |
| Carp | 21 | 16.93 | 12.77 | .61 | 22.17 | |
| Channel catfish* | 6 | 4.84 | 7.68 | 1.28 | 13.34 | 1.72 |
| Bluegill* | 1 | .81 | .08 | .08 | .14 | 4.41 |
| Largemouth bass* | 6 | 4.84 | 7.39 | 1.23 | 12.83 | 2.27 |
| White crappie* | 54 | 43.55 | 20.85 | .38 | 36.22 | 3.17 |
| Total | 124 | 100.00 | 57.58 | | 100.00 | |
| Game Fish* | 67 | 54.04 | 21.58 | | 37.47 | |
| Rough Fish | 57 | 45.96 | 36.00 | | 62.53 | |

Old Winters Reservoir Seining Results

(Bag 26' x 6' x ¼-Inch Mesh Seine and 20' x 6' x 1/8-Inch Mesh Seine)

| Species | Number | Size Range in Inches |
|---|---|---|
| Gizzard shad | 2 | 3-3½ |
| Red shiner | 3 | 2 |
| Bullhead minnow | 3 | 1½-2 |
| Mosquitofish | 1 | 1½ |
| Green sunfish | 1 | 2 |
| Orangespotted sunfish | 4 | 2 |
| Bluegill | 2 | 2 |
| Largemouth bass | 2 | 3½ |
| White crappie | 2 | 2½ |
| Total | 20 | |

A heavy plankton bloom exists throughout most of this year which supports a sizeable minnow population.

Conclusions and Recommendations:

Several other small Region I-B waters received management efforts but did not require netting collections. Included in these are Andrews Park Lake, Kinarum Lake (County Park) and two old city lakes at Robert Lee. Andrews Park Lake receded to about one-fourth its normal 4 acres and did not warrant sampling. The other three small impoundments mentioned above were also greatly reduced by dry weather and were chemically renoveated. Restocking has begun but not completed.

Discrepancies in the fish populations of Valley Creek, Elm Creek and New Winters Lakes justify chemical control measures. However, the circumstances involved prohibit such measures at this time.

An influencing factor of most regional waters which should be carefully examined is the contribution or value of a white bass population. In many instances, this valuable predator does not have adequate conditions for spawning due to the nature of most West Texas waters. Efforts should be made to artificially propagate white bass at the local hatcheries so these fish could be stocked when needed.

Supplimentary hatchery stocking in waters with established fish populations will be continued as the fish are available and until further information regarding its benefits are revealed. This is being investigated at the present time under Job 14 of this project.

Chemical control of problematic aquatic vegetation was not needed in Region I-B this segment.

It is recommended that this job be continued in an effort to improve the public water fisheries of Region I-B.

Prepared by Billy J. Follis
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Approved by Marion Toole
Coordinator

Date April 2, 1971

L. D. Lewis
Inland Fisheries Supervisor

A checklist of scientific names is presented so that common names may be used in this report. These names are specified in "A List of Common and Scientific Names of Fishes from the United States and Canada". Second Edition, American Fisheries Society, Special Publication Number 2, 1960.

| Common Names | Scientific Names |
|---|---|
| Spotted gar | Lepisosteus oculatus |
| Longnose gar | Lepisosteus osseus |
| Gizzard shad | Dorosoma cepedianum |
| Threadfin shad | Dorosoma petenense |
| Goldfish | Carassius auratus |
| Carp | Cyprinus carpio |
| Plains minnow | Hybognathus placita |
| Golden shiner | Notemigonus crysoleucas |
| Red shiner | Notropis lutrensis |
| Blacktail shiner | Notropis venustus |
| Fathead minnow | Pimephales promelas |
| Bullhead minnow | Pimephales vigilax |
| River carpsucker | Carpiodes carpio |
| Smallmouth buffalo | Ictiobus bubalus |
| Gray redhorse sucker | Moxostoma congestum |
| Blue catfish | Ictalurus furcatus |
| Black bullhead | Ictalurus melas |
| Channel catfish | Ictalurus punctatus |
| Flathead catfish | Pylodictis olivaris |
| Mosquitofish | Gambusia affinis |
| White bass | Roccus chrysops |
| Striped bass | Morone saxatilis |
| Warmouth | Chaenobryttus gulosus |
| Redbreast sunfish | Lepomis auritus |
| Green sunfish | Lepomis cyanellus |
| Orangespotted sunfish | Lepomis humilis |
| Bluegill | Lepomis macrochirus |
| Longear sunfish | Lepomis megalotis |
| Redear sunfish | Lepomis microlophus |
| Largemouth bass | Micropterus salmoides |
| White crappie | Pomoxis annularis |
| Walleye | Stizostedion vitreum |
| Logperch | Percina caprodes |
| Freshwater drum | Aplodinotus grunniens |