

JOB PROGRESS REPORT

As required by

FEDERAL AID IN FISHERIES RESTROATION ACT

TEXAS

Federal Aid Project No. F-2-R-19

REGION 2-B FISHERIES STUDIES

Job No. B-26: Fishery Management Recommendations

Project Leader: Darrell W. Butler

Clayton Garrison
Executive Director
Texas Parks and Wildlife Department
Austin, Texas

Lonnie J. Peters
Chief of Inland Fisheries

Robert J. Kemp, Jr.
Director, Fish and Wildlife

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10



Job Progress Report

State of Texas

Project No. F-2-R-19

Name: Region 2-B Fisheries Studies

Job No. B-26

Title: Fishery Management Recommendations

Period Covered: February 1, 1971 to January 31, 1972

Objectives:

1. To determine the need for changes in fish harvest regulations, population control, stocking, evaluation of commercial netting, and vegetation control in Region 2-B waters.

Procedures:

1. Proposed fishing regulations for counties in the Edwards Plateau, Possum Kingdom, and Trinity-Brazos areas under regulatory authority of the Texas Parks and Wildlife Department were presented at Public Hearings and to the Commissioners of the Texas Parks and Wildlife Department.
2. Lakes Lyndon B. Johnson, Canyon, Travis, and Stillhouse Hollow were inventoried during this segment using standard 150-foot experimental gill nets. Netting and seining collections were conducted quarterly at stations selected to uniformly cover the lakes. Seining collections were made using a 20 X 6-foot $\frac{1}{2}$ -inch mesh sein in an attempt to determine spawning success of game fish and to ascertain the relative amounts of forage fish available.
3. During quarterly netting surveys each lake was visually surveyed to determine if aquatic vegetation was becoming problematic.

Findings:

Lake Lyndon B. Johnson

On April 3, 1971 Lake Lyndon B. Johnson was chemically renovated. Approximately six months prior to renovation, the lake was lowered to about one-sixth its normal surface acreage, roughly 1,000 surface acres. Following the renovation the lake was filled to its normal level and stocked with game fish from state hatcheries. Netting surveys of the lake since the renovation indicate excellent growth of the stocked fish with some reinfestation of small rough fish, predominantly river carpsucker and European carp. A composite of the netting results since the renovation shows a rough fish population of 63.25% by number and 74.02% by weight. Longnose gar, many of which were observed to survive the renovation, represented 27.78% by weight of the total fish. The October, 1971 netting results reflects an average weight of 1.03 pounds for largemouth bass and 1.85 pounds for channel catfish. A summary of the netting results is listed on Table 1.

Lake Stillhouse Hollow

Lake Stillhouse Hollow is a Corps of Engineers Lake located in Bell County, on the Lampasas River. The flood control lake has a conservation pool of 6,430 surface acres and a flood control pool of 11,830 surface acres. Basic inventory data was collected on the lake since it is relatively a new lake and should be reaching its peak in the near future. The netting results indicate a good rough fish/game fish ratio with the lake supporting a game fish population of 48.28% by number and 39.15% by weight. Longnose gar, gizzard shad, and the European carp are the most abundant rough fish and white bass, largemouth bass, and channel catfish are the predominant game fish in the lake. A summary of the netting results may be found in Table 2 of this report.

During the next segment investigations will be made relating to the possibilities of establishing a coldwater trout fishery below Lake Stillhouse Hollow since the water is released from below a depth of 100 feet. Water quality and points of public access will be determined to support or reject this possibility.

Lake Canyon

Basic inventory data was collected on the reservoir again this segment. As a result of the statewide walleye program, it is very likely that Canyon Lake will be stocked with walleye in the future. The data collected this segment will compliment the data collected in past segments to evaluate the effect of the introduction of walleye on the existing fishery. The composite netting results from the past segment indicates the lake now supports a game fish population of 36.04% by number and 40.60% by weight. Gizzard shad, grey redhorse sucker, and the European carp seem to be the problem rough fish with the grey redhorse sucker representing 28.54% of the total fish by weight. Canyon Lake continues to support a good population of yellow catfish and has experienced a substantial increase in the white crappie population. The data from this segment indicates a crappie population of 3.64% by weight and 7.09% by number as compared to 0.48% by weight and 1.39% by number for the last segment. Reports from area marinas support this data with angling success increasing sharply over the last year. A summary of the netting data for the past segment can be found on Table 3 of this report.

Lake Travis

Lake Travis is a large lake located on the Colorado River in the Highland Lakes chain. Located near the city of Austin, Travis County, the lake supports many hours of recreation including fishing and water sports from area municipalities and developments surrounding the 352-mile shoreline. Lake Travis is characteristically a long, deep lake lying in the hill country of Travis and Burnet Counties. The abrupt nature of the underwater terrain provides relatively little shallow water areas for largemouth bass spawning activities. The lake level fluctuates depending on the rainfall which could have contributed to low success in largemouth bass spawning in the past years. The netting data continues to indicate a low largemouth bass population as compared to the last complete set of netting results in 1965. Since 1965 the netting data available seems to indicate a fluctuation in numbers with the average weight remaining approximately the same. The evaluation of the supplemental stocking in 1968 is difficult because of the incomplete data available on the lake until the recent segment.

The lake continues to support an abundant white bass population and excellent fishing for this species during a few months in the winter. The inventory data reflects a game fish population of 37.58% by number and 26.36% by weight. Approximately 33% of the total fish by weight was contributed by smallmouth buffalo and 15% by European carp. Blue catfish continue to be netted on Lake Travis but not in great numbers as compared to other game fish. The flathead catfish population represented 15% of the annual catch by weight and 4.41% by number indicating an acceptable existing population as compared to other lakes in the highland lake chain. A summary of the segments netting surveys may be found in Table 4 of this report.

Public Hearings

Only two changes were made in the fishing regulations for the Edwards Plateau, Possum Kingdom, and Trinity-Brazos areas. An 11-inch minimum length was placed on all catfish but was later contested at the January Commission meeting by representatives of the highland lakes area. The Commission repealed the law for the highland lakes only, which includes lakes Buchanan, Inks, Lyndon B. Johnson, Marble Falls, Travis, and Austin.

The second change requires trotlines in public waters to be marked with the name and address of the owner.

Vegetation Control

None of the lakes surveyed in this segment were recommended for control of vegetation. All the lakes remained relatively free from vegetation in any large amounts except in isolated coves and shallows.

Recommendations:

1. It is recommended that no additional stocking of game fish be made in Canyon Lake as collection data indicate adequate populations.
2. It is recommended that inventory data be collected on Canyon Lake next segment for the purpose of evaluating the anticipated introduction of walleye into the fishery.
3. It is recommended that Lake Lyndon B. Johnson be stocked with additional largemouth bass, channel catfish, and flathead catfish if possible, in numbers to be determined through data collected later in the segment.
4. The recommendation is made that no game fish be stocked in Lake Stillhouse as collected data indicates good reproduction.
5. It is recommended that Lake Lyndon B. Johnson be surveyed next segment to determine the long range effect of the renovation.
6. It is recommended that Lake Travis be stocked with largemouth bass fingerling during the next segment as the collected data indicate a low population and the morphology of the lake is not conducive to spawning activities. The extent of stocking will be determined by seining collections and the availability of fish from the state hatchery.

7. No recommendations are made for vegetation control in any of the said lakes.

It is recommended that this job be continued to provide valid fish harvest regulations through current population sampling, vegetation control and stocking when economically feasible.

Prepared by: Darrell W. Butler
Project Leader

Approved by: David L. Pritchard

Date: January 9, 1973

Robert L. Bounds
Regional Director for Inland Fisheries

TABLE I

Lake Lyndon B. Johnson
1971
Nets set - 40

Species	Numbers	Per cent by Number	Weight	Per cent by Weight	No./100 ft. of net	Weight/100 ft. of net
<u>Lepisosteus osseus</u>	78	12.30	188.34	27.78	1.03	3.14 lbs.
<u>Dorosoma cepedianum</u>	76	11.99	58.88	8.68	1.27	0.98
<u>Ictiobus bubalus</u>	5	0.79	48.25	7.12	0.08	0.80
<u>Carpionotus carpio</u>	163	25.71	145.17	21.41	2.72	2.42
<u>Moxostoma congestum</u>	1	0.16	3.00	0.44	0.02	0.05
<u>Cyprinus carpio</u>	76	11.99	56.33	8.31	1.27	0.94
<u>Ictalurus punctatus</u>	23	3.63	46.63	6.88	0.38	0.79
<u>Ictalurus melas</u>	1	0.16	0.44	0.06	0.02	0.01
<u>Ictalurus natalis</u>	1	0.16	1.50	0.22	0.02	0.02
<u>Pseudorasbora olivaris</u>	3	0.47	21.12	3.12	0.05	0.35
<u>Roccus chrysops</u>	63	9.94	41.68	6.15	1.05	0.69
<u>Micropterus salmoides</u>	53	8.36	41.51	6.12	0.88	0.69
<u>Lepomis gulosus</u>	15	2.36	4.97	0.73	0.25	0.08
<u>Lepomis cyanellus</u>	2	0.31	0.62	0.09	0.03	0.01
<u>Lepomis microlophus</u>	2	0.31	0.50	0.07	0.03	0.01
<u>Lepomis macrochirus</u>	56	8.83	12.06	1.78	0.93	0.20
<u>Lepomis auritus</u>	1	0.06	0.38	0.06	0.02	0.01
<u>Lepomis megalotis</u>	3	0.47	1.63	0.24	0.05	0.03
<u>Pomoxis annularis</u>	9	1.42	4.19	0.62	0.15	0.07
<u>Pomoxis nigromaculatus</u>	1	0.16	0.50	0.07	0.02	0.01
<u>Percina caprodes</u>	1	0.16	0.13	0.02	0.02	0.002
<u>Thlasoma cyanoguttatum</u>	1	0.16	0.19	0.03	0.02	0.003
Totals	634	100.00	678.03	100.00		

TABLE 2

Lake Stillhouse Hollow
1971
Nets set - 30

Species	Number	Per cent by Number	Weight	Per cent by Weight	No./100 ft. of net	Weight/100 ft. of net
<u>Lepisosteus osseus</u>	83	14.69	112.19	17.83	1.84	2.49 lbs.
<u>Dorosoma cepedianum</u>	84	14.87	23.63	3.76	1.87	0.53
<u>Ictiobus bubalus</u>	10	1.77	37.81	6.01	0.22	0.84
<u>Carpiodes carpio</u>	17	3.01	66.56	10.58	0.38	1.48
<u>Moxostoma congestum</u>	23	4.07	31.50	5.01	0.51	0.70
<u>Cyprinus carpio</u>	72	12.74	109.19	17.35	1.60	2.43
<u>Ictalurus punctatus</u>	20	3.54	58.63	9.32	0.33	1.30
<u>Ictalurus melas</u>	2	0.35	0.44	0.07	0.04	0.01
<u>Ictalurus natalis</u>	1	0.18	0.25	0.04	0.02	0.-
<u>Pylodictus olivaris</u>	9	1.59	60.38	9.60	0.20	1.34
<u>Morone chrysops</u>	43	7.61	53.12	8.44	0.96	1.18
<u>Micropterus treculi</u>	3	0.53	4.25	0.67	0.07	0.09
<u>Micropterus salmoides</u>	18	3.19	38.81	6.17	0.40	0.85
<u>Lepomis gulosus</u>	3	0.53	0.88	0.14	0.07	0.02
<u>Lepomis cyanellus</u>	4	0.71	1.00	0.16	0.09	0.02
<u>Lepomis microlophus</u>	5	0.88	0.94	0.15	0.11	0.02
<u>Lepomis macrochirus</u>	119	21.07	17.01	2.70	2.64	0.38
<u>Lepomis auritus</u>	3	0.53	0.50	0.08	0.07	0.01
<u>Lepomis megalotis</u>	4	0.71	0.70	0.11	0.09	0.02
<u>Pomoxis annularis</u>	40	7.08	10.12	1.61	0.89	0.22
<u>Aplodinotus grunniens</u>	2	0.35	1.25	0.20	0.04	0.03
Totals	565	100.00	629.16	100.00		

TABLE 3

Canyon Reservoir
1971
Nets set - 60

Species	Number	Per cent by Number	Weight	Per cent by Weight	No./100 ft. of net	Weight/100 ft. of net
<u>Lepisosteus osseus</u>	7	0.69	18.75	1.11	0.08	0.21 lbs.
<u>Dorosoma cepedianum</u>	278	27.36	138.03	8.16	3.09	1.53
<u>Carpionodes carpio</u>	12	1.18	40.19	2.38	0.13	0.45
<u>Moxostoma congestum</u>	301	29.62	482.84	28.54	3.34	5.36
<u>Cyprinus carpio</u>	35	3.44	320.67	18.96	0.39	3.56
<u>Notemigonus crysoleucas</u>	11	1.08	2.94	0.17	0.12	0.03
<u>Ictalurus punctatus</u>	84	8.27	188.58	11.15	0.93	2.10
<u>Ictalurus punctatus</u> X <u>I. furcatus</u>	1	0.10	10.44	0.62	0.01	0.12
<u>Ictalurus melas</u>	1	0.10	0.38	0.02	0.01	0.004
<u>Ictalurus natalis</u>	5	0.49	0.94	0.06	0.06	0.01
<u>F dictus olivaris</u>	53	5.22	351.79	20.80	0.59	3.91
<u>Morone chrysops</u>	1	0.10	3.25	0.19	0.01	0.04
<u>Micropterus salmoides</u>	33	3.25	44.78	2.65	0.37	0.50
<u>Lepomis gulosus</u>	12	1.18	2.63	0.16	0.13	0.03
<u>Lepomis cyanellus</u>	16	1.58	2.69	0.16	0.18	0.03
<u>Lepomis microchirus</u>	12	1.18	4.19	0.25	0.13	0.04
<u>Lepomis macrochirus</u>	68	6.69	9.39	0.55	0.76	0.10
<u>Lepomis auritus</u>	5	0.49	2.56	0.15	0.06	0.03
<u>Lepomis megalotis</u>	1	0.10	0.13	0.01	0.01	0.001
<u>Pomoxis annularis</u>	72	7.09	61.66	3.64	0.80	0.69
<u>Cichlasoma cyanoguttatum</u>	8	0.79	4.63	0.27	0.09	0.05
Totals	1016	100.00	1691.46	100.00		

TABLE 4

Lake Travis
1971
Nets set - 45

Species	Number	Per cent by Number	Weight	Per cent by Weight	No./100 ft. of net	Weight/100 ft. of net
<u>Lepisosteus osseus</u>	10	1.13	66.26	3.59	0.15	0.98 lbs.
<u>Dorosoma cepedianum</u>	311	35.14	171.41	9.28	4.61	2.54
<u>Ictiobus bubalus</u>	71	8.02	612.14	33.15	1.05	9.07
<u>Carpionodes carpio</u>	97	10.96	290.91	15.75	1.44	4.31
<u>Moxostoma congestum</u>	16	1.81	22.89	1.24	0.24	0.34
<u>Cyprinus carpio</u>	44	4.97	172.53	9.34	0.65	2.56
<u>Ictalurus punctatus</u>	30	3.39	39.02	2.11	0.44	0.58
<u>Ictalurus furcatus</u>	8	0.90	21.00	1.14	0.12	0.31
<u>Pylodictus olivaris</u>	39	4.41	273.01	14.78	0.58	4.04
<u>Morone chrysops</u>	62	7.01	91.04	4.94	0.92	1.35
<u>Micropterus treculi</u>	5	0.56	4.73	0.26	0.07	0.07
<u>Micropterus salmoides</u>	23	2.60	17.66	0.96	0.34	0.26
<u>Lepomis gulosus</u>	3	0.34	1.19	0.06	0.04	0.02
<u>Lepomis cyanellus</u>	18	2.04	4.51	0.24	0.27	0.67
<u>Lepomis microlophus</u>	7	0.79	3.44	0.19	0.10	0.05
<u>Lepomis macrochirus</u>	65	7.34	13.13	0.71	0.96	0.19
<u>Lepomis auritus</u>	17	1.92	2.13	0.12	0.25	0.03
<u>Lepomis megalotis</u>	3	0.34	1.06	0.06	0.44	0.02
<u>Pomoxis annularis</u>	22	2.49	12.82	0.69	0.33	0.19
<u>Aplodinotus grunniens</u>	26	2.94	23.66	1.28	0.38	0.35
<u>Cichlasoma cyanoguttatum</u>	8	0.90	2.01	0.11	0.12	0.03
Totals	885	100.00	1846.55	100.00		