

FILE

JOB PROGRESS REPORT

As Required By

FEDERAL AID IN FISHERIES RESTORATION ACT

TEXAS

Federal Aid Project No. F-3-R-20

Region III-B Fisheries Studies

Job No. 15: Fisheries Management Recommendations

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ABSTRACT

A preliminary meeting was held in Tyler on March 22, 1972 between Department Biologists and Game Management supervisory personnel for the discussion of proposed regulation changes in regulatory authority areas. Inland Fisheries Region III-B includes counties in two regulatory districts, the Northeast District and the Southeast District. Several changes were made in statewide fisheries regulations applicable to regulatory authority counties within Region III-B.

1. A minimum size limit of 10 inches on largemouth bass, spotted bass and smallmouth bass.
2. A daily limit of no more than 10 largemouth, smallmouth or spotted bass in the aggregate.
3. Toledo Bend Reservoir closed to netting.
4. Prohibit the taking of catfish in nets in all regulatory counties with the exception of those counties in and around Lake Texarkana.
5. All trot lines that remain in public water shall be redated at the expiration of each 90 day period.
6. The 11 inch minimum size limit was dropped on flathead, blue and channel catfish.

Management recommendations derived from 1972 segment field data include:

1. Discontinue channel catfish stocking-rearing program on Lake Murvaul.
2. No commercial netting of any type on Lake Murvaul.
3. Stocking of threadfin shad is recommended for Lake Striker.
4. No additional stocking of game fish is recommended for Caddo Lake.
5. No additional stocking of game fish is recommended for Toledo Bend Reservoir.
6. Chemical control of water hyacinths on Toledo Bend Reservoir and Caddo Lake where economically feasible.
7. Commercial netting be closed on Lake O' the Pines, for protection of flathead catfish and other game fish species.
8. It is recommended that water elevation in Lake O' the Pines be maintained two vertical feet above normal pool level in the spring in order to curtail heavy infestation of submerged vegetation in shoreline areas.
9. Lower Blundell Creek Reservoir in Titus County be closed to fishing for 1973-74.

SEGMENT COMPLETION REPORT

State Texas

Name: Fisheries Investigation and Surveys

Project No. F-3-R-20

of the Waters in Region III-B

Job No. 15

Title: Fisheries Management Recommendations

Period Covered: February 1, 1972 to January 31, 1973

OBJECTIVES: To determine, in Region III-B the need for:

1. Changes in fish harvest regulations
2. Fish population control
3. Stocking of game fish species
4. Noxious vegetation control
5. Emergency measures needed to correct unpredictable events adversely affecting fish.

SEGMENT: As above listed P.S. Objective

PROCEDURES:

1. A. Field data from quarterly surveys in Toledo Bend Reservoir, Murvaul Reservoir, Caddo Lake, Lake O'the Pines and Lake Texarkana were analyzed to determine need for changes in fishing regulations.
B. Proposed fishing regulations were presented at public hearing in regulatory authority counties within Region III-B.
2. Quarterly surveys were made on each of the above reservoirs this segment. Experimental gill nets and bag seines were utilized in making fish collections. Experimental nets used in these collections were 150 feet in length and 8 feet deep, with mesh size ranging from 1 inch to 3 1/2 inches with increments every 25 feet. A 15 foot nylon bag seine with 3/16 inch mesh and a 30 foot bag seine with 3/8 inch mesh were used in seining collections.
3. Each of the candidate waters in this study contain established fish populations. Criteria for making stocking recommendations consist primarily of food availability and degree of reproduction. Where field sampling indicated little or no reproduction, the normal stocking recommendation was 100 bass fry or 50 bass fingerlings and 25 catfish per acre. Of course, in large reservoirs such as Toledo Bend Reservoir this rate cannot be feasibly maintained.
4. A. In conjunction with the surveys, visual observations of aquatic vegetation were made and recorded to determine those areas infested with noxious plants detrimental to fishermen usage and access.

- B. Control recommendations for such areas of noxious vegetation were made if feasible.

FINDINGS:

Fishing Regulations

A preliminary meeting was held in Tyler on March 22, 1972 between Parks and Wildlife Biologists and Game Management supervisory personnel for the discussion of proposed regulation changes.

Inland Fisheries Region III-B includes counties in two regulatory districts, Northeast Texas and Southeast Texas Districts. Several changes were made in the statewide fisheries regulations applying to most regulatory authority counties.

1. A minimum size limit of 10 inches was placed on largemouth, smallmouth and spotted bass.
2. The daily bag limit was reduced from 15 to 10 largemouth, smallmouth and spotted bass, in the aggregate.
3. Toledo Bend Reservoir be closed to all commercial netting.
4. Prohibit the taking of catfish in nets in all regulatory counties with the exception of those counties in and around Lake Texarkana.
5. All trot lines that remain in public water shall be redated at the expiration of each 90 day period.
6. The 11 inch size limit was dropped on all species of catfish.

Public hearings were attended by project personnel in each regulatory county between May 1, and May 5, 1972.

Lake Surveys

Caddo Lake

Caddo game fish percentages decreased this past segment, due primarily to the decrease in yellow bass netted and an increase in gizzard shad and spotted suckers, as indicated in Table 1. Adequate samples of all game fish were collected from Caddo Lake this segment and fishing success has been generally fair. Submerged and emergent vegetation continues to be an acute problem in Caddo. Some 400 acres of water hyacinths have been observed throughout the lake. During the summer, many areas become completely inaccessible to fishermen.

No additional stocking of game fish is recommended for Caddo Lake, as netting and seining collections (Table 2) reflect adequate reproduction.

Table 1
Caddo Lake Netting Results

Species	Number	Percent of Number	Weight (lbs)	Percent of Weight	Average Weight
Spotted gar	14	3.53	18.13	4.01	1.29
Longnose gar	5	1.26	26.06	10.18	9.21
Bowfin	4	1.01	25.00	5.52	6.25
Gizzard shad	73	18.43	71.94	15.89	0.99
Chain pickerel	31	7.92	37.19	8.22	1.19
Spotted sucker	51	12.87	112.31	24.81	2.20
Lake chubsucker	23	5.81	12.95	2.86	0.56
Golden shiner	2	0.52	0.32	0.07	0.16
*Channel catfish	17	4.29	24.39	5.39	1.43
Black bullhead	11	2.77	18.01	3.98	1.63
Yellow bullhead	2	0.51	2.00	0.44	1.00
*White bass	3	0.75	4.13	0.91	1.38
*Yellow bass	93	23.48	31.70	7.00	0.34
*Largemouth bass	5	1.26	8.13	1.80	1.63
*Warmouth	13	3.28	3.81	0.84	0.29
*Redear sunfish	15	3.78	3.81	0.89	0.25
*Bluegill	2	0.51	0.13	0.03	0.06
*Black crappie	30	7.57	30.99	6.85	1.03
*White crappie	1	0.25	0.25	0.06	0.25
Freshwater drum	1	0.25	1.37	0.30	1.37
TOTAL	396	100.00	452.62	100.00	
Rough fish	217	54.80	345.28	76.28	
*Game fish	179	45.20	107.34	23.72	

Table 2
Caddo Lake Seining Results

<u>Species</u>	<u>Number</u>	<u>Adult</u>	<u>Young-of-Year</u>
Spotted gar	2		x
Gizzard shad	5		x
Grass pickerel	20	x	x
Golden shiner	2	x	
Blacktail shiner	3	x	x
Bullhead minnow	1	x	
Lake chubsucker	9	x	
Golden topminnow	9	x	x
Blackstripe topminnow	7	x	
Mosquitofish	8	x	x
Brook silverside	38	x	x
Largemouth bass	29		x
Redear sunfish	126	x	x
Bluegill	97	x	x
Longear sunfish	23	x	x
White crappie	47		x
Black crappie	21		x

Lake O' The Pines

Game fish percentages are up this segment due primarily to the large numbers of sunfish and crappie netted. Netting data this segment indicate an expanding carp population.

Spotted bass still exist in large numbers despite the indication of netting results (Table 3). Some 125 spotted bass were collected last spring with the aid of the electro-fishing rig.

Forage fish populations remain in good numbers as reproduction was excellent for threadfin shad and gizzard shad. Many Notropis species were found in large numbers throughout the lake as reflected in Table 4.

Table 3

Lake O' The Pines Netting Results

Species	Number	Percent of Number	Weight (lbs)	Percent of Weight	Average Weight
Spotted gar	38	5.07	103.31	13.34	2.72
Gizzard shad	226	30.14	175.74	22.69	0.78
Chain pickerel	51	6.80	73.06	9.43	1.43
Spotted sucker	13	1.73	29.61	3.82	2.28
Bigmouth buffalo	1	0.13	14.50	1.87	14.50
Lake chubsucker	7	0.93	5.25	0.68	0.75
Golden shiner	7	0.93	2.31	0.30	0.33
Carp	16	2.13	46.12	5.96	2.88
*Channel catfish	39	5.20	124.63	16.09	3.20
*Blue catfish	3	0.40	1.13	0.15	0.38
Black bullhead	11	1.47	17.43	2.25	1.58
Yellow bullhead	10	1.33	6.44	0.83	0.64
*Flathead catfish	2	0.27	11.75	1.52	5.88
*Largemouth bass	14	1.87	40.05	5.17	2.86
*Spotted bass	2	0.27	1.93	0.25	0.97
*White bass	1	0.13	2.25	0.29	2.25
*Redear sunfish	156	20.80	35.94	4.64	0.23
*Bluegill	86	11.47	12.82	1.66	0.15
*Spotted sunfish	3	0.40	0.25	0.03	0.08
*Black crappie	63	8.40	69.31	8.95	1.10
*White crappie	1	0.13	0.62	0.08	0.62
TOTAL	750	100.00	774.45	100.00	
Rough fish	380	50.67	473.77	61.18	
*Game fish	370	49.33	300.68	38.82	

Table 4

Lake O' The Pines Seining Results

<u>Species</u>	<u>Number</u>	<u>Adult</u>	<u>Young-of-Year</u>
Threadfin shad	15	x	x
Grass pickerel	3	x	
Golden shiner	5	x	
Blacktail shiner	26	x	x
Blackspot shiner	24	x	x
Golden topminnow	4	x	
Starhead topminnow	41	x	x
Blackstripe topminnow	39	x	x
Mosquitofish	3	x	
Brook silverside	46	x	x
Spotted bass	51	x	x
Largemouth bass	51		x
Spotted sunfish	8	x	x
Redear sunfish	105	x	x
Bluegill	19	x	x

Good reproduction was found in all major game fish species with the exception of channel and blue catfish. Channel catfish still exist in relatively large numbers. Therefore, no additional stocking is recommended for this segment. Other game fish were recorded in adequate numbers and age groups.

Lake Murvaul

Lake Murvaul remains one of the State's top bass lakes as some 300 bass in excess of six pounds have been recorded in 1972. Creel census data just completed indicate fishermen success to be relatively low, but the quality of fish caught has been above average.

Reproduction of bass remains excellent as some 1,400 young-of-the-year were collected by seining under Job 17 in 1971-72.

Table 5
Lake Murvaul Netting Results

Species	Number	Percent of Number	Weight (lbs)	Percent of Weight	Average Weight
Spotted gar	5	0.55	20.62	2.77	4.12
Bowfin	10	1.10	114.25	15.37	11.43
Gizzard shad	424	46.70	154.74	20.82	0.36
Grass pickerel	1	0.11	0.37	0.05	0.37
Spotted sucker	2	0.22	3.63	0.49	1.81
Lake chubsucker	82	9.03	44.49	5.99	0.54
Golden shiner	6	0.66	1.19	0.16	0.20
*Channel catfish	35	3.86	82.43	11.09	2.36
Black bullhead	5	0.55	5.94	0.80	1.19
Yellow bullhead	86	9.47	80.69	10.85	0.94
*Flathead catfish	3	0.33	57.25	7.70	19.08
*Largemouth bass	35	3.85	87.39	11.76	2.50
*Warmouth	5	0.55	1.07	0.14	0.21
*Redear sunfish	44	4.85	9.93	1.34	0.23
*Bluegill	86	9.47	14.00	1.88	0.16
*Longear sunfish	3	0.33	0.26	0.03	0.09
*White crappie	19	2.09	19.82	2.67	1.04
*Black crappie	57	6.28	45.25	6.09	0.79
TOTAL	908	100.00	743.32	100.00	
Rough Fish	621	68.39	425.92	57.30	
*Game Fish	287	31.61	317.40	42.70	

Fishing success for channel catfish has risen significantly as many fishermen have reported large catches of channel catfish. The stocking program for channel catfish has been discontinued due to the large population that now exists in the lake.

The white and black crappie are still demonstrating excellent growth rates and good reproduction was found for both species.

Netting data (Table 5) indicate a good representation of all game fish. Total rough fish percentages in Murvaul have increased due to the large numbers of gizzard shad, lake chubsuckers and bowfin collected this year.

No additional stocking of game fish is recommended for 1973 segment.

Table 6

Lake Murvaul Seining Results

<u>Species</u>	<u>Number</u>	<u>Adult</u>	<u>Young-of-Year</u>
Golden shiner	4	x	
Bullhead minnow	1	x	
Blacktail shiner	11	x	
Sand shiner	25	x	x
Lake chubsucker	8	x	x
Golden topminnow	14	x	
Blackstripe topminnow	10	x	x
Mosquitofish	28	x	x
Largemouth bass	427		x
Redear sunfish	289	x	x
Bluegill	103	x	x
White crappie	28		x

Lake Striker

Game fish percentages increased this segment, primarily due to the large number of channel catfish netted as shown in Table 7. A good representation of all game fish were netted, with the exception of largemouth bass. White bass have increased in number but the average weight has decreased.

Table 7

Lake Striker Netting Results

Species	Number	Percent of Number	Weight (lbs)	Percent of Weight	Average Weight
Spotted gar	3	0.64	12.57	3.69	4.19
Gizzard shad	101	21.58	28.18	8.26	0.28
Spotted sucker	16	3.42	18.13	5.32	1.13
Carp	14	2.99	85.62	25.12	6.12
*Channel catfish	162	34.62	83.36	24.45	0.51
*Flathead catfish	4	0.86	24.12	7.08	6.03
*White bass	57	12.18	44.43	13.03	0.78
*Spotted bass	2	0.43	1.50	0.44	0.75
*Largemouth bass	8	1.71	12.74	3.74	1.59
*Warmouth	1	0.21	0.13	0.04	0.13
*Redear sunfish	20	4.27	3.25	0.95	0.16
*Bluegill	34	7.26	7.88	2.31	0.23
*White crappie	45	9.62	18.75	5.50	0.42
*Black crappie	1	0.21	0.25	0.07	0.25
TOTAL	468	100.00	340.91	100.00	
Rough Fish	134	28.63	144.50	42.39	
*Game Fish	334	71.37	196.41	57.61	

Netting data indicate that the carp population has been significantly reduced but no definite conclusions have been reached as to why or if the species has actually declined.

It is recommended that threadfin shad be re-stocked because the population of this species is very low and reproduction is greatly reduced as indicated in Table 8.

Table 8

Lake Striker Seining Results

<u>Species</u>	<u>Number</u>	<u>Adult</u>	<u>Young-of-Year</u>
Golden shiner	1	x	
Bullhead minnow	13	x	
Blacktail shiner	37	x	x
Blackstripe topminnow	25	x	x
Spotted bass	2		x
Largemouth bass	1		x
Spotted sunfish	16	x	x
Redear sunfish	15	x	x
Bluegill	18	x	x
Redbreast sunfish	1	x	
Longear sunfish	6	x	x

Toledo Bend Reservoir

Toledo Bend continues to attract large numbers of fishermen from throughout the nation. Public access facilities have been improved on the entire lake.

Striped bass have been taken regularly by fishermen along the lower end of the lake.

Toledo Bend game fish percentages dropped due to large numbers of spotted gar, gizzard shad and yellow bullhead catfish netted. Netting results have traditionally been a poor indicator of the existing bass population in a lake or reservoir. Toledo Bend reflects this as the netting data (Table 9) indicate a low bass population although fisherman success throughout the lake is extremely high. Toledo Bend has one of the best reputations in the United States for bass fishing.

Reproduction of most game fish (Table 10) was found to be satisfactory. No supplemental stocking is recommended for this segment.

Lake Texarkana

Lake Texarkana formerly assigned to Region III-A has been re-assigned to Region III-B. Four standard surveys were conducted during the 1972 segment.

Table 9

Toledo Bend Netting Results

Species	Number	Percent of Number	Weight (lbs)	Percent of Weight	Average Weight
Spotted gar	88	18.03	18.73	26.47	2.13
Bowfin	10	2.05	83.73	11.83	8.37
Gizzard shad	81	16.60	50.37	7.12	0.62
Threadfin shad	1	0.21	0.31	0.02	0.13
Smallmouth buffalo	1	0.21	8.13	1.15	8.13
River carpsucker	41	8.40	81.74	11.55	1.99
Spotted sucker	19	3.89	54.68	7.73	2.87
Lake chubsucker	4	0.82	2.43	0.34	0.61
*Channel catfish	3	0.61	20.94	2.96	6.98
Black bullhead	15	3.08	27.38	3.87	1.83
Yellow bullhead	70	14.34	80.49	11.38	1.15
Striped mullet	1	0.21	6.00	0.85	--
*Largemouth bass	23	4.71	45.07	6.37	1.96
*Warmouth	8	1.64	3.25	0.46	0.41
*Redear sunfish	10	2.05	3.43	0.48	0.34
*Bluegill	84	17.21	21.05	2.97	0.25
*White crappie	9	1.84	16.88	2.39	1.88
*Black crappie	19	3.89	14.06	1.99	0.74
*Flier	1	0.21	0.51	0.07	0.51
TOTAL	488	100.00	707.57	100.00	
Rough Fish	331	67.83	582.39	82.31	
*Game Fish	157	32.17	125.18	17.69	

Table 10

Toledo Bend Reservoir Seining Results

<u>Species</u>	<u>Number</u>	<u>Adult</u>	<u>Young-of-Year</u>
Red shiner	2	x	
Sand shiner	22	x	
Golden topminnow	11	x	
Blackstripe topminnow	23	x	x
Mosquitofish	6	x	x
Brook silverside	17	x	x
Largemouth bass	71		x
Warmouth	5		x
Redear sunfish	41	x	x
Spotted sunfish	9	x	
Bluegill	77	x	x
Orangespotted sunfish	34	x	x

Game fish percentages were extremely high due to the large number of white bass and white crappie netted. The white bass were found to be in excellent condition as the average weight for 241 fish netted was 1.27 pounds (Table 8). White crappie also demonstrated a good growth rate with an average weight of one pound.

The largemouth bass population was found quite low and no young-of-the-year bass were recovered in seining collections. Seining data are presented in Table 12.

Smallmouth buffalo and gizzard shad comprised the majority of the rough fish netted.

Threadfin and gizzard shad young-of-the-year were found to be very abundant. Red shiners, bullhead minnows and brook silversides made up the remaining bulk of the forage fish found in the lake.

Lake Texarkana supports a large channel catfish commercial fishery. Channel catfish have been protected from netting statewide with the exception of Lake Texarkana. The catfish does not appear to be in any danger of over exploitation due to the turbid water, low bass population and abundant forage.

Seine samples (Table 12) indicated reproduction of most game fishes was satisfactory with the exception of largemouth bass.

Table 11

Lake Texarkana Netting Results

Species	Number	Percent of Number	Weight (lbs)	Percent of Weight	Average Weight
Shortnose gar	40	3.81	99.32	8.54	2.48
Longnose gar	5	0.48	44.13	3.80	2.06
Spotted gar	13	1.24	26.75	2.30	2.06
Gizzard shad	206	19.62	66.10	5.68	0.32
Threadfin shad	2	0.19	0.10	0.01	0.05
Bigmouth buffalo	3	0.29	6.72	0.58	2.24
Smallmouth buffalo	117	11.14	276.17	23.74	2.36
Carp	1	0.09	1.88	0.16	1.88
*Channel catfish	51	4.86	32.92	2.83	0.65
*Blue catfish	1	0.09	0.62	0.05	0.62
*Flathead catfish	4	0.38	9.76	0.84	2.44
*White bass	241	22.95	305.65	26.28	1.27
*Largemouth bass	13	1.24	20.38	1.75	1.57
*Spotted bass	2	0.19	3.56	0.31	1.78
*Bluegill	17	1.62	2.61	0.22	0.15
*White crappie	287	27.33	235.06	20.21	0.82
*Black crappie	2	0.19	1.75	0.15	0.88
Freshwater drum	45	4.29	29.64	2.55	0.66
TOTAL	1,050	100.00	1,163.12	100.00	
Rough Fish	432	41.14	550.81	47.36	
*Game Fish	618	58.86	612.31	52.64	

Table 12

Lake Texarkana Seining Results

<u>Species</u>	<u>Number</u>	<u>Adult</u>	<u>Young-of-Year</u>
Shortnose gar	1	x	
Threadfin shad	78	x	x
Gizzard shad	57	x	x
Bullhead minnow	174	x	x
Red shiner	269	x	x
Sand shiner	2	x	x
Mosquitofish	6	x	x
Brook silverside	423	x	x
Bluegill	3	x	
Longear sunfish	2	x	

RECOMMENDATIONS

1. Discontinue the channel catfish rearing program on Lake Murvaul.
2. Prohibit the use of contract commercial fishing or private use of nets on Lake Murvaul.
3. It is recommended that threadfin shad be stocked in Lake Striker.
4. Additional stocking of game fish species in Toledo Bend Reservoir and Caddo Lake is not recommended for this segment.
5. Chemical control of water hyacinths on Toledo Bend Reservoir and Caddo Lake is recommended where economically feasible.
6. It is recommended that the use of nets be prohibited in Lake O' The Pines for the protection of the flathead catfish and other game fish species. This action would require legislative action as Marion County is not under regulatory authority of the Parks and Wildlife Department.
7. It is recommended that the water elevation in Lake O' The Pines be maintained two vertical feet above normal pool level in the Spring in order to curtail heavy infestation of submerged vegetation in shoreline areas.

Prepared by: Danny Bodeker
Assistant Project Leader

Approved by: 

Date: February 9, 1973

Jack E. Crabtree
Region III Inland Fisheries Director

Table 13

Netting Collection Dates and Net Footage Totals

Lake Murvaul

Date	No. Nets	Total Net Feet
1-18-72	6	900 ft.
2-15-72	6	900 ft.
5-5-72	6	900 ft.
7-26-72	6	900 ft.
9-13-72	6	900 ft.
12-7-72	<u>6</u>	<u>900 ft.</u>
Total Nets Set	36	Total Feet 5,400 ft.

Lake Striker

4-5-72	6	900 ft.
6-6-72	6	900 ft.
9-27-72	6	900 ft.
12-20-72	<u>6</u>	<u>900 ft.</u>
Total Nets Set	24	Total Feet 3,600 ft.

Lake Caddo

2-8-72	6	900 ft.
5-24-72	6	900 ft.
9-30-72	6	900 ft.
11-21-72	<u>6</u>	<u>900 ft.</u>
Total Nets Set	24	Total Feet 3,600 ft.

Lake O' The Pines

3-16, 17-72	12	1,800 ft.
5-16, 17-72	12	1,800 ft.
8-22, 23-72	12	1,800 ft.
11-7, 9-72	<u>12</u>	<u>1,800 ft.</u>
Total Nets Set	48	Total Feet 7,200 ft.

Lake Texarkana

4-13, 14-72	12	1,800 ft.
8-16, 17-72	12	1,800 ft.
10-11, 12-72	12	1,800 ft.
1-23, 24-73	<u>12</u>	<u>1,800 ft.</u>
Total Nets Set	48	Total Feet 7,200 ft.

Lake Toledo Bend

4-27-72	6	900 ft.
6-21, 22-72	12	1,800 ft.
7-13-72	6	900 ft.
9-20, 21-72	12	1,800 ft.
11-29, 30-72	<u>12</u>	<u>1,800 ft.</u>
Total Nets Set	48	Total Feet 7,200 ft.

Appendix A

Checklist of fish species collected from Region III-B waters during the 1972 segment.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Caddo Lake</u>	<u>Lake O' Pines</u>	<u>Murvaul</u>	<u>Striker</u>	<u>Toledo Bend</u>	<u>Texarkana</u>
<u>Lepisosteus platostomus</u>	Shortnose gar						X
<u>L. oculatus</u>	Spotted gar	X	X	X	X	X	X
<u>L. osseus</u>	Longnose gar	X				X	X
<u>Amia calva</u>	Bowfin	X	X	X		X	
<u>Dorosoma petenense</u>	Threadfin shad		X	X	X		X
<u>Dorosoma cepedianum</u>	Gizzard shad	X	X	X	X	X	X
<u>Esox americanus</u>	Grass pickerel		X	X		X	
<u>Esox niger</u>	Chain pickerel	X	X				
<u>Ictiobus bubalus</u>	Smallmouth buffalo	X				X	X
<u>Carpiodes carpio</u>	River carpsucker					X	
<u>Minytrema melanops</u>	Spotted sucker	X	X	X	X	X	X
<u>Erimyzon sucetta</u>	Lake chubsucker	X	X	X		X	
<u>Cyprinus carpio</u>	Carp		X		X		X
<u>Notemigonus crysoleucas</u>	Golden shiner	X	X	X	X	X	
<u>Notropis atrocaudalis</u>	Blackspot shiner		X				
<u>N. chalybaeus</u>	Ironcolor shiner	X		X			
<u>N. texanus</u>	Weed shiner			X			
<u>N. venustus</u>	Blacktail shiner	X	X	X	X	X	X
<u>N. lutrensis</u>	Red shiner	X	X		X	X	X
<u>N. stramineus</u>	Sand shiner		X	X		X	
<u>Pimephales vigilax</u>	Bullhead minnow		X	X	X	X	X
<u>Ictalurus punctatus</u>	Channel catfish	X	X	X	X	X	X
<u>I. furcatus</u>	Blue catfish					X	X

Appendix A Continued

<u>Scientific Name</u>	<u>Common Name</u>	<u>Caddo Lake</u>	<u>Lake O'Pines</u>	<u>Murvault</u>	<u>Striker</u>	<u>Toledo Bend</u>	<u>Texarkana</u>
<u>Ictalurus melas</u>	Black bullhead	X	X	X		X	
<u>I. natalis</u>	Yellow bullhead	X	X	X		X	
<u>Pylodictis olivaris</u>	Flathead catfish	X	X	X	X	X	X
<u>Fundulus chrysotus</u>	Golden topminnow	X		X		X	
<u>Fundulus notatus</u>	Blackstripe topminnow	X	X	X	X	X	X
<u>Gambusia affinis</u>	Mosquitofish	X	X	X			X
<u>Labidesthes sicculus</u>	Brook silverside	X	X		X	X	X
<u>Morone chrysops</u>	White bass	X	X		X		X
<u>M. mississippiensis</u>	Yellow bass	X				X	
<u>Micropterus punctulatus</u>	Spotted bass		X	X	X	X	X
<u>M. salmoides</u>	Largemouth bass	X	X	X	X	X	X
<u>Lepomis gulosus</u>	Warmouth	X	X	X	X	X	X
<u>L. symmetricus</u>	Bantam sunfish					X	
<u>L. punctatus</u>	Spotted sunfish	X		X	X	X	
<u>L. microlophus</u>	Redear sunfish	X	X	X	X	X	X
<u>L. macrochirus</u>	Bluegill	X	X	X	X	X	X
<u>L. humilis</u>	Orangespotted sunfish					X	
<u>L. auritus</u>	Redbreast sunfish		X			X	
<u>L. megalotis</u>	Longear sunfish			X	X	X	X
<u>Pomoxis annularis</u>	White crappie	X	X	X	X	X	X
<u>P. nigromaculatus</u>	Black crappie	X	X	X	X	X	X
<u>Centrarchus macropterus</u>	Flier					X	
<u>Percina caprodes</u>	Log perch			X			
<u>Aplodinotus grunniens</u>	Freshwater drum	X				X	X

