JOB COMPLETION REPORT

State of TEXAS

Project No. F3R5 Name: Fisheries Investigation and Surveys of Waters of Region 5-B.

Job No. B-11 Title: Basic Survey and Inventory of Fish Species in the Neches River and its Watershed from its Source in Van Zandt County to its Mouth in Sabine Lake on the Gulf of Mexico.

Period Covered: June 1, 1956 through November 30, 1957

ABSTRACT:

A basic survey and inventory of fish species present was conducted on the Neches River Watershed from its source in Van Zandt County to its mouth at Sabine Lake. There was a total of 66 species collected during this period. The soils found in the area are light colored, acid sandy loams and sands and clays in the uplands and darker colored soils in the bottom lands and along the coast. Native vegetation consists mostly of pines and various hardwoods. There are sparse amounts of aquatic vegetation. Water analysis shows the waters to be slightly acid. Industrial pollution is quite evident on the lower section of the river and a small temporary incident was encountered upstream. There is a good population of commercial type fishes and a fair population of sport fishes. Recommendations are made for an investigation and possible stocking of Dam "B" Reservoir with white bass (Roccus crysops). In addition an evaluation of the fishing laws in regulatory counties of Jasper and Tyler is recommended.

OBJECTIVES:

To gather fundamental data on the above waters in regard to their physical, chemical and biological aspects. To determine the distribution of the fish species present, their relative abundance and the ecological factors influencing their distribution.

PROCEDURE:

There were two methods of specimen collecting employed in making this study. Seining was by far the most common method of collecting. One-quarter inch mesh, 26 by 6 foot bag seine and either cotton or nylon common sense minnow seines were used, depending upon the area to be covered and the depth of the water. Generally from one to four drags were all that was required to make a good collection.

Experimental type gill nets of 1 to 3- inch bar mesh were used in the more open, deeper waters and the sloughs of the river. Also this means of collecting was used in the lakes on the river and its drainage.

All seined specimens were preserved in ten percent formalin and brought to the laboratory for identification. Specimens from gill nets were identified, counted and

weighed in the field. A record was kept of the length and weight of each game fish species and important commercial species. The coefficients of condition were determined on these species. (Table 1).

Ecological data taken at each station includes water and air temperatures, weather conditions, surrounding vegetation types (whether timber, grassland etc.) brief description of the stream, turbidity (measured in inches of light penetration) and color of the water. Chemical analysis of the water includes pH, methal orange alkalinity, chlorides and on several occasions dissolved oxygen. Water samples were usually analyzed in the laboratory unless the time interval was too great, then they were run in the field. Dissolved oxygen samples were fixed on the spot and determined later.

RIVER DESCRIPTION:

The Neches River Valley lies between the Sabine River Basin to the east and the Trinity River Basin on the west. The river originates in Van Zandt County and flows in a generally southeastern direction approximately 416 miles through 15 counties and empties into the Gulf of Mexico by way of Sabine Lake. The watershed at the mouth of the river is 10,129 square miles. The average annual runoff, according to the Texas Board of Water Engineers, is 6,548,00 acre feet, thereby making the Neches the largest river entirely within the state. The Red and Sabine Rivers are both larger but they are interstate rivers.

The most important tributary of the Neches River is the Angelina River which was surveyed and reported under F3R4, Job B-10. Another important tributary is Pine Island Bayou at river mile 30.0.

At about river mile 37 there is a salt-water barrier across the river which prevents tidal waters from backing further upstream. The barrier is constructed of corrugated type steel plates stood upright at a height to permit the freshwater coming downstream to flow over the top but is high enough to prevent the rising tidewaters to pollute the freshwater. The City of Beaumont takes water from above the barrier and it flows by means of canals to the city treating plant.

IMPOUNDMENTS:

A major impoundment on the Neches River is Dam "B" Reservoir (river mile 113.7) which has a capacity of 94,200 acre feet at top of normal pool. The surface area is 13,700 acres. Its average depth is only 6.8 feet which gives large areas for fish production. The water is stored and released during periods of drought for irrigation purposes downstream. During severe droughts this causes the lake to recede to the river bed which causes a heavy concentration of fish in the river. The lakes receding allows the lakebed to dry out and permits vegetation to grow which in most cases is a heavy growth of cocklebur. The result of this is a very fertile lake and fish in good condition.

Impoundments on the watershed include Lake Ioni near Slocum, a 106 surface acre club lake on Ioni Creek, and Lost Prairie Lake near Palestine. This a 100 surface acre club lake. Eason Club Lake is an overflow lake in the Neches bottom west of Lufkin. It is only 10 surface acres in size, half of which is marshland. Lying

southwest of Tyler is Big Eddie, a 100 surface acre natural lake on the main river. It is actually just a stretch of the river that widens out for about a half of a mile.

SOILS:

The Neches River passes through two soil areas - the East Texas Timber Country and the Gulf Coast Prairie. The soils found in the East Texas Timber Country are generally light colored, acid sandy loams and sands in the uplands, and darker colored acid sandy loams and clays in the bottom lands. In the Gulf Coast Prairie area the soils are dark colored, black to gray clays and some sand loams which are acid. Native vegetation in the uplands include loblolly and shortleaf pine and various hardwoods such as oak, gum and hickory. In the lowlands hardwoods are prevalent with much cypress in the lower reaches of the river. Most of the land is used for timber and pasture with some truck crops. The coastal areas support rice and cotton crops. There is considerable oil to be found along Pine Island Bayou and then there is the industrial area around Beaumont which depend upon the river for water.

Isolated to moderate growths of aquatic vegetation were found along the shores and banks of the waters of this drainage. These include black willow (Salix nigra), button brush (Cephalanthus), cypress (Taxodium) saw grass (Cladium mariscus), cattails (Typha sp.), various sedges (Cyperaceae), smartweed (Polygonum), pondweed (Potamogeton), duck potato (Sagittaria sp.), lotus (Nelumbo), parrot feather (Myriophyllum sp.), duckweed (Lemna sp.), and various algaes including Chara sp. and filamentous algae.

FINDINGS:

A total of 70 collections was made on the Neches Drainage. These collections yielded 66 species representing 17 families.

In addition there were 69 water analyses made on these waters.

WATER QUALITY:

Routine water analyses were made at nearly every collection station in order to determine the water quality (Table 2). In all, 69 analyses were made on the Neches Drainage during this study. The turbidity of the river was considered to be moderate to very turbid based on light penetration as follows: very turbid 0" - 6" penetration, moderate 7" - 12", slight 13" - 24", clear 25" and deeper. This turbid condition can be contributed to good plankton blooms, dark stains from runoff and suspended solids due to runoff. In areas that were spring-fed the water was clear.

Water surface temperatures varied from a low of 62°F. in April to a high of 90° F. in September. As expected the areas near springs were cooler in the summer months. The range of pH varied widely, from below 6.0 (at that time our indicators only went to 6.0) to 9.4. However, the majority ranged from 6.4 to 7.2 and averaged approximately 6.6. The extremely low pH's were found in Black Creek and Little Pine Island Bayou in which area there is oil production. The high pH, 9.4, was found at Big Eddie which was temporarily polluted with domestic sewage. The total chloride content varied

from 21.28 ppm to 1063.8 ppm above the saltwater barrier. Below the barrier chlorides ran up to 3191 ppm. The methal orange alkalinity varied about the same as the pH, ranging from 9 ppm up to 425 ppm with most of the water in the 40 to 80 ppm range. Only 21 dissolved oxygen test were run and they ranged from 1.4 to 7.0 ppm.

Collecting Stations:

A total of 59 collecting stations made up of 35 seining and 24 gill net stations was established. Most of the seining stations were visited twice during the survey. Table 3 gives the locations of each station. These stations were located at road crossings on the upper stretches of the river where collections were made by car. The lower stretches, being more navigable by boat, provided stations closer together.

Species Present:

A total of 66 species representing 17 families was collected in the waters of the Neches River. This yield was from 69 collections. Table 4 lists each species phylogenetically and gives the stations at which it was collected and the number collected at each station. The specific names are from Hubbs, A CHECKLIST OF TEXAS FRESHWATER FISHES, dated February 1957. The following annotated checklist treats each species separately. Besides the usual sport species there are two species of fish in the Neches System that should receive special consideration. These are the smallmouth buffalo (Photo 9) and gizzard shad. The buffalo has a good commercial potential and there seems to be a good supply of gizzard shad which would be a good forage fish for a species such as the white bass.

Annotated Checklist of Neches River Fishes:

I. Family PETROMYZONTIDAE - Lampreys

1. Ichthyomyzon castaneus - chestnut lamprey - only one speciman of this species was found and it was at Big Eddie on the upper Neches. It was free swimming at the time of capture in a gill net.

II. Family LEPISOSTEIDAE - Gars

2. Lepisosteus spatula - alligator gar - there were thirteen alligator gars collected, ranging in size from less than two inches to over five feet in length. The larger ones were found in the lower reaches of the river below the saltwater barrier. The small specimens were collected in Dam "B" Reservoir, Big Eddie and in the stretch of river between.

3. L. platostomus - shortnose gar - only two specimens of shortnose gar were found and they were in the vicinity of State Highway 103 bridge, Houston-Angelina Counties.

4. L. productus - spotted gar - this is the most widespread and numerous of the gars in the Neches System. They were collected in fifteen of the twenty four gill net collections.

5. L. osseus - longnose gar - the longnose gar is the second most widespread and abundant of the gar species in the Neches System.

III. Family AMIIDAE Bowfin

6. Amia calva - Bowfin - the bowfin is comparatively rare as it was found only on five occasions. The total number on Table 4 is misleading with regards to population in that one collection yielded 304 fry of this species. The other four were adults and found fairly far apart.

IV. Family CLUPEIDAE - Herrings

7. Dorosoma cepedianum - gizzard shad - the gizzard shad is quite prevalent in the larger waters of the lower Neches River, Dam "B" Reservoir and Big Eddie. It is one of the most widespread species found, both in numbers and in distribution.

V. Family ESOCIDAE - Pickerels

8. Esox americanus - grass pickerel - the grass pickerel was found only in the spring when the river had flooded the grassy banks and bar ditches. It was also collected in Lake Ioni and Lost Prairie Lake by seine. Both of these lakes have grassy vegetation.

VI. Family CATASTOMIDAE - Suckers and buffalofishes

9. Ictiobus cyprinellus - bigmouth buffalo - only two specimens of this fish were found. Big Eddie was the location of one and it weighed three and one-half pounds. Eason Club Lake yielded the other.

10. I. bubalus - smallmouth buffalo - the smallmouth buffalo is an important fish in the Neches System because of both its distribution and size. It was collected most often by netting, principally in the larger mesh of experimental nets. This species has a good commercial prospect.

11. Carpiodes carpio - river carpsucker - this fish was most commonly found in Dam "B" Reservoir with a few found in the lower reaches of the river. They were generally of a small size.

12. Moxostoma poecilurum - blacktail redhorse - the blacktail redhorse is rare in the Neches. Big Eddie yielded two by netting and one was collected by seining.

13. Minytrema melanops - spotted sucker - the spotted sucker was found exclusively in lakes. Dam "B" has the largest number and Lake Ioni and Big Eddie had good numbers.

14. Erimyzon sucetta - lake chubsucker - two lakes contain the only chubsuckers found. Lake Ioni yielded forty specimens and Lost Prairie Lake yielded forty-three.

VII. Family CYPRINIDAE - Shiners and minnows

15. Cyprinus carpio - carp - carp were found around the lakes - Big Eddie and Dam "B" and in the vicinity of SH 103 where the river was backed up into the woods.

16. Notemigonus crysoleucas - golden shiner - these forage fish were not too common and they were found only in the spring and of small sizes.

17. Opsopoeodus emiliae - pugnose minnow - the pugnose minnows collected were widely separated and only a few in numbers.

18. Hybopsis aestivalis - speckled chub - this was a rare species collected being found only twice in the stretch of the river from Dam "B" to the saltwater barrier.

19. Notropis fumeus - ribbon shiner - this is one of the more widespread members of this genus. Not too many specimens were collected although. Its distribution is from the upper middle reaches down to Dam "B".

20. N. brazosensis - Brazos River shiner - US 79 crossing in Cherokee County was the only place this species was found. It was the dominant species in the collection at that station.

21. N. blennius - river shiner - this is another rare species in the Neches. They were found in small pools in the upper reaches of the river.

22. N. potteri - chub shiner - this species is quite numerous and widespread but found almost exclusively in the spring collections. They are found the entire length of the river down to the salt water barrier.

23. N. sabinae - longnose shiner - longnose shiners were found in late summer generally along the middle stretch of the river. They were not too numerous.

24. N. ammis - pallid shiner - comparatively large numbers of pallid shiners were found exclusively in the spring at three locations along the middle stretch of the river.

25. N. venustus - spottail shiner - this is by far the most important bait minnow in the Neches River. It was found in more locations and in larger numbers than any other species of this family.

26. N. lutrensis - redhorse shiner - this species is second only to the spottail shiner in numbers and is fourth in distribution. It too, is an important commercial bait minnow.

27. N. deliciosus - sand shiner - the sand shiner ranks second only to N. venustus for distribution and is high in numbers also.

28. N. atrocaudalis - blackspot shiner - nearly all of these fish were collected in the spring and in the upper half of the river. They are not too numerous or widely distributed.

29. N. volucellus - mimic shiner - this fish was found in only four locations and all in quite waters or pools.

30. N. maculetus - taillight shiner - four times this fish was found and only in small numbers. It was found in the spring when the river was out of banks.

31. Hybognathus placita - plains minnow - this is a fairly rare species being found only twice with a total on only seven specimens collected.

32. Pimephales vigilax - parrot minnow - another important bait minnow is this species which is third in distribution and numbers of this family. It was found throughout the Neches System.

VIII. Family AMEIURIDAE - Freshwater catfishes

33. Ictalurus punctatus - channel catfish - the channel catfish is almost exclusively a lake fish. Two specimens were found in the flooded lowlands near SH 103, Big Eddie yielded one specimen and a good population exist in Dam "B", Lake Ioni and Lost Prairie Lake.

34. I. furcatus - blue catfish - Lost Prairie Lake has the only population of blue cats. Those collected weighed approximately 3½ pounds a piece.

35. I. melas - black bullhead - only four specimens of blacks were collected in the river proper. Unfortunately both Lost Prairie and Lake Ioni have heavy infestations of this fish.

36. I. natalis - yellow bullhead - there were four specimens at two widely separated areas of this species.

37. Pylodictus olivaris - flathead catfish - though only two small Ops were collected at two locations it is believed there are numerous large ones in the river and lakes of the Neches System.

IX. Family CYPRINODONTIDAE - Killifishes and topminnows.

38. Fundulus pulvereus - bayou killifish - just one fish of this species was found and it was in Pine Island Bayou which has a fairly high chloride content.

39. F. chrysotus - redspot topminnow - this species was not found too often, mostly in quite waters with high chloride content.

40. F. notatus - blackstripe topminnow - this is the second most widespread species in all the Neches System. A good number was found in nearly all collections.

41. Cyprinodon variegatus - variegated cyprinodon - the only place this fish was found in the Neches River was below the saltwater barrier and the lower stretches of Pine Island Bayou.

X. Family POECILIIDAE - Mosquitofishes

42. Gambusia affinis - gambusia - as might be expected the gambusia is the most common fish in the Neches System.

XI. Family APHREDODERIDAE - Pirate perch

43. Aphredoderus sayanus - pirate perch - the pirate perch was found at only two locations in the spring.

XII. Family MUGILIDAE - Mullets

44. Mugil cephalus - striped mullet - the farthest upstream that mullet were found was below Dam "B". The other collection was near Beaumont.

XIII. Family ATHERINIDAE - Silversides

45. Menidia beryllina - tidewater silversides - great numbers of these silversides were collected by seining below the saltwater barrier.

46. Labidesthes sicculus - brook silversides - brook silversides are pretty well evenly distributed throughout the middle section on the river, the tributaries of Pine Island Bayou and the Bayou proper.

XIV. Family CENTRARCHIDAE - Black basses and sunfishes

47. Micropterus punctulatus - spotted bass - the majority of the 206 spotted bass collected were fry and fingerlings which indicated a good spawn. Dam "B" has a fairly good even distribution of the larger fish.

48. M. salmoides - largemouth bass - this popular sport fish was found by netting in small numbers in Big Eddie, Dam "B", Lake Ioni, Lost Prairie Lake and the river below the saltwater barrier. The majority of those collected by seine came from Dam "B". Others occurred throughout the river.

49. Chaenobryttus gulosus - warmouth - most of these fish were collected in Lake Ioni and Lost Prairie.

50. Lepomis cyanellus - green sunfish - only two fry of this species was collected at SH 103 crossing.

51. L.punctatus - spotted sunfish - this is one of the most important of the sunfishes in the Neches River. It is second in distribution among the sunfishes.

52. L. microlophus - redear sunfish - this much desired species was picked up mostly in nets principally in Lost Prairie Lake with an occasional one in other netting collections down the river.

53. L. macrochirus - bluegill sunfish - as could well be predicted the bluegill is the most common species of this family. It is overpopulated in Lake Ioni and Lost Prairie Lake.

54. L. auritus - yellowbelly sunfish - yellowbelly sunfish is a rare species. Three were dound below SH 103 and one in Lost Prairie.

55. L. megalotis - longear sunfish - this species can be considered rare in the river with a great number found in Lake Ioni.

56. Pomoxis annularis - white crappie - the most numbers of "white perch" found was in Dam "B". Lake Ioni and Big Eddie have quite a few and they occurred only occasionally in the remainder of the river.

57. P. nigromaculatus - black crappie - black crappie appeared in larger numbers but in fewer places than the white. Lake Ioni had more blacks also.

58. Centrarchus maculatus - flier - the flier appeared only twice in the spring in the upper stretch of the river. A total of 16 was taken.

XV. Family PERCIDAE - Perches and darters

59. Hadropterus maculatus - blackside darter - only three small specimens were collected and they were all collected along the Anderson County stretch of the river.

60. H. shumardi - river darter - only a few were collected in the upper half of the river where the stream is more shallow and swift.

61. Ammocrypta vivax - Arkansas sand shiner - this is the most common species of this group. It was found all through the river above the saltwater barrier. It was found almost exclusively in late summer.

62. Etheostoma chlorosomum - bluntnose darter - one specimen was found southwest of Jacksonville.

63. E. gracilie - slough darter - this fish is more widespread but not as numerous as A. vivax and was found almost exclusively in the spring.

64. E. lepidum - greenthroat darter - seven specimens were found in the upper end of Dam "B" which was the only location.

XVI. Family SCIAENIDAE - Croakers, drums and weakfishes

65. Aplodinotus grunniens - freshwater drum - the majority of the drum were collected in Big Eddie with the remainder being caught in Dam "B" and below the saltwater barrier.

XVII. Family GOBIIDAE - Gobys

66. Microgobius gulosus - clown goby - these goby were collected in two locations both above and below the saltwater barrier.

POLLUTION:

One important source of pollution on the Neches River is the East Texas Pulp and Paper Company near Evadale. This papermill releases its effluent into a swampy

area near Lake Bayou. The BOD is reduced very little before the effluent reaches Lake Bayou. Water analyses show that dissolved oxygen runs as low as zero parts per million. After the water leaves Lake Bayou it enters the Neches River and during low water periods tidal action backs water up as far as the saltwater barrier. The dark color and strong odor of this effluent is a source of many complaints to the Game and Fish Commission. Although dead fish have not been found in the Neches River the color and odor of the water make it undesirable for recreational use. Lake Bayou is in such a condition that only gars are able to exist in the waters.

Another source of pollution is on the Angelina River which flows into Dam "B" Reservoir and discolors it. This is the effluent from the Southland Paper Mill which was reported in the Angelina River report.

Some of the tributary streams emptying into Pine Island Bayou from the oil fields of Hardin County are very black or dark in color and have high chloride contents thereby making them also undesirable for recreational uses.

A temporary source of pollution was at Big Eddie when the City of Tyler was allowing their sewage to empty into the river at this point while repairs were being made on their sewage treatment plant. This resulted in a very heavy plankton bloom and apparently did no damage to fish populations. This was only a temporary condition and a check two months later indicated the water was normal again.

PROPOSED RESERVOIRS:

The River and Harbor Act of 1945 provides for the construction of an earthen dam and appurtenant structure for flood control, hydroelectric power and conservation. The project is located on the Neches River 142 miles above its mouth and 15.9 miles above the confluence of the Angelina River. This is to be known as Dam "A". As of June 1956 plans and specifications had not been initiated.

This same act also provides for a dam of the same type and purpose at river mile 160.4 and 34.3 miles above the mouth of the Angelina River. This dam site is approximately 3 miles west of Rockland and about two miles above US 69 crossing. This is to be known as Rockland Reservoir. This reservoir would have an area of 126,500 surface acres at flood control level. Progress is at the same status as Dam "A". If either of these reservoirs become a reality it would greatly increase the fisheries of East Texas.

CONCLUSIONS AND RECOMMENDATIONS:

1. It can be concluded that most of the waters of the Neches River are of a quality to support a normal fish life.

2. The waters of the lower half of the Neches can support a good commercial fisheries within the limits of the law.

3. The fish population present supports a fair sport fishery.

4. There is a large population of forage fish available.

5. Considering the above it is recommended that additional investigations be made in the area of Dam "B" to determine the feasibility of stocking the reservoir with white bass to further utilize the forage fish population and increase the sport fishery.

6. It is further recommended that the public waters of Jasper and Tyler Counties, which have recently become regulatory, be studied to evaluate the present laws concerning commercial fishing.

Prepared by: John N. Dorchester
Assistant Project Leader

Approved by: Marion Toole
Chief Aquatic Biologist

Date: May 15, 1958

Table 1 Length, weight and coefficient of condition data

Species	Number	Weight Range gms.		Average Weight gms.	Length Range SL mm.		Average Length SL mm.	K Range		Average K
Istiblennius cyprinoides	2	1134	1814	1474	328	370	346	3.24	3.65	3.45
I. lineatus	18	454	2807	1317	233	418	315	3.38	4.57	4.06
Cristiceps carpio	2	284	340	312	200	225	212	3.00	3.63	3.32
Istiblennius punctatus	21	52	1134	648	158	410	321	1.31	2.66	1.75
Pyleodictus olivaris	2	851	907	876	377	380	378	1.60	1.65	1.62
Microperus salmoides	5	340	2041	1060	294	425	341	1.36	2.65	5.35
Chasmonyctus gulosus	3	113	227	170	152	167	161	3.28	5.00	4.18
Lepomis microlophus	8	28	284	129	101	187	140	2.51	5.56	4.19
L. macrochirus	36	28	227	85	90	164	118	2.56	6.27	4.80
L. auritus	3	82	113	103	128	137	132	3.91	5.00	4.36
L. megalotis	1			28			98			3.41
Enneacanthus gloriosus	26	28	794	179	106	272	158	1.35	4.74	2.66
E. obesus	4	284	652	404	208	285	234	2.65	3.84	3.07
Aplodinotus grunniens	22	142	1588	711	175	385	281	2.41	3.64	2.84

Table 6 Ecological and water analysis data

Station	Name of Water	Date	Temperature Air	Temperature Surface	Color	Turbidity	pH	M.O. Alk	Chlorides	D.O.	Time	Remarks
N-1	Neches River	9/ /56	93	78	Brownish-green	Moderate	6.0	10	49.64		11:15a	
N-1a	Neches River	5/20/57	82	76	Brown Stain	Clear	6.6	62	45.64		10:00a	
N-2	Neches River	9/19/56	94	79	Dark brown	Moderate	7.0	110	709.2		12:00n	
N-2a	Neches River	5/21/57	80	68	Milky brown	Moderate	6.4	62	49.64		10:45a	
N-3	Hickapoo Ck	9/ /56	87	78	Dark brown						12:45p	All muck
N-4	Neches River	9/19/56	97	76	Dark brown	Moderate	6.8	73	709.2		1:20p	
N-5	Neches River	9/19/56	96	80	Dark brown	Moderate	6.6	90	709.2		2:30p	
N-5a	Neches River	5/20/57	84	76	Greenish	Moderate	6.4	44	28.37		11:40a	
N-6	Neches River	9/19/56	92	82	Milky brown	Very	7.2	425	709.2		3:00p	
N-6a	Neches River	5/20/57	84	76	Milky brown	Moderate	6.5	41	21.28		12:30p	
N-7	Neches River	9/19/56	99	84	Brown	Moderate	7.2	66	709.2		3:00p	
N-7a	Neches River	5/20/57	89	80	Greenish	Very	6.4	51	34.46		1:15p	
N-8	Neches River	9/19/56	92	82	Green	Very	7.2	122	922.0		4:45p	Good bloom
N-8a	Neches River	5/20/57	89	80	Brown stain	Moderate	6.7	51	34.46		2:15p	
N-9	Neches River	9/19/56	90	78	None	Clear	6.6	60	567.4		9:00a	
N-9a	Neches River	5/20/57	80	75	Brown stain	Moderate	6.7	51	21.28		3:20p	
N-10	Neches River	9/19/56	92	89	Milky brown	Very	7.2	62	567.4		4:00p	
N-10a	Neches River	5/20/57	89	76	Greenish	Moderate	6.7	80	21.28		11:15a	
N-11	Neches River	9/19/56	104	84	Green	Moderate	7.2	66	567.4		12:25p	
N-12	Neches River	9/20/56	79	76	Milky tan	Very	7.2	54	709.2		8:25a	
N-12a	Neches River	5/21/57	85	78	Brown stain	Clear	6.5	50	21.28		10:00a	
N-13	Neches River	9/20/56	95	80	Milky tan	Very	7.2	99	709.2		9:45a	
N-13a	Neches River	5/21/57	85	78	Brown stain	Clear	6.5	46	21.28		11:10a	
N-14	Neches River	9/20/56	90	82	Milky tan	Very	7.2	51	1063.8		11:00a	
N-14a	Neches River	5/21/57	94	80	Brown stain	Slight	6.5	46	21.28		1:15p	
N-15	Dam "B"	9/20/56	92	88	Milky brown	Very	7.2	98	1063.8		12:20p	Lake drained
N-16	Neches River	9/20/56	92	68	Greenish	Very	7.2	69	709.2		1:15p	
N-17	Neches River	9/20/56	94	90	Greenish	Very	7.5	56	567.4		2:30p	
N-18	Neches River	11/14/56	79	65	Milky brown	Very	7.0	85	56.74	6.4	1:25p	
N-19	Neches River	11/14/56	72	67	Milky brown	Very	7.0	69	70.92	5.8	2:45p	
N-20	Neches River	11/15/56	73	71	Dark tan	Moderate	7.0	67	3191.4			Below SW dam
N-21	Neches River	11/15/56	73	71	Blackish	Moderate	6.8	62	1773		10:30a	Pouring
N-22	Neches River	11/15/56	72	72	Black	Very	6.6	58	1773		11:15a	rain
N-23	Pine Island Bayou	4/9/57	75	65	Brown	Moderate	6.4	29	425.5	4.6	2:30p	
N-24	Bayou	4/9/57	75	65	Brown	Moderate	6.7	31	496.4	5.8	2:45p	
N-25	Pine Island	4/9/57	72	65	Dark brown	Moderate	6.6	32	563.4	4.2	3:15p	
N-26	Bayou	4/9/57	70	64	Brown stain	Moderate	6.7	32	496.4	3.6	3:45p	
N-27	Little Pine Island Bayou	4/10/57	68	62	Blackish	Moderate	6.0*	9	2340.4		9:00a	oil in area

Table 2 (Cont'd.) Ecological and water analysis data

Station	Name of Water	Date	Temperature Air	Temperature Surface	Color	Turbidity	pH	M.O. Alk	Chlorides	D.O.	Time	Remarks
N-28-	Black Creek	4/10/57	70	64	Blackish	Moderate	6.0*	16	496.4		9:30a	
N-29	Cypress Ck	4/10/57	72	64	Brown stain	Very	6.2	11	2043.9		10:00a	
N-30	Neches River	5/21/57	85	76	Brown stain	Slight	6.4	50	21.28		9:20a	
N-31	Dam "B"	5/27/57	85	82	Brown stain	Slight	6.5	41	35.46		4:15p	
N-32	Dam "B"	5/28/57	85	82	Brown stain	Slight	6.6	42	29.37		11:30a	
N-33	Dam "B"	5/29/57	79	82	Brown stain	Slight	6.8	35	28.37		8:00a	
N-34	Dam "B"	5/29/57	78	82	Brown stain	Slight	6.8	35	28.37		8:45a	
N-35	Big Eddie	6/3/57		78	Green	Clear	6.6				5:15p	Raining
N-36-1	Big Eddie	9/26/56	76	71	Green	Moderate	9.4	76	709.2		10:00a	Polluted
N-36-2	Neches River	4/8/57	59	62	Tan	Very	6.4	25	425.52	6.0	8:45a	Below SW Jam
N-36-3	Neches River	4/8/57	56	62	Brown	Moderate	6.2	80	425.52	6.0	9:15a	Fresh water
N-36-4	Neches River	4/8/57	58	62	Brown	Moderate	6.4	70	780.12	4.2	9:45a	flooding
N-36-5	Neches River	4/8/57	62	64	Brown	Moderate	6.4	70	496.44	5.6	10:15a	
N-36-6	Neches River	4/8/57	65	64	Dark brown	Moderate	6.2	75		5.6	11:00a	
N-36-7	Neches River	4/8/57	66	64	Blackish	Very	6.6	70	1205.64	5.4	11:45a	
N-36-8	Neches River	4/8/57	68	64	Blackish	Very	6.6	58	1205.64	7.0	10:45a	
N-36-9	Neches River	5/21/57	78	76	Brown stain	Moderate	6.6	46	21.28	2.2	8:00a	
N-36-10	Neches River	5/21/57	79	76	Brown stain	Moderate	6.6	46	21.28	3.2	8:30a	
N-36-11	Dam "B"	5/28/57	78	79	Brown stain	Slight	6.4	60	28.37	3.4	8:10a	
N-36-12	Dam "B"	5/28/57	78	79	Brown stain	Slight	6.5	36	35.46		8:45a	
N-36-13	Dam "B"	5/28/57	79	79	Brown stain	Slight	6.5	47	28.37	1.4	9:15a	
N-36-14	Dam "B"	5/28/57	79	79	Brown stain	Slight	6.6	37	21.28		10:00a	
N-36-15	Dam "B"	5/26/57	86	81	Brown stain	Slight	6.5	41	35.46	3.0	10:30a	
N-36-16	Dam "B"	5/28/57	85	81	Brown stain	Slight	6.6	42	28.37		10:40a	
N-36-17	Dam "B"	5/29/57	73	81	Brown stain	Slight	6.8	35	28.37		7:45a	
N-36-18	Dam "B"	5/29/57	73	81	Brown stain	Slight	6.8	35	28.37		6:15a	
N-36-19	Dam "B"	5/29/57	75	80	Brown stain	Slight	6.8	34	26.28	3.6	8:30a	
N-36-20	Dam "B"	5/29/57	77	80	Brown stain	Slight	6.7	34	26.28		9:00a	
N-36-21	Dam "B"	5/29/57	78	80	Brown stain	Slight	6.6	35	28.37		9:10a	
N-36-22	Lake Ioni	6/13/56	85	75	Brown	Slight	7.1	33	21.28		9:00a	
N-36-23	Lost Prairie Lk	4/17/57					6.8	32				
N-36-24	Eason Club Lk	10/2/57	75	72	Brownish green		6.8	70	35.46	5.0		River Bottom slough

Table 2 Location of collection stations

Station	Location
N-1	Neches River, SH 64, 8 mi. W. Tyler, Van Zandt-Smith Counties
N-1a	Neches River, SH 64, 8 mi. W. Tyler, Van Zandt-Smith Counties
N-2	Neches River, SH 31, 2 mi. E. Chandler, Henderson-Smith Counties
N-2a	Neches River, SH 31, 2 mi. E. Chandler, Henderson-Smith Counties
N-3	Kickapoo Creek, SH 31, 2 mi. W. Chandler, Henderson County
N-4	Neches River, County Road, 4 mi. SW Chandler, Henderson County
N-5	Neches River, SH 155, 12 mi. SW Tyler, Henderson-Smith Counties
N-5a	Neches River, SH 155, 12 mi. SW Tyler, Henderson-Smith Counties
N-6	Neches River, US 175, 4 mi. E. Frankston, Anderson-Cherokee Counties
N-6a	Neches River, US 175, 4 mi. E. Frankston, Anderson-Cherokee Counties
N-7	Neches River, US 79, 11 mi. SW Jacksonville, Anderson-Cherokee Counties
N-7a	Neches River, US 79, 11 mi. SW Jacksonville, Anderson-Cherokee Counties
N-8	Neches River, US 84, 15 mi. W Rusk, Cherokee Anderson Counties
N-8a	Neches River, US 84, 15 mi. W. Rusk, Cherokee-Anderson Counties
N-9	Neches River, SH 294, 12 mi. W. Alto, Cherokee-Anderson Counties
N-9a	Neches River, SH 294, 12 mi. W. Alto, Cherokee-Anderson Counties
N-10	Neches River, SH 21, 8 mi. SW Alto, Cherokee-Anderson Counties
N-10a	Neches River, SH 21, 8 mi. SW Alto, Cherokee-Anderson Counties
N-11	Neches River, Davey Crockett National Forest Highway 11, 6 mi. ESE Kennard, Houston-Cherokee Counties
N-12	Neches River, SH 94, 9 mi. WSW Lufkin, Angelina-Trinity Counties
N-12a	Neches River, SH 94, 9 mi. WSW Lufkin, Angelina-Trinity Counties
N-13	Neches River, US 59, 9 mi. N.Corrigan, Polk-Angelina Counties
N-13a	Neches River, US 59, 9 mi. N.Corrigan, Polk-Angelina Counties
N-14	Neches River, US 69, 18 mi. N. Woodville, Tyler-Jasper Counties
N-14a	Neches River, US 69, 18 mi. N. Woodville, Tyler-Jasper Counties
N-15	Dam "B" Reservoir, US 190, 12 mi. W. Jasper, Tyler-Jasper Counties
N-16	Neches River, County Road, 5 mi. E. Spurger, Tyler-Jasper Counties
N-17	Neches River, US 96, 6 mi. E. Silsby, Hardin-Jasper Counties
N-18	Neches River, 6 mi. below US 96, W. Jasper, Jasper-Hardin Counties
N-19	Neches River, County Road off FM 1131, 9 mi. S. Evadale, Orange-Hardin Counties
N-20	Neches River, 12 mi. S. Evadale, below saltwater barrier, Orange-Hardin Counties
N-21	Neches River, 5 mi. above US 90, Orange-Hardin Counties
N-22	Neches River, 2 mi. above US 90, Orange-Jefferson Counties
N-23	Pine Island Bayou, below US 69, 2 3/4 mi. SE Loeb, Hardin County
N-24	Pine Island Bayou, below US 69, 1¼ mi. SE Loeb, Jefferson County
N-25	Pine Island Bayou, above US 69, ¾ mi. W. Loeb, Jefferson County
N-26	Pine Island Bayou, above US 69, 2 mi. SW Loeb, Jefferson County
N-27	Little Pine Island Bayou, SH 326, 5½ mi. N. Sour Lake, Hardin County
N-28	Black Creek, SH 326, 1¾ mi. NNW Sour Lake, at Silsby, Hardin County
N-29	Cypress Creek, SH 326, 1½ mi. SW Kountz, Hardin County

Table 3 (Cont'd.) Location of collecting stations

Station	Location
N-30	Neches River, SH 103, 15½ mi. WNW Lufkin, Angelina-Houston Counties
N-31	Dam "B" Reservoir, above US 190, Jasper County
N-32	Dam "B" Reservoir, above US 190, Jasper County
N-33	Dam "B" Reservoir, below US 190, Jasper County
N-34	Dam "B" Reservoir, below US 190, Jasper County
N-35	Neches River, Big Eddie, off SH 155, 12 mi. SW Tyler, Smith-Henderson Counties
N-G-1	Neches River, Big Eddie, off SH 155, 12 mi. SW Tyler, Smith-Henderson Counties
N-G-2	Neches River, 10 mi. S. Evadale, ½ mi. below saltwater barrier, Orange County
N-G-3	Neches River, 12 mi. S. Evadale, 2 mi. below saltwater barrier, Orange County
N-G-4	Neches River, 13 mi. S. Evadale, 3½ mi. below saltwater barrier, Orange County
N-G-5	Neches River, 15 mi. S. Evadale, 3/4 mi. below Pine Island Bayou, Jefferson County
N-G-6	Neches River, 17 mi. S. Evadale, 8½ mi. below Pine Island Bayou, Jefferson County
N-G-7	Neches River, 1½ mi. above US 190, Orange County
N-G-8	Neches River, ½ mi. above US 190, Orange County
N-G-9	Neches River, ½ mi. above SH 103, 15½ mi. WNW Lufkin, Houston County
N-G-10	Neches River, ½ mi. below SH 103, 15½ mi. WNW Lufkin, Houston County
N-G-11	Dam "B" Reservoir, above US 190, Jasper County
N-G-12	Dam "B" Reservoir, above US 190, Jasper County
N-G-13	Dam "B" Reservoir, above US 190, Jasper County
N-G-14	Dam "B" Reservoir, above US 190, Jasper County
N-G-15	Dam "B" Reservoir, above US 190, Jasper County
N-G-16	Dam "B" Reservoir, above US 190, Jasper County
N-G-17	Dam "B" Reservoir, below US 190, Jasper County
N-G-18	Dam "B" Reservoir, below US 190, Jasper County
N-G-19	Dam "B" Reservoir, below US 190, Jasper County
N-G-20	Dam "B" Reservoir, below US 190, Jasper County
N-G-21	Dam "B" Reservoir, below US 190, Jasper County
N-G-22	Lake Ioni, off SH 294, 17 mi. SE Palestine, Anderson County
N-G-23	Lost Prairie Lake, 10 mi. SE Palestine, Anderson County
N-G-24	Eason Club Lake, off of SH 94, 10 mi. WSW Lufkin, Angelina County

Table 4 Distribution of Neches River Fishes by Station and Numbers ( )

Species	Distribution and Numbers	Total
Ichthyomyzon castaneus	N-G-1 (1)	1/1
Lepisosteus spatula	N-G-2 (1), N-G-4 (2), N-G-5 (1), N-G-7 (1), N-G-8 (2), N-7a (1), N-31 (2), N-35 (1) N-9a (2)	9/13
L. platostomus	N-G-9 (1), N-G-10 (1)	2/2
L. productus	N-G-1 (1), N-G-2 (2), N-G-5 (3), N-G-6 (7), N-G-7 (2), N-G-8 (11), N-G-9 (1), N-G-10 (1), N-G-11 (3), N-G-14 (4), N-G-15 (3), N-G-16 (5), N-G-17 (1), N-G-24 (1) N-G-21 (1)	15/46
L. osseus	N-G-1 (3), N-G-2 (10), N-G-3 (11), N-G-4 (6), N-G-7 (1), N-G-9 (1), N-G-10 (1), N-G-12 (1), N-G-13 (2), N-G-16 (2), N-G-17 (1), N-5a (1)	12/40
Amia calva	N-G-8 (1), N-G-11 (2), N-G-23 (1), N-G-24 (1), N-10a (304)	5/309
Dorosoma cepedianum	N-G-1 (170), N-G-8 (2), N-G-10 (5), N-G-11 (2), N-G-12 (4), N-G-13 (7), N-G-14 (1), N-G-15 (11), N-G-16 (6), N-G-18 (6), N-G-19 (4), N-G-20 (1), N-15 (35), N-18 (9), N-19 (40), N-G-24 (29)	16/331
Esox americanus	N-G-22 (2), N-G-23 (1), N-1a (5), N-2a (1), N-5a (1), N-8a (2), N-13a (3), N-27 (3), N-35 (1)	9/19
Ictiobus cyprinellus	N-G-1 (1), N-G-23 (1)	2/2
I. bubalus	N-G-1 (5), N-G-2 (1), N-G-4 (4), N-G-6 (4), N-G-7 (1), N-G-8 (3), N-G-10 (13), N-G-11 (6), N-G-12 (8), N-G-13 (7), N-G-14 (1), N-G-15 (2), N-G-16 (7), N-G-18 (5), N-G-19 (2), N-G-20 (1), N-G-21 (1), N-G-24 (2), N-8a (1), N-9a (14), N-13a (1), N-18 (1)	22/80
Carpiodes carpio	N-G-5 (1), N-G-7 (1), N-G-10 (1), N-G-13 (3), N-G-14 (1), N-G-18 (4), N-G-20 (5)	7/16
Moxostoma poecilurum	N-G-1 (2), N-8a (1)	2/3
Minytrema melanops	N-G-1 (8), N-G-12 (1), N-G-15 (3), N-G-16 (8), N-G-19 (2), N-G-21 (1), N-G-22 (8), N-G-24 (3)	8/34
Erimyzon sucetta	N-G-22 (40), N-G-23 (43)	2/83
Cyprinus carpio	N-G-10 (1), N-G-16 (1), N-G-19 (1), N-35 (5)	4/8
Notemigonus crysoleucas	N-2a (19), N-5a (3), N-8a (1), N-12a (3), N-27 (18), N-33 (1), N-25 (39)	7/84
Opsopoeodus emiliae	N-8 (1), N-25 (1), N-26 (5), N-28 (2)	4/9
Hybopsis aestivalis	N-18 (3), N-19 (1)	2/4
Notropis fumeus	N-6 (10), N-9 (1), N-9a (1), N-10 (1), N-12 (4), N-13 (1), N-13a (1), N-15 (3), N-17 (3), N-32 (1)	10/26
N. brazosensis	N-7a (62)	1/62
N. blennius	N-9a (9), N-14a (2)	2/11
N. potteri	N-2a (22), N-5a (3), N-6a (1), N-7a (21), N-8a (11), N-9a (4), N-12a (3), N-14a (153), N-18 (13), N-19 (41)	10/272
N. sabinae	N-9 (2), N-10 (23), N-13 (12), N-16 (7)	4/44
N. ammis	N-6a (34), N-9a (158), N-14a (6)	3/198
N. venustus	N-6 (5), N-6a (1), N-7 (111), N-7a (41), N-8 (13), N-9 (33), N-10 (88), N-10a (1), N-11 (48), N-12 (12), N-12a (8), N-14a (2), N-16 (39), N-17 (11), N-18 (49), N-19 (86), N-25 (7), N-26 (4), N-31 (1). N-13 (19). N-2a (1)	21/541
N. lutrensis	N-2a (2), N-7a (1), N-9a (2), N-10 (2), N-12a (5). N-14 (7), N-14a (17), N-16 (15), N-18 (193), N-19 (109), N-25 (20), N-31 (5)	12/368

Table 4 (Cont'd.) Distribution of Neches River Fishes by Station and Numbers ( )

Species	Distribution and Numbers	Total
N. deliciosus	N-4 (1), N-7 (43), N-7a (20), N-8 (1), N-8a (19), N-9a (5), N-12 (4), N-13a (5), N-14 (2), N-17 (11), N-19 (3), N-31 (16), N-33 (21), N-34 (41), N-35 (1)	15/193
N. atrocaudalis	N-2a (35), N-5a (13), N-6a (24), N-9a (1), N-13 (3) N-15 (8)	6/84
N. volucellus	N-8a (18), N-11 (2), N-15 (2), N-18 (5),	4/27
N. maculatus	N-1a (2), N-2a (8), N-5a (1), N-8a (6)	4/17
Hybognathus placita	N-9 (5), N-12 (2)	2/7
Pimephales vigilax	N-6 (1), N-7 (1), N-9 (16), N-10 (10), N-14 (6), N-14a (69), N-15 (4), N-16 (56), N-17 (6), N-18 (120), N-19 (12), N-24 (9), N-25 (2), N-26 (1)	14/313
Ictalurus punctatus	N-G-10 (1), N-G-11 (1), N-G-12 (2), N-G-13 (3), N-G-14 (4), N-G-16 (5), N-G-17 (1), N-G-18 (2), N-G-20 (1), N-G-22 (3), N-G-23 (4), N-G-1 (1)	12/26
I. furcatus	N-G-23 (7)	1/7
I. melas	N-G-10 (4), N-G-22 (47), N-G-23 (70)	3/121
I. natalis	N-1a (1), N-2a (1), N-32 (1), N-34 (1)	4/4
Pylodictus olivaris	N-G-12 (1), N-G-18 (1)	2/2
Fundulus pulvereus	N-23 (1)	1/1
F. chrysotus	N-34 (1), N-5 (2), N-3 (8), N-2 (1), N-23 (5), N-1 (18), N-5 (35), N-5a (23), N-6 (24), N-6a (19), N-7 (9), N-7a (11), N-8 (39), N-8a (3), N-10 (42), N-10a (9), N-12 (5), N-13a (4), N-14 (3), N-16 (2), N-25 (5), N-26 (2), N-27 (10), N-28 (6), N-30 (9), N-33 (1), N-34 (9), N-9 (6), N-11 (8)	25/303
F. Notatus	N-20 (4), N-21 (4), N-22 (22), N-23 (3), N-24 (3),	5/36
Cyprinodon variegatus	N-1 (30), N-1a (6), N-2 (714), N-2a (3), N-3 (3), N-4 (68), N-5 (3), N-5a (3), N-6a (4), N-7 (1),N-7a (6), N-8a (4), N-9a (2), N-10 (3), N-10a (2), N-12 (6), N-13 (6), N-13a (5), N-14 (1), N-16 (1), N-25 (172), N-24 (242) N-25 (2), N-26 (4), N-27 (13), N-28 (18), N-29 (14), N-30 (42), N-33 (2), N-34 (11), N-35 (27)	31/1418
Gambusia affinis	N-1a (3), N-9a (1)	2/4
Aphredoderus sayanus	N-16 (1), N-G-8 (1)	2/2
Mugil cephalus	N-20 (581), N-21 (241), N-22 (14)	3/836
Menidia beryllina	N-5a (1), N-6 (7), N-7a (5), N-8 (1), N-8a (1), N-10 (7), N-17 (5), N-18 (12), N-19 (227), N-24 (2), N-26 (36), N-28 (43), N-29 (2), N-34 (1)	15/355
Labidesthes sicculus	N-1a (1), N-5a (2), N-6 (1), N-6a (6), N-7 (1), N-8a (164), N-9a (14), N-10a (11), N-12 (1), N-14a (1), N-15 (1), N-17 (1), N-19 (1), N-31 (1)	14/206
Micropterus punctulatus	N-G-1 (1), N-G-8 (1), N-G-12 (2), N-G-18 (1), N-7-22 (6), N-G-23 (10), N-7 (1), N-7a (10), N-12a (15), N-15 (1), N-30 (31), N-32 (3), N-33 (35), N-34 (17), N-35 (1), N-G-24 (1)	16/136
M. salmoides	N-G-10 (1), N-G-16 (1), N-G-21 (1), N-G-22 (8), N-G-23 (6)	2/17
Chaenobryttus gulosus	N-30 (2)	1/2
Lepomis cyanellus	N-G-16 (4), N-G-22 (2), N-22 (2), N-6 (2), N-9 (4), N-9a (3), N-10 (1), N-11 (1), N-13 (4), N-14 (2), N-16 (1) N-17 (1), N-24 (1), N-25 (3), N-26 (5)	14/34
L. punctatus		

Table 4 (Cont'd) Distribution of Neches River Fishes by Station and Numbers ( )

Species	Distribution and Numbers	Total
L. microlophus	N-G-1 (1), N-G-3 (1), N-G-4 (1), N-G-12 (1), N-G-13 (2), N-G-18 (3), N-G-19 (1), N-G-23 (27), N-1a (1), N-2a (1), N-8a (2), N-17 (1)	12/40
L. macrochirus	N-G-1 (5), N-G-3 (1), N-G-6 (1), N-G-10 (8), N-G-11 (2), N-G-12 (3), N-G-13 (1), N-G-14 (2) N-G-15 (1), N-G-16 (10), N-G-19 (4), N-G-22 (30), N-G-23 (96), N-G-24 (3), N-1a (4), N-4 (4), N-6-(3), N-8a(5), N-9a (3), N-10 (7), N-13 (5), N-15 (1), N-16 (2), N-23 (1), N-25 (3), N-26 (19), N-28 (21), N-29(2), N-30 (1), N-34 (3)	30/248
L. auritus	N-G-10 (3), N-G-23 (1)	2/4
L. megalotis	N-G-12 (1), N-G-22 (21), N-4 (1), N-14a (1),	4/24
Pomoxis annularis	N-G-1 (9), N-G-10 (1), N-G-12 (2), N-G-13 (2), N-G-14 (1), N-G-18 (2), N-G-19 (2), N-G-21 (1), N-G-22 (8), N-G-23 (1), N-8a (1), N-32 (12), N-33 (3), N-G-24 (4)	14/49
P. nigromaculatus	N-G-10 (1), N-G-19 (2), N-G-20 (1), N-G-22 (13), N-G-23 (5), N-8a (5), N-9a (4), N-30 (1)	8/32
Centrarchus macropterus	N-2a (4), N-8a (12)	2/16
Huropterus aculatus	N-8a (2), N-10 (1)	2/3
H. shumardi	N-6a (1), N-8a (3), N-9 (3), N-10 (1)	4/8
Ammocrypta vivax	N-5a (13), N-9 (19), N-10 (1), N-11 (2), N-12 (2), N-17 (7), N-18 (12), N-19 (3)	8/50
Etheostoma chlorosomum	N-7a (1)	1/1
E. gracile	N-1a (2), N-2a (11), N-5a (3), N-7 (1), N-7a (2), N-8a (2), N-9a (1), N-13a (2), N-33 (1), N-25 (3)	10/28
E. lepidum	N-31 (7)	1/7
Aplodinotus grunniens	N-G-1 (10), N-G-2 (1), N-G-3 (3), N-G-4 (1), N-G-5 (1), N-G-6 (1), N-G-7 (1), N-G-8 (2), N-G-10 (3), N-G-12 (2), N-G-13 (1), N-G-23 (2)	12/28
Microgobius gulosus	N-21 (19), N-22 (21)	2/40

	N-1	N-1A	N-2	N-2A	N-3	N-4	N-5	N-5A	N-6	N-6A	N-7	N-7A	N-8	N-8A	N-9	N-9A	N-10	N-10A	N-11	N-12	N-12A	N-13	N-13A	N-14	N-14A	N-15	N-16	N-17	N-18	N-19	N-20	N-21	N-22	N-23	N-24	N-25	N-26	N-27	N-28
Ichthyomyzon casaneus																																							
Atractosteus spatula												1				2																								
Lepisosteus platostomus																																							
Lepisosteus oculatus																																							
Lepisosteus osseus								1																															
Amia calva																		304																					
Dorosoma cepedianum																										35			9	40									
Esox americanus		5		1				1						2									3														3		
Ictiobus cyprinellus																																							
Ictiobus bubalus														1		14							1						1										
Carpiodes carpio																																							
Moxostoma poecilurum														1																									
Minytrema melanops																																							
Erimyzon sucetta																																							
Cyprinus carpio																																							
Notemigonus crysoleucas				19				3						1							3								18							39			
Opsopoeodus emiliae													1																							1	5		2
Macrhybopsis aestivalis																													3	1									
Lythrurus fumeus									10						1	1	1			4		1	1			3		3											
Notropis shumardi												62																											
Notropis blennius																9									2														
Notropis potteri				22				3		1		21		11		4					3				153				13	41									
Notropis sabinae															2		23					12					7												
Notropis amnis									34							158									6														
Cyprinella venusta				1				5	1	111	41	13		33		88	1	48	12	8	19				2		39	11	49	86						7	4		
Cyprinella lutrensis				2							1					2	2				5			7	17		15		193	109						20			
Notropis stramineus						1				43	20	1	19			5				4			5	2				11		3									
Notropis atrocaudalis				35				13		24						1						3				8													
Notropis volucellus														18					2							2			5										
Notropis maculatus		2		8				1						6																									
Hybognathus placita															5					2																			
Pimephales vigilax									1		1				16		10							6	69	4	56	6	120	12					9	2	1		
Ictalurus punctatus																																							
Ictalurus furcatus																																							
Ameiurus melas																																							
Ameiurus natalis		1		1																																			
Pllodictus olivaris																				1									1										
Fundulus pulvereus																																		1					
Fundulus chrysotus	18		1		8		2																											5					
Fundulus notatus							35	23	24	19	8	11	39	3	6		42	9	8	5			4	3			2								3	2	10	6
Cyprinodon variegatus																															4	4	22	3	3				
Gambusia affinis	30	6	714	3	3	68	3	3		4	1	6		4		2	3	2		6		6	5	1					1						242	2	4	13	18
Aphredoderus sayanus		3														1																							
Mugil cephalus																											1												
Menidia beryllina																															581	241	14						
Labidesthes sicculus								1	7			5	1	1			7											5	12	227					2		36		43
Micropterus punctulatus		1						2	1	6	1			164		14		11		1					1	1		1		1									
Micropterus salmoides											1	10									15					1													
Lepomis gulosus																																							
Lepomis cyanellus																																							
Lepomis punctatus									2						4	3	1		1			4		2			1	1					2		1	3	5		
Lepomis microlophus		1		1										2														1											
Lepomis macrochirus		4				4			3					5		3	7					5				1	2							1		3	19		21
Lepomis auritus																																							
Lepomis megalotis						1																			1														
Pomoxis annularis														1																									
Pomoxis nigromaculata														5		4																							
Centrarchus macropterus				4										12																									
Percina maculata														2			1																						
Percina shumardi										1				3	3		1																						
Ammocrypta vivax								13							10		1		2	2								7	12	3									
Etheostoma chlorosoma												1																											
Etheostoma gracile		2		11				3			1	2		2		1							2													3			
Etheostoma lepidum																																							
Aplodinutus grunniens																																							
Microgobius gulosus																															19	21							

	N-29	N-30	N-31	N-32	N-33	N-34	N-35	N-G-1	N-G-2	N-G-3	N-G-4	N-G-5	N-G-6	N-G-7	N-G-8	N-G-9	N-G-10	N-G-11	N-G-12	N-G-13	N-G-14	N-G-15	N-G-16	N-G-17	N-G-18	N-G-19	N-G-20	N-G-21	N-G-22	N-G-23	N-G-
Ichthyomyzon casaneus								1																							
Lepisosteus spatula			2				1		1		2	1		1	2																
Lepisosteus platostomus																1	1														
Lepisosteus oculatus								1	2			3	7	2	11	1	1	3			4	3	5	1				1			1
Lepisosteus osseus								3	10	11	6			1		1	1		1	2			2	1							
Amia calva															1			2												1	1
Dorosoma cepedianum								170							2		5	2	4	7	1	11	5		6	4	1				29
Esox americanus							1																						2	1	
Ictiobus cyprinellus								1																						1	
Ictiobus bubalus								5	1		4		4	1	3		13	6	8	7	1	2	7		5	2	1	1			2
Carpiodes carpio												1		1			1			3	1				4		5				
Moxostoma poecilurum								2																							
Minytrema melanops								8											1			3	8			2		1	8		3
Erimyzon sucetta																													40	43	
Cyprinus carpio							4										1						1			1					
Notemigonus crysoleucas					1																										
Opsopoeodus emiliae																															
Macrhybopsis aestivalis																															
Lythrurus fumeus				1																											
Notropis shumardi																															
Notropis blennius																															
Notropis potteri																															
Notropis sabinae																															
Notropis amnis																															
Cyprinella venusta			1																												
Cyprinella lutrensis			5																												
Notropis stramineus			16		21	41	1																								
Notropis atrocaudalis																															
Notropis volucellus																															
Notropis maculatus																															
Hybognathus placita																															
Pimephales vigilax																															
Ictalurus punctatus								1									1	1	2	3	4		5	1	2		1		3	4	
Ictalurus furcatus																														7	
Ameiurus melas																	4												47	70	
Ameiurus natalis				1		1																									
Pilodictus olivaris																															
Fundulus pulvereus																															
Fundulus chrysotus						1																									
Fundulus notatus		9			1	9																									
Cyprinodon variegatus																															
Gambusia affinis	14	42			2	11	27																								
Aphredoderus sayanus																															
Mugil cephalus															1																
Menidia beryllina																															
Labidesthes sicculus	2					1																									
Micropterus punctulatus			1																												
Micropterus salmoides		31		3	35	17	1	1							1				2		1								6	10	1
Lepomis gulosus																	1						1					1	8	6	
Lepomis cyanellus		2																													
Lepomis punctatus																							4						2		
Lepomis microlophus								1		1	1								1	2					3	1				27	
Lepomis macrochirus	2	1				3		5		1			1				8	2	3	1	2	1	10			4			305	96	3
Lepomis auritus																	3													1	
Lepomis megalotis																			1										21		
Pomoxis annularis				12	3			9									1		2	2	1				2	2		1	8	1	4
Pomoxis nigromaculata		1															1									2	1		13	5	
Centrarchus macropterus																															
Percina maculata																															
Percina shumardi																															
Ammocrypta vivax																															
Etheostoma chlorosoma																															
Etheostoma gracile					1																										
Etheostoma lepidum			7																												
Aplodinutus grunniens								10	1	3	1	1	1	1	2		3		2	1										2	
Microgobius gulosus																															

Photo 1 : SH 31 crossing Neches River, Smith County
Station N-2a. This is the post-flood stage

Photo 2 : US 294 crossing Neches River, Anderson County
Station N-9a. Main channel of far side.

Photo 3 : SH 94 crossing Neches River, Trinity County, Station N-12a. Water is backed up over small riverbottom road.

Photo 4 : SH 94 crossing Neches River, Trinity County, Station N-12a. This photo is to the left of Photo 3 above.

Photo 5 : SH 103 crossing Neches River, Angelina County, Station N-30. Note dark appearance of water due to timber country stains.

Photo 6 : US 69 crossing Neches River, Tyler County, Station N-14a. Field assistants making a seining collection in slough off of main channel.

Photo 7 : Upper end of Dam "B" Reservoir, Jasper County.

Photo 8 : Upper end of Dam "B" Reservoir, Jasper County. Note silt bar in center.

Photo 9 : Small mouth buffalo taken from Dam "B" Reservoir by experimental type gill nets.

Photo 10 : Station K-34, Dam "B" Reservoir. This is a small cove towards the lower end of the lake.

(All photographs by the author)