

A FALL SURVEY OF THE FISHES OF THE STILLWATER CREEK DRAINAGE SYSTEM

(PAYNE and NOBLE COUNTIES, OKLAHOMA)

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This paper presents the results of a survey begun in September and completed in December of 1938. Specimens were taken by means of seines from 20 stations rather uniformly distributed over the area (table 1. Representative specimens have been deposited in the Museum of Zoology, University of Michigan.*

During our survey, this stream and its tributaries, above the city of Stillwater, consisted of intermittent pools of various sizes and a large recently-constructed Lake (Lake Blackwell). Of the 28 species collected in the whole area only 7 were found in these waters. These are as follows: *Notemigonus crysoleucas*, *Notropis lutrensis*, *Pimephales promelas*, *Ameiurus melas*, *Lepomis cyanellus*, *Lepomis humilis*, and *Pomoxis annularis*. Since our survey of this portion of the creek, the United States Government purchased and planted in Lake Blackwell** approximately 50,000 fish. A sample of this shipment contained 10 species including the above and *Ceraticthys vigilax*, *Lepomis macrochirus*, and *Pomoxis nigromaculatus*. Previous to this plant we learned that at least two other plants contained "channel catfish, bluegills, and crappies."

Below Stillwater the creek is a running stream since it receives city sewage. The greater number of species (21 of 28) were found here because of probable increased fertility and invasion of Cimarron River fish. The latter phenomenon does not occur, above Stillwater, on account of sewage and a dam in the vicinity of the disposal plant.

Boomer Lake, on Boomer Creek (tributary to Stillwater Creek below Stillwater), was not investigated; however, it is doubtful that additional species occur here unless *Micropterus dolomieu*, formerly planted, has been able to survive. On March 6, 1937, a collection of fishes from this lake contained large numbers of *Pomoxis annularis* and a few *Lepomis macrochirus*, *Ceraticthys vigilax*, *Notropis lutrensis*, and *Ictalurus punctatus*. Fishermen, however, have often reported large "catfish, bass, and crappie." We conclude, from descriptions of the catfish that they probably were *Pseudocathus olivaris* though we have not seen specimens. The bass are, no doubt, *Huro salmoides*, since the presence of *Micropterus dolomieu* is very problematical. *Pomoxis nigromaculatus*, also planted here, have been seen by one of us (Moore), however, none were taken by our collecting party in 1937.

Carpoides velifer, secured from the lower part of Stillwater Creek near Mehan, constitutes a new state record. We were surprised to find *Estrariius tetranemus* in the rather quiet and very muddy lower portion, since this species lives in swifter habitats of the Cimarron River channel.

Hybrid sunfishes (*Lepomis cyanellus* X *Lepomis macrochirus*), heretofore unmentioned in this paper, are worthy of note. Two of these were

*Dr. C. L. Hubbs and Mr. M. C. Trautman checked identifications and Dr. Hubbs offered nomenclatorial suggestions. Their hearty co-operation is deeply appreciated.

**A land utilization project (L. D. O. K. No. 1) located 8 miles west of Stillwater.

taken from Brush Creek (T. 19 N., R. 3 E., S's. 20, 29) and one from Stillwater Creek (T. 19 N., R. 3 E., S. 30.)

This is the first survey, of its kind, to be made of the Stillwater Creek drainage system. Further work is contemplated.

LIST OF SPECIES AND SUBSPECIES

LEPISOSTEIDAE

1. *Lepisosteus osseus* (Linnaeus)

CLUPEIDAE

2. *Dorosoma cepedianum* (Le Sueur)

CATOSTOMIDAE

3. *Carploides carpio* (Rafinesque)
4. *Carploides velifer* (Rafinesque)

CYPRINIDAE

5. *Cyprinus carpio* Linnaeus
6. *Hybopsis storerianus* (Kirtland)
7. *Extrarius tetranemus* (Gilbert)
8. *Notemigonus crysoleucas* (Mitchill)
 - 8a. *N. c. auratus* (Rafinesque)
9. *Notropis atherinoides* Rafinesque
 - 9a. *N. a. dilectus* (Girard)
10. *Notropis lutrensis* (Baird and Girard)
 - 10a. *N. l. lutrensis* (Baird and Girard)
11. *Notropis girardi* Hubbs and Ortenburger
12. *Notropis volucellus* (Cope)
 - 12a. *N. v. buchanani* (Meek)
13. *Hybognathus placitus* Girard
 - 13a. *H. p. placitus* Girard
14. *Pimephales promelas* Rafinesque
 - 14a. *P. p. confertus* (Girard)
15. *Ceratichthys vigilax* Baird and Girard
 - 15a. *C. v. taurocephalus* (Hay)

AMEIURIDAE

16. *Ictalurus lacustris* (Walbaum)
 - 16a. *I. l. punctatus* (Rafinesque)
17. *Ameiurus melas* (Rafinesque)
 - 17a. *A. m. catulus* (Girard)
18. *Ameiurus natalis* (Le Sueur)
 - 18a. *A. n. natalis* (Le Sueur)
19. *Pilodictis olivaris* (Rafinesque)

CYPRINODONTIDAE

20. *Fundulus notatus* (Rafinesque)
21. *Piancterus kansae* (Garman)

POECILIIDAE

22. *Gambusia affinis* (Baird and Girard)
 - 22a. *G. a. affinis* (Baird and Girard)

CENTRARCHIDAE

23. *Huro salmoides* (Lacepede)
24. *Lepomis cyanellus* Rafinesque
25. *Lepomis humilis* (Girard)
26. *Lepomis macrochirus* Rafinesque
27. *Pomoxis annularis* Rafinesque
28. *Pomoxis nigro-maculatus* (Le Sueur)

TABLE 1. Fishes listed in order of decreasing abundance

	Lake Blackwell and above			From Lake Blackwell to Stillwater				From Stillwater to Mehan		From Mehan to Cimarron River		Small tributary	Little Stillwater	Small tributary Brush Creek	Boomer Creek	Boomer Lake
<i>Lepisosteus osseus</i>											*					
<i>Dorosoma cepedianum</i>										11						
<i>Carpiodes carpio</i>										6	11		7			
<i>Carpiodes velifer</i>											13					
<i>Cyprinus carpio</i>													7			
<i>Hybopsis storerianus</i>											8					
<i>Extrarius tetranemus</i>										10						
<i>Notemigonus crysoleucas</i>	1	5														
<i>Notropis atherinoides</i>										3	3	1				
<i>Notropis lutrensis</i>	4	4	4		4	3	2	4	1	1	4	2	2	4	3	*
<i>Notropis girardi</i>										2	6					
<i>Notropis volucellus</i>												12				
<i>Hybognathus placitus</i>								3		1	5	1	2	5		
<i>Pimephales promelas</i>		1	2	3	2	2	4	4	4		3	2	1	4		
<i>Ceraticthys vigilax</i>																*
<i>Ictalurus lacustris</i>																*
<i>Ameiurus melas</i>	3	3	5		1	3	3	3	1	5	3		7	5	5	2
<i>Ameiurus natalis</i>																
<i>Pseudis olivaris</i>												5				
<i>Fundulus notatus</i>																6
<i>Plancterus kansae</i>											9					
<i>Gambusia affinis</i>								2			4					
<i>Huro salmoides</i>																3
<i>Lepomis cyanellus</i>	2	2	3	1	2	1	1	1	1	3	6	2	5	9	6	4
<i>Lepomis humilis</i>		6	1	2	3	4	5	2	5	5		4	7	10	3	6
<i>Lepomis macrochirus</i>									7		8	1	4			1
<i>Pomoxis annularis</i>					5				2							4
<i>Pomoxis nigro-maculatus</i>																5

LOCUS KEYS TO STATIONS

*From previous Collections

- T. 20N., R. 2W., S. 24.
- T. 19N., R. 1W., S's. 5, 8, 9.
- T. 19N., R. 1W., S's. 10, 11.
- T. 19N., R. 1E., S. 17.
- T. 19N., R. 1E., S. 10.
- T. 19N., R. 1E., S. 10.
- T. 19N., R. 1E., S. 13.
- T. 19N., R. 2E., S. 16.
- T. 19N., R. 2E., S. 21.
- T. 19N., R. 2E., S. 22.
- T. 19N., R. 3E., S's. 29, 30.
- T. 18N., R. 3E., S's. 3, 4, and T. 19N., R. 3E., S. 34.
- T. 18N., R. 4E., S. 19.
- T. 18N., R. 3E., S. 14.
- T. 18N., R. 3E., S's. 11, 13, 14.
- T. 18N., R. 4E., S. 8.
- T. 18N., R. 3E., S. 1. and T. 19N., R. 3E., S. 36.
- T. 19N., R. 3E., S. 29. (no fish)
- T. 19N., R. 3E., S's. 20, 29.
- T. 19N., R. 3E., S. 11.