

## Distribution of Stream Fishes in Tippecanoe County, Indiana.

KEVIN D. CURRY and ANNE SPACIE  
Department of Forestry and Natural Resources  
Purdue University, West Lafayette, Indiana 47907

### Introduction

Accurate distributional records are important in assessing long term changes in fish distribution. Gerking (2) published the last record for fishes of Tippecanoe County in his 1945 report on Indiana fishes. Since 1945, changes in habitat, taxonomic status, and collection methods have all effected changes in the reports and records of fish that occur in the streams and rivers of Tippecanoe County.

Several researchers have monitored the distribution of fish in the county since Gerking's (2) state survey. Erman and Mumford (1) added 19 species to Gerking's list in their collections from 1958 to 1965. They noted Gerking had mapped a collection site for the channel darter, *Percina copelandi*, in lower Wildcat Creek but reported it only from Big Pine Creek, Fountain County and the Wabash River near Attica in Warren County. Lehman (4) did an intensive investigation of fish populations in channelized and natural segments of Wea and Little Wea Creek. Changes in fish community diversity of Indian Creek were investigated relative to quantified measures of habitat diversity by Gorman (3). Fisheries classes at Purdue University have noted occurrences of fish species in the Wabash River from 1971 to 1977. During our investigations, we collected in all the major streams in the county from 1974 to 1977.

The purpose of this report is to update and summarize all records of fish distribution in Tippecanoe County since 1945. We have included studies by other researchers in updating the information on fish distribution.

### Sites

All stream systems within the county drain into the Wabash River. The Wabash River enters the northeast corner and flows southwest through the northern half of the county. The Flint Creek, Wea Creek, and Wildcat Creek systems drain northwest through approximately two-thirds of Tippecanoe County. Indian Creek, Little Pine Creek and Burnetts Creek are the principle stream drainages for the remaining one-third of the county northwest of the Wabash River. Our survey covered 39 sites within the county (Table 1).

TABLE 1. Collection Sites in Tippecanoe County, Indiana.

- 
1. Flint Creek, sec. 4-5, Burnetts Reserve, T. 22 N., R. 6 W..
  2. Flint Creek, sec. 1, Burnetts Reserve, T. 22 N., R. 6 W..
  3. Wea Creek, sec. 30, T. 21 N., R. 4 W..
  4. Wea Creek, sec. 18, T. 21 N., R. 4 W..
  5. Wea Creek, sec. 17, T. 21 N., R. 4 W..
  6. Wea Creek, sec. 9, T. 21 N., R. 4 W..
  7. Wea Creek, sec. 2, T. 21 N., R. 4 W..

8. Wea Creek, sec. 22, T. 22 N., R. 4 W..
9. Wea Creek, sec. 12, T. 22 N., R. 5 W..
10. Dismal Creek, sec. 22, T. 22 N. R. 4 W..
11. Little Wea Creek, sec. 21, T. 21 N., R. 5 W..
12. Little Wea Creek, sec. 10, T. 21. N., R. 5 W..
13. Little Wea Creek, sec. 1, T. 21 N., R. 5 W..
14. Little Wea Creek, sec. 12, T. 22 N., R 5 W..
15. Wildcat Creek, sec. 22, T. 22 N., R. 3 W..
16. Wildcat Creek, sec. 33, T. 23 N., R. 3 W..
17. Wildcat Creek, sec. 26-27, T. 23 N., R. 3 W..
18. Wildcat Creek, sec. 21, T. 23 N., R. 3 W..
19. Wildcat Creek, sec. 10-11, T. 23 N., R. 3 W..
20. Wildcat Creek, sec. 14, T. 23 N., R. 4 W..
21. Wildcat Creek, sec. 3, T. 23 N., R. 4 W..
22. Sugar Creek, sec. 21, T. 24 N., R. 3 W..
23. Buck Creek, sec. 30-31, T. 24 N., R. 3 W..
24. Little Pine Creek, sec. 36, T. 24 N., R. 6 W..
25. Little Pine Creek, sec. 22, T. 23 N., R. 6 W..
26. Indian Creek, sec. 4, T. 23 N., R. 5 W..
27. Indian Creek, sec. 18, T. 23 N., R. 5 W..
28. Indian Creek, sec. 24, T. 23 N., R. 6 W..
29. Burnetts Creek, sec. 27, T. 24 N., R. 4 W..
30. Moots Creek, sec. 8, T. 24 N., R. 3 W..
31. Wabash River, sec. 16, T. 24 N. R. 3 W..
32. Wabash River, sec. 20, T. 24 N., R. 3 W..
33. Wabash River, sec. 17, T. 23 N., R. 4 W..
34. Wabash River, sec. 29, T. 23 N., R. 4 W..
35. Wabash River, sec. 31, T. 23 N., R. 4 W..
36. Wabash River, sec. 35, T. 23 N., R. 5 W..
37. Wabash River, sec. 28, T. 23 N., R. 5 W..
38. Wabash River, sec. 26, T. 23 N., R. 6 W..
39. Wabash River, sec. 3, T. 22 N., R. 6 W..

### Methods

Fish were sampled by means of 1/4 inch mesh seines, gas powered D.C. back pack shocker, Smith Root Type VI electrofisher, hoop nets and D-nets. Common species were identified in the field. Other specimens were preserved and returned to the laboratory. Laboratory identifications were made using the taxonomic keys of Nelson and Gerking (5), Pflieger (6), and Trautman (7). Voucher specimens for most of the species reported are located at the Department of Forestry and Natural Resources, Purdue University.

Collection sites are listed according to stream system. Species are listed by family and include the numbers and letters that correspond to their collection records in this report (Table 2).

Site specific information is not included in Gorman's (3) report and specimens from his Indian Creek Study are no longer present at Purdue University. We are listing species reported by Gorman that were not collected in our investigation by using In. Crk. under the species name.

TABLE 2. *List of Species***PETROMYZONTIDAE**

- Lampetra lamottei* (Lesueur); American Brook lamprey. 21.  
*Ichthyomyzon unicuspis* (Hubbs and Trautman). Silver lamprey. 31, 33, 34, 38.

**POLYODONTIDAE**

- Polyodon spathula* (Walbaum); Paddlefish. 33, 36.

**ACIPENSERIDAE**

- Scaphirhynchus platyrhynchus* (Rafinesque); Shovelnose sturgeon. 21, 32, 33, 39.

**LEPISOSTEIDAE**

- Lepisosteus osseus* (Linnaeus); Longnose gar. 31, 33, 36, 37, 38, 39.  
*Lepisosteus platostomus* (Rafinesque); Shortnose gar. 33, 34, 36, 37.

**AMIIDAE**

- Amia calva* (Linnaeus); Bowfin. 33, 36, 38.

**ANGUILLIDAE**

- Anguilla rostrata* (Lesueur); American eel. 31, 33, 36.

**CLUPEIDAE**

- Dorosoma cepedianum* (Lesueur); Gizzard shad. 21, 31, 32, 33, 34, 35, 36, 37, 38, 39.  
*Alosa chrysochloris* (Rafinesque); Skipjack herring. 32, 33, 36.

**ESOCIDAE**

- Esox americanus vermiculatus* (Lesueur); Grass pickerel. 3, 6.  
*Esox lucius* (Linnaeus); Northern pike. 33.

**HIODONTIDAE**

- Hiodon alosoides* (Rafinesque); Goldeye. 33, 36, 37, 39.  
*Hiodon tergisus* (Lesueur); Mooneye. 32, 33, 36, 38, 39.

**CYPRINIDAE**

- Cyprinus carpio* (Linnaeus); Carp. 21, 31, 32, 33, 34, 35, 36, 37, 38, 39.  
*Rhinichthys atratulus* (Hermann); Blacknose dace. 1, 2, 5, 7, 9, 11, 12, 13, 17, 21, 23, 25, 26, 27, 28, 29.  
*Hybopsis amblops* (Rafinesque); Bigeye chub. 7, 21, 30, 37.  
*Semotilus atromaculatus* (Mitchell); Creek chub. 1, 2, 5, 6, 9, 11, 12, 13, 14, 17, 23, 24, 26, 27, 28, 29, 30, 32, 38.  
*Nocomis micropogon* (Cope); River chub. 2, 7, 19, 25, 27, 28, 30, 31, 32, 37, 38.  
*Hybopsis aestivalis* (Girard); Speckled chub. 21, 32, 35.  
*Hybopsis x-punctata* (Hubbs and Crowe); Gravel chub. 32.  
*Pimephales notatus* (Rafinesque); Bluntnose minnow. 1, 2, 6, 7, 9, 11, 12, 14, 22, 23, 24, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39.  
*Pimephales vigilax* (Baird and Girard); Bullhead minnow. 21.  
*Pimephales promelas* (Rafinesque); Fathead minnow. In. Crk.  
*Ericymba buccata* (Cope); Silverjaw minnow. 2, 4, 5, 7, 9, 11, 12, 14, 22, 23, 24, 28, 31, 35, 36.  
*Hybognathus nuchalis* (Agassiz); Silvery minnow. 14, 34, 39. In. Crk.  
*Phenacobius mirabilis* (Girard); Suckermouth minnow. 2, 15, 21, 25, 30, 31, 32, 36, 37, 39. In. Crk.  
*Notropis chrysocephalus* (Rafinesque); Striped shiner. 1, 2, 4, 5, 6, 7, 14, 19, 20, 22, 23, 25, 26, 27, 28, 29, 30, 32, 35, 36, 37, 38, 39.  
*Notropis atherinoides* (Rafinesque); Emerald shiner. 31, 32, 33, 34, 35, 36, 37.  
*Notemigonus chrysoleucas* (Mitchill); Golden shiner. In. Crk.  
*Notropis volucellus* (Cope); Mimic shiner. 2, 36, 39.  
*Notropis umbratilis* (Girard); Redfin shiner. 5, 9, 24. In. Crk.  
*Notropis blennioides* (Girard); River shiner. 31, 32, 33, 34, 35, 36, 37. In. Crk.  
*Notropis rubellus* (Agassiz); Rosyface shiner. 4, 5, 7.  
*Notropis stramineus* (Cope); Sand shiner. 7, 21, 31, 32, 33, 34, 35, 36, 37, 38, 39. In. Crk.  
*Notropis spilopterus* (Cope); Spotfin shiner. 1, 2, 7, 13, 21, 22, 23, 24, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39.

- Notropis whipplei* (Girard); Steelcolor shiner. 2, 30.  
*Campostoma anomalum* (Rafinesque); Stoneroller. 1, 2, 4, 11, 14, 15, 17, 21, 22, 24, 25, 26, 27, 28, 30, 31, 32, 35, 36, 37, 39.

CATOSTOMIDAE

- Cycleptus elongatus* (Lesueur); Blue sucker. 35.  
*Hypentelium nigricans*. (Lesueur); Northern hog sucker. 1, 2, 7, 12, 13, 14, 16, 20, 21, 28, 31, 32, 33, 35, 36, 38.  
*Minytrema melanops* (Rafinesque); Spotted sucker. 33, 36, 38.  
*Catostomus commersoni* (Lacepede); White sucker. 2, 4, 6, 9, 11, 19, 20, 21, 27, 33, 36, 38.  
*Carpiodes velifer* (Rafinesque); Highfin carpsucker. 21, 31, 33.  
*Carpiodes cyprinus* (Lesueur); Quill back. 21, 31, 33, 36.  
*Carpiodes carpio* (Rafinesque); River carpsucker. 21, 31, 33, 34, 35, 36, 37, 38, 39.  
*Ictiobus cyprinellus* (Valenciennes); Bigmouth buffalo. 33, 35, 36, 39.  
*Ictiobus niger* (Rafinesque); Black buffalo. 32, 33, 26.  
*Ictiobus bubalus* (Rafinesque); Smallmouth buffalo. 31, 33, 35, 36, 37.  
*Erimyzon oblongus* (Mitchill); Creek chubsucker. 11. In. Cr.  
*Moxostoma erythrurum* (Rafinesque); Golden redbhorse. 20, 21, 31, 32, 33, 34, 35, 36, 37, 38, 39.  
*Moxostoma carinatum* (Cope); River redbhorse. 21, 31, 32, 33, 38.  
*Moxostoma macrolepidotum* (Lesueur); Shorthead redbhorse. 14, 21, 31, 32, 33, 34, 35, 36, 37, 38, 39.  
*Moxostoma anisurum* (Rafinesque); Siver redbhorse. 21, 31, 32, 33, 34, 35, 36, 38, 39.

ICTALURIDAE

- Ictalurus melas* (Rafinesque); Black bullhead. In. Cr.  
*Ictalurus punctatus* (Rafinesque); Channel catfish. 21, 33, 34, 36.  
*Pylodictus olivaris* (Rafinesque); Flathead catfish. 21, 33, 34, 36.  
*Ictalurus natalis* (Lesueur); Yellow bullhead. 3, 5, In. Crk.  
*Noturus miurus* (Jordan); Brindled madtom. 18, 32.  
*Noturus flavus* (Rafinesque); Stonecat. 13, 14, 20.

GADIDAE

- Lota lota* (Linnaeus); Burbot. 33, 36.

CYPRINODONTIDAE

- Fundulus notatus* (Rafinesque); Blackstripe topminnow. 3.

ATHERINIDAE

- Labidesthes sicculus* (Cope); Brook silversides. 33, 34, 36.

COTTIDAE

- Cottus bairdi* (Girard); Mottled sculpin. 1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 17, 18, 20, 22, 23, 25, 28, 29, 30.

PERCICHTHYIDAE

- Morone chrysops* (Rafinesque); White bass. 21, 31, 32, 33, 34, 35, 36, 37, 38.

CENTRARCHIDAE

- Micropterus salmoides* (Lacepede); Largemouth bass. 21, 32, 33, 34, 36, 37. In. Crk.  
*Micropterus dolomieu* (Lacepede); Smallmouth bass. 6, 13, 14, 17, 20, 21, 31, 32, 36, 38.  
*Lepomis macrochirus* (Rafinesque); Bluegill. 14, 19, 34, 36. In. Crk.  
*Lepomis cyanellus* (Rafinesque); Green sunfish. 3, 5, 6, 14, 19, 27, 33, 36.  
*Lepomis megalotis* (Rafinesque); Longear sunfish. 1, 2, 5, 6, 13, 14, 17, 20, 21, 27, 28, 32, 33, 34, 36, 38, 39.  
*Lepomis humilis* (Girard); Orangespotted sunfish. 33.  
*Ambloplites rupestris* (Rafinesque); Rockbass. 3, 6, 20.  
*Pomoxis nigromaculatus* (Lesueur); Black crappie. 33, 36.  
*Pomoxis annularis* (Rafinesque); White crappie. 33, 34, 36, 38, 39.

PERCIDAE

- Stizostedion canadense* (Smith); Sauger. 21, 31, 32, 33, 34, 36, 37, 38, 39.  
*Stizostedion vitreum vitreum* (Mitchill); Walleye. 21, 36.  
*Perca flavescens* (Mitchill); Yellow perch. 18.

- Percina maculata* (Girard); Blackside darter. 19, 20, 21.  
*Ammocrypta pellucida* (Putnam); Eastern sand darter. 21.  
*Etheostoma flabellare* (Rafinesque); Fantail darter. 1, 2, 13.  
*Etheostoma blennioides* (Rafinesque); Greenside darter. 1, 3, 7, 8, 12, 13, 14, 20, 25, 28.  
*Etheostoma nigrum* (Rafinesque); Johnny darter. 1, 3, 4, 5, 8, 10, 11, 12, 13, 19, 20, 24, 28, 29, 30, 32, 37.  
*Percina caprodes* (Rafinesque); Log perch. 32, 36, 37, 39.  
*Etheostoma spectabile* (Agassiz); Orangethroat darter. 2, 3, 10, 12, 13, 17, 25, 27, 28.  
*Etheostoma caeruleum* (Storer); Rainbow darter. 1, 5, 7, 13, 14, 20, 25, 29, 30, 32.

## SCIAENIDAE

- Aplodinotus grunniens* (Rafinesque); Freshwater drum. 31, 32, 33, 34, 35, 37, 38.

### Results and Discussion

Eighty-six species representing 20 families were identified from collections within the county (Table 2). Our report represents an addition of 40 species to Gerking's (2) list for fish in Tippecanoe County. Twenty-one of the new species records are primarily Wabash River species (*Ichthyomyzon unicuspis*, *Polyodon spathula*, *Scaphirhynchus platyrhynchus*, *Lepisosteus osseus*, *Lepisosteus platostomus*, *Amia calva*, *Anguilla rostrata*, *Esox lucius*, *Hiodon alosoides*, *Hiodon tergisus*, *Cycleptus elongatus*, *Carpionotus velifer*, *Carpionotus carpio*, *Ictiobus niger*, *Ictiobus bubalus*, *Moxostoma duquesnei*, *Moxostoma macrolepidotum*, *Pylodictus olivaris*, *Lota lota*, *Morone chrysops*, *Stizostedion vitreum vitreum*). Most of these fish probably were present in the Wabash River during past surveys but these species are not easily captured by seining. Electrofishing gear enabled us to sample these species effectively in our investigations.

Of the 46 species collected in Tippecanoe County by Gerking (2), only the harelip sucker, *Lagochila lacera*, bluebreast darter, *Etheostoma camurum*, and channel darter, *Percina copelandi*, were not found in our study. Single records for four species were recorded by Erman and Mumford (1) in their preliminary report (bigmouth shiner, *Notropis dorsalis*, spotted bass, *Micropterus punctulatus*, warmouth, *Chaenobryttus gulosus*, and the tadpole madtom, *Noturus gyrinus*). None of these species were found during our investigations.

Two species appear to be localized in their distribution. We collected the brindled madtom, *Noturus miurus*, only from upper Wildcat Creek and below the junction of the Tippecanoe and Wabash Rivers. Eastern sand darters, *Ammocrypta pellucida*, were captured only in our collections from lower Wildcat Creek. Gerking (2) and Erman and Mumford (1) reported both of these species only from Wildcat Creek. Additional careful sampling is necessary to properly assess the current distribution of these species.

Of the large fish we collected in the Wabash mainstem, five species were seldom seen during our study. One northern pike, *Esox lucius*, was captured during a fisheries class in 1975. Burbot, *Lota lota*, and walleye, *Stizostedion vitreum vitreum*, are captured occasionally in our spring D-net samples. These fish probably escaped from impoundments on upstream tributaries or from pay fishing ponds that flood into the Wabash River in the spring. Shovelnose sturgeon, *Scaphirhynchus platyrhynchus*, and blue sucker, *Cycleptus elongatus*,

were captured infrequently in our river electrofishing surveys. We have sighted one blue sucker while electrofishing in the Wabash River below Wildcat Creek in 1975. Two blue suckers were sighted between Lafayette and the mouth of Wea Creek during the 1977 summer survey of the Wabash River<sup>1</sup>.

Noticeable changes in abundance and distribution of species occurred between major habitats. Redfin shiners, *Notropis umbratilis*, appear to inhabit only the upper headwaters of a few streams in Tippecanoe County while nine species were abundant throughout the tributary streams of the Wabash River (*Semotilus atromaculatus*, *Pimephales notatus*, *Ericymba buccata*, *Notropis chrysocephalus*, *Notropis spilopterus*, *Campostoma anomalum*, *Hypentelium nigricans*, *Cottus bairdi*, *Etheostoma nigrum*). Bluntnose minnows, *Pimephales notatus*, and spotfin shiners, *Notropis spilopterus*, were also extremely abundant in seine collections from the Wabash River but six of the remaining seven common stream species rarely appeared in our Wabash River collections. We captured large adult northern hogsuckers, *Hypentelium nigricans*, regularly in our electrofishing surveys of the Wabash River but juveniles were abundant only in the tributaries. Sand shiners, *Notropis stramineus*, river shiners, *Notropis blennius*, and emerald shiners, *Notropis atherinoides*, consistently appeared in the Wabash River collections but were seldom collected in the tributary streams.

During the course of this study and related projects we noted marked seasonal changes in the distribution and abundance of several catostomids that are characterized as river species. During March and April, several species of redhorse (*Moxostoma anisurum*, *M. erythrurum*, *M. duquesnei*, *M. macrolepidotum*, *M. carinatum*) and river carpsuckers, *Carpionodes carpio*, are extremely abundant during their spring spawning run in Wildcat Creek. After early to mid May, some of these species reside in the stream in much lower numbers while others appear to be absent (*M. carinatum*, *M. anisurum*).

Of the large Wabash River species collected in our investigations, five species were extremely abundant (*Dorosoma cepedianum*, *Cyprinus carpio*, *Carpionodes carpio*, *Moxostoma erythrurum*, and *Moxostoma macrolepidotum*) White bass, *Morone chrysops*, and silver redhorse, *Moxostoma anisurum*, were captured frequently but in much smaller numbers.

---

<sup>1</sup>Personal communication Dr. James Gammon, DePauw University, Greencastle, Indiana.

**Literature Cited**

1. ERMAN, D. C., and R. E. MUNFORD. A preliminary list of the fishes of Tippecanoe County, Indiana. Unpublished report. 6 p.
2. GERKING, S. D. 1945. The distribution of the fishes of Indiana. Invest. Indiana Lakes and Streams 3:1-137.
3. GORMAN, O. T. 1976. Diversity and stability in the fish communities of some Indiana and Panama streams. M. S. Thesis, Purdue University.
4. LEHMAN, L. L. 1974. Some effects of PL 566 small watershed project on fish populations and selected water quality variables within and below a channelized area. M. S. Thesis, Purdue University.
5. NELSON, J. S., and S. D. GERKING. 1968. Annotated key to the fishes of Indiana, Indiana University, Bloomington, Indiana.
6. PFLIEGER, W. L. 1975. The fishes of Missouri. Missouri Dept. of Conservation. 343 p.
7. TRAUTMAN, M. B. 1957. The fishes of Ohio. The Ohio State University Press, Columbus, Ohio. 638 p.