

Ohio River: Newburgh Dam Tailwater  
Warrick County  
Supplemental Trophy Catfish Survey  
2007 & 2008

Date of Survey: August 15, 2007, September 20, 2007, October 2, 2007 and September 11, 2008.  
Biologist: Thomas C. Stefanavage, Big Rivers Fisheries Biologist

Survey Objectives: Develop collection technique to assess and monitor Ohio River trophy catfish (blue and flathead catfish) populations.

Introduction: Sport, including tournament fishing, for “trophy” catfish in large rivers is increasing in popularity in Indiana and throughout much of the United States. Generally, only blue and flathead catfish are considered “trophy” catfish as they more often reach a larger size than channel catfish. Indiana’s state records for channel, flathead, and blue catfish are 37.5 lbs., 79.5 lbs., and 104.0 lbs, respectively. Tournament anglers on the Ohio River only target blue and flathead catfish while tournament anglers on the Wabash River also fish for channel catfish.

What determines the actual size of a “trophy” catfish is a matter of personal preference and debate. The scientific literature defines the length of trophy blue, flathead, and channel catfish at 45, 36, and 36 in, respectively. Some Midwestern states (IN, KY, OH, and TN) are looking at lengths in the 28 to 34 in range to define the size of a trophy catfish. For the purpose of this report, “trophy” catfish are defined as blue and flathead exceeding 32 to 34 in TL.

Methods: Catfish (blue, channel, and flathead) were collected with a boom-mounted electrofishing boat using a Smith-Root GPP electrofishing unit. The key to collecting blue and flathead catfish was to operate the electrofishing unit at 15 pulses-per-second (pps). The amperage output was practically irrelevant but maintained at 4 amps. Catfish were measured to the nearest mm and weighed to the nearest 50 grams. Metric measurements were used to conform with Ohio River Fish Management Team collection protocols.

Summary: Three blue catfish were collected during 0.8 h of electrofishing on August 15, 2007 at various locations from the Newburgh Dam downstream 2 mi to the Newburgh City boat ramp (Table 1). The Ohio River was at low flow (summer pool) with a lower gauge reading of 13.3 ft and only the three tainer gates closest to the locks were discharging water. The collected blue catfish ranged from 19.9 in (2.64 lbs) to 25.4 in (5.28 lbs) in length. The last of the electrofishing was conducted at the closed tainer gates and dozens of blue catfish were stunned by the electrical field when one crew member succumbed to heat exhaustion and the collection had to be curtailed.

September 20, 2007: The river was still at summer pool with eight of the nine tainer gates closed. Most of the electrofishing effort was conducted next to the closed tainer gates or moving from one closed tainer gate to the next. Ninety-seven blue catfish including five same-day recaptures were collected in 42 min of electrofishing effort (Table 2). They ranged from 12.7 in (0.59 lbs.) to 36.6 in. (25.30 lbs.) in length. The mean length, mean weight, and median length of collected blue catfish were 25.1 in, 6.67 lbs, and 25.5 in, respectively.

Less than 10 percent of the stunned catfish observed were netted. As soon as the electrofishing unit was engaged next to a tainer gate, hundreds of blue catfish appeared on the surface stunned, moving in circles or moving in straight lines in an area from the tainer gates downstream 2,000 ft to the end of the outer lock wall. Only 10% of the observed stunned fish were collected due to: 1) there being too many fish for one crew to possibly collect, 2) there being too many fish to hold in the holding tank, 3) the fish surfacing over such a large area, and 4) the new and unusual occurrence where stunned fish that were actively chased by the boat moving at high speed revived when the active electrofisher came within approximately 10 ft of that fish.

It appeared that there is some kind of “near electrical field” or “overlapping electrical field” effect with blue catfish where some of the fish initially stunned from a large distance revived when stunned a second time from a short distance. Six different electrofishing efforts were conducted ranging from three to twelve min. In a 5 min effort, 27 blue catfish were netted which effectively filled the 100 gallon holding tank. In later efforts, the electrofisher was turned off as many fish stayed stunned and it was possible to chase and collect fish this way thereby avoiding the “near electrical field” effect.

Between electrofishing efforts, an extremely large school of blue catfish young-of-the-year was observed moving close to tainer gate #5. This school of blue catfish contained thousands of fish averaging approximately 3.5 in in length. The school was approximately twenty ft long, six ft wide, and at least four ft in depth.

October 2, 2007: The four outer tainer gates were closed with the river still at summer pool. All electrofishing effort was conducted next to the closed tainer gates or moving from one closed tainer gate to the next. Twenty-five blue catfish, including seven recaptures from September 20, 2007 and four flathead catfish were collected in 16 min of electrofishing effort. Blue catfish ranged from 9.1 in (0.40 lbs) to 35.6 in (18.15 lb.) in length. The mean length, mean weight, and median length of collected blue catfish were 24.2 in, 6.52 lbs, and 25.2 in, respectively. Flathead catfish ranged from 30.5 in (11.22 lbs) to 46.5 in (54.00 lbs) while their mean length, mean weight, and median length were 35.1 in, 23.13 lbs, and 31.7 in, respectively.

Only one fish dipper was available during this collection. The “near electrical field” effect first observed on September 20, 2007 also occurred on this date. Additionally, collection numbers were reduced due to personnel video taping the phenomenal numbers and behavior of stunned blue and flathead catfish.

September 11, 2008: Only one collection was conducted during 2008 due to personnel constraints. The four outer tainer gates were closed and the river was at summer pool. All electrofishing effort was conducted next to the closed tainer gates or moving from one closed tainer gate to the next. Twenty-six blue catfish and 19 channel catfish were collected in 39 min of electrofishing effort with only one fish dipper. Blue catfish ranged from 12.0 in (0.33 lbs) to 34.1 in (17.16 lbs) in length. The mean length, mean weight, and median length of collected blue catfish were 20.6 in, 4.06 lbs, and 20.5 in, respectively. Channel catfish ranged from 4.2 in (0.01 lbs) to 21.2 in (3.63 lbs) while their mean length, mean weight, and median length were 15.8 in, 1.15 lbs, and 16.1 in, respectively. The “near electrical field” effect also occurred on this date.

Discussion: Only 4.2% of all blue catfish collected were  $\geq 32$  in while 2.8% were  $\geq 34$  in. Of the four flathead catfish collected, 50% were  $\geq$  both 32 and 34 in. The largest collected channel

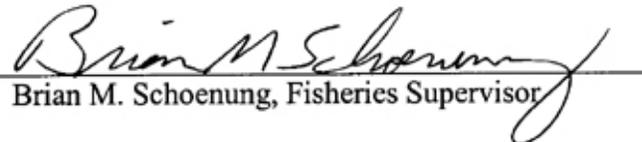
catfish was 21.2 in. These preliminary results indicate that “trophy” catfish are rare and that continued study and the institution of some type of “trophy” catfish size limit is probably merited.

Boom-mounted boat electrofishing at 15 pps and 4 amps can be an extremely efficient and cost effective method to collect large numbers of blue catfish below Ohio River dams when the river is at summer pool and some of the tainter gates are closed, especially considering that these areas have water depths in excess of 60 ft. Biologists from the states of Ohio and Missouri are also currently experimenting with this “new” catfish collection technique although the methodology has yet to be refined enough to present to the scientific community.

Recommendations:

- Big Rivers fisheries personnel should continue refining this collection technique.
- Recommend that the Ohio River Fish Management Team’s “Technical Team” use this method to assess and monitor Ohio River trophy catfish (blue and flathead catfish) populations.

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Date: March 16, 2009

Approved by:   
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Date: June 22, 2009

Table 1. Numbers of catfish collected per collection date, Ohio River, Newburgh Dam Tailwater, 2007, 2008.

Date	River Stage (ft)	Water Temp(°F)	Effort (hrs)	Number Dippers	# Blue Catfish Collected	Blue catfish CPUE (fish/hr)	# Flathead Catfish Collected	# Channel Catfish Collected	Total # Catfish Collected	Total Catfish CPUE (fish/hr)
8/15/2007	13.3		0.8	2	3	4	0	0	3	4
9/20/2007	12.9	79	0.7	2	97	139	0	0	97	139
10/2/2007	12.9	77	0.3	1	25	83	4	0	29	97
9/11/2008	13.0	80	0.6	1	26	43	0	19	45	75

Table 2. Number and weight of blue catfish collected per collection date, Ohio River, Newburgh Dam Tailwater, 2007/2008.

TOTAL LENGTH (inches)	NUMBER COLLECTED 9/20/2007	NUMBER COLLECTED 10/2/2007	NUMBER COLLECTED 9/11/2008	AVERAGE WEIGHT (lbs) 9/20/2007	AVERAGE WEIGHT (lbs) 10/2/2007	AVERAGE WEIGHT (lbs) 9/11/2008
9.0		1			0.40	
9.5						
10.0						
10.5						
11.0						
11.5		1			0.48	
12.0			1			0.33
12.5	3		1	0.60		0.55
13.0		1	2		0.65	0.50
13.5	1			0.80		
14.0			2			0.80
14.5			1			0.99
15.0			1			1.10
15.5			1			1.21
16.0						
16.5	2	1	1	1.90	1.17	1.65
17.0	1			1.76		
17.5						
18.0						
18.5	1		2	2.09		2.09
19.0	1	1		1.76	2.20	
19.5	1		1	2.64		2.53
20.0	1	1		2.86	2.42	
20.5	1			2.64		
21.0	3		2	3.19		3.36
21.5	4		2	3.22		3.03
22.0	2		1	3.85		3.52
22.5	2	1		4.62	3.52	
23.0	4			4.46		
23.5	3			4.58		
24.0	6	4		4.95	5.25	
24.5	7	1	1	5.52	5.39	4.95
25.0	3	1		6.38	6.38	
25.5	2			6.44		
26.0	6	1	1	7.24	7.70	4.84
26.5	7	2		7.43	6.93	
27.0	4	1	1	7.56	7.70	8.58
27.5	4	2		8.11	8.31	
28.0	4	1	1	9.35	10.01	8.14
28.5	5	2	2	9.11	9.30	8.97
29.0	3			9.53		
29.5	2			10.40		
30.0		1			11.88	
30.5	1		1	11.00		12.43
31.0	3			12.25		
31.5	2			13.70		
32.0						
32.5						
33.0	1	1		14.30	14.96	
33.5						
34.0			1			17.16
34.5						
35.0						
35.5	1	1		18.15	18.15	
36.0						
36.5	1			25.30		
TOTAL	92	25	26	227.67	122.80	86.73
MEAN	25.1	24.2	20.6	6.67	6.52	4.06
MEDIAN	25.5	25.2	20.5			