

# Lake Arthur

## Butler County

2022



*Area Fisheries Manager Tim Wilson with a legal sized Hybrid Striped Bass.*

### Spring Trap Net Survey

Fisheries Management Area 1 performed a trap net survey of Lake Arthur over two weeks this spring, from April 24<sup>th</sup> through April 28<sup>th</sup> and May 15<sup>th</sup> through May 20<sup>th</sup>, 2022. Each week consisted of 16 overnight sets totaling 374 and 358 hours of effort, respectively. Our trap nets captured a total of 2,684 fish. Table 1 describes the total catch for each species, and for sportfish, it also displays the size range captured and the average size.

Abundance of popular sport fish Muskellunge, Walleye, and Channel Catfish have shown positive trends in abundance (Figure 1; Figure 2; Figure 3). Average size of many of sport fish such as Black Crappie, White Crappie, Hybrid Striped Bass, Channel Catfish, and Walleye are represented by a large average size (Table 1). The combination of fish size and fish abundance across many different fish species make Lake Arthur an excellent destination. The primary forage species in Lake Arthur are Alewives, Gizzard Shad and juvenile panfish.

**Table 1. Number captured, average size, and size range of popular sportfish and total number captured for non-game species during the 2022 Lake Arthur trap net survey.**

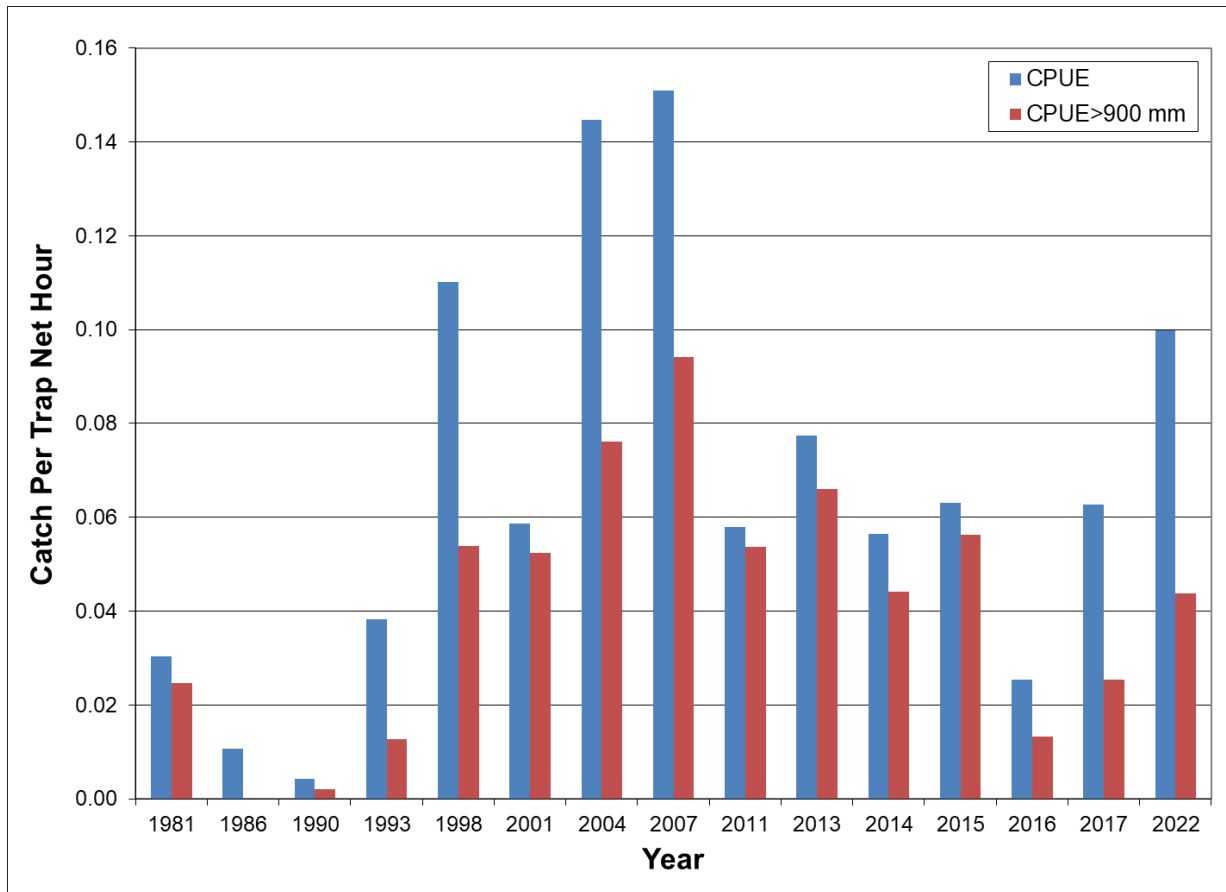
Species	Captured	Average Size (in)	Size Range (in)
Muskellunge	73	34	28 - 47
Hybrid Striped Bass	41	21	5 - 27
Walleye	92	21	8 - 26
Channel Catfish	1194	21	9 - 31
Flathead Catfish	10		12 - 36
Bluegill	365	5	2 - 9
Pumpkinseed	8		2 - 7
Black Crappie & White Crappie	181	11	7 - 16
Yellow Perch	8		5 - 7
Northern Pike	3		
Alewife	215		
Bullhead	269		
Carp	15		
Gizzard Shad	205		
Golden Shiner	5		



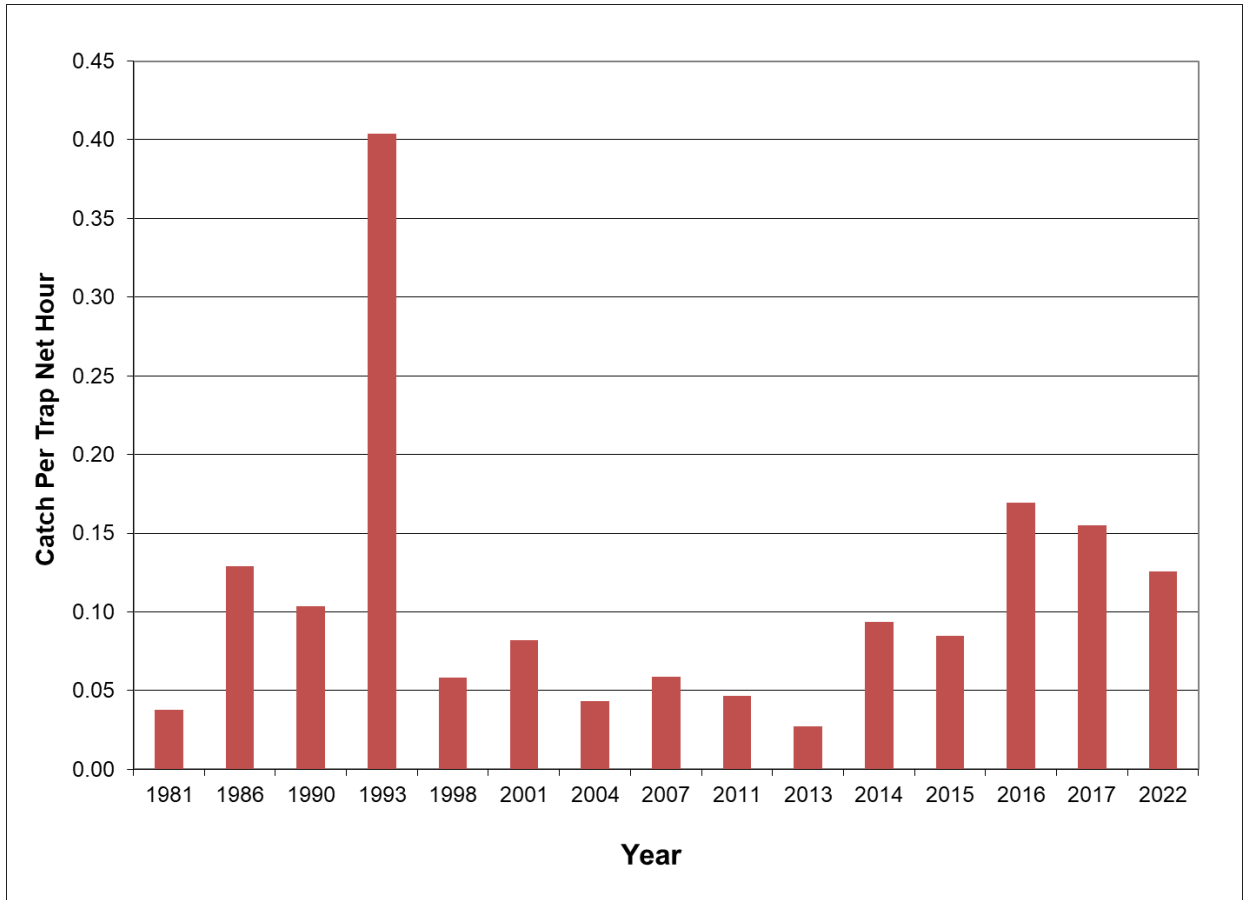
*Lake Erie biologist Mark Haffley with a big Musky*

Lake Arthur maintains one of the better Muskellunge populations in western Pennsylvania. This is the first survey of the lake since the Pennsylvania Fish and Boat Commission switched to stocking yearling Muskellunge in 2018. The population appears to be on an upward trend in abundance and size, despite high angler pressure targeting Musky. Improved survival of yearling Muskellunge (relative to the fingerlings historically stocked by the PFBC) should maintain or increase the current density and size quality of the Muskellunge population. Abundance and growth rates will continue to be monitored through trap net surveys on a three-year rotation, with the next survey scheduled for 2025.

**Figure 1. Comparison of Muskellunge trap net catch per trap net hour in Lake Arthur, 1981-2022.**



**Figure 2. Comparison of Walleye catch per trap net hour in Lake Arthur, 1981-2022.**

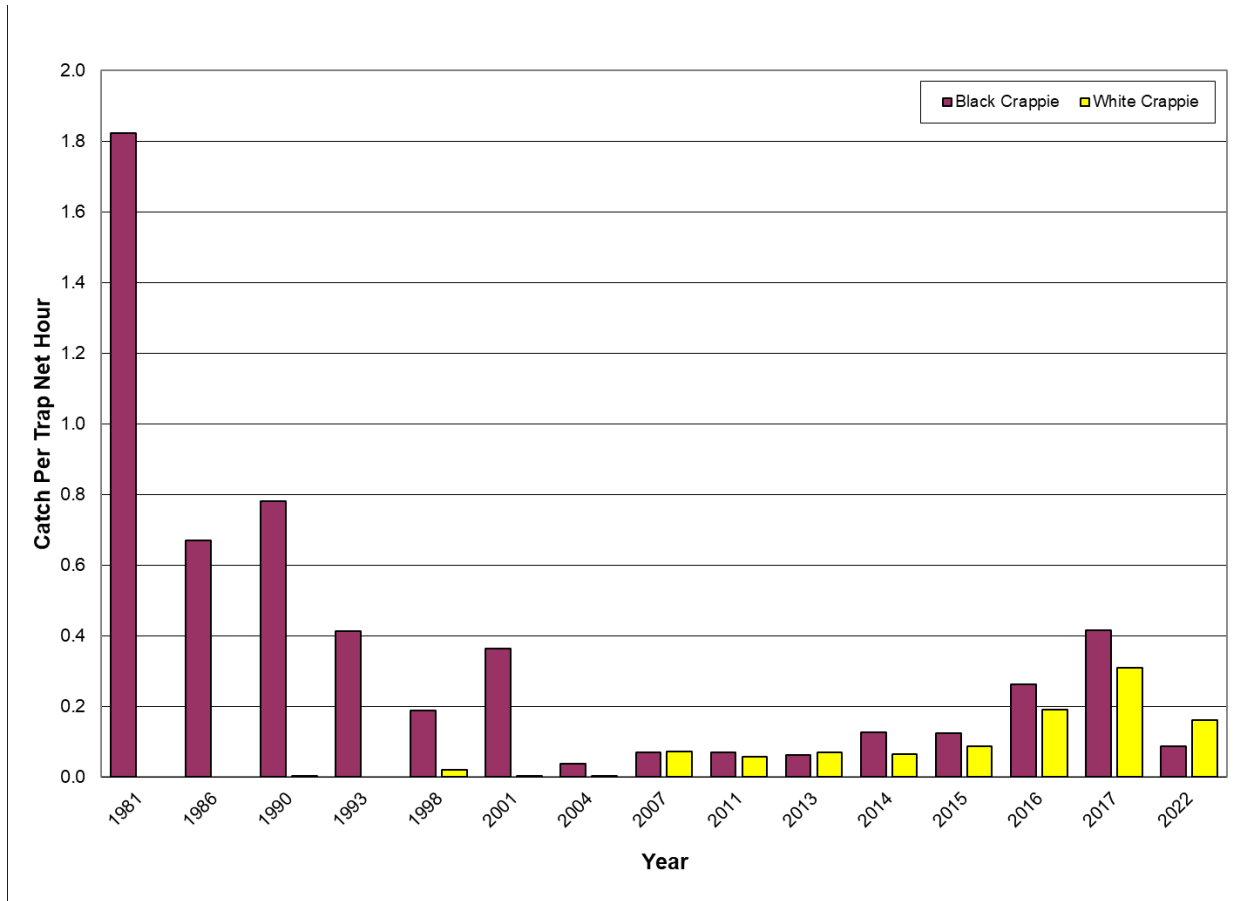




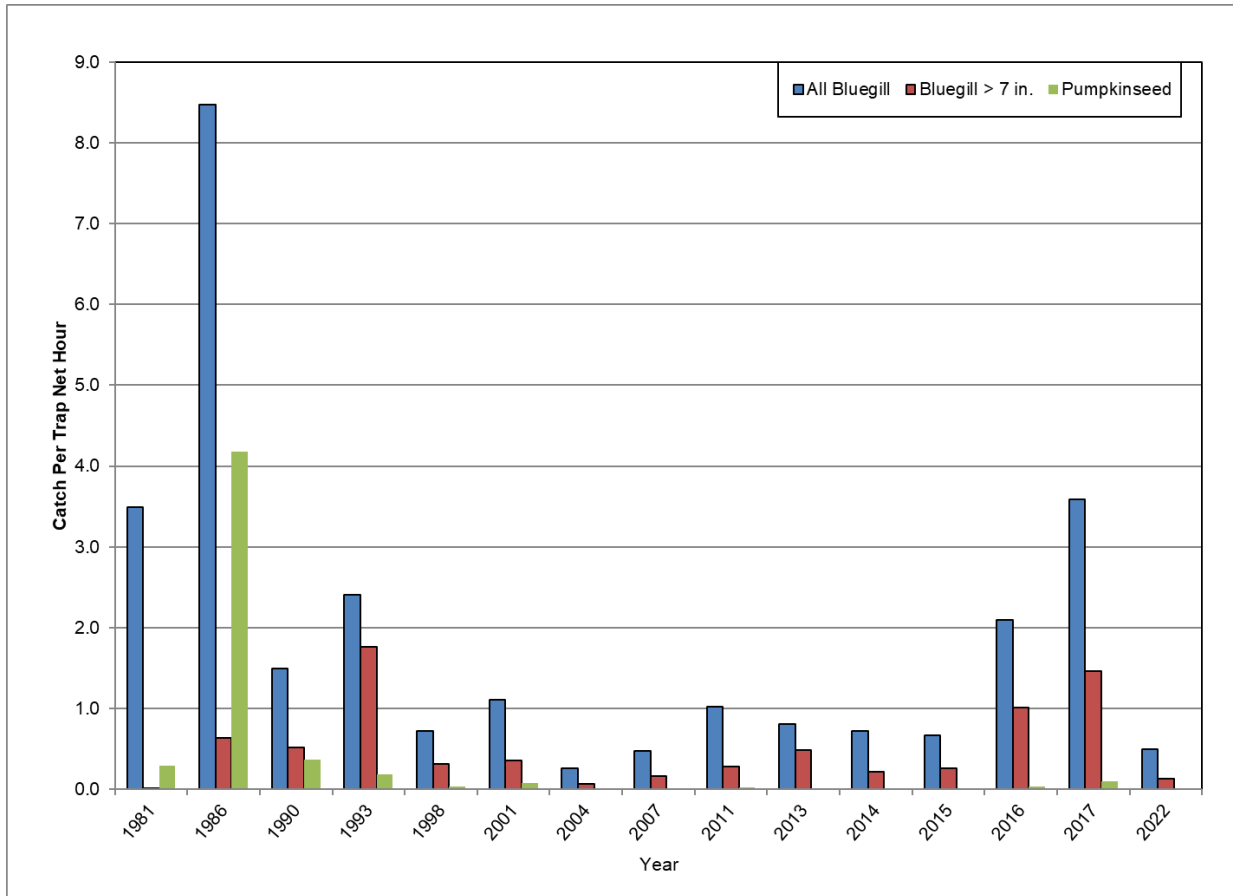
*Area Fisheries Manager Tim Wilson with a healthy Lake Arthur Walleye*

Black Crappies, White Crappies, and Bluegills all showed lower densities from previous surveys (Figures 4 & 5). Lake Arthur has been listed as a Best Fishing Water for Bluegills, but current trap net catch rates will likely cause that designation to be removed.

**Figure 4. Comparison of Black Crappie and White Crappie catch per trap net hour in Lake Arthur, 1981-2022.**



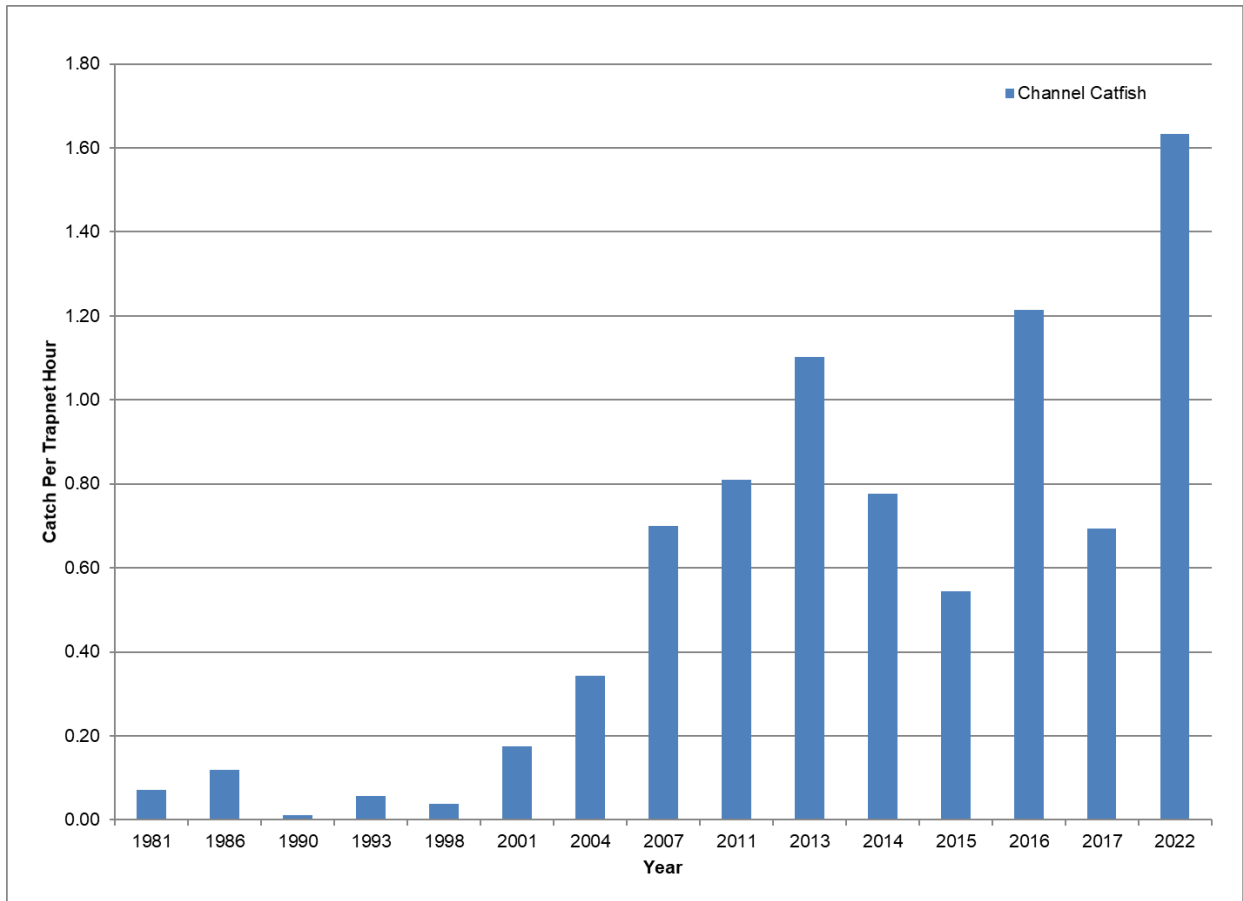
**Figure 5. Comparison of Bluegill catch per trap net hour in Lake Arthur, 1981-2022.**



Channel Catfish continue to increase in abundance, while maintaining a high abundance of quality sized fish (Figure 6). This fishery is maintained entirely through natural reproduction.

Flathead Catfish are a new arrival to Lake Arthur and were likely the result of unauthorized stocking. When introduced to a new water, they may exhibit the characteristics of other “invasive species”. Their impact on the resident fisheries, especially panfish, can’t be predicted at this time. Now that they are present and naturally reproducing in the lake, we can only monitor those affects. Several regurgitated crappie species over 12 inches in length were found in our trap nets that also contained Flathead Catfish.

**Figure 6. Comparison of Channel Catfish catch per trap net hour in Lake Arthur, 1981-2022.**



***Tim Wilson***  
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