



## **John W. Flannagan Reservoir 2017 Angler Survey Report**

Flannagan Reservoir is a 1,143-acre impoundment located in Dickenson County. The reservoir was built to provide flood control, fish and wildlife habitat and recreational opportunities. The U.S. Army Corps of Engineers completed construction of the dam and project in 1964. Fifty miles of beautiful shoreline consisting of mature hardwood forest interspersed with spectacular rock bluffs surround this deep, clear reservoir. At full pool elevation of 1,396 feet above sea level, the lake has a maximum depth of 166 feet and an average depth of 58 feet. The lake level fluctuates about 16 feet in a normal water year. The lake is drawn down to winter pool during October and November, and is typically returned to summer pool in April.

Flannagan Reservoir is home to a variety of sport fish species including: largemouth and smallmouth bass, walleye, hybrid striped bass, channel catfish, flathead catfish, crappie, bluegill, rock bass, common carp and musky. Alewives and gizzard shad provide forage for the sportfish populations. Most of these populations are self-sustaining and do not require maintenance stockings.

In addition to annual electrofishing and gill net samples, the Flannagan Reservoir fishery is monitored with periodic angler surveys to estimate angling effort, species preference, total catch and harvest, as well as angler characteristics. The last angler survey on Flannagan Reservoir had been conducted over ten years ago. Therefore, a new year-long angler survey was initiated in January 2016. A stratified-random access point design was used to intercept anglers at the conclusion of their fishing trip. Surveys were conducted approximately ten days per month. Questions asked during the interview included the amount of time fished, target species, number of fish caught and released, gear used, and level of satisfaction.

### Angling Effort

A total of 329 angling parties were interviewed during the year-long angler survey. These anglers spent an estimated 48,779 hours fishing Flannagan Reservoir in 2016. It should be noted here that since interviews were only conducted during daylight hours, this estimate does not account for night time fishing effort and should be considered a conservative estimate of the total effort directed at this fishery. Angling effort on Flannagan Reservoir was highest during late spring and summer months with peak effort occurring in June (15,344 hours; Figure 1). The period of May-October accounted for 92% (45,068 hours) of annual angling effort. This was comparable to the angling effort estimated during May-October in 2003 (46,553 hours), but about half of that estimated in 1998 (89,179 hours). Bank fishing effort accounted for just 15% of the total angling effort in 2016.

Nearly half (47%) of the anglers indicated that they were targeting black bass (largemouth bass and smallmouth bass) while fishing Flannagan Reservoir (Figure 2). The percentage of anglers targeting black bass in the current survey was lower than that observed in 2003 (65%), but comparable to that observed in 1998 (53%). Bluegill was the next most sought after species group with 22% of anglers reporting this as their target. Eleven percent of anglers were fishing for walleye/saugeye. In 2003, 8% of the anglers reported walleye as their target species while in 1998 just 1% of anglers were targeting walleye. Hybrid striped bass were not being stocked in Flannagan Reservoir during the 1998 angler survey, but in 2003 approximately 7% of anglers sought hybrid striped bass. In the current survey 9% fished for hybrid striped bass.

### Angling Success

Overall angling success was good in the 2016 survey with anglers catching about 1.1 fish per hour of fishing. This was nearly identical to the overall angling success observed in 2003. An estimated 52,518 fish were caught by anglers during the year-long survey period with 5,698 of these being harvested (Table 1). This represents an overall release ratio of 89%, which is similar to that estimated in 2003 (85%). Anglers released approximately 89% of largemouth bass and 97% of smallmouth bass caught. The lowest rate of release was seen for crappie (56%) followed by walleye/saugeye (69%).

Most (74%) of the largemouth bass caught by anglers were in the 12-20 inch length range and an additional 2% exceeded 20 inches. Largemouth bass in the 12-20 inch size range accounted for 100% of the harvest of this species. Similar to largemouth bass, most (70%) of the smallmouth bass caught by anglers measured between 12 and 20 inches. However, no smallmouth bass larger than 20 inches were reported having been caught by anglers. The majority (55%) of crappie caught by anglers were smaller than the 10-inch minimum length limit for this species. Thirty-six percent of the crappie caught were in the 10-12 inch length range and these fish accounted for 83% of the total harvest for this species. Eight percent of the crappie caught exceeded 12 inches. Hybrid striped bass in the 15 to 20 inch length range accounted for most (69%) of the hybrids caught by anglers and 17% exceeded 20 inches. Just 33% of the walleye caught by anglers on Flannagan Reservoir were longer than the 18-inch minimum length limit for this species. Conversely, 78% of saugeye caught during the survey period were of legally harvestable size. This pattern in walleye/saugeye size distribution was also observed during spring electrofishing and fall gill netting samples in 2016.

### Angler Characteristics

Approximately 97% of the anglers that fished Flannagan Reservoir were from Virginia with 94% of all anglers coming from the counties of Dickenson, Buchanan, and Wise. Two percent of the anglers encountered were from Kentucky. The average one-way distance that anglers traveled to fish the reservoir was 17 miles. This evidence combined suggests that the Flannagan Reservoir fishery is very localized in nature.

The majority (59%) of anglers used artificial lures solely while fishing Flannagan Reservoir and 17% used natural or scented bait. Twenty-four percent of anglers used both of these during their angling trip.

During the interview, anglers were asked to rate their satisfaction with their fishing success for that day based on a scale from 1 to 5 with 1 being very dissatisfied and 5 being very satisfied. Approximately 19% of anglers expressed some level of dissatisfaction (rating of 1 or 2) with their angling success. However, based on the number of anglers rating their satisfaction as a 4 or 5, it appears that the majority (55%) of anglers were satisfied.

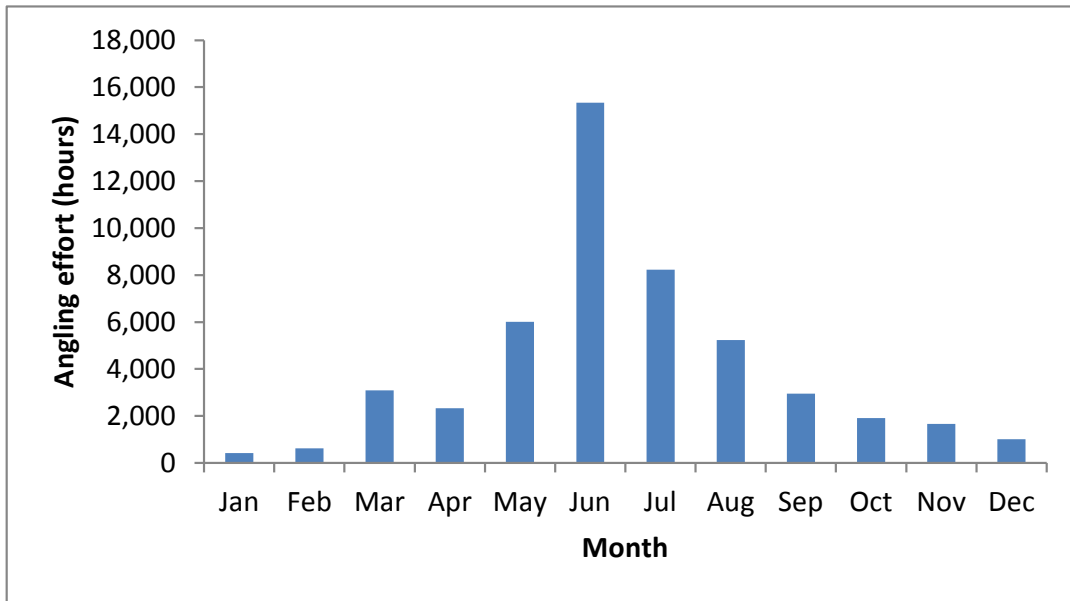


Figure 1. Monthly angling effort estimated during a creel survey on Flannagan Reservoir in 2016.

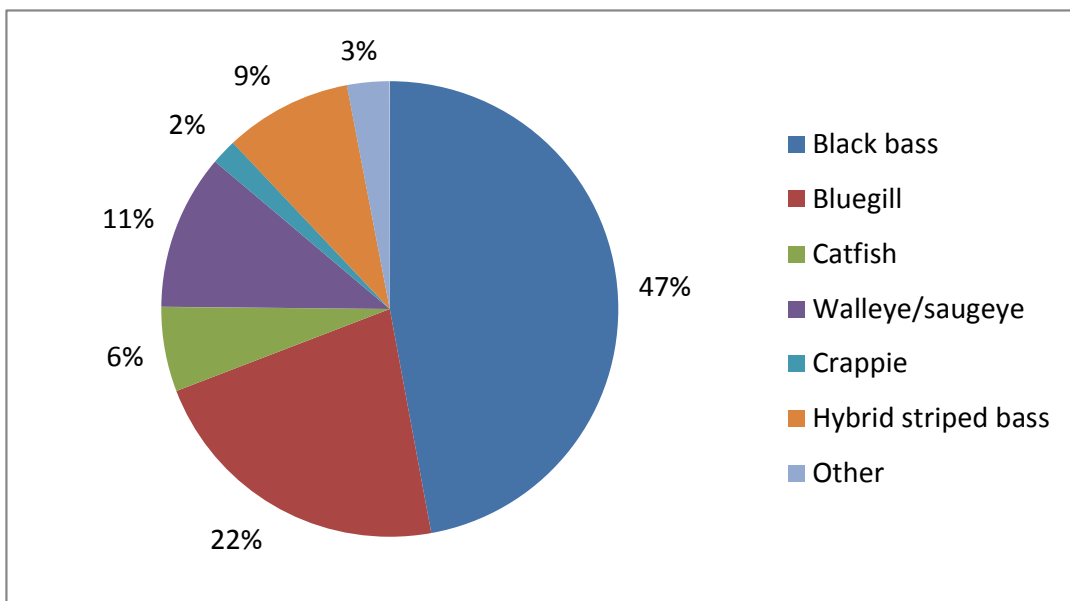


Figure 2. Target species reported by anglers during a creel survey on Flannagan Reservoir in 2016. Table 1. Total catch, harvest, and release of major gamefish species on Flannagan Reservoir during 2016 angler survey.

<b>Species</b>	<b>Number</b>			<b>% Released</b>
	<b>Caught</b>	<b>Harvested</b>	<b>Released</b>	
Bluegill	37,262	3,223	34,039	91
Catfish	1,607	320	1,287	80
Crappie	696	305	391	56
Largemouth bass	4,902	541	4,361	89
Smallmouth bass	2,106	68	2,038	97
Hybrid striped bass	1,026	255	771	75
Walleye	1,848	561	1,287	70
Saugeye	272	91	181	67

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