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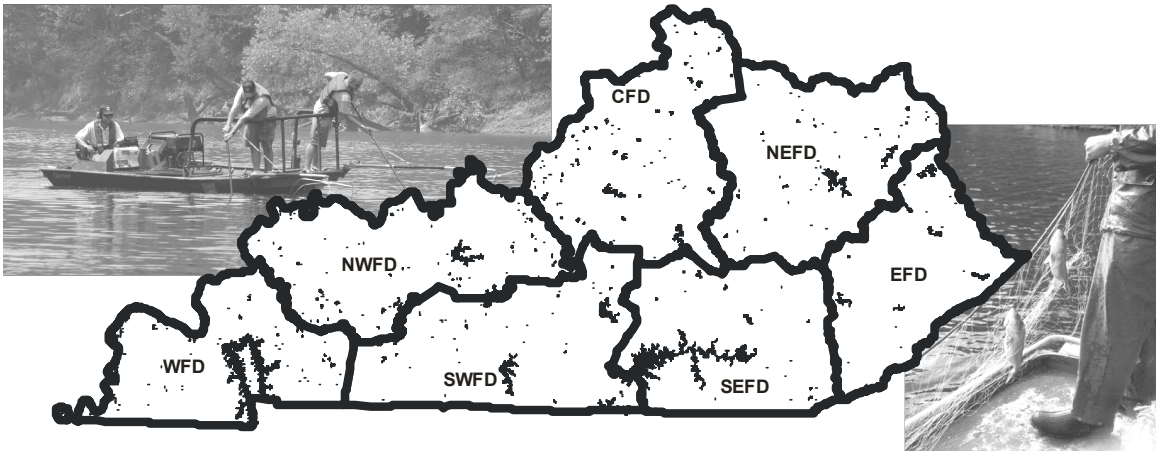
ANNUAL PERFORMANCE REPORT

District Fisheries Management

Projects 1-4



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WESTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Sampling conditions for each survey event are listed in Table 1.

Kentucky Lake

During the spring, 556 black bass were collected by diurnal electrofishing (120 PPS, DC current). During this sampling period, 496 Largemouth Bass (86.3 fish/hr) were collected from Blood River, Jonathan Creek, and Big Bear (Table 2). The catch rate (fish/hr) for Largemouth Bass was highest in Big Bear (95.3 fish/hr). Unlike previous years, Sugar Bay was not sampled. This was done to avoid interference with the ongoing snorkel surveys of the bass spawning habitat in that embayment.

The spring bass data was used to complete the lake specific assessment (Table 3). The lake specific assessment suggests that the largemouth bass population rated "Fair". The catch rate of age-1 Largemouth Bass in the sample was good indicating a good spawn in 2021. This is very encouraging as our year classes have been inconsistent in recent years. Our habitat plan is focused on increasing recruitment of Largemouth Bass in the reservoir by placing shoreline cover in the form of small laydowns and artificial bass spawning beds. We are hopeful that improving habitat can help the bass population return to its previous highs from 2008 to 2014.

The size structure parameters used to assess the fishery by standards set in the Kentucky Lake Fish Management Plan (KLFMP) showed an above average catch of <8.0-in bass (Table 4). The catch rate of intermediate-size bass (12.0-14.9 in) which was (15.7 fish/hr) was below the plan recommendation. The increase from last year was expected due to the strong year class of 2020. The catch rate of harvestable-size bass ($\geq$15.0 in) increased from the previous years' data and exceeded the plan recommendation. The catch rate of trophy-size Largemouth Bass ($\geq$20.0 in) was also below the average for the last 10 years and was below the KLFMP recommendation. The dominant size group of adult Largemouth was around 16.0 in which was expected based on the strong year class in 2016 (Table 2).

Proportional Size Distributions (PSD) values were calculated for black bass collected from each embayment sampled during the spring (Table 5). The average PSD and RSD_{15} values for Largemouth Bass were 61 and 34, respectively. These average values were used in the KLFMP assessment. The PSD value is within the assessment preferred range (55-75; Table 4). The RSD_{15} also falls inside the targeted range (RSD_{15} of 20-40).

During October, 398 black bass were collected by diurnal electrofishing (120 PPS, DC current) from three embayments; Blood River, Jonathan Creek, and Sugar Bay (Table 6). Largemouth Bass comprised 70% (65.7 fish/hr) of the sample in Blood River and Jonathan Creek. Smallmouth Bass comprised 28% (26.5 fish/hr) of the 2022 sample for those two embayments, but no longer outnumbered the Largemouth in Blood River. Based on length frequency it appears that most of those Smallmouth were young-of-year, but this may be due to sampling bias.

Length and weight data were recorded from all bass collected during the fall sample to calculate relative weight values. The mean relative weight for harvestable-size Largemouth Bass was 92 (Table 7). This value was down from the 2021 estimated relative weight value of 94 and is just outside the preferred range of 95-105. The relative weight of Largemouth Bass is one parameter that is being watched as an indicator of the effects of the population of Silver and Bighead carp in the lake. If Silver and Bighead carp numbers increase, they could impact the plankton levels and hence the upper levels of the food chain.

Length-weight equations for black bass species at Kentucky Lake are:

Largemouth Bass	Log_{10} (weight) = -3.47880 + 3.16323 x Log_{10} (length)
Smallmouth Bass	Log_{10} (weight) = -3.48509 + 3.14160 x Log_{10} (length)

Otoliths were collected from a subsample of Smallmouth Bass and Largemouth Bass (<10.0 in) during fall sampling in 2022. Otoliths were used to age bass so that the catch rate and growth of age-0 fish could be evaluated. The catch rates of age-0 Smallmouth and Largemouth bass during the fall sample were 22.7 and 48.1 fish/hr, respectively (Tables 8 and 9). The 2022 year class appears to be average, with below average growth, although growth did improve slightly from the prior year. The mean length of the age-0 Largemouth Bass was (4.7 in) at time of capture in the fall. The catch rate of age-0 Largemouth Bass ≥5.0 in was 17.7 fish/hr.

Because of a string of several weak bass spawns, WFD started placing bass spawning habitat in Kentucky Lake and Lake Barkley prior to the bass spawn in spring 2019. Habitat consisted of shallow-water laydowns (sometimes referred to as spawning benches) and artificial spawning beds. Artificial spawning beds are bowl-shaped structures that provide preferred substrate for bass. Our artificial beds were initially constructed with plastic sides but we have since changed our design to all concrete. Habitat was placed at water elevations slightly below winter pool in areas that were perceived as lacking good habitat. Our goal is to provide sufficient habitat at lower water elevations because it is possible that bass are sometimes ready to spawn before water is high enough to reach good shoreline habitat in the spring. A reduction in competition for habitat resources could lead to higher individual nest success. To help determine how fish use these structures we conducted 11 weekly snorkel surveys from March 31 – June 9, 2022, at Sugar Bay on Kentucky Lake (Table 10). We rated the relative amount of observed eggs and fry at 68 sites and collected egg and fry samples to help with identification. An additional rating of "cleaned off" was added to track beds that had been brushed clean of debris but had no eggs or fry. Summary percentages of usage are in Tables 11, 12, and 13.

In 2022, 40% of the sites were used at least once by spawning bass including 3% of sites that were used twice by bass. Forty-four percent of artificial beds next to laydowns were used by bass, while artificial beds without laydowns were used at a rate of 43%. The usage rates of laydowns without artificial nests were lower at 27%. Once water temperatures started to warm up closer to 70F, sunfish started to use our spawning habitat heavily. About 65% of all experimental habitat sites were used at least once by sunfish, and 74% of the artificial spawning beds were used by sunfish. Usage rates in 2022 were lower across the board than in 2020-2021 (Table 13). We can speculate this was simply due to unfavorable environmental factors. However, we could also be seeing a decline in effectiveness as our structures age. We plan to continue this survey effort to see what trends arise.

Across 68 sites in Sugar Bay, we suspect 29 individual bass spawning events occurred based on weekly snorkel surveys. During the spawn of 2022 we had 366 artificial beds and 195 laydowns deployed in Kentucky Lake and 575 artificial beds and 1575 laydowns in Lake Barkley. Based on snorkel survey results, we determined the rate at which bass spawned at three different site types (artificial bed with an adjacent laydown; artificial bed only; and laydown only) in 2022. These rates differ slightly from usage rates because some sites produced multiple spawning events. If we assume identical rates across both lakes, we can extrapolate those numbers and estimate that bass spawned 427 times on our habitat in the spring of 2022. A typical bass nest may contain anywhere from 2,000-7,000 fry after hatch (Post et al., 1998), meaning our spawning habitat could have helped with the spawn of anywhere from about 855,000-3,000,000 bass fry. It is possible however that bass would have spawned in these areas even without any artificial spawning habitat. This makes it very difficult to estimate the amount of additional bass fry produced because of our spawning habitat. During snorkel surveys we rarely noted any natural beds away from our habitat, but visibility often made that very difficult.

In order to further understand the timing and duration of the bass spawn, shoreline seining was conducted in Blood River on June 15, 2022, and in Sugar Bay on June 16, 2022. A 50-foot seine with ¼-in mesh was used to collect YOY Largemouth Bass until a total of 100 specimens were collected from each embayment. One-hundred Smallmouth Bass were also collected from both embayments. Each bass was measured for total length in mm and the sagittal otoliths were removed. Otoliths were mounted convex side up using thermoplastic cement, sanded with 1200 grit sandpaper, and polished with 0.3-micron alumina powder.

Each otolith was aged independently by two readers using a compound microscope at 100x-400x magnification. Reader agreement was typically within 1-3 days, but if the difference between readers was less than 10% of the fish's estimated age, the counts were averaged and accepted. To determine hatch dates we used the equation [(ordinal date collected)-(average ring count)-5)] (Dicenzo and Bettoli, 1995). To determine what dates bass were spawned on (when spawning activity took place on the nest), we used the equation [(hatch date)-3] (Heidinger, 1976). The results of the hatch date and spawn date analysis are provided in Tables 14 and 15.

Differences in spawn dates between species and embayments were initially compared with an F-test for variances. Then, depending on equal or unequal variance, the spawn dates were compared using appropriate T-tests. In 2022, the average Largemouth Bass spawn date in Sugar Bay (April 26±0.5 days) was not significantly different than in Blood River (April 26±0.7 days; p=0.438). The average Smallmouth Bass spawn date in Sugar Bay (April 26±0.6 days) was significantly earlier than in Blood River (April 27±0.5 days; p=0.050). However, the difference in average spawn dates was only 0.75 days and likely did not lead to any widespread differences among the two embayments. When both embayments were combined, the average Smallmouth Bass spawn date (April 26±0.4 days days) was not significantly different than the average Largemouth Bass spawn date (April 26±0.4 days; p=0.200). In 2022, the average spawn dates for both species in both embayments were all within one day of each other, and the overall spawning window seems to have been much shorter than it has been since this sampling effort started in 2019. Based on these results it seems unlikely that differences in size or abundance of the 2022 cohort among bays should be attributed to differences in spawn timing due to the presence or absence of the experimental spawning habitat.

Trap nets were fished for Crappie, White Bass, Yellow Bass, and Redear Sunfish in Blood River and Jonathan Creek embayments for 80 net-nights (nn) during October and November. In addition, Sledd Creek was sampled for 40 nn. Length frequencies of all species collected are provided in Table 16. Crappie otoliths were collected from a subsample of the entire population and used to assign ages and calculate mean lengths at age. The combined sampling effort yielded 906 crappie (7.6 fish/nn), of which 3.5 fish/nn (46%) were White Crappie and 4.1 fish/nn (54%) were Black Crappie (Table 17). The Blood River and Jonathan Creek data are listed as “sub-total” on Table 16 and only data from these two embayments were used in the proceeding assessments. The total catch rate of crappie >age 0 was 4.9 fish/nn which is well below the goal of 20.0 fish/nn set in the KLFMP (Table 18). The low total catch rate reflects the weak spawns in 2016, 2017, and 2020. However, the catch rate of 5.1 fish/nn for age-0 crappie this fall marks two consecutive years with respectable catch rates.

The number of crappie $\geq$8.0 in and $\geq$10.0 in collected in trap nets was 1.6 and .86 fish/nn, respectively (Table 18). The KLFMP objective for crappie is to maintain a catch rate of at least 10.0 fish/nn for crappie $\geq$8.0 in, and 4.0 fish/nn for crappie $\geq$10.0 in. Neither objective was met this year.

Crappie at Kentucky Lake had slightly below average growth rates in 2022. The growth management objective in the KLFMP is for age-2 crappie collected in the fall to reach 9.5 inches in length. The average length of the age-2 crappie collected this year was 8.7 in (Table 18). However, White Crappie growth was above average at 11.0 in.

Another management objective in the KLFMP is to maintain a catch rate of age-1 crappie of at least 11.0 fish/nn (Table 18). The catch rate for this age group of crappie was 3.44 fish/nn. This indicates a slightly below average spawn in 2021 and is well below the management objective. To help improve the year classes we continue to evaluate the crappie hatch on a daily and weekly level to help provide advice to the Tennessee Valley Authority and the U. S. Army Corps of Engineers who manage the water levels and flows. For a discussion of the potential effects of environmental factors on the spawn, please refer to the 2017 Annual Performance Report.

These parameters are also used as part of the calculation for ranking the crappie fishery at Kentucky Lake. Overall, the crappie population at Kentucky Lake rated "Poor" this year (Table 18). However, the catch rate of age-0 crappie was encouraging.

The fall trap netting data was used to calculate proportional size distributions and length-weight equations for crappie. PSD and RSD_{10} values are reported in Table 19

The mean relative weights of keeper-size (>10.0 in) White Crappie and Black Crappie were (99) and (98), respectively (Table 20). These relative weights are a great improvement over the last few years and represent excellent condition. Low numbers of adults and anecdotally high numbers of shad were likely the main drivers for this increase in condition factor. This is in stark contrast to 2017 when skinny crappie were a major source of complaints and concerns. Relative weights for White and Black crappie in 2017 were (89) and (85), respectively.

Length-weight equations for White and Black crappie are listed below.

White Crappie	Log_{10} (weight) = -3.76140 + 3.51008 x Log_{10} (length)
Black Crappie	Log_{10} (weight) = -3.93521+ 3.65440 x Log_{10} (length)

Tables 21-26 list the back-calculated lengths at age for all White Crappie, all male White Crappie, all female White Crappie, all Black Crappie, all male Black Crappie, and all female Black Crappie, respectively. Differences in growth rates between sexes were not obvious for either species. The mean length at capture and Von Bertalanffy growth parameters for the present year are provided on Table 27. Von Bertalanffy growth parameters were calculated in F.A.M.S. (Fisheries Analysis and Modeling Simulator) by entering the length at capture and assigning it an age of 0.8 for the current year. (i.e. 2 year old fish were entered as 2.8 year old fish to reflect the percentage of growth between annulus formation and date of capture in the fall). The age frequencies for White and Black crappie collected are listed in Tables 28 and 29, respectively. The poor White Crappie spawns reported in 2016 and 2017 are once again very noticeable as no 5- or 6-year-old White Crappie were collected in 2022.

During the spring of 2022, ichthyoplankton sampling was conducted in the Jonathan Creek embayment of Kentucky Lake. Weekly sampling began March 31, 2022, and ran through June 9, 2022. Samples were conducted using a rectangular neuston net with a 1000-micron mesh size, towed 50 feet behind a boat, at a speed of 1.5 mph. Tow duration was either 5 or 3 minutes depending on an a priori assessment of the expected concentration of ichthyoplankton and *leptodora* to prevent clogging. A General Oceanics flowmeter was attached inside the mouth of the net to record the volume of water sampled during each run. Sampling began just after dusk and always followed the same site order. Each sampling event started closest to the main lake site and then progressed farther into the embayment (Appendix A).

Ichthyoplankton samples were preserved immediately in 95% ethanol and stored in mason jars. All larval fish were sorted and identified to the lowest practical taxon using "A Practical Key to Identify Families, Genera, and Species of Fish Larvae Commonly Collected in Tennessee Reservoirs" (Sammons, 1999), "Preliminary Guide to the Identification of Larval Fishes in the Tennessee River" (TVA, 1976), and "Early Development of Four Cyprinids Native to the Yangtze River, China" (Chapman, and Wang, 2006; Bolu Yi, et al. 1988). Once identified, fish were counted and measured for total length. In cases of more than 100 individuals in a sample, a random subsample of at least 30 individuals was measured and used to extrapolate the lengths of the fish from the entire sample. Larval crappies were not identified to species due to overlapping myomere counts between both species and their hybrids (Spier and Ackerson, 2004).

The geometric mean and median of the 6 sample sites were used to evaluate overall densities during each week (Table 30). The standard error and coefficients of variation of the mean and geometric mean were used to evaluate sample accuracy. In 2022, the peak weekly density of crappie occurred on May 26th and was 84.8 crappie/1000m^3 (Table 31). This peak density, interestingly, was exactly the same as 2021 but occurred one week earlier. The peak in 2022 is tied for the second highest since 2015 (Table 32). Based on these results, the crappie spawn in Jonathan Creek in 2022 appears to have been average to above average. This will still need to be verified by trap netting age-1 crappie in 2023. After tracking the crappie spawn since 2015 using ichthyoplankton nets, we have noticed a trend that the peak crappie catch rate in the spring is a good predictor of age-0 catch rates in fall trapnets (Regression R^2=0.94, $p<0.001$; Figure 1) and age-1 catch rates in trapnets the following fall (R^2=0.85, p=0.003; Figure 2). This result supports the hypothesis that crappie year class strength is set at or prior to the larval phase.

In order to determine the hatch dates of crappies more precisely, based on growth rates, all crappie that were 7–12 mm in total length were assumed to represent a one-week cohort (Table 31). Crappie in this size range appeared to be fully recruited to the gear and were best represented in the sample. It is possible that crappie shorter than 7 mm were not located in the pelagic sample sites yet, and that crappie over 12 mm were more likely to avoid capture. This length range was also chosen because a 7 mm crappie would grow to 12.1 mm in one week (our sample interval), based on a growth rate of 0.86 mm per day after swim up. This was our estimated daily growth rate from daily otolith ring counts of Jonathan Creek crappie collected later in the year (next section).

In addition to weekly cohorts, we also estimated daily cohorts of hatched crappie. All crappie that were captured outside of the 7– to 12-mm length range were excluded from the hatch date analysis to minimize the effects of gear bias and the longer exposure to natural mortality of older fish (Table 33). A hatch date was then back-

calculated for each individual fish using the assumed growth rate (0.86 mm/day) and the total length of each fish. A total length at hatch (4 mm) was factored into the regression for hatch date. This technique has been employed in other systems (Mitzner 1991). An incubation period of 95 hours (based on temperature) was also factored into the regression so that the day when fertilization occurred could be estimated.

The estimated hatching densities indicated that the spawn in Jonathan Creek lasted at least 34 days and extended at least until late May (Table 33). It is possible that crappie did spawn after our sampling window, however, crappie catches started declining and the literature reports most crappie spawns to be relatively short (1-2 months; Mitzner 1991 and Travnichek, et. al.1996). There seems to have been one strong peak in spawning activity in 2022 along with one lesser peak about 2 weeks prior. The highest amount of spawning occurred from May 9 to May 11. Similar to prior years' surveys, we found higher densities of larval crappie farther into the embayment, west of the Highway 68 bridge (Table 30; Appendix A).

In June 2022 an effort was made to capture YOY crappie using a benthic otter trawl. Crappie were identified to species using dorsal fin counts, and otoliths were collected from a subsample of approximately 100 crappie for daily ring count analysis. The subsample was collected randomly without regard to crappie species or size. Crappie trawling has typically been conducted in the fall to assess year class strength. However, an earlier sample was necessary for accurate daily ring counts since those counts can become unreliable in fish >100 days old (Sweatman and Kohler, 1991). Trawling runs were conducted in Jonathan Creek because this is where the larval sampling occurred during the spring. To evaluate whether hatching periods and growth rates differed by embayment, trawling was also conducted at Blood River embayment. Otoliths were mounted convex side up using thermoplastic cement, sanded with 1200 grit sandpaper, and polished with 0.3-micron alumina powder.

Each otolith was aged independently by two readers using a compound microscope at 100x-400x magnification. Reader agreement was typically within 1-4 days, but if the difference between readers was less than 10% of the fish's estimated age, the counts were averaged and accepted. In 2022, one fish was excluded based on reader disagreement. We were able to estimate an average daily growth rate for both species of crappie by using the equation described by Sweatman and Kohler (1991) [(total length mm-4mm)/#days old-4 days]. This growth rate estimate was coupled with the larval data to provide an accurate estimate of crappie hatch dates in Jonathan Creek as described earlier (Table 33). There is no way to practically differentiate between crappie species in the larval samples. Therefore, the estimated growth rate used in the larval hatch date back calculation combined both species together. Our estimated growth rate of 0.86 mm/day was similar to 2021 (0.90 mm/day) but still higher than the normal 0.67-0.71 mm/day we've seen throughout the years of this project.

Because the collection of black crappie was so low (n=23 of 199; Table 34), both black and white crappie were combined when making comparisons across embayments. Differences in growth rates and hatch dates between embayments were initially compared with an F-test for variances. Then, depending on equal or unequal variance, comparisons were made using appropriate T-tests. In 2022, crappie in Blood River had a faster average growth rate (0.92mm/day) than crappie in Johnathan Creek (0.86 mm/day; $p<0.01$). Additionally, the average crappie hatch date in Johnathan Creek (May 13±0.7 days) was significantly different than in Blood River (May 10±0.7 days; $p<0.01$).

The catfish population was sampled at Kentucky Lake during June by using low pulse (15 PPS) electrofishing along the main lake river channel. A chase boat was utilized to help collect catfish around the electrofishing boat. One dipper was used in each boat. A total of 98 catfish were collected during 60 electrofishing runs (Table 35). Each run lasted 300 seconds, for a total sample time of 5.0 hours over a five-day period. Patterson's bay required three separate trips due to high winds. Of the samples, blue catfish had the highest catch rate at 10.8 fish/hr and made up 53% of the catfish collected. The catch rate was lower than observed in some previous years, but consistent with the last four years' results. Relative weight values are listed in Table 36. The relative weight values are all high, suggesting the fish are healthy.

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Lake Barkley

Black bass were collected during 8.5 hours of diurnal electrofishing (120 PPS, DC current) during the spring at sampling sites historically used on Lake Barkley. A total of 431 black bass were collected at a rate of 50.7 fish/hr (Table 37). Spotted and Smallmouth bass combined for about 6% of the total black bass sampled. The catch rate of small ($\leq$ 8.0 in; 15.1 fish/hr) Largemouth Bass was below our long-term average dating back to 1997, while being very similar to our current ten-year average (14.6 fish/hr). Catches of intermediate-size (8.0-11.9 in) Largemouth Bass were about equal to the current ten-year average, while the catch rates of large ($\geq$ 15.0 in) and larger ($\geq$ 18.0 in) Largemouth Bass continue to be below both long-term and ten-year averages for these size groups. Several below-average spawns from 2014-2021 on Lake Barkley resulted in weak catch rates of age-1 fish following those spawns and have likely reduced the overall numbers of large bass currently in the system. However, in 2021 the recruitment of Largemouth Bass (catch rate of age-1 fish in the spring; 41.7 fish/hr) was the 5th highest it has been since 1997. The long-term average for age-1 Largemouth Bass in the spring is about 25.0 fish/hr, so we are optimistic that this strong 2020 cohort will provide a boost to the larger size classes of fish in the coming years. The overall Largemouth Bass catch rate was 47.9 fish/hr which is below the average of the past ten years and one of our lowest catches recorded since the early 1980s (Table 38). The overall Smallmouth Bass catch rate was 2.7 fish/hr which is about equal to the average since 2005 which is when Smallmouth Bass started getting consistently collected in our spring sample at Lake Barkley.

The overall PSD and RSD_{15} values for Largemouth Bass at Lake Barkley, along with values for individual embayments are listed in Table 39. The PSD value (72) is within the objective goal (PSD of 55-75) established in the Barkley Lake Fish Management Plan (BLFMP). This value indicates a balanced bass fishery. The RSD_{15} (33) was also within the set goal (20-40).

The lake specific assessment score for Lake Barkley was "Poor" (Table 40). The score was "Fair" or "Poor" for most of the last decade. Seasonal flooding as well as the occasional drought may have affected sampling in some years which in turn negatively influenced the assessment score. However, spring catch rates of most size classes of Largemouth Bass have generally been below average during this time as well. The fishery showed improvement in these ratings in 2017 and was rated as "Good". However, generally low catch rates overall have since negatively affected the score. We calculated age-3 Largemouth Bass mean length at capture as outlined by Murphy and Willis (1996) in addition to the traditional method. This method uses a weighted average based on the age-length key and includes all sampled fish per age class. Although differences are slight, we do feel that this calculation more accurately describes this metric, as all spring-sampled bass are included in the calculation. The annual mortality of Largemouth Bass older than a year was 36% as determined using catch-curve regression of fall-caught Largemouth Bass (Table 40).

Black bass were sampled in October to collect length-weight data to assess condition factors and to determine the strength of the 2022 year class. A total of 752 bass were collected from Little River, Eddy Creek, Taylor Bay, and Jakes Fork Bay with about 78% being Largemouth Bass (Table 41). For historical comparisons, only data from Little River and Eddy Creek were used in the standardized population parameters of Lake Barkley bass. Largemouth Bass were caught at a rate of 106.5 fish/hr which is just below the historical average going back to 1998. The catch rate of small fish (<8.0 in) was nearly double the historical average and made up the majority of the fall catch. Catch rates of intermediate and large-size Largemouth Bass were all below their respective ten-year averages. Additional larger fish were collected from Donaldson Creek, Linton Bay, and Kuttawa for relative weight calculations. Relative weights were determined for all bass, but few adult Smallmouth Bass were collected (Table 42). Relative weights for all size groups of Largemouth Bass were good this year. The relative weight for harvestable-size (≥15.0 in) Largemouth Bass from Lake Barkley was 98 which is within the acceptable range. The length-weight equations for black bass at Lake Barkley are:

Largemouth Bass	$\text{Log}_{10}\text{ (weight)} = -3.496 + 3.2043\text{x }\text{Log}_{10}\text{ (length)}$
Smallmouth Bass	$\text{Log}_{10}\text{ (weight)} = -3.441 + 3.1257\text{x }\text{Log}_{10}\text{ (length)}$

Mean length of the age-0 cohort of Largemouth Bass was 3.9 in (Table 43). This cohort has the shortest average length of any year class on record going back to 1984. These fish fall well below our 5.0-in goal. It has been suggested that bass which reach at least 5.0 in by the fall will have a better chance of survival during their first winter. This year's total catch rate of age-0 Largemouth Bass from Little River and Eddy Creek (80.3 fish/hr) was well above the historical average (36.7 fish/hr), while this year's catch rate of age-0 Largemouth Bass over 5.0 in (12.8 fish/hr) was below the average catch rate since 2001 (23.9 fish/hr). This year we again collected age-0 length and catch data on Smallmouth Bass. Mean length of the age-0 cohort of Smallmouth Bass was also 3.9 in (Table 44). Total catch rate of age-0 Smallmouth Bass was 22.0 fish/hr, while the catch rate of age-0 Smallmouth Bass over 5.0 in was 2.0 fish/hr. Despite what seems like great black bass production in spring 2022 based on number of fish, recruitment will likely be determined by over-winter survival which could be low based on such short average lengths.

Taylor Bay and Jake Fork Bay (test bays) were sampled in the fall of 2022 to continue assessing potential effects of artificial spawning habitat on black bass. As stated in the Kentucky Lake section, we have been placing this habitat as a result of some bad spawning years and overall low bass abundance recently. The additional spawning habitat at lower lake elevations in the test bays may provide more preferred areas for bass to spawn and areas for bass to spawn earlier in the year. Bass spawned earlier should, theoretically, be longer when sampled in the fall. Two of the metrics we're using to assess the effectiveness of artificial habitat are catch rate and average length of age-0 fish as compared to Little River and Eddy Creek (control bays), which both have no artificial habitat and are sampled every fall. In test bays there were totals of 211 artificial spawning beds and 235 spawning benches during the spawning season in 2022. Differences in average lengths between embayments were initially compared with ANOVA to test for any differences. If differences were present, we then used an F-test for variances, and then comparisons were made using appropriate T-tests. The average length of age-0 Largemouth Bass in Jake Fork and

Taylor Bay was 4.5 in; statistically equal to Little River (4.3 in; p= 0.25) but larger than Eddy Creek (3.7 in; p<0.01). Interestingly, Little River also had a greater average age-0 length than Eddy Creek (p<0.01). Age-0 Largemouth Bass at Jake Fork and Taylor Bay were caught at 68.0 fish/hr which is greater than Little River (53.0 fish/hr) but less than Eddy Creek (107.5 fish/hr). Age-0 Largemouth Bass over 5.0 in were caught at a higher rate in test bays (18.0 fish/hr vs 11.0 and 14.5 fish/hr). Age-0 Smallmouth Bass displayed no significant differences in average length among test bays (4.2 in) and control bays (3.9 in and 3.8 in; ANOVA p=0.08). Age-0 Smallmouth Bass at Jake Fork and Taylor Bay were caught at 25.0 fish/hr which is greater than Eddy Creek (15.0 fish/hr) but slightly less than Little River (28.5 fish/hr). Experimental spawning habitat produced some interesting points within the 2022 cohort, but overall results were mixed. We will continue monitoring test bays to see if any trends develop in the coming years.

Trap nets were fished for crappie in Little River and Donaldson Creek embayments for 80 net-nights (nn) during October and November. A total of 1329 crappie were collected at a rate of 16.6 fish/nn (Table 45). Additionally, Crooked Creek (LBL) was sampled for another 40 net-nights. Crooked Creek (17.1 fish/nn) also provided a good sample and will remain on the sampling schedule in the future if possible.

White Crappie accounted for 90% of the total catch and were caught at 15.1 fish/nn. Black Crappie accounted for the remaining 10% of the total catch and were collected at a rate of 1.7 fish/nn (Table 45). The mean relative weights for keeper-size (>10.0 in) Black and White crappie were 106 and 108, respectively (Table 46). For historical comparisons, only data from Little River and Donaldson Creek were used in the standardized population parameters of Lake Barkley crappie in Table 47. The catch rate of harvestable-size ($\geq$10.0 in) crappie was 0.5 fish/nn, which is lower than the ten-year average of 1.1 fish/nn. The catch rate of quality-size ($\geq$8.0 in) crappie was 1.8 fish/nn, which is below the management objective (4.0 fish/nn) set in the BLFMP. The catch rate of age-1 crappie (7.8 fish/nn) was good this year and was above the management objective (5.0 fish/nn).

The length-weight equations of White and Black crappie from Lake Barkley are:

White Crappie	Log_{10} (weight) = -4.116 + 3.8569 x Log_{10} (length)
Black Crappie	Log_{10} (weight) = -4.0359 + 3.8504 x Log_{10} (length)

Crappie collected in trap nets in Little River and Donaldson Creek were used to determine stock densities. The PSD (21) of White Crappie was well below the historic average of 56, while the RSD_{10} (6.0) of White Crappie was also below the historic average of 27. These metrics suggest a skewed population of White Crappie with a lot of shorter fish in the system during the fall sampling period (Table 48). The PSD (38) of Black Crappie was well below the historic average of 54, while the RSD_{10} (16) of Black Crappie was slightly lower than the historic average of 20. These metrics also suggest a skewed population of Black Crappie with a lot of shorter fish in the system during the fall sampling period.

Otoliths from 290 crappie were used for age and growth analysis. Ages ranged from 0-3 years for White Crappie and 0-4 years for Black Crappie (Tables 49 and 50). Growth continues to be good as crappie generally reached 10.0 in between age 1 and 2 at capture. There did not appear to be any major differences in growth patterns between male and female White Crappie (Tables 51 and 52) or Black Crappie (Tables 53 and 54). Von Bertalanffy growth curve parameters and mean length at capture are provided in Table 55. Von Bertalanffy growth parameters were calculated in FAMS (Fisheries Analysis and Modeling Simulator) by assigning ages of 0.8 to represent the amount of growth at the time of sampling, i.e. a fish aged at 2 years old was assigned an age of 2.8 to allow for a calculation of length at age instead of length at capture. Separate parameters for Black and White crappie could not be calculated due to the limited number of age cohorts available in the sample.

Age frequencies were estimated by combining catch data with age data. Forty-nine percent of White Crappies captured in Little River and Donaldson Creek were age-0 fish while age-1 fish made up another 49% of the catch (Table 56). Few White Crappies age 2 and older were collected. Seventy-one percent of Black Crappies captured in Little River and Donaldson Creek were age-0 fish while age-1 fish made up another 26% of the catch. Few Black Crappies older than age 2 were collected (Table 57). The age-1 White Crappie catch rate was the 5th highest on record back to 1985. Some of these fish were already legal harvestable size at capture in the fall, and this strong year class should contribute a large increase of legal fish in the lake by late 2023. In addition, preliminary catch data of age-0 White Crappie suggests another good spawn in 2022.

The lake specific assessment of the crappie population yielded a rating of "Good" at Lake Barkley in 2022 (Table 58) The catch of age-1 crappie was above the ten-year average, and the catch of age-0 crappie was equal to our ten-year average. However, catches of larger, older fish have been low in recent surveys. The average lengths of age-2 White Crappie and Black Crappie at capture were 11.3 in and 10.9 in, respectively. In addition, we calculated age-2 crappie mean length at capture as outlined by Murphy and Willis (1996) for all years. This method uses a weighted average based on the age-length key and includes all sampled fish per age class. Although differences are slight, we do feel that this calculation more accurately describes this metric, as all crappie are included in the calculation. The average length of age-2 crappie continues to be good. We are hopeful that the high catch of age-1 White Crappie this year will boost catch rates of larger fish in the next year or so.

The catfish population was sampled along the main lake river channel at Lake Barkley in June and July with low-pulse (15 PPS) electrofishing while utilizing a chase boat to collect fish further away from the electrofishing boat. One dipper was always positioned in each boat for a total of two dippers. A total of 793 catfish were collected during 60 electrofishing runs (Table 59). Each run lasted 300 seconds, for a total sample time of 5.0 hours over a three-day period. Blue Catfish had the highest catch rate at 151.6 fish/hr and made up 96% of the catfish collected. Flathead Catfish and Channel Catfish are likely underrepresented using this method as these fish were often observed but were much harder to approach and dip than Blue Catfish. Relative weight values were all within or greater than ideal values of 95-105, except for Flathead Catfish 12.0-19.9 in, and are listed in Table 60.

Literature Cited

Murphy, B. R. and D. W. E. Willis. 1996. Fisheries techniques, second edition. American Fisheries Society, Bethesda, MD.

Lake Barkley Tailwaters Creel Survey

A random, uniform probability, roving creel survey was conducted on the Lake Barkley tailwaters (75.2 a) from February 16 to December 31, 2022. The Lake Barkley tailwaters creel area extended from the dam to the Highway 62 bridge. The survey was conducted six hours per day with a random time chosen to conduct an angler count. The remaining time was dedicated to interviewing anglers actively fishing. Interviews were conducted at bank access points as no boat was used for this survey. The overall temporal sampling scheme was at least ten days per month, consisting of at least three weekend days and seven weekdays. Varying time period probabilities were assigned to each month. An angler attitude questionnaire concerning fishing at the Lake Barkley tailwaters was conducted by the creel clerk throughout the survey period (Appendix B). Our creel clerk ran this survey simultaneously with another survey at the Kentucky Lake tailwaters (see section below).

During the 2022 creel, the typical angler was a male (92%) resident (79%) who was casting (36%) or bowfishing (35%) from the bank (77%; Table 61). The average fishing trip for all anglers was 2.8 hours. There was a decline in the number of trips of (14,459) and total fishing pressure (39,948 angler hours). These are the lowest numbers of trips and angler hours ever recorded during a Lake Barkley tailwaters creel survey, following a trend starting in the early 1990s. Anglers caught a total of 95,284 fish of 26 species while harvesting 81,519 of these fish. Length frequencies of all harvested or released fish are given in Table 62. During this survey, fish returned to the water with a bowfishing wound or after being dispatched with a knife were considered harvested.

Table 63 provides fish catch and harvest statistics for the 2022 creel survey. Black bass anglers accounted for 3% of all fishing trips to the Lake Barkley tailwaters during 2022 (Table 63), which is approximately equal to surveys back to 2000. There were 473 black bass fishing trips in the 2022 creel. The bass catch rate by bass anglers was 0.54 fish/hr (Table 64) which is about equal to the long-term average. About one quarter of black bass caught were harvested. 54% of black bass caught were Largemouth Bass, while Smallmouth Bass made up and additional 37%, and Spotted Bass made up 8% (Table 65). About 53% of black bass anglers reported being very or somewhat satisfied with black bass fishing at the Lake Barkley tailwaters. (Appendix B).

Catfish anglers accounted for 23% of all fishing trips in the Lake Barkley tailwaters in 2022 (23% in 2019, 34% in 2016; Table 63). The number of trips for catfish (3,301) continues to decline. The catfish fishery remains highly harvest oriented. Almost 77% of the catfish caught were harvested (Table 66). Eighty-five percent of catfish

caught were blue catfish, while channel catfish made up 14% and flathead catfish catch was minimal (Table 67). Almost 75% of catfish anglers reported being very or somewhat satisfied with catfish fishing at the Lake Barkley tailwaters. (Appendix B).

Morone anglers accounted for 9% of all fishing trips in the Lake Barkley tailwaters in 2022 (12% in 2019, 9% in 2016; Table 63). This group includes white bass, yellow bass, striped bass, and hybrids. Positive ID on this genus can be difficult for anglers, so it is possible that some released fish were mis-identified. The number of trips for *Morones* (1,251; Table 68) continues to decline. *Morone* anglers caught 0.3 *Morones*/hr which is about one third of the rate of the most recent surveys. Sixty-eight percent of *Morones* caught were White Bass, while Striped Bass made up an additional 14% (Table 69). About 51% of *Morone* anglers reported being very or somewhat satisfied with *Morone* fishing at the Lake Barkley tailwaters (Appendix B).

Skipjack anglers accounted for 20% of all fishing trips in the Lake Barkley tailwaters in 2022 (21% in 2019; Table 63). However, the number of trips for skipjack (2,895) declined since 2019. Skipjack anglers harvested 2.1 skipjack/hr which is about half of the rate from 2019. The skipjack fishery is highly harvest oriented. Almost 83% of the skipjack caught were harvested (Table 70).

Asian Carp anglers accounted for 31% of fishing trips to the Lake Barkley tailwaters in 2022 (10% in 2019; Table 63). Estimated catch and harvest totals of Asian Carp were nearly three times higher than in 2019. Asian Carp anglers harvested 3.4 fish/hr (Table 71). Only 25% of all anglers reported having ever tried eating Asian carp while the most popular method of disposal of Asian Carp was sinking (43%; Appendix B).

Kentucky Lake Tailwaters Creel Survey

A random, uniform probability, roving creel survey was conducted on the Kentucky Lake tailwaters (226.0 a) from February 16 to December 31, 2022. The Kentucky Lake tailwaters creel area extended from the dam to the Interstate 24 bridge. The survey was conducted six hours per day with a random time chosen to conduct an angler count. The remaining time was dedicated to interviewing anglers actively fishing. Interviews were conducted at bank access points as no boat was used for this survey. The overall temporal sampling scheme was at least ten days per month, consisting of at least three weekend days and seven weekdays. Varying time period probabilities were assigned to each month. An angler attitude questionnaire concerning fishing at the Kentucky Lake tailwaters was conducted by the creel clerk throughout the survey period (Appendix C). Our creel clerk ran this survey simultaneously with another survey at the Lake Barkley tailwaters (see previous section).

During the 2022 creel, the typical angler was a male (89%) resident (80%) who was still fishing (39%) or casting (38%) from the bank (55%; Table 72). The average fishing trip for all anglers was 2.8 hours. There was a decline in the number of trips (17,904), while total fishing pressure (49,382 angler hours) remained about the same as 2019. Anglers caught a total of 92,391 fish of 27 species while harvesting 81,108 of these fish. Length frequencies of all harvested or released fish are given in Table 73. During this survey, fish returned to the water with a bowfishing wound or after being dispatched with a knife were considered harvested.

Table 74 provides fish catch and harvest statistics for the 2022 creel survey. Black bass anglers accounted for 5% of all fishing trips to the Kentucky Lake tailwaters during 2022 (Table 74), which is approximately equal to surveys back to 2000. There were 956 black bass fishing trips in the 2022 creel. The bass catch rate by bass anglers was 0.43 fish/hr which is about equal to the long-term average. About 30% of black bass caught were harvested (Table 75). Thirty-two percent of black bass caught were Largemouth Bass, while Smallmouth Bass made up an additional 68% (Table 76). About 68% of black bass anglers reported being very or somewhat satisfied with black bass fishing at the Kentucky Lake tailwaters (Appendix C).

Catfish anglers accounted for 26% of all fishing trips in the Kentucky Lake tailwaters in 2022 (27% in 2019, 19% in 2016; Table 74). The number of trips for catfish (4,721) declined only slightly. The catfish fishery remains highly harvest oriented. About 89% of the catfish caught were harvested (Table 77). Eighty-six percent of catfish caught were blue catfish, while channel catfish made up 12% and flathead catfish catch was minimal (Table 78). Almost 71% of catfish anglers reported being very or somewhat satisfied with catfish fishing at the Kentucky Lake tailwaters (Appendix C).

Morone anglers accounted for 8% of all fishing trips in the Kentucky Lake tailwaters in 2022 (10% in 2019, 7% in 2016; Table 74). This group includes White Bass, Yellow Bass, Striped Bass, and hybrids. Positive ID on this genus can be difficult for anglers, so it is possible that some released fish were mis-identified. The number of trips for *Morones* (1,481; Table 79) continues to decline. *Morone* anglers caught 0.7 *Morones*/hr which is about half of the rate of the most recent surveys. Twenty-eight percent of *Morones* caught were White Bass, while Striped Bass made up an additional 62% (Table 80). About 58% of *Morone* anglers reported being very or somewhat satisfied with *Morone* fishing at the Kentucky Lake tailwaters (Appendix C).

Skipjack anglers accounted for 22% of all fishing trips in the Kentucky Lake tailwaters in 2022 (20% in 2019; Table 74). The number of trips for skipjack (3,957) was about the same as 2019. Skipjack anglers harvested 4.2 skipjack/hr which is about half of the rate from 2019. The skipjack fishery is highly harvest oriented. About 99% of the skipjack caught were harvested (Table 81).

Asian Carp anglers accounted for 12% of fishing trips to the Kentucky Lake tailwaters in 2022 (5% in 2019; Table 74). Estimated catch and harvest totals for Asian Carp were higher in 2022 than in 2019. Asian Carp anglers harvested 1.7 fish/hr (Table 82). Only 22% of all anglers reported having ever tried eating Asian carp while the most popular method of disposal of Asian Carp was sinking (38%; Appendix C).

Lake Beshear

Largemouth Bass were collected by diurnal electrofishing (120 PPS, DC current) during April at Lake Beshear. Two-hundred-and-fifty-one Largemouth Bass were collected at a rate of 134.0 fish/hr (Table 83). The catch rate of harvestable-size ($\geq$12.0 in) Largemouth Bass was 50.9 fish/hr (Table 84). This year's sample falls above the objective in the Lake Beshear Fish Management Plan (LBFMP) to maintain a catch rate of at least 45.0 fish/hr for harvestable-size Largemouth Bass. The catch of age-1 fish was high this year (34.4 fish/hr). Other objectives are to maintain high catch rates of bass $\geq$15.0 and $\geq$20.0 in. Ideally, these catch rates should be greater than 30.0 and 3.0 fish/hr, respectively. The catch rates per hour for these length groups of bass were 42.0 and 6.8, respectively. Lake Beshear continues to have a quality bass fishery with good numbers of bass $\geq$15.0 in. However, the lower catch of bass 12.0-14.9 in this spring is a potential concern and may lead to some slight angler dissatisfaction in the future. The fishery rated as "Excellent" in 2022 thanks in part to strong recruitment and solid numbers of trophy size fish (Table 85).

Largemouth Bass were also collected by diurnal electrofishing (120 PPS, DC current) in October (Table 83). The catch rate (181.2 fish/hr) was an improvement over last year, but again the catch was skewed towards smaller fish. Relative weight data (Table 86) suggests that larger bass ($\geq$15.0 in) are healthy with regard to their length-weight ratio. The average relative weight value was 93 for these larger bass and 84 for all sizes of bass. However, the reduced body weights of the smaller fish are indicative of a lack of smaller forage and should be monitored closely to see if this trend continues. The length-weight equation for Largemouth Bass at Lake Beshear is:

$$\text{Log}_{10}\,(\text{weight}) = -3.55476 + 3.18309 \times \text{Log}_{10}\,(\text{length})$$

Otoliths were removed from a subsample of Largemouth Bass $\leq$10.0 in to determine the mean fall length of the age-0 cohort and determine their catch rate. The catch rate for age-0 Largemouth Bass was 101.6 fish/hr (Table 87). The average length of an age-0 bass was 4.6 in. The catch rate of age-0 Largemouth Bass $\geq$5.0 in was 30.8 fish/hr.

Lake Pennyrile

Electrofishing for all species of sportfish at Lake Pennyrile was conducted on May 9, 2022. Largemouth Bass were captured at a rate of 122.0 fish/hr (Table 88). This catch rate is above the 10-year average of 93.8 fish/hr (Table 89). The majority of Largemouth Bass were still below 12.0 in. Only 8 (6.6%) bass were 12.0 in or larger, while only 2 (1.7%) bass were over 15.0 in from this year's sample. The catch rate of Largemouth Bass 8.0-11.9 in

was 50.0 fish/hr which is below the management objective of 80.0 fish/hr (Table 89). It appears the bass had a good spawn in 2021 because a high percentage of Largemouth Bass caught were 4.0 in or less. As in previous years, most bass were stunted around 7.0-10.0 in. These high catch rates of intermediate-size Largemouth Bass are desirable to maintain good numbers of large sunfish in this system. The overall largemouth bass population was rated as "Fair" in 2022 (Table 90). Due to the shift in management focus towards trophy sunfish, it is unlikely that the largemouth bass population will be rated highly again soon.

The catch rate of large-size (≥8.0 in) Bluegill was below average at 4.0 fish/hr; however, we had a very high catch of Bluegill just below the 8.0-in mark (Table 91). The catch rate of large (≥8.0 in) Redear Sunfish was above average at 34.0 fish/hr. The catch of Redear Sunfish ≥8.0 in 2022 was the highest since 2008. We will continue to monitor the panfish populations at Lake Pennyrile in 2023.

PSD and RSD values for Largemouth Bass, Bluegill and Redear Sunfish are listed in Table 92. The PSD value for Largemouth Bass (14) suggests a population heavily skewed toward small bass. The Largemouth Bass fishery is stunted which is our goal when managing for large panfish. The PSD values for Bluegill (51) and Redear Sunfish (54) suggest fairly balanced populations.

Lake George

Lake George (Marion, KY, Crittenden Co.) was drained in spring 2022 due to a failure in the levee. Agencies familiar with the situation will determine when/if the lake will be re-filled.

Lake Morris

Electrofishing for all species of fish in Lake Morris (Hopkinsville, KY, Christian Co.) was conducted on June 06, 2022. Catch rates of all fish are provided on Table 93. Eleven Largemouth Bass were captured at a rate of 22.0 fish/hr. The Largemouth Bass population had a broad length distribution.

The catch rate of bluegill was 954.0 fish/hr (Table 93). This catch rate is extremely high but may be an artifact of our sampling locations and time of year. We had intended on 900 second runs but were forced to stop at 600 seconds due to livewell capacity. Undesirable species included Gizzard Shad, Common Carp, Yellow and Brown bullhead, Green Sunfish, Warmouth, and White Crappie. However, generally speaking, the sportfish population looked good and our recommendations to the county government focused on access enhancement rather than fishery enhancement.

Ballard County Wildlife Management Area Lakes

On May 13, 2022, the Gravel Pit Pond on Ballard County Wildlife Management Area lakes was sampled with electrofishing. Unlike other lakes on the area, this lake does not connect with the river during flooding events. The length frequency of all species collected is provided on Table 94. The Largemouth Bass population is skewed toward smaller fish, but that seems to have allowed for some very nice Bluegill in the fishery. Unfortunately, some members of the public stocked both White and Black crappie into the lake. The crappie we collected were all removed, but we expect to continue to see excessive crappie reproduction in this small lake.

West Kentucky Wildlife Management Area Lakes

On May 13, 2022, The Handicap Access Pond on West Kentucky Wildlife Management Area was sampled with electrofishing. This pond has a boat ramp, but only half of the lake is accessible due to a bridge/fishing pier which crosses the lake. The length frequency of all fish collected is provided in Table 95. The Largemouth Bass, Bluegill, and Redear Sunfish populations all looked good, but future samples may be warranted to evaluate for overfishing.

Lake Kyle (Fort Campbell)

On May 24, 2022, Lake Kyle on Fort Campbell was sampled with electrofishing. Staff of Fort Campbell had contacted us requesting an electrofishing training opportunity for their staff. Fort Campbell has the goal of purchasing their own electrofishing boat and conducting their own samples in the future. The length frequencies of all fish collected are provided on Table 96. Some undesirable species were collected, but the Largemouth Bass, Bluegill, and Redear Sunfish populations looked good overall. A report was presented to Fort Campbell staff which focused primarily on access improvements rather than changes to the fishery.

USFWS (Clarks River National Wildlife Refuge) Lakes

On May 10, 2022, two small USFWS lakes were sampled with electrofishing. The pond in Benton Kentucky is a small public fishing lake which we have sampled nearly annually. The Largemouth Bass catch rate was 22.0 fish/hr which is concerning since it was supplementally stocked with 300 largemouth from our hatcheries during the fall of 2021 (Table 97). The Bluegill catch rate was 112.0 fish/hr. The catfish length distributions looked good. It is possible that some harvest restrictions may need to be implemented on the Largemouth Bass to address any possible overharvest.

We also sampled a smaller pond which was newly acquired by the USFWS near Symsonia Kentucky. The catch rate of bass in this pond was only 58.0 fish/hr (Table 98). This pond was also supplemented with 350 Largemouth Bass from our hatcheries in the fall of 2021 and the stocking appears to have increased the population compared to the prior year. The wide range of species is indicative of prior flooding and connection with the nearby river. However, the USFWS have made efforts to prevent future flooding. Both the Symsonia pond and the Benton pond are being managed for large sunfish and high catch rates of bass.

Table 1. 2022 yearly summary of sampling conditions by waterbody, species sampled, and date.

Water body	Location	Species	Date	Effort	Gear	Weather	Water temp. °F	Water level	Secchi (in)	Water conditions	Pertinent sampling comments
Barkley	Little River	black bass	4/26/2022	2.5 hr	electrofishing	sunny/chilly	64.5	358.8	25	falling	fair sample
Barkley	Eddy Bay	black bass	4/29/2022	2.5 hr	electrofishing	cloudy	66	359.2	45	stable	fair sample, bushes fully flooded
Barkley	Donalsdon & Fords Bays	black bass	5/4/2022	2.5 hr	electrofishing	overcast	67	359.2		rising slightly	fair sample, new dipper
Barkley	Nickell Branch	black bass	5/6/2022	1.0 hr	electrofishing	overcast/rain showers	66.5	359.4	37	stable	fair sample, quit when rain picked up
Lake Pennyrile		sportfish	5/9/2022	1.0 hr	electrofishing	sunny, windy	67.9	normal		stable	good sample for sunfish and bass
CNWR pond	Benton	community	5/10/2022	0.5 hr	electrofishing	sunny	73.0	normal		stable	fair sample
CNWR pond	Symsonia	community	5/10/2022	0.5 hr	electrofishing	sunny					
West Ky WMA	Handicap pond	community	5/13/2022	0.35 hr	electrofishing	sunny	80.8	normal		normal	ramp side only
Ballard WMA	Gravel pit	community	5/13/2022	0.37 hr	electrofishing	sunny	85.0	normal		normal	crappie removed
Lake Kyle	Fort Campbell	community	5/24/2022	0.45 hr	electrofishing	cloudy	72.0		48		fair, switch malfunctioning
Lake Morris		community	6/2/2022	0.5 hr	electrofishing	sunny	81.2	2' low			fair sample
Barkley	Nickel Branch	catfish	6/21/2022	1.67 hr	electrofishing	sunny, light wind	84	359.3		stable	fair sample, low pulse with chase boat
Barkley	Cravens Bay	catfish	6/23/2022	1.67 hr	electrofishing	sunny, breezy	85	359.3		stable	fair sample, low pulse with chase boat
Barkley	Devils Elbow	catfish	6/29/2022	1.67 hr	electrofishing	sunny	82.5	359.1		stable	fair sample, low pulse with chase boat
Cumberland River	Tilene	community	9/15/2022	1.25 hr	electrofishing	sunny	77.2	304.7		calm	0.5 hr low pule
Ohio River	Birdsville	community	9/19/2022	1.5 hr	electrofishing	cloudy, breezy	78.7	12.75		calm	0.5 hr low pule
Ohio River	Smithland Tailwater	community	9/22/2022	1.5 hr	electrofishing	windy	79.4	12.53		calm	0.25 hr low pule
Barkley	Little River	black bass	10/4/2022	2.0 hr	electrofishing	sunny	65.2	355	19	stable	fair sample
Barkley	Taylor Bay	black bass	10/7/2022	2.0 hr	electrofishing	overcast	67.6	355.1		stable	fair sample, experimental habitat sample
Barkley	Eddy Bay	black bass	10/11/2022	2.0 hr	electrofishing	mostly sunny	64.9	354.8	24	stable	fair sample
Barkley	Kuttawa	black bass	10/12/2022	0.5 hr	electrofishing	rain, wind	67	354.8		falling slightly	additional bass genetics sample
Barkley	Linton	black bass	10/13/2022	0.5 hr	electrofishing	sunny	62.1	354.8		stable	additional bass genetics sample
Barkley	Donaldson Bay	black bass	10/14/2022	0.5 hr	electrofishing	sunny, cold	64				additional bass genetics sample
Barkley	Crooked Creek	crappie	10-18 - 10/21	40 nn	trapnet	variable	59	354.7	21	stable	fair sample
Barkley	Donaldson Bay	crappie	10-25 - 10-28	40 nn	trapnet	variable	59	354.7	22	stable	fair sample
Barkley	Little River	crappie	11-1 - 11-4	40 nn	trapnet	variable	61	354.7	22	stable	fair sample
Kentucky	Jonathan Creek	crappie	3/31/2022	6 tows	neustonic tow net	dusk	53.4	354.5			
Kentucky	Jonathan Creek	crappie	4/7/2022	6 tows	neustonic tow net	dusk		355.7			
Kentucky	Jonathan Creek	crappie	4/14/2022	6 tows	neustonic tow net	dusk	61.1	358.7			
Kentucky	Jonathan Creek	crappie	4/21/2022	6 tows	neustonic tow net	dusk	60	360			
Kentucky	Jonathan Creek	crappie	4/28/2022	6 tows	neustonic tow net	dusk	67	359			
Kentucky	Jonathan Creek	crappie	5/4/2022	6 tows	neustonic tow net	dusk		358.9			
Kentucky	Jonathan Creek	crappie	5/12/2021	6 tows	neustonic tow net	dusk		358.8			
Kentucky	Jonathan Creek	crappie	5/19/2022	6 tows	neustonic tow net	dusk		359.4			lots of zooplankton, cut tow duration to 3 min
Kentucky	Jonathan Creek	crappie	5/26/2022	6 tows	neustonic tow net	dusk					lots of zooplankton, cut tow duration to 3 min

Table 1 (cont).

Water body	Location	Species	Date	Effort	Gear	Weather	Water temp. °F	Water level	Secchi (in)	Water conditions	Pertinent sampling comments
Kentucky	Jonathan Creek	crappie	6/2/2022	6 tows	neustonic tow net	dusk		358.8			lots of zooplankton, cut tow duration to 3 min
Kentucky	Jonathan Creek	crappie	6/9/2022	6 tows	neustonic tow net	dusk		359.3			lots of zooplankton, cut tow duration to 2.5 min
Kentucky	Blood River	black bass	6/15/2022		50' seine						only bass were enumerated
Kentucky	Sugar Bay	black bass	6/16/2022		50' seine						only bass were enumerated
Kentucky	Blood River	crappie	6/20/2022		benthic trawl						fish were easy to find
Kentucky	Jonathan Creek	crappie	6/24/2022		benthic trawl						fish were easy to find
Lake Beshear		black bass	5/2/2022	2.5 hr	electrofishing	sunny	68.9	normal	43	stable	fair sample
Kentucky	Jonathan Creek	black bass	4/27/2022	2.5 hr	electrofishing	sunny	64.0	358.9	20	rising slightly	fair, tva runs interfered with ours.
Kentucky	Big Bear	black bass	5/3/2022	1.75 hr	electrofishing	windy	68.4	359.2		rising slightly	good sample, wind cut short
Kentucky	Blood River	black bass	4/25/2022	1.75 hr	electrofishing	cloudy	65.0	358.2		falling	fair sample, rain stopped sample
Kentucky	Little Bear	catfish	6/22/2022	1.66 hr	low pulse	sunny/light wind	85.0	359.2		14000 cfs	low discharge
Kentucky	Fenton	catfish	6/28/2022	1.66 hr	low pulse	partly cloudy	81.2	359.1		wind picked up	
Kentucky	Patterson Landing	catfish	6/24/2022	1.66 hr	low pulse	sunny/windy	82.0	359.2		windy, 14,000 cfs	took 3 attempts due to wind, low discharge
Lake Beshear		black bass	10/6/2022	2.5 hr	electrofishing	cloudy	67.0	low			fair sample
Kentucky	Jonathan Creek	black bass	10/3/2022	2.0 hr	electrofishing	sunny/light wind	68.6	355.0			, shad wr taken
Kentucky	Blood River	black bass	10/5/2022	2.23 hr	electrofishing	sunny	64.0	355.0	29	stable	runs in smaller test pockets
Kentucky	Sugar Bay	black bass	10/10/2022	2.0 hr	electrofishing	sunny	67.9	354.9		stable	fair sample, shad Wr also collected
Kentucky	Sledd Creek	crappie	10/17 - 10/21	40 nn	trapnet	sunny	64.0	354.5		stable	fair sample. moronids and redear also measured
Kentucky	Jonathan Creek	crappie	10/24 - 10/28	40 nn	trapnet	sunny	62.0	355.0		steady	fair sample. moronids and redear also measured
Kentucky	Blood River	crappie	10/31 - 11/4	40 nn	trapnet	variable/stormy	62.0	354.5	31	steady	fair sample. moronids and redear also measured
Tennessee River	Haddox Ferry	community	9/16/2022	1.25 hr	electrofishing/low pulse	sunny	77.1	low		normal	some low pulse used
Mississippi River	Wyckliffe	community	9/20/2022	1.25 hr	electrofishing/low pulse	sunny	79.2	low		steady	volunteer dipper, creek mouths plugged
Mississippi River	Columbus Belmont	community	9/23/2022	1.0 hr	electrofishing/low pulse	partly cloudy	77.0	42.0		steady	dyke not passable, but water flowing through notch

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 5.75 hours (11- 30-minute runs; 1-15-minute run) of diurnal electrofishing at Kentucky Lake during April-May 2022.

	Inch class																				
Area	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Blood River																					
Smallmouth Bass	6	5	3	2	4		1	2	2		1	2			1				29	16.6	9.8
Spotted Bass						1		1											2	1.1	2.4
Largemouth Bass	2	4	8	7	5	4	5	9	14	13	9	9	10	11	5	6	1	2	124	70.9	6.3
Jonathan Creek																					
Smallmouth Bass	1	6	4				1	1	1	1	1		1	1					18	7.2	3.3
Spotted Bass					1						1								2		
Largemouth Bass	7	12	24	24	17	12	13	27	22	9	8	18	12	13	4	3	2	2	229	91.6	10.3
Big Bear																					
Smallmouth Bass		2	4	1				1			1		1	1					11	7.3	4.5
Spotted Bass																					
Largemouth Bass	2	6	17	16	8	4	2	8	13	5	7	12	16	16	4	4	3		143	95.3	14.7
Total																					
Smallmouth Bass	7	13	11	3	4		2	4	3	1	3	2	2	2	1				58	10.1	3.6
Spotted Bass					1	1		1			1								4	0.7	0.8
Largemouth Bass	11	22	49	47	30	20	20	44	49	27	24	39	38	40	13	13	6	4	496	86.3	7.1

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Table 3. Lake specific assessment for Largemouth Bass collected at Kentucky Lake from 2013-2022. This table includes the parameter estimates and the individual scores as well as the total score and assessment rating. The final two columns list the instantaneous mortality (Z) and % annual mortality (A). Only data collected from Blood River, Big Bear, Jonathan Creek, and Sugar Bay were used for historical comparison.

	Mean length age 3 at capture	****Mean length age 3 at capture		Length group						
				12.0-14.9 in	≥15.0 in	≥20.0 in				
Year			CPUE age 1	CPUE	CPUE	CPUE	Total score	Assessment rating	Z	A
2022	12.7**	13.4**	27.7	15.7	19.8	0.7				
Score	2		3	2	3	1	11	F		
2021	12.7**	13.4**	36.5	10.4	12	0.3				
Score	2		4	1	1	1	9	F		
2020	12.7	13.4	4.3	17.7	8	0.4			***0.356	30
Score	2		1	2	1	1	7	P		
2019	13.2**		3.3	11.9	8.1	0.9				
Score	2		1	1	1	1	6	P		
2018	13.2**		24.7	7.9	12.2	1.3			***0.456	36.6
Score	2		2	1	1	2	8	F		
2017	13.2**		95.8	14.1	16.4	1.1			***0.513	40.1
Score	2		4	2	3	2	13	G		
2016	13.2	13.7	4.0	25.9	19.1	0.8			***0.410	33.7
Score	2		1	4	3	1	11	F		
2015	13.9**		10.2	22.0	15.6	1.2			0.408	33.5
Score	4		1	3	2	2	12	G		
2014	13.9**		32.6	15.0	15.7	0.9			0.452	36.3
Score	4		2	1	2	1	10	F		
2013	13.9**	14.2	40.2	9.6	15.8	0.8			0.446	35.9
Score	4		2	1	2	1	10	F		
Average	13.0	13.8	27.9	15.0	14.3	0.8	9.7		0.217	30.763

Data from 1985 to 2012 is listed in previous annual reports.

Assessment quartiles were updated in 2015, previous years' APR's will list rating based on old assessment ranges.

** age and growth data was not collected this year, therefore used previous age data set estimates.

2013* samples were hampered by high water levels during flooding, sample was later than normal; overall a poor sample and not all embayments were sampled.

*** mortality rates were calculated from fall caught and aged fish.

****Mean length calculated using a weighted average applied to the entire sample

Rating

5-7 = Poor (P)
8-11 = Fair (F)
12-16 = Good (G)
17-20 = Excellent (E)

(Kentucky Bass Database.xls)

Table 4. Spring diurnal electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Kentucky Lake during May 2013-2022.

	Mean length	*Mean length			Length group													
	age 3 at	age 3 at	Age 1		<8.0 in		12.0-14.9 in		≥15.0 in		≥18.0 in		≥20.0 in		Total			
Year	capture (in)	capture (in)	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	PSD	RSD_{15}
2022	12.7	**13.4	27.7	6.3	27.6	6.3	15.7	2.2	19.8	2.7	4.0		0.7	0.5	86.3	9.5	61	34
2021	12.7	**13.4	36.5	4.1	31.1	3.4	10.4	1.7	12.0	2.8	1.2	0.6	0.3	0.2	62.3	7.1	72	38
2020	12.7	**13.4	4.3	1.5	4.6	1.6	17.7	3.5	8.0	2.1	2.6	0.7	0.4	0.2	34.9	7.0	85	26
2019	13.2	**13.7	3.3	0.6	3.5	0.6	11.9	1.6	8.1	1.0	3.5	0.6	0.9	0.3	33.8	3.0	66	27
2018	13.2	**13.7	24.7	3.5	23.7	3.4	7.9	1.1	12.2	1.5	5.0	0.9	1.3	<0.1	66.7	5.3	47	28
2017	13.2	**13.7	95.8	10.6	66.4	7.1	14.1	1.7	16.4	1.7	3.3	0.7	1.1	0.3	136.3	11.8	44	23
2016	13.2	**13.7	4.0	0.7	11.8	2.0	25.9	2.4	19.1	2.4	2.9	0.7	0.8	0.3	63.2	5.7	88	37
2015	13.9	14.2	10.2	1.1	3.9	0.7	22.4	2.1	14.1	1.3	5.3	0.6	1.1	0.3	60.4	4.2	65	25
2014	13.9	14.2	32.6	6.2	26.4	5.5	15.0	1.4	15.7	1.7	4.2	0.6	0.9	0.3	78.1	7.1	59	30
2013	13.9	14.2	40.2	7.0	30.5	6.4	9.6	1.3	15.8	1.6	3.3	0.5	0.8	0.3	78.2	7.1	53	33
Average	13.3	13.4	27.9		23.0		15.1		14.1		3.5		0.8		70.0		64.0	30.1
KLFMP	≥ 12.0 in		≥ 30				> 22		≥ 18				≥ 2				55-75	20-40

(Kentucky Bass Database.xls)

Data for 1985-2012 is listed in previous annual reports; KLFMP - Kentucky Lake Fish Management Plan objective goal.

*Mean length calculated using a weighted average applied to the entire spring sample

**Mean length in spring estimated by backcalulating lengths of fall aged fish and then estimating length frequency from spring sample

Table 5. PSD and RSD_{15} values calculated for Largemouth Bass collected during diurnal electrofishing at Kentucky Lake during April-May 2022; 95% confidence limits are shown in parentheses.

Area	≥ Stock size*	PSD	RSD_{15}
Blood River	98	67 (±11)	36 (± 10)
Jonathan Creek	145	49 (± 8)	25 (± 6)
Big Bear	94	71 (± 9)	46 (± 11)
Total	337	61 (± 5)	34 (± 5)

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*Stock size = 8.0 in

Table 6. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.23 hours of diurnal electrofishing at Kentucky Lake during October 2022.

	Inch class																			
Area / Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE	SE
Blood River																				
Smallmouth Bass	2	19	31	10	3		3						1					69	30.9	13.0
Spotted Bass																				
Largemouth Bass	3	32	36	23	5	10	1	1	1	5	4	2	2			1		126	56.5	1.7
Jonathan Creek																				
Smallmouth Bass		11	16	5	1	3	4			1			2					43	21.5	6.9
Spotted Bass		6	1					1										8	4.0	1.8
Largemouth Bass	6	34	15	18	11	6	4	3	2	8	10	10	11	5	5	2	2	152	76.0	22.2
Sugar Bay																				
Smallmouth Bass	1	24	25	19	1	1			1	1								73	36.5	5.6
Spotted Bass																				
Largemouth Bass	4	9	12	10	3		3	2	1			2	5		1			52	26.0	6.8
***TOTAL**																				
Smallmouth Bass	2	30	47	15	4	3	7			1			3					112	26.5	8.2
Spotted Bass		6	1					1										8	1.9	0.9
Largemouth Bass	9	66	51	41	16	16	5	4	3	13	14	12	13	5	5	3	2	278	65.7	8.8

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*TOTAL only for Blood River and Jonathan Creek for historical comparisons

Table 7. Number of bass and mean relative weight (W_r) for each length group of black bass collected at Kentucky Lake during October 2022. Standard errors provided in parantheses.

		Length group						Total	
		8.0-11.9 in		12.0-14.9 in		≥15.0 in			
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Blood River	8	102 (3)	8	99 (5)	1	90 (0)	17	100 (3)
	Jonathan Creek	17	98 (2)	31	98 (2)	14	94 (2)	62	97 (1)
	Sugar Bay	6	91 (3)	7	93 (4)	1	66 (0)	14	90 (3)
	Total	31	98 (2)	46	97 (2)	16	92	93	96 (1)

		Length group						Total	
		7.0-10.9 in		11.0-13.9 in		≥14.0 in			
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Smallmouth Bass	Total	12	92 (3)	2	82 (3)	3	88 (4)	17	90 (3)

wfdwrky.d22

Table 8. CPUE (fish/hr) and mean length (in) of age-0 Smallmouth Bass collected in the fall, and CPUE of age-1 Smallmouth Bass collected the following spring during diurnal electrofishing at Kentucky Lake (Jonathan Creek and Blood River only).

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.3	0.1	22.7	7.6	4.0	1.0		
2021	4.0	<0.1	49.7	8.8	4.4		7.6	4.4
2020	4.7	0.1	39.8	12.0	13.4		4.8	1.9
2019	4.3	0.1	30.1	6.3	3.4			
Average	4.3		39.9		7.1			

[A] Data collected by fall (October) diurnal electrofishing. Mean lengths were determined by analysis of otoliths removed from a subsample of SMB <8.0 in and extrapolated to the entire catch of the fall sample.

[B] Data from diurnal electrofishing samples collected the following spring (April/May). wfdwrky.dxx, wfdwragk.dxx, wfdpsdky.dxx

Table 9. CPUE (fish/hr) and mean length (in) of age-0 Largemouth Bass collected in the fall, and CPUE of age-1 Largemouth Bass collected the following spring during diurnal electrofishing at Kentucky Lake (Jonathan Creek and Blood River only for historical comparison).

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.7	0.1	48.1	5.2	17.8	2.7		
2021	4.4	0.1	47.3	7.3	17.6	1.8	27.7	6.31
2020	5.3	0.1	76.7	12.6	38.5	10.6	36.5	4.1
2019	3.9	0.1	37.1	5.9	5.4	1.8	**4.3	1.5
2018	5.7	0.1	18.6	2.8	13.0	2.5	3.3	0.6
2017	5.9	0.1	28.9	5.2	18.2	3.6	24.7	3.5
2016	6.4	0.1	58.4	7.4	47.9	5.3	95.8	10.6
2015	4.6	0.1	32.6	8.6	9.1	1.5	4.0	0.7
2014	4.1	0.1	20.2	7.9	3.8	1.0	10.2	1.1
2013	5.7	0.1	31.3	5.2	21.5	4.1	32.6	6.2
Average	5.1		39.9		19.3		29.3	

A Data collected by fall (October) diurnal electrofishing. Mean lengths were determined by analysis of otoliths removed from a subsample of LMB <8.0 in and extrapolated to the entire catch of the fall sample. Since 2010, bass up to 10.0 in have been collected for analysis.

B Data from diurnal electrofishing samples collected the following spring (April/May).

2013 spring data was poor due to high water levels.

*2012 spring data was poor due to low water levels.

**2020 spring sample only used 1 dipper due to covid19 pandemic

Data from 1990 to 2012 is listed in previous year reports.

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Table 10. Lake conditions and spawning activity rating for each survey site during snorkel surveys in Sugar Bay, 2022. WFD laydowns were placed by KDFWR staff and Natural laydowns were pre-existing laydowns that were monitored. Rating 0-5 was based on relative density of observed eggs or fry, c=cleaned off (bed brushed clean of debris), blank=not found/not searched for. LMB=largemouth bass, SMB=smallmouth bass, BASS=undetermined black bass, SF=sunfish.

Conditions			March 31	April 7	April 14	April 21	April 28	May 5	May 12	May 19	May 26	June 1	June 9
Air temp (F)			45	50	55	55	65	60	75	85	80	85	80
Water temp (F)			56	57	60	60	66	68	76	77	74	79	80
Secchi (in)			42	43	37	36	40	49	0	55	0	43	45
Elevation (ft)			345	356	358	360	359	359	359	359	359	359	359
Weather			overcast, breezy	sunny, breezy	sunny	overcast	sunny, calm	overcast, showers	sunny, hot	mostly sunny, breezy	cloudy	sunny	sunny
Site ID	**Laydown**	**Spawning Bed**	**March 31**	**April 7**	**April 14**	**April 21**	**April 28**	**May 5**	**May 12**	**May 19**	**May 26**	**June 1**	**June 9**
K3-PSB-1	WFD	Plastic	0	0	c	c	SMB 3	SMB 4	0	0	0	0	0
K3-PSB-2	WFD	Plastic		c	c	c	SMB 3	SMB 5	0	0	0	0	0
K3-PSB-2.9	WFD			0	c	c	c	c	SF 3	0	0	0	c
K3-PSB-3	WFD	Plastic		0	0	c	c	c	0	SF 4	0	SF 3	0
K3-PSB-4	WFD	Plastic		0	0	0	0	0	0	0	0	0	0
K3-PSB-4.9	WFD			0	0	0	0	0	0	0	0	0	0
K3-PSB-5	WFD			0	0	0	0	0	0	0	0	0	0
K3-PSB-6	WFD	Plastic		0	0	0	0	c	SF 4	SF 5	0	c	SF 1
K3-PSB-6.9	WFD				0	0	0	0	0	0	c	0	0
K3-PSB-7	WFD	Plastic		0	0	LMB 3	c	0	SF 5	c	0	SF 4	SF 1
K3-PSB-8		Plastic		0	c	LMB 3	LMB 3	LMB 3	SF 5	c	c	c	SF 5
K3-PSB-8.8	WFD		0	0	LMB 5	LMB 3	0	c	0	0	SF 3	0	0
K3-PSB-8.9	WFD	Plastic		0	c	c	BASS 2	c	SF 5	c	c	c	SF 2
K3-PSB-9	WFD	Plastic		0	0	c	LMB 3	LMB 5	SF 5	SF 3	c	SF 4	c
K3-PSB-10	WFD	Plastic			0	c	c	c	SF 3	SF 3	c	c	SF 2
K3-PSB-10.9	WFD				0	LMB 2	0	c	SF 3	SF 3	c	SF 1	0
K3-PSB-11	WFD	Plastic		0	0	c	c	SF 4	SF 2	c	c	SF 2	c
K3-PSB-12	WFD				0	c	SMB 2	0	0	c	0	c	0
K3-PSB-12.9	WFD		0	0	0	0	0	0	0	0		0	0
K3-PSB-13	WFD	Plastic		0	c	c	c	0	SF 4	c	c	SF 3	c
K3-PSB-14	WFD	Plastic		0	c	c	LMB 4	c	c	SF 3	c	SF 4	c
K3-PSB-14.8	WFD				0	0	0	0	0	0	0	0	0
K3-PSB-15	WFD	Plastic			0	c	0	0	0	0	0	0	0
K3-PSB-16		Plastic			0	0	0	0	SF 2	0	SF 3	c	SF 5
K3-PSB-16.9	WFD				0	0	0	0	0	0	0	0	0

Table 10 (cont.)

Site ID	Laydown	Spawning Bed	March 31	April 7	April 14	April 21	April 28	May 5	May 12	May 19	May 26	June 1	June 9
K3-PSB-17	WFD	Plastic			LMB 3	LMB 3	LMB 4	0	SF 4	SF 5	SF 3	SF 3	SF 4
K3-PSB-18	Natural	Plastic		0	0	0	c	0	SF 5	SF 4	c	c	0
K3-PSB-19		Plastic			0	0	0	SF 3	0	c	0	c	0
K3-PSB-20	WFD	Plastic			0	c	c	c	c	c	SF 2	SF 5	c
K3-PSB-21	WFD				0		0	0	c	SF 1	0	SF 3	c
K3-PSB-22		Plastic			0	0	0	LMB 4	0	0	c	SF 1	0
K3-PSB-23	WFD	Plastic			0	LMB 5	LMB 4	0	SF 2	SF 4	SF 4	c	c
K3-PSB-25		Plastic		0	0	0	LMB 3	LMB 5	SF 3	SF 5	c	SF 4	c
K3-PSB-26		Plastic		0	0	0	0	0	0	0	0	0	SF 3
K3-PSB-27		Plastic		0	0	c	LMB 3	LMB 3	SF 2	c	0	c	SF 4
K3-PSB-28		Plastic		0	0	c	LMB 3	LMB 4	0	0	0	0	0
K3-PSB-29		Plastic		0	0	c	SMB 2	SMB 3	0	0	0	0	0
K3-PSB-30		Plastic		0	0	c	0	c	SF 4	SF 4	c	SF 4	SF 3
K3-PSB-31		Plastic			c	LMB 1	c	c	SF 2	SF 3	c	0	0
K3-PSB-33		Plastic		0	0	0	c	0	0	0	c	0	0
K3-PSB-33.9		Plastic		0	0		LMB 4	c	SF 4	SF 5	c	SF 4	c
K3-PSB-34		Plastic		0	0	0	0	c	SF 4	SF 5	c	SF 4	SF 3
K3-PSB-35		Plastic			0	0	0	SF 4	c	SF 1	0	0	0
K3-PSB-36		Plastic			0	0	0	c	SF 5	SF 2	SF 3	0	0
K3-PSB-37		Plastic			0	0	0	0	0	c	0	0	0
K3-PSB-38		Plastic			0	c	0	SF 3	SF 4	c	c	0	0
K3-PSB-39	Natural	Plastic		0	0	0	0	0	0	0	0	0	0
K3-CSB-33.9	WFD		0	0	0	0	0	0	0	0	0	0	0
K3-CSB-34		Concrete		0	c	LMB 1	LMB 3	0	SF 5	0	SF 5	SF 3	c
K3-CSB-34.9	WFD		0	0	0	0	0	0	SF 3	c	0	0	0
K3-CSB-35		Concrete		0	0	c	0	c	0	SF 4	c	0	0
K3-CSB-35.9	WFD		0	0	LMB 5	c	0	SMB 3	c	c	0	0	0
K3-CSB-36		Concrete	0	0	c	c	LMB 2	0	0	SF 4	c	SF 3	0
K3-CSB-36.9	WFD		0	c	c	c	c	c	0	0	0	0	0
K3-CSB-37		Concrete	0	0	0	0	0	c	0	SF 5	0	0	c
K3-CSB-38		Concrete	0	0	0	c	LMB 5	LMB 4	LMB 4	0	0	0	0
K3-CSB-39		Concrete		0	0	0	0	SF 3	SF 5	0	SF 4	SF 4	SF 4
K3-CSB-40		Concrete		0	0	LMB 2	0	0	0	0	0	0	0
K3-CSB-41		Concrete		0	0	0	0	0	0	0	0	0	0
K3-CSB-42		Concrete		0	0	c	c	c	SF 2	0	0	SF 1	c
K3-CSB-43		Concrete		0	0	c	0	c	SF 3	c	SF 4	SF 3	0
K3-CSB-44		Concrete		0	0	0	0	0	SF 3	c	0	0	SF 2
K3-CSB-45		Concrete		0	0	0	0	0	SF 3	SF 1	0	SF 4	SF 4

Table 10 (cont.)

Site ID	Laydown	Spawning Bed	March 31	April 7	April 14	April 21	April 28	May 5	May 12	May 19	May 26	June 1	June 9
K3-CSB-46		Concrete		0	0	c	SMB 3	SMB 4	0	0	0	0	c
K3-CSB-47		Concrete	0	0	0	0	LMB 1	0	0	SF 4	0	0	0
K3-CSB-48		Concrete	0	0	0	c	SMB 4	SMB 2	0	0	0	SF 3	0
K3-CSB-49		Concrete	0	0	0	0	c	0	SF 4	SF 3	0	0	c
K3-CSB-50		Concrete	0	0	0	0	c	0	0	c	0	0	0

*Species or species group determined by presence of adult fish or identification of eggs or larvae collected

Table 11. Number of survey sites (includes all styles of spawning habitat) located and the percentage of each spawning activity rating among sites that were located during snorkel surveys in spring of 2022.

	March 31	April 7	April 14	April 21	April 28	May 5	May 12	May 19	May 26	June 1	June 9
# beds located	14	49	69	67	68	68	68	68	67	68	68
cleaned off (%)	0.0	4.1	15.9	40.3	20.6	27.9	7.4	23.5	29.9	14.7	22.1
1 (%)	0.0	0.0	0.0	3.0	1.5	0.0	0.0	4.4	0.0	4.4	2.9
2 (%)	0.0	0.0	0.0	3.0	5.9	1.5	8.8	1.5	1.5	1.5	4.4
3 (%)	0.0	0.0	1.5	6.0	13.2	10.3	11.8	8.8	6.0	11.8	4.4
4 (%)	0.0	0.0	0.0	0.0	7.4	10.3	13.2	10.3	4.5	13.2	5.9
5 (%)	0.0	0.0	2.9	1.5	1.5	4.4	11.8	8.8	1.5	1.5	2.9
Total (%)	0.0	4.1	20.3	53.7	50.0	54.4	52.9	57.4	43.3	47.1	42.7

Table 12. Number of artificial spawning beds located and the percentage of each spawning activity rating among beds that were located during snorkel surveys in 2022.

	March 31	April 7	April 14	April 21	April 28	May 5	May 12	May 19	May 26	June 1	June 9
# beds located	8.0	40.0	53.0	52.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
cleaned off (%)	0.0	2.5	17.0	44.2	22.6	28.3	5.7	24.5	34.0	17.0	24.5
1 (%)	0.0	0.0	0.0	3.9	1.9	0.0	0.0	3.8	0.0	3.8	3.8
2 (%)	0.0	0.0	0.0	1.9	5.7	1.9	11.3	1.9	1.9	1.9	5.7
3 (%)	0.0	0.0	1.9	5.8	17.0	11.3	9.4	9.4	5.7	13.2	5.7
4 (%)	0.0	0.0	0.0	0.0	9.4	13.2	17.0	13.2	5.7	17.0	7.6
5 (%)	0.0	0.0	0.0	1.9	1.9	5.7	15.1	11.3	1.9	1.9	3.8
Total (%)	0.0	2.5	18.9	57.7	58.5	60.4	58.5	64.2	49.1	54.7	50.9

Table 13. Percentage of different habitat types that held black bass eggs or fry during at least one snorkel survey in 2020-2022.

	2020	2021	2022
overall	50.8%	47.1%	39.7%
sites with a bed	54.7%	50.9%	43.4%
beds with a laydown	66.7%	63.2%	44.4%
sites with only a laydown	38.5%	33.3%	26.7%
sites with only a bed	46.9%	44.1%	42.9%
plastic beds	58.3%	52.8%	44.4%
concrete beds	47.1%	47.1%	41.2%

Table 14. Estimated hatch dates of largemouth bass in Sugar Bay and Blood River at Kentucky Lake, derived using daily ring counts of juveniles in 2022. "# hatch" represents the time when bass actually hatched on the nest. "# spawned" represents the estimated time when eggs were fertilized. Elevation (mean feet above sea level) and mean daily discharge (cubic feet/second) at Kentucky Dam also provided. Daily mean temperature readings (1 meter below surface) taken at Hancock Biological Station in main channel. Environmental variables were provided by TVA and Murray State University.

	Largemouth Bass						
	Sugar Bay		Blood River				
	#hatch	#spawned	#hatch	#spawned	Environmental variables		
					Elevation	Discharge (cfs)	Temp. F
17-Apr				2	360.45	95647	59.72
18-Apr		1		4	360.56	96188	59.90
19-Apr				1	360.93	85924	59.81
20-Apr			2		360.55	104861	59.54
21-Apr	1	2	4	6	360.02	102685	59.79
22-Apr		3	1	6	359.78	62908	60.89
23-Apr		7		6	359.50	62402	61.54
24-Apr	2	14	6	10	359.04	62786	62.64
25-Apr	3	18	6	11	358.62	63624	64.04
26-Apr	7	17	6	15	358.99	39136	63.86
27-Apr	14	10	10	9	359.09	35434	64.51
28-Apr	18	16	11	7	359.11	35819	66.16
29-Apr	17	4	15	9	359.10	35345	66.29
30-Apr	10	3	9	6	359.04	30931	65.84
1-May	16	4	7	4	358.89	30565	66.90
2-May	4	1	9	2	358.92	22175	68.32
3-May	3		6	1	358.78	18407	67.80
4-May	4		4	1	359.05	25180	68.63
5-May	1		2		359.27	18884	68.68
6-May			1		359.18	20611	68.05
7-May			1		359.21	19610	67.66

Table 15. Estimated hatch dates of Smallmouth Bass in Sugar Bay and Blood River at Kentucky Lake, derived using daily ring counts of juveniles in 2022. "# hatch" represents the time when bass actually hatched on the nest. "# spawned" represents the estimated time when eggs were fertilized. Elevation (mean feet above sea level) and mean daily discharge (cubic feet/second) at Kentucky Dam also provided. Temperature readings (1 meter below surface) taken at Hancock Biological Station in main channel. Environmental variables were provided by TVA and Murray State University.

	Smallmouth Bass						
	Sugar Bay		**Blood River**				
	#hatch	#spawned	#hatch	#spawned	**Environmental variables**		
					Elevation	Discharge (cfs)	Temp. F
19-Apr		1			360.93	85924	59.81
20-Apr		3		1	360.55	104861	59.54
21-Apr		4			360.02	102685	59.79
22-Apr	1	6		2	359.78	62908	60.89
23-Apr	3	5	1	8	359.50	62402	61.54
24-Apr	4	12		10	359.04	62786	62.64
25-Apr	6	15	2	13	358.62	63624	64.04
26-Apr	5	14	8	13	358.99	39136	63.86
27-Apr	12	12	10	16	359.09	35434	64.51
28-Apr	15	11	13	19	359.11	35819	66.16
29-Apr	14	7	13	11	359.10	35345	66.29
30-Apr	12	6	16	2	359.04	30931	65.84
1-May	11	2	19	2	358.89	30565	66.90
2-May	7		11	1	358.92	22175	68.32
3-May	6	1	2	1	358.78	18407	67.80
4-May	2	1	2		359.05	25180	68.63
5-May			1	1	359.27	18884	68.68
6-May	1		1		359.18	20611	68.05
7-May	1				359.21	19610	67.66
8-May			1		359.25	19152	68.18

Table 16. Species composition, relative abundance, and CPUE (fish/nn) with standard error (SE) of crappie collected by trap nets fished during 120 net-nights of effort at three embayments of Kentucky Lake during October-November 2022. The Sub-Total is used for historical comparison and excludes the data for an embayment which historically had not been sampled. White Bass, Yellow Bass, and Redear Sunfish were also collected this year.

		Inch class																
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	16	Total	CPUE	SE
Blood River	White Crappie	10	71	8	3	2	1	5	4	1		1	1	2		109	2.7	3.3
	Black Crappie	25	8	5	16	10	3	1	6	14	7	3		1		99	2.5	0.7
	White Bass														1	1	<0.1	<0.1
	Yellow Bass	1		14	55	39	17	21	14	2						163	4.1	0.8
	Redear Sunfish	22	73	5	11	5	16	11	2	1						146	3.7	0.7
Jonathan Cr.	White Crappie	64	90	10	42	37	12	5	5	1	3	2	1			272	6.8	0.6
	Black Crappie	83	24	15	88	31	12	11	22	16	7	6	3			318	8.0	0.5
	White Bass							1								1	<0.1	<0.1
	Yellow Bass	1	4	10	48	21	19	11	2	3						119	4.0	0.8
	Redear Sunfish	10	66	3	17	26	9	6	2	4	3					146	4.9	0.8
Sub-Total	**White Crappie**	**74**	**161**	**18**	**45**	**39**	**13**	**10**	**9**	**2**	**3**	**3**	**2**	**2**		**381**	**4.8**	**0.7**
	Black Crappie	**108**	**32**	**20**	**104**	**41**	**15**	**12**	**28**	**30**	**14**	**9**	**3**	**1**		**417**	**5.2**	**0.8**
	White Bass							**1**							**1**	**2**	**<0.1**	**<0.1**
	Yellow Bass	**2**	**4**	**24**	**103**	**60**	**36**	**32**	**16**	**5**						**282**	**4.0**	**0.5**
	Redear Sunfish	**32**	**139**	**8**	**28**	**31**	**25**	**17**	**4**	**5**	**3**					**292**	**4.2**	**0.5**
Sledd Creek	White Crappie	4	18	5	1			1	8	1						38	1.0	0.2
	Black Crappie	34	10		2	6	7	12	1				1			73	1.8	0.3
	White Bass						1									1	<0.1	<0.1
	Yellow Bass	3	6	5	15	13	13	32	19	5						111	2.8	0.7
	Redear Sunfish	1	12	4	1	7	7	4	1		1					38	1.0	0.2
TOTAL	**White Crappie**	**78**	**179**	**23**	**46**	**39**	**13**	**11**	**17**	**3**	**3**	**3**	**2**	**2**		**419**	**3.5**	**0.5**
	Black Crappie	**142**	**42**	**20**	**106**	**47**	**22**	**24**	**29**	**30**	**14**	**9**	**4**	**1**		**490**	**4.1**	**0.6**
	White Bass						**1**	**1**							**1**	**3**	**0.3**	**<0.1**
	Yellow Bass	**5**	**10**	**29**	**118**	**73**	**49**	**64**	**35**	**10**						**393**	**3.6**	**0.4**
	Redear Sunfish	**33**	**151**	**12**	**29**	**38**	**32**	**21**	**5**	**5**	**4**					**330**	**3.0**	**0.4**

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Table 17. Crappie population parameters used to manage the population at Kentucky Lake, with values determined from fall trap netting at Blood River and Jonathan Creek.

	Total CPUE (fish/nn) excluding age 0			CPUE (fish/nn) age 0			Mean length (in) age 2 at capture						CPUE (fish/nn) ≥8.0 in			CPUE (fish/nn) age 1			CPUE (fish/nn) ≥10.0 in		
Year	WC	BC	Crappie	WC	BC	Crappie	WC	*WC	BC	*BC	Crappie	*Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2022	1.7	3.3	4.9	3.1	1.9	5.0	10.4	11.0	8.3	8.4	8.6	8.7	0.4	1.2	1.6	1.5	1.9	3.4	0.2	0.7	0.9
2021	2.3	2.6	4.9	5.1	1	6.1	9.6	9.5	8.4	8.4	9	8.8	1.1	1.8	2.9	1.2	0.3	1.5	0.5	0.5	1.1
2020	3.6	6.0	9.5	1.2	0.5	1.7	10.4	10.3	9.4	9.6	9.8	9.8	1.0	1.7	2.7	3.2	4.5	7.7	0.3	1.1	1.4
2019	3.5	6.7	10.2	4.4	4.6	9.0	9.1	9.1	7.9	8.5	8.0	8.5	1.5	5.0	6.6	2.0	1.4	3.4	1.2	1.9	3.0
2018	2.8	5.6	8.4	1.4	1.7	3.1	10.7	10.6	9.5	9.5	9.9	9.8	2.2	4.3	6.5	0.7	0.9	1.6	1.5	1.2	2.6
2017	3.6	9.6	13.1	0.4	0.7	1.1	9.6	9.5	8.2	8.3	8.9	8.7	3.4	7.3	10.6	0.3	1.2	1.5	1.1	1.2	2.4
2016	1.7	6.3	8.0	0.2	0.7	0.9	10.0	9.8	9.3	8.6	9.7	8.9	1.4	3.8	5.3	0.8	2.1	2.9	0.5	0.9	1.4
2015	7.7	15.0	22.7	2.2	2.1	4.3	9.7	9.4	8.8	8.0	9.2	8.4	4.4	4.9	9.3	4.1	5.8	9.9	1.2	0.5	1.7
2014	3.6	6.7	10.3	1.7	1.2	2.9	10.3	10.1	8.8	8.0	9.7	8.8	1.7	2.3	3.9	2.4	4.3	6.7	1.2	1.1	2.3
2013	2.5	7.4	9.9	2.5	3.1	5.5	10.4	10.6	8.8	9.2	9.4	9.5	2.4	6.3	8.7	0.5	1.8	2.3	1.7	2.9	4.6
Average	3.3	6.9	10.2	2.2	1.7	4.0	10.0	10.0	8.7	8.7	9.2	9.0	1.9	3.9	5.8	1.7	2.4	4.1	0.9	1.2	2.1
KLFMP			≥ 20			≥ 8					≥ 9.5 in				≥ 10			≥ 11			≥ 4

*Mean length calculated using a weighted average applied to the entire fall trapnet sample

Data from 1985 to 2012 is listed in previous annual reports.

KLFMP - Kentucky Lake Fish Management Plan objective goal.

Kentucky Lake Crappie Database

Table 18. Lake specific assessment for crappie collected at Kentucky Lake (Blood River and Jonathan Creek) from 2013-2022. This table includes the individual scores for each parameter, as well as the total scores and assessment ratings. The final columns list the instantaneous mortality (Z) and annual mortality (A).

Year	CPUE age 1 and older	CPUE age 1	CPUE age 0	CPUE ≥8.0 in	Mean length age 2 at capture	*Mean length age 2 at capture	Total score	Assessment rating	Instantaneous Mortality (Z)	Annual Mortality (A)
2022	4.9	3.4	5.0	1.6	8.6	8.7			0.939	60.9
Score	1	1	3	1	1		7	P		
2021	4.9	1.5	6.1	2.9	9.4	8.8			0.701	50.4
Score	1	1	4	1	1		9	F		
2020	9.5	7.7	1.7	2.7	10.4	9.8				
Score	1	2	1	1	3		8	F		
2019	10.2	3.4	9.0	6.6	8.0	8.5			0.643	47.4
Score	1	1	4	2	1		9	F		
2018	8.4	1.6	3.1	6.5	9.9	9.8			0.504	39.6
Score	1	1	2	2	3		9	F		
2017	13.1	1.5	1.1	10.6	8.9	8.7			0.805	55.3
Score	1	1	1	3	1		7	P		
2016	8.0	2.9	0.9	5.3	9.7	8.9			1.072	65.8
Score	1	1	1	1	2		6	P		
2015	22.7	9.9	4.3	9.3	9.2	8.4			0.925	60.3
Score	4	3	3	3	1		14	G		
2014	10.5	6.7	2.9	3.9	9.7	8.8			0.910	59.7
Score	1	1	2	1	2		7	P		
2013	9.9	2.3	5.5	8.7	9.4	9.5			0.657	48.2
Score	1	1	3	2	1		8	P		
Average	10.2	4.1	4.0	5.8	9.3	9.0			0.8	54.2

*Mean length calculated using a weighted average applied to the entire fall trapnet sample

Rating
1 - 7 = Poor (P)
8 - 12 = Fair (F)
13 - 17 = Good (G)
18 - 20 = Excellent (E)

Assessment Quartiles updated in 2016.

Kentucky Lake Crappie Database

Table 19. Proportional stock density (PSD) and relative stock density (RSD_{10}) of White and Black crappie collected with trap nets (120 net-nights) at Kentucky Lake (Blood River, Jonathan Creek and Sledd Creek) during October and November 2022. 95% confidence intervals are shown in parentheses.

Location	Species	≥ Stock size*	PSD	RSD_{10}
Blood River	White Crappie	20	70 (± 21)	25 (± 20)
	Black Crappie	61	52 (± 13)	41 (± 12)
Jonathan Creek	White Crappie	108	16 (± 9)	6 (± 2)
	Black Crappie	196	33 (± 6)	16 (± 5)
Sub Total	**White Crappie**	**128**	**24 (± 7)**	**9 (± 5)**
	Black Crappie	**257**	**38 (± 6)**	**22 (± 5)**
Sledd Creek	White Crappie	11	91 (± 18)	9 (± 17)
	Black Crappie	29	48 (± 18)	3 (± 7)
Total	**White Crappie**	**139**	**29 (± 8)**	**9 (± 5)**
	Black Crappie	**286**	**39 (± 6)**	**20 (± 5)**

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* Stock size = 5.0 in

Table 20. Number of fish and relative weight (W_r) values for each length group of Black and White crappie collected at Kentucky Lake during trapnetting in October and November 2022. Standard errors provided in parentheses

		Length group					
		5.0-7.9 in		8.0-9.9 in		>10.0 in	
Species	Area	No.	W_r	No.	W_r	No.	W_r
White Crappie	Blood River	5	90 (4)	9	103 (2)	5	104 (4)
	Jonathan Creek	90	87 (1)	10	108 (2)	7	96 (2)
	Sledd Creek	1	95 (0)	9	103 (2)	1	103 (0)
	Total	96	87 (1)	28	105 (1)	13	99 (2)

		Length group					
		5.0-7.9 in		8.0-9.9 in		>10.0 in	
Species	Area	No.	W_r	No.	W_r	No.	W_r
Black Crappie	Blood River	29	87 (2)	7	105 (11)	25	98 (1)
	Jonathan Creek	116	85 (1)	33	96 (2)	32	99 (2)
	Sledd Creek	15	93 (2)	13	97 (1)	1	95 (0)
	Total	160	86 (1)	53	97 (1)	58	98 (1)

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Table 21. Mean back-calculated length (in) at each annulus of White Crappie from an aged subsample, including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake (Blood River, Jonathan Creek) in fall 2022.

		Age							
Year class	N	1	2	3	4	5	6	7	8
2021	55	4							
2020	2	4.3	7.9						
2019	6	4.4	8.7	11.6					
2018	1	4.3	7.9	11.0	12.3				
2014	2	3.3	5.6	7.8	8.8	10.0	10.8	11.8	12.9
Mean	66	4.1	7.9	10.7	10.0	10.0	10.8	11.8	12.9
Smallest		2.8	5.2	7.7	8.4	9.1	9.8	10.9	11.5
Largest		5.9	10.4	14.2	12.3	11.0	11.8	12.7	14.2
Std err		0.1	0.5	0.7	1.2	0.9	1.0	0.9	1.3
Low 95% CI		3.9	7.0	9.4	7.6	8.2	8.8	10.0	10.3
High 95% CI		4.2	8.8	12.0	12.3	11.8	12.8	13.6	15.5

* Intercept = 0.

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Table 22. Mean back-calculated length (in) at each annulus of MALE White Crappie from an aged subsample including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake (Blood River, Jonathan Creek) in fall 2022.

		Age							
Year class	N	1	2	3	4	5	6	7	8
2021	15	4.7							
2020	2	4.3	7.9						
2019	2	4.0	7.7	10.3					
2018	1	4.3	7.9	11.0	12.3				
2014	2	3.3	5.6	7.8	8.8	10.0	10.8	11.8	12.9
Mean	22	4.5	7.2	9.5	10.0	10.0	10.8	11.8	12.9
Smallest		2.8	5.2	7.7	8.4	9.1	9.8	10.9	11.5
Largest		5.9	8.6	11.0	12.3	11.0	11.8	12.7	14.2
Std err		0.1	0.4	0.7	1.2	0.9	1.0	0.9	1.3
Low 95% CI		4.2	6.3	8.1	7.6	8.2	8.8	10.0	10.3
High 95% CI		4.7	8.0	10.8	12.3	11.8	12.8	13.6	15.5

* Intercept = 0.

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Table 23. Mean back-calculated length (in) at each annulus of FEMALE White Crappie from an aged subsample including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake (Blood River, Jonathan Creek) in fall 2022.

		Age		
Year class	N	1	2	3
2021	15	4.1		
2019	4	4.6	9.2	12.2
Mean	35	4.2	9.2	12.2
Smallest		3.3	7.9	11.1
Largest		5.0	10.4	14.2
Std err		0.1	0.6	0.7
Low 95% CI		3.9	8.1	10.8
High 95% CI		4.4	10.4	13.6

* Intercept = 0.

wfdtnagk.d22

Table 24. Mean back-calculated length (in) at each annulus of Black Crappie from an aged subsample, including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake (Blood River, Jonathan Creek) in fall 2022.

		Age							
Year class	N	1	2	3	4	5	6	7	8
2021	56	3.8							
2020	12	3.8	6.6						
2019	57	3.9	7.1	8.9					
2018	5	3.6	5.9	8.2	9.6				
2015	4	4.9	7.6	9.3	10.1	10.7	11.5	12.2	
2014	4	4.3	6.6	8.9	9.7	10.2	10.9	11.8	12.5
Mean	138	3.9	7.0	8.9	9.8	10.4	11.2	12.0	12.5
Smallest		2.4	4.1	6.2	7.3	10.0	10.6	11.3	12.1
Largest		5.9	10.1	12.2	12.0	11.5	12.1	12.9	13.4
Std err		0.0	0.1	0.1	0.3	0.2	0.2	0.2	0.3
Low 95% CI		3.8	6.8	8.6	9.2	10.1	10.7	11.6	12.0
High 95% CI		4.0	7.2	9.1	10.4	10.8	11.6	12.4	13.1

* Intercept = 0.

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Table 25. Mean back-calculated length (in) at each annulus of MALE Black Crappie from an aged subsample including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake (Blood River, Jonathan Creek) in fall 2022.

		Age							
Year class	N	1	2	3	4	5	6	7	8
2021	15	4.7							
2020	2	4.3	7.9						
2019	2	4.0	7.7	10.3					
2018	1	4.3	7.9	11.0	12.3				
2014	2	3.3	5.6	7.8	8.8	10.0	10.8	11.8	12.9
Mean	22	4.5	7.2	9.5	10.0	10.0	10.8	11.8	12.9
Smallest		2.8	5.2	7.7	9.1	9.1	9.8	10.9	11.5
Largest		5.9	8.6	11.0	11.0	11.0	11.8	12.7	14.2
Std err		0.1	0.4	0.7	0.9	0.9	1.0	0.9	1.3
Low 95% CI		4.2	6.3	8.1	8.2	8.2	8.8	10.0	10.3
High 95% CI		4.7	8.0	10.8	11.8	11.8	12.8	13.6	15.5

* Intercept = 0.

wfdtnagk.d22

Table 26. Mean back-calculated length (in) at each annulus of FEMALE Black Crappie from an aged subsample including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake (Blood River, Jonathan Creek) in fall 2022.

		Age							
Year class	N	1	2	3	4	5	6	7	8
2021	6	4.1							
2020	7	3.7	6.4						
2019	32	4.0	7.2	9.0					
2018	1	3.9	6.8	10.4	12.0				
2015	1	5.5	8.5	9.4	10.2	11.0	12.1	12.9	
2014	4	4.3	6.6	8.9	9.7	10.2	10.9	11.8	12.5
Mean	51	4.0	7.0	9.0	10.2	10.3	11.1	12.0	12.5
Smallest		3.2	5.3	6.5	9.4	10.0	10.6	11.6	12.1
Largest		5.5	10.1	12.2	12.0	11.0	12.1	12.9	13.4
Std err		0.1	0.1	0.2	0.4	0.2	0.3	0.3	0.3
Low 95% CI		3.9	6.8	8.7	9.4	10.0	10.6	11.5	12.0
High 95% CI		4.1	7.3	9.3	10.9	10.7	11.6	12.6	13.1

* Intercept = 0.

wfdtnagk.d22

Table 27. Mean length (in) at capture and standard error (SE) of Black and White crappie. Otoliths were collected from Kentucky Lake (Blood River, Jonathan Creek) in fall 2022.

		Mean length at capture												Von Bertalanffy growth parameters		
		Age at capture														
Species	N	1	SE	2	SE	3	SE	4	SE	7	SE	8	SE	L_{inf} (in)	K	t_0
Crappie spp.	801	6.2	0.1	8.7	0.29	10.5	0.15	10.9	0.7	12.7	0.4	13.2	0.4	13.446	0.399	0.238
Black Crappie	419	5.9	0.1	8.4	0.24	10.3	0.14	10.5	0.7	12.7	0.4	13.0	0.5	13.483	0.37	0.221
White Crappie	382	6.6	0.1	11.0	0.5	12.7		13.5				13.5	1.0	13.64	1.01	1.151

wfdtnagk.d22, wfdtpntk.d22

Table 28. Age frequency and CPUE (fish/nn) of White Crappie collected in trap nets fished for 80 net-nights in Kentucky Lake (Blood River and Jonathan Creek) during October and November 2022.

	Inch class																
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	SE
0	74	161	14											249	65	3.1	0.5
1			5	45	39	13	10	9	1					122	32	1.5	0.3
2									1	1				2	1	<0.1	<0.1
3										2	2	1	1	6	2	0.1	<0.1
4												1		1	0	<0.1	<0.1
8											1		1	2	1	<0.1	<0.1
Total	74	161	19	45	39	13	10	9	2	3	3	2	2	382		4.8	
%	19	42	5	12	10	3	3	2	1	1	1	1	1				

wfdtpntk.d22, wfdtnagk.d22

Table 29. Age frequency and CPUE (fish/nn) of Black Crappie collected in trap nets fished for 80 net-nights in Kentucky Lake (Blood River and Jonathan Creek) during October and November 2022.

	Inch class																
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	SE
0	108	32	9	5										154	37	1.9	0.3
1			11	99	41	5	3	2	1					162	39	2.0	0.4
2						7	3	5						15	4	0.2	<0.1
3						3	5	20	27	13	3	2		73	17	0.9	0.2
4							1	2	1		2			6	1	0.1	<0.1
7										1	2	2		5	1.2	0.1	<0.1
8											3		1	4	1.0	0.1	<0.1
Total	108	32	20	104	41	15	12	29	29	14	10	4	1	419		5.2	
%	26	8	5	25	10	4	3	7	7	3	2	1	<1				

wfdtpntk.d22, wfdtnagk.d22

Table 30. Length frequency, density (fish/1000M³), median density, and geometric mean density (standard error given in parentheses) of each 0.5 mm class of crappie collected during nocturnal neustonic tow net sampling (66 tows) at 6 sample sites in the Jonathan Creek embayment of Kentucky Lake from 31 March-9 June 2022. See Appendix A for sample site locations.

		mm class																
Date	Location	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	CPUE	*Median	*Geometric Mean
3/31/2022	JC002															0	0.0	0.0
	JC003															0		
	JC004															0		
	JC006															0		
	JC007															0		
	JC005															0		
4/7/2022	JC002															0	0.0	0.0
	JC003															0		
	JC004															0		
	JC006															0		
	JC007															0		
	JC005															0		
4/14/2022	JC002															0	0.0	0.0
	JC003															0		
	JC004															0		
	JC006															0		
	JC007															0		
	JC005															0		
4/21/2022	JC002															0	0.0	0.0
	JC003															0		
	JC004															0		
	JC006															0		
	JC007															0		
	JC005															0		
4/28/2022	JC002															0	0.0	0.0
	JC003															0		
	JC004															0		
	JC006															0		
	JC007															0		
	JC005															0		
5/4/2022	JC002															0	6.5	4.02 (3.69)
	JC003															0		
	JC004															0		
	JC006					4.1	4.1	12								20		
	JC007						3.7	7.4								11		
	JC005							7.7	7.7							15		
5/12/2022	JC002															0	7.4	4.39 (4.45)
	JC003															0		
	JC004						8.5				4.2					13		
	JC006				7.8	3.9	3.9	7.8								23		
	JC007															0		
	JC005					8.2				12						21		
5/19/2022	JC002					33										33	63.4	65.09 (27.61)
	JC003				5.8	12	5.8									23		
	JC004				21	42	14	7		28	28	7		7		154		
	JC006					6.9	14	28	21	14	6.9		14			104		
	JC007								6.1	12	12	6.1				36		
	JC005			13		6.4		13	6.4			6.4		6.4		51		
5/26/2022	JC002										5.4					5	100.8	84.81 (95.79)
	JC003							6.3								6		
	JC004							6.1		12	6.1	6.1	12	67	79	189		
	JC006									6.4		6.4	13	52	19	97		
	JC007													12	5.9	18		
	JC005									4.1		8.3		12	17	41		

Table 30 (cont.).

		mm class																
Date	Location	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	CPUE	*Median	*Geometric Mean
6/2/2022	JC002															0	20.0	8.22 (7.09)
	JC003															0		
	JC004						6.6									7		
	JC006															0		
	JC007													5.2		5		
	JC005							16	5.2			5.2				26		
6/9/2022	JC002															0	0.0	1.47 (1.51)
	JC003															0		
	JC004													9.1		9		
	JC006															0		
	JC007															0		
	JC005															0		

*includes all lengths of yoy crappie collected

Table 31. Geometric mean density (#/1000m³) for pelagic larval fish captured in neuston tow nets from March 31 - June 9, 2022 (six tows per sample night). Standard errors given in parentheses. Temperature (°F) and water elevation (feet above sea level) also provided.

	Geometric mean (standard error)						
	Pomoxis spp.		Clupeid spp.	Lepomis spp.	Atherinid spp.		
Day	7.0-12.0 mm	Total catch	Total catch	Total catch	Total catch	Temp	Elevation
3/31/2022	0.00	0.00	0.00	0.00	0.00	57.04	354.6
4/7/2022	0.00	0.00	0.00	0.00	0.00	57.1	355.7
4/14/2022	0.00	0.00	0.00	0.00	0.00	59.1	359.0
4/21/2022	0.00	0.00	1.67 (0.77)	0.00	0.00	59.8	360.0
4/28/2022	0.00	0.00	1.42 (1.20)	0.00	0.00	66.2	359.1
5/4/2022	4.02 (3.69)	4.02 (3.69)	67.17 (13.80)	1.31 (0.68)	0.00	68.6	359.1
5/12/2022	4.12 (3.78)	4.39 (4.45)	435.76 (67.67)	0.00	0.00	76.5	358.9
5/19/2022	54.03 (19.60)	65.09 (27.61)	3394.41 (1520.78)	302.43 (165.34)	1.71 (4.05)	75.8	359.4
5/26/2022	36.39 (41.53)	84.81 (95.79)	4975.22 (2365.19)	498.21 (248.75)	24.88 (17.39)	73.7	359.3
6/2/2022	5.66 (3.96)	8.22 (7.09)	2824.92 (1532.38)	104.10 (29.81)	95.16 (90.91)	78.4	359.0
6/9/2022	1.47 (1.51)	1.47 (1.51)	3227.26 (2792.74)	14.79 (67.26)	160.97 (43.73)	79.7	359.4

Table 32. Peak geometric mean density (#/1000m³) and standard errors for pelagic larval crappie captured in neuston tow nets at the Jonathan Creek embayment of Kentucky Lake from 2015-2022. Catch rates of age-0 crappie (fish/net-night) in fall trapnets and age-1 crappie from the following year from Kentucky Lake also reported.

	2015	2016	2017	2018	2019	2020	2021	2022
Date	May 12	May 19	May 19	May 19	May 20	April 21	June 3	May 26
Peak density	70.5	3.9	32.0	27.7	150.2	15.1	84.8	84.8
Std Error	27.2	1.4	20.3	35.1	161.3	3.5	77.4	95.8
Catch age 0	4.3	0.9	1.1	3.1	9.0	1.7	6.1	5.0
Catch age 1	2.9	1.5	1.6	3.4	7.7	1.5	3.4	

Table 33. Estimated crappie hatch dates in Jonathan Creek, derived using larval fish lengths back calculated using a growth rate derived from the daily ring counts of juveniles in 2022. Hatch dates from Jonathan Creek and Blood River derived solely from daily ring counts of juveniles also provided. "# hatch" represents the time when crappie actually hatched on the nest. "#spawned" represents the estimated time when crappie eggs were fertilized. Elevation (mean feet above sea level) and mean daily discharge (cubic feet/second) at Kentucky Dam also provided. Temperature readings (1 meter below surface) taken at Hancock Biological Station in main channel. Environmental variables were provided by TVA and Murray State University.

	Jonathan Creek				Blood River				
	Back calculated estimate larval crappie	Back calculated estimate larval crappie	Juvenile daily ring count	Juvenile daily ring count	Juvenile daily ring count	Juvenile daily ring count	Environmental variables		
	# hatch / 1000m³	# spawned / 1000m³	# hatch	# spawned	# hatch	# spawned	Elevation	Discharge (cfs)	Temp. F
22-Apr		1.43					359.8	62908	60.9
23-Apr		4.84					359.5	62402	61.5
24-Apr		1.31					359.0	62786	62.6
25-Apr	1.43						358.6	63624	64.0
26-Apr	4.84						359.0	39136	63.9
27-Apr	1.31						359.1	35434	64.5
28-Apr						1	359.1	35819	66.2
29-Apr		2.86				1	359.1	35345	66.3
30-Apr						3	359.0	30931	65.8
1-May		3.33			1	1	358.9	30565	66.9
2-May	2.86	1.89		2	1	2	358.9	22175	68.3
3-May		4.56		2	3	4	358.8	18407	67.8
4-May	3.33	1.97		1	1	9	359.1	25180	68.6
5-May	1.89	4.30	2	5	2	7	359.3	18884	68.7
6-May	4.56	8.02	2	6	4	19	359.2	20611	68.1
7-May	1.97	3.23	1	11	9	10	359.2	19610	67.7
8-May	4.30	7.21	5	9	7	4	359.3	19152	68.2
9-May	8.02	10.12	6	8	19	10	359.2	25435	68.3
10-May	3.23	7.97	11	11	10	9	359.0	31238	69.4
11-May	7.21	16.83	9	10	4	5	359.0	29775	72.2
12-May	10.12	5.19	8	4	10	2	358.9	31609	76.5
13-May	7.97	4.71	11	14	9	5	359.0	20006	75.3
14-May	16.83		10	6	5	7	359.2	17431	74.7
15-May	5.19	1.93	4	6	2	1	359.2	14947	76.1
16-May	4.71		14	3	5		359.2	18121	75.8
17-May		2.66	6	1	7		359.2	18992	76.2
18-May	1.93	1.36	6		1		359.2	18223	75.5
19-May		1.35	3				359.4	12820	75.8
20-May	2.66		1				359.2	18087	75.2
21-May	1.36	1.35					359.2	19989	75.8
22-May	1.35	3.00					359.1	19778	75.4
23-May							359.2	27370	74.6

Table 33 (cont.).

	Jonathan Creek				Blood River				
	Back calculated estimate larval crappie	Back calculated estimate larval crappie	Juvenile daily ring count	Juvenile daily ring count	Juvenile daily ring count	Juvenile daily ring count	Environmental variables		
	# hatch / 1000m³	# spawned / 1000m³	# hatch	# spawned	# hatch	# spawned	Elevation	Discharge (cfs)	Temp. F
24-May	1.35						359.2	39747	74.1
25-May	3.00	1.47					359.4	63656	73.7
26-May							359.3	72934	73.5
27-May							359.4	67169	73.4
28-May	1.47						359.5	59974	73.4

Table 34. Estimated hatch dates of Black and White crappie in Jonathan Creek and Blood River, derived using daily ring counts of juveniles in 2022. "# hatch" represents the time when crappie actually hatched on the nest. Elevation (mean feet above sea level) and mean daily discharge (cubic feet/second) at Kentucky Dam also provided. Temperature readings (1 meter below surface) taken at Hancock Biological Station in main channel. Environmental variables were provided by TVA and Murray State University.

	Jonathan Creek		**Blood River**				
	White Crappie #hatch	Black Crappie #hatch	White Crappie #hatch	Black Crappie #hatch	**Environmental variables**		
					Elevation	Discharge (cfs)	Temp. F
1-May			1		358.9	30565	66.9
2-May			1		358.9	22175	68.3
3-May			2	1	358.8	18407	67.8
4-May			1		359.1	25180	68.6
5-May	2		2		359.3	18884	68.7
6-May	2		3	1	359.2	20611	68.1
7-May	1		7	2	359.2	19610	67.7
8-May	4	1	7		359.3	19152	68.2
9-May	4	2	16	3	359.2	25435	68.3
10-May	9	2	8	2	359.0	31238	69.4
11-May	8	1	3	1	359.0	29775	72.2
12-May	8		10		358.9	31609	76.5
13-May	9	2	9		359.0	20006	75.3
14-May	9	1	5		359.2	17431	74.7
15-May	4		1	1	359.2	14947	76.1
16-May	13	1	5		359.2	18121	75.8
17-May	6		6	1	359.2	18992	76.2
18-May	6		1		359.2	18223	75.5
19-May	2	1			359.4	12820	75.8
20-May	1				359.2	18087	75.2

Table 35. Length frequency and CPUE (fish/hr) of Channel, Blue, and Flathead catfish collected from Kentucky Lake in June and July 2022 using low pulse (15 PPS) electrofishing along the main river channel. A chase boat was used. A total of 5.0 hours of sampling consisting of 60-300-second runs.

	Inch class																												
Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	32	36	Total	CPUE	SE
Blue Catfish	2	4	2	1		3	1	6	1	3	2	4	5	3	2		2	1	1	1	3	1		2	1		1	52	10.8	3.7
Channel Catfish	2	2	2		1															1								8	1.7	0.8
Flathead Catfish		1		2	1	4	1	2	5	1	3		2	2		3	2	1	2	2			1	1	1	1		38	7.9	1.5

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Table 36. Mean relative weight (W_r) of each length group of Blue, Channel, and Flathead catfish collected from Kentucky Lake during June and July 2022. Fish were collected using low pulse (15 PPS) electrofishing. Standard errors are in parentheses.

Species	Length group							
Blue Catfish	12.0-19.9 in		20.0-29.9 in		≥30.0 in		Total	
	N	W_r	N	W_r	N	W_r	N	W_r
	25	116 (2)	13	118 (5)	2	129 (4)	40	118 (2)

	Length group							
Flathead Catfish	12.0-19.9 in		20.0-29.9 in		≥30.0 in		Total	
	N	W_r	N	W_r	N	W_r	N	W_r
	16	105 (1)	12	112 (2)	2	119 (10)	30	108 (1)

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Table 37. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 8.5 hours (17- 30-minute runs) of diurnal electrofishing at Lake Barkley from 26 April to 6 May 2022.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Lower																							
Donaldson Cr.	Smallmouth Bass		1	1	1																3	3.0	3.0
	Largemouth Bass		3	8	6	1			1	2	2	1	1			1	1				27	27.0	11.0
Fords	Smallmouth Bass			1																	1	0.7	0.7
	Largemouth Bass	4	11	17	8	6	5	3	3	2	2	8	3		1		5		1		79	52.7	4.4
Middle																							
Eddy Cr.	Smallmouth Bass		1	1		1	1	2					1								7	2.8	1.0
	Largemouth Bass	1	3	7	11	6	1	5	13	15	23	16	12	16	12	6	6	3	3	2	161	64.4	7.9
Little River	Smallmouth Bass		2				1		2	1			1								7	2.8	1.5
	Spotted Bass													1							1	0.4	0.4
	Largemouth Bass		1	4	2	4	7	6	2	2	7	7	6	4	4	3	9	1	4	1	74	29.6	4.4
Upper																							
Nickell Cr.	Smallmouth Bass		2			1		1					1								5	5.0	5.0
	Largemouth Bass		5	12	4	4	2		1	9	9	5	7	4	4						66	66.0	8.0
Total	Smallmouth Bass		6	3	1	2	2	3	2	1			3								23	2.7	0.8
	Spotted Bass													1							1	0.1	0.1
	Largemouth Bass	5	23	48	31	21	15	14	20	30	43	37	29	24	21	10	21	4	8	3	407	47.9	5.0

w fdpsdb.d22

Table 38. Spring diurnal electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Lake Barkley during late April/early May since 2013. Mean length at capture of age-3 fish also provided.

	Mean length age 3 at capture	Mean length age 3 at capture***	Age 1		Length group										Total	
					<8.0 in		8.0-11.9 in		12.0 -14.9 in		≥15.0 in		≥20.0 in			
Year			CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022			18.7	2.9	15.1	2.9	9.3	1.6	12.8	2.0	10.7	2.0	1.3	0.4	47.9	5.0
2021			41.7	4.5	35.7	4.2	9.4	1.4	11.8	2.6	12.2	2.5	0.4	0.2	69.1	6.1
2020*			2.5	0.9	2.8	1.0	1.7	0.6	6.5	2.0	9.6	1.3	0.5	0.2	20.7	3.2
2019**	12.9	13.1	14.6	4.0	11.7	3.5	8.7	2.4	16.9	3.9	16.0	3.1	1.5	0.7	53.3	10.4
2018			10.9	1.4	10.8	1.4	11.0	2.2	5.7	1.1	17.4	2.9	1.1	0.4	44.9	5.8
2017			26.5	5.1	19.0	3.8	11.7	2.5	9.7	1.3	26.8	3.5	1.7	0.5	67.2	6.2
2016			10.8	1.8	6.6	1.2	6.0	1.2	14.9	2.3	22.2	3.2	1.0	0.4	49.7	4.9
2015**	13.4	13.6	10.3	1.3	8.5	1.3	15.1	2.1	29.7	4.0	26.3	3.0	1.7	0.4	79.6	7.1
2014			22.2	3.7	21.4	3.6	13.5	1.7	22.8	2.5	23.5	4.1	1.4	0.3	81.2	7.5
2013			18.2	2.7	14.6	2.3	16.2	2.4	22.9	3.2	19.3	2.1	0.7	0.3	73.0	7.9
Average	13.2	13.3	17.6		14.6		10.3		15.4		18.4		1.1		58.6	

(Revised_Barkley_Bass_Database.xlsx)

Data is available since 1985 in previous annual reports

* Only one dipper was used due to covid19 protocols in 2020

** Back-calculated fall age data used in 2015 and 2019

*** Mean length calculated using a weighted average applied to the spring sample

Table 39. PSD and RSD_{15} values calculated for Largemouth Bass collected during 8.5 hours (17- 30-minutes runs) of spring diurnal electrofishing at each area of Lake Barkley from 26 April to 6 May 2022. 95% confidence intervals are shown in parentheses.

Area	≥ Stock size*	PSD	RSD_{15}
Donaldson	9	67 (±33)	22 (± 29)
Fords	33	61 (±17)	21 (±14)
Eddy Creek	133	74 (±7)	36 (±8)
Little River	63	73 (±11)	41 (±12)
Nickell	41	71 (±14)	20 (±12)
Total	279	72 (±5)	33 (±6)

wfdpsdb.d22
*Stock size = 8.0 in

Table 40. Lake specific assessment for Largemouth Bass collected at Lake Barkley from 2013-2022. This table includes the parameter estimates and the individual scores as well as the total scores and assessment ratings. The final two columns list the instantaneous mortality rate (Z) and the annual mortality (A).

Year	Mean length age 3 at capture	Mean length age 3 at capture***	CPUE age 1	Length group 12.0-14.9 in CPUE	Length group ≥15.0 in CPUE	Length group ≥20.0 in CPUE	Total score	Assessment rating	Z	A
2022	12.9	13.1	18.7	12.8	10.7	1.3			0.443	35.8
Score	2		2	1	1	1	7	P		
2021	12.9	13.1	41.7	11.8	12.2	0.4			0.358	30.1
Score	2		4	1	1	1	9	F		
2020*	12.9	13.1	2.5	6.5	9.6	0.5			0.450	36.3
Score	2		1	1	1	1	6	P		
2019**	12.9	13.1	14.6	16.9	16	1.5			0.436	35.3
Score	2		1	1	1	1	6	P		
2018	13.4	13.6	10.9	5.7	17.4	1.1			0.249	22.0
Score	4		1	1	1	1	8	F		
2017	13.4	13.6	26.5	9.7	26.8	1.7			0.322	27.5
Score	4		3	1	3	2	13	G		
2016	13.4	13.6	10.8	14.9	22.2	1.7			0.402	33.1
Score	4		1	1	2	1	9	F		
2015**	13.4	13.6	10.3	29.7	26.3	1.7			0.472	38.0
Score	4		1	2	2	1	10	F		
2014	13.0	13.5	22.2	22.8	23.5	1.4			0.649	47.8
Score	3		2	1	2	1	9	F		
2013	13.0	13.5	18.2	22.9	19.3	0.7			0.282	25.0
Score	3		1	1	1	1	7	P		
Average	13.1	13.4	17.6	15.4	18.4	1.2	8.4		0.406	33.1

Older data is listed in previous annual reports.

(Revised _Barkley_bass_Database.xlsx)

* Only one dipper was used due to covid19 protocols in 2020

** Used back calculated lengths from fall

*** Mean length calculated using a weighted average applied to the spring sample

Rating
5-7 = Poor (P)
8-11 = Fair (F)
12-16 = Good (G)
17-20 = Excellent (E)

Table 41. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours of diurnal electrofishing (12- 30-minute runs) for black bass in each area of Lake Barkley October 4-14, 2022. Sub-Total uses only data collected from Little River and Eddy Creek for historical comparison.

	Inch class																					
Area / Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Eddy Creek																						
Smallmouth Bass		23	3	2	1	1		1	3		1									35	17.5	6.7
Spotted Bass			1																	1	0.5	0.5
Largemouth Bass	27	145	21	7	9	3	3	3	7	5	12	18	12	5	5	2	3			287	143.5	17.1
Little River																						
Smallmouth Bass	2	34	18	4			1	1	1		2	2	2	1	3			1		72	36.0	9.3
Spotted Bass		3	2																	5	2.5	1.9
Largemouth Bass	9	56	12	8	14	6	1		2	3	7	4	4	4	2	3	2	1	1	139	69.5	10.6
Sub-Total																						
Smallmouth Bass	**2**	**57**	**21**	**6**	**1**	**1**	**1**	**2**	**4**		**3**	**2**	**2**	**1**	**3**			**1**		**107**	**26.8**	**6.4**
Spotted Bass		**3**	**3**																	**6**	**1.5**	**1.0**
Largemouth Bass	**36**	**201**	**33**	**15**	**23**	**9**	**4**	**3**	**9**	**8**	**19**	**22**	**16**	**9**	**7**	**5**	**5**	**1**	**1**	**426**	**106.5**	**16.8**
Taylor Bay/Jake Fork Bay																						
Smallmouth Bass	2	20	19	9	1		1						1					1		54	27.0	11.1
Spotted Bass																						
Largemouth Bass	11	63	26	12	8	11	5	2	4	2	7	2	2	4						159	79.5	7.0
Total																						
Smallmouth Bass	**4**	**77**	**40**	**15**	**2**	**1**	**2**	**2**	**4**		**3**	**2**	**3**	**1**	**3**			**2**		**161**	**26.8**	**5.3**
Spotted Bass		**3**	**3**																	**6**	**1.0**	**0.7**
Largemouth Bass	**47**	**264**	**59**	**27**	**31**	**20**	**9**	**5**	**13**	**10**	**26**	**24**	**18**	**13**	**7**	**5**	**5**	**1**	**1**	**585**	**97.5**	**11.8**

wfdwrb.d22, wfdwrb1.d22

Table 42. Number of fish and the mean relative weight (W_r) values for each length group of Largemouth and Smallmouth bass collected at Lake Barkley during 7.5 hours of diurnal electrofishing (15- 30-minute runs) in October 2022. Sub-Total uses only data collected from Little River and Eddy Creek for historical comparison. Additional fish were collected from Donaldson Creek, Linton Bay, and Kuttawa for relative weight calculations. Standard errors are in parentheses.

		Length group							
		8.0-11.9 in		12.0-14.9 in		≥15.0 in		Total	
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Eddy Creek	18	103 (1)	42	104 (1)	15	101 (2)	75	103 (1)
	Little River	6	106 (3)	15	103 (2)	12	95 (4)	33	100 (2)
	Sub-Total	**24**	**104 (1)**	**57**	**103 (1)**	**27**	**98 (2)**	**108**	**102 (1)**
	Taylor Bay/Jake Fork Bay	13	102 (2)	11	105 (3)	4	105 (3)	28	103 (2)
	Donaldson Creek	8	113 (3)	6	108 (4)	3	102 (2)	17	109 (2)
	Linton Bay	1	106	1	118			2	112 (6)
	Kuttawa	2	109 (2)	5	109 (3)	6	91 (5)	13	101 (3)
	Total	**48**	**105 (1)**	**80**	**104 (1)**	**40**	**98 (2)**	**168**	**103 (1)**

		Length group							
		7.0-10.9 in		11.0-13.9 in		≥14.0 in		Total	
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Smallmouth Bass	Eddy Creek	5	94 (3)	1	103			6	95 (3)
	Little River	3	97 (3)	4	94 (4)	7	90 (5)	14	93 (3)
	Sub-Total	**8**	**95 (2)**	**5**	**96 (4)**	**7**	**90 (5)**	**20**	**93 (2)**
	Taylor Bay/Jake Fork Bay	1	102			2	86 (4)	3	92 (6)
	Donaldson Creek					1	93	1	93
	Linton Bay	2	101 (5)					2	101 (5)
	Kuttawa							0	
	Total	**11**	**97 (2)**	**5**	**96 (4)**	**10**	**90 (3)**	**26**	**94 (2)**

wfdwrb.d22, wfdwrb1.d22

Table 43. CPUE (fish/hr) and mean length (in) of age-0 Largemouth Bass collected in the fall and CPUE of age-1 Largemouth Bass collected the following spring during diurnal electrofishing at Lake Barkley.

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	3.9	0.1	80.3	12.6	12.8	1.7		
2021	5.1	0.1	47.5	8.6	23.0	3.3	18.7	2.9
2020	4.9	0.1	99.4	15.3	42.5	10.0	41.7	4.5
2019	4.1	0.1	98.7	17.5	16.9	2.8	2.5*	0.9*
2018	6.2	0.2	11.4	2.8	8.6	1.7	14.6	4.0
2017	4.9	0.1	26.0	5.2	11.1	3.4	10.9	1.4
2016	5.5	0.1	22.3	4.7	12.6	3.5	26.5	5.1
2015	5.1	0.1	39.1	8.9	17.5	4.4	10.8	1.8
2014	4.8	0.1	24.6	4.4	10.8	1.9	9.4	2.0
2013	5.9	0.1	60.1	7.1	47.8	5.2	22.2	3.7
2012	6.5	0.1	30.0	4.8	27.0	3.5	22.1	2.7
Average	5.2		49.0		21.0		17.9	

[A] Data collected by fall (October) diurnal electrofishing. Mean lengths were determined by analysis of otoliths, removed from a subsample of LMB <12.0 in.

[B] Data collected during the following spring (April/May) diurnal electrofishing sample.

* Only one dipper used because of covid19 protocols in spring 2020

wfdwrb.dxx, wfdwrb1.dxx, wfdpsdb.dxx

Table 44. CPUE (fish/hr) and mean length (in) of age-0 Smallmouth Bass collected in the fall and CPUE of age-1 Smallmouth Bass collected the following spring during diurnal electrofishing at Lake Barkley.

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	3.9	0.1	22.0	6.4	2.0	0.9		
2021	4.5	0.1	24.5	6.5	6.5	2.6	1.2	0.5
2020	4.5	0.1	42.5	20.7	13.8	5.8	3.3	1.0
2019	4.1	0.1	18.9	3.6	2.4	0.7	0.5*	0.3*
Average	4.2		27.0		6.2		1.7	

[A] Data collected by fall (October) diurnal electrofishing. Mean lengths were determined by analysis of otoliths, removed from a subsample of SMB <12.0 in.

[B] Data collected during the following spring (April/May) diurnal electrofishing sample.

* Only one dipper used because of covid19 protocols in spring 2020

wfdwrb1.dxx, wfdpsdb.dxx

Table 45. Length frequency and CPUE (fish/nn) of each inch class of White and Black crappie collected by trap nets (120 net-nights) at Lake Barkley from 18 October-4 November 2022. Sub-Total is shown for comparisons with historical data which included only Little River and Donaldson Creek.

		Inch class													
Area	Species	2	3	4	5	6	7	8	9	10	11	12	Total	CPUE	SE
Little River	White Crappie	15	42	5	138	286	18	12	41	15	4	4	580	14.5	1.3
	Black Crappie	5	17	1	3	6	4		2		1		39	1.0	0.2
Donaldson Creek	White Crappie	302	224	1	20	16	5	17	22	6	8		621	15.5	2.2
	Black Crappie	45	20	3	4	4	2	4	2	3	2		89	2.2	0.5
Sub-Total	**White Crappie**	**317**	**266**	**6**	**158**	**302**	**23**	**29**	**63**	**21**	**12**	**4**	**1,201**	**15.0**	**1.3**
	Black Crappie	**50**	**37**	**4**	**7**	**10**	**6**	**4**	**4**	**3**	**3**		**128**	**1.6**	**0.3**
Crooked Creek	White Crappie	208	215	11	61	40	3	4	39	14	7	3	605	15.1	2.8
	Black Crappie	51	18	1		2	2	1		1		1	77	1.9	0.3
Total	**White Crappie**	**525**	**481**	**17**	**219**	**342**	**26**	**33**	**102**	**35**	**19**	**7**	**1,806**	**15.1**	**1.3**
	Black Crappie	**101**	**55**	**5**	**7**	**12**	**8**	**5**	**4**	**4**	**3**	**1**	**205**	**1.7**	**0.2**

wfdtpntb.d22, wfdtpnb1.d22

Table 46. Number of fish mean relative weight (W_r) values for each length group of Black and White crappie collected by trap nets (120 net-nights) at Lake Barkley from 18 October-4 November 2022.

		Length group							
		5.0-7.9 in		8.0-9.9 in		≥10.0 in		Total	
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
White Crappie	Little River	414	81 (<1)	51	108 (1)	23	107 (2)	488	85 (1)
	Donaldson Bay	34	86 (2)	39	109 (1)	14	112 (3)	87	101 (2)
	Crooked Creek	104	86 (1)	42	109 (1)	24	107 (1)	170	94 (1)
	Total	**552**	**83 (<1)**	**132**	**109 (1)**	**61**	**108 (1)**	**745**	**89 (1)**

		Length group							
		5.0-7.9 in		8.0-9.9 in		≥10.0 in		Total	
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Black Crappie	Little River	13	87 (1)	2	112 (3)	1	103	16	91 (3)
	Donaldson Bay	9	89 (3)	6	116 (4)	5	109 (2)	20	102 (3)
	Crooked Creek	4	84 (3)	1	104	2	99 (5)	7	90 (4)
	Total	**26**	**87 (1)**	**9**	**113 (3)**	**8**	**106 (2)**	**43**	**96 (2)**

wfdtpntb.d22

Table 47. Crappie population parameters used to manage the population at Lake Barkley for 2013-2022, with values determined from fall trap netting. To allow for historical comparisons, only data from Little River and Donaldson Creek are presented.

	Total CPUE (fish/nn) excluding age 0			CPUE (fish/nn) age 2			Mean length (in) age 2 at capture				CPUE (fish/nn) ≥8.0 in			CPUE (fish/nn) age 1			CPUE (fish/nn) ≥10.0 in		
Year	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	Crappie*	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2021	7.7	0.5	8.1	0.2	0.0	0.3	11.3	10.9	11.2	11.2	1.6	0.2	1.8	7.4	0.4	7.8	0.5	0.1	0.5
2021	3.8	0.5	4.3	0.5	0.2	0.7	11.1	9.6	10.5	10.5	2.1	0.3	2.4	3.2	0.3	3.5	0.7	0.1	0.8
2020	2.6	0.8	3.4	0.1	0.1	0.2	10.7	10.4	10.5	10.7	1.5	0.4	1.8	2.4	0.7	3.1	0.3	0.1	0.4
2019	3.5	0.8	4.3	0.3	0.3	0.6	10.1	9.3	9.7	10.0	0.7	0.3	1.0	3.1	0.5	3.6	0.4	0.2	0.5
2018	1.8	0.5	2.3	0.1	0.0	0.1	11.8	10.9	11.5	11.5	1.1	0.2	1.3	1.5	0.5	2.0	0.5	0.1	0.6
2017	1.5	1.6	3.1	0.6	0.4	1.0	11.2	9.9	10.7	10.5	1.4	1.0	2.4	0.7	1.1	1.7	1.0	0.3	1.3
2016	6.2	3.5	9.7	2.0	0.6	2.6	10.6	9.5	10.3	9.9	3.6	1.3	4.9	4.1	2.6	6.7	1.4	0.4	1.8
2015	11.4	3.1	14.4	0.3	1.6	1.9	11.6	9.9	10.5	10.1	3.2	1.9	5.1	10.8	1.4	12.2	0.9	0.9	1.8
2014	1.5	2.1	3.5	0.1	0.0	0.1	11.8	9.6	11.4	11.5	1.3	0.6	1.9	1.1	1.9	3.0	0.7	0.1	0.8
2013	2.2	0.8	3.0	0.8	0.4	1.2	11.1	10.6	10.9	11.0	2.2	0.8	3.0	0.3	0.0	0.4	1.9	0.6	2.5
Average	4.2	1.4	5.6	0.5	0.4	0.9	11.1	10.1	10.7	10.7	1.9	0.7	2.6	3.5	0.9	4.4	0.8	0.3	1.1

*Mean length calculated using a weighted average applied to the whole fall trapnet sample

Data is available from 1985 in previous annual reports.

Revised_Barkley_Crappie_Database

Table 48. Proportional stock density (PSD) and relative stock density (RSD_{10}) of White and Black crappie collected by trap nets (120 net-nights) at Lake Barkley from 18 October-4 November 2022. Sub-Total uses only data collected from Little River and Donaldson Creek. Numbers in parentheses represent 95% confidence intervals.

Location	Species	≥ Stock size*	PSD	RSD_{10}
Little River	White Crappie	518	15 (±3)	4 (±2)
	Black Crappie	16	19 (±20)	6 (±12)
Donaldson	White Crappie	94	56 (±10)	15 (±7)
	Black Crappie	21	52 (±22)	24 (±19)
Sub-Total	**White Crappie**	**612**	**21 (±3)**	**6 (±2)**
	Black Crappie	**37**	**38 (±16)**	**16 (±12)**
Crooked Creek	White Crappie	171	39 (±7)	14 (±5)
	Black Crappie	7	43 (±40)	29 (±36)
Total	**White Crappie**	**783**	**25 (±3)**	**8 (±2)**
	Black Crappie	**44**	**39 (±15)**	**18 (±12)**

wfdtpntb.d22, wfdtpnb1.d22
*Stock size = 5.0 in

Table 49. Mean back-calculated length (in) at each annulus of White Crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022.

		Age		
Year class	N	1	2	3
2021	162	4.4		
2020	26	4.4	8.8	
2019	6	4.5	9.0	11.6
Mean	194	4.4	8.8	11.6
Smallest		2.6	7.5	11.1
Largest		8.8	10.9	12.4
SE		0.1	0.1	0.2
Low 95% CI		4.3	8.6	11.2
High 95% CI		4.6	9.1	12.0

*Intercept = 0
wfdtnagb.d22

Table 50. Mean back-calculated length (in) at each annulus of Black Crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022.

		Age			
Year class	N	1	2	3	4
2021	36	4.3			
2020	6	4.9	8.5		
2018	1	3.7	7.0	9.5	10.8
Mean	43	4.4	8.3	9.5	10.8
Smallest		2.9	7.0	9.5	10.8
Largest		6.6	10.1	9.5	10.8
SE		0.1	0.4		
Low 95% CI		4.1	7.4		
High 95% CI		4.7	9.2		

*Intercept = 0
wfdtnagb.d22

Table 51. Mean back-calculated length (in) at each annulus of MALE White Crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022.

		Age		
Year class	N	1	2	3
2021	50	5.1		
2020	17	4.4	8.8	
2019	1	4.7	8.4	11.4
Mean	68	4.9	8.8	11.4
Smallest		3.4	7.5	11.4
Largest		8.8	10.5	11.4
SE		0.1	0.2	
Low 95% CI		4.7	8.4	
High 95% CI		5.1	9.2	

*Intercept = 0
wfdtnagb.d22

Table 52. Mean back-calculated length (in) at each annulus of FEMALE White Crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022.

		Age		
Year class	N	1	2	3
2021	53	4.8		
2020	9	4.5	8.8	
2019	4	4.5	9.2	11.6
Mean	66	4.8	8.9	11.6
Smallest		2.6	8.2	11.1
Largest		8.5	10.9	12.4
SE		0.1	0.2	0.3
Low 95% CI		4.5	8.5	11.0
High 95% CI		5.0	9.4	12.2

*Intercept = 0
wfdtnagb.d22

Table 53. Mean back-calculated length (in) at each annulus of MALE Black Crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022.

		Age	
Year class	N	1	2
2021	12	4.8	
2020	4	5.4	9.0
Mean	16	4.9	9.0
Smallest		2.9	7.8
Largest		6.6	10.1
SE		0.3	0.5
Low 95% CI		4.4	8.0
High 95% CI		5.5	10.1

*Intercept = 0
wfdtnagb.d22

Table 54. Mean back-calculated length (in) at each annulus of FEMALE Black Crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022.

		Age			
Year class	N	1	2	3	4
2021	16	4.2			
2020	2	4.0	7.5		
2018	1	3.7	7.0	9.5	10.8
Mean	19	4.2	7.4	9.5	10.8
Smallest		2.9	7.0	9.5	10.8
Largest		6.3	7.7	9.5	10.8
SE		0.2	0.2		
Low 95% CI		3.8	7.0		
High 95% CI		4.5	7.7		

*Intercept = 0

wfdtnagb.d22

Table 55. Von Bertalanffy growth curve parameters, mean length (in) at capture, and standard error (SE) of Black and White crappie. Otoliths were collected from Lake Barkley (Little River, and Donaldson Creek) in fall 2022.

		Mean length at capture										Von Bertalanffy growth parameters		
		Age at capture												
Species	N	0	SE	1	SE	2	SE	3	SE	4	SE	L_{inf} (in)	K	t_0
Crappie spp.	1329	2.97	0.02	6.85	0.05	11.21	0.12	12.50	0.00	11.50	0.00	11.986	2.071	1.391
Black Crappie	128	2.99	0.06	7.35	0.28	10.83	0.33			11.50	0.00			
White Crappie	1201	2.96	0.02	6.78	0.06	11.28	0.13	12.50	0.00					

wfdtnagb.d22, wfdtpntb.d22

Table 56. Age frequency and CPUE (fish/nn) of White Crappie collected during 120 net-nights at Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022. Little River and Donaldson Creek also shown separately for historical comparison.

Little River and Donaldson Creek

Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	SE
0	317	266	3									586	49	7.3	1.3
1			3	158	302	23	29	63	16			594	49	7.4	0.9
2									5	12	1	18	1	0.2	0.1
3											3	3	0	0.0	<0.1
Total	317	266	6	158	302	23	29	63	21	12	4	1,201		15.0	1.3
%	26	22	<1	13	25	2	2	5	2	1	<1				

Lake Barkley Total

Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	SE
0	525	481	9									1,015	56	8.5	1.1
1			9	219	342	26	33	102	27			758	42	6.3	0.6
2									8	19	2	29	2	0.2	<0.1
3											5	5	0	<0.1	<0.1
Total	525	481	18	219	342	26	33	102	35	19	7	1,807		15.1	1.3
%	29	27	1	12	19	1	2	6	2	1	<1				

wfdtpntb.d22, wfdtpnb1.d22, wfdtnagb.d22

Table 57. Age frequency and CPUE (fish/nn) of Black Crappie collected during 120 net-nights at Lake Barkley (Little River, Donaldson Creek, and Crooked Creek) from 18 October-4 November 2022. Little River and Donaldson Creek also shown separately for historical comparison.

Little River and Donaldson Creek

	Inch class														
Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	SE
0	50	37	4									91	71	1.1	0.2
1				7	10	6	4	4	1	1		33	26	0.4	0.1
2									2	1		3	2	<0.1	<0.1
3												0	0	0.0	
4										1		1	1	<0.1	<0.1
Total	50	37	4	7	10	6	4	4	3	3	0	128		1.6	0.3
%	39	29	3	5	8	5	3	3	2	2	0				

Lake Barkley Total

	Inch class														
Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	SE
0	101	55	5									161	79	1.3	0.2
1				7	12	8	5	4	1	1		38	19	0.3	0.1
2									3	1	1	5	2	<0.1	<0.1
3												0	0	0.0	
4										1		1	0	<0.1	<0.1
Total	101	55	5	7	12	8	5	4	4	3	1	205		1.7	0.2
%	49	27	2	3	6	4	2	2	2	1	<1				

wfdtpntb.d22, wfdtpnb1.d22, wfdtnagb.d22

Table 58. Lake specific assessment for crappie collected at Lake Barkley (Little River and Donaldson Creek) from 2013-2022. This table includes the parameter estimates and the individual scores as well as the total scores and assessment ratings. The final columns list the instantaneous mortality (Z) and annual mortality (A).

Year	CPUE age 1 and older	CPUE age 1	CPUE age 0	CPUE ≥8.0 in	Mean length age 2 at capture	*Mean length age 2 at capture	Total score	Assessment rating	Z	A
2022	8.1	7.8	8.5	1.8	11.2	11.2			1.018	63.9
Score	3	4	4	1	4		16	G		
2021	4.3	3.5	16.2	2.4	10.5	10.5			0.507	39.8
Score	2	2	4	1	3		12	F		
2020	3.4	3.1	9.8	1.8	10.5	10.7			0.801	55.1
Score	1	2	4	1	3		11	F		
2019	4.3	3.6	17.0	1.0	9.7	10.0			0.900	59.4
Score	2	2	4	1	1		10	F		
2018	2.3	2.0	7.6	1.3	11.5	11.5			0.848	57.2
Score	1	2	4	1	4		12	F		
2017	3.1	1.7	7.9	2.4	10.7	10.5			0.949	61.0
Score	1	2	4	1	3		11	F		
2016	9.7	6.7	1.5	4.9	10.3	10.0			1.472	77.0
Score	4	4	1	3	2		14	G		
2015	14.5	12.2	5.0	5.1	10.5	10.1			0.680	49.3
Score	4	4	3	3	3		17	G		
2014	3.5	3.0	9.2	1.9	11.2	11.5			0.418	34.2
Score	1	2	4	1	4		12	F		
2013	3.0	0.4	2.8	3.0	10.9	11.0			0.788	54.5
Score	1	1	2	2	4		10	F		
Average	5.6	4.4	8.5	2.6	10.7	10.7	12.5		0.838	55.13

Rating

1 - 7 = Poor (P)
8 - 12 = Fair (F)
13 - 17 = Good (G)
18 - 20 = Excellent (E)

*Mean length calculated using a weighted average applied to the entire fall trapnet sample (Revised_Barkley_Crappie_Database.xlsx)

Table 59. Length frequency and CPUE (fish/hr) of Channel, Blue, and Flathead catfish collected from Lake Barkley in June-July 2022 using low pulse (15 PPS) electrofishing along the main lake river channel. A chase boat was used during a total of 5.0 hours of sampling (60- 300-second runs).

	Inch class																													
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	33	44	Total	CPUE	SE
Blue Catfish		26	102	50	29	107	129	61	59	50	25	17	15	18	19	17	11	15	5	2								1	758	151.6	21.7
Channel Catfish	1	3	2	1	1	2	2	4	2																				18	3.6	0.9
Flathead Catfish						1	1			1	1	2	1			1	2				2					4	1		17	3.4	1.0

w fdcatb.d22

Table 60. Mean relative weight (W_r) of each length group of Blue, Channel, and Flathead catfish collected from Lake Barkley during June-July 2022. Fish were collected using low pulse (15 PPS) electrofishing.

Species	Length group							
Blue Catfish	12.0-19.9 in		20.0-29.9 in		≥30.0 in		Total	
	N	W_r	N	W_r	N	W_r	N	W_r
	215	103 (1)	33	103 (2)	1	106	249	103 (1)

	Length group							
Channel Catfish	11.0-15.9 in		16.0-23.9 in		≥24.0 in		Total	
	N	W_r	N	W_r	N	W_r	N	W_r
	5	100 (4)					5	101 (4)

	Length group							
Flathead Catfish	12.0-19.9 in		20.0-29.9 in		≥30.0 in		Total	
	N	W_r	N	W_r	N	W_r	N	W_r
	6	90 (3)	8	99 (3)	1	112	15	96 (3)

wfdcatb.d22

Table 61. Fishery statistics derived from a creel survey at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

Fishing Trips			
	No. of fishing trips (per acre)	14,459	(192)
Fishing Pressure			
	Total angler-hours (SE)	39,948	(1059)
	Angler-hours/acre	531.2	
Catch / Harvest			
	No. of fish caught (SE)	95,284	(10,687)
	No. of fish harvested (SE)	81,519	(9,894)
	Lb of fish harvested	333,025	
Harvest Rates			
	Fish/hour	2.0	
	Fish/acre	1,084.0	
	Pounds/acre	4,428.5	
Catch Rates			
	Fish/hour	2.4	
	Fish/acre	1,267.1	
Miscellaneous Characteristics (%)			
	Male	92.2	
	Female	7.8	
	Resident	79.1	
	Non-resident	20.9	
Method (%)			
	Still fishing	27.2	
	Casting	36.3	
	Fly Fishing	0	
	Trolling	0.0	
	Spider Rigging	0.0	
	Snagging	1.3	
	Bow Fishing	34.91	
	Drifting	0.3	
Mode (%)			
	Boat	22.8	
	Bank	77.2	
	Dock/Pier	0.0	

Table 62. Length distribution for each species of fish harvested or released (lengths of released fish were estimated by anglers) at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

		Inch class																								
Species		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Largemouth	H												11	11	145	11		11	11							
Bass	R								14	55	28	97	14	28	138	14	28	13								
Smallmouth	H												12		23		12	10								
Bass	R							12	12	62		150	25	12	50	12	25	14								
Spotted Bass	H														12	11										
	R											62	12													
Bluegill	H			22	45	134	78	123			11															
	R			65	76	21																				
Redear	H					33	10																			
Sunfish	R							10																		
Longear	H						10																			
Sunfish	R																									
Channel	H									12		98	197	455	246	98	135	111		12		25				14
Catfish	R				53	26	26	13	13	383	79	119	40	26	13	28										
Blue Catfish	H											699	873	1,374	1,514	1,619	862	990	384	838	116	268	210	175	198	47
	R				68	81	230	311	54	664		339	203	176	108	135	54	135		81	54			14		
Flathead	H														12		12						12			
Catfish	R																	15								
White Bass	H				13	13	27	40	13	54	54	67	148	40	27	29										
	R			24	107	203	143	131	24	36	24	60		36	48	10										
Yellow Bass	H									54																
	R		20	51	20			11																		
Striped Bass	H														20	30	20	40	10	20	20	10				
	R							14					14	14	14		14					39				
Hybrid striped	H						9							9	19	19	19	19	28					7		
bass	R						33								33											
Sauger	H															7										
	R									16																
Drum	H											13				67		13	13	13		15				
	R									132		212	119	463	66	304	79	608		145	13	79		67		
Skipjack	H		706	1,396	1,246	781	180	105	75	1,831	1,066	3,558	991	2,507	645	600	931	465	180	105		15				
Herring	R		1,766	1,700			16			16			131	16												
Shad	H		29		14	14				15																
	R	8		8																						
Common Carp	H																									
	R																			10						
Buffalo	H											24	12					59		47				12	10	
	R																	38								
Blue Sucker	H																									
	R																	20		61						

Table 62 (cont).

Species		Inch class																								
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Bighead Carp	H																						11		22	11
	R																									
Silver Carp	H														24	12	72	1,062	465	7,077	2,995	3,699	3,508	17,148	2,339	1,647
	R													11		11		44		553	55	66	55	265		
Grass Carp	H																			12		128	12	163	70	267
	R																					14				
Gar	H													26	38	38	64	434	13	894	89	26	13	447		26
	R													35		23		369		254				46		12
Paddlefish	H																									
	R																			11						
Bowfin	H																			16						
	R																									

Table 62 (cont).

Species		Inch class																								Total
		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50+	
Largemouth	H																									200
Bass	R																									429
Smallmouth	H																									57
Bass	R																									374
Spotted Bass	H																									23
	R																									74
Bluegill	H																									413
	R																									162
Redear	H																									43
Sunfish	R																									10
Longear	H																									10
Sunfish	R																									0
Channel	H																									1,403
Catfish	R																									819
Blue Catfish	H	47	23	47	128	12		23		23	22															10,492
	R				42																					2,749
Flathead	H				12																					48
Catfish	R																									15
White Bass	H																									525
	R																									846
Yellow Bass	H																									54
	R																									102
Striped Bass	H												10													180
	R																									109
Hybrid striped	H																									129
bass	R																									66
Sauger	H																									7
	R																									16
Drum	H																									134
	R																									2,287
Skipjack	H																									17,383
Herring	R																									3,645
Shad	H																									72
	R																									16
Common Carp	H																									0
	R																									10
Buffalo	H																									164
	R																									38
Blue Sucker	H																									0
	R																									81
Bighead Carp	H	22	225	79	966		270	90	169	978	45	236			67								11			3,202
	R																									0

Table 62 (cont).

Species		Inch class																							
		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50+	Total
Silver Carp	H	955	609	36	800						22															42,470
	R				12																					1,072
Grass Carp	H		407	23	302	47				12	21															1,464
	R										14															28
Gar	H		204		51		64	13			166		13										128		51	2,798
	R		35		12						10															796
Paddlefish	H		35	12	46			12		12					12	12				23		12			43	219
	R																									11
Bowfin	H																									16
	R																									0

Table 63. Fish harvest statistics derived from a creel survey at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

	Black bass group	Largemouth Bass	Smallmouth Bass	Spotted Bass	**Catfish group**	Channel Catfish	Flathead Catfish	Blue Catfish	**Panfish group**	Bluegill	Redear Sunfish	Longear Sunfish	**Morone Group**	White Bass	Yellow Bass	Striped Bass	Hybrid striped bass
No. caught	**1,159**	630	432	97	**15,528**	2,223	64	13,241	**640**	576	54	10	**2,016**	1,373	17	290	196
(per acre)	**(15.4)**	(8.4)	(5.7)	(1.3)	**(206.5)**	(29.6)	(0.9)	(176.1)	**(8.5)**	(7.7)	(0.7)	(0.1)	**(26.8)**	(18.3)	(0.2)	(3.9)	(2.6)
No. harvested	**282**	201	58	23	**11,944**	1,403	48	10,492	**467**	413	44	10	**891**	526	55	180	130
(per acre)	**(3.7)**	(2.7)	(0.8)	(0.3)	**(158.8)**	(18.7)	(0.6)	(139.5)	**(6.2)**	(5.5)	(0.6)	(0.1)	**(11.8)**	(7.0)	(0.7)	(2.4)	(1.7)
% of total no. harvested	**0.3**	0.2	0.1	(T)	**14.7**	1.7	0.1	12.9	**0.6**	0.5	0.1	(T)	**1.1**	0.6	0.1	0.2	0.2
Lb. harvested	**510**	369	107	35	**19,982**	1,507	183	18,293	**91**	81	8	2	**1,400**	388	22	665	325
(per acre)	**(6.8)**	(4.9)	(1.4)	(0.5)	**(265.7)**	(20.0)	(2.4)	(243.3)	**(1.2)**	(1.1)	(0.1)	(T)	**(18.6)**	(5.2)	(0.3)	(8.8)	(4.3)
% of total lb. harvested	**0.2**	0.1	(T)	(T)	**6.0**	0.5	0.1	5.5	**(T)**	(T)	(T)	(T)	**0.4**	0.1	(T)	0.2	0.1
Mean length (in)		15.2	14.9	15.5		15.0	20.5	17.9		6.3	6.3	7.0		11.7	10.0	21.1	14.6
Mean w eight (lb)		1.8	1.6	1.5		1.1	3.8	2.2		0.2	0.2	0.2		0.7	0.4	4.3	2.0
No. of fishing trips for that species	**473**				**3,301**				**264**				**1,251**				
% of all trips	**3.3**				**22.9**				**1.8**				**8.7**				
Hours fished for that species	**1,306**				**9,120**				**729**				**3457**				
(per acre)	**(17.4)**				**(121.3)**				**(9.7)**				**(46.0)**				
No. harvested fishing for that species	**236**				**11,581**				**326**				**405**				
Lb harvested fishing for that species	**427**				**19,145**				**59**				**951**				
No./hour harvested fishing for that species	**0.2**				**1.3**				**0.5**				**0.1**				
% success fishing for that species	**15.6**				**46.4**				**20.0**				**13.9**				

T = < 0.05

Table 63 (cont.).

	Asian Carp Group	Silver Carp	Bighead Carp	Grass Carp	**Sauger**	Drum	Gar	**Skipjack Herring**	**Paddlefish**	**Anything**
No. caught	**48,238**	43,543	3,203	1,493	**25**	2,422	3,594	**21,031**	**231**	
(per acre)	**(641.5)**	(579.0)	(42.6)	(19.9)	**(0.3)**	(32.2)	(47.8)	**(279.7)**	**(3.1)**	
No. harvested	**47,137**	42,471	3,203	1,465	**8**	135	2,798	**17,384**	**220**	
(per acre)	**(626.8)**	(564.8)	(42.6)	(19.5)	**(0.1)**	(1.8)	(37.2)	**(231.2)**	**(2.9)**	
% of total no. harvested	**57.8**	52.1	3.9	1.8	**(T)**	0.2	3.4	**21.3**	**0.3**	
Lb. harvested	**296,631**	244,910	51,721		**10**	296	3,611	**7,698**	**2,171**	
(per acre)	**(3944.6)**	(3256.8)	(687.8)		**(0.1)**	(3.9)	(48.0)	**(102.4)**	**(28.9)**	
% of total lb. harvested	**89.1**	73.5	15.5		(T)	0.1	1.1	**2.3**	**0.7**	
Mean length (in)		22.7	32.5	27.8	**16.0**	17.1	22.7	**9.0**	**39.2**	
Mean w eight (lb)		5.6	16.1		**1.3**	2.2	1.1	**0.3**	**10.1**	
No. of fishing trips for that species	**4,526**				**8**			**2,895**	**205**	**1,502**
% of all trips	**31.3**				**0.1**			**20.0**	**1.4**	**10.4**
Hours fished for that species	**12,504**				**22**			**7,999**	**567**	**55**
(per acre)	**(166.3)**				**(0.3)**			**(106.4)**	**(7.5)**	**(0.7)**
No. harvested fishing for that species	**42,930**				**0**			**17,041**	**92**	
Lb harvested fishing for that species	**220,513**				**0**			**7,534**	**579**	
No./hour harvested fishing for that species	**3.4**				**0.0**			**2.1**	**0.2**	
% success fishing for that species	**58.8**				**0.0**			**54.0**	**50.0**	**24.8**

T = < 0.05

Table 64. Monthly black bass angling success at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

Month	Total no. of bass caught	Total no. of bass harvested	No. of black bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/hour by bass anglers
Feb	0	0	0	0	0	0.00	0	0.00
Mar	43	0	21	58	21	0.36	0	0.00
Apr	152	0	35	97	17	0.17	0	0.00
May	164	61	82	227	102	0.45	51	0.22
Jun	588	207	131	361	428	1.19	185	0.51
Jul	0	0	0	0	0	0.00	0	0.00
Aug	148	0	72	199	82	0.41	0	0.00
Sept	65	13	20	55	52	0.94	0	0.00
Oct	0	0	0	0	0	0.00	0	0.00
Nov	0	0	42	116	0	0.00	0	0.00
Dec	0	0	16	44	0	0.00	0	0.00
Total	1,159	282	473	1,306	702	0.54	236	0.18
Mean	105	26	38	105	64		21	

Table 65. Black bass catch and harvest statistics derived from Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

	Largemouth bass				Smallmouth bass				Spotted bass			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
	≥12.0 in	12.0-14.9 in	≥15.0 in		≥12.0 in	12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in	
Total no. of bass	201	139	193	630	58	187	101	432	23	74	0	97
% of bass harvested by number	71.3%				20.5%				8.2%			
Total weight of bass (lb)	369	186	259	944	107	181	97	470	35	58	0	93
% of bass harvested by weight	72.3%				20.9%				6.8%			
Mean length (in)	15.2				14.9				15.5			
Mean weight (lb)	1.80				1.60				1.50			
*Catch rate (fish/hr)	0.02				0.01				<0.01			
*Harvest rate (fish/hr)	0.005				0.001				0.001			

*Includes effort and catch of non-bass anglers

Table 66. Monthly catfish angling success at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

Month	Total no. of catfish caught	Total no. of catfish harvested	No. of catfish fishing trips	Hours fished by catfish anglers	Catfish caught by catfish anglers	Catfish caught/hour by catfish anglers	Catfish harvested by catfish anglers	Catfish harvested/hour by catfish anglers
Feb	0	0	0	0	0	0.00	0	0.00
Mar	64	0	42	116	64	0.55	0	0.00
Apr	371	321	211	583	372	0.64	321	0.55
May	1,647	1,411	411	1,134	1,370	1.21	1,135	1.00
Jun	2,051	1,740	392	1,083	2,006	1.85	1,718	1.59
Jul	680	588	324	896	681	0.76	588	0.66
Aug	2,125	1,351	564	1,558	2,107	1.35	1,333	0.86
Sept	2,394	1,980	370	1,023	2,381	2.33	1,980	1.93
Oct	3,768	2,366	616	1,703	3,768	2.21	2,366	1.39
Nov	1,899	1,677	323	893	1,844	2.07	1,629	1.82
Dec	528	511	47	131	529	4.05	511	3.91
Total	15,528	11,944	3,301	9,120	15,122	1.66	11,581	1.27
Mean	1,412	1,086	300	829	1,375		1,053	

Table 67. Catfish catch and harvest statistics derived from Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

	Blue Catfish				Channel Catfish				Flathead Catfish			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
		12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in	
Total no. of catfish	10,492	718	623	13,241	1,403	185	42	2,223	48	0	15	64
% of catfish harvested by number	87.8%				11.7%				0.4%			
Total weight of catfish (lb)	18,293	407	353	19,850	1,507	71	16	1,821	183	0	35	217
% of catfish harvested by weight	91.5%				7.5%				0.9%			
Mean length (in)	17.9				15.0				20.5			
Mean weight (lb)	2.19				1.13				3.76			
*Catch rate (fish/hr)	0.33				0.06				<0.01			
*Harvest rate (fish/hr)	0.263				0.035				0.001			

* Includes effort and catch of non-catfish anglers

Table 68. Monthly Morone angling success at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

Month	Total no. of Morone caught	Total no. of Morone harvested	No.of Morone fishing trips	Hours fished by Morone anglers	Morones caught by Morone anglers	Morones caught/hour by Morone anglers	Morones harvested by Morone anglers	Morones harvested/hour by Morone anglers
Feb	55	55	0	0	0	0.00	0	0.00
Mar	0	0	21	58	0	0.00	0	0.00
Apr	591	337	152	421	136	0.32	68	0.16
May	522	184	149	413	305	0.74	122	0.30
Jun	207	12	148	409	151	0.37	12	0.03
Jul	81	35	155	428	70	0.16	35	0.08
Aug	198	33	180	497	165	0.33	33	0.07
Sept	78	52	130	360	52	0.14	39	0.11
Oct	0	0	0	0	0	0.00	0	0.00
Nov	215	175	162	446	96	0.22	96	0.22
Dec	72	9	75	207	18	0.09	0	0.00
Total	2,016	891	1,251	3,457	994	0.29	405	0.12
Mean	183	81	107	294	90		37	

Table 69. Morone catch and harvest statistics derived from Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

	White bass				Yellow bass			Hybrid striped bass				Striped bass			
	Harvest	Release		Total	Harvest	Release	Total	Harvest	Release		Total	Harvest	Release		Total
		12.0-14.9 in	≥15.0 in						12.0-14.9 in	≥15.0 in		≥15.0 in	12.0-14.9 in	≥15.0 in	
Total no. of *Morone*	526	96	59	1,373	55	102	157	130	0	34	196	180	28	68	290
% of Morone harvested by number	59.0%				6.1%			14.6%				20.3%			
Total weight of *Morone* (lb)	388	32	21	679	22	4	25	325	0	31	388	665	64	159	919
% of Morone harvested by weight	27.7%				1.5%			23.2%				47.5%			
Mean length (in)	11.7				10.0			14.6				21.11			
Mean weight (lb)	0.72				0.39			2.03				4.34			
*Catch rate (fish/hr)	0.03				<0.01			<0.01				<0.01			
*Harvest rate (fish/hr)	0.013				0.001			0.003				0.001			

* includes effort and catch of non-morone anglers

Table 70. Monthly Skipjack angling success at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

Month	Total no. of Skipjack caught	Total no. of Skipjack harvested	No. of Skipjack fishing trips	Hours fished by Skipjack anglers	Skipjack caught by Skipjack anglers	Skipjack caught/hour by Skipjack anglers	Skipjack harvested by Skipjack anglers	Skipjack harvested/hour by Skipjack anglers
Feb	0	0	0	0	0	0.00	0	0.00
Mar	3,345	3,238	273	755	3,345	4.43	3,238	4.29
Apr	7,036	6,968	1,360	3,758	6,766	1.80	6,749	1.80
May	3,058	3,048	396	1,093	3,017	2.76	3,007	2.75
Jun	173	161	96	265	161	0.61	161	0.61
Jul	1,049	1,049	88	244	1,049	4.29	1,049	4.29
Aug	5,386	2,092	336	928	5,303	5.71	2,009	2.16
Sept	984	828	190	526	932	1.77	828	1.58
Oct	0	0	0	0	0	0.00	0	0.00
Nov	0	0	28	78	0	0.00	0	0.00
Dec	0	0	0	0	0	0.00	0	0.00
Total	21,031	17,384	2,895	7,999	20,573	2.57	17,041	2.13
Mean	1,912	1,580	252	695	1,870		1,549	

Table 71. Monthly Asian Carp angling success at Lake Barkley Tailwaters (75.2 acres) from 16 February through 31 December 2022.

Month	Total no. of Carp caught	Total no. of Carp harvested	No. of Carp fishing trips	Hours fished by Carp anglers	Carp caught by Carp anglers	Carp caught/hour by Carp anglers	Carp harvested by Carp anglers	Carp harvested/hour by Carp anglers
Feb	55	55	20	56	55	0.98	55	0.98
Mar	943	900	116	320	686	2.15	686	2.15
Apr	1,164	1,147	117	324	169	0.52	169	0.52
May	18,399	18,031	1,120	3,094	16,323	5.28	16,323	5.28
Jun	10,867	10,625	1,089	3,009	10,406	3.46	10,406	3.46
Jul	6,107	5,877	1,150	3,176	5,623	1.77	5,623	1.77
Aug	9,519	9,453	528	1,458	9,058	6.21	9,058	6.21
Sept	803	790	370	1,023	595	0.58	595	0.58
Oct	30	30	16	44	15	0.34	15	0.34
Nov	127	95	0	0	0	0.00	0	0.00
Dec	224	134	0	0	0	0.00	0	0.00
Total	48,238	47,137	4,526	12,504	42,930	3.43	42,930	3.43
Mean	4,385	4,285	411	1,137	3,903		3,903	

*Asian Carp refers to Silver Carp, Bighead Carp, and Grass Carp

Table 72. Fishery statistics derived from a creel survey at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

Fishing Trips			
	No. of fishing trips (per acre)	17,904	(79)
Fishing Pressure			
	Total angler-hours (SE)	49,382	(1006)
	Angler-hours/acre	218.5	
Catch / Harvest			
	No. of fish caught (SE)	92,391	(9,625)
	No. of fish harvested (SE)	81,108	(9,448)
	Lb of fish harvested	143,391	
Harvest Rates			
	Fish/hour	1.7	
	Fish/acre	358.9	
	Pounds/acre	634.5	
Catch Rates			
	Fish/hour	1.9	
	Fish/acre	408.8	
Miscellaneous Characteristics (%)			
	Male	89.3	
	Female	10.7	
	Resident	79.6	
	Non-resident	20.4	
Method (%)			
	Still fishing	39.0	
	Casting	37.9	
	Fly Fishing	0.1	
	Trolling	0.0	
	Spider Rigging	0.1	
	Snagging	9.4	
	Bow Fishing	11.6	
	Drifting	2.1	
Mode (%)			
	Boat	18.6	
	Bank	55.1	
	Dock/Pier	26.2	

Table 73. Length distribution for each species of fish harvested or released (lengths of released fish were estimated by anglers) at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

		Inch class																								
Species		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
White Crappie	H																									
	R												11													
Largemouth Bass	H											14	28	28	28	57	28	14				16				
	R									113	71	14	28	28	71	28	14	14	15							
Smallmouth Bass	H												30	105	45	105	30	15		30						
	R							84	14	211	112	239	141	84	42	14										
Spotted Bass	H																	12								
	R																									
Bluegill	H		134	214	307	227	80	39																		
	R		407	318	230	389	35	35																		
Redear Sunfish	H									34																
	R																									
Green Sunfish	H			35																						
	R																									
Channel Catfish	H											57	143	471	186	143	29	157	14	43	14			29		
	R			14		28				71		56	42	14	28	14				56				15		
Blue Catfish	H						353			78		706	1,157	1,431	2,352	961	569	1,176	118	569	118	314	137	98	39	
	R			67	33	67	17	116		150		150	50	17	50	33	17	33	33	17	17				17	
Flathead Catfish	H											12		24	24	24	12		24		12			24		
	R									14		14		14				44								
White Bass	H						13	51	13	38	51	77	89	166	51	25										
	R	15	15	61	45	121	45	76		106	15	91		61	15	15										
Yellow Bass	H			10	10																					
	R		15	77			31	15		15																
Striped Bass	H														172	125	360	235	31	297	94	219	94	94	235	63
	R					14	14			85	14	85		99	99	14		28			14					
Hybrid striped	H											14		43	14	14	43					29	14	14		
bass	R				13							64		38			12									
Sauger	H														44	11	21									
	R											32	74	32	19											
Drum	H																			7			7	6		
	R						13	13				104	117	143	208	325	156	559	156	208	39	78		78		
Skipjack Herring	H		1,485	2,703	1,960	1,485	1,440	1,930	1,737	6,311	4,009	8,449	5271	4,588	2,153	2,049	178	104	46							
	R			76		76				30	45	106	15													
Shad	H			257	339	467						12														
	R	13	39																							
Buffalo	H													14	28	14		42	14	42			14			
	R												15	15			15	60		30						
Bighead Carp	H																									
	R																									

Table 73 (cont.).

Species		Inch class																								
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Silver Carp	H												13			308	80	936	334	4,027	602	1,391	294	4,120	1,003	709
	R															14	14	173	58	345		29	14	144	518	
Grass Carp	H																13	13	37	25		25		75	13	13
	R													20										20		
Gar	H							12				47	12	23	129	35	70	59	70	141	12		12	23		
	R					14		41		14		27	82	14	96	68	41	55		205	14		41	96	41	14
Paddlefish	H																							12		35
	R																									
Bowfin	H															13	25	12								
	R																							17		
Pickerel	H																									
	R								11																	
American Eel	H																									
	R														15											

Table 73 (cont).

Species		Inch class																									Total
		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50+	
White Crappie	H																									0
	R																									11
Largemouth Bass	H																									213
	R																									396
Smallmouth Bass	H																									360
	R																									941
Spotted Bass	H																									12
	R																									0
Bluegill	H																									1,001
	R																									1,414
Redear Sunfish	H																									34
	R																									0
Green Sunfish	H																									35
	R																									0
Channel Catfish	H	13																								1,299
	R																									338
Blue Catfish	H	59	157		39		59		39	39	18															10,586
	R		17					17	17	100	17												12			1,064
Flathead Catfish	H	12	12							13																193
	R																									86
White Bass	H																									574
	R																									681
Yellow Bass	H																									20
	R																									153
Striped Bass	H	78	125	31	47	16	15																			2,331
	R				14																					480
Hybrid striped	H																									185
bass	R																									127
Sauger	H																									76
	R																									157
Drum	H																									20
	R																									2,197
Skipjack Herring	H																									45,898
	R																									348
Shad	H																									1,075
	R																									52
Buffalo	H						15																			183
	R				14																					149
Bighead Carp	H		13		529	13	26	53		40	13				26					14						727
	R																									0
Silver Carp	H	161	227	27	776	13				14																15,035
	R		29		43					28																1,409

Table 73 (cont).

Species		Inch class																								Total
		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50+	
Grass Carp	H		88		11																					313
	R				20																					60
Gar	H				23		12				11															691
	R	41		14	14		41			55	96				14								10			1,148
Paddlefish	H		35	12	23			23			12	12													21	185
	R								10	10																20
Bowfin	H																									50
	R																									17
Pickerel	H																									0
	R																									11
American Eel	H																									0
	R																									15

Table 74. Fish harvest statistics derived from a creel survey at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December

	Black bass group	Largemouth Bass	Smallmouth Bass	Spotted Bass	**Catfish group**	Channel Catfish	Flathead Catfish	Blue Catfish	**Panfish group**	Bluegill	Redear Sunfish	Green Sunfish	**Morone Group**	White Bass	Yellow Bass	Striped Bass	Hybrid striped bass
No. caught	**1,925**	610	1,302	13	**13,569**	1,638	280	11,651	**2,486**	2,416	35	35	**4,555**	1,256	174	2,812	313
(per acre)	**(8.5)**	(2.7)	(5.8)	(0.1)	**(60.0)**	(7.2)	(1.2)	(51.6)	**(11.0)**	(10.7)	(0.2)	(0.2)	**(20.2)**	(5.6)	(0.8)	(12.4)	**(1.4)**
No. harvested	**587**	214	360	13	**12,079**	1,299	193	10,586	**1,072**	1,002	35	35	**3,113**	574	21	2,332	186
(per acre)	**(2.6)**	(0.9)	(1.6)	(0.1)	**(53.4)**	(5.7)	(0.9)	(46.8)	**(4.7)**	(4.4)	(0.2)	(0.2)	**(13.8)**	(2.5)	(0.1)	(10.3)	(0.8)
% of total no. harvested	**0.7**	0.3	0.4	(T)	**14.9**	1.6	0.2	13.1	**1.3**	1.2	(T)	(T)	**3.8**	0.7	0.0	2.9	0.2
Lb. harvested	**1,092**	418	645	28	**16,594**	1,606	668	14,320	**115**	90	24	2	**9,712**	475	1	8,694	543
(per acre)	**(4.8)**	(1.9)	(2.9)	(0.1)	**(73.4)**	(7.1)	(3.0)	(63.4)	**(0.5)**	(0.4)	(0.1)	(0.0)	**(43.0)**	(2.1)	(0.0)	(38.5)	(2.4)
% of total lb. harvested	**0.8**	0.3	0.5	(T)	**11.6**	1.1	0.5	10.0	**0.1**	0.1	(T)	(T)	**6.8**	0.3	(T)	6.1	0.4
Mean length (in)		15.5	15.5	18.0		16.5	19.2	16.1		5.4	10.0	4.0		12.0	4.5	21.4	16.9
Mean w eight (lb)		1.9	1.8	2.3		1.7	3.2	1.4		0.1	0.7	0.1		0.8	0.0	4.5	2.6
No. of fishing trips for that species	**956**				**4,721**				**337**				**1,481**				
% of all trips	**5.3**				**26.4**				**1.9**				**8.3**				
Hours fished for that species	**2,636**				***#####***				**929**				**4085**				
(per acre)	**(11.7)**				**(57.6)**				**(4.1)**				**(18.1)**				
No. harvested fishing for that species	**348**				**10,703**				**643**				**2,450**				
Lb harvested fishing for that species	**643**				**13,352**				**70**				**7,821**				
No./hour harvested fishing for that species	**0.1**				**0.8**				**0.7**				**0.6**				
% success fishing for that species	**11.0**				**32.0**				**24.2**				**41.7**				

T = < 0.05

Table 74 (cont.).

	Asian Carp Group	Silver Carp	Bighead Carp	Grass Carp	**Sauger**	Drum	Gar	**Skipjack Herring**	**Paddlefish**	**Anything**
No. caught	**17,547**	16,445	728	374	**234**	2,218	1,840	**46,247**	**206**	
(per acre)	**(77.6)**	(72.8)	(3.2)	(1.7)	**(1.0)**	(9.8)	(8.1)	**(204.6)**	**(0.9)**	
No. harvested	**16,077**	15,036	728	313	**77**	20	691	**45,898**	**185**	
(per acre)	**(71.1)**	(66.5)	(3.2)	(1.4)	**(0.3)**	(0.1)	(3.1)	**(203.1)**	**(0.8)**	
% of total no. harvested	**19.8**	18.5	0.9	0.4	**0.1**	(T)	0.9	**56.6**	**0.2**	
Lb. harvested	**96,612**	86,343	10,269		**89**	84	386	**16,813**	**949**	
(per acre)	**(427.5)**	(382.0)	(45.4)		**(0.4)**	(0.4)	(1.7)	**(74.4)**	**(4.2)**	
% of total lb. harvested	**67.4**	60.2	7.2		0.1	0.1	0.3	**11.7**	**0.7**	
Mean length (in)		24.2	31.7	23.3	**15.4**	22.3	18.8	**9.9**	**33.8**	
Mean w eight (lb)		6.7	14.7		**1.2**	4.2	0.6	**0.3**	**5.7**	
No. of fishing trips for that species	**2,181**				**148**			**3,957**	**720**	**3,277**
% of all trips	**12.2**				**0.8**			**22.1**	**4.0**	**18.3**
Hours fished for that species	**6,016**				**407**			**10,913**	**1,986**	**9,038**
(per acre)	**(26.6)**				**(1.8)**			**(48.3)**	**(8.8)**	**(40.0)**
No. harvested fishing for that species	**10,131**				**0**			**45,714**	**110**	
Lb harvested fishing for that species	**59,008**				**0**			**16,788**	**681**	
No./hour harvested fishing for that species	**1.7**				**0.0**			**4.2**	**0.1**	
% success fishing for that species	**51.4**				**0.0**			**63.6**	**26.3**	**21.2**

T = < 0.05

Table 75. Monthly black bass angling success at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

Month	Total no. of bass caught	Total no. of bass harvested	No. of black bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/hour by bass anglers
Feb	0	0	0	0	0	0.00	0	0.00
Mar	36	36	0	0	0	0.00	0	0.00
Apr	193	77	82	226	115	0.51	38	0.17
May	721	174	181	498	524	1.05	151	0.30
Jun	73	10	70	193	31	0.16	0	0.00
Jul	129	23	119	329	81	0.25	0	0.00
Aug	266	106	201	555	266	0.48	107	0.19
Sept	223	37	151	415	111	0.27	37	0.09
Oct	138	77	99	272	15	0.06	15	0.06
Nov	20	7	15	41	0	0.00	0	0.00
Dec	125	38	0	0	0	0.00	0	0.00
Total	1,925	587	956	2,636	1,143	0.43	348	0.13
Mean	175	53	83	230	104		32	

Table 76. Black bass catch and harvest statistics derived from Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

	Largemouth Bass				Smallmouth Bass				Spotted Bass			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
	≥12.0 in	12.0-14.9 in	≥15.0 in		≥12.0 in	12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in	
Total no. of bass	214	70	143	610	360	464	57	1,302	13	0	0	13
% of bass harvested by number	36.4%				61.4%				2.1%			
Total weight of bass (lb)	418	85	172	898	645	357	43	1,370	28	0	0	28
% of bass harvested by weight	38.3%				59.1%				2.6%			
Mean length (in)	15.5				15.5				18.0			
Mean weight (lb)	1.93				1.78				2.25			
*Catch rate (fish/hr)	0.01				0.03				<0.01			
*Harvest rate (fish/hr)	0.004				0.007				<0.001			

*Includes effort and catch of non-bass anglers

Table 77. Monthly catfish angling success at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

Month	Total no. of catfish caught	Total no. of catfish harvested	No. of catfish fishing trips	Hours fished by catfish anglers	Catfish caught by catfish anglers	Catfish caught/hour by catfish anglers	Catfish harvested by catfish anglers	Catfish harvested/hour by catfish anglers
Feb	1400	1400	218	600	1400	2.33	1400	2.33
Mar	72	54.34	201	554	54	0.10	36	0.07
Apr	2,358	2,068	393	1,084	2,165	2.00	1,913	1.76
May	1,837	1,605	874	2,412	1,581	0.66	1,349	0.56
Jun	1,482	1,190	541	1,491	1,441	0.97	1,159	0.78
Jul	666	584	372	1,027	410	0.40	351	0.34
Aug	1,118	958	579	1,597	673	0.42	532	0.33
Sept	3,572	3,200	753	2,077	3,572	1.72	3,200	1.54
Oct	784	754	676	1,865	662	0.36	631	0.34
Nov	168	154	95	262	107	0.41	94	0.36
Dec	113	113	19	53	38	0.72	38	0.72
Total	13,569	12,079	4,721	13,020	12,103	0.93	10,703	0.82
Mean	1,234	1,098	429	1,184	1,100		973	

Table 78. Catfish catch and harvest statistics derived from Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

	Blue Catfish				Channel Catfish				Flathead Catfish			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
		12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in	
Total no. of catfish	10,586	217	398	11,650	1,299	112	114	1,638	193	28	45	280
% of catfish harvested by number	87.6%				10.8%				1.6%			
Total weight of catfish (lb)	14,320	664	1,229	17,592	1,606	107	108	1,928	668	42	65	795
% of catfish harvested by weight	86.3%				9.7%				4.0%			
Mean length (in)	16.1				16.5				19.2			
Mean weight (lb)	1.42				1.66				3.17			
*Catch rate (fish/hr)	0.24				0.03				0.01			
*Harvest rate (fish/hr)	0.214				0.026				0.004			

* includes effort and catch of non-catfish anglers

Table 79. Monthly Morone angling success at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

Month	Total no. of Morone caught	Total no. of Morone harvested	No. of Morone fishing trips	Hours fished by Morone anglers	Morones caught by Morone anglers	Morones caught/hour by Morone anglers	Morones harvested by Morone anglers	Morones harvested/hour by Morone anglers
Feb	0	0	0	0	0	0.00	0	0.00
Mar	743	670	268	738	706	0.96	670	0.91
Apr	1,353	908	197	542	966	1.78	831	1.53
May	384	198	114	315	117	0.37	82	0.26
Jun	480	157	102	281	145	0.52	52	0.19
Jul	666	596	133	368	478	1.30	455	1.24
Aug	248	142	126	347	124	0.36	124	0.36
Sept	112	0	0	0	0	0.00	0	0.00
Oct	384	277	141	388	216	0.56	216	0.56
Nov	60	40	70	193	20	0.10	20	0.10
Dec	125	125	67	186	0	0.00	0	0.00
Total	4,555	3,113	1,481	4,085	2,772	0.68	2,450	0.60
Mean	414	283	111	305	252		223	

Table 80. Morone catch and harvest statistics derived from Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

	White Bass				Yellow Bass			Hybrid striped bass				Striped Bass			
	Harvest	Release		Total	Harvest	Release	Total	Harvest	Release		Total	Harvest	Release		Total
		12.0-14.9 in	≥15.0 in						12.0-14.9 in	≥15.0 in		≥15.0 in	12.0-14.9 in	≥15.0 in	
Total no. of *Morone*	574	152	31	1,256	21	154	175	186	102	12	313	2332	184	169	2812
% of Morone harvested by number	18.4%				0.7%			6.0%				74.9%			
Total weight of *Morone* (lb)	475	62	12	750	1	15	15	543	107	14	677	8694	238	221	9317
% of Morone harvested by weight	4.9%				0.0%			5.6%				89.5%			
Mean length (in)	12.0				4.5			16.9				21.4			
Mean weight (lb)	0.75				0.03			2.61				4.47			
*Catch rate (fish/hr)	0.03				<0.01			0.01				0.06			
*Harvest rate (fish/hr)	0.012				<0.001			0.004				0.047			

* includes effort and catch of non-morone anglers

Table 81. Monthly Skipjack angling success at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

Month	Total no. of Skipjack caught	Total no. of Skipjack harvested	No.of Skipjack fishing trips	Hours fished by Skipjack anglers	Skipjack caught by Skipjack anglers	Skipjack caught/hour by Skipjack anglers	Skipjack harvested by Skipjack anglers	Skipjack harvested/hour by Skipjack anglers
Feb	0	0	0	0	0	0.00	0	0.00
Mar	5,561	5,525	485	1,338	5,525	4.13	5,525	4.13
Apr	11,614	11,575	1,098	3,027	11,556	3.82	11,537	3.81
May	7,721	7,710	684	1,887	7,698	4.08	7,686	4.07
Jun	7,586	7,545	293	807	7,587	9.40	7,545	9.35
Jul	2,512	2,512	140	387	2,512	6.48	2,512	6.48
Aug	5,233	5,198	503	1,389	5,091	3.67	5,091	3.67
Sept	2,307	2,307	284	784	2,307	2.94	2,307	2.94
Oct	3,691	3,506	394	1,088	3,676	0.00	3,491	0.00
Nov	20	20	55	151	20	0.13	20	0.13
Dec	0	0	0	0	0	0.00	0	0.00
Total	46,247	45,898	3,957	10,913	45,972	4.21	45,714	4.19
Mean	4,204	4,173	358	987	4,179		4,156	

Table 82. Monthly Asian Carp angling success at Kentucky Lake Tailwaters (226.0 acres) from 16 February through 31 December 2022.

Month	Total no. of Carp caught	Total no. of Carp harvested	No. of Carp fishing trips	Hours fished by Carp anglers	Carp caught by Carp anglers	Carp caught/hour by Carp anglers	Carp harvested by Carp anglers	Carp harvested/hour by Carp anglers
Feb	0	0	0	0	0	0.00	0	0.00
Mar	326	326	151	415	199	0.48	199	0.48
Apr	3,131	2,976	213	587	2,705	4.60	2,628	4.47
May	7,105	6,756	485	1,337	3,559	2.66	3,559	2.66
Jun	3,506	3,381	439	1,210	1,627	1.34	1,575	1.30
Jul	479	479	323	891	421	0.47	421	0.47
Aug	1,188	816	239	660	1,100	1.67	745	1.13
Sept	1,339	1,302	318	877	1,004	1.15	1,004	1.15
Oct	415	15	0	0	0	0.00	0	0.00
Nov	7	0	0	0	0	0.00	0	0.00
Dec	50	25	0	0	0	0.00	0	0.00
Total	17,546	16,076	2,167	5,977	10,615	1.78	10,131	1.69
Mean	1,595	1,461	197	543	965		921	

*Asian Carp refers to Silver Carp, Bighead Carp, and Grass Carp

Table 83. Length frequency, CPUE (fish/hr), and standard error of Largemouth Bass collected during diurnal electrofishing at Lake Beshear during 2022.

	Inch class																						
Season	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
Spring	3	35	38	9	4	46	26	22	24	11	7	5	8	7	27	26	20	9	7	1	335	134.0	11.0
Fall	39	138	67	10	11	45	25	33	29	17	15	6	4	3	5	4	1	1			453	181.2	37.4

wfdpsdlb.d22 and wfdwrlb.d22

Table 84. Spring diurnal electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Lake Beshear during April or May of 2013 to 2022.

					Length group															
	Mean length age 3 at	*Mean length age 3 at	Age 1		<8.0 in		≥12.0 in		12.0-14.9 in		≥15.0 in		≥18.0 in		≥20.0 in		Total			
Year	capture	capture	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	PSD	RSD_{15}
2022	13.8	13.8	34.4	7.6	35.6	7.9	50.9		9.2	1.2	42.0	5.4	25.2		6.8	1.6	134.0	11.0	52	43
2021	13.8	13.8	23.2	5.6	26.0	6.4	45.2	8.2	8.8	3.0	36.4	5.6	18.8	2.9	6.0	1.1	100.4	11.7	61	49
**2020	13.8	13.8	3.2	1.5	3.2	1.5	28.0	3.4	3.2	1.9	24.8	3.8	16.0	3.4	4.8	2.3	38.8	3.4	79	70
2019	13.8	13.8	4.0	2.2	4.0	2.2	28.0	4.8	4.8	1.4	23.2	3.7	16.0	3.9	4.8	1.0	36.8	5.0	85	71
2018	13.8	13.8	6.0	1.3	6.8	0.8	43.6	2.7	5.6	1.0	38.0	3.0	24.4	2.0	8.0	1.8	59.6	4.6	83	72
2017[A]	13.8	13.8	6.4	1.3	20.0	3.9	43.6	3.1	12.0	2.4	31.6	4.6	19.2	4.2	4.8	2.4	72.8	5.9	69	50
2016[AB]	13.8	13.8	30.4	4.0	16.4	3.4	67.2	8.3	10.8	2.3	56.4	7.0	32.8	4.8	5.6	1.2	102.8	6.5	78	65
2015[B]	13.8	13.8	4.4	1.5	4.4	1.5	78.4	4.5	17.6	3.5	60.8	3.4	28.0	3.0	8.0	0.6	91.6	3.9	90	70
2014[A]	13.3	13.4	1.9	0.9	3.2	1.4	61.6	5.6	18.0	2.3	43.6	6.1	20.4	2.3	4.4	1.2	83.6	6.8	77	54
2013[A]	13.3	13.4	33.8	9.6	37.5	10.3	63.0	11.8	18.0	5.5	45.0	7.2	23.5	5.6	6.0	1.4	127.0	18.4	70	50
Average	13.6	13.6	14.8		15.7		51.0		10.8		40.2		22.1		5.9		84.7		74.3	59.3
LBFMP	≥ 12.0 in		≥ 10				≥ 45		≥ 15		≥ 30				≥ 3				55 - 75	20 - 40

(Lake Beshear Bass Database.xls)

Data for 1985-2012 is listed in previous year reports.

[A] Age and growth data was not collected. Previous year data used for age estimates.

[B] Age and growth data was collected in the Fall. Mean length age 3 was calculated from back calculations. Spring CPUE age 1 was determined from back-calculations and extrapolation with spring data. Mortality was determined from fall age frequency data.

LBFMP - Lake Beshear Fish Management Plan objective goal.

* Mean length calculated using a weighted average applied to entire catch

** Only one dipper used due to covid19 pandemic restrictions

Table 85. Lake specific assessment for Largemouth Bass collected at Lake Beshear from 2013-2022. This table includes the parameter estimates and the individual score as well as the total score and assessment rating. The final two columns list the instantaneous mortality (Z) and annual mortality (A).

Year	Mean length age 3 at capture	*Mean length age 3 at capture	CPUE age 1	Length group 12.0-14.9 in CPUE	Length group ≥15.0 in CPUE	Length group ≥20.0 in CPUE	Total score	Assessment rating	Z	A
2022	13.8	13.8	34.4	9.2	42.0	6.8				
Score	3		4	2	4	4	17	E		
2021	13.8	13.8	23.2	8.8	36.4	6.0				
Score	3		4	2	3	4	16	G		
**2020	13.8	13.8	3.2	3.2	24.8	4.8				
Score	3		1	1	1	3	9	F		
2019	13.8	13.8	4	4.8	23.2	4.8				
Score	3		2	1	1	3	10	F		
2018	13.8	13.8	6.0	5.6	38.0	8				
Score	3		3	1	3	4	14	G		
2017	13.8	13.8	6.4	12.0	31.6	4.8			0.349	29.4
Score	3		3	3	2	3	14	G		
2016	13.8	13.8	30.4	10.8	56.4	5.6			0.423	34.5
Score	3		4	2	4	4	17	E		
2015[B]	13.8	13.8	4.4	17.6	60.8	8.0			0.457	36.7
Score	3		2	4	4	4	17	E		
2014[A]	13.3	13.4	1.9	18.0	43.6	4.4			0.145	13.5
Score	3		1	4	4	3	15	G		
2013[A]	13.3	13.4	33.8	18.0	45.0	6.0			0.355	29.9
Score	3		4	4	4	4	19	E		
Average	13.6	13.6	14.8	10.8	40.2	5.9	14.8		0.345	28.8

Data from 1985 to 2012 is listed in previous year reports.

**only one dipper used in spring 2020 due to covid19 pandemic restrictions

[A] age and growth data was not collected. Previous year data used for age estimates.

[B] age and growth data was collected in the Fall. Mean length age-3 was calculated from back calculations. Spring CPUE age-1 was determined from back-calculations and extrapolation with spring data. Mortality was determined from fall age frequency data.

*Mean length calculated using a weighted average applied to the entire spring sample

Assessment Quartiles were updated in 2016

Rating

1-7 = Poor (P)
8-11 = Fair (F)
12-16 = Good (G)
17-20 = Excellent (E)

Lake Beshear Bass Data Base

Table 86. Number of fish and mean relative weight (W_r) values for each length group of Largemouth Bass collected at Lake Beshear during 2.5 hours of diurnal electrofishing (5- 30-minute runs) in October 2022. Standard errors are in parentheses.

		Length group							
		8.0-11.9 in		12.0-14.9 in		≥15.0 in		Total	
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lake Beshear	128	82 (1)	38	86 (1)	18	93 (2)	184	84 (1)

wfdwrlb.d22

Table 87. CPUE (fish/hr) and mean length (in) of age-0 largemouth bass collected in the fall, and CPUE of age-1 largemouth bass collected the following spring during diurnal electrofishing at Lake Beshear.

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.6	0.0	101.6	26.9	30.8	12.1		
2021	4.8	0.1	83.6	6.1	34.8	8.3	34.4	7.55
2020	5.1	0.1	60.8	25.0	36.0	17.7	23.2	5.6
2019	4.7	0.1	63.2	9.9	26.4	10.3	*3.2	1.5
2018	5.3	0.1	50.7	4.3	29.6		4.0	2.2
2017	4.1	0.1	38.0	2.9	6.5	1.9	6.0	1.3
2016	4.4	0.1	50.5	6.0	10.0	4.0	6.4	1.3
2015	3.9	0.1	34.5	7.0	3.5	1.5	30.4	4.0
2014	4.8	0.1	24.8	4.4	11.0	1.9	4.4	1.5
2013	4.1	0.1	25.0	7.0	4.5	2.6	1.9	0.9
2012	6.3	0.1	34.0	8.8	33.2	7.4	33.8	9.6
2011	5.0	0.1	41.6	14.8	23.6	7.6	27.6	5.5
2010	4.9	0.1	54.0	4.6	22.0	4.5	11.7	2.2
Average	4.8		50.9		20.9		16.7	

[A] Data collected by fall (October) diurnal electrofishing. Mean lengths were determined by analysis of otoliths removed from a subsample of LMB <10.0 in, which were extrapolated to the entire catch of the fall sample, and length frequencies.

[B] Data collected during the following spring (April/May) diurnal electrofishing sample.

WFDWRLB.Dxx, WFDWRAGB.Dxx, WFDPSDLB.Dxx

* Only one dipper was used due to covid19 protocols in 2020

Table 88. Species composition, relative abundance, and CPUE (fish/hr) of fish collected during 1.0 hour (4- 900-sec runs) of diurnal electrofishing at Lake Pennyrile on 9 May, 2022.

	Inch class																					
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass		1	14	32			17	16	14	13	7	3	2	1	1				1	122	122.0	9.6
Bluegill	3	17	56	47	29	52	83	4												291	291.0	96.0
Redear Sunfish			15	13	28	38	59	32	2											187	187.0	48.4
Longear Sunfish	1	5	14	8	12															40	40.0	8.5
Channel Catfish																1	1		1	3	3.0	3.0
Warmouth		6	5	11	15	6	1													44	44.0	10.7
Yellow Bullhead						1	1	2	2	3	1		1							11	11.0	1.9
Hybrid sunfish			1					2												3	3.0	1.9

wfdpsdp.d22

Table 89. Spring, diurnal electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Pennyrile Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	64.0	6.7	50.0	3.5	6.0	2.0	2.0	1.2	0.0		122.0	9.6
2021	13.0	3.4	18.0	6.2	1.0	1.0	1.0	1.0	0.0		33.0	10.4
2020*	35.0	7.6	75.0	11.8	3.0	1.9	1.0	1.0	1.0	1.0	114.0	13.1
2019	10.0	2.0	9.0	5.3	5.0	3.0	1.0	1.0	0.0		25.0	7.9
2018	29.0	5.0	63.0	16.8	7.0	2.5	2.0	2.0	1.0	1.0	101.0	21.3
2017	35.0	11.0	67.0	9.7	4.0	1.6	5.0	1.9	1.0	1.0	111.0	18.4
2016	44.0	9.7	62.0	6.2	13.0	3.0	3.0	1.9	1.0	1.0	122.0	10.0
2015	44.0	3.6	68.8	8.1	8.8	2.9	3.2	1.5	0.8	0.8	124.8	10.6
2014	17.0	3.0	36.0	5.2	7.0	3.0	1.0	1.0	0.0		61.0	8.2
2013**	63.0	11.8	48.0	4.9	11.0	3.0	2.0	1.2	1.0	1.0	124.0	12.3
Mean	35.4		49.7		6.6		2.1		0.6		93.8	

wfdpsdp.dxx

Data from 1990 to 2012 is listed in previous year reports.

* Only one dipper was used due to covid19 protocols in 2020

** 2013 sample collected in June due to water conditions at normal sample time in May

Table 90. Lake specific assessment for Largemouth Bass collected at Pennyrile Lake from 2013-2022. This table includes the parameter estimates and the individual scores as well as the total scores and assessment ratings. The final columns list the instantaneous mortality (Z) and annual mortality (A) in years when age and growth was collected.

Year	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Mean length age 3 at capture	Total score	Assessment rating	Z	A
2022	32.0	6.0	2.0		10.5				
Score	2	1	2		4	9	F		
2021	11.0	1.0	1.0		10.5				
Score	1	1	1		4	7	P		
2020*	33.0	3.0	1.0	1.0	10.5				
Score	2	1	1	3	4	11	F		
2019	9.0	5.0	1.0		10.5				
Score	1	1	1		4	7	P	0.164	15.1
2018	29.0	7.0	2.0	1.0	11.7				
Score	2	2	2	3	4	13	G		
2017	28.0	4.0	5.0	1.0	11.7				
Score	2	1	4	3	4	14	G		
2016	38.0	13.0	3.0	1.0	11.7				
Score	3	3	3	3	4	16	G		
2015	36.0	8.8	3.2	0.8	11.7				
Score	3	2	3	3	4	15	G		
2014	19.8	7.0	1.0		11.7				
Score	1	2	1		4	8	F		
2013**	10.6	11.0	2.0	1.0	11.7				
Score	1	2	2	3	4	12	F		
Average	24.6	6.6	2.1	0.6	11.2				

Rating

1 - 7 = Poor (P)
8 - 12 = Fair (F)
13 - 17 = Good (G)
18 - 20 = Excellent (E)

* Only one dipper was used due to covid19 protocols in 2020
** 2013 sample collected in June due to water conditions at normal sample time in May

Table 91. Spring, diurnal electrofishing CPUE (fish/hr) for each length group of Bluegill and Redear Sunfish collected at Lake Pennyrile from 2013-2022.

		Length group									
		<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		Total	
Species	Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
Bluegill											
	2022	20.0	4.3	132.0	31.3	135.0	58.6	4.0	2.8	291.0	96.0
	2021	33.0	18.7	28.0	1.6	97.0	12.0	22.0	2.6	180.0	30.1
	2020*	6.0	2.6	101.0	28.1	70.0	9.0	8.0	3.7	185.0	35.6
	2019	17.0	5.3	54.0	3.5	37.0	7.9	10.0	4.2	118.0	15.2
	2018	35.0	12.8	94.0	20.8	134.0	9.0	27.0	7.7	290.0	35.2
	2017	6.0	2.6	87.0	13.3	42.0	22.5	19.0	9.2	154.0	35.4
	2016	45.0	16.4	65.0	3.4	51.0	12.3	41.0	18.4	202.0	49.1
	2015	30.4	3.0	84.0	11.4	64.8	13.9	32.0	5.7	211.2	14.1
	2014	0.0		12.0	4.3	15.0	6.6	0.0		27.0	7.9
	2013**	1.0	1.0	18.0	5.8	21.0	6.2	0.0		40.0	12.1
	Mean	19.3		67.5		66.7		16.3		169.8	

		Length group									
		<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		Total	
		CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
Redear Sunfish											
	2022	0.0		56.0	6.7	97.0	38.8	34.0	11.6	187.0	48.4
	2021	2.0	2.0	19.0	6.8	28.0	10.5	13.0	8.5	62.0	22.0
	2020*	0.0		63.0	14.8	34.0	9.3	10.0	6.0	107.0	16.2
	2019	0.0		14.0	1.2	21.0	2.5	15.0	7.2	50.0	6.2
	2018	2.0	1.2	33.0	12.8	24.0	5.4	27.0	4.1	86.0	19.1
	2017	0.0		15.0	3.0	14.0	10.4	25.0	18.4	54.0	30.4
	2016	0.0		16.0	5.9	15.0	3.0	30.0	7.4	61.0	15.8
	2015	0.8	0.8	12.0	2.5	4.8	1.5	32.8	15.3	50.4	18.1
	2014	0.0		8.0	5.4	17.0	5.7	8.0	3.7	33.0	12.5
	2013**	0.0		4.0	2.3	9.0	5.5	12.0	2.8	25.0	6.6
	Mean	0.5		24.0		26.4		20.7		71.5	

wfdpsdp.dxx

Data from 1990 to 2012 is listed in previous year reports.

* Only one dipper was used due to covid19 protocols in 2020

** 2013 sample collected in June due to water conditions at normal sample time in May

Table 92. PSD and RSD values obtained for Largemouth Bass, Bluegill, and Redear Sunfish collected during 1.0 hour of diurnal electrofishing (4 - 900-sec runs) at Lake Pennyrile on 9 May, 2022. 95% confidence intervals are in parentheses.

Species	≥ Stock size*	PSD	RSD**
Largemouth Bass	58	14 (±9)	3 (±5)
Bluegill	271	51 (±6)	1 (±1)
Redear Sunfish	172	54 (±7)	1 (±2)

* Largemouth stock size = 8.0 in, Bluegill stock size = 3.0 in, Redear Sunfish stock size= 4.0 in.

** Largemouth = RSD_{15}, Bluegill = RSD_{8}, Redear Sunfish = RSD_{9}.

wfdpsdp.d22

Table 93. Species composition, relative abundance, and CPUE (fish/hr) of fish collected during 0.50 hours (3- 600-sec runs) of diurnal electrofishing at Lake Morris (Christian Co) on 6 June 2022.

	Inch class																				
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	18	20	26	Total	CPUE	SE
Gizzard Shad				3	3	2	2	2											12	24.0	3.4
Common Carp																		1	1	2.0	2.0
Golden Shiner						1													1	2.0	2.0
Yellow Bullhead									1										1	2.0	2.0
Brown Bullhead											2								2	4.0	2.0
Green Sunfish		2	1	1	3														7	14.0	3.9
Warmouth			5	6	3														14	28.0	12.9
Bluegill	49	66	54	98	192	18													477	954.0	211.9
Redear Sunfish			1	1	6	17	2												27	54.0	21.2
Largemouth Bass	1		1			1	1			1		1		1	2	1	1		11	22.0	3.9
White Crappie			1	2	22	3		1				2	1						32	64.0	25.0
Sunfish hybrids			3	3	2														8	16.0	8.6

wfdpsdlm.d22

Table 94. Species composition, relative abundance, and CPUE (fish/hr) of sportfish collected from Ballard Wildlife Management Area lakes on 13 May 2022. The entire accessible shoreline was sampled with electrofishing.

	Inch class																				
Area	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	19	20	23	Total	CPUE	SE
Gravel Pit Pond																						
Channel Catfish							1	3	2		1							1	1	9	24.3	0.0
Warmouth				1			1													2	5.4	0.0
Bluegill	1	12	18	8	25	18	29	3												114	307.3	0.0
Largemouth Bass		1	5	7	2	5	4	4		6	8	1	5	3						51	137.5	0.0
White Crappie	1			11	13	3		22	14	5				1						70	188.7	0.0
Black Crappie				3	3															6	16.2	0.0

wfdpsdbc.d22

Table 95. Species composition, relative abundance, and CPUE (fish/hr) of sportfish collected from West Kentucky Wildlife Management Area lakes on 13 May 2022. The entire accessible shoreline was sampled with electrofishing.

	Inch class																		
Area	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	19	Total	CPUE	SE
Handicap Access Pond																			
Gizzard Shad								2									2	5.7	0.0
Channel Catfish													1		1		2	5.7	0.0
Green Sunfish						2											2	5.7	0.0
Bluegill	4	4	4	3	11	4											30	86.2	0.0
Redear Sunfish				1	6	13	10										30	86.2	0.0
Largemouth Bass			3	1			1	1	1	2		1		1		1	12	34.5	0.0

wfdpsdbc.d22

Table 96. Species composition, relative abundance, and CPUE (fish/hr) of fish collected during 0.45 hours of diurnal electrofishing at Fort Campbell's Lake Kyle on 24 May, 2022.

	Inch class																	
Species	1	2	3	4	5	6	7	8	9	10	11	12	14	15	20	Total	CPUE	SE
Yellow Bullhead								1	4	1	1					7	15.6	7.3
Channel Catfish															1	1	2.2	2.2
Green Sunfish			5	13	7	8	2									35	77.8	74.0
Warmouth			1		1	2	9	1								14	31.1	8.7
Bluegill	5	12	14	18	6	6	6									67	148.9	51.3
Longear Sunfish		6	10	7												23	51.1	48.1
Redear Sunfish		1	2	16	17	14	10	5	2							67	148.9	53.6
Largemouth Bass			1	10	2	5	1	8	24	23	7	3	1	1		86	191.1	17.3
Black Crappie							1		1							2	4.4	2.9
Bluegill hybrids					1											1	2.2	2.2

wfdpsdlk.d22

Table 97. Species composition, relative abundance, and CPUE (fish/hr) of fish collected during 0.5 hours (2- 900-sec runs) of diurnal electrofishing at Clarks River National Wildlife Refuge Benton pond (36.855573, -88.334829) on 10 May, 2022.

	Inch class																
Species	1	2	3	4	5	6	9	10	12	13	14	15	16	18	Total	CPUE	SE
Largemouth Bass				1	5		2	1					1	1	11	22.0	14.0
Bluegill	1	8	2	18	11	16									56	112.0	16.0
Spotted Sucker														1	1	2.0	2.0
Longear Sunfish				1	1	1									3	6.0	2.0
Warmouth	1														1	2.0	2.0
Catfish									1	3	2	3	3	1	13	26.0	2.0

wfdusfwc.d22

Table 98. Species composition, relative abundance, and CPUE (fish/hr) of fish collected during 0.5 hours (2- 900-sec runs) of diurnal electrofishing at Clarks River National Wildlife Refuge Symsonia pond (36.963681, -88.523353) on 10 May, 2022.

	Inch class																							
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	19	20	21	24	26	28	Total	CPUE	SE
Spotted Gar																		3		2	2	1		8	16.0	8.0
Shortnose Gar																				1				1	2.0	2.0
Gizzard Shad										2	2	3	2											9	18.0	6.0
Common Carp																							1	1	2.0	2.0
Bullhead Minnow			1																					1	2.0	2.0
River Carpsucker																			1					1	2.0	2.0
Smallmouth Buffalo												2	1			1								4	8.0	8.0
Bigmouth Buffalo												1	1		3	1	1		1					8	16.0	<0.1
Spotted Sucker											1													1	2.0	2.0
Blackstripe Topminnow		1																						1	2.0	2.0
Warmouth	1	1	2	1																				5	10.0	6.0
Orange Spotted Sunfish	1	3	1																					5	10.0	10.0
Bluegill	3	23	52	30	8	8																		124	248.0	60.0
Longear Sunfish		1																						1	2.0	2.0
Redear Sunfish				1	2	3	1																	7	14.0	10.0
Largemouth Bass					5	2		1	4	8	4	3	1	1										29	58.0	2.0
White Crappie			1			1	2	2	1	1														8	16.0	8.0
Black Crappie						1	1																	2	4.0	<0.1
Sunfish hybrids							1																	1	2.0	2.0

wfdusfws.d22

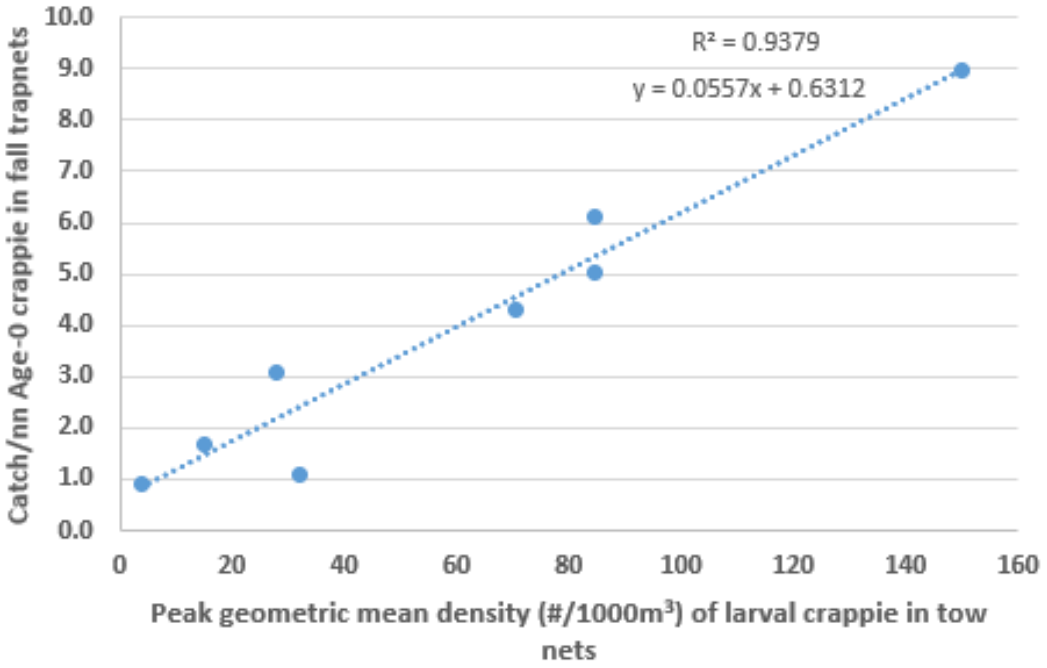


Figure 1. Peak geometric mean density (#/1000m³) of pelagic larval crappie captured in neuston tow nets at Jonathan Creek, Kentucky Lake from 2015-2022 plotted against the catch rates of age-0 crappie (fish/net-night) in fall trapnets from Kentucky Lake in both Jonathan Creek and Blood River. Line of best fit shown.

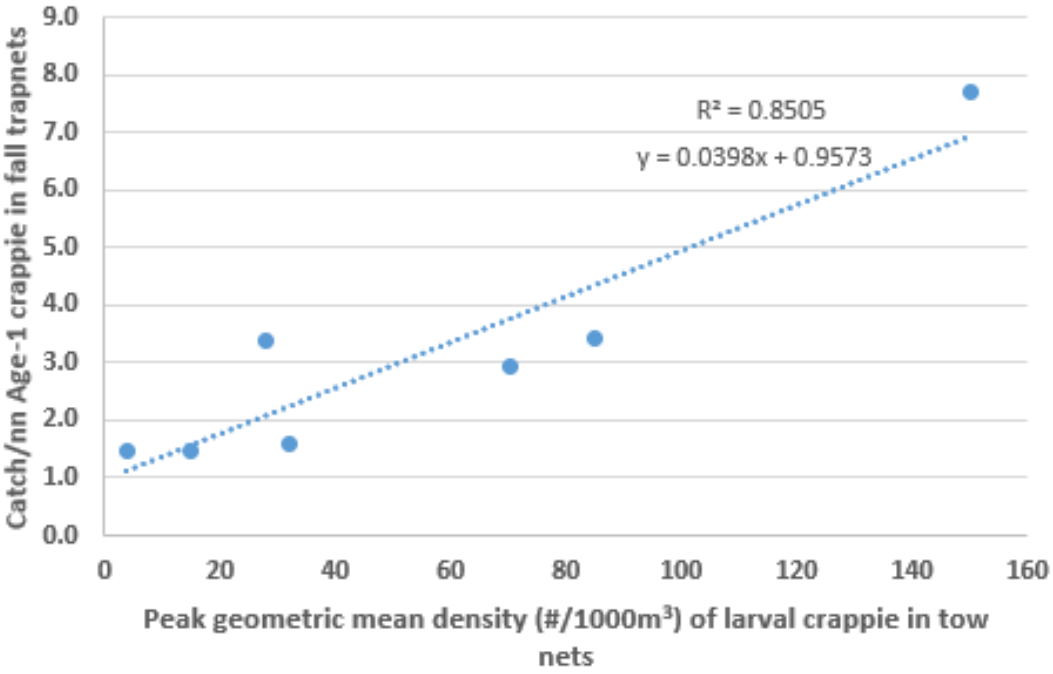
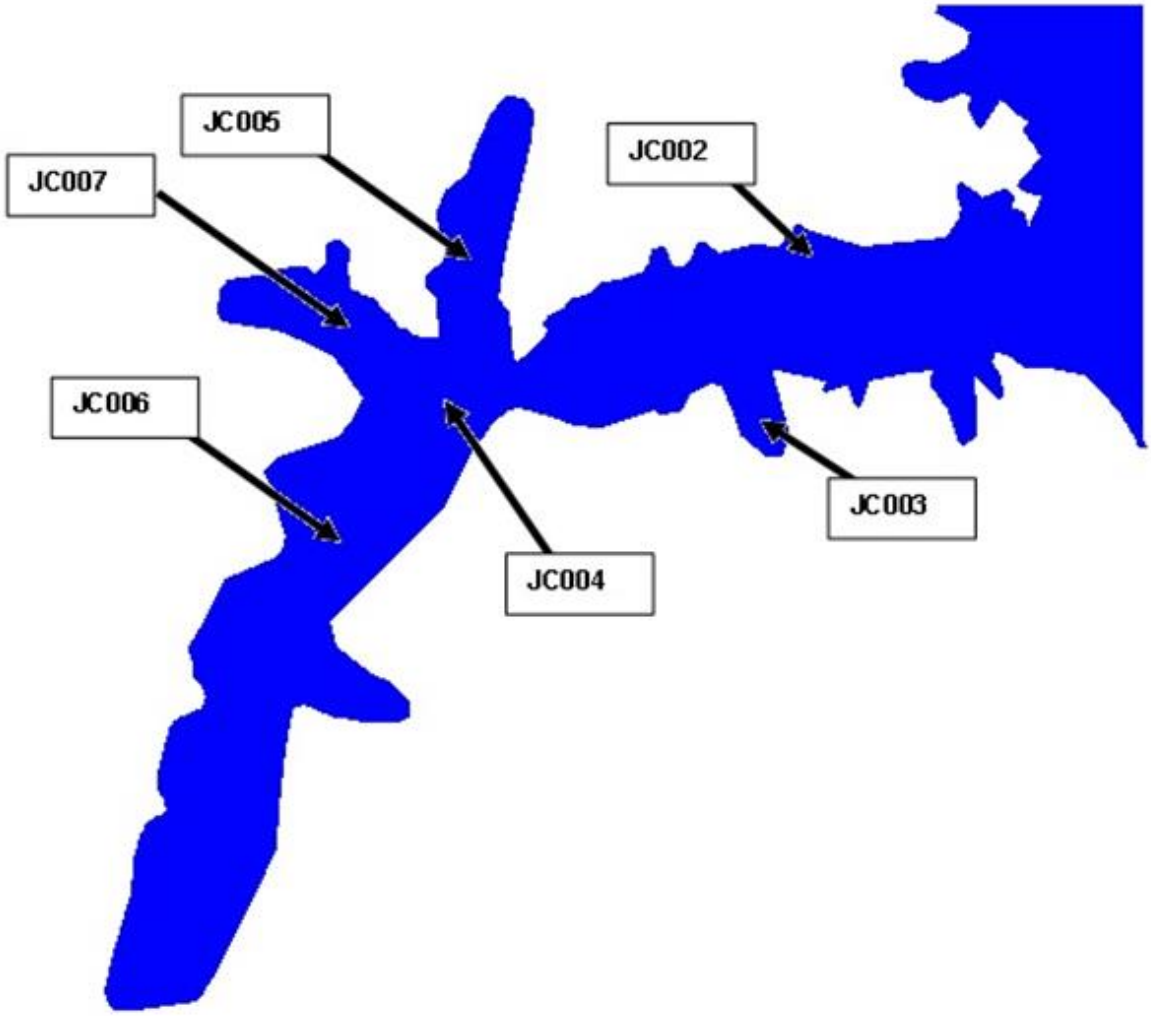


Figure 2. Peak geometric mean density (#/1000m³) of pelagic larval crappie captured in neuston tow nets at Jonathan Creek, Kentucky Lake from 2015-2021 plotted against the catch rates of age-1 crappie (fish/net night) in fall trapnets from Kentucky Lake in both Jonathan Creek and Blood River from following year. Line of best fit shown.

Appendix A. 2021 Larval fish sample sites in Jonathan Creek embayment, Kentucky Lake



Appendix B. LAKE BARKLEY TAILWATER ANGLER ATTITUDE SURVEY 2022

1. Have you been surveyed this year? Yes - stop survey No – continue

2. Zip Code _____

3. How many times do you fish the Lake Barkley Tailwaters each year? N=168
First time here 11.3% 1 to 4 27.4% 5-10 19.0% More than 10 42.3%

4. What angling techniques do you use when fishing at Lake Barkley Tailwaters (**check all that apply**)? N=168
Rod and reel 73.8% Snagging 0.0% Bowfishing 48.8% Castnet 0.6%

5. Which species of fish do you fish for at Lake Barkley Tailwaters (**check all that apply**)? N=169
Asian carp 46.7% Catfish 46.2% Striped Bass/White Bass/Hybrids 26.6% Skipjack 23.1% Paddlefish 19.5%
Gar 13.0% Black Bass 11.8% Panfish 3.6% Drum 2.4% Crappie 1.8% Bait Fish 1.8% Buffalo 1.8%
Anything 1.8% Bow species 1.2% Sauger 0.6% Walleye 0.6% Suckers 0.6%

6. Which one species do you fish for most at Lake Barkley Tailwaters (**check only one**)? N=169
Asian carp 42.0% Catfish 29.6% Skipjack 13.0% Striped Bass/White Bass/Hybrids 9.5% Black Bass 2.4% Panfish 1.8%
Paddlefish 0.6% Bait Fish 0.6% Anything 0.6%

Answer the following questions for each species you fish for – (see question 5)

Striped Bass/White Bass/Hybrid Anglers

7. In general, what level of satisfaction do you have with Striped Bass/White Bass/Hybrid fishing at Lake Barkley Tailwaters? N=45
Very satisfied 8.9% Somewhat satisfied 42.2% Neutral 24.4% Somewhat dissatisfied 20.0%
Very dissatisfied 4.4% No opinion 0.0%

7a. If you responded with somewhat or very dissatisfied in question (7) – what is the single most important reason for your dissatisfaction? N=11
Number of fish 63.6**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%**
Asian carp 36.4%

Crappie Anglers

8. In general, what level of satisfaction do you have with crappie fishing at Lake Barkley Tailwaters? N=3
Very satisfied 0.0% Somewhat satisfied 0.0% Neutral 33.3% Somewhat dissatisfied 66.7%
Very dissatisfied 0.0% No opinion 0.0%

8a. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction? N=2
Number of fish 50.0**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%**
Asian carp 0.0% Lock approach closed to fishing 50.0**%**

Black Bass Anglers

9. In general, what level of satisfaction do you have with the black bass fishing at Lake Barkley Tailwaters? N=19
Very satisfied 10.5% Somewhat satisfied 42.1% Neutral 36.8% Somewhat dissatisfied 5.3%
Very dissatisfied 5.3% No opinion 0.0%

9a. If you responded with somewhat or very dissatisfied in question (9) – what is the single most important reason for your dissatisfaction? N=2
Number of fish 100.0**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%** Asian carp 0.0%

Catfish Anglers

10. In general, what level of satisfaction do you have with the catfish fishing at Lake Barkley Tailwaters? N=78
Very satisfied 29.5% Somewhat satisfied 44.9% Neutral 14.1% Somewhat dissatisfied 10.3%
Very dissatisfied 1.3% No opinion 0.0%

10a. If you responded with somewhat or very dissatisfied in question (10) – what is the single most important reason for your dissatisfaction? N=9
Number of fish 33.3**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%**
Asian carp 33.3% Too much commercial fishing 11.1**%** Dislike electrofishing surveys 11.1**%** Too many snags 11.1**%**

Paddlefish Anglers

11. In general, what level of satisfaction do you have with the Paddlefish fishing at Lake Barkley Tailwaters? N=33
Very satisfied 15.2% Somewhat satisfied 24.2% Neutral 45.5% Somewhat dissatisfied 15.2%
Very dissatisfied 0.0% No opinion 0.0%

11a. If you responded with somewhat or very dissatisfied in question (11) – what is the single most important reason for your dissatisfaction? N=5
Number of fish 80.0**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%** Asian carp 20.0%

Bow Anglers

12. How many trips do you make to bow fish in Kentucky during the months of March – August? N=82
First time 2.4% 1-10 39.0% 11-20 17.1% 21-30 9.8% 31-40 3.7% 41-50 4.9% 51-60 3.7% 61-70 0.0%
71-80 3.7% 81-90 0.0% 91-100 2.4% 101+ 13.4%

13. On average how many pounds of the following species do you harvest per trip bowfishing?

Pounds of Invasive carp N=82
0-50 35.4% 51-100 23.2% 101-150 2.4% 151-200 12.2% 201-250 3.7% 251-300 4.9%
301-350 4.9% 351-400 3.7% 401-450 0.0% 451-500 3.7% 501+ 6.1%

Pounds of Buffalo N=82
0 54.9% 1-10 19.5% 11-20 6.1% 21-30 6.1% 31-40 0.0% 41-50 3.7% 51-100 3.7% 101+ 6.1%

Pounds of Gar N=82
0 22.0% 1-10 35.4% 11-20 18.3% 21-30 7.3% 31-40 3.7% 41-50 6.1% 51-100 3.7% 101+ 3.7%

Pounds of Other N=80
0 78.8% 1-10 10.0% 11-20 2.5% 21-30 1.3% 31-40 0.0% 41-50 2.5% 51-100 3.8% 101+ 1.3%

14. How many paddlefish do you shoot per year in Kentucky? N=82
First time 1.2% 0 48.8% 1 18.3% 2 4.9% 3 3.7% 4 2.4% 5 4.9% 6 3.7% 8 2.4% 10 6.1% 20 1.2% 50 2.4%
14a. The current statewide season for snagging paddlefish is February 1 – May 10. Would you support creating a paddlefish season for bowfishing that aligned with these dates? N=82
Support 48.8% Oppose 41.5% No opinion 9.8%

All Anglers

15. Are you aware that you can sell harvested Asian carp to local fish processors with a recreational fishing license? N=169
Yes 59.2% No 40.8%

15a. If yes, have you ever sold Asian carp to any area processors? N=98 Yes 23.5% No 76.5%

15b. If NO on 15a, what is the single most important reason you haven't sold to a processor? N=75
Don't know the buyers 9.3% No way to transport 6.7% Don't get enough to bother 64.0%
They don't pay enough 6.7% Tournament disposes of them 1.3% Too much time 1.3%
Takes too long to get paid 1.3% Take them home to eat 1.3% Live far away and there's no local Asian carp to sell 1.3%
Just recently learned of it 1.3% First time fishing at Barkley tailwaters 2.7% Don't want to pay taxes 1.3%
Don't need the money 1.3%

16. What do you normally do with Asian carp that you catch? N=169
Eat 1.8% Sink 43.2% Let go alive 16.0% Use for bait 13.0% Sell 5.3% Never caught one 11.8% Fertilizer 4.1%
Tournament disposes 1.8% Throw on rocks 0.6% Give to someone else 1.8%
Sink or sell depending on proximity to buyers 0.6%

17. Have you ever tried eating Asian carp? N= 169
Yes 25.4% No 74.6%

18. Are you satisfied with the current size and creel limits on all sport fish at the Lake Barkley Tailwaters? N=169
Yes 97.6% No 2.4%

18a. If not, which species are you dissatisfied with and what species size and creel limits would you prefer? N=4
White Bass minimum length 13" 25.0% Daily limit of 5 fish 25.0% Remove trophy catfish regulation 25.0%
Crappie minimum length 9" 25.0%

Appendix C. KENTUCKY LAKE TAILWATER ANGLER ATTITUDE SURVEY 2022

1. Have you been surveyed this year? Yes - stop survey No – continue

2. Zip Code _____

3. How many times do you fish the Kentucky Lake Tailwaters each year? N=188
First time here 9.0% 1 to 4 23.9% 5-10 16.0% More than 10 51.1%

4. What angling techniques do you use when fishing at Kentucky Lake Tailwaters (**check all that apply**)? N=188
Rod and reel 87.8% Snagging 16.0% Bowfishing 21.8%

5. Which species of fish do you fish for Kentucky Lake Tailwaters (**check all that apply**)? N=188
Catfish 51.1% Skipjack 27.1% Asian carp 26.1% Black Bass 22.9% Striped Bass/White Bass/Hybrids 21.3%
Paddlefish 11.2% Crappie 8.0% Gar 7.4% Panfish 7.4% Anything 4.8% Sauger 4.3% Bluegill 3.2%
Bait Fish 2.7% Shad 0.5% Yellow bass 0.5% Drum 0.5% Bow species 0.5%

6. Which one species do you fish for most at Kentucky Lake Tailwaters (**check only one**)? N=188
Catfish 33.5% Asian carp 16.5% Skipjack 13.8% Black Bass 10.6% Striped Bass/White Bass/Hybrids 10.1%
Anything 4.8% Bait Fish 2.7% Panfish 2.1% Crappie 1.6% Paddlefish 1.6% Sauger 1.1% Yellow bass 0.5%
Bluegill 0.5% Carp 0.5%

Answer the following questions for each species you fish for – (see question 5)

Striped Bass/White Bass/Hybrid Anglers

7. In general, what level of satisfaction do you have with Striped Bass/White Bass/Hybrid fishing Kentucky Lake Tailwaters? N=40
Very satisfied 17.5% Somewhat satisfied 40.0% Neutral 17.5% Somewhat dissatisfied 22.5%
Very dissatisfied 2.5% No opinion 0.0%

7a. If you responded with somewhat or very dissatisfied in question (7) – what is the single most important reason for your dissatisfaction? N=10
Number of fish 80.0**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%** Asian carp 20.0%

Crappie Anglers

8. In general, what level of satisfaction do you have with crappie fishing at Kentucky Lake Tailwaters? N=15
Very satisfied 0.0% Somewhat satisfied 20.0% Neutral 53.3% Somewhat dissatisfied 26.7%
Very dissatisfied 0.0% No opinion 0.0%

8a. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction? N=4
Number of fish 50.0**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%** Asian carp 50.0%

Black Bass Anglers

9. In general, what level of satisfaction do you have with the black bass fishing at Kentucky Lake Tailwaters? N=43
Very satisfied 4.7% Somewhat satisfied 62.8% Neutral 20.9% Somewhat dissatisfied 11.6%
Very dissatisfied 0.0% No opinion 0.0%

9a. If you responded with somewhat or very dissatisfied in question (9) – what is the single most important reason for your dissatisfaction? N=5
Number of fish 80.0**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%** Asian carp 20.0%

Catfish Anglers

10. In general, what level of satisfaction do you have with the catfish fishing at Kentucky Lake Tailwaters? N=96
Very satisfied 24.4% Somewhat satisfied 46.2% Neutral 37.2% Somewhat dissatisfied 10.3%
Very dissatisfied 5.1% No opinion 0.0%

10a. If you responded with somewhat or very dissatisfied in question (10) – what is the single most important reason for your dissatisfaction? N=12
Number of fish 75.0**%** Size of fish 0.0**%** Not happy with regulations 8.3**%** Too many anglers 0.0**%** Asian carp 0.0%
Bank access closed for construction 8.3**%** Difficult to snag 8.3**%**

Paddlefish Anglers

11. In general, what level of satisfaction do you have with the Paddlefish fishing at Kentucky Lake Tailwaters? N=21
Very satisfied 4.8% Somewhat satisfied 42.9% Neutral 33.3% Somewhat dissatisfied 9.5%
Very dissatisfied 4.8% No opinion 4.8%

11a. If you responded with somewhat or very dissatisfied in question (11) – what is the single most important reason for your dissatisfaction? N=3
Number of fish 100.0**%** Size of fish 0.0**%** Not happy with regulations 0.0**%** Too many anglers 0.0**%** Asian carp 00.0%

Bow Anglers

12. How many trips do you make to bow fish in Kentucky during the months of March – August? N=41
0-10 29.3% 11-20 26.8% 21-30 7.3% 31-40 2.4% 41-50 2.4% 51-60 2.4% 61-70 4.9%
71-80 2.4% 81-90 0.0% 91-100 7.3% 101+ 14.6%

13. On average how many pounds of the following species do you harvest per trip bowfishing?

Pounds of Invasive carp N=41
0-50 53.7% 51-100 26.8% 101-150 2.4% 151-200 7.3% 201-250 2.4% 251-300 2.4%
301-350 2.4% 351-400 0.0% 401-450 0.0% 451-500 0.0% 501+ 4.9%

Pounds of Buffalo N=41
0 65.9% 1-10 19.5% 11-20 4.9% 21-30 2.4% 31-40 2.4% 41-50 0.0% 51-100 2.4% 101+ 2.4%

Pounds of Gar N=41
0 24.4% 1-10 34.1% 11-20 24.4% 21-30 0.0% 31-40 4.9% 41-50 7.3% 51-100 4.9% 101+ 0.0%

Pounds of Other N=37
0 86.5% 1-10 2.7% 11-20 8.1% 21-30 0.0% 31-40 0.0% 41-50 2.7% 51-100 0.0% 101+ 0.0%

14. How many paddlefish do you shoot per year in Kentucky? N=41
0 61.0% 1 9.8% 2 9.8% 3 2.4% 7 2.4% 10 4.9% 15 4.9% 25 2.4% 30 2.4%

14a. The current statewide season for snagging paddlefish is February 1 – May 10. Would you support creating a paddlefish season for bowfishing that aligned with these dates? N=41
Support 36.6% Oppose 41.5% No opinion 22.0%

All Anglers

15. Are you aware that you can sell harvested Asian carp to local fish processors with a recreational fishing license? N=188
Yes 45.7% No 54.3%

15a. If yes, have you ever sold Asian carp to any area processors? N=86 Yes 4.7% No 95.3%

15b. If NO on 15a, what is the single most important reason you haven't sold to a processor? N=82
No way to transport 6.1% Don't get enough to bother 78.0% They don't pay enough 2.4%
Tournament disposes of them 1.2% Too far too travel 1.2% Out of state 1.2%
Not worth the effort 1.2% Never caught one 1.2% No local markets where they're from 1.2%
Just never done it 1.2% Slimy, messy boat 1.2% Don't want to 1.2%
Don't want them in the boat 1.2% Buyers not open 24/7 1.2%

16. What do you normally do with Asian carp that you catch? N=188
Eat 0.5% Sink 37.8% Let go alive 19.1% Use for bait 13.8% Never caught one 22.3% Fertilizer 2.7%
Throw on rocks 2.1% Give to someone else 1.6%

17. Have you ever tried eating Asian carp? N= 188
Yes 21.8% No 78.2%

18. Are you satisfied with the current size and creel limits on all sport fish at the Kentucky Lake Tailwaters? N=188
Yes 96.8% No 3.2%

18a. If not, which species are you dissatisfied with and what species size and creel limits would you prefer? N=6
Statewide crappie minimum length 8-9" 16.7% Wants a daily creel limit on catfish 16.7%
Catfish minimum length 10" 16.7% Remove trophy catfish regulation 16.7% Skipjack daily limit 50 16.7%
Slot limit on blue catfish 16.7% Catfish maximum length 30" 16.7%
Add a maximum length limit on paddlefish 16.7%

NORTHWESTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Table 1 presents a summary of conditions encountered while sampling at state-owned or managed lakes and ACOE reservoirs during the 2022 field season.

Nolin River Lake

Black Bass Sampling

Diurnal boat electrofishing to sample the black bass population at Nolin River Lake was conducted in May 2022 (Tables 2-4). Catch rates are consistent with previous samples. Largemouth Bass accounted for around 79% of black bass collected. Total CPUE for Largemouth Bass in 2022 increased slightly from 2021 and remains on the high end of collections through time. Catch rates for fish ≥15.0 and ≥20.0 in are on the high end of previous collections. Largemouth Bass PSD and RSD_{15} have both decreased since the 2021 sample but remain acceptable.

Diurnal boat electrofishing to survey the black bass population at Nolin River Lake was conducted in October 2022 (Tables 5-7). Catch rates for Largemouth Bass were lower than previous samples, but relative weights were consistent. However, we would like to see higher relative weights. There appears to be sufficient forage available to produce improved body condition. The reason behind unsatisfactory body condition indices is unknown.

Slight variability exists concerning catch of larger fish and seems to be attributable to environmental variables at time of sampling rather than changes in the population. The Largemouth Bass population at Nolin River Lake is relatively stable and performing consistently well (2022 Statewide Assessment Rating = Good- to Excellent; Table 8).

Crappie Sampling

Trap netting to assess the crappie populations at Nolin River Lake was conducted during two non-consecutive weeks, October 31-November 4 and November 14-17 (Tables 9-14). Low catch rates resulting from stable weather/water conditions during week-one necessitated week-two sampling. A total of 260 crappie (152 White Crappie, 58.5%) were collected during 119 net-nights of sampling for a total CPUE of 2.2 fish/nn. Weights were taken and otoliths removed from a representative sample of each inch class. All catch rates used in the population assessment are much lower than typical collections and, as such, should be taken into consideration when looking at the statewide assessment. Growth data remains highly variable but has improved considerably since the last sample. Mean length of age-2+ White Crappie at capture is the highest recorded. Body condition is very good for all three length groups and is evident when handling fish. The crappie population at Nolin River Lake is stable and performing much better than the data acknowledges. The 2019 sample was not composed of many larger fish (>10.0 in), but the 2022 sample contained more large fish in proportion to smaller fish. Survey data and anecdotal information from anglers together describes a fast-growing population with good numbers of fish greater than 10.0 in available for harvest. Low catch rates dictated a “Poor” ranking based on the statewide assessment for 2022.

White Bass/Walleye Sampling

The White Bass and Walleye populations were not directly assessed in 2022. They are scheduled to be surveyed with gill nets fall 2023.

Rough River Lake

Black Bass Sampling

The black bass population at Rough River Lake was unable to be surveyed in spring 2022 due to undesirable weather and water conditions during the survey window.

Diurnal boat electrofishing to survey the black bass population at Rough River Lake was conducted in October 2022 (Tables 15-17). Fall catch rates were higher than any other fall sample in the last decade. Sublegal (<15.0 in) fish made up 94% of the catch. Condition factors are consistent with previous samples. Bigger fish were noticeably absent from the 2022 collection. The population will be surveyed spring 2023 for further evaluation.

The Largemouth Bass population at Rough River Lake is experiencing some variability and will be monitored consistently moving forward. There was insufficient data collected in 2022 to provide a value for the statewide assessment.

Crappie Sampling

The crappie population was not directly assessed in 2022. It is scheduled to be surveyed during fall 2024.

Hybrid Striped Bass Sampling

Gill netting to assess the hybrid striped bass population was conducted during October (Tables 18-22). A total of 245 hybrids were collected in 7 net-nights (35.0 fish/nn) over the two-day sampling period.

Catch rates in 2022 fall within the range of previous samples. On average, body condition continues the trend of decreasing with size. There has been an abundance of forage available year-round over the past decade, which should produce high relative weights for the larger fish (≥15.0 in) which are feeding exclusively on shad. Since that is not the case, it leads us to hypothesize that poor water quality conditions (temperature and dissolved oxygen) lead to enough stress during the summer months to reduce foraging to the point that fish are losing weight. Stress due to high temperature and low D.O. will affect larger fish to a greater extent. As water quality improves in the early fall, fish resume feeding and gain back some, but not all, of the weight lost during the stressful period. The extent of the poor water quality has been well documented over the past several years with Temp/D.O. profiles. We know that fish are being caught during the summer months, and that fish are being caught below, or at least in the bottom of, the thermocline. This tells us that fish are actively selecting cooler water over higher dissolved oxygen concentrations. The amount of time spent in cooler water is unknown, but it seems fish are moving up and down throughout the water column multiple times a day. Since the acoustic tags included sensors, data from the telemetry project may shed some light on this hypothesis. Data processing is ongoing and will be reported when complete.

The mean length of age-2+ fish at capture decreased slightly from 2022 back to reported values in 2019; however, it remains within the expected range. Growth remains a bit variable but is similar to previous collections. We routinely collect old fish between ages 7-11 during sampling events; however, relatively few fish age-4 or older were collected in 2022.

Telemetry data is still being analyzed and will be reported when complete. Over 1.2 million data points were collected. A workflow in Program R is being developed to analyze this and future telemetry data.

The hybrid striped bass population continues to be relatively stable and thriving despite increased catch/harvest and poor summer water quality. The hybrid stiped bass population at Rough River Lake maintained an “Excellent” rating based on statewide assessment criteria.

Catfish Sampling

Gill netting to assess the Channel Catfish population was conducted concurrently with hybrid striped bass sampling (Tables 23-24). A total of 86 Channel Catfish were collected over 7 net-nights for a CPUE of 12.3 fish per net-night. Catch rate and length distribution is similar to previous collections. Body condition across length groups was lower than most previous collections. Fish appeared to be healthy, so the low observed condition is likely a result of sample timing.

Dam Mitigation Project

Rough River Lake USACE is in the process of a major dam remediation project. Several phases of construction have been completed. Through intensive monitoring the USACE determined that previous efforts were insufficient. After much deliberation it was determined the next phase of remediation will include construction of a new outlet tower, conduit, outlet works, tailwater interface, and a concrete cutoff wall across the full length of the dam. This is a very large and complex project that is projected to require 6-8 years of construction. To reduce immediate risk associated with the status of the dam, USACE announced a five-foot reduction in summer pool (490 vs 495 MSL) and a delayed start to annual spring filling. USACE is allowing dock owners to extend their walkways in order to safely access the lake. This will result in less open water across much of an already narrow lake. The effects on recreational boating, recreational angling, and the fish population remains to be seen.

Lake Malone

Largemouth Bass Sampling

Diurnal boat electrofishing to survey the black bass population at Lake Malone was conducted in April (Tables 25-28) and October 2022 (Tables 29-31). Spring catch rates fluctuated slightly but are similar to previous collections. Total CPUE was among the lowest collected during the last fifteen surveys. Sampling conditions were good, but sample timing near the end of April may have influenced catch. Largemouth bass PSD and RSD_{15} are within acceptable ranges.

Total fall catch rate was higher than the spring collection. However, less than half of the number of fish greater than 15.0 in were collected during this survey compared to the spring. Relative weights for each length group were similar to previous collections but remain below the desired range.

Mean W_r for all length groups is lower than desired. This may indicate a need to remove bass from within or below the protected slot. An alternative would be to remove the protective slot and manage the lake with the statewide minimum size limit (12.0 in). Overall, the bass population at Lake Malone has been relatively stable and performing well for the last two decades (2022 Statewide Assessment Rating = Good- to Excellent).

Channel Catfish Sampling

The Channel Catfish population at Lake Malone was not surveyed during 2022. If time and conditions allow, it will be surveyed with baited tandem hoop nets during 2023. If not, it will be assessed in 2024.

Creel Survey

A random, stratified, roving, 5 day-per-week creel survey was conducted at Lake Malone from 01 April – 29 October 2022 to estimate angler pressure and catch/harvest statistics (Tables 32-36). Days were divided into two time periods (morning and afternoon) each with equal probability and 6 hours in length. Weekend day probability was 2.5 times weekday probability. The lake was divided into 3 “sub-areas” of approximately equal size in which the creel clerk would spend 2 hours out of the 6-hour time period counting and interviewing before moving to the next sub-area.

Approximately 1,800 angler interviews were conducted during the 2022 survey. Surveys were well distributed around the lake (Figure 1). The total estimated number of fishing trips for 2022 was an increase from 2011; however, total man hours decreased by 17,640 hours. Anglers took more shorter trips in 2022 compared to 2011. Demographics show similar percentages of male and female anglers when compared to the 2011 survey. There was a noticeable increase in the number of non-resident anglers. This is likely due to the increase in non-resident homeowners surrounding the lake. An increase in the number of anglers casting compared to still fishing was also found during the 2022 survey.

Black bass was the most sought-after group in 2022 followed by the panfish, “anything”, crappie, and catfish groups. The estimated total catch (74,461) is a slight increase from 2011 (70,121), but total harvest (26,839) is a relatively significant decrease from 2011 (35,838). Both remain dramatically less than 2006 total catch (109,937)

and harvest (57,801) estimates. Catch and harvest estimates for black bass and catfish decreased from 2011, with only 3% of Largemouth Bass caught being harvested compared with 12% in 2011. Estimated catch and percent harvest increased for panfish and crappie groups in 2022. The mean length at harvest for Largemouth Bass decreased from the two most recent surveys down to 12.3 in. This is a good thing as it indicates anglers are keeping more fish below the protected slot. The month of April had the most black bass fishing trips but only the fourth most bass caught. June, July, and September each had estimated higher numbers of bass caught than April.

An angler attitude (AA) survey was conducted during the creel survey to gather angler preference and satisfaction data (Figures 2 and 3). A total of 502 angler attitude surveys were completed at Lake Malone in 2022. Each respondent was first asked for his or her home zip code. Approximately 94% of respondents were Kentucky residents; the remaining 6% provided home zip codes from six other states. In general, anglers fishing most often for crappie have increased along with a decrease in anglers most often targeting Channel Catfish. Anglers most often targeting bass and crappie remained similar to the previous survey. Bass angler satisfaction has declined since the 2011 angler attitude survey. However, the main reason anglers indicated they were dissatisfied is also the same reason others indicated they were satisfied with the fishery (number of fish). Crappie angler satisfaction declined from 2011, with increases in the percentages of anglers who are neutral, somewhat dissatisfied, or very dissatisfied. Anglers who were satisfied and dissatisfied claimed the same reasons for their feelings, number of fish, and size of fish. Bluegill and Redear Sunfish anglers had a slight increase in dissatisfaction from 2011 but remain mostly positive regarding the fishery. There were fewer Channel Catfish anglers found in 2022 and their level of satisfaction decreased from 2011. One hundred percent of anglers surveyed in 2011 were satisfied or neutral about the Channel Catfish fishery. In 2022, the percentage of very satisfied anglers dropped to 19.4% from 80%, while the incidence of dissatisfaction rose to 18%.

The near majority (97%) of anglers interviewed noted that they fished at least one day in 2021, with another 21% fishing more than 50 days. Approximately 54% of respondents fished an average 1-10 days at Lake Malone per year. Ninety percent of respondents feel that there is adequate fish habitat in Lake Malone. The remaining 10% (N = 50) felt that brush piles (60.5%), hinged trees (44.2%), and artificial structures (55.8%) would be beneficial if placed on main lake points (46.8%) or 10-20’ deep (39.5%). Additional responses included rock piles, more grass, coves, and 3-10’ deep. The last question asked if anglers were satisfied with current size and creel limits on sport fish in Lake Malone. Approximately 88% of respondents indicated they were content with current regulations. The remaining 12.5% (N = 62) provided a number of responses, mostly related to Largemouth Bass size limits. Over 56% of respondents indicated their desire for Malone to change to statewide regulations (12.0-in minimum size).

In general, responses were in line with expectations. Anglers are taking more, shorter trips and have high expectations for catch, with limited interest in harvest.

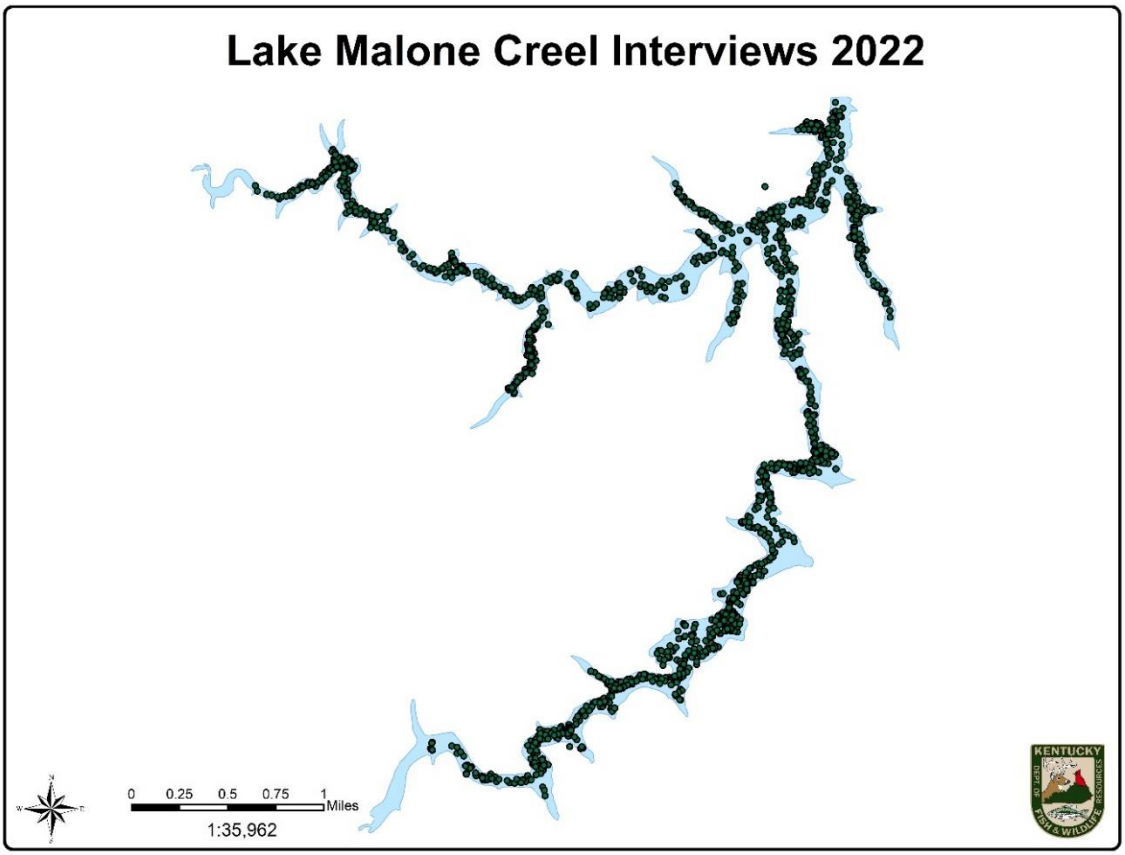


Figure 1. Distribution of creel interviews at Lake Malone in 2022 (N = 1,798). Several interviews did not generate an accurate GPS location and were not included on the map.

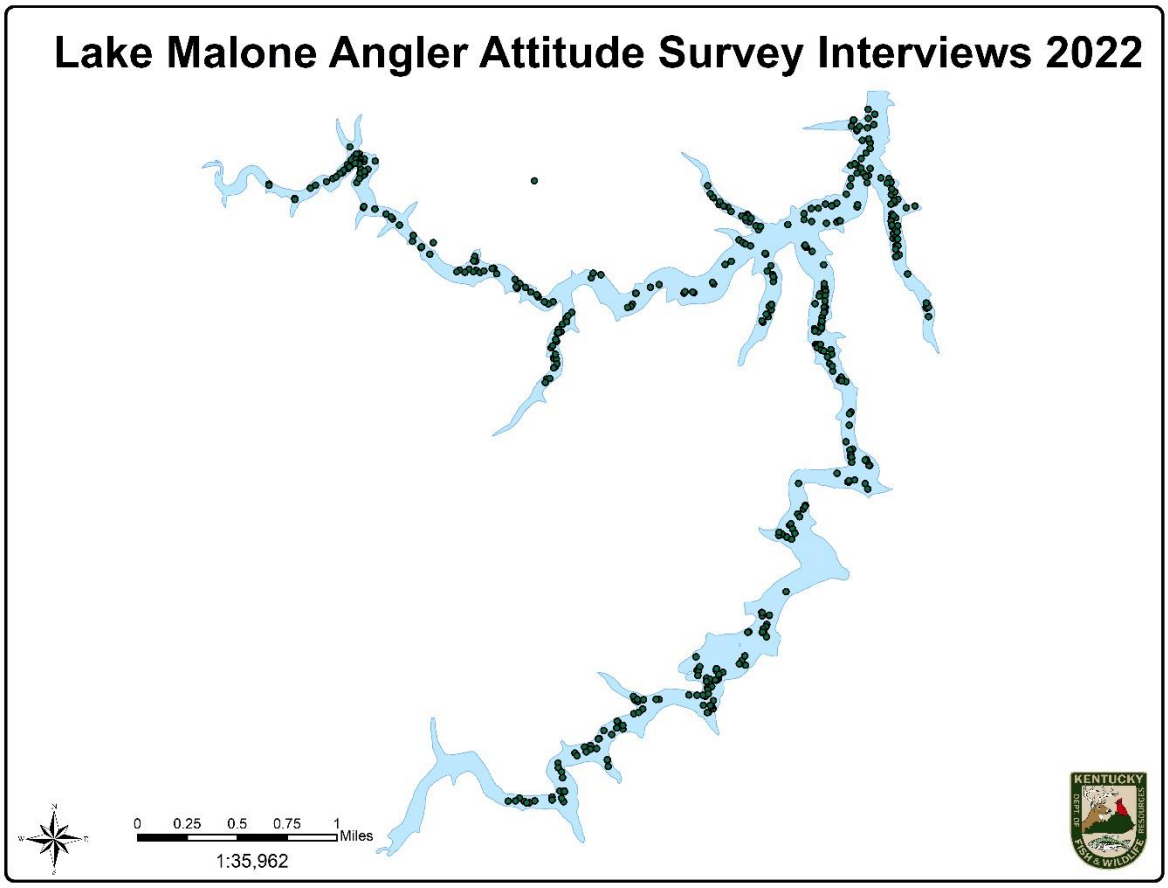


Figure 2. Distribution of angler attitude surveys at Lake Malone in 2022 (N = 502). Several interviews did not generate an accurate GPS location and were not included on the map.

LAKE MALONE ANGLER ATTITUDE SURVEY 2022

Have you been surveyed this year? Yes - stop survey No – continue

1. Home zip code **(N = 502):** Unique Zips = 97 (7 states: KY, TN, IN, OH, IL, MI, IA)

2. Which species of fish do you fish for at Lake Malone (**check all that apply**)? **N = 502**
   Bass 80.7% (N = 405) Crappie 44.8% (N = 225) Bluegill 40.8% (N = 205) Redear Sunfish 7.8% (N = 39)
   Channel Catfish 13.5% (N = 68)

3. Which one species do you fish for most at Lake Malone (**check only one**)? **N = 502**
   Bass 62.9% (N = 316) Crappie 15.1% (N = 76) Bluegill 19.5% (N = 98) Channel Catfish 2.4% (N = 12)

-Answer the following questions for <u>each species you fish for</u> – (see question 2)

Bass Anglers

4. In general, what level of satisfaction or dissatisfaction do you have with bass fishing at Lake Malone? **N = 398**
   Very satisfied 14.6% (N = 58) Somewhat satisfied 34.2% (N = 136) Neutral 27.1% (N = 108)
   Somewhat dissatisfied 21.1% (N = 84) Very dissatisfied 3.0% (N = 12)

4a. If you responded with somewhat or very satisfied in question (4) – What is the single most important reason for your <u>satisfaction</u>?
N = 193
Number of fish 50.8% (N = 98) Size of fish 45.6% (N = 88) Creel Limit 2.1% (N = 4) Other 1.6% (N = 3)

4b. If you responded with somewhat or very dissatisfied in question (4) – what is the single most important reason for your <u>dissatisfaction</u>?
N = 97
Number of fish 38.1% (N = 37) Size of fish 21.6% (N = 21) Too many anglers 34.0% (N = 33) Other 5.2% (N = 5)

Crappie Anglers

5. In general, what level of satisfaction or dissatisfaction do you have with crappie fishing at Lake Malone? **N = 225**
   Very satisfied 13.3% (N = 30) Somewhat satisfied 34.2% (N = 77) Neutral 32.9% (N = 74)
   Somewhat dissatisfied 16.0% (N = 36) Very dissatisfied 3.1% (N = 7)

5a. If you responded with somewhat or very satisfied in question (5) – What is the single most important reason for your <u>satisfaction</u>?
N = 106 Number of fish 63.2% (N = 67) Size of fish 36.8% (N = 39) Other 0.9% (N = 1)

5b. If you responded with somewhat or very dissatisfied in question (5) – what is the single most important reason for your <u>dissatisfaction</u>?
N = 43 Number of fish 60.5% (N = 26) Size of fish 34.9% (N = 15) Other 4.7% (N = 2)

Bluegill Anglers

6. In general, what level of satisfaction or dissatisfaction do you have with bluegill fishing at Lake Malone? **N = 204**
   Very satisfied 42.6% (N = 87) Somewhat satisfied 33.3% (N = 68) Neutral 17.2% (N = 35)
   Somewhat dissatisfied 5.4% (N = 11) Very dissatisfied 1.5% (N = 3)

6a. If you responded with somewhat or very satisfied in question (6) – What is the single most important reason for your satisfaction?

N = 154 Number of fish 67.5% (N = 104) Size of fish 31.8% (N = 49) Other 0.6% (N = 1)

6b. If you responded with somewhat or very dissatisfied in question (6) – what is the single most important reason for your dissatisfaction?

N = 13 Number of fish 76.9% (N = 10) Size of fish 23.1% (N = 3)

Redear Sunfish Anglers

7. In general, what level of satisfaction or dissatisfaction do you have with redear sunfish fishing at Lake Malone? **N = 33**

Very satisfied 6.1% (N = 2) Somewhat satisfied 36.4% (N = 12) Neutral 33.3% (N = 11)
Somewhat dissatisfied 21.2% (N = 7) Very dissatisfied 3.0% (N = 1)

7a. If you responded with somewhat or very satisfied in question (7) – What is the single most important reason for your satisfaction?

N = 14 Number of fish 35.7% (N = 5) Size of fish 64.3% (N = 9)

7b. If you responded with somewhat or very dissatisfied in question (7) – what is the single most important reason for your dissatisfaction?

N = 9 Number of fish 100% (N = 9)

Channel Catfish Anglers

8. In general, what level of satisfaction or dissatisfaction do you have with channel catfish fishing at Lake Malone? **N = 67**

Very satisfied 19.4% (N = 13) Somewhat satisfied 35.8% (N = 24) Neutral 26.9% (N = 18)
Somewhat dissatisfied 16.4% (N = 11) Very dissatisfied 1.5% (N = 1)

8a. If you responded with somewhat or very satisfied in question (8) – What is the single most important reason for your satisfaction?

N = 37 Number of fish 40.5% (N = 15) Size of fish 56.8% (N = 21) Other 2.7% (N = 1)

8b. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction?

N = 12 Number of fish 91.7% (N = 11) Size of fish 8.3% (N = 1)

All Anglers

9. Approximately how many days did you fish in Kentucky last year (2021)?

	Frequency	Percent
0	15	3.0%
1 - 10	105	20.9%
11 - 25	139	27.7%
26 - 50	136	27.1%
50+	107	21.3%
Total (N)	**502**	

10. On average, how many days do you fish Lake Malone in a single year?

	Frequency	Percent
0	8	1.6%
1 - 10	270	54.0%
11 - 25	135	27.0%
26 - 50	47	9.4%
50+	40	8.0%
Total (N)	**500**	
No Answer	2	

11. Do you feel there is adequate fish habitat in Lake Malone? **N = 501** Yes 90% (N = 45) No 10% (N = 50)

12. If you answered **No** to Question eleven (11) – what type and location of structure do you think would be beneficial?

	Frequency	Percent
Brush piles	26	60.5%
Hinged trees	19	44.2%
Artificial structures	24	55.8%
Rock pile	3	7.0%
Other	15	34.9%
Coves	35	8.0%
Main lake points	29	46.8%
Shallow (3-10')	30	6.0%
Deep (10-20')	17	39.5%
Other	1	2.3%
Total (N)	**43**	

13. Are you satisfied with the current size and creel limits on all sport fish at Lake Malone? **N = 498**
Yes 87.7% (N = 436) No 12.5% (N = 62)

13a. If you answered **No** to Question thirteen (13) – which size and creel limits would you prefer on fish species in Lake Malone?

13a. Bass Size Limits				13a. Crappie Size Limits		
	Frequency	Percent			Frequency	Percent
12" size limit	26	56.5%		9" size limit	1	11.1%
14" size limit	3	6.5%		10" size limit	7	77.8%
15" size limit	5	10.9%		none	1	11.1%
15-18" slot	1	2.2%		Total (N)	9	
15-18" slot, 2 in slot	1	2.2%		No Answer		
17" size limit	1	2.2%				
none	5	10.9%		13a. Crappie Creel Limits		
1<15", 6>15"	2	4.3%		25	1	25%
Other	1	2.2%		30	1	25%
Total (N)	46			Other (Reduce numbers, Keep more)	2	50%
				Total (N)	4	
13a. Bass Creel Limits						
4 or 5	1	100%		13a. Redear Size Limits	N/A	
Total (N)	1					
				13a. Redear Creel Limits	N/A	
13a. Bluegill Size Limits	N/A					
				13a. Other Size Limits	N/A	
13a. Bluegill Creel Limits						
30	1	100%		13a. Other Creel Limits		
Total (N)	1				Frequency	Percent
				Other (Reduce Tournaments)	1	100%
				Total (N)	1	
13a. Catfish Size Limits						
	Frequency	Percent				
Other (Stock more CCF)	1	100%				
Total (N)	1					
13a. Catfish Creel Limits	N/A					

Figure 3. Results of the 2022 Lake Malone angler attitude survey (N = 502).

Temperature and Dissolved Oxygen

A single temperature and dissolved oxygen profile was collected at Lake Malone on 8 June 2022 (Table 37). Dissolved oxygen dropped below 3.0 ppm between 10 and 12 feet deep. There are no current concerns with trophic status or thermal habitat in Lake Malone. Water quality will be monitored multiple times throughout the summer moving forward.

Mauzy Lake

Largemouth Bass Sampling

Diurnal boat electrofishing to evaluate the Largemouth Bass population was conducted in April and October 2022 (Tables 26, 30, 38-42). Both spring and fall sampling conditions were fair, with significant aquatic vegetation present. Total spring catch rate was higher than 2021 but still on the low end of collections since 2009. Approximately 69% of fish captured were 10.0-13.9 in. Only one fish ≥15.0 in was captured, and no fish ≥20.0 in were captured for the second consecutive year. PSD is much improved from 2021, as a group of fish have moved through the inch classes. Fall catch rate was also low; however, relative weights were consistent with previous collections.

Otoliths were collected from a subsample of fish for enumeration of age and growth statistics. Growth rates remain highly variable, with slow growth across age classes. Growth appears to be improving in recent years but the population primarily consists of smaller fish. Improved growth may be attributable to slight annual improvements in vegetation control over the past few years. Assessment values are improved from 2021, due to an updated mean length at age-3 value and an increase in catch rate for fish 12.0-14.9 in (2022 Statewide Assessment Rating = Fair).

Excessive aquatic vegetation (coontail, Eurasian watermilfoil) continues to be an issue despite management efforts. Additional Grass Carp (200) were stocked in 2021 and did have a noticeable positive effect. However, a significant amount of vegetation remained throughout the fall of 2022. Aquatic vegetation negatively impacts sampling efforts and makes accurate evaluation of the fishery difficult. Additional efforts using herbicide will be attempted during 2023. It is hopeful the additional Grass Carp and herbicide treatments will be enough to keep the vegetation at a reasonable level.

Bluegill/Redear Sunfish Sampling

Electrofishing to assess the Bluegill and Redear Sunfish populations was conducted in May. Bluegill data is shown in Tables 43-44 and 46-47. Total Bluegill catch was the highest recorded since 2012. Slight improvements in vegetation coverage likely allowed for more efficient survey capture. The majority of Bluegill captured were 2.0-3.9 in with the significant increase in total catch rate being attributed to increases in catch of Bluegill less than 6.0 in. The abundance of small fish leads to a low PSD with no fish ≥8.0 in captured yet again. The Bluegill population continues to perform poorly (2022 Statewide Assessment Rating = Poor- to Fair). If improved vegetation management does not allow for increased performance, a full lake renovation seems to be the next course of action.

Redear Sunfish catch rates increased from 2021 (Tables 43, 45-46, 48), attributable to an increase in fish <6.0 in. More, smaller Redear Sunfish are becoming common. Redear outnumbered Bluegill through most recent surveys, with the exception being 2022. There are typically good numbers of Redear >8.0 in but we have yet to find fish >10.0 in. The Redear Sunfish population appears to be stable and performing consistently, albeit less than preferable (2022 Statewide Assessment Rating = Fair- to Good).

Lake Renovation Plans

Across all species, growth continues to decline or remain constant at undesirable levels. Additionally, there are numerous undesirable species present in the lake (Gizzard Shad, crappie spp., Flathead Catfish, Spotted Gar, etc.). Ultimately, Mauzy Lake will benefit from another, more complete, renovation. Plans to dredge and deepen extensive shallow areas, upgrade existing bank fishing access, install fish habitat, lime the lake basin, renovate the fishery, and construct a headwater wetland are being created. Mauzy Lake is wholly contained within a WMA and renovation efforts can be easily accomplished.

Carpenter Lake

Largemouth Bass

Diurnal boat electrofishing to survey the largemouth bass population at Carpenter Lake was completed in April and October 2022 (Tables 26, 30, 49-52). Total catch rate was slightly improved from 2021 and catch rates by length groups were in line with previous collections. Both PSD and RSD_{15} are currently at acceptable levels. Bass catch rate was lower for the fall sample (CPUE 117.0 to 147.0 fish/hr) as is typical. Body condition remains within the range established in previous samples. The Largemouth Bass population at Carpenter Lake is stable and performing well (2022 Statewide Assessment Rating = Good).

Bluegill/Redear Sunfish Sampling

Electrofishing to assess the Bluegill and Redear Sunfish populations was conducted in May (Tables 46, 53-56). Total catch rate for Bluegill more than doubled from 2022, establishing a new all-time high (742.7 fish/hr). Again, no Bluegill greater than 8.0 in were collected. This is likely the result of abundant Gizzard Shad and submerged aquatic vegetation. Grass Carp (300) were stocked in 2021 to help manage excessive aquatic vegetation (coontail). Several Grass Carp were documented during the spring and fall bass surveys. Bluegill PSD is within the desired range for balanced predator/prey population management; however, a slight increase is desirable (2022 Statewide Assessment Rating = Fair- to Good).

One hundred thirty-three Redear Sunfish were collected in May in conjunction with Bluegill sampling. Total catch rate is a new all-time high (177.3 fish/hr). Redear Sunfish >10.0 in were not documented in 2022 but anglers continue to report catching some fish over 10.0 in. Due to historically low sample catches, a statewide assessment rating has not been produced for Redear Sunfish at Carpenter Lake. If catch rates continue their recent trend an assessment will be started in 2023.

Gizzard Shad are likely negatively affecting the Bluegill and Redear Sunfish populations. After two failed shad eradication efforts, saugeye were stocked at 85 fish/acre in May 2019. Stocking rate was increased to 100 fish/acre in 2020 and 2021. Stocking rate was increased again to 150 fish/acre for 2022. Anglers report catching a few saugeye throughout the year from approximately 10.0 to 18.0 in. A handful of fish have been captured during standardized bass survey events. Fish representing each year class have been collected annually. Seven saugeye were collected during 2022 fall bass sampling, ranging from 8.7-22.5 in. Nighttime electrofishing events will be attempted in 2023 to try to get a better idea of how the population is progressing. There are plenty of small shad, crappie, and Bluegill for the saugeye to forage on. Growth appears to be very good thus far, although relative abundance seems to remain low. This is likely due to predation on stocked fingerlings by smaller bass and crappie.

Emergency Spillway

The emergency spillway at Carpenter Lake suffered a complete failure during the winter of 2021. Water undercut the concrete weir and created a channel under the structure. The concrete apron affixed to the front of the weir broke off when all supporting material eroded away. The Engineering Division made several visits and devised a plan for repair. Several nearby trees were removed and the area in front of the weir was excavated, Grout was then pumped into all voids. Clay was brought in and compacted to the top of the spillway. Finally, a layer of riprap was added on top of the clay. NWFD assisted with gaining access to the property, finding clay, and installing the last section of grass seed and erosion control netting. The repair was completed during June 2022.

New Kingfisher Lake

Largemouth Bass

Diurnal electrofishing to assess the Largemouth Bass population at New Kingfisher Lake was conducted in April and October (Tables 26, 30, 57-60). Spring catch rate increased from 2021 due to an increase in fish 8.0-19.9 in. Catch rates for fish greater than 15.0 in and greater than 20.0 in remain high and the Largemouth Bass fishery should continue to grow over the next few years as multiple year classes develop and stabilize. Bass PSD is within

the desirable range. Fall sampling produced a consistent length distribution and fish in good condition, especially fish ≥15.0 in. Fall CPUE for bass ≥15.0 in was 29.0 fish/hr. The Largemouth Bass population at New Kingfisher Lake is performing well and continuing to improve (2022 Statewide Assessment Rating = Good).

Bluegill/Redear Sunfish Sampling

The sunfish population was sampled via electrofishing in May (Tables 46, 61-63). Bluegill catch rates rebounded in 2022 with a near eight-fold increase in total CPUE. No Bluegill greater than 8.0 in were collected in 2022. Fish were not collected for age and growth analysis in 2022. Increased catch resulted in an improved assessment (2022 Statewide Assessment Rating = Fair- to Good).

No Redear Sunfish were collected in New Kingfisher Lake in 2022. Gizzard Shad were documented in both spring and fall samples. A shad eradication project was completed on New Kingfisher Lake on 24 January 2023. Numerous Gizzard Shad and small crappie were observed deceased over the next several days. The spring Largemouth Bass survey will be the next electrofishing event that will confirm the presence or absence of shad.

Channel Catfish Sampling

Three baited, tandem hoop nets were set for three net nights during October 2022 to assess the Channel Catfish population in New Kingfisher Lake. One full cheese log was used per tandem set. Only three Channel Catfish were captured during this sampling event (17.4, 19.8, and 19.9 in). Crappie, Bluegill, bullheads, and turtles were present in most nets. Weather was relatively stable and warm, with a few sprinkles one day. Hoop net sampling will be attempted again in 2023.

Old Kingfisher Lake

Largemouth Bass

Diurnal electrofishing to assess the Largemouth Bass population was conducted at Old Kingfisher Lake in April and October (Tables 26, 30, 64-67). A total of 45 bass were collected during the spring survey for a total CPUE of 135.1 fish/hr for the second consecutive year. PSD remains in the desired range (48). Fall sampling yielded an increased catch of Largemouth Bass, primarily due to increased numbers of fish <10.0 in. In general, relative weights improved from 2021 and continue to be good across the board. Fish were not collected for age and growth analysis in 2022. The Largemouth Bass population at Old Kingfisher Lake is still evolving but does have quality fish available for anglers (2022 Statewide Assessment Rating = Fair).

Bluegill/Redear Sunfish Sampling

The sunfish population at Old Kingfisher Lake was sampled via electrofishing in May (Tables 46, 68-70). Total Bluegill CPUE increased significantly from 2019-2021 values (1,129.4 fish/hr). The increase was primarily in fish 3.0-5.9 in. This total is well above the presumed desirable range; however, current Bluegill PSD is within the established range for providing considerable forage for Largemouth Bass. Bluegill were not collected for age and growth analysis in 2022. As the Largemouth Bass population grows and stabilizes, sunfish growth and size structure will improve (Statewide Assessment Rating = Fair- to Good).

Only six Redear Sunfish were collected during standardized sampling, ranging from 4.0 to 9.0 in. Gizzard Shad were documented in both spring and fall samples. A shad eradication project was completed on Old Kingfisher Lake on 24 January 2023. Numerous Gizzard Shad and small crappie were observed deceased over the next several days. The spring Largemouth Bass survey will be the next electrofishing event that will confirm the presence or absence of shad.

Channel Catfish Sampling

Three baited, tandem hoop nets were set for three net nights during October 2022 to assess the Channel Catfish population in Old Kingfisher Lake. One full cheese log was used per tandem set. No Channel Catfish were captured

during this sampling event. Crappie, Bluegill, bullheads, and turtles were present in most nets. Weather was relatively stable and warm, with a few sprinkles one day. Hoop net sampling will be attempted again in 2023.

Water Quality

In recent years, excessive nutrients have led to extensive algae blooms, often composed of blue-green algae during the summer. The presumed primary source of nutrient loading is the breakdown of terrestrial vegetation that grew during the renovation project. Anoxic conditions at the water-sediment interface during stratification releases a large amount of phosphorus into the water column, feeding the algae blooms. Additionally, Gizzard Shad are known detritivores who dip down and "sip" sediment, further encouraging phosphorus cycling. Multiple water samples were sent for testing to Aquatic Control. After consultation, Aquatic Control experts suggested use of two different products. During June, three different treatments were made to Old Kingfisher Lake. On 13 June, 35 gallons of SeClear was applied. On 24 June, a temperature/dissolved oxygen profile was completed and then another 30 gallons of SeClear was applied. SeClear contains a low dose of copper to kill algae and flocking agents to bind to free reactive phosphorus in the water column. The goals were to reduce the algae present, sequester some phosphorus along the way, and then apply a stronger flocking product. On 27 June, 80 PDU of EutroSORB was applied to Old Kingfisher Lake. Approximately a week after treatment water samples were sent for testing. Each treatment provided positive results but not at the intended level. However, major blue-green algae blooms did not occur in 2022. Further testing will be conducted in 2023 and additional treatments may be made using several different products. Feasibility of a bottom diffused aeration system will also be explored.

Washburn Lake

Largemouth Bass

Diurnal electrofishing to assess the Largemouth Bass population was conducted at Washburn Lake in April and October (Tables 26, 30, 71-74). Total spring CPUE (310.0 fish/hr) is slightly below the long-term average (348.0 fish/hr). The high number of 8.0- to 11.9-in fish seen in 2021 did translate to a few fish 12.0-14.9 in. Fish 12.0-20.0 in were noticeably missing once again, with no fish captured >15.0 in. PSD remains low (16) due to an abundance of fish less than stock size. In May, NWFD staff returned to Washburn to fertilize and remove bass. A total of 59 Largemouth Bass 4.0-9.9 in were relocated to a new home. Recruitment remains high, but there were no fish >12.0 in captured during the fall survey. Additional bass may need to be removed in 2023 to facilitate growth. Near the end of 2022, we confirmed the presence of a large family group of otters living in Washburn Lake. A single otter can eat over three pounds of fish per day. They may be contributing to the lack of larger bass present in the lake. We plan to employ a nuisance trapper to remove some otters during 2023. The Largemouth Bass population at Washburn needs some help. Multiple options are being explored to help the fishery (2022 Statewide Assessment Rating = Fair- to Good).

Bluegill/Redear Sunfish Sampling

The sunfish population at Washburn Lake was sampled via electrofishing in May (Tables 46, 75-79). Total CPUE for Bluegill increased from 2021 to a record high in 2022. Increases were seen for all length groups except for fish ≥8.0 in. Bluegill PSD is 19 and ideally should be a little higher (20-40). Age and growth data was not collected in 2022. The Bluegill population at Washburn Lake is performing decent and remains the only NWFD state lake to hold 8.0-in Bluegill (2022 Statewide Assessment Rating = Fair- to Good).

Total CPUE for Redear Sunfish decreased to less than half of the 2021 collection. The largest change was the four-fold decrease in Redear ≥8.0 in. This change may be attributable to the resident otters. Redear sunfish PSD is 60, which is fine, as long as Bluegill recruitment can be maintained. However, we have not collected a redear sunfish >10.0 in to date. Age and growth data was not collected in 2022. The Redear Sunfish population in Washburn Lake is performing fairly well and providing a supplemental fishery. Once the bass population stabilizes and otters are removed it should continue to improve (2022 Statewide Assessment Rating = Fair- to Good).

Lake Renovation

Washburn Lake would benefit greatly from another full renovation. Plans to dredge and deepen extensive shallow areas, create more bank fishing access, install fish habitat, lime the lake, renovate the fishery, create a headwater wetland, and replace the existing water control structure have been created. The current water control tower leaks profusely and could fail at any time, requiring plans to be in place to move forward with a renovation when necessary. The lakeshore that adjoins the county road needs to be stabilized and parking added for angler safety. This renovation will require more planning, cooperation, and financial commitment than the renovation at Mauzy due to the proximity of private landowners and county roads serving as two of the lake boundaries.

Otter Creek Angler Survey and Water Temperature Data

Otter Creek Outdoor Recreation Area provides a significant trout fishery for west central Kentucky. Over 10,000 trout are stocked annually in Otter Creek on OCORA and adjacent sections of Ft. Knox. Data on the utilization of the fishery is extremely limited. To that end, an angler survey was created for Otter Creek to gather data. Initially, the survey was printed out and provided to users checking in to fish. A mailbox was placed at the OCORA exit and checked by OCORA staff. Later, an online version of the survey was created in Survey123 and made publicly available via QR code in addition to the paper survey. The survey and results can be found in Figure 4.

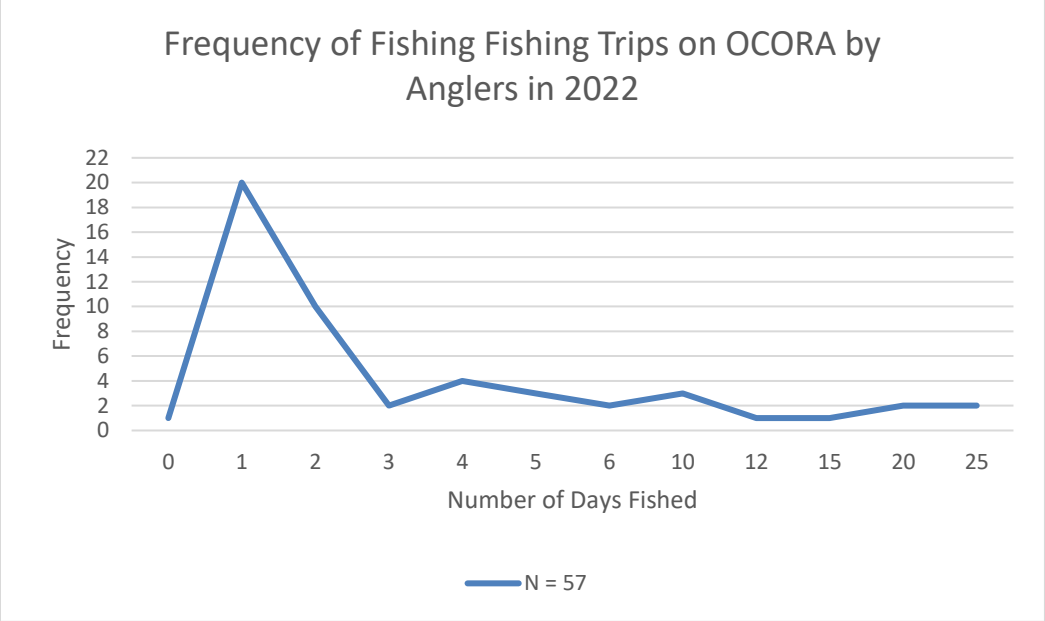
A total of 57 survey responses were obtained for 2022. Approximately 75% of respondents were Kentucky residents. The remainder hailed from Indiana, Ohio, and Maryland. The average length of fishing trip for respondents was 3.5 hours.

Approximately 81% of survey respondents targeted trout during their fishing trip. Survey respondents reported catching 482 trout or about 11 fish per trip. However, only 2.5% of trout caught were harvested. Otter Creek is mostly utilized as a catch and release fishery, which makes sense as it is closed to harvest from October through March. We also know that many of the anglers at Otter Creek are fly fishermen (72.7%), who are typically strongly catch and release oriented. Approximately 96% of respondents indicated they are satisfied or neutral regarding the fishing at OCORA. The two most selected reason for satisfaction were number and size of fish available. The survey included a map and asked anglers to indicate the general areas they fished. Most anglers are fishing in the zones that trout are being stocked or can easily move into. Trout are stocked at Garnettsville Picnic area (Zone A) where 68% of the survey respondents indicated they fish. Trout are also stocked at Blue Hole (Zone C) where 28% of the survey respondents indicated they fish. These areas (A and C) also provide the best stream access. Approximately 35% of anglers had only fished one other time and 68% of anglers had fished OCORA five or less times in 2022. Since most anglers (89.3%) indicate they are somewhat to very satisfied, low number of trips to OCORA may be dependent on other factors not directly related to the fishing. We will continue to collect data as resources allow.

2022 OTTER CREEK OUTDOOR RECREATION AREA DAILY FISHING SURVEY

Total Surveys: 57 Avg. Hours Fished: 3.5 Unique Zip Codes: 40 KY-31 (77.5%), IN-7 (17.5%), OH-1 (2.5%), MD-1 (2.5%),

How many times have you fished OCORA so far this year (2022)? Avg: 4.6



Fishing Log

Fish Targeted (N= 57):

Species Targeted	Trout	Smallmouth Bass	Rock Bass	Anything	Other (Bluegill)	Other (sucker spp)
Percentage	80.7% (N=46)	14.0% (N=8)	3.5% (N=2)	15.6% (N=9)	1.8% (N=1)	1.8% (N=1)

Total (Avg/Trip)	Trout	Smallmouth Bass	Rock Bass	Other (Specify)
Number Caught	482 (10.95)	10 (0.59)	12 (0.80)	12 (0.57)*
Number Harvested	12 (0.57)	0(0.00)	1(0.07)	1(0.07)**

*Species caught include sucker spp. and Spotted Bass

**Species harvested include catfish

Section of Otter Creek fished: (See map on back)

	A	B	C	D
Percent Utilized	68% (N=34)	18% (N=9)	28% (N=14)	2% (N=1)

Fishing Method (N=55)

Spin Fishing: 29.1% (N=16) Fly Fishing: 72.7% (N=40)

Type of fly or lure most successful

Lure Type	Number of Responses
Various Worm Flies	7
Jigs	3
Various Egg Flies	2
Spinners/Lures	4
Live Bait	1
Various Insect Flies	7

<u>Satisfaction</u> (answer Questions 1 & 2 only once per year)

1. In general, what level of satisfaction or dissatisfaction do you have with fishing at Otter Creek Outdoor Recreation Area? N=56

Very Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Very Dissatisfied
75% (N=42)	14.3% (N=8)	7.1% (N=4)	1.8% (N=1)	1.8% (N=1)

2. What is the single most important reason for your <u>Satisfaction</u> or <u>Dissatisfaction</u>? N=45

Number of Fish	Size of Fish	Size Limit	Creel Limit	Low Angler Pressure	Too Many Anglers	Harvest/Gear Restrictions
43.5% (N=20)	43.5% (N=20)	0% (N=0)	0% (N=0)	23.9% (N=11)	2.2% (N=1)	13.0% (N=6)

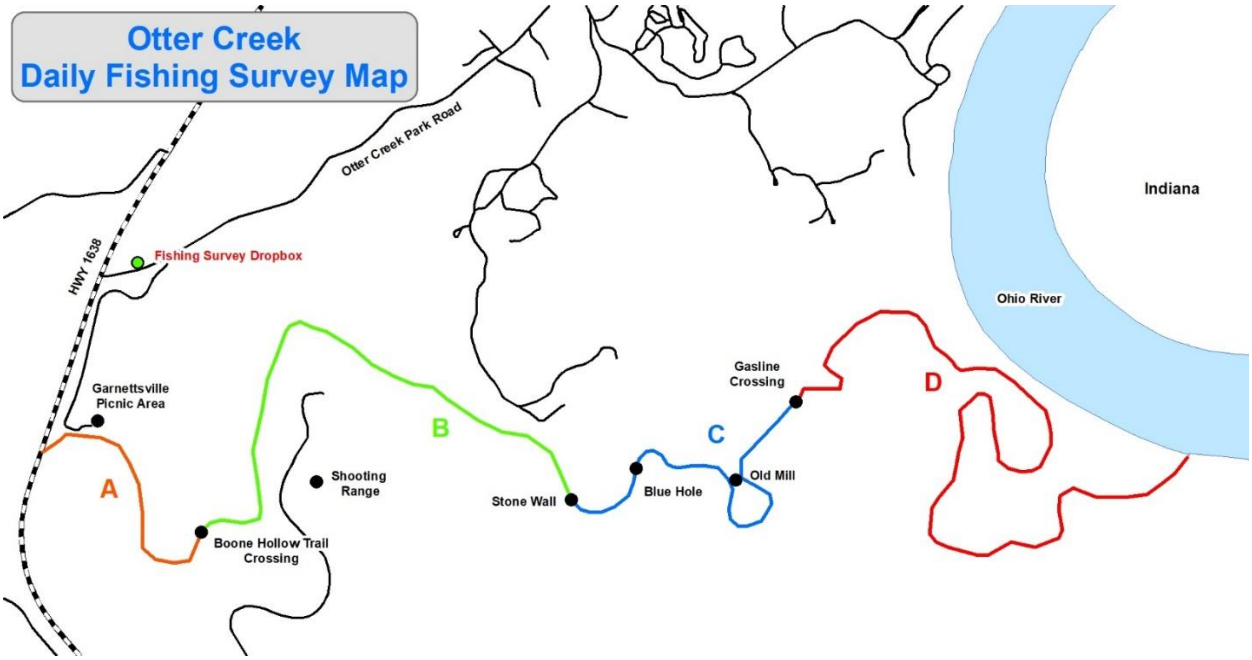


Figure 4. Otter Creek Outdoor Recreation Area Daily Fishing Survey with results. N = 57

Six HOBO Tidbit temperature loggers are in place in Otter Creek. Two are located on OCORA, one under the Highway 1638 Bridge and the other near Blue Hole. Four loggers are located on Ft. Knox. One below the dam at the Pump House, one in McCracken Spring, one near the Airstrip road crossing and the last downstream of New Cut Road crossing. Data is downloaded several times annually. Data will be analyzed to determine trout are able to hold over in most years. Additional sites will be visited during 2023 to check summer water temperatures. Follow up backpack electrofishing surveys may be conducted to determine if trout are present in locations with suitable temperatures.

Table 1. Annual summary of sampling conditions by waterbody, species sampled, and date for Northwestern Fishery District lakes during 2022.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Nolin River Lake	LMB	5/11 - 5/13	930	EF	N/A	72.9 - 78.4	515.3	60 - 96	Fair	
Nolin River Lake	LMB	10/20 - 10/21	930	EF	Sunny, light breeze, 39-55F	60.3 - 63.7	512.0 - 511.0	27 - 31	Good	
Nolin River Lake	Crappie	10/31 - 11/4	930	TN	Sunny, light breeze to cloudy w/ drizzle and very windy, 60s	59.3 - 63.3	507.5 - 506.5	18 - 30	Poor	Limited draw, pretty stable weather, few fish
Nolin River Lake	Crappie	11/14 - 11/17	930	TN	Cloudy w/ some drizzle, 35-40F	49.0 - 56.5	501.9 - 501.1	22 - 30	Poor	Limited draw, pretty stable weather, few fish
Rough River Lake	LMB	10/13, 10/19	930	EF	Sunny, breezy, 38-50F	62.6 - 68.7	494.6 - 492.7	22 - 40	Fair	
Rough River Lake	HSB	10/25 - 10/27	900	GN	Sunny to cloudy and rainy, light breeze to windy, 45-70F	58.0 - 63.9	488.5 - 486.9	18 - 36	Fair	
Lake Malone	LMB	4/26	900	EF	Mostly sunny, light breeze, 50-60F	64.4-66.2	pool	25 - 30	Good	
Lake Malone	ALL	6/8	1300	Temp/DO	N/A	82.7	pool		Good	
Lake Malone	LMB	10/11-12	900	EF	Sunny, breezy, 55-62F	65.5 - 67.1	- 8"	25 - 32	Good	
Mauzy	LMB	4/28	845	EF	Sunny, 60F	65	pool	64	Fair	
Mauzy	BG	5/23	900	EF	Cloudy, windy, 60F	73.2	pool	41	Fair	Excessive milfoil
Mauzy	LMB	10/10	900	EF	Sunny, blue skies, 50F	64.4	pool	30	Fair	M. Street netter
Carpenter	LMB	4/27	800	EF	Sunny, light breeze, 60F	65.1	pool	24	Good	
Carpenter	BG	5/16	830	EF	Sunny, 70F	77.5	pool	24	Good	
Carpenter	LMB	10/7	830	EF	Sunny, blue skies, breezy, 57F	67.1	pool	16	Fair	Captured 7 saugeye, 8.7 - 22.5"
New Kingfisher	LMB	4/27	1015	EF	Sunny, blue skies, light breeze, 68F	67.8	pool	31	Good	
New Kingfisher	BG	5/16	1215	EF	Sunny, 70F	80.6	pool	23	Good	
New Kingfisher	LMB	10/7	1045	EF	Sunny, blue skies, breezy, 60F	66.4	pool	15	Fair	
New Kingfisher	CCF	10/3-6		HN	Sunny, breezy to overcast w/ rain sprinkles, 65-70F	68.5	pool	15	Fair	
Old Kingfisher	LMB	4/27	1215	EF	Sunny, blue skies, light breeze, 70F	68.0	pool	18	Good	
Old Kingfisher	BG	5/16	1340	EF	Sunny, 70F	82	pool	23	Good	
Old Kingfisher	LMB	10/7	1140	EF	Sunny, blue skies, breezy, 60F	68.2	pool	14	Fair	
Old Kingfisher	ALL	6/24	830	Temp/DO	N/A	83.2	pool	16	Good	
Old Kingfisher	CCF	10/3-6		HN	Sunny, breezy to overcast w/ rain sprinkles, 65-70F	68.5	pool	15	Fair	
Washburn	LMB	4/20	800	EF	53F	56.5	pool	27	Good	
Washburn	BG	5/24	900	EF	Cloudy, breezy, 60F	71.8	pool	28	Good	
Washburn	LMB	10/5	900	EF	Sunny, light wind, 50F	66.2	pool	24	Good	M. Street netter
Washburn	LMB	5/9	1030	EF		68	pool	65	Good	Remved 59 LMB 3.9 - 9.9"

Table 2. Species composition, length frequency, and CPUE (fish/hr) of black bass collected during 5.0 hours of 30-minute diurnal electrofishing runs at Nolin River Lake in May 2022.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Upper	Largemouth Bass	1		5	24	46	55	45	33	74	83	67	23	20	14	7	8	4	4	2	515	206.0	28.0
	Spotted Bass			1		1	7	6	14	26	16	8	2								81	32.4	11.0
Mid	Largemouth Bass	3	1		6	13	17	6	12	29	26	43	31	16	10	6	4		1		224	112.0	13.5
	Spotted Bass	2	4	1	4	15	15	19	7	27	9	1	1								105	52.5	10.6
Lower	Largemouth Bass	1			4	5	2	1	1	5	5	8	6	1	4	2	1				46	92.0	0.0
	Spotted Bass			1	1		1	2	4	5	5		1								20	40.0	0.0
Total	Largemouth Bass	5	1	5	34	64	74	52	46	108	114	118	60	37	28	15	13	4	5	2	785	157.0	21.7
	Spotted Bass	2	4	3	5	16	23	27	25	58	30	9	4								206	41.2	7.2

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Table 3. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples in each area of Nolin River Lake during May 2022; 95% confidence intervals are in parentheses.

Area	Species	≥ Stock size[a]	PSD	RSD[b]
Upper	Largemouth Bass	439	53 (± 5)	13 (± 3)
	Spotted Bass	80	65 (± 11)	3 (± 3)
Mid	Largemouth Bass	201	68 (± 7)	18 (± 5)
	Spotted Bass	94	40 (± 10)	1 (± 2)
Lower	Largemouth Bass	36	75 (± 14)	22 (± 14)
	Spotted Bass	18	61 (± 13)	6 (± 10)
Total	Largemouth Bass	676	59 (± 4)	15 (± 3)
	Spotted Bass	192	53 (± 7)	2 (± 2)

[a] Largemouth Bass = 8.0 in, Spotted Bass = 7.0 in

[b] Largemouth Bass = RSD_{15}, Spotted Bass = RSD_{14}

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Table 4. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Nolin River Lake during spring electrofishing 1999-2022.

	Length group											
	< 8.0 in		8.0-11.9 in		12.0-14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	21.8	4.1	56.0	10.3	58.4	7.8	20.8	3.5	1.4	0.8	157.0	21.7
2021	37.8	4.2	24.2	3.4	46.3	4.6	33.7	1.8	2.3	0.6	142.0	7.9
2017	36.2	8.8	46.2	8.0	60.6	4.0	21.0	2.3	1.6	0.4	164.0	17.4
2016	19.6	5.3	23.8	6.0	37.1	6.6	12.0	2.6	1.6	0.6	92.4	14.0
2014	21.4	2.3	29.2	2.5	64.0	5.4	15.0	1.7	1.4	0.6	129.6	6.9
2012	76.9	9.6	52.7	6.4	53.8	4.7	16.0	2.1	0.2	0.2	199.3	14.8
2009	30.0	5.7	25.1	4.3	36.0	3.6	5.3	1.1	0.7	0.3	96.4	7.1
2008	50.4	7.9	45.8	5.4	34.2	4.3	11.3	1.6	3.6	1.0	141.8	11.2
2007	53.3	10.0	17.3	2.2	27.6	4.9	8.2	1.3	0.7	0.5	106.4	14.2
2006	17.8	2.8	15.8	1.5	23.6	2.7	7.6	1.5	0.4	0.4	64.7	5.7
2005	27.1	5.0	27.1	4.1	25.3	3.9	14.2	2.3	0.4	0.3	93.8	10.1
2004	23.7	1.6	16.4	3.7	16.2	2.4	8.9	2.6	0.4	0.3	65.3	6.8
2003	12.9	3.7	10.2	2.3	8.9	2.2	7.6	2.0	0.0		39.6	9.2
2002	4.0	1.3	9.8	2.6	8.0	3.1	8.0	1.6	0.0		29.8	5.4
2001	5.5	1.7	27.0	7.4	18.0	3.3	9.0	2.8	0.0		59.5	11.7
2000	9.5	3.1	35.0	6.3	41.5	5.1	14.0	4.3	0.5	0.5	100.0	13.1
1999	n/d		61.3	16.8	56.9	9.2	8.0	1.8	0.4	0.4	126.2	26.0

nwd1psd.d22

Table 5. Species composition, length frequency, and CPUE (fish/hr) of black bass collected during 4.0 hours of 30-minute diurnal electrofishing runs at Nolin River Lake in October 2022.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Upper	Largemouth Bass	13	54	5	4	6	10	5	5	14	10	11	17	15	8	5	5	2	1			190	95.0	35.4
	Spotted Bass	16	23	6	2	3	4	3	2	4	3	4	2									72	36.0	19.2
Mid	Largemouth Bass	1	4	2	5	9	6	6	7	5	7	5	18	13	6	9	4	4	2	3	1	117	58.5	9.0
	Spotted Bass	12	27	13	16	16	11	11	5	25	26	30	23									215	107.5	18.5
Total	Largemouth Bass	14	58	7	9	15	16	11	12	19	17	16	35	28	14	14	9	6	3	3	1	307	76.8	18.3
	Spotted Bass	28	50	19	18	19	15	14	7	29	29	34	25									287	71.8	18.3

nwd1lmb.d22

Table 6. Number of fish and mean relative weight (W_r) for length groups of Largemouth Bass collected at Nolin River Lake during October 2022. Standard errors are in parentheses.

		Length group					
Species	Area	8.0-11.9 in		12.0-14.9 in		≥ 15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Upper	34	87 (1)	43	88 (1)	21	89 (2)
Largemouth Bass	Middle	25	89 (3)	36	86 (2)	29	95 (2)
Largemouth Bass	Total	59	88 (2)	79	87 (1)	50	93 (1)

nwd1lmb.d22

Table 7. Indicies of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected during fall electrofishing samples at Nolin River Lake.

		Age 0		Age 0		Age 0 ≥ 5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	4.4	0.2	29.0	11.0	9.3	1.4		
2021	Total							36.6	6.6
2020	Total							46.3	5.4

nwd1lmb.d22
nwd1psd.d22
nwd1psd.d21

Table 8. Population assessment for Largemouth Bass based on spring electrofishing at Nolin River Lake from 2000-2022 (scoring based on statewide assessment).

Year	Mean length age 2+ at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022		36.6 (3)	58.4 (4)	20.8 (4)	1.4 (4)			≥ 16	G - E
2021		46.3 (4)	46.3 (4)	33.7 (4)	2.3 (4)			> 17	Excellent
2017	12.9 (3)	58.8 (4)	60.6 (4)	21.0 (4)	1.6 (4)	0.968	58.7	19	Excellent
2016		23.1 (3)	37.1 (4)	12.0 (2)	1.6 (4)			> 14	G - E
2014		22.2 (2)	64.0 (4)	15.0 (3)	1.4 (4)			> 14	G - E
2012	13.4 (4)	82.9 (4)	53.8 (4)	16.0 (3)	0.2 (2)	0.582	44.1	17	Excellent
2009	12.6 (3)	29.2 (3)	36.0 (4)	5.3 (1)	0.7 (3)			14	Good
2008	12.6 (3)	49.7 (4)	34.2 (4)	11.3 (2)	3.6 (4)	0.553	42.5	17	Excellent
2007	12.6 (3)	51.6 (4)	27.6 (3)	8.2 (2)	0.7 (3)	0.609	45.0	15	Good
2006	12.6 (3)	17.0 (2)	23.6 (3)	7.6 (2)	0.4 (2)	0.447	36.0	12	Fair
2005	13.1 (3)	26.2 (3)	25.3 (3)	14.2 (3)	0.2 (2)	0.617	46.0	14	Good
2004	13.1 (3)	22.9 (3)	16.2 (1)	8.9 (2)	0.4 (2)	0.684	49.5	11	Fair
2003	13.1 (3)	11.3 (1)	8.9 (1)	7.6 (2)	0.0 (1)	0.534	41.4	8	Poor
2002	13.1 (3)	3.8 (1)	8.0 (1)	8.0 (2)	0.0 (1)			8	Poor
2001	13.1 (3)	5.0 (1)	18.0 (2)	9.0 (2)	0.0 (1)			9	Fair
2000	13.1 (3)	9.0 (1)	41.4 (4)	14.0 (3)	0.5 (3)			14	Good

Table 9. Species composition, length frequency, and CPUE (fish/nn) for crappie collected in 119 net-nights of sampling at Nolin River Lake during November 2022.

	Inch class														
Species	2	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	SE
White Crappie	7	12					17	20	41	44	10	1	152	1.3	0.3
Black Crappie						10	65	12	13	8			108	0.9	0.2

nwd1tn.d22

Table 10. PSD and RSD_{10} values calculated for crappie collected in trap nets from Nolin River Lake during November 2022; 95% confidence limits are in parentheses.

Species	≥ Stock size	PSD	RSD_{10}
White Crappie	133	100 (± 0)	72 (± 8)
Black Crappie	108	91 (± 5)	19 (± 7)

nwd1tn.d22

Table 11. Number of fish and mean relative weight (W_r) for each length group of crappie collected at Nolin River Lake during November 2022. Standard errors are in parentheses.

	Length group					
	5.0 - 7.9 in		8.0 - 9.9 in		≥ 10.0 in	
Species	No.	W_r	No.	W_r	No.	W_r
White Crappie	-	-	37	103 (2)	96	92 (1)
Black Crappie	10	106 (4)	72	110 (1)	21	99 (1)

nwd1tn.d22

Table 12. Mean back calculated lengths (in) at each annulus for White Crappie collected at Nolin River Lake in November 2022.

Year		Age					
class	No.	1	2	3	4	5	6
2021	23	4.1					
2020	6	5.1	9.1				
2019	16	4.7	7.9	9.9			
2018	9	4.0	6.7	9.0	10.6		
2017	2	2.1	4.9	7.2	8.8	10.3	
2016	1	2.4	4.4	5.5	6.5	7.5	8.7
Mean		4.3	7.5	9.3	10.0	9.3	8.7
No.		57	34	28	12	3	1
Smallest		1.9	4.4	5.5	6.5	7.5	8.7
Largest		6.6	9.8	11.6	12.4	11.0	8.7
Std error		0.1	0.3	0.3	0.5	1.0	
95% CI (±)		0.3	0.6	0.5	0.9	2.1	

nwd1wca.d22

Table 13. Age-frequency and CPUE (fish/nn) per inch class of White Crappie trap netted for 119 net-nights at Nolin River Lake in October-November 2022.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	13	Total	%	CPUE	SE
0	7	12											19	13.0	0.2	0.1
1							17	18					35	24.0	0.3	0.1
2									3	13	2		18	12.0	0.2	<0.1
3								2	23	21	3		49	33.0	0.5	0.1
4									7	8	4	1	20	13.0	0.2	<0.1
5									3		1		4	3.0	<0.1	<0.1
6									3				3	2.0	<0.1	0.1
Total	7	12	0	0	0	0	17	20	39	42	10	1	148			
(%)	5.0	8.0	0.0	0.0	0.0	0.0	11.0	13.0	27.0	28.0	7.0	1.0		100.0		

nwd1tn.d22, nwd1wca.d22

Table 14. Population assessment for White Crappie based on fall trap net sampling at Nolin River Lake from 2001-2022 (scoring based on statewide assessment).

Year	CPUE (excluding age 0)	CPUE age 1	CPUE age 0	CPUE ≥ 8.0 in	Mean length age 2+ at capture	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022*	1.3 (1)	0.3 (1)	0.2 (1)	1.1 (1)	11.4 (4)	0.047	4.6	8	Poor*
2019	9.7 (3)	9.3 (4)	2.0 (3)	3.5 (3)	10.9 (4)	2.600	92.6	17	Excellent
2018*	1.6	0.2	36.4	1.6	10.7				
2017									
2016	5.6 (2)	2.6 (2)	5.6 (4)	3.3 (3)	10.7 (4)	1.112	67.1	15	Good
2015									
2014	14.0 (3)	9.5 (4)	1.5 (2)	10.4 (4)	10.2 (3)	1.140	68.2	16	Good
2013									
2012	6.7 (3)	4.5 (3)	1.1 (2)	3.2 (2)	10.1 (3)	1.112	67.1	13	Good
2011	5.7 (2)	4.4 (3)	1.6 (3)	3.5 (3)	10.9 (4)	1.274	72.3	15	Good
2010	6.7 (3)			6.0 (4)					
2009	14.1 (3)	11.7 (4)	1.2 (2)	8.9 (4)	10.4 (4)	1.638	80.6	17	Excellent
2008	6.0 (2)	3.5 (3)	2.4 (3)	4.8 (3)	10.4 (4)	0.976	62.3	15	Good
2007	7.4 (3)	3.7 (3)	0.4 (1)	6.1 (4)	10.4 (4)	0.882	58.6	15	Good
2006	5.9 (2)	3.2 (2)	2.0 (3)	4.4 (3)	9.7 (3)	0.876	58.3	13	Good
2005	8.8 (3)	3.6 (3)	1.4 (2)	7.4 (4)	9.7 (3)	0.749	52.7	15	Good
2004	8.6 (3)	4.2 (3)	5.1 (4)	6.9 (4)	9.7 (3)	0.630	46.7	17	Excellent
2003	13.2 (3)	8.0 (4)	2.0 (3)	8.7 (4)	9.8 (3)	1.107	66.9	17	Excellent
2002	12.0 (3)	10.0 (4)	4.3 (4)	8.8 (4)	9.5 (2)	1.571	79.2	17	Excellent
2001	10.2 (3)	4.8 (3)	2.6 (3)	3.9 (3)	9.1 (2)	0.910	59.7	14	Good

*Poor sampling conditions/few fish captured/incomplete data

Table 15. Species composition, length frequency, and CPUE (fish/hr) of black bass collected in 4.0 hrs of electrofishing at Rough River Lake during October 2022.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
North Fork	Largemouth Bass	12	171	49	19	21	21	14	45	32	25	54	31	22	12	7	6	3		1		545	272.5	33.5
	Spotted Bass	1	12	2		1		4	6	6	5	8	3	1	1							50	25.0	10.3
South Fork	Largemouth Bass	10	58	72	45	26	26	25	24	43	50	43	34	26	12	5	7	5	2	1	1	515	257.5	78.9
	Spotted Bass	6	12	16	5	5	5	1	2	1	1	4	1	1								60	30.0	17.3
Total	Largemouth Bass	22	229	121	64	47	47	39	69	75	75	97	65	48	24	12	13	8	2	2	1	1060	265.0	39.8
	Spotted Bass	7	24	18	5	6	5	5	8	7	6	12	4	2	1							110	27.5	9.4

nwd2lmb.d22

Table 16. Number of fish and mean relative weight (W_r) for length groups of Largemouth Bass collected at Rough River Lake during October 2022. Standard errors are in parentheses.

		Length group					
Species	Area	8.0-11.9 in		12.0-14.9 in		≥ 15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	North Fork	112	87 (1)	107	88 (1)	29	92 (2)
Largemouth Bass	South Fork	142	89 (1)	103	87 (1)	33	92 (1)
Largemouth Bass	Total	254	88 (1)	210	88 (1)	62	92 (1)

nwd2lmb.d22

Table 17. Indicies of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected during fall electrofishing samples at Rough River Lake.

		Age 0		Age 0		Age 0 ≥ 5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	4.4	0.1	130.8	24.5	37.8	9.0		

nwd2lmb.d22

Table 18. Length frequency and CPUE (fish/nn) for hybrid striped bass collected in 7 net-nights of sampling at Rough River Lake during October 2022. Previous data included for reference.

		Inch class																					
Species	Year	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	CPUE	SE
Hybrid striped bass	2022	21	37	6	1			8	54	67	3	15	15	10	3	3	1		1		245	35.0	8.0
	2020	27	52	8				10	45	56	20	67	63	33	10	9	3	2			405	36.8	4.7
	2019	8	40	114	78	5		2	14	32	34	45	21	12	4	6		5	3		423	30.2	7.1
	2018	8	38	69	39	11	1	43	132	117	19	10	16	6	3	6	1			1	520	52.0	11.9
	2017	17	35	35	80	22			2	34	61	16	25	31	12	13	5	3			391	32.6	3.8
	2016		6	10	11	4	1	2	5	18	11	20	20	17	23	10	3	1	3		165	27.5	13.5

nwd2gn.d22

Table 19. Number of fish and mean relative weight (W_r) for each length group of hybrid striped bass collected at Rough River Lake during fall samples 2006 - 2022. Standard errors are in parentheses.

	Length group					
	8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in	
Year	No.	W_r	No.	W_r	No.	W_r
2022	44	88 (3)	62	85 (1)	118	84 (1)
2020	60	87 (1)	55	87 (1)	263	83 (1)
2019	225	95 (1)	16	87 (1)	162	83 (1)
2018	156	93 (1)	176	87 (1)	179	86 (1)
2017	172	93 (1)	2	88 (5)	201	86 (1)
2016	31	90 (2)	8	86 (7)	126	81 (1)
2014	56	95 (1)	51	88 (1)	142	82 (1)
2012	3	88 (2)	70	81 (1)	170	82 (1)
2010	14	83 (2)	124	90 (6)	223	83 (1)
2008	38	91 (1)	51	78 (1)	149	85 (4)
2006	21	96 (2)	65	89 (1)	108	81 (1)

nwd2gn.d22

Table 20. Mean back calculated lengths (in) at each annulus for hybrid striped bass collected at Rough River Lake in October 2022.

		Age						
Year class	No.	1	2	3	4	5	6	7
2021	78	10						
2020	10	9.3	15.2					
2019	18	11.2	15.6	17.7				
2018	8	10.9	16.3	18.0	19.1			
2017	4	10.4	15.9	17.9	18.9	19.8		
2015	1	12.6	17.4	19.4	20.6	21.4	22.6	23.1
Mean		10.2	15.7	17.9	19.1	20.1	22.6	23.1
No.		119	41	31	13	5	1	1
Smallest		6.9	14.1	16.0	16.7	17.9	22.6	23.1
Largest		13.0	17.4	19.4	20.8	21.4	22.6	23.1
SE		0.1	0.1	0.2	0.3	0.6		
95% CI (±)		0.3	0.3	0.3	0.7	1.2		

nwd2hsba.d22

Table 21. Age-frequency and CPUE (fish/nn) per inch class of hybrid striped bass collected in 7 net-nights of sampling at Rough River Lake during October 2022.

	Inch class																					
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	%	CPUE	SE
0	21	37	6	1															65	26.5	9.3	2.9
1							8	54	67										129	52.7	18.4	4.4
2										3	8								11	4.5	1.6	0.7
3											6	12	7						25	10.2	3.6	0.8
4											1	1	3	2	2				9	3.7	1.3	0.4
5												2		1	1	1			5	2.0	0.7	0.2
6																			0	0.0	0.0	0.0
7																		1	1	0.4	0.1	0.1
Total	21	37	6	1	0	0	8	54	67	3	15	15	10	3	3	1	0	1	245			
(%)	8.6	15.1	2.4	0.4	0.0	0.0	3.3	22.0	27.3	1.2	6.1	6.1	4.1	1.2	1.2	0.4	0.0	0.4		100.0		

nwd2gn.d22, nwd2hsba.d22

Table 22. Population assessment for hybrid striped bass based on fall gill net sampling at Rough River Lake from 1999-2022 (scoring based on statewide assessment).

Year	CPUE (excluding age 0)	Mean length age 2+ at capture	CPUE ≥ 15.0 in	CPUE age 1	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022	25.7 (4)	17.2 (2)	16.9 (4)	18.4 (4)	0.529	41.1	14	Excellent
2020	28.9 (4)	17.7 (3)	23.9 (4)	29.1 (4)	0.603	45.3	15	Excellent
2019	12.7 (3)	17.2 (2)	11.6 (3)	3.2 (2)	0.882	58.6	10	Good
2018	35.5 (4)	18.2 (3)	17.9 (4)	31.1 (4)	1.660	81.0	15	Excellent
2017	16.8 (3)	18.5 (3)	16.7 (4)	8.2 (4)	0.616	46.0	14	Excellent
2016	22.3 (3)	17.6 (3)	21.0 (4)	4.8 (3)	0.525	40.8	13	Good
2014	43.8 (4)	16.8 (2)	32.6 (4)	14.2 (4)	0.453	36.4	14	Excellent
2012	35.1 (4)	16.7 (2)	25.1 (4)	11.6 (4)	0.704	50.5	14	Excellent
2010	60.2 (4)	16.8 (2)	34.5 (4)	28.9 (4)	0.528	41.0	14	Excellent
2008	25.1 (4)	16.3 (1)	19.3 (4)	6.3 (3)	0.544	42.0	12	Good
2006	23.7 (4)	16.9 (2)	14.5 (4)	8.9 (4)	0.447	36.0	14	Excellent
2003	33.9 (4)	16.5 (2)	30.9 (4)	3.1 (2)	0.679	49.3	12	Good
2001	29.9 (4)	15.9 (1)	16.8 (4)	13.1 (4)	0.630	46.8	13	Good
1999	26.4 (4)	16.5 (2)	18.5 (4)	8.1 (4)	0.987	62.7	14	Excellent

Table 23. Species composition, length frequency, and CPUE (fish/nn) for catfish collected in 7 net-nights of gill net sampling at Rough River Lake during October 2022.

	Inch class																					
Species	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	CPUE	SE
Channel Catfish	2	1	2		4	6	10	8	12	5	7	2	4	5	9	1	3	3	2	86	12.3	3.71
Flathead Catfish											3				1	2			1	7	1.0	0.38

nwd2gn.d22

Table 24. Number of fish and mean relative weight (W_r) for each length group of Channel Catfish collected at Rough River Lake during samples 2006 - 2022. Standard errors are in parentheses.

	Length group					
	11.0 - 15.9 in		16.0 - 23.9 in		≥ 24.0 in	
Year	No.	W_r	No.	W_r	No.	W_r
2022	13	77 (2)	53	78 (1)	18	88 (3)
2020	18	80 (2)	37	91 (5)	4	95 (8)
2019	9	87 (4)	66	88 (1)	8	92 (3)
2018	4	78 (4)	64	85 (1)	6	94 (5)
2017	12	83 (3)	41	90 (1)	2	103 (3)
2016	8	86 (3)	104	95 (1)	13	93 (2)
2014	4	79 (1)	12	91 (3)	3	75 (3)
2012	2	82 (1)	1	88 (0)	2	93 (7)
2010	14	76 (1)	19	79 (2)	14	86 (3)
2008	15	82 (1)	31	87 (2)	2	94 (6)
2006	18	89 (2)	23	96 (1)	0	-

nwd2gn.d22

Table 25. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 2.5 hours of 30-minute diurnal electrofishing runs at Lake Malone in April 2022.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	7	7	8	5	16	17	25	31	31	25	37	32	36	36	28	14	13	13	5	386	154.4	18.1

nwd3psd.d22

Table 26. PSD and RSD_{15} values obtained for Largemouth Bass collected in spring electrofishing samples at NWFD state-owned lakes 2021-2022; 95% confidence intervals are in parentheses.

Lake	Species	Year	≥ Stock size	PSD	RSD_{15}
Malone	Largemouth Bass	2022	343	70 (± 5)	42 (± 5)
		2021	339	69 (± 5)	33 (± 5)
Mauzy	Largemouth Bass	2022	147	42 (± 8)	1 (± 2)
		2021	145	15 (± 6)	1 (± 2)
Carpenter	Largemouth Bass	2022	117	74 (± 8)	40 (± 9)
		2021	103	51 (± 9)	37 (± 9)
New Kingfisher	Largemouth Bass	2022	85	52 (± 11)	29 (± 10)
		2021	50	44 (± 14)	36 (± 13)
Old Kingfisher	Largemouth Bass	2022	25	48 (± 20)	32 (± 19)
		2021	29	28 (± 17)	14 (± 13)
Washburn	Largemouth Bass	2022	63	16 (± 9)	-
		2021	102	7 (± 2)	5 (± 4)

nwd3psd.d22	nwd3psd.d21
nwd4psd.d22	nwd4psd.d21
nwd5psd.d25	nwd5psd.d21
nwd6psd.d22	nwd6psd.d21
nwd7psd.d22	nwd7psd.d21
nwd8psd.d22	nwd8psd.d21

Table 27. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Lake Malone 1999-2022.

	Length group											
	< 8.0 in		8.0-11.9 in		12.0-14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	17.2	4.5	41.6	7.1	37.6	4.8	58.0	7.9	7.2	1.7	154.4	18.1
2021	12.8	2.3	42.0	11.7	49.2	4.8	44.4	2.6	2.0	1.1	148.4	16.3
2018	5.6	1.7	37.6	7.2	60.4	7.2	59.2	7.8	10.8	2.6	162.8	17.8
2017	14.0	3.2	32.0	6.8	44.8	8.1	37.2	9.2	5.6	1.3	128.0	16.8
2015	18.8	2.7	81.6	7.7	60.8	5.3	42.8	7.2	8.4	1.2	204.0	17.2
2014	9.6	1.3	44.4	9.6	23.2	4.6	29.8	3.3	5.0	0.6	107.0	16.7
2012	46.4	18.4	123.6	18.1	48.8	10.9	48.8	10.3	2.8	1.0	267.6	44.5
2011	45.6	10.3	56.0	7.3	35.2	7.7	34.4	6.8	4.0	1.1	171.2	26.8
2010	37.2	8.8	49.6	5.0	49.6	5.4	62.0	7.1	3.6	1.6	198.4	16.3
2009	10.0	1.4	29.6	4.4	51.2	7.6	37.2	3.6	5.6	0.4	128.0	11.7
2008	18.8	6.5	78.8	6.6	77.2	5.0	43.6	8.1	6.4	1.5	218.4	12.4
2007	29.2	4.0	80.4	10.4	30.8	2.0	37.6	10.3	3.6	1.3	178.0	17.8
2006	31.6	3.7	81.6	14.3	22.4	2.1	28.0	5.9	5.2	1.6	163.6	19.8
2005	32.4	4.8	69.2	14.3	32.0	8.7	53.6	5.7	8.4	1.2	187.2	30.1
2004	28.4	3.9	53.6	5.7	26.4	4.2	53.2	3.9	6.0	1.6	161.6	12.8
2003	57.0	3.3	76.5	6.8	35.0	5.0	57.5	4.9	9.5	2.8	226.0	12.1
2002[a]	8.6	3.3	43.4	5.0	43.4	8.5	41.7	7.6	8.0	3.0	137.1	17.5
2001[a]	18.0	8.1	66.0	12.0	50.0	8.0	31.3	6.3	0.7	0.7	165.3	15.6
2000[a]	13.3	3.4	46.0	4.2	51.3	7.8	24.0	4.0	2.0	0.9	134.7	14.5
1999[a]	n/d		48.7	9.8	61.3	7.0	23.3	4.9	2.7	1.3	133.3	12.7

[a] Nocturnal sample

nwd3psd.d22

Table 28. Population assessment for Largemouth Bass based on spring electrofishing at Lake Malone from 2001-2022 (scoring based on statewide assessment).

Year	Mean length age-3 at capture	CPUE age 1	CPUE 12.0 - 14.9 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022		11.6 (2)	37.6 (3)	58.0 (4)	7.2 (4)			≥ 14	G - E
2021	12.8 (4)*	9.6 (2)	49.2 (4)	44.4 (4)	2.0 (3)	0.398	32.8	17	Excellent
2018		5.6 (1)	60.4 (4)	59.2 (4)	10.8 (4)			≥ 14	G - E
2017		12.8 (2)	44.8 (4)	37.2 (4)	5.6 (4)			≥ 15	G - E
2015	11.4 (3)*	10.3 (2)	60.8 (4)	42.8 (4)	8.4 (4)			≥ 16	G - E
2014		7.8 (2)	23.2 (2)	29.8 (4)	5.0 (4)			≥ 13	F - G
2012		31.2 (3)	48.8 (4)	48.8 (4)	2.8 (3)			≥ 15	G - E
2011		41.2 (3)	35.2 (3)	34.4 (4)	4.0 (4)			≥ 15	G - E
2010	10.4 (2)	15.1 (2)	49.6 (4)	62.0 (4)	3.6 (3)	0.397	32.7	15	Good
2009	10.3 (2)	8.8 (2)	51.2 (4)	37.2 (4)	5.6 (4)	0.293	25.4	16	Good
2008	10.3 (2)	16.4 (2)	77.2 (4)	43.6 (4)	6.4 (4)	0.357	30.0	16	Good
2007	10.3 (2)	29.2 (3)	30.8 (3)	37.6 (4)	3.6 (3)	0.330	28.1	15	Good
2006	11.5 (4)	20.2 (2)	22.4 (2)	28.0 (4)	5.2 (4)	0.526	40.9	16	Good
2005	11.5 (4)	19.0 (2)	32.0 (3)	53.6 (4)	8.4 (4)	0.387	32.0	17	Excellent
2004	11.5 (4)	19.0 (2)	26.4 (3)	53.2 (4)	6.0 (4)	0.365	31.1	17	Excellent
2003	11.5 (4)	35.0 (3)	35.0 (3)	48.0 (4)	8.5 (4)	0.416	34.1	18	Excellent
2002	11.5 (4)	6.0 (1)	43.4 (3)	41.7 (4)	8.0 (4)			16	Good
2001	12.9 (4)	14.0 (2)	50.0 (4)	31.3 (4)	0.7 (2)			16	Good

*Using excel back calc tool

Table 29. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 2.5 hours of 30-minute diurnal electrofishing runs at Lake Malone in October 2022.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	18	79	64	25	36	57	33	36	37	29	22	17	18	16	9	4	6	1	2	509	203.6	28.0

nwd3lmb.d22

Table 30. Number of fish and mean relative weight (W_r) for length groups of Largemouth Bass collected in fall electrofishing samples at NWFD state-owned lakes during 2021-2022; 95% confidence intervals are in parentheses.

Lake	Year	Length group					
		8.0-11.9 in		12.0-14.9 in		≥ 15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Malone	2022	162	86 (1)	68	88 (2)	56	87 (1)
	2021	108	87 (1)	80	87 (1)	68	90 (1)
Mauzy	2022	43	86 (1)	35	88 (1)	5	92 (2)
	2021	55	84 (1)	21	85 (1)	1	88 (-)
Carpenter	2022	40	89 (1)	15	89 (2)	29	96 (2)
	2021	49	86 (1)	33	88 (1)	42	94 (1)
New Kingfisher	2022	34	92 (1)	25	89 (1)	10	101 (3)
	2021	26	88 (1)	14	92 (2)	19	97 (2)
Old Kingfisher	2022	35	92 (2)	9	95 (2)	4	93 (12)
	2021	10	88 (2)	1	85 (-)	1	109 (-)
Washburn	2022	35	85 (3)	-	-	1	96 (-)
	2021	58	80 (1)	4	91 (4)	-	-

nwd3lmb.d22 /wd3lmb.d21
nwd4lmb.d22 /wd4lmb.d21
nwd5lmb.d22 /wd5lmb.d21
nwd6lmb.d22 /wd6lmb.d21
nwd7lmb.d22 /wd7lmb.d21
nwd8lmb.d22 /wd8lmb.d21

Table 31. Indicies of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected during fall electrofishing samples at Lake Malone.

		Age 0		Age 0		Age 0 ≥ 5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	5.0	0.1	74.4	13.2	35.6	5.2		
2021	Total							11.6	2.9
2020	Total							9.6	2.2

nwd3lmb.22
nwd3psd.d22
nwd3psd.d21

Table 32. Fishery statistics derived from a roving creel survey at Lake Malone (767 a) during 01 April - 31 October 2022, 18 April - 31 October 2011, and 16 March - 30 October 2006.

Fishing trips	2022		2011		2006	
No. of fishing trips (per acre)	15,136	(18.32)	13,439	(16.27)	18,116	(21.93)
Fishing pressure						
Total man-hours (SE)[a]	46,490	(925.86)	64,130	(1,390.95)	80,141	(1,113)
Man-hours/acre	56.28		77.6		97.02	
Catch/harvest						
No. of fish caught (SE)	74,461	(7,397.82)	70,121	(5,258.62)	109,937	(6,388)
No. of fish harvested (SE)	26,839	(3,186.16)	35,838	(3,506.41)	57,801	(4,073)
Lbs. of fish harvested	8,285		16,984		20,674	
Harvest rates						
Fish/hour	0.61		0.53		0.73	
Lb/hour	0.4		0.33			
Fish/acre	32.49		43.39		69.98	
Lb/acre	10.03		20.56		25.03	
Catch rates						
Fish/hour	1.67		1.07		1.38	
Fish/acre	90.15		84.49		133.1	
Miscellaneous characteristics (%)						
Male	87.2%		86.3%		81.6%	
Female	12.8%		13.7%		18.5%	
Resident	89.5%		95.6%		95.3%	
Non-resident	10.5%		4.4%		4.7%	
Method (%)						
Still fishing	30.2%		48.2%		57.8%	
Casting	67.7%		49.3%		41.4%	
Fly fishing	0.1%		0.6%		0.3%	
Trolling	0.6%		0.6%		0.4%	
Trotline	1.0%		0.4%			
Jugging	0.4%		0.4%			
Spider Rig			0.4%			
Mode (%)						
Boat	89.6%		87.1%		85.2%	
Bank	4.4%		6.7%		6.4%	
Dock	3.8%		6.2%		8.4%	
Kayak	2.1%					

t < 0.5%

[a]SE = standard error

Table 33. Fish harvest statistics derived from a roving creel survey at Lake Malone (767 a) during 01 April - 31 October 2022.

	Bullhead	Channel Catfish	Green Sunfish	Longear Sunfish	Warmouth	Redear Sunfish	Bluegill	Largemouth bass	White Crappie	Black Crappie	Black bass Group	Catfish Group	Panfish Group	Crappie Group	Anything Group
No. caught	122	979	38	11	72	491	36,745	18,675	10,530	6,710	18,675	1,102	37,427	17,239	
(per acre)	0	1	0	0	0	1	44	23	13	8	23	1	45	21	
No. harvested	11	770		11	12	441	16,390	808	5,050	3,334	808	781	16,865	8,385	
(per acre)	0	1		0	0	1	20	1	6	4	1	1	20	10	
% of total no. harvested	0.04	2.87		0.04	0.04	1.64	61.07	3.01	18.82	12.42	3.01	2.91	62.84	31.24	
Lb harvested	12.40	1,296.70		2.10	1.80	242.50	2,921.10	736.20	1,711.10	1,357.60	736.20	1,309.10	3,171.40	3,068.70	
(per acre)	0.02	1.57		0.00	0.00	0.29	3.54	0.89	2.07	1.64	0.89	1.58	3.84	3.72	
% of total lb harvested	0.15	15.65		0.03	0.02	2.93	35.26	8.89	20.65	16.39	8.89	15.80	38.28	37.04	
Mean length (in)	15.00	17.76		7.00	6.00	8.06	6.13	12.33	9.23	9.07					
Mean weight (lb)	1.10	1.82		0.19	0.15	0.39	0.15	1.00	0.35	0.38					
No. of fishing trips for that species											8,566	422	2,366	1,890	1,892
% of all trips											56.59	2.79	15.63	12.48.50	12.50
Hours fished for that species											26,310.24	1,296.15	7,267.36	5,804.25	5,811.81
(per acre)											31.85	1.57	8.80	7.03	7.04
No. harvested fishing for that species											690	546	15,534	7,886	
Lb harvested fishing for that species											628.80	992.60	2,950.10	2,882.40	
No./hour harvested fishing for that species											0.03	0.45	2.48	1.14	
% success fishing for that species											2.23	34.62	61.35	56.41	17.70

Table 34. Length distribution for each species of fish harvested or released at Lake Malone (767 a) during 01 April - 31 October 2022.

	Inch class																								
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	26	30
Bluegill																									
Harvested			208	907	6,926	6,509	1,569	270																	
Released		289	9,122	7,703	2,287	741	213																		
Redear																									
Harvested					12		61	257	49		62														
Released				37		12																			
Largemouth Bass																									
Harvested								13	385	192				51	103	26	26	11							
Released							1,430	281	2,673	2,713	3,261	3,074	1,684	895	842	254	561	67	80	27	13	12			
White Crappie																									
Harvested					44	117	910	2,628	866	323	147	15													
Released				774	2,978	1,251	462		14																
Black Crappie																									
Harvested					14	184	795	1,107	922	184	114		14												
Released				1,614	1,199	444	118																		
Channel catfish																									
Harvested											40	106	40	80	66	40	172	93	40	13	13		40	13	13
Released					13	13	39		79			13	26				13			13					
Bullhead																									
Harvested														11											
Released							37		49		25														
Green sunfish																									
Harvested																									
Released			37																						
Longear sunfish																									
Harvested																									
Released						11																			
Warmouth																									
Harvested					12																				
Released			30		29																				

Table 35. Monthly black bass angling success at Lake Malone (767 a) during the 01 April - 31 October, 2022 creel survey period; data does not include bass < 8.0 in that were caught and released.

Month	Total no. of bass caught	Total no. of bass harvested	No. of black bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/ hour by bass anglers
Apr	2,638	47	1,649	5,065	2,261	0.45	47	0.01
May	2,189	168	1,024	3,144	2,068	0.64	156	0.05
Jun	3,550	164	1,186	3,644	3,400	0.84	76	0.02
Jul	2,315	104	1,154	3,544	2,072	0.62	8	0.03
Aug	3,537	207	1,202	3,691	3,503	0.97	207	0.06
Sep	2,843	56	1,387	4,260	2,719	0.62	56	0.01
Oct	1,604	62	964	2,962	1,567	0.50	62	0.02
Total	18,675	808	8,566	26,310	17,590	0.68	690	0.03
Mean						0.66		0.03

Table 36. Black bass catch and harvest statistics derived from a creel survey at Lake Malone (767 a) during 01 April - 31 October, 2022.

	Largemouth Bass						
	Harvest			Catch and release			
	< 11.9	≥ 15.0	Total	< 11.9	12.0-14.9	≥ 15.0	Total
Total no. of bass	590	217	807	7,097	8,019	2,752	17,868
% of black bass			4.5				
Total weight of fish (lb)			736.2				
% of bass harvested by			100.0				
Mean length			12.3				
Mean weight			1.00				
Rate (fish/hr)			0.02				

Table 37. Temperature (°F) and dissolved oxygen (ppm) profile conducted at Lake Malone 08 June 2022.

	Location	
	Site 1	1:02pm
Depth (ft)	**Temp**	**DO**
Surface	82.7	9.09
2	82.4	9.15
4	82.3	9.15
6	82.2	9.14
8	81.7	8.77
10	74.3	5.30
12	70.1	0.85
14	64.7	0.24
16	60.4	0.09
18	57.6	0.03
20	55.4	0.01
22		
24		
25		
26		
28	28' deep	

Table 38. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 1.0 hr of 15-minute diurnal electrofishing runs at Mauzy Lake in April 2022.

	Inch class																
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE	SE
Largemouth Bass	1	8	10	11	6	1	12	30	41	35	20	7		1	183	183.0	45.8

nwd4psd.d22

Table 39. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Mauzy Lake 2003-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	36.0	9.4	84.0	23.7	62.0	13.1	1.0	1.0	0.0		183.0	45.8
2021	24.0	0.0	123.0	16.4	20.0	2.3	2.0	1.2	0.0	-	169.0	17.5
2020	96.0	18.0	413.0	59.5	49.0	7.6	6.0	2.6	3.0	1.0	564.0	79.4
2018	35.0	2.5	162.0	10.4	18.0	1.2	19.0	3.0	8.0	3.3	234.0	11.5
2017	110.7	17.3	212.0	14.0	40.0	4.6	12.0	2.3	5.3	1.3	374.7	34.7
2015	40.0	12.1	133.0	21.8	20.0	7.8	15.0	1.9	5.0	3.8	208.0	37.1
2014	65.0	7.2	110.0	3.5	21.0	3.4	35.0	5.7	13.0	6.8	231.0	8.4
2013	80.0	24.3	98.7	19.6	13.3	4.8	34.7	4.8	4.0	2.3	226.7	25.3
2012	96.0	16.5	42.0	2.6	20.0	4.9	40.0	9.1	15.0	3.4	198.0	12.8
2011	48.0	11.6	21.3	3.5	58.7	2.7	40.0	4.6	10.7	3.5	168.0	8.0
2010	26.7	3.5	78.7	13.1	21.3	2.7	44.0	10.1	17.3	8.1	170.7	26.7
2009[a]												
2008	104.0	31.4	147.0	16.3	21.0	5.0	83.0	9.3	7.0	1.9	355.0	48.2
2007	46.0	5.3	49.0	12.3	40.0	2.8	64.0	17.5	0.0	-	199.0	31.0
2006	68.0	14.1	40.0	4.0	24.0	4.0	60.0	4.6	0.0	-	192.0	21.2
2005	52.0	8.6	25.0	6.6	147.0	11.5	21.0	7.9	4.0	1.6	245.0	22.3
2004	20.0	9.2	132.0	2.3	5.3	1.3	6.7	1.3	0.0	-	164.0	10.6
2003[b]	98.6	18.7	163.2	31.9	73.6	6.1	20.8	6.4	2.8	2.8	356.3	58.7

[a] Lake drawn down for repairs in 2009

[b] Lake renovated in 2003

nwd4psd.d22

Table 40. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 1.0 hour of 15-minute diurnal electrofishing runs at Mauzy Lake in October 2022.

	Inch class																
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE	SE
Largemouth Bass	2	36	20	3	14	13	13	6	11	15	14	6	4	1	158	158	18.7

nwd4lmb.d22

Table 41. Mean back calculated lengths (in) at each annulus for Largemouth Bass collected at Mauzy Lake in October 2022.

Year		Age				
class	No.	1	2	3	4	5
2022	31	6.0				
2021	8	5.8	10.0			
2020	13	5.7	8.8	11.2		
2019	15	5.8	9.1	10.5	12.2	
2018	8	5.4	8.8	10.6	11.6	12.7
Mean		5.8	9.1	10.8	12.0	12.7
No.		75	44	36	23	8
Smallest		4.1	7.4	9.4	10.4	11.4
Largest		4.9	11.4	12.5	14.1	15.1
SE		0.1	0.1	0.2	0.2	0.5
95% CI (±)		0.2	0.3	0.3	0.5	0.9

nwd4lmba.d22

Table 42. Population assessment for Largemouth Bass based on spring electrofishing at Mauzy Lake from 2003-2022 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022	11.4 (3)[b]	34.0 (2)	62.0 (4)	1.0 (1)	0.0 (1)			11	Fair
2021		10.0 (2)	20.0 (2)	2.0 (1)	0.0 (1)			≥ 7	Poor
2020		71.0 (4)	49.0 (4)	6.0 (2)	3.0 (3)			≥ 14	Good
2018	9.8 (1)[b]	27.0 (2)	18.0 (1)	19.0 (3)	8.0 (4)			11	Fair
2017		78.7 (4)	40.0 (3)	12.0 (2)	5.3 (4)			≥ 14	G - E
2015	10.2 (2)[b]		20.0 (2)	15.0 (2)	5.0 (4)			≥ 13	Good
2014		40.0 (2)	21.0 (2)	35.0 (4)	13.0 (4)			≥ 13	Good
2013		63.1 (3)	13.3 (1)	34.7 (4)	4.0 (4)			≥ 13	Good
2012	13.6 (4)[a]	74.0 (3)	20.0 (2)	40.0 (4)	15.0 (4)	0.965	61.9	17	Excellent
2011		61.3 (3)	56.7 (4)	40.0 (4)	10.7 (4)			≥ 16	G - E
2010			21.3 (2)	44.0 (4)	17.3 (4)			≥ 11	F -G
2009*									
2008	12.2 (4)	99.0 (4)	21.0 (2)	83.0 (4)	7.0 (4)	0.466	37.3	18	Excellent
2007	12.2 (4)	21.0 (2)	40.0 (3)	64.0 (4)	0.0 (0)	0.374	31.2	13	Good
2006	10.3 (2)	24.0 (2)	24.0 (2)	60.0 (4)	0.0 (0)	0.755	53.0	10	Fair
2005	10.3 (2)	34.0 (2)	147.0 (4)	21.0 (3)	4.0 (4)			15	Good
2004	10.3 (2)	2.7 (1)	5.3 (1)	6.7 (2)	0.0 (0)	0.884	58.7	6	Poor
2003*	10.3 (2)	86.8 (4)	73.6 (4)	20.8 (3)	2.8 (3)			16	Good

[a] Only one age-3 fish

[b] Used psd file and modified fall age file

* Lake renovated in 2003, drawn down for repairs in 2009

Table 43. Length frequency and CPUE (fish/hr) for Bluegill and Redear Sunfish collected during 0.625 hours of electrofishing at Mauzy Lake in May 2022.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	Total	CPUE	SE
Bluegill	1	112	142	52	36	22	5			370	592.0	81.8
Redear Sunfish		2	44	79	53	59	44	14	1	296	473.6	115.2

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Table 44. Spring electrofishing CPUE (fish/hr) for each length group of Bluegill collected at Mauzy Lake 2000-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	180.8	50.0	368.0	36.0	43.2	5.4	0.0		0.0		592.0	81.8
2019	16.0	3.6	97.3	18.9	45.3	14.6	0.0		0.0		158.7	26.4
2018	3.4	2.4	52.6	13.3	74.3	19.5	0.0		0.0		130.3	27.8
2017	13.3	7.9	197.3	24.4	37.3	9.61	0.0		0.0		248.0	30.8
2015	17.3	12.1	165.3	27.1	44.0	7.1	0.0		0.0		226.7	31.2
2014	10.3	2.3	253.7	55.6	104.0	21.0	0.0		0.0		368.0	69.1
2013	91.2	21.1	417.6	54.0	73.6	11.1	0.0		0.0		582.4	60.9
2012	23.0	7.8	553.0	108.5	55.0	14.3	0.0		0.0		631.0	126.7
2011	182.4	72.9	726.4	144.1	216.0	51.4	121.6	43.3	0.0		1246.4	195.0
2010	238.4	76.5	280.0	41.0	97.6	34.0	0.0		0.0		616.0	74.4
2009[a]												
2008[a]												
2007	101.3	11.1	621.3	39.6	38.7	8.9	0.0		0.0		761.3	44.5
2006	96.0	27.9	614.0	137.7	10.0	7.6	0.0		0.0		720.0	163.4
2005	289.7	45.5	596.2	101.3	14.1	5.8	0.0		0.0		900.0	86.6
2004	101.1	18.0	84.6	17.5	64.8	12.0	1.1	1.1	0.0		251.7	36.1
2003[b]												
2002	9.3	3.5	94.7	19.6	125.3	29.2	1.3	1.3	0.0		230.7	48.0
2001	5.3	3.5	65.3	16.2	137.3	27.9	1.3	1.3	0.0		209.3	40.7
2000	1.3	1.3	52.0	4.0	73.3	5.3	4.0	2.3	0.0		130.7	10.9

[a] Lake drawn down for repairs in 2008-2009

[b] Lake renovated in 2003

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Table 45. Spring electrofishing CPUE (fish/hr) for each length group of Redear Sunfish collected at Mauzy Lake 2007-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	3.2	3.2	281.6	61.0	164.8	59.1	24.0	22.0	0.0		473.6	115.2
2019	0.0		206.7	20.7	208.0	27.3	16.0	5.1	0.0		430.7	43.5
2018	0.0		41.1	10.8	258.3	39.2	78.9	20.3	0.0		378.3	52.5
2017	0.0		109.3	22.9	304.0	50.6	37.3	16.2	0.0		450.7	54.4
2015	0.0		140.0	17.4	254.7	53.9	18.7	7.4	0.0		413.3	59.5
2014	1.1	1.1	112.0	19.7	208.0	26.1	27.4	6.0	0.0		348.6	33.1
2013	0.0		72.0	11.0	161.6	26.0	65.6	15.5	0.0		299.2	40.8
2012	0.0		107.0	13.7	39.0	7.6	33.0	8.6	0.0		179.0	21.9
2011	3.2	2.0	8.0	6.2	32.0	32.0	35.2	26.4	0.0		78.4	65.3
2010	0.0		16.0	10.1	240.0	48.3		7.3	0.0		270.4	61.0
2009[a]												
2008[a]												
2007	2.7	1.7	41.3	13.1	14.7	3.8	6.7	5.2	0.0		65.3	12.6

[a] Lake drawn down for repairs in 2008-2009

nwd4bg.d22

Table 46. PSD and RSD values obtained for Bluegill and Redear Sunfish collected in spring electrofishing samples at NWFD state-owned lakes during 2022; 95% confidence intervals are in parentheses.

Lake	Species	≥ Stock size	PSD	RSD[a]
Mauzy	Bluegill	257	11 (± 4)	-
	Redear Sunfish	250	24 (± 5)	-
Carpenter	Bluegill	548	37 (± 4)	-
	Redear Sunfish	131	61 (± 8)	3 (± 3)
New Kingfisher	Bluegill	219	32 (± 6)	-
	Redear Sunfish	-	-	-
Old Kingfisher	Bluegill	330	38 (± 5)	-
	Redear Sunfish	6	-	-
Washburn	Bluegill	147	19 (± 6)	3 (± 3)
	Redear Sunfish	50	60 (± 14)	8 (± 7)

[a] Bluegill = RSD_8, Redear = RSD_9

nwd4bg.d22
nwd5bg.d22
nwd6bg.d22
nwd7bg.d22
nwd8bg.d22

Table 47. Population assessment for Bluegill based on spring electrofishing at Mauzy Lake from 2001-2022 (scoring based on statewide assessment).

Year	Mean length age 2 at capture	Years to 6.0 in	CPUE ≥ 6.0 in	CPUE ≥ 8.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022			43.2 (2)	0.0 (1)			≥ 5	P - F
2019			45.3 (2)	0.0 (1)			≥ 5	P - F
2018	3.1 (1)*	≥5 (1)	74.3 (3)	0.0 (1)			5	Poor
2017			37.3 (2)	0.0 (1)			≥ 5	P - F
2015	3.4 (1)	≥5 (1)	44.0 (2)	0.0 (1)			5	Poor
2014			104.0 (4)	0.0 (1)			≥ 7	F - G
2013			73.6 (3)	0.0 (1)			≥ 6	P - F
2012	4.0 (2)	4-4+ (2)	55.0 (2)	0.0 (1)	0.884	58.7	7	Fair
2011			337.6 (4)	121.6 (4)			≥ 10	Good
2010			97.6 (3)	0.0 (1)			≥ 6	P - F
2009[a]								
2008[a]								
2007	3.3 (1)	4-4+ (2)	38.7 (2)	0.0 (1)	0.642	35.8	6	Poor
2006	3.7 (1)	4-4+ (2)	10.0 (1)	0.0 (1)	0.755	53.0	5	Poor
2005	4.3 (3)	2-2+ (4)	14.1 (1)	0.0 (1)			9	Fair
2004	4.3 (3)	2-2+ (4)	65.9 (3)	1.1 (2)			12	Good
2003[b]				0.0 (1)				
2002	4.3 (3)	2-2+ (4)	126.7 (4)	1.3 (2)			13	Good
2001	4.3 (3)	2-2+ (4)	138.7 (4)	1.3 (2)			13	Good

[a] Lake drawn down for repairs in 2009

[b] Lake renovated in 2003

* Back calculated from age table

Table 48. Population assessment for Redear Sunfish based on spring electrofishing at Mauzy Lake from 2007-2022 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	Years to 8.0 in	CPUE ≥ 8.0 in	CPUE ≥ 10.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022			24.0 (4)	0.0 (1)			≥ 7	F - G
2019			16.0 (3)	0.0 (1)			≥ 6	P - F
2018	6.2 (1)*	≥ 6 (1)	78.9 (4)	0.0 (1)			7	Fair
2017			37.3 (4)	0.0 (1)			≥ 7	F - G
2015	5.9 (1)	≥ 6 (1)	18.7 (3)	0.0 (1)			6	Poor
2014			27.4 (4)	0.0 (1)			≥ 7	F - G
2013			65.6 (4)	0.0 (1)			≥ 7	F - G
2012	7.6 (3)	4-4+ (3)	33.0 (4)	0.0 (1)			11	Good
2011			35.2 (4)	0.0 (1)			≥ 7	F - G
2010			14.4 (3)	0.0 (1)			≥ 6	P - G
2009[a]								
2008[a]								
2007	8.2 (4)	3-3+ (4)	6.7 (2)	0.0 (1)	0.790	54.6	11	Good

[a] Lake drawn down for repairs in 2009

* Back calculated from age table

Table 49. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 1.0 hour of 15-minute diurnal electrofishing runs at Carpenter Lake in April 2022.

	Inch class																				
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	1	11	1	17	14	3	2	12	20	14	5	7	10	10	6	8	5	1	147	147.0	20.1

nwd5psd.d22

Table 50. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Carpenter Lake from 2003-2022.

	Length group											
	< 8.0 in		8.0-11.9 in		12.0-14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	30.0	7.0	31.0	6.6	39.0	7.9	47.0	2.5	6.0	2.0	147.0	20.1
2021	26.0	13.1	50.0	10.5	15.0	1.0	38.0	7.6	7.0	3.0	129.0	16.6
2020	26.0	6.2	50.0	13.1	24.0	6.7	51.0	9.6	2.0	2.0	151.0	32.2
2019	37.0	10.4	29.0	12.3	21.0	9.3	65.0	3.4	6.0	1.2	152.0	30.1
2018	40.0	9.2	17.3	7.4	108.0	12.0	49.3	13.1	1.3	1.3	214.7	10.4
2017	32.0	2.3	44.0	12.9	100.0	20.8	24.0	4.6	5.3	2.7	200.0	38.6
2016	97.3	31.5	57.3	5.8	65.3	11.4	33.3	5.3	12.0	6.1	254.3	41.9
2015	21.3	5.8	86.7	3.5	12.0	2.3	17.3	2.7	0.0		137.3	4.8
2014	16.0	6.7	131.2	17.6	48.0	13.2	30.4	5.9	12.8	5.4	225.6	37.0
2013	80.0	26.2	138.7	9.6	20.0	4.0	22.7	1.3	5.3	1.3	261.3	38.5
2012	40.0	16.7	74.7	15.0	46.7	7.4	22.7	12.7	1.3	1.3	184.0	46.7
2011	182.7	15.4	166.7	9.6	73.3	13.1	9.3	3.5	4.0	4.0	432.0	30.2
2010	73.3	19.4	198.7	39.6	10.7	5.8	12.0	4.6	2.7		294.7	34.7
2009	102.7	18.7	166.7	26.3	18.7	4.8	8.0	2.3	0.0		296.0	27.2
2008	136.0	17.7	229.0	28.8	9.0	2.5	11.0	4.1	1.0	1.0	385.0	50.3
2007	45.3	7.4	128.0	24.3	12.0	2.3	10.7	3.5	1.3		196.0	31.8
2006	97.3	12.0	134.7	8.7	24.0	1.3	9.3	2.3	0.0		265.3	55.4
2005	157.3	3.5	165.3	48.6	30.7	3.5	2.7	1.3	0.0		356.0	54.6
2004	80.0	16.7	128.0	28.0	22.7	3.5	21.3	8.7	2.7		252.0	47.7
2003	181.3	49.3	97.3	11.4	18.7	4.8	36.0	12.2	1.3		333.3	63.4

nwd5psd.d22

Table 51. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 1.0 hour of 15-minute diurnal electrofishing runs at Carpenter Lake in October 2022.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	1	7	12	13		2	18	14	6	5	5	5	3	9	3	8	4	1	1	117	117.0	32.3

nwd5lmb.d22

Table 52. Population assessment for Largemouth Bass based on spring electrofishing at Carpenter Lake 2001-2022 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022		12.0 (2)	39.0 (3)	47.0 (4)	6.0 (4)			≥ 14	Good
2021		26.0 (3)	15.0 (2)	38.0 (4)	7.0 (4)			≥ 14	Good
2020		12.0 (2)	24.0 (2)	51.0 (4)	2.0 (3)			≥ 12	F - G
2019		37.0 (3)	21.0 (2)	65.0 (4)	6.0 (4)			≥ 14	Good
2018	11.3 (3)*	40.0 (3)	108.0 (4)	49.3 (4)	1.3 (2)			16	Good
2017		34.7 (3)	100.0 (4)	24.0 (3)	5.3 (4)			≥ 15	G - E
2016		97.3 (4)	65.3 (4)	33.3 (4)	12.0 (4)			≥ 17	Excellent
2015	10.6 (2)*		12.0 (1)	17.3 (3)	0.0 (1)			≥ 8	P - F
2014		16.0 (2)	48.0 (4)	30.4 (4)	12.8 (4)			≥ 15	G - E
2013		69.3 (4)	20.0 (2)	22.7 (3)	5.3 (4)			≥ 14	Good
2012		12.0 (2)	46.7 (4)	22.7 (3)	1.3 (2)			≥ 12	F - G
2011		182.7 (4)	73.3 (4)	9.3 (2)	4.0 (4)			≥ 15	G - E
2010	10.1 (1)	72.0 (4)	10.7 (1)	12.0 (2)	2.7 (3)	0.438	35.5	11	Fair
2009	10.3 (2)	97.9 (4)	18.7 (2)	8.0 (2)	0.0 (1)			11	Fair
2008	10.3 (2)	120.3 (4)	9.0 (1)	11.0 (2)	1.0 (2)	0.561	42.9	11	Fair
2007	10.3 (2)	39.9 (3)	12.0 (1)	10.7 (2)	1.3 (2)	0.560	42.9	10	Fair
2006	11.6 (4)	78.7 (4)	24.0 (2)	9.3 (2)	0.0 (1)	1.160	68.7	13	Good
2005	11.6 (4)	132.0 (4)	30.7 (3)	2.7 (1)	0.0 (1)			13	Good
2004	11.6 (4)	56.0 (4)	22.7 (2)	21.3 (3)	2.7 (3)	1.155	68.5	16	Good
2003	11.6 (4)	162.7 (4)	54.7 (4)	36.0 (4)	1.3 (2)	0.943	61.1	18	Excellent
2002	11.6 (4)	12.0 (2)	12.0 (1)	21.3 (3)	0.0 (1)			11	Fair
2001	11.6 (4)	8.0 (2)	90.7 (4)	66.7 (4)	1.3 (2)			16	Good

* Back calculated from age table

Table 53. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected during 0.75 hours of electrofishing at Carpenter Lake in May 2022.

	Inch class										
Species	2	3	4	5	6	7	8	9	Total	CPUE	SE
Bluegill	9	87	140	120	189	12			557	742.7	104.7
Redear Sunfish		2	6	37	8	30	46	4	133	177.3	48.3

nwd5bg.d22

Table 54. Spring electrofishing CPUE (fish/hr) for each length group of Bluegill collected at Carpenter Lake 2001-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	12.0	4.5	462.7	58.1	268.0	50.0	0.0		0.0		742.7	104.7
2021	98.7	15.7	190.7	30.3	69.3	23.7	0.0		0.0		358.7	43.3
2020	50.7	16.2	536.0	112.3	144.0	53.2	1.3	1.3	0.0		732.0	156.0
2019	5.3	4.0	249.3	51.8	104.0	34.8	0.0		0.0		358.7	81.9
2018	17.3	6.0	528.0	85.3	49.3	8.1	0.0		0.0		594.7	93.9
2017	89.3	27.9	348.0	38.8	170.7	22.0	0.0		0.0		608.0	84.3
2016	8.0	3.6	133.3	30.5	156.0	25.0	0.0		0.0		297.3	52.5
2015	2.7	1.7	125.3	17.9	220.0	52.9	0.0		0.0		348.0	65.5
2014	5.3	4.0	352.0	34.6	332.0	34.1	1.3	1.3	0.0		690.7	49.7
2013	20.0	9.2	138.7	27.1	312.0	42.5	0.0		0.0		470.7	70.8
2012	1.6	1.6	144.0	31.9	147.2	22.3	0.0		0.0		292.8	49.7
2011	16.0	10.4	400.0	157.5	180.8	50.5	0.0		0.0		596.8	214.4
2010	10.7	6.4	100.0	18.6	101.3	19.0	0.0		0.0		212.0	30.8
2009	17.3	9.6	124.0	24.4	140.0	17.9	0.0		0.0		281.3	42.9
2008	0.0		88.0	18.8	150.0	50.7	0.0		0.0		238.0	68.5
2007	2.7	2.7	61.3	17.7	168.0	38.5	1.3	1.3	0.0		233.3	9.1
2006	1.3	1.3	57.3	10.0	102.7	12.1	0.0		0.0		161.3	21.3
2005	12.1	9.8	190.1	17.1	98.9	6.8	18.7	9.0	0.0		319.8	23.1
2004	12.3	4.6	26.2	7.1	46.2	11.4	1.5	1.5	0.0		86.2	20.4
2003	7.7	2.8	102.6	23.0	47.4	13.2	3.9	1.7	0.0		161.5	34.1
2002	2.3		8.1		17.2		1.2		0.0		28.7	0.0
2001			198.7	74.7	152.0	22.7	41.3	12.7	0.0		392.0	108.9

nwd5bg.d22

Table 55. Spring electrofishing CPUE (fish/hr) for each length group of Redear Sunfish collected at Carpenter Lake 2010-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	0.0		60.0	30.2	50.7	16.4	66.7	14.1	0.0		177.3	48.3
2021	1.3	1.3	0.0		25.3	12.3	38.7	15.1	0.0		65.3	21.8
2020	0.0		14.5	6.7	34.7	11.4	49.3	17.0	0.0		98.7	29.1
2019	0.0		10.7	4.9	73.3	22.7	18.7	3.4	0.0		102.7	27.3
2018	0.0		21.3	3.4	16.0	4.1	16.0	2.9	1.3	1.3	53.3	6.4
2017	0.0		29.3	19.0	17.3	5.2	22.7	10.0	1.3	1.3	69.3	19.8
2016	0.0		1.3	1.3	8.0	2.9	12.0	6.4	2.7	1.7	21.3	7.9
2015	0.0		2.7	2.7	10.7	3.4	40.0	9.9	1.3	1.3	53.3	11.4
2014	0.0		0.0		10.7	4.0	72.0	11.7	0.0		82.7	11.4
2013	0.0		1.3	1.3	9.3	2.5	12.0	2.7	0.0		22.7	2.5
2012	0.0		8.0	3.6	41.6	20.3	6.4	3.0	0.0		56.0	25.2
2011	0.0		32.0	24.4	28.8	17.6	16.0	5.7	0.0		76.8	43.1
2010	0.0		2.7	2.7	16.0	4.6	9.3	2.5	0.0		28.0	6.5

nwd5bg.d22

Table 56. Population assessment for Bluegill based on spring electrofishing at Carpenter Lake from 2001-2022 (scoring based on statewide assessment).

Year	Mean length age 2 at capture	Years to 6.0 in	CPUE ≥ 6.0 in	CPUE ≥ 8.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022			268.0 (4)	0.0 (1)			≥ 7	F - G
2021			69.3 (3)	0.0 (1)			≥ 6	F - G
2020			145.3 (4)	1.3 (2)			≥ 8	F - G
2019			104.0 (4)	0.0 (1)			≥ 7	F - G
2018	4.8 (4)*	3-3+ (3)	49.3 (2)	0.0 (1)			10	Good
2017			170.7 (4)	0.0 (1)			≥ 7	F - G
2016			156.0 (4)	0.0 (1)			≥ 7	F - G
2015	4.9 (4)	4-4+ (2)	220.0 (4)	0.0 (1)			11	Good
2014			333.3 (4)	1.3 (2)			≥ 8	F - E
2013			312.0 (4)	0.0 (1)			≥ 7	F - G
2012			147.2 (4)	0.0 (1)			≥ 7	F - G
2011			180.8 (4)	0.0 (1)			≥ 7	F - G
2010	4.9 (4)	3-3+ (3)	101.3 (4)	0.0 (1)	0.615	45.9	12	Good
2009	4.6 (3)	3-3+ (3)	140.0 (4)	0.0 (1)			11	Good
2008	4.6 (3)	3-3+ (3)	150.0 (4)	0.0 (1)	0.571	43.9	11	Good
2007	4.6 (3)	3-3+ (3)	169.3 (4)	1.3 (2)	0.386	32.0	12	Good
2006	5.6 (4)	2-2+ (4)	84.6 (3)	0.0 (1)	1.657	80.9	12	Good
2005	5.6 (4)	2-2+ (4)	117.6 (4)	18.7 (4)			16	Excellent
2004	5.6 (4)	2-2+ (4)	47.7 (2)	1.5 (2)			12	Good
2003	5.6 (4)	2-2+ (4)	53.3 (2)	4.0 (3)	1.427	76.0	13	Good
2002	5.6 (4)	2-2+ (4)	18.4 (1)	1.2 (2)			11	Good
2001			145.7 (4)	41.3 (4)			≥ 10	G - E

* Back calculated from age table

Table 57. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 0.5 hours of 7.5-minute diurnal electrofishing runs at New Kingfisher Lake in April 2022.

	Inch class																			
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	10	16	3	3	7	17	7	10	9	8	2	5	7	3	4	5	1	117	234.0	53.6

nwd6psd.d22

Table 58. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at New Kingfisher Lake from 2003-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	64.0	14.6	82.0	22.0	38.0	13.2	50.0	8.9	2.0	2.0	234.0	53.6
2021	72.0	28.1	74.7	19.2	10.7	7.1	48.0	25.7	8.0	8.0	205.3	25.4
2020	168.0	62.1	45.3	14.1	50.7	7.1	58.7	22.8	8.0	4.6	322.7	41.9
2019	48.0	24.4	21.3	9.6	5.3	2.7	61.3	2.7	10.7	7.1	136.0	12.2
2018	10.7	5.3	32.0	4.6	10.7	10.7	104.0	12.2	5.3	2.7	157.3	29.7
2017[b]	56.0	21.2	2.7	2.7	26.7	2.7	61.3	30.1			146.7	43.7
2012-2016	No sampling - Renovation											
2011	213.3	75.9	128.0	28.1	24.0	4.6	16.0	8.0			381.3	99.6
2010	178.7	48.5	112.0	25.5	34.7	9.6	16.0	8.0			341.3	84.2
2009	109.3	37.3	24.7	2.7	21.3	2.7	0.0				165.3	37.3
2008[a]	282.7	37.3	240.0	33.3	56.0	9.2	0.0				578.7	71.8
2007	98.7	27.8	392.0	92.7	21.3	2.7	2.7	2.7			514.7	112.8
2006	189.3	14.1	333.3	46.3	10.7	2.7	0.0				533.3	62.9
2005	287.2	97.4	428.2	53.5	41.0	6.8	12.8	5.1			769.2	141.2
2004	161.5	45.1	243.6	45.6	12.8	6.8	2.6	2.6			420.5	92.5
2003	105.6	28.2	425.0	55.5	8.3	4.8	0.0				538.9	59.8

[a] Major fish kill 9/5/08

[b] First standardized sample since renovation

nwd6psd.d22

Table 59. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 0.375 hours of 7.5-minute diurnal electrofishing runs at New Kingfisher Lake in October 2022.

	Inch class																	
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE	SE
Largemouth Bass	7	11	2	3	8	9	3	14	17	4	4	2	2	1	5	92	245.3	57.8

nwd6lmb.d22

Table 60. Population assessment for Largemouth Bass based on spring electrofishing at New Kingfisher Lake from 2003-2022 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022		36.0 (3)	38.0 (3)	50.0 (4)	2.0 (3)			≥ 14	Good
2021			10.7 (1)	48.0 (4)	8.0 (4)			≥ 11	Good
2020		154.7 (4)	50.7 (4)	58.7 (4)	8.0 (4)			≥ 17	Excellent
2019			5.3 (1)	61.3 (4)	10.7 (4)			≥ 11	F - G
2018		10.7 (2)	10.7 (1)	104.0 (4)	5.3 (4)			≥ 12	F - G
2017[b]			26.7 (3)	61.3 (4)	0.0 (1)			≥ 10	F - G
2012-2016				No sampling - Renovation					
2011		192.0 (4)	24.0 (2)	16.0 (2)	0.0 (1)			≥ 10	F - G
2010			34.7 (2)	16.0 (2)	0.0 (1)			≥ 7	P - G
2009	10.5 (2)	77.3 (4)	21.3 (2)	0.0 (1)	0.0 (1)			10	Fair
2008[a]	10.5 (2)	250.7 (4)	56.0 (4)	0.0 (1)	0.0 (1)	0.562	43.0	12	Fair
2007	10.5 (2)	96.0 (4)	21.3 (2)	2.7 (1)	0.0 (1)	0.608	39.2	10	Fair
2006	11.0 (3)	149.3 (4)	10.7 (1)	0.0 (1)	0.0 (1)	1.335	73.7	10	Fair
2005	11.0 (3)	248.7 (4)	41.0 (3)	12.8 (2)	0.0 (1)			13	Good
2004	11.0 (3)	94.9 (4)	12.8 (1)	2.6 (1)	0.0 (1)	1.230	70.8	10	Fair
2003	11.0 (3)	100.0 (4)	8.3 (1)	0.0 (1)	0.0 (1)	1.330	73.6	10	Fair

[a] Major fish kill 9/5/08

[b] First standardized sample since renovation

Table 61. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected in 0.375 hours of 7.5-minute diurnal electrofishing runs at New Kingfisher Lake in May 2022.

	Inch class									
Species	1	2	3	4	5	6	7	Total	CPUE	SE
Bluegill	5	81	53	62	33	62	9	305	813.3	85.2
Redear Sunfish										

nwd6bg.d22

Table 62. Spring electrofishing CPUE (fish/hr) for each length group of Bluegill collected at New Kingfisher Lake during 2003-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	229.3	119.6	394.7	40.4	189.3	83.3	0.0		0.0		813.3	85.2
2021	10.0	10.0	52.0	25.6	40.0	13.5	0.0		0.0		112.0	31.0
2020	24.0	16.7	426.7	72.2	208.0	90.9	0.0		0.0		658.7	166.7
2019	42.7	13.3	448.0	48.0	138.7	34.7	2.7	2.7	0.0		632.0	72.2
2018	21.3	17.5	885.3	314.5	72.0	12.2	2.7	2.7	0.0		981.3	335.4
2017[b]	18.7	5.3	853.3	203.7	85.3	28.2	0.0		0.0		957.3	222.3
2012-2016	No sampling											
2011	8.0	4.6	338.7	37.3	413.3	97.6	0.0		0.0		760.0	92.3
2010	130.7	27.1	274.7	30.8	80.0	21.2	0.0		0.0		485.3	47.2
2009	194.7	21.3	338.7	35.3	74.7	30.1	0.0		0.0		608.0	53.3
2008[a]	42.7	5.3	242.7	65.5	37.3	14.9	0.0		0.0		322.7	85.2
2007	5.3	2.7	69.3	26.3	45.3	5.3	0.0		0.0		120.0	33.3
2006	16.0	13.5	104.0	33.8	14.0	2.0	0.0		0.0		134.0	44.0
2005	0.0		53.9	7.7	12.8	6.8	10.3	6.8	0.0		76.9	8.9
2004	0.0		15.4	8.9	23.1	11.8	0.0		0.0		38.5	4.4
2003	12.8	6.8	56.4	2.6	15.4	7.7	5.1	2.6	0.0		89.7	5.1

[a] Major fish kill 9/5/08

[b] First standardized sample since renovation

nwd6bg.d22

Table 63. Population assessment for Bluegill based on spring electrofishing at New Kingfisher Lake from 2003-2022 (scoring based on statewide assessment).

Year	Mean length age 2 at capture	Years to 6.0 in	CPUE ≥ 6.0 in	CPUE ≥ 8.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022			189.3 (4)	0.0 (1)			≥ 7	F - G
2021			40.0 (2)	0.0 (1)			≥ 5	P - F
2020			208.0 (4)	0.0 (1)			≥ 7	F - G
2019			141.3 (4)	2.7 (3)			≥ 9	F - E
2018			74.7 (3)	2.7 (3)			≥ 8	F - G
2017[b]			85.3 (3)	0.0 (1)			≥ 6	P - G
2012-2016				No sampling				
2011			413.3 (4)	0.0 (1)			≥ 7	F - G
2010			80.0 (4)	0.0 (1)			≥ 7	F - G
2009	4.3 (2)	3-3+ (3)	74.7 (3)	0.0 (1)			9	Fair
2008[a]	4.3 (2)	3-3+ (3)	37.3 (2)	0.0 (1)	2.140	88.2	8	Fair
2007	4.3 (2)	3-3+ (3)	45.3 (2)	0.0 (1)	0.574	42.6	8	Fair
2006	5.7 (4)	2-2+ (4)	14.0 (1)	0.0 (1)	1.587	79.5	10	Good
2005	5.7 (4)	2-2+ (4)	23.1 (1)	10.3 (3)			12	Good
2004	5.7 (4)	2-2+ (4)	23.1 (1)	0.0 (1)			10	Good
2003	5.7 (4)	2-2+ (4)	21.6 (1)	5.4 (2)	0.865	57.9	11	Good

[a] Major fish kill 9/5/08

[b] First standardized sample since renovation

Table 64. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 0.333 hours of diurnal electrofishing at Old Kingfisher Lake in April 2022.

	Inch class																		
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	7	10	2	1	5	4	2	2	2	2		4	1	1		2	45	135.1	0.0

nwd7psd.d22

Table 65. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Old Kingfisher Lake during 2017-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	60.1	0.0	39.0	0.0	12.0	0.0	24.0	0.0	0.0	0.0	135.1	0.0
2021	48.1	0.0	63.1	0.0	12.0	0.0	12.0	0.0	0.0	0.0	135.1	0.0
2020	93.8	0.0	26.4	0.0	14.7	0.0	14.7	0.0	0.0	0.0	149.6	0.0
2019	8.0	0.0	34.9	0.0	2.7	0.0	32.2	0.0	2.7	0.0	77.8	0.0
2018	58.1	0.0	9.7	0.0	9.7	0.0	35.5	0.0	3.2	0.0	112.9	0.0
*2017	148.3	0.0	3.2	0.0	28.4	0.0	47.3	0.0	3.2	0.0	227.1	0.0

*First standardized sample since renovation

nwd7psd.d22

Table 66. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 0.325 hours diurnal electrofishing runs at Old Kingfisher Lake in October 2022.

	Inch class																		
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	2	17	6	3	10	15	7	3	4	3	2		2	1		1	76	228.2	0.0

nwd7lmb.d22

Table 67. Population assessment for Largemouth Bass based on spring electrofishing at Old Kingfisher Lake 2017-2022 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022		36.0 (3)	12.0 (1)	24.0 (3)	0.0 (1)			≥ 9	Fair
2021			12.0 (1)	12.0 (2)	0.0 (1)			≥ 6	P - F
2020		67.1 (4)	14.7 (2)	14.7 (3)	0.0 (1)			≥ 11	F - G
2019			2.7 (1)	32.2 (4)	2.7 (3)			≥ 10	F - G
2018			9.7 (1)	35.5 (4)	3.2 (3)			≥ 10	F - G
2017*			28.4 (3)	47.3 (4)	3.2 (3)			≥ 12	F - E

*First standardized sample since renovation

Table 68. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected in 0.340 hours of 7.5-minute diurnal electrofishing at Old Kingfisher Lake in May 2022.

	Inch class										
Species	2	3	4	5	6	7	8	9	Total	CPUE	SE
Bluegill	54	59	82	65	90	34			384	1129.4	0.0
Redear Sunfish			1		3		1	1	6	17.7	0.0

nwd7bg.d22

Table 69. Spring electrofishing CPUE (fish/hr) for each length group of Bluegill collected at Old Kingfisher Lake during 2017-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	158.8	0.0	605.9	0.0	364.7	0.0	0.0		0.0		1129.4	0.0
2021	304.0	122.2	226.7	46.3	216.0	134.4	0.0		0.0		746.7	99.7
2020	16.0	9.2	533.3	59.6	325.3	159.5	0.0		0.0		874.7	204.5
2019	10.7	5.3	466.7	44.4	149.3	50.9	0.0		0.0		626.7	82.7
2018	6.8	0.0	952.4	0.0	190.5	0.0	0.0		0.0		1149.7	0.0
2017*	58.7	14.1	965.3	100.6	309.3	72.2	0.0		0.0		1333.3	178.0

*First standardized sample since renovation

nwd7bg.d22

Table 70. Population assessment for Bluegill based on spring electrofishing at Old Kingfisher Lake for 2017-2022 (scoring based on statewide assessment).

Year	Mean length age 2+ at capture	Years to 6.0 in	CPUE ≥ 6.0 in	CPUE ≥ 8.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022			364.7 (4)	0.0 (1)			≥ 7	F - G
2021			216.0 (4)	0.0 (1)			≥ 7	F - G
2020			325.3 (4)	0.0 (1)			≥ 7	F - G
2019			149.3 (4)	0.0 (1)			≥ 7	F - G
2018			190.5 (4)	0.0 (1)			≥ 7	P - G
2017			309.3 (4)	0.0 (1)			≥ 7	F - G

*First standardized sample since renovation

nwd7bg.d22

Table 71. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 0.5 hours of diurnal electrofishing at Washburn Lake in April 2022.

	Inch class														
Species	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	SE
Largemouth Bass	4	32	33	20	3	4	24	16	9	7	2	1	155	310.0	38.1

nwd8psd.d22

Table 72. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Washburn Lake during 2001-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	184.0	29.6	106.0	12.4	20.0	7.7	0.0		0.0		310.0	38.1
2021	168.0	17.0	190.0	22.5	4.0	2.3	10.0	7.6	4.0	4.0	372.0	32.3
2020	186.7	48.5	58.7	21.8	10.7	7.1	10.7	10.7	2.7	2.7	266.7	58.7
2018	69.3	14.1	269.3	48.5	77.3	14.9	18.7	7.1	0.0		434.7	44.4
2017	258.7	31.4	306.7	9.6	42.7	7.1	5.3	2.7	5.3	2.7	613.3	46.3
2015	66.7	22.8	253.3	61.5	8.0	4.6	10.7	2.7	8.0	4.6	338.7	44.9
2014	90.7	7.1	333.3	30.8	8.0	4.6	10.7	2.7	5.3	2.7	442.7	23.3
2012	213.3	39.8	218.7	46.3	16.0	0.0	8.0	0.0	5.3	2.7	456.0	77.7
2011	205.3	44.9	133.3	35.3	2.7	2.7	5.3	2.7	0.0		346.7	78.6
2010	96.0	28.1	80.0	16.7	5.3	5.3	2.7	2.7	2.7	2.7	184.0	45.5
2009	104.0	60.0	82.7	39.8	0.0		10.7	5.3	0.0		197.3	104.3
2008	170.7	42.9	61.3	21.8	16.0	0.0	13.3	9.6	0.0		261.3	59.6
2007	133.3	35.3	80.0	4.6	16.0	4.6	21.3	9.6	0.0		250.7	30.8
2006	96.0	9.2	98.7	39.3	64.0	0.0	18.7	5.3	2.7	2.7	277.3	25.4
2005	43.6	11.2	146.2	16.0	28.2	5.1	2.6	2.6	2.6	2.6	220.5	25.3
2004	46.2	4.4	353.9	49.5	0.0		0.0		0.0		400.0	51.2
2003	123.1	33.5	438.5	49.5	0.0		0.0		0.0		561.5	52.4
2002	50.0		321.4		0.0		0.0		0.0		371.4	0.0
2001	260.0		8.0		0.0		0.0		0.0		268.0	0.0

* Washburn Lake renovated summer 1999 and restocked spring 2000

nwd8psd.d22

Table 73. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 0.5 hours of 7.5-minute diurnal electrofishing runs at Washburn Lake in October 2022.

	Inch class																		
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	8	37	33	21	4	9	15	7								1	135	270.0	35.1

nwd8lmb.d22

Table 74. Population assessment for Largemouth Bass based on spring electrofishing at Washburn Lake 2003-2022 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	Instantaneous Mortality (z)	Annual Mortality (A)%	Total score	Assessment Rating
2022		110.0 (4)	20.0 (2)	0.0 (1)	0.0 (1)			≥ 9	F - G
2021		166.0 (4)	4.0 (1)	10.0 (2)	4.0 (4)			≥ 11	F - G
2020		165.3 (4)	10.7 (1)	10.7 (2)	2.7 (3)			≥ 11	F - G
2018			77.3 (4)	18.7 (3)	0.0 (1)			≥ 10	F - G
2017	10.4 (2)	258.7 (4)	42.7 (3)	5.3 (1)	5.3 (4)	0.939	60.9	14	Good
2015			8.0 (1)	10.7 (2)	8.0 (4)			≥ 9	F - G
2014		90.7 (4)	8.0 (1)	10.7 (2)	5.3 (4)			≥ 12	F - G
2012			16.0 (1)	8.0 (2)	5.3 (4)			≥ 9	F - G
2011			2.7 (1)	5.3 (2)	0.0 (1)			≥ 6	P - F
2010	10.7 (2)	96.0 (4)	5.3 (1)	0.0 (1)	0.0 (1)	0.819	55.9	9	Fair
2009	13.1 (4)	99.7 (4)	0.0 (1)	10.7 (2)	0.0 (1)			12	Fair
2008	13.1 (4)	165.9 (4)	16.0 (1)	13.3 (2)	0.0 (1)	1.117	67.3	12	Fair
2007	13.1 (4)	131.2 (4)	16.0 (1)	21.3 (3)	0.0 (1)	0.944	61.1	13	Good
2006	11.2 (3)	94.7 (4)	64.0 (4)	18.7 (3)	2.7 (3)	0.669	48.8	17	Excellent
2005	11.2 (3)	41.0 (3)	28.2 (2)	2.6 (1)	2.6 (3)			12	Good
2004	11.2 (3)	48.3 (3)	0.0 (1)	0.0 (1)	0.0 (1)			9	Fair
2003	11.2 (3)	131.6 (4)	0.0 (1)	0.0 (1)	0.0 (1)			10	Fair

Table 75. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected in 0.5 hours of 7.5-minute diurnal electrofishing runs at Washburn Lake in May 2022.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	Total	CPUE	SE
Bluegill	1	64	74	24	21	19	4	5		212	424.0	70.1
Redear Sunfish			1	5	2	13	8	18	4	51	102.0	31.2

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Table 76. Spring electrofishing CPUE (fish/hr) for each length group of Bluegill collected at Washburn Lake during spring samples 2001-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	130.0	24.5	238.0	62.3	46.0	22.5	10.0	6.0	0.0		424.0	70.1
2021	10.0	5.0	84.0	35.0	38.0	8.3	12.0	4.0	0.0		144.0	38.2
2020	10.0	6.0	134.0	38.8	58.0	12.8	4.0	2.3	0.0		206.0	49.5
2018	24.0	12.2	258.7	27.8	101.3	33.4	29.3	16.2	0.0		413.3	55.7
2017	72.0	25.7	144.0	25.7	42.7	19.2	37.3	20.8	0.0		296.0	8.0
2015	26.0	13.6	152.0	18.2	122.0	17.4	8.0	4.6	0.0		308.0	20.8
2014	0.0		181.3	64.1	133.3	9.6	8.0	4.6	0.0		322.7	55.9
2013	10.7	7.1	101.3	16.2	109.3	58.5	2.7	2.7	0.0		224.0	46.2
2012	30.0	11.9	158.0	27.6	64.0	23.3	22.0	6.8	0.0		274.0	49.1
2011	24.0	10.7	93.3	16.5	33.3	10.4	5.3	2.7	0.0		156.0	19.6
2010	53.3	16.2	152.0	57.9	32.0	0.0	0.0		0.0		237.3	41.7
2009	60.0	15.1	80.0	19.0	138.0	10.0	0.0		0.0		278.0	20.8
2008	2.7	2.7	152.0	37.8	168.0	48.7	0.0		0.0		322.7	69.5
2007	58.7	14.1	245.3	37.1	40.0	12.2	0.0		0.0		344.0	54.5
2006	58.7	50.7	138.7	39.3	32.0	16.0	0.0		0.0		229.3	81.6
2005	161.5	31.9	155.8	18.9	9.6	3.7	0.0		0.0		326.9	39.3
2004	80.8	7.4	48.1	3.7	11.5	5.0	21.2	10.6	0.0		161.5	13.0
2003	7.7	3.1	71.2	12.7	113.5	39.9	0.0		0.0		192.3	39.9
2002			46.5		102.3		0.0		0.0		148.8	0.0
2001			28.0		64.0		4.0		0.0		96.0	0.0

* Washburn Lake renovated summer 1999 and restocked spring 2000

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Table 77. Spring electrofishing CPUE (fish/hr) for each length group of Redear Sunfish collected at Washburn Lake during spring samples from 2012-2022.

	Length group											
	< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		≥ 10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	0.0		16.0	5.7	42.0	11.5	44.0	17.7	0.0		120.0	31.2
2021	2.0	2.0	4.0	2.3	94.0	20.5	168.0	24.7	0.0		268.0	39.9
2020	0.0		40.0	13.9	108.0	9.5	62.0	8.9	0.0		210.0	25.6
2018	0.0		133.3	18.7	154.7	63.7	144.0	50.8	0.0		432.0	127.6
2017	0.0		178.7	57.8	45.3	9.6	53.3	29.3	0.0		227.3	29.7
2015	0.0		44.0	12.4	74.0	23.0	94.0	29.5	0.0		212.0	55.1
2014	0.0		5.3	2.7	85.3	14.9	98.7	30.8	0.0		189.3	39.8
2013	0.0		96.0	20.1	85.3	2.7	0.0		0.0		181.3	22.8
2012	0.0		28.0	12.4	2.0	2.0	0.0		0.0		30.0	11.0

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Table 78. Population assessment for Bluegill based on spring electrofishing at Washburn Lake from 2003-2022 (scoring based on statewide assessment).

Year	Mean length age 2 at capture	Years to 6.0 in	CPUE ≥ 6.0 in	CPUE ≥ 8.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022			56.0 (3)	10.0 (4)			≥ 9	F - G
2021			50.0 (2)	12.0 (4)			≥ 8	F - G
2020			62.0 (3)	4.0 (3)			≥ 8	F - G
2018	3.5 (1)	4-4+ (2)	130.7 (4)	29.3 (4)			11	Good
2017			80.0 (3)	37.3 (4)			≥ 9	F - G
2015			130.0 (4)	8.0 (4)			≥ 10	F - G
2014			141.3 (4)	8.0 (4)			≥ 10	F - G
2013			112.0 (4)	2.7 (3)			≥ 9	F - G
2012			86.0 (3)	22.0 (4)			≥ 9	F - G
2011			38.7 (2)	5.3 (4)			≥ 8	P - G
2010			32.0 (2)	0.0 (1)			≥ 5	P - F
2009	4.7 (3)	3-3+ (3)	138.0 (4)	0.0 (1)	0.599	45.1	11	Good
2008	5.3 (4)	2-2+ (4)	168.0 (4)	0.0 (1)	2.046	87.1	13	Good
2007	5.3 (4)	2-2+ (4)	40.0 (2)	0.0 (1)	1.050	65.0	11	Good
2006	5.3 (4)	2-2+ (4)	32.0 (2)	0.0 (1)			11	Good
2005	5.4 (4)	2-2+ (4)	9.6 (1)	0.0 (1)			10	Good
2004	5.4 (4)	2-2+ (4)	32.7 (2)	22.0 (4)			14	Excellent
2003	5.4 (4)	2-2+ (4)	118.0 (4)	0.0 (1)			13	Good

Table 79. Population assessment for Redear Sunfish based on spring electrofishing at Washburn Lake from 2012-2022 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	Years to 8.0 in	CPUE ≥ 8.0 in	CPUE ≥ 10.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2022			44.0 (4)	0.0 (1)			≥ 7	F - G
2021			168.0 (4)	0.0 (1)			≥ 7	F - G
2020			62.0 (4)	0.0 (1)			≥ 7	F - G
2018	8.4 (4)	3-3+ (4)	144.0 (4)	0.0 (1)			13	Good
2017			53.3 (4)	0.0 (1)			≥ 7	F - G
2015			94.0 (4)	0.0 (1)			≥ 7	F - G
2014			98.7 (4)	0.0 (1)			≥ 7	F - G
2013			0.0 (1)	0.0 (1)			≥ 4	P - F
2012			0.0 (1)	0.0 (1)			≥ 4	P - F

SOUTHWESTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Lake sampling conditions are summarized in Table 1.

Barren River Lake (10,000 acres)

Black Bass

Black bass were collected with diurnal electrofishing in early-May from both lake arms (Tables 2-5) and once again in early October (Tables 6-7). A total of 834 black bass were collected in the spring at a rate of 139.0 fish/hr (Table 2). Largemouth Bass made up 83% of the total catch while Spotted Bass made up 17%, and their distribution remains tied to the lower 1/3 of the reservoir. The overall catch rate for Largemouth Bass (115.5 fish/hr) was about average over the last 10 years (Table 3), even though catch rates of 8.0- to 11.9-in and 12.0- to 14.9-in fish are the lowest among the last 10 years of sampling. Catch rates of the 8.0- to 11.9-in length group (14.5 fish/hr) and 12.0- to 14.9-in (28.0 fish/hr) length group reflect poorer 2019 and 2020 year classes, respectively. The water level fluctuation effect on spawning success remains enigmatic as the 2018-2020 springs were similarly plagued by flooding, yet 2018 produced a very strong year class. Poor overwinter survival of the 2020 Largemouth year-class (age-1 CPUE = 3.5 fish/hr; Tables 4 and 7) may be a result of a prolonged stay at winter pool level, in contrast to the 2018 year class that never experienced any prolonged stays near winter pool levels. The Largemouth Bass population assessment increased back to "Excellent" due to the recruitment of age-1 fish (Table 4).

Largemouth Bass size structure indices remain on the high end of the range (PSD = 84 and RSD_{15} = 53; Table 5) and were higher than previous years. These indices confirm the higher-than-average numbers of ≥15.0-in fish. Spotted Bass size structure remains high quality as well (PSD = 91 and RSD_{14} =51), even with the low numbers of fish sampled. The Smallmouth Bass population remains poorly represented in samples (Tables 2 and 6), but larger fish are reported by anglers.

Fall young of year sampling suggests a moderate 2022 year class (Table 7). Age-0 CPUE ≥5.0 in (38.2 fish/hr) was just below average for the past 10 years, but still higher than 7 of the 10. Age-0 Largemouth Bass mean length (4.0 in) was slightly lower than average for the past 10 years. Though age-0 Largemouth Bass production was highest in the Barren River arm of the lake (Walnut Creek and Peter Creek sites), Beaver Creek yielded more ≥5.0-in bass (Table 6). Poorer growth and numbers characterized the lower end of the lake (the Peninsula sites). Largemouth Bass made up most of the fall YOY bass sample (95%), while Spotted Bass made up the other 5% (Table 6). Smallmouth Bass were nonexistent in these samples.

Blue Catfish

Blue Catfish were collected with diurnal electrofishing in early- to mid-September from both lake arms. A total of 53 Blue Catfish were collected at a rate of 17.7 fish/hr (Table 8). Fish <15.0 inches in length were taken for aging to assess spawning contributions from non-stocking years (2020-2022). Two age-0 naturally spawned fish (<3.0 in) were noted. All other fish came from previous stockings. Condition indices (W_r) for all size groups was good (Table 9), similar to samples in 2021. The length-weight equation for Blue Catfish was also similar to prior samples:

$$\text{Log}_{10}\,(\text{Weight}) = -4.00744 + 3.40588 * \text{Log}_{10}(\text{Length})$$

Blue Catfish were also collected during gillnet sampling for hybrid striped bass in mid- to late-November and early-December. A total of 46 Blue Catfish were collected at a rate of 4.2 fish/nn (Table 10). Most of the fish were within the 20.0- to 29.0-in range, but a few were close to 40.0-in. The trophy Blue Catfish component of the fishery is commonly reported by recreational anglers, buoyed by catfish tournament trail use.

Hybrid Striped Bass

Gillnet sampling for hybrids in mid- to late-November and early-December yielded a poor catch rate (4.8 fish/nn) overall, with mostly larger (≥15.0 in) sizes represented (Table 10). Despite low catch rates overall, the double stocking rate (n= approx. 400,000) year class of 2018 (age 4+) was the most well represented year class in the fishery (Tables 11 and 14). The assessment rating for the fishery dipped to "Poor" due to the overall poor sample (Table 12). Condition indices across all size ranges was fair (W_r = 87-88) which is what has been seen in previous sampling years (Table 13). The length-weight equation for hybrid striped bass (n=53) was:

$$Log_{10}\,(weight) = -5.3137+3.1592^{*}\,Log_{10}\,(Length)$$

Fagan Branch Reservoir (140 acres)

Largemouth Bass

Largemouth Bass were sampled by nocturnal electrofishing on April 21 (Table 15). The overall Largemouth Bass catch rate (361.0 fish/hr; Table 16) was the fourth highest recorded over the last 20 years of sampling. Most of the fish sampled were in the 8.0- to 11.9-in length group (242.0 fish/hr), similar to previous years. The ≥15.0-in length group (14.0 fish/hr) was the second highest and the ≥20.0-in length group (4.0 fish/hr) saw the highest number over the past 20 years (Table 16). Largemouth Bass size structure indices are not great (PSD = 17 and RSD_{15} = 5; Table 17) but are higher than previous years. Improvements in size structure are perhaps related to recent removal events of sub- 12.0-in fish (May 2020; n=542; 4.0 fish/acre). The bass population rating has increased to "Good" due to the higher number of bigger fish (≥15.0 in and ≥20.0 in) sampled (Table 18). Larger-size bass were in fair condition (W_r=90) but smaller size groups remained marginal (W_r = 79-81; Table 19). The lake's low productivity and its obligation to remain so (back up water supply lake for city of Lebanon) remains a handicap for bass growth and size structure improvements.

Sunfish

Bluegill and Redear Sunfish were sampled by nocturnal electrofishing on April 21 (Table 20). Despite the lake's low productivity, it has historically supported a good Bluegill and Redear Sunfish fishery. Overall CPUE for Bluegill (338.3 fish/hr) was slightly higher than average when compared to previous years, but the overall Redear Sunfish CPUE (272.5 fish/hr) was the second highest recorded over the last 23 years of sampling (Tables 21 and 22). The majority of the Bluegill sampled were in the <3.0-in and 3.0- to 5.9-in length groups (185.6 and 137.7 fish/hr, respectively), and the <3.0-in length group was well above average while the 3.0- to 5.9-in length group was average when compared to previous years (Table 21). The majority of the Redear Sunfish sampled were in the 3.0- to 5.9-in and 6.0- to 7.9-in length groups (95.8 and 116.8 fish/hr, respectively), and they were the highest and second highest catch rates within the last 23 years (Table 22). Size structure indices for both populations were significantly lower (Bluegill PSD = 10, Redear Sunfish PSD = 50) than the previous sample in 2019 (Bluegill PSD = 54, Redear Sunfish PSD = 62; Table 23). Changes in sunfish population structure are perhaps related to smaller bass removal (4.0 fish/acre) in May of 2020. The Bluegill population assessment decreased to "Poor" due to the very low numbers of ≥6.0-in fish and no catch rate for ≥8.0-in fish (Table 24). The Redear Sunfish population assessment remains "Good", similar to previous years (Tables 25).

Marion County Lake (25 acres)

Largemouth Bass

Nocturnal Largemouth Bass electrofishing was conducted on April 26 (Table 26). The overall catch rate of bass (241.0 fish/hr) was the lowest noted in the past 17 years; below the management objective of 300.0 fish/hr (Table 26). Size structure indices (PSD = 16 and RSD_{15} = 3) increased from the previous sample but remain very low. The population is dominated by fish in the 8.0- to 11.9-in range (151.0 fish/hr) with very poor numbers of fish ≥15.0 in (6.0 fish/hr; Tables 27 and 28). The bass population assessment remains "Fair", and it should be noted that the lake is managed for quality-size sunfish (Table 29).

Green River Lake

Black Bass

Nocturnal bass electrofishing was conducted on the upper and lower ends of each lake arm (Green River and Robinson Creek) during late April and early May (Table 30). The overall Largemouth CPUE of 153.2 fish/hr was similar to the last few years (Table 31) as were most length group catch rates. Quality-size Largemouth Bass catch rates (≥ 5.0 in; 65.7 fish/hr) were the highest we've documented at Green River Lake. Largemouth size structure indices (PSD = 76; RSD=51; Table 32) were similar to previous years. The population assessment for Largemouth Bass remained "Excellent"; similar to the last ten years (Table 33).

Spotted Bass catch rate (44.7 fish/hr; Table 30) returned to the average range after the high CPUE's of the previous two years (2019 = 79.2; 2018=66.0 fish/hr). High numbers of Spotted Bass from these years did not persist into 2021 or reappear in the 2022 spring sample. The population continues to produce notable numbers of fish >12.0 inches in length (PSD =41; Table 32), which was rare prior to Alewife introduction in 2004, when few spotted bass achieved such lengths.

Fall YOY sampling (Tables 34 and 35) suggests a moderate 2022 Largemouth Bass year class as age-0 CPUE >5.0 in (16.7 fish/hr) was slightly less than the average of the last 10 years. The lower lake sites (more nutrient challenged) from both lake arms continue to produce lower numbers of age-0 fish. The higher overall catch rate of age-0 Largemouth (68.5 fish/hr) was bolstered by age-0 fish from upper lake sites. Bass condition indices were reported despite low numbers of larger fish even with a later sampling date (Table 36). Good condition (Wr = 95) was noted for larger size ranges

Crappie

Trap netting for crappie was conducted during early- to mid-December (Table 1). The White Crappie population is represented by multiple year classes containing mainly slower growing individuals (Tables 37 and 39). The White Crappie size structure index (PSD = 41; Table 38) returned to prior year values (2018 PSD=47 and 2014 PSD =49) with a stronger influence of the 2019 year class. Mean age-2+ size of White Crappie (7.8 in) fell below the average of the last 10 years (Table 43); reflective of a slower growing, mildly crowded population. Age-2+ crappie lengths in years prior to 2006, before the persisting population increase, were typically 9.0 in plus. The White Crappie population assessment remained "Good"; only held back by poor grow rates, like prior years (Table 43). The length-weight equation for White Crappie in 2022 was:

$$\text{Log}_{10}\,(\text{weight}) = -3.86033 + 3.52315 \times \text{Log}\,(\text{length})$$

Black Crappie representation in trapnet samples remains low overall (n=47; Tables 37 and 40), but numbers show an increase when combining multiple sampling gears (creel, netting and electrofishing).

Muskellunge

Muskellunge diurnal winter electrofishing was done over multiple days and months (Table 1); however, data use for relative abundance estimates continues to be sketchy. Condition indices (Wr and length-weight regression) based on a limited number of fish (n= 16) suggests Muskellunge condition was "fair", but slightly less fit than previous years (Table 44). This was the first year out of the last four that Muskellunge sampling wasn't precluded by prolonged high water. The length-weight equation for Muskellunge (n=16) was:

$\text{Log}_{10}\,(\text{weight}) = -3.72639 + 3.07713 * \text{Log}_{10}\,(\text{Length})$

Mill Creek Lake (109 acres)

Black Bass

Largemouth Bass were collected by diurnal electrofishing on October 27 to assess condition and collect fin clips for

genetic analysis. Relative weight indices (Wr) indicate bass condition is good for larger sizes (≥15.0 in; Wr=94) and fair for smaller sizes (Table 45). Although the lake has ample sunfish, gizzard shad, and alewife populations, the average condition of smaller size ranges of Largemouth Bass is likely due to competition with the sizeable spotted bass population. The length-weight equation for Largemouth Bass (n=101) was:

$\text{Log10(weight)} = -3.52645 + 3.14769 * \text{Log}_{10}(\text{Length})$

Channel Catfish

Tandem hoop nets were deployed from September 27-30 with a 20.0 fish per net set catch rate. Channel Catfish have been stocked at 15 fish/acre since 2015 (odd year stockings). Although the sample was dominated by smaller sizes (<13.0 in; Table 46), fish were in fairly good condition (Wr = 88- 92; Table 47). The length-weight equation for Channel Catfish (n=100) was:

$\text{Log10(weight)} = -3.94212 + 3.34777 * \text{Log}_{10}(\text{Length})$

Spurlington Lake (25 acres)

Black Bass

Largemouth Bass were sampled by nocturnal electrofishing on April 26 (Table 48). The 2021 and 2022 year classes were both poorly represented (Tables 49 and 51). Catch rates of larger size groups were above average (≥15.0 in = 66.0 fish/hr, >20.0 in = 8.0 fish/hr; Table 50) while intermediate size groups dipped well below average (Table 49). Size structure indices (PSD = 76, RSD=35; Table 50) reflect the skewed population of larger fish. The Largemouth Bass population assessment remains “Excellent”, similar to previous years (Table 51).

Table 1. Lake sampling conditions in the Southwestern Fisheries District in 2022.

Lake	Date	Species	Water temp. surface (F)	Conductivity (umhos)	Secchi (in)	Comments
Barren River	5/2	Bass	74		42	3 ft above summer pool & falling; 3236 cfs outflow
	5/4	Bass	67-68	170	38 & 56	2 ft above summer pool & falling; 3218 cfs outflow
	5/5	Bass	67	170 & 180	56 & 120	1 ft above summer pool & falling; 3200 cfs outflow
	9/7-8,14	Blue Catfish	78-83	200-ish		Thermocline 16-17 ft
	10/3	YOY bass	72-73	210	50	1/2 ft below summer pool & steady; 91 cfs outflow
	10/4	YOY bass	71	190	22	1/2 ft below summer pool & steady; 91 cfs outflow
	10/11	YOY bass	68	195	27	1/2 ft below summer pool & steady; 90 cfs outflow
	10/12	YOY bass	68	205	34	1/2 ft below summer pool & steady; 90 cfs outflow
	11/16-11/17	Hybrid/White Bass	54-56			18 to 19 ft below summer pool & falling; 824 cfs outflow
	12/1-12/2	Hybrid/White Bass	49			23 to 24 ft below summer pool & falling; 1552 cfs outflow
	12/6-12/7	Hybrid/White Bass	46-54			Winter pool & rising; 403 cfs outflow
Fagan Branch	4/21	Bluegill & Redear/Bass	58	107	84	Normal
	10/20	Wr Bass	59			Normal
Green River	4/27	Bass	64-66		74	1 ft above summer pool & falling; 2333 cfs outflow
	4/28	Bass	64-67		66 & 74	1/2 ft above summer pool & falling; 2322 cfs outflow
	5/2	Bass	66-71		61 & 66	Summer pool & steady; 398 cfs outflow
	11/1	YOY Bass	64	125	36	2 ft below summer pool & steady; 454 cfs outflow
	11/2	YOY Bass	64	135	51 & 62	3 ft below summer pool & steady; 454 cfs outflow
	11/3	YOY Bass	64-66	125 & 135	48 & 62	4 ft below summer pool & steady; 454 cfs outflow
	12/7	Crappie	51-55			Winter pool & rising; 438 cfs outflow
	12/8	Crappie	51-54			1 ft above winter pool & rising; 442 cfs outflow
	12/13	Crappie				1/2 ft above winter pool & steady; 438 cfs outflow
	12/14	Crappie	50			1/2 ft above winter pool & steady; 438 cfs outflow
	4/26	Bass	68	53	26	Normal
Marion Co.	9/30	Channel Catfish	64-69		40	Normal
Mill Creek	10/27	Wr Bass	61	210		Normal
Spurlington	4/26	Bass	68	58	18	Normal

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of diurnal electrofishing at Barren River Lake in early May 2022.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Peninsula	Smallmouth Bass																1					1	0.7	0.7
	Spotted Bass		5						3	6	8	15	14	24	24	9	1					109	72.7	9.3
	Largemouth Bass	1	6	9	8	17	11	7	6	3	4	6	9	10	23	27	14	4	4			169	112.7	5.7
Beaver Creek	Smallmouth Bass																					0		
	Spotted Bass																					0		
	Largemouth Bass			1	3	5	14	21	2	1	5	8	11	20	29	15	11	8	1			155	103.3	8.5
Peter Creek	Smallmouth Bass																					0		
	Spotted Bass										1	2	7	3	1		1					15	10.0	2.0
	Largemouth Bass		2	4	5	7	13	5	5	8	3	19	16	24	30	18	10	9	2	1	1	182	121.3	10.4
Walnut Creek	Smallmouth Bass																					0		
	Spotted Bass						1	1		1	2	3	2	4	1	1						16	10.7	4.4
	Largemouth Bass		9	13	3	13	6	6	2	6	3	12	17	16	33	15	14	13	4	1	1	187	124.7	13.7
TOTAL	Smallmouth Bass																1					1	0.2	0.2
	Spotted Bass		5				1	1	3	7	11	20	23	31	26	10	2					140	23.3	9.0
	Largemouth Bass	1	17	27	19	42	44	39	15	18	15	45	53	70	115	75	49	34	11	2	2	693	115.5	4.9

swdbrlbb.d22

Table 3. Spring diurnal electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Barren River Lake 2012-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	25.0	3.4	14.5	2.2	28.0	2.9	48.0	3.2	0.7	0.3	115.5	4.9
2021	3.2	1.1	20.0	1.9	35.7	4.5	31.2	3.2	0.7	0.4	90.0	6.6
2020	no data due to flooding											
2019	no data due to flooding											
2018	no data due to flooding											
2017	31.7	9.5	27.8	5.5	30.0	3.3	35.2	5.5	0.5	0.3	124.7	12.9
2016	7.5	1.6	16.5	2.8	48.0	4.9	23.5	3.9	0.5	0.3	95.5	7.4
2015	10.5	3.1	44.3	6.7	40.2	5.8	24.7	4.3	1.2	0.4	119.7	12.2
2014	26.9	10.0	45.8	6.1	48.7	5.5	44.0	7.2	2.0	0.8	165.3	18.5
2013	no data due to flooding											
2012	31.3	9.0	52.7	7.3	65.2	7.0	54.7	5.6	2.7	0.6	203.8	15.8

swdbrlbb.d12-d22

Table 4. Population assessment of Largemouth Bass based on spring sampling at Barren River Lake 2012-2022 (scoring based on statewide assessment).

	Year													
	2022		2021*		2017		2016		2015		2014*		2012	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Growth														
Mean length age 3 at capture	15.8	4	15.8	4	14.6	4	14.6	4	14.6	4	14.6	4	14.4	4
Size structure														
Spring CPUE 12.0-14.9 in	28.0	3	35.7	4	30.0	3	48.0	4	40.2	4	48.7	4	65.2	4
Size structure														
Spring CPUE ≥15.0 in	48.0	4	31.2	4	35.2	4	23.5	4	24.7	4	44.0	4	54.7	4
Size structure														
Spring CPUE ≥20.0 in	0.7	3	0.7	3	0.5	3	0.5	3	1.2	3	2.0	4	2.7	4
Recruitment														
Spring CPUE age 1	29.4	3	3.5	1	46.8	4	8.0	1	19.2	2	44.5	4	43.8	4
Instantaneous mortality (z)			-0.619								-0.558			
Annual mortality (A)%			46.1								44.2			
Total score	17		16		18		16		17		20		20	
Assessment rating	Excellent		Good		Excellent		Good		Excellent		Excellent		Excellent	

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* Age data collected in fall

Table 5. PSD and RSD values obtained for each black bass species collected during 6.0 hours (12-0.50-hour runs) of spring diurnal electrofishing at each area of Barren River Lake in early May 2022. 95% confidence intervals are in parentheses.

Area	Species	≥Stock size	PSD	RSD[A]
Peninsula	Largemouth Bass	117	83 (±7)	62 (±8)
	Spotted Bass	104	91 (±5)	56 (±9)
Beaver Creek	Largemouth Bass	132	78 (±7)	48 (±8)
	Spotted Bass	0	*	*
Peter Creek	Largemouth Bass	151	86 (±5)	47 (±8)
	Spotted Bass	15	100 (±0)	33 (±24)
Walnut Creek	Largemouth Bass	143	88 (±5)	57 (±8)
	Spotted Bass	16	81 (±20)	38 (±24)
Total	Largemouth Bass	543	84 (±3)	53 (±4)
	Spotted Bass	135	91 (±5)	51 (±9)

[A] Largemouth Bass = RSD_{15}, Spotted Bass = RSD_{14}.

* No fish of sufficient size were collected during sampling.

swdbrlbb.d22

Table 6. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of diurnal electrofishing at Barren River Lake in early October 2022.

		Inch class																				
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Peninsula	Smallmouth Bass																				0		
	Spotted Bass	10	6	2	4	10	1				2	4	2	2							43	28.7	9.7
	Largemouth Bass	56	23	6	1	8	3	3	3	3	2	3	2	9	3	8	1	1	1		136	90.7	9.0
Beaver Creek	Smallmouth Bass																				0		
	Spotted Bass																				0		
	Largemouth Bass	1	188	59	21	25	46	24	7	10	15	6	4	5	3	3	1				418	278.7	2.4
Peter Creek	Smallmouth Bass																				0		
	Spotted Bass	1	5									3									9	6.0	2.0
	Largemouth Bass	52	527	44	7	14	16	6	4	4	7	6	5	3	1	1	2	1		1	701	467.3	184.2
Walnut Creek	Smallmouth Bass																				0		
	Spotted Bass	1	20	12	1			1					2								37	24.7	21.7
	Largemouth Bass	37	188	45	33	26	12	4	7	13	2	1	1		2	2	2				375	250.0	38.8
TOTAL	Smallmouth Bass																				0		
	Spotted Bass	12	31	14	5	10	1	1			2	7	4	2							89	14.8	6.3
	Largemouth Bass	146	926	154	62	73	77	37	21	30	26	16	12	17	9	14	6	2	1	1	1630	271.7	56.9

swdbrlyy.d22

Table 7. Indices of year-class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected during diurnal fall electrofishing at Barren River Lake 2012-2022.

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year-class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.0	<0.1	242.6	57.9	38.2	7.1		
2021	4.4	<0.1	301.7	59.0	69.7	19.6	29.4	3.5
2020	3.9	<0.1	241.0	67.2	29.7	8.1	3.5	1.2
2019	4.3	<0.1	116.1	20.5	27.1	5.7	ND	
2018	3.9	<0.1	210.1	23.7	43.8	11.2	ND	
2017	4.1	<0.1	148.7	36.3	22.0	3.7	ND	
2016	4.3	<0.1	179.5	38.2	34.2	9.9	46.8	13.4
2015	4.0	<0.1	154.8	25.0	18.6	3.2	8.0	1.7
2014	4.0	<0.1	156.2	25.0	36.3	6.6	19.2	
2013	3.9	<0.1	365.3	91.4	57.4	8.3	44.5	13.1
2012	5.1	0.1	69.1	16.5	31.8	10.6	ND	

[A] Data collected by fall (September-November) diurnal electrofishing. Mean lengths were determined by analysis of otoliths removed from a subsample of LMB <10.0 in, and extrapolated to the entire catch of the fall sample.

[B] Data collected during the following spring (April/May) diurnal electrofishing sample.

ND = no data available

swdbrlbb.d12 - d22
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swdbrlyy.d12 - d22

Table 8. Length frequency and CPUE (fish/hr) for Blue and Flathead catfish collected by electrofishing for 3.0 hours (36 - 0.0833-hour runs) on September 7, 8, and 14 at Barren River Lake, KY 2022.

	Inch class																																							
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	Total	CPUE	SE
Blue Catfish	2							1				2		3	5	6	9	2	2	2	1	1	3	3	1	2	1	1		2			3					1	53	17.7	3.5
Flathead Catfish											1	1			1	1	1	1	1	4		1	2	2		1		1		1	1						1		21	7.0	1.9

sw dbrlbc.d22

Table 9. Mean relative weight (W_r) for each length group of Blue Catfish collected by diurnal low-pulse electrofishing at Barren River Lake in early- to mid-September 2022. Standard errors are in parentheses.

	Length group		
	12.0-19.9 in	20.0-29.9 in	≥30.0 in
W_r	92 (5)	99 (3)	95 (5)
N	27	17	6

swdbrlbc.D22

Table 10. Length frequency and CPUE (fish/nn) for Blue Catfish, White Bass, and hybrid striped bass collected by experimental gillnets (11 net-nights) from mid- to late-November and early December at Barren River Lake, KY 2022.

	Inch class																																			
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	Total	CPUE	SE
Blue Catfish										1	3	4	5	2	3	2	2	2	4	6	3	1	3	1	1					1		1			1	46	4.2	2.0
White Bass	1					1	1	2																												5	0.5	0.2
Hybrid striped bass	1	2		1	1	1	5	5	1			6	2	3	7	4	5	7	1	1																53	4.8	1.3

swdbrlgn.d22

Table 11. Age frequency and CPUE (fish/nn) of hybrid striped bass collected from experimental gillnets in mid-November and early-December at Barren River Lake, 2022.

	Inch class																						
Age	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	%	CPUE	SE
0	2		1																	3	6	0.3	0.1
1					1	5	5													11	23	1.0	0.4
2											6	1								7	15	0.6	0.3
3												1	1	3						5	10	0.5	0.2
4													2	4	3	5	1			15	31	1.4	0.5
5																	2			2	4	0.2	0.1
6															1		1			2	4	0.2	0.1
7																							
8																	1		1	2	4	0.2	0.1
9																	1			1	2	0.1	<0.1
Total	2	0	1	0	1	5	5	0	0	0	6	2	3	7	4	5	6	0	1	48	100		
%	4	0	2	0	2	10	10	0	0	0	13	4	6	15	8	10	13	0	2	100			

swdbrlgn.D22; swdbrlag.D22

Table 12. Hybrid striped bass population assessment from experimental gillnetting at Barren River Lake 2012-2022 (scoring based on statewide assessment).

	Year									
	2022		2020		2017		2015		2012	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Population Density										
CPUE age 1 and older	4.4	2	21.3	3	15.5	3	10.1	3	18.0	3
Growth Rate										
Mean length age 2+ at capture	18.6	3	18.5	3	19.5	4	18.5	3	18.4	3
Size Structure										
CPUE ≥15.0 in	3.4	2	19.3	4	13.0	4	8.0	3	12.3	3
Recruitment										
CPUE age 1	1.0	1	1.6	2	9.3	4	2.4	2	7.0	3
Instantaneous mortality (z)									-0.308	
Annual mortality (A)%									26.5	
Total score		8		12		15		11		12
Assessment rating		Fair		Good		Excellent		Good		Good

swdbrlag.d12-22
swdbrlgn.d12-22

Table 13. Mean relative weight (W_r) for each length group of hybrid striped bass collected by gill nets (11 net-nights) at Barren River Lake from mid-November and early-December, 2022. Standard errors are in parentheses.

	Length group		
	8.0-11.9 in	12.0-14.9 in	≥15.0 in
W_r	88 (4)	87 (2)	88 (2)
No.	4	10	35

swdbrlgn.D22

Table 14. Mean back calculated length (in) at each annulus for hybrid striped bass collected from Barren River Lake in mid-November to early-December 2022, including the range of hybrid striped bass at each age and the 95% confidence interval for each age.

		Age								
Year class	No.	1	2	3	4	5	6	7	8	9
2021	8	6.6								
2020	3	10.3	16.4							
2019	4	8.5	15.5	19.2						
2018	12	9.9	16.9	19.8	21.3					
2017	2	7.6	16.0	20.3	22.3	23.4				
2016	2	9.9	17.5	20.2	21.9	22.4	22.9			
2015	0									
2014	2	12.9	16.3	19.0	20.6	21.8	22.8	23.7	24.6	
2013	1	10.1	16.9	20.0	21.3	22.1	22.6	23.1	23.9	24.4
Mean		9.0	16.5	19.7	21.4	22.5	22.8	23.5	24.4	24.4
No.		11	7	5	15	2	2	0	2	1
Smallest		5.4	12.2	17.3	19.4	21.1	21.8	23.1	23.9	24.4
Largest		13.8	19.6	21.9	23.7	23.7	23.9	23.7	24.9	24.4
SE		0.4	0.3	0.2	0.3	0.4	0.3	0.2	0.3	
95% CI (+/-)		0.8	0.6	0.5	0.5	0.8	0.7	0.4	0.5	

Otoliths were used for age-growth determinations; intercept = 0

swdbrlag.d22

Table 15. Largemouth Bass length frequency and CPUE (fish/hr) collected during 1.0 hour (4- 0.25-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on 21 April 2022.

Species	Inch class																		Total	CPUE	SE
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Largemouth Bass	5	10	12	8	34	59	47	55	81	24	10	2	2	2		4	2	2	2	361	361.0	28.8

swdlclbb.d22

Table 16. Spring nocturnal electrofishing CPUE of each length group of Largemouth Bass collected at Fagan Branch Reservoir 2000-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	69.0	17.8	242.0	16.7	36.0	9.9	14.0	4.8	4.0	2.8	361.0	28.8
2019	102.0	6.0	287.0	35.0	45.0	8.7	6.0	2.0			440.0	39.8
2016	82.0	11.4	174.0	25.2	17.0	4.1	6.0	1.2	2.0	1.2	279.0	29.7
2013	56.0	5.2	143.0	4.1	37.0	4.4	5.0	1.9	2.0	2.0	240.0	7.7
2010	80.8	15.5	152.8	9.0	80.8	6.0	13.6	3.5	0.8	0.8	328.0	20.0
2007	84.8	18.2	202.4	4.5	72.8	5.6	8.0	3.6	0.8	0.8	368.0	24.3
2005	105.6	19.2	173.6	19.7	76.8	4.6	15.2	2.9			371.2	39.1
2002	16.0	5.6	50.5	9.2	99.7	6.0	8.0	3.2			174.2	12.9
2001	23.3	4.3	34.0	3.8	110.7	8.1	2.7	1.3			170.7	7.6
2000	10.0	3.8	88.0	9.4	64.0	13.8	0.7	0.7			162.7	18.6

swdlclbb.d00 - d22

Table 17. PSD and RSD_{15} values for Largemouth Bass collected during 1.0 hour (4-0.25-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on 21 April 2022. 95% confidence intervals are in parentheses.

Species	≥Stock size	PSD	RSD_{15}
Largemouth Bass	292	17 (±4)	5 (±3)

swdlclbb.d22

Table 18. Population assessment of Largemouth Bass based on nocturrnal spring sampling at Fagan Branch Reservoir 1999-2022 (scoring based on statewide assessment).

	Year																			
	2022		2019		2016		2013		2010		2007		2005		2002		2001		2000	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age 3 at capture	10.6*	2	10.6*	2	10.6*	2	10.6*	2	10.6*	2	10.6	2	11.5*	3	11.5*	3	11.5*	3	11.5	3
Spring CPUE age 1	27.8	3	26.9	3	67.0	4	32.0	3	12.8	2	20.8	2	44.0	3	16.0	2	17.3	2	4.7	1
Spring CPUE 12.0-14.9 in	36.0	3	45.0	4	17.0	2	37.0	3	80.8	4	72.8	4	76.8	4	100.6	4	110.7	4	64.0	4
Spring CPUE ≥15.0 in	14.0	3	6.0	2	6.0	2	5.0	1	13.6	3	8.0	2	15.2	3	8.6	2	2.7	1	0.7	1
Spring CPUE ≥20.0 in	4.0	4	0.0	1	2.0	3	2.0	3	0.8	2	0.8	2	0.0	1	0.0	1	0.0	1	0.0	1
Instantaneous mortality (z)											0.629								0.361	
Annual mortality (A)%											46.7								30.3	
Total score	15		12		13		12		13		12		14		12		11		10	
Assessment rating	Good		Fair		Good		Fair		Good		Fair		Good		Fair		Fair		Fair	

* No age data, values carried over from years with age data

sw dlclag.d00 & d07

sw dlclbb.d00-d22

Table 19. Mean relative weight (W_r) for each length group of Largemouth Bass collected during 1.0 hour (4- 0.25-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on 20 October 2022. Standard errors are in parentheses.

	Length group		
	8.0-11.9 in	12.0-14.9 in	≥15.0 in
W_r	81 (1)	79 (1)	90 (4)
No.	74	53	8

swdlclwr.D22

Table 20. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected during 0.67 hours (4 - 0.167-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on 21 April 2022.

	Inch class													
Species	1	2	3	4	5	6	7	8	9	10	11	Total	CPUE	SE
Bluegill	67	57	47	27	18	7	3					226	338.3	42.2
Redear Sunfish		5	27	10	27	38	40	20	10	4	1	182	272.5	52.7

swdlclbg.d22

Table 21. Spring electrofishing CPUE (fish/hr) for each length group of Bluegill collected at Fagan Branch Reservoir from 1999-2022. Standard errors are in parentheses.

	Length group				
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	Total
2022	185.6	137.7	15.0		338.3
	(34.7)	(4.2)	(5.2)		(42.2)
2019*	40.0	144.0	142.0	30.0	356.0
	(12.7)	(56.4)	(24.7)	(11.9)	(93.4)
2016	16.5	53.9	115.3	62.9	248.5
	(6.2)	(5.5)	(5.1)	(11.6)	(13.5)
2013	46.4	52.4	83.8	28.4	212.0
	(12.3)	(5.1)	(34.1)	(6.6)	(25.6)
2010	220.0	526.0	242.0	14.0	1002.0
	(47.6)	(63.4)	(39.7)	(8.3)	(96.0)
2007	76.0	50.0	78.0	36.0	240.2
	(11.6)	(20.8)	(24.1)	(20.8)	(47.8)
2005	74.3	198.2	42.8	42.8	319.8
	(18.9)	(30.6)	(11.9)	(11.9)	(37.6)
2001	99.1	102.1	105.1	22.5	328.8
	(46.1)	(48.9)	(32.7)	(9.5)	(97.9)
2000	16.7	32.0	47.3	6.7	102.7
	(6.5)	(8.3)	(6.4)	(2.2)	(10.8)
1999	5.3	20.0	46.0	4.0	75.3
	(2.2)	(8.3)	(9.6)	(2.1)	(14.0)

swdlclbg.d99 - d22

* Based on 4 runs of 450s vs the normal 600s

Table 22. Spring electrofishing CPUE (fish/hr) for each length group of Redear Sunfish collected at Fagan Branch Reservoir from 1999-2022. Standard errors are in parentheses.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
2022	7.5	95.8	116.8	52.4	7.5	272.5
	(4.5)	(10.7)	(25.7)	(24.6)	(1.5)	(52.7)
2019*		64.0	154.0	136.0	8.0	354.0
		(16.0)	(30.0)	(34.1)	(3.3)	(37.2)
2016	3.0	1.5	10.5	41.9	1.5	56.9
	(1.7)	(1.5)	(5.1)	(10.1)	(1.5)	(9.0)
2013	1.5	25.5	62.9	31.4	1.5	120.0
	(1.5)	(8.9)	(24.5)	(6.2)	(1.5)	(31.2)
2010		86.0	40.0	42.0	4.0	168.0
		(18.3)	(19.6)	(7.6)	(2.3)	(40.3)
2007	12.0	40.0	36.0	114.0	16.0	202.0
	(12.0)	(17.0)	(20.0)	(43.0)	(8.6)	(69.5)
2005		24.8	58.6	31.5	2.3	114.9
		(10.0)	(16.7)	(9.4)	(2.3)	(22.2)
2001		3.0	27.0	9.0	3.0	39.0
		(1.0)	(6.6)	(2.3)	(1.9)	(9.2)
2000			1.3	4.7	1.3	6.0
			(0.8)	(1.2)	(1.3)	(0.9)
1999	1.3	1.3	10.0	8.0	4.0	20.7
	(1.3)	(1.3)	(3.1)	(2.5)	(1.5)	(5.4)

swdlclbg.d99 - d22

* Based on 4 runs of 450s vs the normal 600s

Table 23. Proportional stock density (PSD) and relative stock density (RSD) of Bluegill and Redear Sunfish collected by nocturnal electrofishing at Fagan Branch Reservoir on 21 April 2022. Numbers in parentheses represent 95% confidence intervals.

Species	≥Stock size	PSD	RSD[a]
Bluegill	102	10 (±6)	0
Redear Sunfish	150	50 (±8)	10 (±5)

[a] Bluegill=RSD_8; Redear=RSD_9

swdlclbg.d22

Table 24. Bluegill population assessments from 1999-2022 at Fagan Branch Reservoir (scoring based on statewide assessment).

	Year																			
	2022		2019		2016		2013		2010		2007		2005		2001		2000		1999	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age 2 at capture	2.9*	1	2.9*	1	2.9*	1	2.9*	1	2.9	1	2.9*	1	2.9*	1	2.9*	1	2.9*	1	2.9*	1
Years to 6.0 in	3.8*	3	3.8*	3	3.8*	3	3.8*	3	3.8	3	3.8*	3	3.8*	3	3.8*	3	3.8*	3	3.8*	3
CPUE ≥6.0 in	15.0	1	172.0	4	178.1	4	112.3	4	256.0	4	114.0	4	47.3	2	127.6	4	54.0	2	50.0	2
CPUE ≥8.0 in	0.0	1	30.0	4	62.9	4	28.4	4	14.0	4	36.0	4	4.5	3	22.5	4	6.7	4	4.0	3
Instantaneous mortality (z)									-1.03											
Annual mortality (A)									64.2											
Total score:		6		12		12		12		12		12		9		12		10		9
Assessment rating		Poor		Good		Good		Good		Good		Good		Fair		Good		Good		Fair

*No age data, values carried over from years with age data

sw dlclag.d10

sw dlclbg.d99 - d22

Table 25. Redear Sunfish population assessments from 1999-2022 at Fagan Branch Reservoir (scoring based on statewide assessment).

	Year																			
	2022		2019		2016		2013		2010		2007		2005		2001		2000		1999	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age 3 at capture	5.7*	1	5.7*	1	5.7*	1	5.7*	1	5.7	1	5.7*	1	5.7*	1	5.7*	1	5.7*	1	5.7*	1
Years to 8.0 in	4.6*	3	4.6*	3	4.6*	3	4.6*	3	4.6	3	4.6*	3	4.6*	3	4.6*	3	4.6*	3	4.6*	3
CPUE ≥8.0 in	52.4	4	290.0	4	41.9	4	31.4	4	40.0	4	36.0	4	58.6	4	27.0	4	1.3	1	10.0	3
CPUE ≥10.0 in	7.5	4	8.0	4	1.5	3	1.5	3	4.0	4	16.0	4	2.3	4	3.0	4	1.3	3	4.0	4
Instantaneous mortality (z)									-0.78											
Annual mortality (A)									54.3											
Total score:		12		12		11		11		12		12		12		12		8		11
Assessment rating		Good		Good		Good		Good		Good		Good		Good		Good		Fair		Good

*No age data, values carried over from years with age data

sw dlclag.d10

sw dlclbg.d99 - d22

Table 26. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 1.0 hour (4 - 0.250-hour runs) of nocturnal electrofishing at Marion Co. Lake on 26 April 2022.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	4	19	26	10	3	30	53	35	33	12	7	3	2		2		1		1	241	241.0	17.0

swdmclbb.d22

Table 27. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Marion County Lake 2005-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022*	62.0	8.1	151.0	13.5	22.0	3.5	6.0	3.8	1.0	1.0	241.0	17.0
2019*	148.0	25.5	241.0	9.2	16.0	5.7	8.0	4.3	1.0	1.0	413.0	40.1
2016	110.9	45.9	181.7	18.7	14.9	4.4	25.1	6.4	4.6	2.4	332.6	45.9
2013	56.0	12.1	121.1	19.2	51.4	8.0	14.9	4.8	3.4	3.4	243.4	30.4
2010	140.6	24.1	316.6	22.2	11.4	4.9	2.3	2.3			470.9	44.7
2009	125.0	19.3	472.0	43.0	12.0	3.4	11.0	3.7	4.0	2.1	620.0	56.0
2008	209.1	28.5	385.1	30.4	16.0	3.9	16.0	3.5	3.4	1.6	626.3	50.0
2007	221.0	23.9	371.0	32.2	28.0	6.9	12.0	3.0	1.0	1.0	632.0	47.7
2006	112.0	20.8	170.3	30.6	59.4	5.5	38.9	4.1			380.6	53.8
2005	101.7	17.7	123.4	13.4	133.7	20.2	9.1	2.7	1.1	1.1	368.0	44.8

swdmclbb.d05 - d22

* Based on 4 runs of 900 sec vs the normal 7 runs of 450 sec

Table 28. PSD and RSD_{15} values obtained for Largemouth Bass collected during 1.0 hour (4 - 0.250-hour runs) of spring nocturnal electrofishing at Marion County Lake on 26 April 2022. 95% confidence intervals are in parentheses.

Species	≥Stock size	PSD	RSD_{15}
Largemouth Bass	179	16 (±6)	3 (±3)

swdmclbb.d22

Table 29. Population assessment of Largemouth Bass based on nocturnal spring sampling at Marion County Lake from 2005-2022 (scoring based on statewide assessment).

	Year																			
	2022		2019		2016		2013		2010		2009		2008		2007		2006		2005	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age 3 at capture	10.7*	2	10.7*	2	10.7*	2	10.7*	2	10.7*	2	10.7	2	11.9*	4	11.9*	4	11.9*	4	11.9*	4
Spring CPUE age 1	60.0*	4	145.0*	4	94.0*	4	49.0*	4	76.0*	4	55.0	4	201.1	4	7.0	1	19.4	2	101.7	4
Spring CPUE 12.0-14.9 in	22.0	2	16.0	2	14.9	2	51.4	4	11.4	1	12.0	1	16.0	2	28.0	3	59.4	4	133.7	4
Spring CPUE ≥15.0 in	6.0	2	8.0	2	25.1	3	14.9	3	2.3	1	11.0	2	16.0	3	12.0	2	38.9	4	9.1	2
Spring CPUE ≥20.0 in	1.0	2	1.0	2	4.6	4	3.4	3	0.0	1	4.0	4	3.4	3	1.0	2	0.0	1	1.1	2
Instantaneous mortality (z)											-1.46									
Annual mortality (A)%											76.7									
Total score		12		12		15		16		9		13		16		12		15		16
Assessment rating		Fair		Fair		Good		Good		Fair		Good		Good		Fair		Good		Good

* No age data collected, age-0 cutoff breakpoint by length frequency.

sw dmclbb.d05-d22

Table 30. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of nocturnal electrofishing at Green River Lake from April 27-May 2, 2022.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Green River Arm																								
Holmes Bend	Smallmouth Bass						1		1	2		1										5	3.3	1.8
	Spotted Bass			2			5	3	4	1	3	1	2		1							22	14.7	7.3
	Largemouth Bass		1	14	1	14	15	10	13	25	12	10	19	17	26	25	23	16	3	1		245	163.3	17.9
Ramp 1	Smallmouth Bass		4	1	2	4	2		1			1			1					1		17	11.3	4.4
	Spotted Bass				1	7	5	11	11	4	12	24	9	5	4	1						94	62.7	24.7
	Largemouth Bass		1	14	10	7	10	5	25	11	10	15	19	10	26	23	28	17	8	3		242	161.3	14.6
Robinson Creek Arm																								
Smith Ridge	Smallmouth Bass		1					1														2	1.3	1.3
	Spotted Bass		1	1	2	3	1	12	5	4	6	3		1	1							40	26.7	9.0
	Largemouth Bass		2	11	10	6	7	5	6	9	10	6	13	16	10	10	14	8	3	2		148	99.0	7.1
Lone Valley	Smallmouth Bass		1	1	1	7	3	3	1	1	2	1		1	1	1		1				25	16.7	2.9
	Spotted Bass	1	2	1	1	8	11	11	16	7	18	16	9	5	5	1						112	74.7	11.4
	Largemouth Bass		4	4	3	4	4	1	13	24	11	21	24	23	29	44	36	17	15	5	2	284	189.3	22.3
TOTAL	Smallmouth Bass		6	2	3	11	6	4	3	3	2	3		1	2	1		1		1		49	8.2	2.2
	Spotted Bass	1	3	4	4	18	22	37	36	16	39	44	20	11	11	2						268	44.7	9.8
	Largemouth Bass		8	43	24	31	36	21	57	69	43	52	75	66	91	102	101	58	29	11	2	919	153.2	12.3

sw dgrlbb.d22

Table 31. Spring diurnal electrofishing CPUE (fish/hr) of Largemouth Bass by length group collected at Green River Lake during late-April to early-mid May since 1997.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	23.7	3.5	31.7	4.6	32.2	3.3	65.7	9.4	2.2	0.6	153.2	12.3
2021	16.5	3.0	35.5	6.3	35.0	4.2	38.8	2.5	1.5	0.5	125.8	11.6
2020	no data due to flooding											
2019	26.7	4.8	35.7	3.8	40.7	3.9	37.5	4.6	2.8	0.5	140.5	5.6
2018	13.3	3.8	37.8	6.4	40.2	4.2	45.8	4.4	2.7	0.7	137.2	16.1
2017	21.8	5.9	41.5	6.3	40.8	6.4	59.8	4.7	4.0	0.9	164.0	11.7
2016	15.0	3.7	13.0	2.7	25.0	4.7	40.0	5.8	2.5	0.7	93.5	9.1
2015	9.2	1.8	23.3	6.0	23.7	3.7	51.7	5.9	2.7	0.7	107.8	15.0
2014	no data due to flooding											
2013	4.2	0.7	23.7	3.7	44.0	4.8	52.8	5.3	3.3	0.7	124.7	11.7
2012	16.5	4.3	54.8	6.3	35.3	6.4	38.0	5.4	1.3	0.5	144.7	16.3
2011	no data due to flooding											
2010	no data due to flooding											
2009	7.2	1.8	11.3	3.4	13.0	2.7	42.8	7.9	1.7	0.8	74.3	12.3
2008	22.8	9.5	25.8	4.7	27.8	4.0	30.2	2.7	0.8	0.4	106.7	17.0
2007	3.8	1.0	20.5	2.5	33.7	5.8	22.2	3.6	0.5	0.3	80.2	10.3
2006	15.1	2.0	44.4	3.6	23.1	2.8	18.9	2.1	0.3	0.2	96.2	5.3
2005	67.8	8.0	30.7	2.8	11.7	1.9	16.8	2.5	1.5	0.7	127.0	12.5
2004	17.3	2.7	22.8	2.1	11.6	1.8	15.6	2.6	0.9	0.3	67.3	6.4
2003	5.8	1.4	12.3	2.1	5.8	1.8	18.2	3.0	1.8	0.7	42.2	4.1
2002	5.0	1.1	9.5	1.5	20.5	2.5	13.0	2.5	1.2	0.4	48.0	4.2
2001	10.2	2.5	26.7	3.0	32.2	6.5	12.5	1.5	1.7	0.4	81.5	7.8
2000	2.5	0.9	41.0	4.4	24.2	3.4	14.7	3.4	3.2	1.0	82.3	8.6
1999	21.4	3.8	53.5	7.2	19.4	4.0	14.3	1.7	2.8	0.8	108.6	12.5
1998	33.5	7.7	9.0	1.8	8.8	2.0	17.5	1.8	2.0	0.7	68.8	8.6
1997	3.7	1.0	22.3	2.5	23.3	2.8	23.2	2.1	1.2	0.5	72.5	5.2

sw dgrlbb.D97-D22

Table 32. PSD and RSD values for each black bass species collected during 6.0 hours (12- 0.50-hour runs) of nocturnal electrofishing by area at Green River Lake from April 27 - May 2, 2022. 95% confidence intervals are in parentheses.

Area	Species	>Stock size	PSD	RSD[A]
Green River Arm				
Holmes Bend	Largemouth Bass	200	70 (±6)	47 (±7)
	Spotted Bass	20	35 (±21)	*
	Smallmouth Bass	0	*	*
Ramp 1	Largemouth Bass	200	75 (±7)	53 (±7)
	Spotted Bass	86	70 (±6)	12 (±6)
	Smallmouth Bass	3	*	*
Robinson Creek Arm				
Smith Ridge	Largemouth Bass	112	73 (±8)	42 (±9)
	Spotted Bass	33	33 (±10)	*
	Smallmouth Bass	1	*	*
Lone Valley	Largemouth Bass	265	82 (±6)	48 (±8)
	Spotted Bass	99	55 (±10)	11 (±6)
	Smallmouth Bass	15	47 (±26)	27 (±23)
Total	Largemouth Bass	777	76 (±3)	51 (±4)
	Spotted Bass	238	53 (±6)	10 (±4)
	Smallmouth Bass	27	41 (±19)	22 (±18)

[A] Largemouth bass = RSD_{15}, Spotted Bass and Smallmouth Bass = RSD_{14}.

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Table 33. Population assessment of Largemouth Bass based on nocturnal spring sampling at Green River Lake from 2009-2022 (scoring based on statewide assessment).

	2022		2021		2019		2018		2017		2016		2015		2013		2012		2009	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age 3 at capture	13.1	4	13.1	4	13.1	4	13.1	4	13.1	4	13.1	4	13.1	4	14.6	4	14.6	4	14.6	4
Spring CPUE age 1	25.5	3	No data		34.3	3	17.7	2	34.5	3	17.3	2	16.0	2	3.8	1	15.5	2	7.2	1
Spring CPUE 12.0-14.9 in	32.2	4	35.0	4	40.7	4	40.2	4	40.8	4	25.0	3	23.7	3	44.0	4	35.3	4	13.0	1
Spring CPUE ≥15.0 in	65.7	4	38.8	4	37.5	4	45.8	4	59.8	4	40.0	4	51.7	4	52.8	4	39.3	4	42.8	4
Spring CPUE ≥20.0 in	2.2	4	1.5	4	2.8	4	2.7	4	4.0	4	2.5	4	2.7	4	3.3	4	1.3	4	1.7	4
Instantaneous mortality (z)													-0.473						-0.610	
Annual mortality (A)%													37.71						45.7	
Total score		19		>16		19		18		19		17		17		17		18		14
Assessment rating		Excellent		Excellent		Excellent		Excellent		Excellent		Excellent		Excellent		Excellent		Excellent		Good

sw dgrlag.D09, 15

sw dgrlbb.D09-D22

Table 34. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of diurnal electrofishing at Green River Lake from November 1-3, 2022.

		Inch class																				
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Green River Arm																							
Holmes Bend	Smallmouth Bass		1		1														1		3	2.0	1.2
	Spotted Bass		22	30	4	2	5	4	6	6		2	1								82	54.7	8.1
	Largemouth Bass	6	88	64	27	13	23	10	10	11	4	3	3	2	1	4	2	1	1		273	182.0	18.2
Ramp 1	Smallmouth Bass	1	17	6	2	2	3	1	2	1	1	2					1				39	26.0	3.1
	Spotted Bass	7	41	2	1	2		2	4	6	2			2							69	46.0	8.3
	Largemouth Bass	12	38	5			3	4	6	2	1	2			3		1	1	1	1	80	53.3	8.1
Robinson Creek Arm																							
Smith Ridge	Smallmouth Bass			3					1												4	2.7	1.8
	Spotted Bass	1	18	13	2		2	3	2	3	4		1	1	1	1	1				53	35.3	7.0
	Largemouth Bass	3	47	19	8	15	11	5	8	4	6	3	1	1	2	4	3		1		141	94.0	25.1
Lone Valley	Smallmouth Bass	1	11	12	1	4	3	1		4		1	1			1					40	26.7	12.7
	Spotted Bass	23	60	3	1	1	3	3	2	2	1	1	1	1	1						103	68.7	18.3
	Largemouth Bass	9	23			1	1	2	2		1	1	3	2		6	2	1			54	36.0	11.0
TOTAL	Smallmouth Bass	2	29	21	4	6	6	2	3	5	1	3	1			1	1		1		86	14.3	4.6
	Spotted Bass	31	141	48	8	5	10	12	14	17	7	3	3	4	2	1	1				307	51.2	6.1
	Largemouth Bass	30	196	88	35	29	38	21	26	17	12	9	7	5	6	14	8	3	3	1	548	91.3	18.5

sw dgrlyy.d22

Table 35. Largemouth Bass mean length (in) at age 0 and catch rates at age 0 and age 1 at Green River Lake since 2002.

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.3	0.1	68.5	15.7	16.2	3.8		
2021	4.6	0.1	69.3	16.4	24.5	7.3	25.5	3.7
2020	4.3	<0.1	79.5	15.3	19.7	4.9	ND	
2019	3.5	<0.1	108.0	20.3	9.8	3.4	ND	
2018	5.2	0.1	72.2	9.4	36.8	6.9	34.3	5.6
2017	4.8	0.1	19.0	6.6	7.0	2.5	17.7	4.5
2016	5.1	0.1	55.3	8.7	30.3	7.9	34.7	8.8
2015	5.7	0.1	65.0	22.6	44.7	15.8	17.5	4.2
2014	data collected too late for comparision to other years							
2013	5.9	0.1	26.0	15.4	19.3	12.9	ND	
2012	4.2	0.1	16.5	4.2	5.0	2.0	3.8	0.8
2011	3.9	0.1	28.8	7.5	5.8	1.5	15.5	4.0
2010	4.8	0.1	45.0	8.1	18.3	4.9	ND	

[A] Data collected by fall (late-Sept through early November) diurnal electrofishing. Mean lengths were determined by otolith taken from a subsample of LMB <9.0 in and extrapolated to the entire catch of the fall sample.

[B] Data collected during the following spring (May) nocturnal electrofishing.

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swdgrlag. D10 - D22

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ND = no data due to spring flooding

Table 36. Mean relative weight (W_r) for each length group of black bass collected by diurnal electrofishing from each area sampled at Green River Lake during early-November 2022 . Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Holmes Bend	35	89 (1)	8	91 (3)	9	92 (5)
	Ramp 1	13	87 (2)	2	84 (18)	7	99 (3)
	Lone Valley	5	81 (2)	6	89 (1)	9	88 (3)
	Smiths Ridge	22	84 (2)	5	91 (5)	9	101 (4)
	Total	75	87 (1)	21	90 (2)	34	95 (2)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	W_r	No.	W_r	No.	W_r
Spotted Bass	Holmes Bend	20	97 (3)	3	86 (6)	0	0
	Ramp 1	12	94 (2)	2	92 (2)	2	106 (5)
	Lone Valley	10	98 (4)	3	94 (7)	2	86 (0)
	Smiths Ridge	10	93 (3)	5	97 (6)	4	102 (4)
	Total	52	96 (2)	13	93 (3)	8	99 (3)

swdgrlyy.D22

Table 37. Length frequency and CPUE (fish/nn) for each inch class of crappie collected by trap net (59 net-nights) at Green River Lake on November 7-8 and 13-14, 2022 .

Species	Inch class												Total	CPUE	SE
	3	4	5	6	7	8	9	10	11	12	13	14			
White Crappie	85	24	122	373	611	311	236	151	57	14	5	1	1990	33.7	5.6
Black Crappie			3	7	14	16	6	1					47	0.8	0.3

swdgrltn.d22

Table 38. Proportional stock density (PSD) and relative stock density (RSD_{10}) of White and Black crappie collected by trap nets (59 net-nights) at Green River Lake from early-mid November 2022. Numbers in parentheses represent 95% confidence intervals.

Species	≥ Stock size	PSD	RSD_{10}
White Crappie	1881	41 (±2)	12 (±2)
Black Crappie	47	49 (±15)	0

swdgrltn.D22

Table 39. Age frequency and CPUE (fish/nn) of White Crappie collected during 51 net-nights at Green River Lake during late-November 2022.

	Inch class															
	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	SE
Age																
0	85	24											109	5.0	1.9	0.6
1			122	311	64	13							510	26.0	8.7	1.6
2				31	257	104	11	16					419	21.0	7.1	1.2
3					162	156	150	111	23	1			603	30.0	10.2	2.1
4				31	64	13	43	24	23	2			200	10.0	3.4	0.6
5						13	21			4		1	39	2.0	0.7	0.1
6									3	1	2		6	0.0	0.1	<0.1
7					64	13	11		7	5	2		102	5.0	1.7	0.3
8											1		1	0.0	<0.1	<0.1
9										1			1	0.0	<0.1	<0.1
Total	85	24	122	373	611	311	236	151	57	14	5	1	1990	99.0		
%	4	1	6	19	31	16	12	8	3	1	<1	<1	100			

swdgrltn.d22; swdgrlag.d22

Table 40. Age frequency and CPUE (fish/nn) of Black Crappie collected during 59 net-nights at Green River Lake during early-mid November 2022.

	Inch class									
	5	6	7	8	9	10	Total	%	CPUE	SE
Age										
0							0			
1	3	7	2				12	25.0	0.2	0.1
2			3	1			4	11.0	0.09	0.03
3			7	10	4	1	22	47.0	0.37	0.11
4			2	5	1		8	16.0	0.1	<0.1
5					1		1	3.0	<0.1	<0.1
Total	3	7	14	16	6	1	47	100		
%	6	15	30	34	13	2	100			

swdgrltn.d22; swdgrlag.d22

Table 41 . Mean back calculated length (in) at each annulus for White Crappie collected from Green River Lake in early-mid November 2022, including the range of White Crappie at each age and the 95% confidence interval for each age.

		Age								
Year class	No.	1	2	3	4	5	6	7	8	9
2021	23	4.6								
2020	21	4.7	6.9							
2019	53	4.9	7.2	8.6						
2018	21	5.1	7.2	8.5	9.2					
2017	7	4.4	7.0	8.7	9.9	10.7				
2016	4	4.8	7.1	9.1	10.3	11.4	12.2			
2015	12	4.5	6.4	7.2	8.1	9.2	10.0	10.6		
2014	1	5.4	7.4	8.3	9.2	10.4	11.6	12.5	13.1	
2013	1	4.5	7.1	8.0	8.9	9.8	11.0	11.6	12.2	12.5
Mean		4.8	7.1	8.4	9.1	10.0	10.6	10.8	12.7	12.5
No.	143									
Smallest		3.4	4.8	5.4	6.3	6.8	7.1	7.3	12.2	12.5
Largest		6.8	10.1	11.6	12.0	13.6	12.7	12.7	13.1	12.5
SE		0.1	0.1	0.1	0.2	0.3	0.4	0.5	0.4	
95% CI (+/-)		0.2	0.03	0.8	0.8	0.9	2.4	2.6	2.4	

Otoliths were used for age-growth determinations; intercept = 0
swdgrlag.d22

Table 42. Mean back calculated length (in) at each annulus for Black Crappie collected from Green River Lake in early-mid November 2022, including the range of Black Crappie at each age and the 95% confidence interval for each age.

		Age				
Year class	No.	1	2	3	4	5
2021	11	4.5				
2020	3	4.5	6.5			
2019	14	4.6	6.7	7.8		
2018	5	4.5	6.2	7.3	7.9	
2017	1	4.3	6.7	8.3	8.8	9.0
Mean		4.5	6.5	7.7	8.1	9.0
No.	34					
Smallest		3.7	5.5	6.3	7.0	9.0
Largest		6.1	8.0	9.2	8.8	9.0
SE		0.1	0.1	0.1	0.3	
95% CI (+/-)		0.3	0.5	0.9	1.1	

Otoliths were used for age-growth determinations; intercept = 0
swdgrlag.d22

Table 43. White Crappie assessment from fall trap net samples at Green River Lake from 2008 - 2022 (scoring based on statewide assessment).

	CPUE excluding age 0		CPUE age 1		CPUE age 0		CPUE ≥8.0 in		Mean length age 2 at capture		Mortality			
Year	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	Instantaneous (z)	Annual (A)	Assessment	Rating
2022	31.9	4	8.7	4	1.9	3	13.1	4	7.8	1			16	G
2020	14.8	4	7.8	4	1.6	3	4.7	3	8.3	2	-0.67998	49.4	16	G
2018	21.0	4	5.7	3	3.6	3	10.0	4	8.7	2	NA		16	G
2016	16.8	4	2.2	2	2.3	3	4.5	3	7.5	1	NA		13	G
2014	23.1	4	8.8	4	2.6	3	11.2	4	8.5	2	-0.58989	44.6	17	E
2012	18.2	4	3.8	3	0.1	1	8.8	4	8.1	2	NA		14	G
2011	22.9	4	8.3	4	2.6	3	10.0	4	7.9	1	NA		16	G
2010	17.8	4	0.7	1	1.3	2	11.1	4	7.5	1	-1.10117	66.8	12	F
2009	20.1	4	4.1	3	0.9	2	9.7	4	ND	1	ND		14	G
2008	9.0	3	0.7	1	0.9	2	4.7	3	7.8	1	-0.728739	51.7	10	F

NA - catch data not amenable to mortality estimates

ND - no age data available

sw dgltn.D08 - D22

sw dgrlag.D08-D22

Table 44. Mean relative weight (W_r) for each length group of Muskellunge collected by diurnal electrofishing at Green River Lake during winter months (Feb. 8 - Mar. 16) of 2022. Standard errors are in parentheses.

	Length group		
	20.0-29.9 in	30.0-37.9 in	>38.0 in
W_r	*	89 (2)	87 (12)
N	0	14	2

grlmywr.D22

Table 45. Mean relative weight (W_r) for each length group of Largemouth Bass collected by diurnal electrofishing at Mill Creek Lake from 27 October 2023. Standard errors are in parentheses.

	Length group		
	8.0-11.9 in	12.0-14.9 in	≥15.0 in
W_r	81(1)	87 (2)	94 (1)
N	24	32	45

swdmilwr.D22

Table 46. Length frequency and CPUE (fish/set-night) of channel catfish collected in baited, tandem set hoopnets (5 set-nights; 5 nets per set w/3-day soak time) at Mill Creek Lake September 27-30, 2022.

	Inch class															
Species	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Channel Catfish	3	21	19	17	4	2	4	8	8	5	4	2	3	100	20.0	7.6

swdmilcc.d22

Table 47. Mean relative weight (W_r) for each length group of channel catfish collected by tandem set hoopnets (8 set-nights) at Mill Creek Lake from September 27 -30 2022. Standard errors are in parentheses.

	Length group		
	11.0-15.9 in	16.0-23.9 in	≥24.0 in
W_r	88 (2)	92 (2)	*
N	46	30	0

swdmilcc.D22

Table 48. Length frequency and CPUE (fish/hr) of Largemouth Bass collected during 0.50 hours (4- 0.125-hour runs) of nocturnal electrofishing at Spurlington Lake on 26 April, 2022.

	Inch class																		
Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	1	1		7	4	6	5	16	7	15	8	8	6	4	3	4	95	190.0	29.3

swdsplbb.D22

Table 49. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of Largemouth Bass collected at Spurlington Lake during mid-April to early-May since 2002.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.0	2.3	44.0	9.5	76.0	14.8	66.0	8.9	8.0	3.3	190.0	29.3
2019	32.0	3.3	78.0	15.1	130.0	13.6	184.0	24.0	14.0	6.8	424.0	33.9
2016	20.0	10.1	96.0	16.7	206.0	8.9	84.0	12.4	4.0	2.3	406.0	27.8
2013	22.0	8.3	160.0	25.9	96.0	5.7	44.0	11.6	4.0	4.0	322.0	42.0
2010	10.0	7.6	136.0	20.7	68.0	12.4	34.0	6.0	4.0	2.3	247.0	24.0
2009	6.0	6.0	128.0	9.8	118.0	26.2	58.0	10.0	2.0	2.0	310.0	45.3
2008	46.0	20.8	150.0	26.0	164.0	15.5	32.0	7.3	2.0	2.0	392.0	46.7
2007	12.0	5.2	92.0	6.9	66.0	6.0	14.0	3.8	2.0	2.0	184.0	3.3
2006	30.4	11.7	168.0	26.9	137.6	22.7	28.8	7.4	4.8	3.2	364.8	19.7
2005	42.0	13.2	130.0	26.2	146.0	12.4	20.0	2.3	2.0	2.0	338.0	23.2
2004	28.9	6.6	200.0	40.6	109.6	10.6	19.2	5.0	1.9	1.9	372.0	39.8
2003	61.5	14.4	233.9	29.2	123.1	11.4	12.3	3.1	1.5	1.5	448.0	47.2
2002	21.6	3.9	145.1	14.1	174.5	22.1	35.3	3.4	2.9	2.9	384.0	32.8

swdsplbb. D02 - D22

Table 50. PSD and RSD_{15} values obtained for Largemouth Bass collected during spring nocturnal electrofishing at Spurlington Lake during late-April to mid-May. 95% confidence intervals are in parentheses.

Year	≥ Stock size	PSD	RSD_{15}
2022	93	76 (±7)	35 (±10)
2019	196	80 (±6)	47 (±7)
2016	193	75 (±6)	22 (±8)
2013	150	47 (±8)	15 (±6)
2010	119	43 (±9)	14 (±7)
2009	152	58 (±8)	19 (±6)
2008	173	57 (±7)	9 (±4)
2007	86	47 (±10)	8 (±6)
2006	209	49 (±7)	9 (±4)
2005	148	56 (±8)	7 (±4)

swdsplbb.D05 -D22

Table 51. Population assessment of Largemouth Bass based on nocturnal spring sampling at Spurlington Lake from 2006-2022 (scoring based on statewide assessment).

	2022		2019		2016		2013		2010		2009		2008		2007		2006	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture	12.0	4	12.0	4	12.0	4	12.0	4	12.0	4	12.0	4	12.0	4	12.0	4	12.0	4
Spring CPUE age-1	18.0	2	8.0	2	20.0	2	22.0	2	10.0	2	6.0	1	46.0	3	2.0	1	16.0	2
Spring CPUE 12.0-14.9 in	44.0	4	130.0	4	206.0	4	96.0	4	68.0	4	118.0	4	164.0	4	66.0	4	137.6	4
Spring CPUE ≥15.0 in	66.0	4	184.0	4	84.0	4	44.0	4	34.0	4	58.0	4	32.0	4	14.0	3	28.8	4
Spring CPUE ≥20.0 in	8.0	4	14.0	4	4.0	4	4.0	4	4.0	4	2.0	3	2.0	3	2.0	3	4.8	4
Instantaneous mortality (z)																		
Annual mortality (A)%																		
Total score		18		18		18		18		17		15		18		15		18
Assessment rating		Excellent		Excellent		Excellent		Excellent		Excellent		Good		Excellent		Good		Excellent

sw dsplag.D04

sw dsplbb.D02-D22

CENTRAL FISHERIES DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Lake sampling conditions for 2022 are summarized in Table 1.

Taylorsville Lake (3,050 acres)

Spring nocturnal electrofishing was completed in April 2022 to assess the black bass population. Three sections (Big Beech Creek, Ashes/Jacks Creek, and Van Buren area) of Taylorsville Lake were sampled for 7.5 hours (2.5 hours per section; 15-minute runs). Length distribution and CPUE for Largemouth Bass are presented in Tables 2 and 3. The catch rate of bass collected in 2022 (107.7 fish/hr) was lower than the lake's historic average of 120.1 fish/hr. Catch rates for keeper-size bass (≥15.0 in) was 27.2 fish/hr; higher than the lake average (19.3 fish/hr). The Big Beech Creek area recorded the highest catch rate for Largemouth Bass. The PSD for Largemouth Bass was 74, which was higher than the lake's average of 57 (Table 4). Additionally, the RSD_{15} value was 31, which is higher than the lake's average of 22. The Largemouth Bass population assessment score, based on spring electrofishing data, was "Excellent", which has been the average rating at Taylorsville Lake since 2014 (Table 5). Length frequency, relative weights, and index for year class strength at age 0 for Largemouth Bass, based on September 2022 electrofishing data, are presented in Tables 6-8. Average body condition for Largemouth Bass in 2022 (W_r =96; Table 7) was acceptable, and equal to the lake's historic average (W_r =96). Catch rate of age-0 Largemouth Bass in the fall of 2022 (44.2 fish/hr) was higher than the lake's historic average of 37.8 fish/hr (Table 8). The year class strength model indicated above average recruitment for young-of-the-year Largemouth Bass in 2022. A total of 15,263 surplus Largemouth Bass (5.0 fish/acre; 4.3 in) were stocked into Taylorsville Lake in October 2022.

Saugeye were collected during the spring and fall Largemouth Bass samples. During the spring sample, 22 saugeye were collected from the 9.0- to 23.0-in size class for a catch rate of 2.9 fish/hr (Table 2). Saugeye were collected at 3.3 fish/hr during the fall bass sample up to the 23.0-in size class (Table 6). Taylorsville Lake was stocked with 13,490 saugeye (4.4 fish/acre; 1.5 in) in May 2022

Trap netting for crappie (48 net-nights) resulted in the collection of 781 White Crappie and 53 Black Crappie (Table 9). PSD and RSD_{10} values are shown in Table 10. Age and growth determinations and age frequency for Black and White crappie were completed using otoliths (Tables 11-14). Age studies indicated White Crappie, on average, reach the 10.0-in size limit between age 2 and age 3. The crappie population assessment scores rated White Crappie as "Good" and Black Crappie as "Poor" (Tables 15 and 16, respectively). Historically, the crappie population at Taylorsville Lake has been very cyclic with peaks occurring every 7 to 9 years. More recently, there have been significant spawns in 2013, 2015, and 2019 based off trap net data. Body condition of White and Black crappie in the fall of 2022 was lower than the historical averages (Table 17).

Summer diurnal low-pulse electrofishing was completed in July 2022 to assess the Blue Catfish population. Two sections (Lower Lake: Big Beech/Ashes/Jacks creeks, and Upper Lake: Chowning Lane area) of Taylorsville Lake were sampled for 3.0 hours (15-minute runs). Two hundred and sixty-two Blue Catfish were collected in the lower section compared to 245 Blue Catfish collected in the upper section of the lake (Table 18). The number of Blue Catfish collected in 2022 (169.0 fish/hr) was higher than the lake's historic average of 130.6 fish/hr (Table 19). Relative weight values revealed good body condition for all sizes of Blue Catfish (Table 20). No Blue Catfish were stocked in 2022 in Taylorsville Lake due to production issues at the hatchery.

Taylorsville Lake was stocked with 61,131 reciprocal-cross hybrid striped bass (20.0 fish/acre; 1.4 in) in June 2022.

Herrington Lake (2,410 acres)

Diurnal electrofishing studies were completed in April 2022 to monitor the crappie population. Upper, middle, and lower lake sections were sampled for a total of 4.5 hours. A total of 35 crappie were collected in 2022 (Table 21). The PSD for White Crappie (83) was lower than the historical average, while Black Crappie (100) was higher than the historical average of 98 (Table 22). The overall catch was dominated by Black Crappie, which made up 82.9% of the crappie sampled at Herrington Lake. A population assessment was developed for spring electrofishing for White and Black crappie at Herrington Lake. The population assessment for White Crappie indicated a "Poor" population, lower than the lake's average of "Fair" (Table 23). The population assessment for Black Crappie was "Fair", equal to the lake's average rating (Table 24). Herrington Lake was stocked with 121,500 blacknose Black Crappie (50.4 fish/acre; 2.0 in) in July 2022.

Spring diurnal electrofishing studies were completed in April 2022 to monitor the black bass population. Upper, middle, and lower sections were sampled for a total of 7.5 hours (2.5 hours per section). Species composition, relative abundance, and CPUE of black bass collected in the spring are presented in Table 25. Largemouth Bass (92.0%) dominate the black bass fishery at Herrington Lake. The catch rate of Largemouth Bass collected in 2022 (104.0 fish/hr) was lower than the lake's historic average of 115.5 fish/hr (Table 26). Fluctuations in the overall catch rates at Herrington Lake seems to be related to lake levels during sampling. The higher the lake level the lower the catch rate of bass. Catch rate for keeper bass (≥12.0 in) was 42.7 fish/hr, lower than the lake's historic average (48.1 fish/hr). The PSD for Largemouth Bass was 62; higher than the lake's average of 58 (Table 27). Additionally, the RSD_{15} value was 31, which is higher than the lake average of 25. The Largemouth Bass population assessment score, based on spring electrofishing data, was "Good", which is an average rating for Herrington Lake (Table 28). Length frequency, relative weight, and index of year class strength at age 0 of Largemouth Bass based on October 2022 electrofishing data at Herrington Lake are presented in Tables 29-31. Largemouth Bass condition (W_r =92) was equal to the lake's historic average (W_r =92; Table 30). Age-0 CPUE for Largemouth Bass (29.6 fish/hr) was lower than the lake average (34.0 fish/hr; Table 31). A total of 12,078 surplus Largemouth Bass (5.0 fish/acre; 4.0-4.5 in) were stocked into Herrington Lake in October 2022.

Gill netting for hybrid striped bass and White Bass was completed in October 2022. During the 16 net-night sampling period, 124 hybrid striped bass and 120 White Bass were collected (Table 32). Otoliths were taken from both species for age and growth determinations. Results of these studies indicated excellent growth rates for both hybrid striped bass (Tables 33 and 34) and White Bass (Tables 37 and 38). Hybrid striped bass reached 15.0 in between age 1 and age 2, as they have historically (Table 33). Of the hybrid striped bass sampled, 85.5% were age 1+ or older (Table 34). Condition of hybrid striped bass in 2022 (W_r =97) was higher than the lake's historic average (W_r =93; Table 35). The population assessment for hybrid striped bass indicated a "Good" population (Table 36). White Bass age and growth determinations showed that White Bass reached 12.0 in between age 1 and age 2 (Table 37). Of the White Bass sampled, 97% were age 1+ and older (Table 38). The White Bass population assessment indicated a "Good" population (Table 39). Body condition of White Bass (W_r=98) was higher than the lake's historic average (W_r=96; Table 40). Herrington Lake was stocked with 48,000 reciprocal-cross hybrid striped bass (19.9 fish/acre; 1.7 in) in June 2022.

Guist Creek Lake (317 acres)

Spring nocturnal electrofishing studies were completed for length frequency, CPUE, and population assessment for Largemouth Bass in May 2022 (Table 41). The total Largemouth Bass catch rate (193.0 fish/hr) was higher than the lake average of 168.5 fish/hr (Table 42). The PSD for Largemouth Bass was 70, compared to the lake average of 66 (Table 43). The RSD_{15} was 42, compared to the lake average of 40. The Largemouth Bass population assessment score, based on spring electrofishing data, was "Excellent", which has been the average rating at Guist Creek Lake since 2013 (Table 44). Fall Largemouth Bass sampling was conducted for length frequency, relative weight, and index of year class strength at age 0 (Tables 45-47). Relative weight indicated good body condition for bass, especially for bass over 15.0 in (Table 46). The catch rate of age-0 Largemouth Bass (57.3 fish/hr) was higher than the lake average (avg. = 45.1 fish/hr; Table 47). Largemouth Bass were stocked at 5.1 fish/acre (1,606 fish) and averaged 4.5 in at Guist Creek Lake in October 2022. Additionally, Largemouth Bass removed from Benjy Kinman Lake were stocked at 0.3 fish/acre (86 fish) ranging from the 7.0- to 11.0-in size classes in May 2022.

Saugeye were collected during the spring and fall Largemouth Bass samples. During the spring sample, only one 10.0-in saugeye was collected for a catch rate of 0.3 fish/hr (Table 41). No saugeye were collected during the fall sample (Table 45). Guist Creek Lake was stocked with 31,700 saugeye (100.0 fish/acre; 1.5 in) in May 2022.

Channel Catfish were sampled in November 2022 using five sets of tandem hoop nets at Guist Creek Lake. Although population parameters are presented, only eight fish were collected. Length frequency results for Channel Catfish showed a size distribution between the 12.0-in and 30.0-in size classes (Table 48). The PSD and RSD_{24} values for Channel Catfish were 50 and 13, respectively (Table 49). Relative weights indicated fair body condition (W_r= 89) for Channel Catfish (Table 50). Overall, catch rates (1.6 fish/set) were much lower than the lake average of 104.1 fish/set (Table 51). Guist Creek Lake was not stocked with Channel Catfish in 2022.

Guist Creek Lake was stocked with 9,512 reciprocal-cross hybrid striped bass (30.0 fish/acre; 2.2 in) in June 2022.

Beaver Lake (158 acres)

A spring diurnal electrofishing sample was completed in May 2022 to assess the black bass population (Table 52). The CPUE for all sizes was 222.5 fish/hr, lower than the lake average of 258.2 fish/hr (Table 53). The PSD and RSD_{15} for Largemouth Bass was 42 and 9, respectively, compared to the lake average of 28 and 4, respectively (Table 54). The population assessment score indicated a "Good" bass population, which is the average assessment rating for Beaver Lake (Table 55). Fall diurnal electrofishing was conducted for relative weight and index of age-0 year class strength of Largemouth Bass (Tables 56-58). The overall relative weight indicated acceptable condition (W_r = 88); the lake average is 85 (Table 57). Fall sampling indicated near average numbers of age-0 bass, (135.3 fish/hr; average = 138.9 fish/hr) and the average size of age-0 Largemouth Bass (4.4 in) was higher than the lake's average of 4.3 in (Table 58).

Spring diurnal electrofishing was completed in May 2022 to assess the panfish populations (Tables 59-65). Length frequency results showed a good size distribution of Bluegill up to the 8.0-in size class (Table 59). The PSD for Bluegill was 40, compared to the lake average of 34 (Table 60). The RSD_8 was 0, compared to the lake average of 1. CPUE for all length groups of Bluegill was 444.8 fish/hr, compared to the lake average of 258.4 fish/hr (Table 61). The population assessment for Bluegill indicated a "Good" population rating, which is the average rating since 2011 (Table 62). The Redear Sunfish catch rate was 96.8 fish/hr, which is higher than the lake's average catch rate (66.2 fish/hr) for all sizes. The catch rate of Redear Sunfish ≥8.0 in was 28.8 fish/hr and was higher than the lake average of 19.3 fish/hr (Table 63). Redear Sunfish PSD and RSD_9 was 55 and 6, respectively (Table 60). The population assessment indicated an "Excellent" Redear Sunfish fishery (Table 64). Overall, relative weight data was acceptable for both Bluegill and Redear Sunfish (Table 65). A total of 6,642 Redear Sunfish (42 fish/acre; 2.25 in) were stocked on 20 September 2022. An additional 24,958 Redear Sunfish (158.0 fish/acre; 0.75 in) were stocked on 27 September 2022.

A diurnal electrofishing study to evaluate the crappie population was completed in October 2022. A total of 196 crappie (177 Black Crappie and 19 White Crappie) were collected in 1.5 hr of electrofishing (Table 66). Age and growth results indicate that both White and Black crappie average 8.4 in at age 2 (Tables 67 and 68). Overall, relative weight data indicates fair condition for both White and Black crappie (Table 69).

Channel Catfish were sampled in November 2022 using tandem hoop nets. Length frequency results for Channel Catfish show a size distribution between the 13.0-in and 29.0-in size classes (Table 70). PSD and RSD_{24} values were 90 and 15, respectively (Table 71). Overall, the catch rate in 2022 was 31.8 fish/set, which is lower than the lake average (40.8 fish/set; Table 72). Relative weight indicated good body condition for Channel Catfish (W_r = 98; Table 73). In May 2022, 25 wooden boxes were installed to promote Channel Catfish spawning. These boxes were monitored for usage weekly beginning May 24th and continuing through June 20th. Overall, Channel Catfish were observed using 4 (16%) of these boxes, while Flathead Catfish used 11 (44%) boxes in 2022. During this period, Channel Catfish were observed on 5 separate events guarding eggs. Flathead Catfish were observed guarding eggs on 4 observations and paired in boxes on 6 other observations. Overall, Channel and Flathead catfish were observed in 15 of the 25 boxes (56%) during 2022.

In May, 550 lbs of granular 10-52-4 fertilizer was applied in Beaver Lake. During June, two applications of aquatic herbicides were applied to maintain bank fishing areas, the boat ramp, and fishing pier at Beaver Lake.

Benjy Kinman Lake (88 acres)

A spring nocturnal electrofishing sample was completed in both April and May 2022 at Benjy Kinman Lake to assess the Largemouth Bass population (Table 74). The overall CPUE for all sizes was 215.0 fish/hr, compared to the lake average of 167.6 fish/hr (Table 75). The PSD and RSD_{15} for Largemouth Bass was 8 and 4, respectively (Table 76). The population assessment score indicated a "Fair" bass population (Table 77). Fall Largemouth Bass sampling was conducted for relative weight and index of year class strength at age 0 in September 2022 (Tables 78-80). Overall, relative weight indicated fair body condition for bass (W_r = 88), with larger fish exhibiting better condition compared to smaller length groups (Table 79). The better condition of larger fish is due to the Gizzard Shad forage base. Fall sampling indicated above average numbers of age-0 bass, (140.0 fish/hr; average = 85.9 fish/hr) and the average size of age-0 Largemouth Bass (5.1 in) was larger than the lake's average of 4.7 in (Table 80). During 2022, five efforts were made to reduce the crowded Largemouth Bass population at Benjy Kinman Lake. A total of 1,118 (12.7 fish/acre) Largemouth Bass were removed in 2022. Fish removed were stocked into Eagle Creek, Guist Creek Lake, the Kentucky River, and Lake Jericho. Largemouth Bass removed ranged in size from 4.0 to 11.0 in (<8.0 in = 283 fish (25.4%); 8.0-10.9 in = 833 fish (74.5%); 11.0 in = 2 fish (0.1%)). Since 2021, a total of 1,858 Largemouth Bass (21.1 fish/acre) have been removed from Benjy Kinman Lake.

A spring diurnal electrofishing sample was completed at Benjy Kinman Lake in May 2022 to assess the panfish populations (Tables 81-84). Length frequency results show a good distribution of Bluegill through the 7.0-in size range (Tables 81 and 83). The PSD and RSD_8 for Bluegill was 53 and 0, respectively (Table 82). Length frequency results showed the majority of the Redear Sunfish were in the 6.0- to 8.0-in size range (Tables 81 and 84). Redear Sunfish PSD and RSD_9 was 54 and 6, respectively (Table 82). Relative weights for Bluegill and Redear Sunfish were collected during the fall bass sample at Benjy Kinman Lake (Table 85). Overall, relative weights were "good" for both Bluegill and Redear Sunfish.

Channel Catfish were sampled in November 2022 using tandem hoop nets. Length frequency results for Channel Catfish show a size distribution between the 14.0-in and 25.0-in size classes (Table 86). PSD and RSD_{24} values were 83 and 20, respectively (Table 87). Overall, the catch rate (6.0 fish/set) in 2022 was lower than the historic average of 7.6 fish/set (Table 88). Relative weight indicated good body condition for Channel Catfish (W_r = 98; Table 89). In 2020, 15 wooden boxes were installed to promote Channel Catfish spawning. These boxes were monitored for usage in 2022. All boxes were evaluated for usage weekly beginning May 19th and continuing through June 6th. Of the 15 boxes, fish were observed using eight (53.3%) of these boxes in 2022. This was identical to the usage observed in 2021. During this period, three boxes were observed with spawning pairs and two boxes with adult catfish guarding eggs.

Two rough fish removal events took place in June and August 2022, resulting in a total of 52 Bigmouth Buffalo, Smallmouth Buffalo, Grass Carp, Silver Carp, Common Carp, Freshwater Drum, and Longnose Gar being removed from Benjy Kinman Lake. The average weight of rough fish removed in 2022 was 10.0 lbs. Therefore, it was estimated that 520 lbs of rough fish were removed. The nine-year total for rough fish removed from Benjy Kinman Lake is 4,464 fish (50.7 fish/acre) at an estimated weight of 34,819 lbs (395.7 lbs/acre).

Three hundred and seventy-five pounds of granular fertilizer (10-52-4) was applied in May 2022 at Benjy Kinman Lake.

Water willow collected from the spillway at Boltz Lake was transplanted into Benjy Kinman Lake to create 4 new water willow beds during the summer 2022.

Boltz Lake (92 acres)

Spring nocturnal electrofishing was completed in May 2022 to assess the black bass population (Table 90). The Largemouth Bass catch rate (214.5 fish/hr) was higher than the lake's historic average (193.5 fish/hr; Table 91). The PSD for Largemouth Bass was 56 compared to the lake average of 45 (Table 92). The RSD_{15} was 23, higher than the lake average of 17. The population assessment indicated an "Excellent" bass population (Table 93). In October 2022, diurnal electrofishing was conducted for relative weight and index of age-0 year class strength (Tables 94-96). Relative weight indicated good body condition (W_r = 95) and was higher than the lake's average relative weight of 91 (Table 95). Fall sampling indicated above average numbers of age-0 bass (292.3 fish/hr; average= 87.7 fish/hr), and the average size (3.9 in) was smaller than the historic lake average of 4.1 in (Table 96). No bass were stocked into Boltz Lake in 2022.

Saugeye were collected during the spring Largemouth Bass sample in May 2022 (Table 90). A total of 4 saugeye were collected at 2.0 fish/hr ranging in size from the 19.0- to 21.0-in size classes. Saugeye were collected during fall Largemouth Bass sampling at a rate of 3.3 fish/hr with fish ranging between the 18.0-in and 23.0-in size classes (Table 94). Saugeye were not stocked into Boltz Lake in 2022. The next planned stocking will be in 2023.

Spring diurnal electrofishing for Bluegill and Redear Sunfish was conducted in May 2022 (Table 97). The overall catch rate for Bluegill (362.4 fish/hr) was lower than the lake average (495.6 fish/hr; Table 98). The PSD for Bluegill was 64 compared to the lake average of 29 (Table 99). The RSD_8 was 0 compared to the lake average of 1. The population assessment for Bluegill indicated a "Good" population, which has been the average rating since 2013 (Table 100). Relative weight for Bluegill and Redear Sunfish was collected during the fall bass sample at Boltz Lake (Table 101). The relative weight index reflected fair condition for Bluegill (W_r = 89) and excellent condition for Redear Sunfish (W_r = 107).

Channel Catfish were sampled in November 2022 using tandem hoop nets. Length frequency from sampling resulted in a size distribution from the 14.0- to 24.0-in size classes (Table 102). The PSD and RSD_{24} for Channel Catfish was 30 and 10, respectively (Table 103). Relative weight indicated good body condition for Channel Catfish (W_r = 95) and was higher than the lake average (W_r = 92; Table 104). Overall, catch rates at Boltz Lake remain lower than the lake average of 48.2 fish/hr (Table 105). Channel Catfish were not stocked during 2022. An attempt was made to sample Blue Catfish at Boltz Lake in 2022. A total of 4 fish were collected that ranged in size from the 15.0- to 28.0-in size classes. During this sample, several Flathead Catfish were observed of various sizes. Boltz Lake was stocked with 920 Blue Catfish (10.0 fish/acre; 7.0 in) in October 2022.

During routine sampling, 12 Common Carp that averaged 8.5 lbs were removed. Since 2008, 599 Common Carp (6.5 fish/acre) have been removed from Boltz Lake at an estimated weight of 4,758 lbs (51.7 lbs/acre).

Two applications of aquatic herbicides were applied in July and August 2022 to maintain the dam and spillway areas at Boltz Lake.

Time-lapse cameras were installed at the boat ramp access at Boltz Lake from March 2022 - February 2023 to estimate total usage (trips) and pressure (hours) at this public access area. This approach differs from previous daytime roving creel surveys in that these counts capture all usage types (boat anglers, bank anglers and recreational boaters). However, the primary usage of these sites was by anglers. The time-lapse camera recorded a picture of the entire fishing area (parking lot and boat ramp) every 10 minutes during daylight hours throughout the study period. Images were analyzed by randomly selecting 16 days (10 week and 6 weekend days) each month. For each randomly selected day, the total number of vehicles were counted for the entire day. From these counts, monthly averages were calculated. Average trip length (3.34 hrs) and average party size per vehicle (1.62 individuals) was derived from the averages from prior pressure count surveys conducted at Beaver, Benjy Kinman, Bullock Pen, and Corinth lakes.

Overall, it was estimated that 4,914 trips (53.4 trips/acre) were taken to Boltz Lake from March 2022-February 2023 (Table 106). Monthly trip totals ranged from 53 trips in January 2023 to 1,010 trips in May 2022 (Figure 1). May (3,375 hours) and June (2,659 hours) recorded the highest usage rates (Figure 2). It was estimated that Boltz Lake received 16,412 hours (178.4 hours/acre) of recreational pressure during this 12-month study period (Table 106).

Bullock Pen Lake (134 acres)

Spring diurnal electrofishing was completed in May 2022 to assess the black bass population (Table 107). The total catch rate of Largemouth Bass (202.5 fish/hr) was higher than the historic lake average catch rate of 155.6 fish/hr (Table 108). The PSD for Largemouth Bass was 54; lower than the lake average of 68 (Table 109). The RSD_{15} for Largemouth Bass was 19; lower than the lake average of 38. The population assessment for Largemouth Bass was rated "Good", which is the historical lake average rating (Table 110). Fall diurnal electrofishing was conducted in October 2022 to determine length frequency, relative weight, and index of age-0 year class strength for Largemouth Bass (Tables 111-113). Relative weight indicated acceptable body condition for bass (W_r = 91) but was lower than the lake average (W_r = 93; Table 112). Larger fish exhibited better condition compared to smaller length groups, which is a function of the shad forage base. Age-0 CPUE (10.0 fish/hr) was lower than the lake average (22.4 fish/hr); therefore, 2,015 Largemouth Bass (15.0 fish/acre; 4.6 in) were stocked in 2022 (Table 113).

Saugeye were collected during the spring and fall Largemouth Bass samples. Two saugeye were collected during the spring sample at 1.0 fish/hr between the 21.0-in and 24.0-in size classes (Table 107). Two saugeye (1.3 fish/hr) were collected in October 2022 between the 14.0-in and 22.0-in size classes (Table 111). Bullock Pen Lake was stocked with 13,400 saugeye (100.0 fish/acre; 1.5 in) in May 2022.

Bullock Pen Lake was stocked with 1,460 Blue Catfish (10.9 fish/acre; 7.0 in) in October 2022.

Corinth Lake (96 acres)

Spring nocturnal electrofishing was completed in May 2022 to assess the black bass population (Table 114). The total catch rate of Largemouth Bass (269.5 fish/hr) was higher than the lake average catch rate of 249.6 fish/hr (Table 115). The PSD for Largemouth Bass was 30; higher than the lake average of 23 (Table 116). The RSD_{15} for Largemouth Bass was 8; higher than the lake average of 7. The population assessment for Largemouth Bass was rated "Good", which has been the average rating since 2005 (Table 117). Fall diurnal electrofishing for Largemouth Bass was conducted to determine length frequency, relative weight, and index of year class strength at age 0 (Tables 118-120). The overall relative weight in 2022 (W_r = 84) was equal to the historic average relative weight at Corinth Lake (W_r = 84; Table 119). Age-0 CPUE (157.2 fish/hr) was higher than the lake average (90.3 fish/hr; Table 120).

Fall diurnal electrofishing for Bluegill and Redear Sunfish was conducted for relative weight. Relative weight indicated fair condition for Bluegill (86) and good condition for Redear Sunfish (91; Table 121).

No fertilizer was applied to Corinth Lake in 2022. One application of aquatic herbicides was applied in July 2022 to maintain bank fishing areas, the boat ramp, fishing pier, and dam control structure at Corinth Lake.

Elmer Davis Lake (149 acres)

Spring diurnal electrofishing studies were conducted in May 2022 for length frequency, PSD, and CPUE for Largemouth Bass (Table 122). The total catch rate (380.0 fish/hr) was higher than the historical lake average of 308.3 fish/hr (Table 123). Largemouth Bass PSD and RSD_{15} were 43 (average = 33) and 8 (average = 8), respectively (Table 124). The population assessment indicated an "Excellent" bass population, which has been the average rating since 2016 (Table 125). Fall electrofishing for Largemouth Bass was completed to evaluate relative weight and index of year class strength at age 0 (Tables 126-128). Largemouth Bass relative weight (W_r =88) was similar to the historical lake average (W_r =87; Table 127). The year class strength model indicated that 2022 was above average for young-of-year Largemouth Bass. Age-0 CPUE (225.3 fish/hr) was higher than the lake average (141.7 fish/hr; Table 128). No Largemouth Bass were stocked during 2022.

Relative weight index reflected good condition for Bluegill (W_r = 93) and excellent condition for Redear Sunfish (W_r = 102; Table 129). Elmer Davis Lake was stocked with 2,800 surplus Redear Sunfish (18.8 fish/acre; 0.75 in) in September 2022.

Channel Catfish were sampled during November 2022 using tandem hoop nets. No fish were collected during this sample (Table 130). During May 2021, 25 wooden catfish spawning boxes were installed to promote spawning. In 2022, all spawning boxes were evaluated for spawning activities weekly from May 23rd through June 28th. Fish were observed using 22 (88%) of the 25 boxes. Throughout this period, 24 individual observations were made of adult fish guarding an egg mass. One box was observed with an adult catfish guarding fry and multiple spawns were observed in 9 boxes. No Channel Catfish were stocked in 2022.

Two applications of aquatic herbicides were applied in July and August 2022 to maintain the dam spillway, parking lots, and boat ramp at Elmer Davis Lake.

Kincaid Lake (183 acres)

Spring diurnal electrofishing studies were conducted in May 2022 for length frequency, PSD, and CPUE for Largemouth Bass (Table 131). The total catch rate (121.5 fish/hr) was lower than the lake average of 211.3 fish/hr (Table 132). Largemouth Bass PSD and RSD_{15} was 72 (average = 68) and 45 (average = 45), respectively (Table 133). The population assessment indicated a "Good" bass population, which is the average assessment rating at Kincaid Lake (Table 134). Diurnal fall electrofishing for Largemouth Bass in October 2022 was completed to collect length frequency, relative weight, and index year class strength at age 0 (Tables 135-137). Relative weight was acceptable (W_r = 92) and equal to the lake average (Table 136). CPUE for age-0 bass (40.7 fish/hr) was higher than the lake average of 38.0 fish/hr (Table 137). No Largemouth Bass were stocked at Kincaid Lake in 2022.

McNeely Lake (51 acres)

Spring diurnal electrofishing studies were conducted in April 2022 for PSD, length frequency, and CPUE for Largemouth Bass (Table 138). The total catch rate in 2022 (259.0 fish/hr) was higher than the lake average of 237.1 fish/hr (Table 139). Largemouth Bass PSD and RSD_{15} was 40 (average = 34) and 16 (average = 10), respectively (Table 140). The population assessment indicated an "Excellent" bass population, compared to the lake average assessment of "Good" (Table 141). Diurnal fall electrofishing for Largemouth Bass was completed in October 2022 to collect length frequency, relative weight values, and index the year class strength at age 0 (Table 142-144). Relative weights were less than the lake average (W_r = 88) in fall 2022 (Table 143). CPUE for age-0 bass (89.0 fish/hr) was lower than the lake average of 121.9 fish/hr (Table 144). However, no Largemouth Bass were stocked in 2022.

Relative weight for Bluegill and Redear Sunfish was collected during the fall diurnal electrofishing sample. Overall condition was poor for Bluegill (80) and good for Redear Sunfish (99; Table 145).

McNeely Lake was stocked with 1,275 Channel Catfish (25.0 fish/acre; 6.0 in) in November 2022.

Two applications of aquatic herbicides were applied in June and September 2022 to maintain the dam spillway, boat ramp, fishing pier, and bank fishing access sites at McNeely Lake.

A.J. Jolly Lake (175 acres)

Relative abundance and CPUE of Largemouth Bass and saugeye collected at A.J. Jolly Lake in May 2022 are shown in Table 146. Largemouth Bass were collected from the 3.0- to 19.0-in size classes at a catch rate of 75.5 fish/hr. No Largemouth Bass were stocked in 2022.

Saugeye were collected at 10.5 fish/hr from the 3.0- to 24.0-in size classes. A total of 17,500 saugeye (100.0 fish/acre; 1.5 in) were stocked in May 2022.

A.J. Jolly Lake was stocked with 1,750 Blue Catfish (10.0 fish/acre; 7.0 in) in October 2022.

General Butler State Park Lake (28 acres)

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at General Butler State Park Lake in May 2022 are shown in Table 147. Largemouth Bass were collected from the 5.0- to 17.0-in size classes. Bluegill were abundant with fish collected up to the 10.0-in size class with the majority of Bluegill in the 5.0- to 6.0-in size classes. Redear Sunfish were collected up to the 9.0-in size class.

Jericho Lake (126 acres)

Relative abundance and CPUE of Largemouth Bass collected in May 2022 are shown in Table 148. Largemouth Bass were collected from the 2.0- to 21.0-in size classes. Excellent numbers of bass were present above the 12.0-in size limit. Largemouth Bass removed from Benjy Kinman Lake were stocked in Jericho Lake at 1.4 fish/acre (176 fish) from the 6.0- to 10.0-in size classes in June 2022.

Shelby Lake (64 acres)

Relative abundance and CPUE of Largemouth Bass collected at Shelby Lake in May 2022 are shown in Table 149. Largemouth Bass were collected from the 3.0- to 21.0-in size classes. Good numbers of bass were above the 15.0-in size limit. Additional sport fish such as Redear Sunfish, Bluegill, and crappie were also observed during this sample. Shelby Lake has an abundant population of Common Carp and Gizzard Shad.

Table 1. Yearly summary of sampling conditions by waterbody, species sampled and date.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Herrington Lake	Crappie	4/20	1000	Shock	Mostly sunny	58	736.9	58	Good	Cane Run (lower)
		4/21	1100		Overcast, drizzle	59	736.7	36		Gwinn Island (middle)
		4/22	1000		Mostly sunny	66	736.6	34		Kings Mill (upper)
Benjy Kinman Lake	LMB	4/21	1800	Shock	Clear	59	Down 7"	39	Good	Good sample
Herrington Lake	LMB	4/25	1030	Shock	Cloudy	69	736.4	44	Good	Cane Run (lower)
		4/26	1030		Clear	63	736.6	36		Gwinn Island (middle)
		4/27	1030		Clear	65	736.6	34		Kings Mill (upper)
Taylorsville Lake	LMB	4/27	1930	Shock	Clear, calm	65	547.3	-	Good	Chowning Lane
		4/28	1930		Clear	63	547.2	36		Ashes/Jacks creeks (Habitat crew completed sample)
		4/28	1030		Clear	65	547.2	-		Big Beech Creek
McNeely Lake	LMB	4/28	1000	Shock	Clear, sunny	-	Full	-	Good	Good sample
Boltz Lake	LMB	5/2	1930	Shock	Cloudy	65	Full	-	Good	Habitat crew completed sample
Elmer Davis Lake	LMB	5/2	1400	Shock	Mostly sunny	-	Full	-	Good	Good sample
Corinth Lake	LMB	5/2	2000	Shock	Clear	69	Full	44	Good	Good sample
Lake Shelby	LMB	5/3	1100	Shock	Cloudy, windy	69	Full	-	Good	Good sample
Beaver Lake	LMB	5/4	1000	Shock	Cloudy, cool	67	Full	90	Good	Good sample
Benjy Kinman Lake	LMB	5/4	2000	Shock	Cloudy	67	Full	48	Good	Good sample
Bullock Pen Lake	LMB	5/5	10300	Shock	Cloudy, cool	63	Full	53	Good	Good sample
Guist Creek Lake	LMB	5/9	1000	Shock	Clear	69	Full	34	Good	Good sample
Kincaid Lake	LMB	5/10	1030	Shock	Mostly sunny	67	Full	11	Fair	Very muddy
Lake Jericho	LMB	5/11	1000	Shock	Cloudy, warm	70	Spilling	34	Good	Good sample
AJ Jolly Lake	LMB	5/12	1030	Shock	Sunny, warm	75	Full	20	Good	Good sample
Beaver Lake	BG/RES	5/16	1003	Shock	-	77	Full	104	Good	Good sample
Benjy Kinman Lake	BG/RES	5/19	1015	Shock	-	75	Full	42	Good	Good sample
Boltz Lake	BG/RES	5/20	1045	Shock	Sunny	-	Full	-	Good	Good sample
General Butler State Park Lake	LMB/BG/RES	5/23	1030	Shock	Cloudy, cool	70	Full	20	Good	Good sample
City of Crittenden Park Lake	Sportfish	6/16	-	Shock	Sunny	85	Full	-	Good	Good sample
Taylorsville Lake (Upper Lake)	Blue Catfish	7/6	0830	Shock	Hot, heat advisory	86	546.4	20	Good	Good sample
Taylorsville Lake (Lower Lake)	Blue Catfish	7/7	0830	Shock	Cloudy	85	546.4	31	Good	Good sample
Boltz Lake	Blue Catfish	7/11	1000	Shock	-	-	Full	-	Good	Good sample
Herrington Lake	LMB	9/20	0930	Shock	Sunny	77	725.8	48	Good	Cane Run (lower)
		9/21	0930		Sunny	78	724.7	31		Gwinn Island (middle)
		9/22	0930		-	78	723.7	33		Kings Mill (upper)
Guist Creek Lake	LMB	9/23	1000	Shock	Mostly sunny	74	Full	-	Good	Good sample
Taylorsville Lake	LMB	9/26	1030	Shock	Sunny, windy	74	546.9	44	Good	Big Beech Creek
		9/27	1030		Sunny, windy	73	546.9	38		Ashes/Jacks creeks
		9/29	1030		Sunny, windy	71	546.8	33		Chowning Lane

Table 1 (cont.).

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Benjy Kinman Lake	LMB/BG/RES	9/28	1030	Shock	Mostly cloudy	70	Down ~12”	36	Good	Good sample
Beaver Lake	LMB/BG/RES	9/30	1100	Shock	Sunny, windy	65	Full	33	Good	Good sample
Boltz Lake	LMB/BG/RES	10/3	1030	Shock	Sunny, light wind	67	Full	50	Good	Good sample
Corinth Lake	LMB/BG/RES	10/4	1030	Shock	Sunny	-	Full	-	Good	Good sample
Bullock Pen Lake	LMB	10/5	1000	Shock	Sunny	66	Full	39	Good	Good sample
Kincaid Lake	LMB	10/6	1100	Shock	-	-	Full	-	Good	Good sample
McNeely Lake	LMB/BG/RESF	10/7	1030	Shock	Mostly sunny	65	Full	33	Good	Good sample
Taylorsville Lake	LMB	10/10	1030	Shock	-	-	546.2	-	Good	Wr's only
Herrington Lake	LMB	10/11	1100	Shock	Sunny, light wind	67	718.0	-	Good	Wr's only
Guist Creek Lake	LMB	10/12	1000	Shock	Cloudy, rain	62	Full	-	Good	Wr's only
Benjy Kinman Lake	LMB/BG/RES	10/14	1000	Shock	Sunny	62	Down ~12”	-	Good	Wr's only
Beaver Lake	Crappie	10/18	1015	Shock	Cold, cloudy, windy	59	Down ~10”	-	Good	Good sample
Elmer Davis Lake	LMB/BG/RES	10/19	1000	Shock	Sunny, windy	55	Down ~12”	36	Good	Good sample
Taylorsville Lake	Crappie	10/25 10/26 10/27 10/28	1030	Trap net	Sunny, breezy Overcast, cool Sunny, cool -	64 60 60 58	545.4 545.4 545.4 545.4	-	Good	FINs crew assisted with sample
Herrington Lake	Morones	11/1 11/2 11/3	1000 1000 1000	Gill net	Mostly cloudy Mostly sunny Mostly sunny	64 63 -	716.5 716.5 716.4	-	Good Good Good	Lake elevation 8.5 feet below winter pool due to dam repairs
Benjy Kinman Lake	LMB	11/9	1030	Shock	Sunny	-	Down ~12”	-	Good	Wr's only
Beaver Lake	Channel Catfish	11/17	1030	Hoop net	Overcast, cold	50	Down ~10”	-	Good	Good sample
Elmer Davis Lake	Channel Catfish	11/18	1030	Hoop net	Sunny, cool	46	Down ~12”	-	Good	No fish collected
Benjy Kinman Lake	Channel Catfish	11/21	1030	Hoop net	Sunny, cool	44	Down ~12”	-	Good	Good sample
Boltz Lake	Channel Catfish	12/1	1100	Hoop net	Partly cloudy	44	Full	-	Good	Good sample
Guist Creek Lake	Channel Catfish	12/2	1030	Hoop net	Mostly cloudy	44	Down ~24”	-	Good	Good sample

Table 2. Length frequency and CPUE (fish/hr) of Largemouth Bass and saugeye collected in 7.5 hours of 15-minute electrofishing runs in Taylorsville Lake in April 2022.

		Inch class																							
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	SE
Van Buren	Largemouth Bass			2	9	28	16	6	4	8	15	31	22	35	33	9	4	3	1	1				227	90.8	7.6
	Saugeye								1								2		1	1		1	1	7	2.8	0.9
Ashes Creek	Largemouth Bass			1	5	17	14	13	6	9	29	21	28	32	41	26	10	3	5	2				262	104.8	7.6
	Saugeye									1								1	1	3	2	4		12	4.8	1.8
Big Beech Creek	Largemouth Bass	1	2	6	12	12	15	6	6	31	39	34	47	42	29	16	5	5	6	4	1			319	127.6	8.0
	Saugeye																	1	1			1		3	1.2	0.9
Total	Largemouth Bass	1	2	9	26	57	45	25	16	48	83	86	97	109	103	51	19	11	12	7	1			808	107.7	5.1
	Saugeye								1	1							2	2	3	4	2	6	1	22	2.9	0.7

Dataset = cfdpstvl.d22

Table 3. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Taylorsville Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	18.7	1.9	22.9	2.4	38.9	2.6	27.2	2.2	1.1	0.5	107.7	5.1
2021	13.5	2.9	37.7	3.1	77.2	5.6	20.9	3.7	0.9	0.3	149.3	11.4
2020	*No sample due to Covid-19 restrictions*											
2019	20.7	2.6	77.5	5.4	46.8	3.6	19.6	2.0	0.3	0.2	164.5	9.3
2018	24.7	3.6	83.5	7.6	41.3	4.1	35.3	3.6	0.4	0.2	184.4	14.5
2017	22.5	2.7	27.2	2.5	74.4	4.7	46.9	3.6	0.5	0.3	171.1	7.5
2016	15.9	2.5	59.2	4.8	98.8	6.6	44.8	3.4	0.9	0.4	218.7	13.2
2015	18.5	3.9	39.3	5.3	32.7	3.2	19.3	2.7	0.3	0.2	109.9	11.7
2014	17.1	2.8	40.5	7.6	35.1	4.1	21.3	2.3	0.5	0.3	114.0	13.4
2013	19.6	2.1	49.9	4.6	42.0	4.5	22.1	2.9	0.4	0.2	133.6	10.5

Dataset = cfdpstvl.d13– .d22

Table 4. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in each area of Taylorsville Lake in 2022; 95% confidence intervals are in parentheses.

Area	Species	≥ Stock size	PSD	RSD_{15}
Big Beech	Largemouth Bass	271	70 (± 6)	24 (± 5)
Ashes Creek	Largemouth Bass	225	75 (± 6)	39 (± 7)
Van Buren	Largemouth Bass	172	80 (± 6)	30 (± 7)
Total	Largemouth Bass	668	74 (± 4)	31 (± 4)

Dataset = cfdpstvl.d22

Table 5. Population assessment for Largemouth Bass collected during spring electrofishing at Taylorsville Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	13.4*	23.1	38.9	27.2	1.1	-0.446	36%		
	Score	4	3	4	4	3			18	Excellent
2021	Value	13.4*	15.1	77.2	20.9	0.9	-0.535	41%		
	Score	4	2	4	4	3			17	Excellent
2020	Value									
	Score					No Sample				
2019	Value	13.4*	42.8	46.8	19.6	0.3	-0.616	46%		
	Score	4	4	4	3	2			17	Excellent
2018	Value	13.4	26.3	41.3	35.3	0.4	-0.539	42%		
	Score	4	3	4	4	2			17	Excellent
2017	Value	12.9*	21.2	74.4	46.9	0.5	-0.552	42%		
	Score	3	2	4	4	3			16	Good
2016	Value	12.9*	24.6	98.8	44.8	0.9	-0.511	40%		
	Score	3	3	4	4	3			17	Excellent
2015	Value	12.9*	16.8	32.7	19.3	0.3	-0.616	46%		
	Score	3	2	4	3	2			14	Good
2014	Value	12.9	23.6	35.1	21.3	0.5	-0.590	45%		
	Score	3	3	4	4	3			17	Excellent
2013	Value	13.1*	17.2	42.0	22.1	0.4	-0.657	48%		
	Score	3	2	4	4	2			15	Good

* Age data not collected

^Calculations based on age data gathered in previous years

Table 6. Length frequency and CPUE (fish/hr) of Largemouth Bass and saugeye collected in 4.5 hours of 15-minute electrofishing runs for black bass in Taylorsville Lake in September 2022.

		Inch class																							
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	SE
Van Buren	Largemouth Bass		3	12	14	18	7	2	3	13	10	7	6	6	6	9	5	1						122	81.3	10.4
	Saugeye																	1	1		3	3	2	10	6.7	4.5
Ashes Creek	Largemouth Bass	1	14	14	18	8	4	13	14	6	11	7	10	7	4									131	87.3	6.7
	Saugeye																			1			1	2	1.3	0.8
Big Beech Creek	Largemouth Bass		7	46	27	5	4		6	17	4	5	7	5	8	1	2	1						145	96.7	10.6
	Saugeye																				1	1	1	3	2.0	2.0
Total	Largemouth Bass	1	24	72	59	31	15	15	23	36	25	19	23	18	18	10	7	2						398	88.4	5.3
	Saugeye																	1	1	1	4	4	4	15	3.3	1.7

Dataset = cfdwrtvl.d22

Table 7. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Taylorsville Lake in September and October 2022; standard errors are in parentheses.

		Length group							
Area	Species	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Van Buren	Largemouth Bass	32	99 (1)	24	99 (1)	20	104 (2)	76	100 (1)
Ashes Creek	Largemouth Bass	43	89 (2)	33	94 (2)	4	107 (1)	80	92 (1)
Big Beech Creek	Largemouth Bass	33	94 (1)	30	94 (2)	36	98 (2)	99	95 (1)
Total		108	94 (1)	87	95 (1)	60	101 (1)	255	96 (1)

Dataset = cfdwrtvl.d22

Table 8. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Taylorsville Lake. Age-1 CPUE and standard error could not be calculated for 2019 year class due to COVID-19 work restrictions.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1 (natural)	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	5.1	0.1	44.2	5.8	22.7	2.5		
2021	Total	5.6	0.1	18.9	3.6	12.7	2.4	23.1	2.1
2020	Total	5.9	0.1	9.8	2.6	8.0	2.2	15.1	3.0
2019	Total	6.1	0.1	18.0	2.5	15.1	2.5	-	-
2018*	Total	6.3	0.1	23.7	3.2	22.0	2.9	42.8	6.0
2017	Total	5.2	0.1	46.2	3.9	26.2	3.7	27.7	3.7
2016	Total	5.0	0.1	49.3	7.1	21.3	2.7	25.1	2.6
2015	Total	6.0	0.1	14.4	2.1	12.7	2.1	24.6	3.0
2014	Total	5.5	0.1	21.1	4.3	15.4	3.0	16.8	3.7
2013	Total	4.9	0.1	50.0	6.0	23.8	4.3	23.6	3.7

Dataset = cfdwrtvl.d22
*Data only collected at Van Buren and Ashes Creek due to YOY stocking

Table 9. Species composition, relative abundance, and CPUE (fish/nn) of crappie collected at Taylorsville Lake in 48 net-nights in October 2022.

	Inch class													
Species	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	SE
White Crappie	8	32	4	19	216	239	123	82	41	15	2	781	16.3	2.8
Black Crappie				1	10	25	17					53	1.1	0.5

Dataset = cfdtntvl.d22

Table 10. PSD and RSD_{10} values calculated for crappie collected at Taylorsville Lake in 48 net-nights during October 2022. 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{10}
White Crappie	741	68 (± 3)	19 (± 3)
Black Crappie	53	79 (± 11)	0

Dataset = cfdtntvl.d22

Table 11. Mean back calculated lengths (in) at each annulus for otoliths from White Crappie trap netted at Taylorsville Lake in 2022.

Year		Age								
class	No.	1	2	3	4	5	6	7	8	9
2021	29	4.7								
2020	33	5.0	7.7							
2019	41	5.5	9.1	10.3						
2018	4	5.9	10.0	11.3	12.0					
2017	3	4.7	8.9	10.3	11.0	11.6				
2015	3	4.5	7.1	8.1	8.8	9.4	10.0	10.3		
2013	1	4.5	6.7	7.5	8.1	8.4	8.7	9.1	9.3	9.5
Mean	114	5.1	8.5	10.2	10.5	10.2	9.7	10.0	9.3	9.5
Smallest		3.3	5.7	7.5	8.1	8.4	8.7	9.1	9.3	9.5
Largest		7.1	10.8	12.3	12.1	12.7	11.3	11.8	9.3	9.5
Std error		0.1	0.1	0.2	0.5	0.6	0.6	0.6		
95% ConLo		5.0	8.2	9.9	9.5	9.0	8.5	8.8		
95% ConHi		5.3	8.7	10.5	11.5	11.4	10.8	11.2		

Intercept value = 0.00
Dataset = cfdagtvl.d22

Table 12. Age frequency and CPUE (fish/nn) per inch class of White Crappie trap netted for 48 net-nights at Taylorsville Lake in 2022.

	Inch class														
Age	3	4	5	6	7	8	9	10	11	12	13	Total	%	CPUE	SE
0+	8	32	4									44	6	0.9	0.2
1+				16	165	32						213	27	4.4	0.8
2+				3	51	175	90	22				341	44	7.1	1.1
3+						32	16	52	41	8	1	150	19	3.1	0.8
4+										5		5	1	0.1	<0.1
5+								4		1	1	6	1	0.1	0.1
6+												0	0	0.0	
7+							9	4		1		14	2	0.3	0.1
8+												0	0	0.0	
9+							8					8	1	0.2	<0.1
Total	8	32	4	19	216	239	123	82	41	15	2	781	100	16.3	2.8
(%)	1	4	1	2	28	31	16	10	5	2	<1	100			

Dataset = cfdtntvl.d22 and cfdagtvl.d22
CPUE of ≥8.0-in White Crappie = 10.5 ± 2.0 fish/nn; ≥10.0-in = 2.9 ± 0.9 fish/nn

Table 13. Mean back calculated lengths (in) at each annulus for otoliths from Black Crappie trap netted at Taylorsville Lake in 2022.

Year		Age		
class	No.	1	2	3
2021	9	4.6		
2020	24	4.9	7.8	
2019	6	4.7	7.9	8.9
Mean	39	4.8	7.8	8.9
Smallest		4.1	6.4	8.6
Largest		6.4	8.5	9.2
Std error		0.1	0.1	0.1
95% ConLo		4.6	7.6	8.7
95% ConHi		5.0	7.9	9.1

Intercept value = 0.00
Dataset = cfdagtvl.d22

Table 14. Age frequency and CPUE (fish/nn) per inch class of Black Crappie trap netted for 48 net-nights at Taylorsville Lake in 2022.

	Inch class							
Age	6	7	8	9	Total	%	CPUE	SE
1+	1	9			10	19	0.2	0.1
2+		1	25	10	36	67	0.7	0.3
3+				7	7	14	0.2	0.1
Total	1	10	25	17	53	100	1.1	0.5
%	2	19	47	32	100			

Dataset = cfdtntvl.d22 and cfdagtvl.d22
CPUE of ≥8.0-in Black Crappie = 0.9 ± 0.4 fish/nn; ≥10.0-in = 0.0 fish/nn

Table 15. Population assessment for White Crappie collected during fall trap netting at Taylorsville Lake from 2013-2022 (scoring based on statewide assessment).

Year		CPUE age 1 and older	Mean length age 2+ at capture	CPUE ≥ 8.0 in	CPUE age 1+	CPUE age 0+	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	15.4	8.7	10.5	4.4	0.9	-0.7424	52%		
	Score	4	2	4	3	2			15	Good
2021	Value	14.3	9.4	8.3	6.8	0.7	-0.7882	55%		
	Score	3	2	4	3	2			14	Good
2020	Value	10.8	11.0	8.3	10.2	1.1	-1.1281	68%		
	Score	3	4	4	4	2			17	Excellent
2019*	Value	7.5	9.7*	7.3	0.9*	8.8	ND			
	Score	3	3	4	1	4			15	Good
2018	Value	11.0	9.7	11.0	0.9	0.6	-0.5899	45%		
	Score	3	3	4	1	2			13	Good
2017	Value	12.5	9.3	10.8	2.2	0.3	-1.6256	80%		
	Score	3	2	4	2	1			12	Fair
2016	Value	16.8	11.3	7.9	16.4	0.4	-1.8811	85%		
	Score	4	4	4	4	1			17	Excellent
2015	Value	5.6	10.5	3.5	4.4	16.9	-1.5272	78%		
	Score	2	4	3	3	4			16	Good
2014	Value	2.9	10.9	2.2	2.5	0.4	-1.9429	86%		
	Score	2	4	2	2	1			11	Fair
2013	Value	1.7	10.2	1.4	1.3	6.7	-0.9991	63%		
	Score	1	3	1	2	4			11	Fair

* Age data not collected
ND = not determined

Table 16. Population assessment for Black Crappie collected during fall trap netting at Taylorsville Lake from 2013-2022 (scoring based on statewide assessment).

Year		CPUE age 1 and older	Mean length age 2+ at capture	CPUE ≥ 8.0 in	CPUE age 1+	CPUE age 0+	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	1.1	8.8	0.9	0.2	0.0	-0.1783	16%		
	Score	1	2	2	1	1			7	Poor
2021	Value	2.1	9.4	1.1	1.0	0.0	-0.6960	50%		
	Score	2	3	2	2	1			10	Fair
2020	Value	0.7	9.2	0.4	0.6	0.0	-0.6272	47%		
	Score	1	3	1	1	1			7	Poor
2019*	Value	1.2	9.8*	0.9	0.8*	0.1	ND			
	Score	1	4	2	2	1			10	Fair
2018	Value	2.3	9.8	2.4	0.8	0.1	ND			
	Score	2	4	3	2	1			12	Fair
2017	Value	3.8	9.4	3.4	0.7	0	-0.7052	51%		
	Score	3	3	3	2	1			12	Fair
2016	Value	4.8	9.0	3.0	2.1	0.1	-1.1342	68%		
	Score	3	2	3	3	1			12	Fair
2015	Value	8.6	9.2	2.0	6.0	1.2	-1.6083	80%		
	Score	3	3	3	4	3			16	Good
2014	Value	6.3	9.3	2.4	5.2	0.9	-1.2768	72%		
	Score	3	3	3	4	2			15	Good
2013	Value	4.5	9.1	4.1	0.9	2.2	ND			
	Score	3	3	4	2	4			16	Good

* Age data not collected
ND = not determined

Table 17. Number of fish and mean relative weight (W_r) for each length group of crappie at Taylorsville Lake in October 2022. Standard errors are in parentheses.

Species	Length group: 5.0–7.9 in		8.0–9.9 in		≥10.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
White Crappie	238	88 (1)	362	89 (1)	140	94 (1)	740	89 (1)
Black Crappie	11	85 (2)	42	88 (1)	0		53	88 (1)

Dataset = cfdtntvl.d22

Table 18. Length frequency and CPUE (fish/hr) of Blue Catfish collected in 3.0 hours of 15-minute electrofishing runs for Blue Catfish in Taylorsville Lake in July 2022.

		Inch class																													
Area	Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	37	Total	CPUE	SE
Upper	Blue Catfish		2	41	102	17	1	2	2	15	24	15	11	7	2								1		1			1	1	245	163.3	54.5
Lower	Blue Catfish	1	19	56	54	7	3	2	9	11	19	24	20	17	11	2	3		1	1	1			1						262	174.7	22.1
Total	Blue Catfish	1	21	97	156	24	4	4	11	26	43	39	31	24	13	2	3		1	1	1		1	1	1			1	1	507	169.0	28.1

Dataset = cfdpstvl.d22

Table 19. Electrofishing CPUE (fish/hr) for each length group of Blue Catfish collected from Taylorsville Lake from 2013-2022.

	Length group: <12.0 in		12.0-19.9 in		20.0-29.9 in		≥30.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	91.7	27.8	60.7	12.6	15.3	4.7	1.3	0.8	169.0	28.1
2021	34.7	17.7	104.0	32.5	11.0	3.8	0.7	0.5	150.3	39.6
2020	0.7	0.5	108.7	16.8	13.0	1.4	2.3	1.2	124.7	17.0
2019	7.0	3.5	92.3	17.5	12.0	3.3	0.7	0.5	112.0	21.7
2018	45.7	8.5	111.7	16.1	15.7	3.4	2.3	0.9	175.3	21.8
2017	87.3	23.7	118.0	21.2	9.0	5.5	2.3	1.3	216.7	30.8
2016	35.3	15.4	53.0	21.5	6.7	2.7	1.7	1.2	96.7	31.5
2015	31.4	16.0	47.1	16.6	4.6	2.1	1.9	1.0	84.9	24.6
2014	31.1	11.3	119.4	21.1	11.4	2.5	5.2	1.7	167.1	27.5
2013	4.0	1.6	42.0	6.5	11.0	2.6	3.0	0.9	60.0	8.2

Dataset = cfdpstvl.d13-.d22

Table 20. Number of fish and mean relative weight (W_r) for each length group of Blue Catfish collected at Taylorsville Lake on 6 and 7 July 2022; standard errors are in parentheses.

		Length group							
Area	Species	12.0-19.9 in		20.0–29.9 in		≥30.0 in		Total	
		No.	W_r	No.	W_r	No.	W_r	No.	W_r
Upper	Blue Catfish	86	96 (1)	10	96 (2)	3	113 (2)	99	96 (1)
Lower	Blue Catfish	93	97 (1)	36	101 (2)	1	125	130	98 (1)
Total	Blue Catfish	179	97 (1)	46	100 (1)	4	115 (4)	229	98 (1)

Dataset = cfdpstvl.d22

Table 21. Species composition, relative abundance, and CPUE (fish/hr) of crappie collected in 4.5 hours of 15-minute electrofishing runs in Herrington Lake, April 2022.

		Inch class										
Area	Species	7	8	9	10	11	12	13	14	Total	CPUE	SE
Upper	White Crappie			1				1		2	1.3	0.8
	Black Crappie		1	1	1	3	1	3	1	11	7.3	3.2
Middle	White Crappie	1		1	1		1			4	2.7	2.0
	Black Crappie		1	3	3		4		1	12	8.0	2.7
Lower	White Crappie									0	0.0	0.0
	Black Crappie			1		3	2			6	4.0	3.3
Total	White Crappie	1		2	1		1	1		6	1.3	0.8
	Black Crappie		2	5	4	6	7	3	2	29	6.4	1.7

Dataset = cfdpsher.d22

Table 22. PSD and RSD_{10} values calculated for crappie electrofished from Herrington Lake during April 2022. 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{10}
White Crappie	6	83 (± 33)	50 (± 44)
Black Crappie	29	100 (± 0)	76 (± 16)

Dataset = cfdpsher.d22

Table 23. Population assessment for White Crappie collected during spring electrofishing at Herrington Lake from 2013-2022 (scoring based on lake-specific assessment).

Year		Total CPUE	Mean length age 2 at capture	CPUE ≥8.0 in	CPUE ≥10.0 in	CPUE age 2	Total score	Assessment rating
2022	Value	1.3	8.8*	1.1	0.7	0.4^		
	Score	1	3	1	1	1	7	Poor
2021	Value	1.6	8.8*	1.6	0.9	0.3^		
	Score	1	3	1	1	1	7	Poor
2020	Value				No sample			
	Score							
2019	Value				No sample			
	Score							
2018	Value				No sample			
	Score							
2017	Value				No sample			
	Score							
2016	Value	10.9	8.8*	10.9	9.1	1.8^		
	Score	1	3	1	2	1	8	Fair
2015	Value				No sample			
	Score							
2014	Value	16.7	8.8	16.2	15.1	0.9		
	Score	2	3	2	2	1	10	Fair
2013	Value				No sample			
	Score							

* Age data not collected
^Calculations based on age data gathered in previous years

Table 24. Population assessment for Black Crappie collected during spring electrofishing at Herrington Lake from 2013-2022 (scoring based on lake-specific assessment).

Year		Total CPUE	Mean length age 2 at capture	CPUE ≥8.0 in	CPUE ≥10.0 in	CPUE age 2	Total score	Assessment rating
2022	Value	6.4	9.3*	6.4	4.9	1.6^	8	Fair
	Score	1	4	1	1	1		
2021	Value	8.2	9.3	7.8	3.3	5.6^	8	Fair
	Score	1	4	1	1	1		
2020	Value				No Sample			
	Score							
2019	Value				No Sample			
	Score							
2018	Value				No Sample			
	Score							
2017	Value				No Sample			
	Score							
2016	Value	34.4	8.9*	34.2	22.4	11.8^		
	Score	3	3	4	4	2	16	Good
2015	Value				No Sample			
	Score							
2014	Value	4.6	8.9	4.6	3.6	2.8		
	Score	1	3	1	1	1	7	Poor
2013	Value				No Sample			
	Score							

* Age data not collected
^Calculations based on age data gathered in previous years

Table 25. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 7.5 hours of 15-minute electrofishing runs in Herrington Lake, April 2022.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Upper	Largemouth Bass		12	16	9	24	23	7	1	14	14	13	10	6	10	12	8	8	5	3	195	78.0	5.2
	Spotted Bass																				0	0.0	0.0
Middle	Largemouth Bass		14	24	22	55	52	25	21	37	23	34	17	22	13	17	11	9	2	3	401	160.4	15.2
	Spotted Bass			1			1	1	2	1	5	9	1	1	1						23	9.2	2.6
Lower	Largemouth Bass	3	1		1	6	5	6	6	12	27	12	18	30	21	17	12	2	4	1	184	73.6	9.9
	Spotted Bass		1				3	4	2	8	8	8	8		2	1					45	18.0	4.1
Total	Largemouth Bass	3	27	40	32	85	80	38	28	63	64	59	45	58	44	46	31	19	11	7	780	104.0	9.6
	Spotted Bass		1	1			4	5	4	9	13	17	9	1	3	1					68	9.1	2.1

Dataset = cfdpsher.d22

Table 26. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Herrington Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	35.6	5.9	25.7	3.7	21.6	2.7	21.1	2.9	0.9	0.4	104.0	9.6
2021	16.4	2.7	16.0	2.5	16.9	1.9	27.5	3.9	0.3	0.2	76.8	6.0
2020	*No sample due to Covid-19 restrictions*											
2019	32.7	4.8	27.6	2.6	40.0	3.7	37.5	3.1	0.5	0.3	137.7	9.7
2018	45.3	7.9	50.8	5.9	58.5	5.1	29.9	3.1	1.5	0.5	184.5	13.8
2017	26.4	3.0	40.5	4.4	30.8	3.6	16.3	1.6	1.2	0.4	114.0	6.5
2016	32.8	4.7	43.1	5.5	16.4	1.9	17.7	2.1	1.1	0.4	110.0	9.0
2015	32.9	3.4	16.8	2.2	20.9	1.9	17.6	2.5	0.8	0.3	88.3	6.1
2014	30.1	4.1	20.5	2.0	28.5	2.7	18.0	2.4	1.3	0.4	97.2	6.4
2013	11.7	2.2	29.6	4.0	18.5	2.7	12.9	1.9	1.5	0.6	72.8	7.0

Dataset = cfdpsher.d13- .d22

Table 27. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in each area of Herrington Lake in 2022; 95% confidence intervals are in parentheses.

Area	Species	≥ Stock size	PSD	RSD_{15}
Lower	Largemouth Bass	168	70 (± 7)	34 (± 7)
Middle	Largemouth Bass	234	55 (± 6)	24 (± 5)
Upper	Largemouth Bass	111	68 (± 9)	41 (± 9)
Total	Largemouth Bass	513	62 (± 4)	31 (± 6)

Dataset = cfdpsher.d22

Table 28. Population assessment for Largemouth Bass collected during spring electrofishing at Herrington Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	13.6*	38.5	21.6	21.1	0.9				
	Score	4	3	2	4	3			16	Good
2021	Value	13.6	16.4	16.9	27.5	0.3				
	Score	4	2	2	4	2			14	Good
2020	Value					No Sample				
	Score									
2019	Value	13.4*	20.5	40.0	37.5	0.5				
	Score	4	2	4	4	3			17	Excellent
2018	Value	13.4*	39.6	58.5	29.9	1.5				
	Score	4	3	4	4	4			19	Excellent
2017	Value	13.4*	31.1	30.8	16.3	1.2				
	Score	4	3	3	3	3			16	Good
2016	Value	13.4*	59.2	16.4	17.7	1.1				
	Score	4	4	2	3	3			16	Good
2015	Value	13.4	36.8	20.9	17.6	0.8				
	Score	4	3	2	3	3			15	Good
2014	Value	13.8*	33.9	28.5	18.0	1.3				
	Score	4	3	3	3	4			17	Excellent
2013	Value	13.8*	15.1	18.5	12.9	1.5				
	Score	4	2	2	2	4			14	Good

* Age data not collected
^ calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 29. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 4.5 hours of 15-minute electrofishing runs in Herrington Lake in September 2022.

		Inch class																			
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Lower	Largemouth Bass	6	14	12	8	9	11	11	2	5	3	7	7	5	12	8	6	1	2	129	86.0	18.0
	Spotted Bass	6	1	1	4	5				1	1		2							21	14.0	2.7
	Smallmouth bass																			0	0.0	
Middle	Largemouth Bass	1	13	23	10	5	4	5	7	8	5	9	8	7	5	10	4	4	1	129	86.0	14.8
	Spotted Bass	6	12	3	1	4			3	1	5	2			1					38	25.3	4.2
	Smallmouth bass			1																1	0.7	0.7
Upper	Largemouth Bass	3	20	6	5	3	1	1	3	4	3	4	3	7	8	6	5	1	3	86	57.3	7.6
	Spotted Bass	2	13	1		1	1		1		2									21	14.0	4.0
	Smallmouth bass																			0	0.0	
Total	Largemouth Bass	10	47	41	23	17	16	17	12	17	11	20	18	19	25	24	15	6	6	344	76.4	8.3
	Spotted Bass	14	26	5	5	10	1		4	2	8	2	2		1					80	17.8	2.4
	Smallmouth bass			1																1	0.2	0.2

Dataset = cfdwrher.d22

Table 30. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Herrington Lake in September and October 2022. Standard errors are in parentheses.

		Length group							
Area	Species	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	W_r	No.	W_r	No.	W_r	No.	W_r
Lower	Largemouth Bass	26	90 (1)	28	92 (1)	43	93 (1)	97	92 (1)
Middle	Largemouth Bass	44	91 (1)	38	92 (1)	38	92 (1)	120	92 (1)
Upper	Largemouth Bass	11	92 (2)	14	96 (2)	22	95 (2)	47	95 (1)
Total	Largemouth Bass	81	91 (1)	80	93 (1)	103	93 (1)	264	92 (1)

Dataset = cfdwrher.d22

Table 31. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Herrington Lake. Age-1 CPUE and standard error could not be calculated for 2019 year class due to COVID-19 work restrictions

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1 (natural)	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	4.3	0.1	29.6	4.0	7.9	1.5		
2021	Total	3.7	0.1	48.7	6.7	11.8	2.2	38.5	6.1
2020	Total	5.0	0.1	16.4	2.8	8.4	1.5	21.1	3.1
2019	Total	4.9	0.1	23.6	4.3	11.8	2.0	-	-
2018	Total	5.8	0.1	11.6	1.6	9.3	1.5	20.5	3.8
2017	Total	5.0	0.1	26.0	4.2	13.3	3.5	42.5	7.7
2016	Total	5.4	0.1	24.9	3.6	16.7	2.8	39.1	4.2
2015	Total	5.2	0.1	67.8	10.3	44.8	7.9	59.7	7.8
2014	Total	4.7	0.1	36.9	6.0	20.0	3.5	38.4	3.9
2013	Total	4.5	0.1	49.1	4.9	19.3	3.1	33.9	4.3

Dataset = cfdwrher.d22

Table 32. Length frequency and CPUE (fish/nn) of White Bass and hybrid striped bass collected during 16 net-nights of gill netting in Herrington Lake in October 2022.

	Inch class																				
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	CPUE	SE
White Bass	2	1		5	12	23	37	35	5										120	7.5	1.5
Hybrid striped bass	3	12	3		4	1		3	7	6	1	4	25	34	15	4	1	1	124	7.8	1.7
Reciprocal	3	12	3		4	1		3	7	6	1	3	15	21	10	1			90	5.6	1.2
Original												1	9	13	5	3	1	1	33	2.1	0.6
Unknown													1						1	0.1	0.1

Dataset = cfdgnher.d22

Table 33. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Herrington Lake in 2022.

		Age				
Year class	No.	1	2	3	4	5
2021	21	11.4				
2020	26	13.3	18.7			
2019	33	14.1	18.3	20.6		
2018	10	14.1	18.5	20.4	21.4	
2017	9	13.5	19.0	20.8	21.9	22.6
Mean	99	13.3	18.6	20.6	21.6	22.6
Smallest		5.9	16.3	18.6	20.4	21.1
Largest		15.8	20.7	23.0	24.4	25.1
Std error		0.2	0.1	0.1	0.2	0.4
95% ConLo		12.9	18.4	20.3	21.2	21.8
95% ConHi		13.6	18.8	20.8	22.1	23.4

Intercept Value = 0.00
Dataset = cfdagher.d22

Table 34. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 16 net-nights at Herrington Lake in 2022.

	Inch class																					
Age	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	%	CPUE	SE
0+	3	12	3																18	15	1.1	0.3
1+					4	1		3	7	6	1								22	18	1.4	0.4
2+												2	15	11					28	22	1.7	0.5
3+												2	10	15	8	2			37	30	2.3	0.7
4+														6	4				10	8	0.6	0.2
5+														2	3	2	1	1	9	7	0.6	0.2
Total	3	12	3		4	1		3	7	6	1	4	25	34	15	4	1	1	124	100	7.8	1.7
%	2	10	2		3	1		2	6	5	1	3	20	27	12	3	1	1	100			

Dataset = cfdagher.d22 and cfdgnher.d22

Table 35. Number of fish and mean relative weight (W_r) for each length group of hybrid striped bass collected at Herrington Lake in November 2022. Standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	W_r	No.	W_r	No.	W_r	No.	W_r
Hybrid striped bass	Total	18	93 (2)	5	99 (5)	101	98 (1)	124	97 (1)

Dataset = cfdgnher.d22

Table 36. Population assessment for hybrid striped bass collected during fall gill netting at Herrington Lake from 2013-2022 (scoring based on statewide assessments).

Year		CPUE (excluding age 0)	Mean length age 2+ at capture	CPUE ≥15.0 in	CPUE age 1+	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	6.7	20.8	6.3	1.4				
	Score	2	4	3	2			11	Good
2021	Value				No Sample				
	Score								
2020	Value	11.1	20.3	10.1	5.4				
	Score	3	4	3	3			13	Good
2019	Value	2.0	20.0	2.0	1.0				
	Score	1	4	1	1			7	Fair
2018	Value	8.6	21.4	8.5	7.4				
	Score	3	4	3	3			13	Good
2017	Value	3.1	21.1	3.1	0.7				
	Score	1	4	2	1			8	Fair
2016	Value	4.3	20.1	4.2	4.0				
	Score	2	4	2	3			11	Good
2015	Value	2.8	21.2	1.9	1.1				
	Score	1	4	1	2			8	Fair
2014	Value	2.8	20.9	2.8	1.6				
	Score	1	4	2	2			9	Fair
2013	Value	1.8	20.6	1.8	0.8	-	-		
	Score	1	4	1	1			7	Fair

Table 37. Mean back calculated lengths (in) at each annulus for otoliths from White Bass gill netted at Herrington Lake in 2022.

		Age					
Year class	No.	1	2	3	4	5	6
2021	26	10.1					
2020	8	9.9	12.9				
2019	77	9.6	12.8	14.2			
2018	1	9.1	12.8	13.7	14.1	14.7	
2017	1	11.0	14.0	15.0	15.4	15.8	16.0
Mean	113	9.8	12.9	14.2	14.8	15.3	16.0
Smallest		4.2	11.1	12.6	14.1	14.7	16.0
Largest		12.1	14.7	15.9	15.4	15.8	16.0
Std error		0.1	0.1	0.1	0.6	0.5	
95% ConLo		9.5	12.7	14.1	13.5	14.2	
95% ConHi		10.0	13.0	14.4	16.0	16.3	

Intercept Value = 0.00
Dataset = cfdagher.d22

Table 38. Age frequency and CPUE (fish/nn) per inch class of White Bass gill netted for 16 net-nights at Herrington Lake in 2022.

	Inch class												
Age	8	9	10	11	12	13	14	15	16	Total	%	CPUE	SE
0+	2	1								3	3	0.2	0.1
1+				5	12	9				26	22	1.6	0.4
2+						2	6			8	7	0.5	0.1
3+						12	31	34	4	81	68	5.1	1.1
4+										0	0	0.0	0.0
5+								1		1	1	0.1	<0.1
6+									1	1	1	0.1	<0.1
Total	2	1		5	12	23	37	35	5	120	100	7.5	1.5
%	2	1		4	10	19	31	29	4	100			

Dataset = cfdagher.d22 and cfdgnher.d22

Table 39. Population assessment for White Bass collected during fall gill netting at Herrington Lake from 2013-2022 (scoring based on statewide assessment).

Year		CPUE (excluding age 0)	Mean length age 2+ at capture	CPUE ≥12.0 in	CPUE age 1+	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	7.3	14.3	7.0	1.6				
	Score	3	4	3	2			12	Good
2021	Value				No Sample				
	Score								
2020	Value	11.8	15.5	7.7	9.1				
	Score	3	4	3	4			14	Excellent
2019	Value	0.9	13.9	0.8	0.1				
	Score	1	4	1	1			7	Fair
2018	Value	2.9	14.2	2.8	0.7				
	Score	1	4	2	1			8	Fair
2017	Value	2.3	14.1	2.3	0.4				
	Score	1	4	2	1			8	Fair
2016	Value	5.2	13.3	4.4	1.0				
	Score	2	2	3	1			8	Fair
2015	Value	5.7	13.9	4.8	5.3				
	Score	2	4	3	3			12	Good
2014	Value	0.9	14.0	0.8	0.3				
	Score	1	4	1	1			7	Fair
2013	Value	2.2	14.1	2.2	0.3	-	-		
	Score	1	4	2	1			8	Fair

Table 40. Number of fish and mean relative weight (W_r) for each length group of White Bass collected at Herrington Lake in October 2022. Standard errors are in parentheses.

	Length group							
Species	6.0–8.9 in		9.0–11.9 in		≥12.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
White Bass	2	106 (4)	6	105 (6)	112	98 (1)	120	98 (1)

Dataset = cfdgnher.d22

Table 41. Length frequency and CPUE (fish/hr) of Largemouth Bass and saugeye collected in 3.0 hours of 15-minute diurnal electrofishing runs in Guist Creek Lake, May 2022.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	10	14	27	19	24	51	49	23	22	54	42	42	51	45	30	37	25	9	5	579	193.0	15.9
Saugeye								1												1	0.3	0.3

Dataset = cfdpsgcl.d22

Table 42. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Guist Creek Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	31.3	4.9	48.3	5.1	46.0	3.0	67.3	8.3	4.7	1.2	193.0	15.9
2021	9.0	1.8	56.3	6.6	35.7	3.6	53.3	7.8	5.3	1.6	154.3	12.2
2020	No sample due to Covid-19 restrictions											
2019	22.7	5.1	42.3	5.7	57.0	6.7	67.7	5.1	6.3	1.2	189.7	13.9
2018	11.0	1.9	111.7	10.3	64.7	5.6	64.3	8.1	5.3	1.4	251.7	18.3
2017	13.0	3.3	57.3	7.3	36.0	5.0	70.0	11.2	5.7	1.7	176.3	21.2
2016	No sample											
2015	28.7	8.4	86.0	6.5	47.0	4.9	63.7	10.2	3.3	1.2	225.3	22.2
2014	13.3	2.4	43.3	5.4	32.7	4.6	49.3	6.8	4.3	1.3	138.7	15.8
2013	21.3	7.0	44.0	5.1	51.0	5.4	63.0	7.4	5.7	2.0	179.3	11.6

Dataset = cfdpsgcl.d13– d22

Table 43. PSD and RSD_{15} values obtained for Largemouth Bass from spring nocturnal electrofishing samples in Guist Creek Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥Stock size	PSD	RSD_{15}
Largemouth Bass	485	70 (± 4)	42 (± 5)

Dataset = cfdpsgcl.d22

Table 44. Population assessment for Largemouth Bass collected during spring electrofishing at Guist Creek Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	12.5*	21.7	46.0	67.3	4.7				
	Score	4	3	4	4	4			19	Excellent
2021	Value	12.5*	8.3	35.7	53.3	5.3				
	Score	4	2	3	4	4			17	Excellent
2020	Value					No Sample				
	Score									
2019	Value	12.5*	16.0	57.0	67.7	6.3				
	Score	4	2	4	4	4			18	Excellent
2018	Value	12.5*	7.0	64.7	64.3	5.3				
	Score	4	1	4	4	4			17	Excellent
2017	Value	12.5	12.7	36.0	70.0	5.7				
	Score	4	2	3	4	4			17	Excellent
2016	Value					No Sample				
	Score									
2015	Value	12.2*	13.0	47.0	63.7	3.3				
	Score	4	2	4	4	3			17	Excellent
2014	Value	12.2*	3.7	32.7	49.3	4.3				
	Score	4	1	3	4	4			16	Good
2013	Value	12.2	17.0	51.0	63.0	5.7				
	Score	4	2	4	4	4			18	Excellent

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 45. Length frequency and CPUE (fish/hr) of Largemouth Bass and saugeye collected in 1.5 hours of 15-minute electrofishing runs for black bass in Guist Creek Lake in September 2022.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	30	45	10	5	22	19	8	10	16	15	10	18	11	11	9	4	1	244	162.7	13.7
Saugeye																		0	0.0	

Dataset = cfdwrgcl.d22

Table 46. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Guist Creek Lake in September and October, 2022. Standard errors are in parentheses.

Species	Length group						Total	
	8.0–11.9 in		12.0–14.9 in		≥15.0 in			
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	81	91 (1)	60	93 (1)	66	99 (1)	207	94 (1)

Dataset = cfdwrgcl.d22

Table 47. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Guist Creek Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	4.3	0.1	57.3	8.9	7.3	1.6		
2021	Total	4.1	0.1	23.7	3.2	4.7	1.2	21.7	3.4
2020	Total	4.4	0.1	32.0	5.8	9.3	3.2	8.3	1.9
2019	Total	No Sample							
2018	Total	4.8	0.1	29.3	6.6	10.7	3.4	15.3	4.5
2017	Total	4.1	0.1	75.3	20.3	18.7	4.3	7.0	1.8
2016	Total	5.0	0.1	56.0	8.6	29.3	7.4	11.0	3.0
2015	Total	5.0	0.1	49.3	5.1	28.0	2.3	---	
2014	Total	4.0	0.1	27.3	5.2	3.3	0.7	13.0	6.4
2013	Total	4.0	0.1	38.7	7.0	6.7	2.7	3.7	1.0

Table 48. Length frequency and CPUE (fish/set) of Channel Catfish at Guist Creek Lake. Channel Catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 29 November 2022. Nets were pulled three days after setting them and 5 sets of tandem nets were used for the sampling event.

	Inch class																				Average	
Species	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total	per set	SE
Channel Catfish	1	2	1		1	2													1	8	1.6	1.2

Dataset = cfdhngcl.d22

Table 49. PSD and RSD_{24} values obtained for Channel Catfish from tandem hoop net samples in Guist Creek Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{24}
Channel Catfish	8	50 (± 37)	13 (± 13)

Dataset = cfdhngcl.d22

Table 50. Number of fish and mean relative weight (W_r) for each length group of Channel Catfish collected at Guist Creek Lake in November 2022; standard errors are in parentheses.

	Length group							
Species	11.0–15.9 in		16.0–23.9 in		≥24.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Channel Catfish	4	83 (2)	3	90 (3)	1	108 (-)	8	89 (2)

Dataset = cfdhngcl.d22

Table 51. CPUE (fish/set) for each length group of Channel Catfish collected by hoop net from the past 10 samples at Guist Creek Lake.

	Length group							
	≥12.0 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	1.6	1.2	0.8	0.5	0.2	0.2	1.6	1.2
2018	1.0	0.0	1.0	0.0	0.7	0.3	1.0	0.0
2016	63.0	25.7	44.7	18.6	16.3	7.8	66.0	26.6
2014	47.8	14.0	25.0	9.5	11.2	3.3	79.8	20.6
2012	21.8	12.0	8.2	5.5	2.4	1.6	50.2	26.4
2011	13.2	3.2	4.6	1.7	0.2	0.2	31.6	7.3
2010	42.0	10.3	18.8	4.4	4.6	1.6	78.6	19.9
2009	45.4	11.9	22.2	5.8	4.4	1.6	73.0	16.0
2008	87.4	24.4	26.6	10.4	7.4	2.9	107.2	29.2
2007	208.2	106.1	60.0	32.6	13.0	7.6	382.0	184.4

Dataset = cfdhngcl.d07- .d22

Table 52. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 2.0 hours of 15-minute electrofishing runs in Beaver Lake, May 2022.

	Inch class																				
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	18	51	33	24	52	68	28	28	32	46	23	17	10	9	1	1	2	2	445	222.5	31.5

Dataset = cfdpsbvr.d22

Table 53. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Beaver Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	89.0	18.5	78.0	9.5	43.0	7.5	12.5	2.1	1.0	0.7	222.5	31.5
2021	108.0	9.9	116.0	8.8	38.0	4.1	16.0	3.3	4.0	1.5	278.0	16.4
2020	136.0	13.2	182.0	14.6	27.0	6.5	9.5	1.3	2.0	1.1	354.5	24.3
2019	117.5	16.8	118.0	11.8	20.0	4.9	9.5	2.1	1.5	0.7	265.0	22.5
2018	130.0	12.1	223.0	18.4	30.0	5.4	3.5	1.6	0.0	0.0	386.5	23.7
2017	279.0	37.2	160.5	16.5	35.5	5.1	5.0	1.8	0.5	0.5	480.0	45.1
2016	106.5	21.4	104.0	13.2	38.0	2.4	15.0	2.9	4.5	1.8	263.5	31.0
2015	64.8	9.5	126.5	19.9	22.8	4.1	12.5	1.8	2.8	0.8	226.5	31.3
2014	73.5	10.7	116.0	12.5	21.0	3.3	14.5	2.7	2.0	1.1	225.0	21.2
2013	60.0	8.8	137.3	12.3	48.7	9.3	16.7	2.4	1.3	0.8	262.7	16.4

Dataset = cfdpsbvr.d13 - .d22

Table 54. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in Beaver Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	267	42 (± 6)	9 (± 4)

Dataset = cfdpsbvr.d22

Table 55. Population assessment for Largemouth Bass collected during spring electrofishing at Beaver Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	11.3*	57.5	43.0	12.5	1.0				
	Score	3	4	3	2	2			14	Good
2021	Value	11.3*	107.5	38.0	16.0	4.0				
	Score	3	4	3	3	4			17	Excellent
2020	Value	11.3*	131.5	27.0	9.5	2.0				
	Score	3	4	3	2	3			15	Good
2019	Value	11.3*	117.5	20.0	9.5	1.5				
	Score	3	4	2	2	2			13	Good
2018	Value	11.3	126.5	30.0	3.5	0.0				
	Score	3	4	3	1	1			12	Fair
2017	Value	10.8*	279.0	35.5	5.0	0.5				
	Score	3	4	3	1	2			13	Good
2016	Value	10.8*	103.0	38.0	15.0	4.5				
	Score	3	4	3	3	4			17	Excellent
2015	Value	10.8*	46.3	22.8	12.5	2.8				
	Score	3	3	2	2	3			13	Good
2014	Value	10.8	47.3	21.0	14.5	2.0				
	Score	3	3	2	3	3			14	Good
2013	Value	10.7*	50.0	48.7	16.7	1.3				
	Score	2	3	4	3	2			14	Good

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 56. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Beaver Lake in September 2022.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	74	84	36	9	12	31	44	50	41	30	14	8	3	3	1			1	441	294.0	31.7

Dataset = cfdwrbvr.d22

Table 57. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Beaver Lake in fall 2022; standard errors are in parentheses.

	Length group							
Species	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	101	87 (1)	68	87 (1)	30	94 (2)	199	88 (1)

Dataset = cfdwrbvr.d22

Table 58. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Beaver Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	4.4	0.1	135.3	16.3	30.0	6.2		
2021	Total	4.1	0.1	69.3	12.4	9.3	3.4	57.5	15.9
2020	Total	3.7	0.1	232.0	26.1	17.3	2.2	107.5	9.8
2019	Total	5.1	0.1	209.3	29.7	119.3	20.3	131.5	13.5
2018	Total	5.2	0.1	196.0	31.6	118.7	26.8	117.5	16.8
2017	Total	4.8	0.1	227.3	23.1	84.0	13.0	126.5	11.8
2016	Total	5.6	0.1	370.0	34.9	320.0	25.8	279.0	37.2
2015	Total	4.2	0.1	184.5	23.6	28.5	4.4	103.0	20.9
2014	Total	4.1	0.1	94.7	15.0	14.0	3.5	46.3	7.6
2013	Total	3.8	0.1	78.7	6.2	3.3	2.2	47.3	7.4

Table 59. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Beaver Lake, May 2022.

	Inch class											
Species	2	3	4	5	6	7	8	9	10	Total	CPUE	SE
Bluegill	12	67	106	155	119	96	1			556	444.8	58.1
Redear Sunfish	1	3	20	25	8	28	29	6	1	121	96.8	10.0

Dataset = cfdpsbvr.d22

Table 60. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Beaver Lake during May 2022. Fish were collected in 7.5-minute runs. 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD[a]
Bluegill	544	40 (± 4)	0 (± 0)
Redear Sunfish	117	55 (± 9)	6 (± 4)

[a]Bluegill = RSD_8; Redear = RSD_9

Dataset = cfdpsbvr.d22

Table 61. Electrofishing CPUE (fish/hr) for each length group of Bluegill collected from Beaver Lake from 2013-2022.

	Length group									
	<3.0 in		3.0–5.9 in		6.0-7.9 in		≥8.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	9.6	2.3	262.4	33.3	172.0	31.3	0.8	0.8	444.8	58.1
2021	No Sample									
2020	No Sample									
2019	1.6	1.1	94.4	10.6	117.6	16.0	8.8	2.5	222.4	16.0
2018	0.8	0.8	150.4	18.5	150.4	28.9	12.8	3.0	314.4	43.0
2017	4.0	1.8	136.8	23.5	247.2	66.1	14.4	3.5	402.4	87.8
2016	33.6	12.0	213.6	30.6	201.6	45.1	1.6	1.1	450.4	81.4
2015	0.0	0.0	160.8	16.6	212.0	37.0	0.0	0.0	372.8	44.9
2014	1.6	1.6	252.8	33.4	252.8	56.6	0.0	0.0	507.2	37.4
2013	1.6	1.1	192.8	16.5	77.6	9.8	1.6	1.6	273.6	23.4

Dataset = cfdpsbvr.d13 - .d22

Table 62. Population assessment for Bluegill collected during spring electrofishing at Beaver Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 2 at capture	Years to 6.0 in	CPUE ≥6.0 in	CPUE ≥8.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	4.1	3-3+	172.8	0.8	-	-		
	Score	2	3	4	2			11	Good
2021	Value	No Sample							
	Score								
2020	Value	No Sample							
	Score								
2019	Value	4.6	2-2+*	126.4	8.8	-	-		
	Score	3	4	4	4			15	Excellent
2018	Value	4.4*	2-2+*	163.2	12.8	-	-		
	Score	3	4	4	4			15	Excellent
2017	Value	4.4	2-2+	261.6	14.4	-	-		
	Score	3	4	4	4			15	Excellent
2016	Value	4.7*	3-3+*	203.2	1.6	-	-		
	Score	3	3	4	3			13	Good
2015	Value	4.7	3-3+	212.0	0.0	-	-		
	Score	3	3	4	1			11	Good
2014	Value	4.7*	2-2+	252.8	0.0	-	-		
	Score	3	4	4	1			12	Good
2013	Value	4.7	2-2+	79.2	1.6	-	-		
	Score	3	4	3	3			13	Good

* Age data not collected

Table 63. Electrofishing CPUE (fish/hr) for each length group of Redear Sunfish collected from Beaver Lake from 2013-2022.

	Length group											
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	0.8	0.8	38.4	4.4	28.8	6.1	28.8	7.4	0.8	0.8	96.8	10.0
2021	No Sample											
2020	No Sample											
2019	0.0	0.0	11.2	3.2	2.4	1.2	10.4	4.5	0.0	0.0	24.0	4.6
2018	0.0	0.0	7.2	3.3	5.6	1.7	4.0	2.2	0.0	0.0	16.8	4.5
2017	0.0	0.0	4.0	2.2	4.8	2.1	7.2	2.8	4.0	2.2	16.0	2.9
2016	0.8	0.8	4.8	1.8	3.2	1.8	2.4	1.7	0.0	0.0	11.2	2.1
2015	0.0	0.0	1.6	1.1	3.2	1.3	1.6	1.1	0.0	0.0	6.4	1.6
2014	0.0	0.0	3.2	2.0	6.4	1.6	12.8	5.4	4.8	3.2	22.4	3.0
2013	0.0	0.0	6.4	2.6	3.2	1.3	12.0	4.7	2.4	1.7	21.6	5.2

Dataset = cfdpsbvr.d13 – .d22

Table 64. Population assessment for Redear Sunfish collected during spring electrofishing at Beaver Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	Years to 8.0 in	CPUE ≥8.0 in	CPUE ≥10.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	8.1	2-2+*	28.8	0.8				
	Score	4	4	4	2			14	Excellent
2021	Value	No Sample							
	Score								
2020	Value	No Sample							
	Score								
2019	Value	8.6	2-2+	10.4	0.0				
	Score	4	4	3	1			12	Good
2018	Value	10.1*	2-2+*	4.0	0.0				
	Score	4	4	2	1			11	Good
2017	Value	10.1	2-2+	7.2	4.0				
	Score	4	4	2	4			14	Excellent
2016	Value	7.0*	3-3+*	2.4	0.0				
	Score	2	4	1	1			8	Fair
2015	Value	7.0	3-3+	1.6	0.0				
	Score	2	4	1	1			8	Fair
2014	Value	8.8*	2-2+	12.8	4.8				
	Score	4	4	3	4			15	Excellent
2013	Value	8.8	2-2+	12.0	2.4				
	Score	4	4	3	4			15	Excellent

* Age data not collected

Table 65. Number of fish and mean relative weight (W_r) for each length group of Bluegill and Redear Sunfish collected at Beaver Lake during September and October 2022; standard errors are in parentheses.

	Length group									
Species	No.	W_r	No.	W_r	No.	W_r	No.	W_r	No.	W_r
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	75	94 (2)	34	83 (2)	0				109	91 (2)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear Sunfish	8	106 (5)	72	95 (1)	36	98 (1)	9	102 (2)	125	97 (1)

Dataset = cfdwrbvr.d22

Table 66. Species composition, relative abundance, and CPUE (fish/hr) of crappie collected in 1.5 hours of 15-minute electrofishing runs for crappie in Beaver Lake in October 2022.

	Inch class										
Species	6	7	8	9	10	11	12	13	Total	CPUE	SE
White Crappie			8	6	4	1			19	12.7	4.8
Black Crappie	1		132	35	5	1	2	1	177	118.0	58.6

Dataset = cfdwrbvr.d22

Table 67. Mean back calculated lengths (in) at each annulus for otoliths collected during White Crappie electrofishing at Beaver Lake in October 2022.

Year		Age	
class	No.	1	2
2021	2	6.2	
2020	17	6.1	8.4
Mean	19	6.1	8.4
Smallest		5.2	7.5
Largest		8.0	10.1
Std error		0.2	0.2
95% ConLo		5.8	8.0
95% ConHi		6.5	8.7

Intercept value = 0.00
Dataset = cfdagtvl.d22

Table 68. Mean back calculated lengths (in) at each annulus for otoliths collected during Black Crappie electrofishing at Beaver Lake in October 2022.

Year		Age			
class	No.	1	2	3	4
2021	1	4.6			
2020	23	5.6	8.1		
2019	3	6.9	10.1	11.3	
2018	1	7.1	9.9	11.4	12.2
Mean	28	5.8	8.4	11.3	12.2
Smallest		4.3	7.1	11.1	12.2
Largest		7.4	10.1	11.6	12.2
Std error		0.2	0.2	0.1	
95% ConLo		5.4	8.0	11.1	
95% ConHi		6.1	8.7	11.5	

Intercept value = 0.00
Dataset = cfdagtvl.d22

Table 69. Number of fish and mean relative weight (W_r) for each length group of crappie at Beaver Lake in October 2022; standard errors are in parentheses.

	Length group							
Species	5.0–7.9 in		8.0–9.9 in		≥10.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No	W_r
White Crappie	0		14	83 (2)	5	88 (2)	19	84 (1)
Black Crappie	1	88 (-)	52	89 (1)	9	87 (2)	62	89 (1)

Dataset = cfdwrbvr.d22

Table 70. Length frequency and CPUE (fish/set-night) of Channel Catfish at Beaver Lake sampled on 11 November 2022. Channel Catfish were collected using 5 set-nights of baited, tandem hoop nets (72 hours soak time).

	Inch class																		Average	
Species	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total	per set	SE
Channel Catfish	1	1	14	24	31	27	12	5	4	10	6	6	10	5	2		1	159	31.8	8.4

Dataset = cfdhnbvr.d22

Table 71. PSD and RSD_{24} values obtained for Channel Catfish from tandem hoop net samples in Beaver Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{24}
Channel Catfish	159	90 (± 5)	15 (± 6)

Dataset = cfdhnbvr.d22

Table 72. CPUE (fish/set-night) for each length group of Channel Catfish collected by hoop net from the past 10 samples at Beaver Lake.

	Length group							
	≥12.0 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	31.8	8.4	31.4	8.2	9.8	3.6	31.8	8.4
2021	34.6	7.2	14.4	4.5	3.2	1.5	35.4	7.7
2019	28.3	2.7	27.7	2.4	7.3	2.6	28.3	2.7
2017	22.7	12.2	21.3	11.0	5.7	3.2	22.7	12.2
2015	16.0	3.5	14.3	3.3	1.7	0.3	16.0	3.5
2011	44.8	14.0	28.0	8.7	1.0	0.6	72.8	24.5
2010	40.0	8.2	25.6	5.4	0.6	0.2	41.8	8.8
2009	71.4	17.2	21.6	5.1	1.6	0.9	94.8	29.1
2008	14.0	4.1	5.4	2.0	0.8	0.6	28.2	8.8
2007	35.8	12.6	6.2	2.8	0.4	0.2	36.4	12.8

Dataset = cfdhnbvr.d07 - .d22

Table 73. Number of fish and mean relative weight (W_r) for each length group of Channel Catfish collected at Beaver Lake in November 2022; standard errors are in parentheses.

	Length group							
	11.0–15.9 in		16.0–23.9 in		≥24.0 in		Total	
Species	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Channel Catfish	16	94 (3)	119	97 (1)	24	110 (2)	159	98 (1)

Dataset = cfdhnbvr.d22

Table 74. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 2.0 hours of 15-minute electrofishing runs for black bass at Benjy Kinman Lake during April and May, 2022.

	Inch class																					
Month	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
April	1	21	32	19	9	115	115	61	19	7	2		2		1	1	3		2	410	205.0	11.8
May		28	48	35	14	104	112	60	18	5	4	3	1	5	3	3	5	1	1	450	225.0	27.0
Total	1	49	80	54	23	219	227	121	37	12	6	3	3	5	4	4	8	1	3	860	215.0	14.5

Dataset = cfdpsbkl.d22

Table 75. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Benjy Kinman Lake during 2015-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	51.8	8.9	151.0	8.2	5.3	1.1	7.0	1.2	1.0	0.5	215.0	14.5
2021	53.0	9.3	188.0	12.4	8.5	2.4	14.0	3.2	1.5	1.1	263.5	19.1
2020	52.0	13.9	78.0	12.6	10.0	2.1	11.0	2.0	2.0	0.8	151.0	23.0
2019	74.0	13.2	130.0	15.5	9.5	3.4	6.0	1.5	0.5	0.5	219.5	25.2
2018	31.5	6.3	73.5	11.0	13.5	1.1	9.5	2.7	1.0	0.7	128.0	14.1
2017	27.0	7.0	66.0	10.7	22.5	3.5	4.5	1.8	1.0	0.7	120.0	18.6
2016	23.0	7.0	82.0	11.5	15.0	2.9	7.0	2.4	1.0	0.7	127.0	18.6
2015	12.0	2.4	84.2	5.1	17.4	1.7	12.9	1.8	4.7	1.0	126.6	7.8

Dataset = cfdpsbkl.d15-.d22

Table 76. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing sample in Benjy Kinman Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	653	8 (± 2)	4 (± 2)

Dataset = cfdpsbkl.d22

Table 77. Population assessment for Largemouth Bass collected during spring electrofishing at Benjy Kinman Lake from 2015-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	10.2*	46.5	5.3	7.0	1.0				
	Score	2	3	1	2	2			10	Fair
2021	Value	10.2	48.5	8.5	14.0	1.5				
	Score	2	3	1	3	2			11	Fair
2020	Value	10.7*	50.0	10.0	11.0	2.0				
	Score	2	3	1	2	3			11	Fair
2019	Value	10.7*	70.5	9.5	6.0	0.5				
	Score	2	4	1	2	2			11	Fair
2018	Value	10.7*	29.5	13.5	9.5	1.0				
	Score	2	3	2	2	2			11	Fair
2017	Value	10.7	24.0	22.5	4.5	1.0				
	Score	2	3	2	1	2			10	Fair
2016	Value	10.1*	51.1	15.0	7.0	1.0				
	Score	1	3	2	2	2			10	Fair
2015	Value	10.1*	11.1	17.4	12.9	4.7				
	Score	1	2	2	2	4			11	Fair

-Instantaneous and annual mortality not calculated in years where age and growth data are not collected
* Age data not collected (data collected in 2014)

Table 78. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Benjy Kinman Lake in September 2022.

	Inch class																				
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	10	91	86	23	13	94	67	31	4	1	2							1	423	282.0	54.4

Dataset = cfdwrbkl.d22

Table 79. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Benjy Kinman Lake during September and October 2022. Standard errors are in parentheses.

	Length group							
Species	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	91	85 (1)	31	88 (1)	29	97 (2)	151	88 (1)

Dataset = cfdwrbkl.d22

Table 80. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Benjy Kinman Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	5.1	0.1	140.0	29.4	72.7	20.6		
2021	Total	4.6	0.1	100.7	17.7	30.0	7.8	46.5	8.1
2020	Total	4.8	0.1	104.0	20.2	46.0	7.7	48.5	7.8
2019	Total	5.1	0.1	124.7	37.5	75.3	30.7	50.0	12.9
2018	Total	4.9	0.1	73.3	3.8	39.3	4.7	70.5	13.7
2017	Total	4.7	0.1	92.7	13.8	38.7	7.4	29.5	6.4
2016	Total	4.7	0.1	43.3	6.0	15.3	3.2	24.0	5.9
2015	Total	4.0	0.1	78.0	16.2	8.7	2.4	51.1	9.1
2014	Total	4.2	0.1	16.0	5.4	2.5	1.3	11.1	2.2

Table 81. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Benjy Kinman Lake, May 2022.

	Inch class											
Species	2	3	4	5	6	7	8	9	10	Total	CPUE	SE
Bluegill	16	32	72	33	88	69				310	248.0	37.9
Redear Sunfish		12	9	1	21	14	19	3	1	80	64.0	12.8

Dataset = cfdpsbkl.d22

Table 82. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Benjy Kinman Lake during May 2022. Fish were collected in 7.5-minute runs. 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD[a]
Bluegill	294	53 (± 6)	0 (± 0)
Redear Sunfish	68	54 (±12)	6 (± 6)

[a]Bluegill = RSD_8; Redear = RSD_9

Dataset = cfdpsbkl.d22

Table 83. Electrofishing CPUE (fish/hr) for each length group of Bluegill collected from Benjy Kinman Lake.

	Length group									
	<3.0 in		3.0–5.9 in		6.0-7.9 in		≥8.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	12.8	7.3	109.6	19.6	125.6	17.1	0.0	0.0	248.0	37.9
2021	No Sample									
2020	27.2	8.3	170.4	19.9	226.4	40.5	0.0	0.0	424.0	33.4
2019	No Sample									
2018	35.2	8.4	177.6	17.2	96.8	11.9	0.0	0.0	309.6	22.1
2017	No Sample									
2016	56.8	13.4	225.6	30.9	81.6	15.6	1.6	1.1	365.5	30.9

Dataset = cfdpsbkl.d22-.d16

Table 84. Electrofishing CPUE (fish/hr) for each length group of Redear Sunfish collected from Benjy Kinman Lake.

	Length group											
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	0.0	0.0	17.6	7.2	28.0	5.8	18.4	5.2	0.8	0.8	64.0	12.8
2021	No Sample											
2020	0.0	0.0	4.8	2.1	27.2	9.4	4.0	1.8	0.0	0.0	36.0	9.6
2019	No Sample											
2018	0.0	0.0	8.8	2.8	13.6	3.8	0.0	0.0	0.0	0.0	22.4	3.3
2017	No Sample											
2016	0.0	0.0	27.2	6.4	22.4	6.2	12.0	3.4	0.0	0.0	61.6	10.4

Dataset = cfdpsbkl.d22-.d16

Table 85. Number of fish and mean relative weight (W_r) for each length group of Bluegill and Redear Sunfish collected at Benjy Kinman Lake during September and October 2022; standard errors are in parentheses.

	Length group									
Species	No.	W_r	No.	W_r	No.	W_r	No.	W_r	No.	W_r
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	71	103 (2)	72	87 (1)	0				143	95 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear Sunfish	12	97 (8)	56	104 (1)	47	101 (1)	6	92 (2)	121	102 (1)

Dataset = cfdwrbkl.d22

Table 86. Length frequency and CPUE (fish/set) of Channel Catfish at Benjy Kinman Lake. Channel Catfish were collected using five (5) baited, tandem hoop nets (72 hours soak time) that were set on 21 November 2022.

	Inch class													Average	
Species	14	15	16	17	18	19	20	21	22	23	24	25	Total	per set	SE
Channel Catfish	2	3	1	2	1	6	4		3	2	2	4	30	6.0	3.1

Dataset = cfdhnbkl.d22

Table 87. PSD and RSD_{24} values obtained for Channel Catfish from tandem hoop net samples in Benjy Kinman Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{24}
Channel Catfish	30	83 (± 15)	20 (± 15)

Dataset = cfdhnbkl.d22

Table 88. CPUE (fish/set) for each length group of Channel Catfish collected by hoop net at Benjy Kinman Lake from 2015-2022.

	Length group							
	≥12.0 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	6.0	3.1	5.6	2.8	3.0	1.7	6.0	3.1
2021	1.2	0.6	1.2	0.6	0.4	0.2	1.4	0.7
2020	9.1	2.4	2.6	1.2	2.0	1.0	10.1	2.8
2019	6.7	3.7	6.7	3.7	4.0	2.5	6.7	3.7
2018	14.3	8.4	13.0	7.0	3.7	2.3	14.3	8.4
2015	3.3	2.0	0.0	0.0	0.0	0.0	7.3	3.7

Dataset = cfdhnbkl.d15-.d22

Table 89. Number of fish and mean relative weight (W_r) for each length group of Channel Catfish collected at Benjy Kinman Lake in November 2022; standard errors are in parentheses.

	Length group							
	11.0–15.9 in		16.0–23.9 in		≥24.0 in		Total	
Species	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Channel Catfish	5	83 (2)	19	96 (3)	6	117 (6)	30	98 (3)

Dataset = cfdhnbkl.d22

Table 90. Length frequency and CPUE (fish/hr) of Largemouth Bass and saugeye collected in 2.0 hours of 15-minute nocturnal electrofishing runs in Boltz Lake, May 2022.

	Inch class																								
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	SE
Largemouth Bass	3	8	10	15	17	38	46	34	48	52	44	28	28	29	16	5	2	5		1			429	214.5	11.1
Saugeye																	1	2				1	4	2.0	1.1

Dataset = cfdpsbol.d22

Table 91. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Boltz Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	26.5	7.8	83.0	8.7	62.0	6.1	43.0	4.4	3.0	1.3	214.5	11.1
2021	29.0	6.5	60.5	2.8	63.0	7.5	36.0	4.4	1.0	0.7	188.5	14.8
2020	No Sample											
2019	21.0	4.1	66.0	6.4	83.0	3.2	17.0	5.2	0.5	0.5	187.0	12.8
2018	14.0	3.2	97.5	7.6	82.5	9.7	25.5	2.9	1.5	1.1	219.5	12.7
2017	29.0	5.5	131.5	9.1	40.0	4.3	18.0	1.5	0.5	0.5	218.5	13.0
2016	No Sample											
2015	47.5	6.9	79.5	8.4	22.0	4.3	21.5	3.5	2.0	1.1	170.5	14.1
2014	68.5	10.5	73.0	6.5	18.5	3.5	16.0	3.6	2.5	0.7	176.0	17.2
2013	66.5	14.6	67.5	6.7	17.5	2.0	13.5	2.6	2.5	1.1	165.0	13.6

Dataset = cfdpsbol.d13 - .d22

Table 92. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in Boltz Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	376	56 (± 5)	23 (± 5)

Dataset = cfdpsbol.d22

Table 93. Population assessment for Largemouth Bass collected during spring electrofishing at Boltz Lake from 2013 - 2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	12.2*	19.0	62.0	43.0	3.0				
	Score	4	2	4	4	3			17	Excellent
2021	Value	12.2*	15.0	63.0	36.0	1.0				
	Score	4	2	4	4	2			16	Good
2020	Value	12.2	15.0	63.0	36.0	1.0				
	Score	4	2	4	4	2			16	Good
2019	Value	11.4*	8.0	83.0	17.0	0.5				
	Score	3	2	4	3	2			14	Good
2018	Value	11.4*	14.0	85.2	25.5	1.5				
	Score	3	2	4	3	2			14	Good
2017	Value	11.4*	26.0	40.0	18.0	0.5				
	Score	3	3	3	3	2			14	Good
2015	Value	11.4	29.5	22.0	21.5	2.0				
	Score	3	2	2	3	3			13	Good
2014	Value	10.7*	57.0	18.5	16.0	2.5				
	Score	2	3	1	2	3			11	Fair
2013	Value	10.7*	21.5	17.5	13.5	2.5				
	Score	2	2	1	2	3			10	Fair

* Age data not collected

-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 94. Length distribution and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Boltz Lake in October 2022.

	Inch class																							
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	SE
Largemouth Bass	37	242	130	35	11	32	24	9	15	31	26	25	26	21	10	5	3		1				683	417.3	38.7
Saugeye																	1		1	1	2	2	7	3.3	1.2

Dataset = cfdwrbol.d22

Table 95. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Boltz Lake in October 2022. Standard errors are in parentheses.

	Length group							
Species	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	72	91 (1)	77	96 (1)	40	99 (1)	189	95 (1)

Dataset = cfdwrbol.d22

Table 96. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Boltz Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	3.9	0.0	292.3	34.4	19.6	4.5		
2021	Total	3.9	0.1	250.0	27.2	30.7	6.0	19.0	6.4
2020	Total	3.6	0.0	239.3	41.4	20.0	6.0	15.0	4.6
2019					No Sample				
2018	Total	4.3	0.1	191.3	24.7	37.3	4.5	10.0	1.9
2017	Total	4.3	0.1	164.0	18.9	40.7	8.9	14.0	3.2
2016	Total	4.1	0.1	69.3	7.8	15.3	2.8	20.5	5.3
2015	Total	4.1	0.1	47.3	3.6	6.0	1.4	---	
2014	Total	4.0	0.1	38.7	10.9	4.0	3.3	29.5	5.2
2013*	Total	4.4	0.1	68.0	16.2	20.0	6.7	4.0	0.8

*Only includes wild Largemouth Bass CPUE for age 1 year class; stocked Largemouth Bass were marked by fin clip and removed from dataset.

Table 97. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Boltz Lake, May 2022.

	Inch class										
Species	2	3	4	5	6	7	8	9	Total	CPUE	SE
Bluegill	22	57	40	56	122	155	1		453	362.4	38.4
Redear Sunfish		2	3		5	9	5	3	27	21.6	4.6

Dataset = cfdpsbol.d22

Table 98. Electrofishing CPUE (fish/hr) for each length group of Bluegill collected during the past 6 samples from Boltz Lake.

	Length group									
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	17.6	5.0	122.4	14.5	221.6	34.7	0.8	0.8	362.4	38.4
2020	46.4	11.7	238.4	29.9	232.0	31.1	15.2	4.2	532.0	55.7
2018	18.4	4.6	96.0	15.4	383.2	41.0	24.8	7.9	522.4	43.2
2016	29.6	10.7	392.8	36.7	85.6	15.4	0.8	0.8	508.8	38.4
2014	11.2	3.0	144.8	21.1	164.0	28.2	0.0	0.0	320.0	37.6
2013	36.8	11.5	162.4	20.0	117.6	19.7	0.0	0.0	316.8	33.8

Dataset = cfdpsbol.d22-.d13

Table 99. PSD and RSD_8 values calculated for Bluegill collected during 1.25 hours of electrofishing at Boltz Lake during May 2022. Fish were collected in 7.5-minute runs. 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_8
Bluegill	431	64 (± 5)	0 (± 0)

Dataset = cfdpsbol.d22

Table 100. Population assessment for Bluegill collected during spring electrofishing at Boltz Lake from 2013-2022 (scoring based on statewide assessments).

Year		Mean length age 2 at capture	Years to 6.0 in	CPUE ≥6.0 in	CPUE ≥8.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	4.6*	3-3+*	222.4	0.8	-	-		
	Score	3	3	4	2			12	Good
2020	Value	4.6*	3-3+*	247.2	15.2	-	-		
	Score	3	3	4	4			14	Excellent
2018	Value	4.6*	3-3+*	408.0	24.8	-	-		
	Score	3	3	4	4			14	Excellent
2016	Value	4.6	3-3+	86.4	0.8	-	-		
	Score	3	3	3	2			11	Good
2014	Value	4.6	3-3+	164.0	0.0	-	-		
	Score	3	3	4	1			11	Good
2013	Value	4.5*	2-2+*	117.6	0.0	-	-		
	Score	3	4	4	1			12	Good

Dataset = cfdpsbol.d10-.d22
* Age data not collected

Table 101. Number of fish and mean relative weight (W_r) for each length group of Bluegill and Redear Sunfish collected at Boltz Lake during October 2022. Standard errors are in parentheses.

Species	Length group								Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r	No.	W_r
	3.0–5.9 in		6.0–7.9 in		≥8.0 in					
Bluegill	76	91 (2)	27	85 (2)	0				103	89 (2)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in			
Redear Sunfish	8	116 (6)	11	102 (3)	11	106 (2)	2	101 (3)	32	107 (2)

Dataset = cfdwrbol.d22

Table 102. Length frequency and CPUE (fish/set) of Channel Catfish at Boltz Lake. Channel Catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 28 November 2022. Nets were pulled three days after setting them, and 5 sets of tandem nets were used for the sampling event.

	Inch class												Average	
Species	14	15	16	17	18	19	20	21	22	23	24	Total	per set	SE
Channel Catfish	3	4		1	1						1	10	2.0	1.1

Dataset = cfdhnbol.d22

Table 103. PSD and RSD_{24} values obtained for Channel Catfish from tandem hoop net samples in Boltz Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{24}
Channel Catfish	10	30 (± 30)	10 (± 10)

Dataset = cfdhnbol.d22

Table 104. Number of fish and mean relative weight (W_r) for each length group of Channel Catfish collected at Boltz Lake in December 2022; standard errors are in parentheses.

		Length group							
		11.0–15.9 in		16.0–23.9 in		≥24.0 in		Total	
Species	Area	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Channel Catfish	Total	7	96 (3)	2	90 (1)	1	102	10	95 (3)

Dataset = cfdhnbol.d22

Table 105. CPUE (fish/set) for each length group of Channel Catfish collected by hoop net from the past 10 samples at Boltz Lake.

	Length group							
	≥12.0 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	2.0	1.1	1.4	0.9	0.2	0.2	2.0	1.1
2018	1.3	0.7	1.3	0.7	0.0	0.0	1.3	0.7
2016	5.7	3.0	0.7	0.7	0.3	0.3	5.7	3.0
2014	1.3	1.3	0.3	0.3	0.0	0.0	2.3	2.3
2012	1.7	4.7	1.0	1.0	0.3	0.3	2.3	1.2
2010	15.6	3.8	3.6	1.3	0.4	0.4	32.6	9.0
2009	29.8	14.0	4.0	1.6	0.2	0.2	57.8	27.7
2008	9.6	3.1	1.6	0.8	0.2	0.2	27.4	7.2
2007	31.2	3.3	6.4	1.0	0.8	0.4	76.8	12.7
2006	43.8	12.5	6.0	2.1	1.8	0.8	274.2	95.6

Dataset = cfdhnbol.d06 -.d22

Table 106. Trail camera counts used to derive usage statistics from March 2022- February 2023 at Boltz Lake (92 acres).

Total Trips*	2022-2023
No. of trips	4,914
Trips/acre	53.4
Pressure*	
Total man-hours	16,412
Man-hours/acre	178.4

*Usage hours (angler and non-angler usage combined)

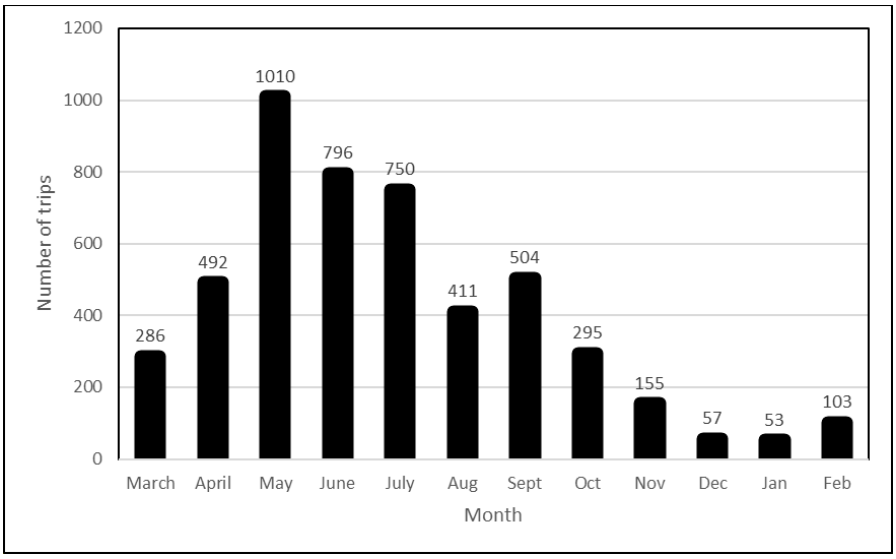

Figure 1. Number of trips per month at Boltz Lake from March 2022 through February 2023.

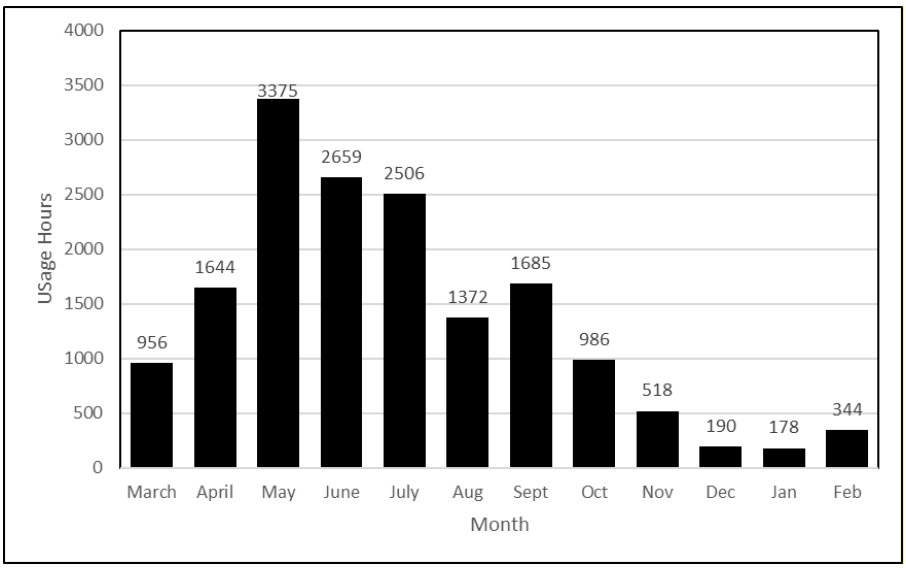

Figure 2. Number of usage hours by month at Boltz Lake from March 2022 through February 2023.

Table 107. Length frequency and CPUE (fish/hr) of Largemouth Bass and saugeye collected in 2.0 hours of 15-minute diurnal electrofishing runs in Bullock Pen Lake, May 2022.

	Inch class																							
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	SE
Largemouth Bass	7	8	14	9	13	28	27	44	65	57	26	38	17	11	13	14	7	6	1				405	202.5	13.6
Saugeye																			1			1	2	1.0	0.7

Dataset = cfdpsbpl.d22

Table 108. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Bullock Pen Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	25.5	4.5	82.0	6.3	60.5	7.1	34.5	3.4	3.5	1.2	202.5	13.6
2021	44.5	4.6	116.0	8.1	51.5	5.4	53.0	5.8	11.0	2.6	265.0	15.4
2020	No Sample											
2019	24.0	2.6	63.0	6.2	47.5	7.3	61.5	8.3	6.5	1.7	196.0	14.3
2018	20.0	3.9	59.5	7.6	67.5	4.4	78.0	10.3	11.0	3.0	225.0	11.7
2017	23.0	4.7	40.0	4.9	66.0	5.9	75.5	7.7	12.5	3.9	204.5	13.9
2016	No Sample											
2015	No Sample											
2014	13.0	2.7	61.5	8.5	57.0	6.9	58.0	3.2	4.5	1.4	189.5	14.0
2013	No Sample											

Dataset = cfdpsbpl.d13 - .d22

Table 109. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in Bullock Pen Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	354	54 (± 5)	19 (± 4)

Dataset = cfdpsbpl.d22

Table 110. Population assessment for Largemouth Bass collected during spring electrofishing at Bullock Pen Lake from 2013 - 2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	11.5*	17.5	60.5	34.5	3.5				
	Score	3	2	4	4	3			16	Good
2021	Value	11.5*	14.5	51.5	53.0	11.0				
	Score	3	2	4	4	4			17	Excellent
2020	Value					No Sample				
	Score									
2019	Value	11.5*	17.2	47.5	61.5	6.5				
	Score	3	2	4	4	4			17	Excellent
2018	Value	11.5	15.5	67.5	78.0	11.0				
	Score	3	2	4	4	4			17	Excellent
2017	Value	10.5*	21.0	66.0	75.5	12.5				
	Score	2	2	4	4	4			16	Good
2016	Value					No Sample				
	Score									
2015	Value					No Sample				
	Score									
2014	Value	10.5*	2.5	57.0	58.0	4.5				
	Score	2	1	4	4	4			15	Good
2013	Value					No Sample				
	Score									

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 111. Length frequency and CPUE (fish/hr) of Largemouth Bass and saugeye collected in 1.5 hours of 15-minute electrofishing runs for black bass in Bullock Pen Lake in October 2022.

	Inch class																							
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
Largemouth Bass	4	4	4	3	5	10	25	8	11	16	20	16	12	7	7	6	3	3	4	1		169	112.7	16.3
Saugeye													1								1	2	1.3	0.8

Dataset = cfdwrblp.d22

Table 112. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Bullock Pen Lake in October 2022; standard errors are in parentheses.

Species	Area	Length group 8.0–11.9 in No.	8.0–11.9 in W_r	12.0–14.9 in No.	12.0–14.9 in W_r	≥15.0 in No.	≥15.0 in W_r	Total No.	Total W_r
Largemouth Bass	Total	60	87 (1)	48	92 (1)	31	99 (2)	139	91 (1)

Dataset = cfdwrblp.d22

Table 113. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Bullock Pen Lake. Age-1 CPUE and standard error could not be calculated for 2019 year class due to COVID-19 work restrictions

Year class	Area	Age 0 Mean length	Age 0 SE	Age 0 CPUE	Age 0 SE	Age 0 ≥5.0 in CPUE	Age 0 ≥5.0 in SE	Age 1 CPUE	Age 1 SE
2022	Total	3.9	0.3	10.0	3.4	2.0	0.9		
2021	Total	3.7	0.2	16.0	3.7	2.0	1.4	17.5	3.7
2020	Total	3.9	0.1	30.0	5.9	3.3	1.2	12.5	2.8
2019	Total	4.3	0.1	46.7	0.7	7.3	3.2	---	
2018	Total	4.2	0.1	34.0	6.0	2.0	1.4	17.2	2.9
2017	Total	4.0	0.1	32.7	6.4	6.0	2.5	15.5	3.9
2016				No Sample					
2015				No Sample					
2014	Total	4.0	0.2	16.0	3.1	4.0	1.5	---	
2013	Total	4.0	0.2	14.7	2.0	1.3	0.8	2.5	0.7

Table 114. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 2.0 hours of 15-minute nocturnal electrofishing runs in Corinth Lake, May 2022.

	Inch class																			
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	6	5	7	43	93	80	95	68	50	33	23	12	6	4	7	6	1	539	269.5	16.3

Dataset = cfdpscor.d22

Table 115. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Corinth Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	30.5	4.7	168.0	12.6	53.0	6.5	18.0	3.4	0.5	0.5	269.5	16.3
2021	30.5	3.4	174.0	8.8	77.5	9.0	20.0	2.1	2.5	1.3	302.0	9.6
2020	No Sample											
2019	24.0	4.2	194.5	16.6	75.5	9.2	26.0	6.0	2.5	1.0	320.0	25.9
2018	45.0	6.1	145.0	8.5	66.5	7.8	20.0	3.7	3.0	1.3	276.5	15.6
2017	107.0	11.9	226.5	24.0	26.0	4.4	21.0	4.6	5.0	2.0	380.5	39.7
2016	No Sample											
2015	93.0	4.5	141.0	3.8	38.0	4.1	16.0	3.1	3.5	1.2	288.0	9.0
2014	33.0	5.5	152.5	9.7	17.0	3.8	15.0	2.6	3.0	1.5	189.5	14.0
2013	24.5	4.5	161.0	15.3	22.5	5.4	24.5	6.6	4.5	1.9	232.5	17.3

Dataset = cfdpscor.d13 – .d22

Table 116. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in Corinth Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	478	30 (± 4)	8 (± 2)

Dataset = cfdpscor.d22

Table 117. Population assessment for Largemouth Bass collected during spring electrofishing at Corinth Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	10.3*	8.0	53.0	18.0	0.5				
	Score	2	2	4	3	2			13	Good
2021	Value	10.3*	23.0	77.5	20.0	2.5				
	Score	2	3	4	3	3			15	Good
2020	Value					No Sample				
	Score									
2019	Value	10.3	11.0	75.5	26.0	2.5				
	Score	2	2	4	3	3			14	Good
2018	Value	10.8*	4.5	66.5	20.0	3.0				
	Score	3	1	4	3	3			14	Good
2017	Value	10.8*	19.5	26.0	21.0	5.0				
	Score	3	2	3	3	4			15	Good
2015	Value	10.8	29.9	38.0	16.0	3.5				
	Score	3	3	3	2	3			14	Good
2014	Value	11.1*	29.0	17.0	15.0	3.0				
	Score	3	3	1	2	3			12	Fair
2013	Value	11.1*	13.0	22.5	24.5	4.5				
	Score	3	1	2	3	4			13	Good

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 118. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Corinth Lake on 4 October 2022.

	Inch class																	
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE	SE
Largemouth Bass	57	116	46	21	6	29	42	51	42	37	13	6	7		2	475	316.7	23.5

Dataset = cfdwrcor.d22

Table 119. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Corinth Lake on 4 October 2022; standard errors are in parentheses.

Species	Area	Length group 8.0–11.9 in No.	8.0–11.9 in W_r	12.0–14.9 in No.	12.0–14.9 in W_r	≥15.0 in No.	≥15.0 in W_r	Total No.	Total W_r
Largemouth Bass	Total	101	83 (1)	49	85 (1)	9	89 (3)	159	84 (1)

Dataset = cfdwrcor.d22

Table 120. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Corinth Lake.

Year class	Area	Age 0 Mean length	Age 0 Std. error	Age 0 CPUE	Age 0 Std. error	Age 0 ≥5.0 in CPUE	Age 0 ≥5.0 in Std. error	Age 1 CPUE	Age 1 Std. error
2022	Total	4.6	0.1	157.2	18.6	41.9	9.9		
2021	Total	4.3	0.1	85.3	15.3	16.7	2.4	8.0	1.5
2020	Total	4.0	0.1	82.7	9.5	6.7	1.3	23.0	3.5
2019	Total	4.9	0.1	107.3	20.0	50.7	9.9	-	
2018	Total	4.1	0.1	62.7	8.1	4.7	1.9	11.0	2.6
2017	Total	4.1	0.1	35.3	3.9	1.3	0.8	4.0	0.8
2016	Total	4.1	0.1	30.0	3.5	1.3	0.8	19.5	4.0
2015	Total	4.4	0.1	35.3	5.7	2.0	1.4	NS	
2014	Total	3.4	0.04	56.7	8.9	0.0		29.9	2.5
2013	Total	4.2	0.1	170.7	18.6	34.7	7.4	29.0	4.3

Dataset = cfdwrcor.d13-.d22

Table 121. Number of fish and mean relative weight (W_r) for each length group of Bluegill and Redear Sunfish collected at Corinth Lake on 4 October 2022; standard errors are in parentheses.

Species	3.0–5.9 in No.	3.0–5.9 in W_r	6.0–7.9 in No.	6.0–7.9 in W_r	≥8.0 in No.	≥8.0 in W_r	Total No.	Total W_r
Bluegill	77	88 (2)	30	80 (1)	0		107	86 (1)

Species	1.0–3.9 in No.	1.0–3.9 in W_r	4.0–6.9 in No.	4.0–6.9 in W_r	7.0–9.0 in No.	7.0–9.0 in W_r	≥9.0 in No.	≥9.0 in W_r	Total No.	Total W_r
Redear Sunfish	0		36	91 (2)	13	90 (1)	3	87 (1)	52	91 (1)

Dataset = cfdwrcor.d22

Table 122. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 2.0 hours of 15-minute electrofishing runs in Elmer Davis Lake, May 2022.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	13	64	59	8	13	51	36	115	142	91	84	34	21	5	6	5	5	4	4	760	380.0	16.8

Dataset = cfdpselm.d22

Table 123. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Elmer Davis Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	78.5	10.0	172.0	10.1	104.5	7.6	25.0	5.1	4.0	1.5	380.0	16.8
2021	44.5	7.3	158.5	11.1	54.0	9.8	13.5	2.9	1.0	0.7	270.5	20.8
2020	No Sample											
2019	80.0	10.5	86.5	8.9	91.5	7.9	32.0	4.3	6.5	2.1	290.0	15.5
2018	91.0	10.4	87.0	12.6	125.0	8.8	28.5	3.3	3.5	1.9	331.5	23.6
2017	65.5	10.6	87.5	5.5	95.5	5.9	31.0	2.8	8.0	1.9	279.5	14.4
2016	57.5	6.3	113.0	10.6	126.0	7.9	44.5	2.8	8.0	1.3	341.0	18.1
2015	34.5	5.5	119.0	7.0	78.5	8.9	19.5	4.9	4.0	1.7	251.5	18.3
2014	27.5	4.1	113.5	13.8	75.0	14.2	23.5	4.0	4.5	1.4	239.5	31.7
2013	No Sample											

Dataset = cfdpselm.d13 – .d22

Table 124. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in Elmer Davis Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	603	43 (± 4)	8 (± 2)

Dataset = cfdpselm.d22

Table 125. Population assessment for Largemouth Bass collected during spring electrofishing at Elmer Davis Lake from 2014-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	11.0*	72.0	104.5	25.0	4.0				
	Score	3	4	4	3	4			18	Excellent
2021	Value	11.0	41.0	54.0	13.5	1.0				
	Score	3	3	4	3	2			15	Good
2019	Value	10.7*	60.0	91.5	32.0	6.5				
	Score	2	4	4	4	4			18	Excellent
2018	Value	10.7*	91.0	125.0	28.5	3.5				
	Score	2	4	4	4	3			17	Excellent
2017	Value	10.7*	60.5	95.5	31.0	8.0				
	Score	2	4	4	4	4			18	Excellent
2016	Value	10.7	46.5	126.0	44.5	8.0				
	Score	2	3	4	4	4			17	Excellent
2015	Value	10.5*	28.0	78.5	19.5	4.0				
	Score	2	3	4	3	4			16	Good
2014	Value	10.5*	8.0	75.0	23.5	4.5				
	Score	2	2	4	3	4			15	Good

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 126. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.50 hours of 15-minute electrofishing runs for black bass in Elmer Davis Lake in October 2022.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	54	164	89	42	13	36	39	32	46	46	24	6	2	1	1		1	596	398.0	49.0

Dataset = cfdwrelm.d22

Table 127. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Elmer Davis Lake on 19 October 2022; standard errors are in parentheses.

Species	Length group						Total	
	8.0–11.9 in		12.0–14.9 in		≥15.0 in			
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	100	86 (1)	55	91 (1)	6	92 (4)	161	88 (1)

Dataset = cfdwrelm.d22

Table 128. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Elmer Davis Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	4.7	0.1	225.3	32.4	80.0	9.1		
2021	Total	4.2	0.1	91.3	11.4	14.0	2.8	72.0	9.3
2020	Total	3.8	0.1	176.0	35.6	14.0	1.7	41.0	6.8
2019	Total	4.6	0.1	151.3	16.6	50.0	8.1	-	-
2018	Total	3.9	0.1	100.7	23.3	8.7	1.9	60.0	8.6
2017	Total	3.9	0.1	366.4	74.7	71.2	15.9	91.0	10.4
2016	Total	4.4	0.1	80.0	7.6	24.7	4.9	60.5	10.8
2015	Total	4.0	0.1	77.3	9.1	11.3	3.5	46.5	6.2
2014	Total	-	-	-	-	-	-	28.0	5.3
2013	Total	3.5	0.1	20.0	6.9	0.0	0.0	8.0	2.3

Dataset= cfdwrelm.d13- .d22

Table 129. Number of fish and mean relative weight (W_r) for each length group of Bluegill and Redear Sunfish collected at Elmer Davis Lake on 19 October 2022; standard errors are in parentheses.

Species	Length group								Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r	No.	W_r
	3.0–5.9 in		6.0–7.9 in		≥8.0 in					
Bluegill	76	93 (2)	51	92 (1)	10	91 (3)			137	93 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in			
Redear Sunfish	2	92 (18)	59	102 (1)	50	103 (1)	6	105 (2)	117	102 (1)

Dataset = cfdwrelm.d22

Table 130. CPUE (fish/set) for each length group of Channel Catfish collected by hoop net from the past 9 samples at Elmer Davis Lake.

	Length group							
	≥12.0 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2021	3.4	1.7	3.4	1.7	2.4	1.2	3.4	1.7
2018	16.3	7.0	16.0	7.1	4.3	1.9	16.3	7.0
2015	54.0	5.7	23.7	3.7	6.0	2.0	66.7	10.9
2011	39.8	14.3	20.0	6.6	2.6	1.0	75.0	25.4
2010	28.0	10.8	17.0	7.3	2.0	1.1	32.4	11.8
2009	103.4	38.6	21.4	7.2	0.4	0.2	106.4	39.7
2008	111.8	14.6	23.4	4.7	0.4	0.4	134.0	17.9
2007	71.2	26.0	14.0	4.2	0.2	0.2	118.4	45.2

Dataset = cfdhnelm.d07 - .d22

Table 131. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 2.0 hours of 15-minute electrofishing runs in Kincaid Lake, May 2022.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	1	1		2	12	13	15	16	20	28	10	23	20	24	14	20	9	9	6	243	121.5	6.9

Dataset = cfdpskin.d22

Table 132. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Kincaid Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	8.0	2.1	32.0	3.6	30.5	3.3	51.0	6.4	7.5	1.8	121.5	6.9
2021	24.0	4.3	76.0	9.0	41.0	4.3	88.0	9.1	19.5	3.3	229.0	14.3
2020	No Sample											
2019	16.5	3.2	53.5	7.4	31.5	4.4	86.0	6.5	15.0	2.6	187.5	15.2
2018	No Sample											
2017	20.0	2.8	41.5	3.1	53.0	5.6	106.5	4.1	14.0	1.5	221.0	10.4
2016	No Sample											
2015	16.0	5.8	52.0	5.9	47.5	7.4	79.5	6.3	8.5	11.9	195.0	22.3
2014	No Sample											
2013	34.5	4.3	91.5	11.0	69.0	6.3	83.0	6.3	10.5	2.5	278.0	19.6

Dataset = cfdpskin.d13- .d22

Table 133. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in Kincaid Lake in 2022; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	227	72 (± 6)	45 (± 7)

Dataset = cfdpskin.d22

Table 134. Population assessment for Largemouth Bass collected during spring electrofishing at Kincaid Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	11.6*	1.0	30.5	51.0	7.5				
	Score	4	1	3	4	4			16	Good
2021	Value	11.6	10.0	41.0	88.0	19.5				
	Score	4	2	3	4	4			17	Excellent
2020	Value					No Sample				
	Score									
2019	Value	11.6*	4.5	31.5	86.0	15.0				
	Score	4	1	3	4	4			16	Good
2018	Value					No Sample				
	Score									
2017	Value	11.6	2.0	53.0	106.5	14.0				
	Score	4	1	4	4	4			17	Excellent
2016	Value					No Sample				
	Score									
2015	Value	11.7*	0.5	47.5	79.5	8.5				
	Score	4	1	3	4	4			16	Good
2014	Value					No Sample				
	Score									
2013	Value	11.7	1.0	69.0	83.0	10.5				
	Score	4	1	4	4	4			17	Excellent

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 135. Length distribution and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours of 15-minute electrofishing runs in Kincaid Lake in October 2022.

	Inch class																					
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	15	25	16	5	6	24	12	9	10	15	15	12	11	11	9	9	7	1	4	216	144.0	12.0

Dataset = cfdwrkin.d22

Table 136. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Kincaid Lake during October 2022; standard errors are in parentheses.

	Length group							
Species	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	46	90 (1)	38	89 (1)	41	99 (2)	125	92 (1)

Dataset = cfdwrkin.d22

Table 137. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at Kincaid Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	3.7	0.1	40.7	9.7	3.3	1.9		
2021	Total	3.6	0.1	20.0	2.9	0.7	0.7	1.0	(0.7)
2020	Total	3.2	0.1	56.7	7.5	2.7	1.3	10.0	(2.9)
2019				No Sample					
2018	Total	3.5	0.1	48.0	8.1	4.0	2.1	8.0	(2.3)
2017	Total	3.5	0.1	29.3	8.2	0.0	0.0	-	-
2016	Total	3.8	0.1	34.0	6.4	3.3	1.9	2.0	(1.3)
2015				No Sample					
2014	Total	2.6	0.1	24.7	7.4	0.0	0.0	1.3	(0.5)
2013	Total	3.6	0.1	37.3	13.8	0.0	0.0	-	-

Dataset = cfdwrkin.d22

Table 138. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.0 hour of 7.5-minute electrofishing runs for black bass in McNeely Lake in April 2022.

	Inch class																				
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass	2	21	17	3	11	27	47	33	16	20	17	12	7	6	10	4	4	2	259	259.0	21.1

Dataset = cfdpsmcl.d22

Table 139. Electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from McNeely Lake from 2013-2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	54.0	8.5	123.0	11.2	49.0	5.7	33.0	6.1	2.0	1.3	259.0	21.1
2021	No Sample											
2020	No Sample											
2019	97.0	30.9	205.0	19.3	43.0	5.7	27.0	3.4	3.0	1.0	372.0	46.1
2018	73.3	25.5	173.3	16.6	72.0	7.9	25.3	2.5	2.7	1.3	344.0	41.4
2017	No Sample											
2016	46.0	12.9	130.0	10.4	44.0	4.3	9.0	3.0	0.0	0.0	229.0	15.8
2015	110.0	27.8	198.0	18.5	33.0	7.6	13.0	5.3	2.0	1.2	354.0	43.1
2014	26.0	6.2	167.0	11.8	18.0	2.6	21.0	3.0	3.0	1.0	232.0	16.3
2013	No Sample											

Dataset = cfdpsmcl.d13 – .d22

Table 140. PSD and RSD_{15} values obtained for Largemouth Bass from spring electrofishing samples in McNeely Lake in April 2022; confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{15}
Largemouth Bass	205	40 (± 7)	16 (± 5)

Dataset = cfdpsmcl.d22

Table 141. Population assessment for Largemouth Bass collected during spring electrofishing at McNeely Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2022	Value	10.9*	42.0	49.0	33.0	2.0				
	Score	3	3	4	4	3			17	Excellent
2021	No Sample									
2020	No Sample									
2019	Value	10.9*	94.0	43.0	27.0	3.0				
	Score	3	4	3	4	3			17	Excellent
2018	Value	10.9*	70.0	72.0	25.3	2.7				
	Score	3	4	4	3	3			17	Excellent
2017	No Sample									
2016	Value	10.9	38.0	44.0	9.0	0.0				
	Score	3	3	3	2	1			12	Fair
2015	Value	10.5*	109.0	33.0	13.0	2.0				
	Score	2	4	3	2	3			14	Good
2014	Value	10.5*	18.0	18.0	21.0	3.0				
	Score	2	2	2	3	3			12	Fair
2013	No Sample									

* Age data not collected

^Calculations based on age data gathered in previous years

-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 142. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.00 hour of 15.0-minute electrofishing runs in McNeely Lake in October 2022.

	Inch class																		
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	9	32	45	6	24	23	22	37	26	12	7	4	4	2	3	3	1	260	260.0	27.2

Dataset = cfdwrmcl.d22

Table 143. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at McNeely Lake on 7 October 2022; standard errors are in parentheses.

	Length group							
Species	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	97	84 (1)	23	89 (1)	13	95 (3)	133	86 (1)

Dataset = cfdwrmcl.d22

Table 144. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected in the fall in electrofishing samples at McNeely Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	4.9	0.1	89.0	9.7	48.0	4.9		
2021	Total	4.5	0.1	132.0	36.3	37.3	14.3	42.0	7.1
2020	Total	4.2	0.1	73.0	10.4	4.0	0.0	-	-
2019	Total	5.0	0.0	171.3	16.0	88.0	17.3	-	-
2018	Total	-	-	-	-	-	-	94.0	30.4
2017	Total	4.4	0.1	177.6	11.6	32.8	4.1	70.0	26.1
2016	Total	5.0	0.1	96.0	21.1	56.8	14.3	-	-
2015	Total	4.2	0.0	126.4	14.9	12.0	4.2	38.0	13.1
2014	Total	-	-	-	-	-	-	109.0	27.8
2013	Total	4.2	0.0	86.0	11.5	7.3	2.8	18.0	7.8

Dataset = cfdwrmcl.d13-.d22

Table 145. Number of fish and mean relative weight (W_r) for each length group of Bluegill and Redear Sunfish collected at McNeely Lake during October 2022; standard errors are in parentheses.

	Length group									
Species	No.	W_r	No.	W_r	No.	W_r	No.	W_r	No.	W_r
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	75	80 (2)	39	80 (1)	0				114	80 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear Sunfish	0		30	102 (3)	19	97 (2)	11	93 (1)	60	99 (1)

Dataset = cfdwrmcl.d22

Table 146. Species composition, relative abundance, and CPUE (fish/hr) of fish collected in 2.0 hours of 15- minute electrofishing runs in AJ Jolly Lake, May 2022.

	Inch class																						
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	23	24	Total	CPUE	SE
Largemouth Bass	5	11	2		11	31	15	6	20	12	8	11	6	4	7	1	1						75.5	10.3
Saugeye						4	5									3	3	2	2	1	1		10.5	3.5

Dataset = cfdpsajj.d22

Table 147. Species composition, relative abundance, and CPUE (fish/hr) of fish collected in 0.75 hours of 7.5- minute electrofishing runs in General Butler State Park Lake, May 2022.

	Inch class																					
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Largemouth Bass				6	6	1	10	10	14	4	3	2			1	1			1	59	78.7	8.1
Bluegill	1	4	31	154	206	21			1											418	557.3	15.3
Redear Sunfish		2	2	2	8	28	23	3												68	90.7	15.3

Dataset = cfdpsgbs.d22

Table 148. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours of 15- minute electrofishing runs in Jericho Lake, May 2022.

	Inch class																						
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	3	2	1	2	7	22	28	24	19	25	36	21	40	44	57	57	38	12	5	1	444	296.0	40.4

Dataset = cfdpsjer.d22

Table 149. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.0 hour of 15- minute electrofishing runs in Shelby Lake, May 2022.

	Inch class																			Total	CPUE	SE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Largemouth Bass	1	2	2	7	35	16	22	7	11	8	13	15	9	4	3	2	2	4	2	165	165.0	31.0

Dataset = cfdpsshb.d22

NORTHEASTERN FISHERY DISTRICT

Project 1: Lake and Tailwaters Fishery Surveys

FINDINGS

All sampling conditions can be found in Table 1.

Cave Run Lake (8,720a)

Muskellunge sampling

On April 11-13, the upper, middle, and lower sections of Cave Run Lake were diurnally electrofished for an assessment of the Muskellunge population. In total, 86 fish were captured ranging in size from 13.0 to 51.0 in (Table 2). Weights of sampled fish were also obtained and showed a similar relative weight to previous years on Cave Run Lake (Table 3). All Muskellunge stocked into Cave Run Lake are marked with a unique fin clip or wire tag implant to indicate year class. Fish collected in 2022 ranged in age from 1 to 11 years old, and their size was in the historical range for their given age (Table 4). Based on all sample data, the assessment rating of the Muskellunge population was determined to be "Good" (Table 5). A reduction in stocking effort over the last several years is likely hampering this assessment.

Black bass sampling (Spring)

On April 25-27, the upper, middle, and lower sections of Cave Run Lake were nocturnally electrofished for assessment of the black bass population. In total, 926 fish were captured. Most of these fish were Largemouth Bass (75%), followed by Spotted Bass (24%), and Smallmouth Bass (1%; Table 6). As is normally the case, the percentage of the population represented by Spotted and Smallmouth bass increases as you head from the upper sections of the lake to the lower sections of the lake. Catch rates were higher than the 1990-2021 average for Largemouth Bass less than 8.0 in and were on average for the larger size classes (over 15.0 in and over 20.0 in; Table 7). Catch rates of the larger fish continue to be better now than the pre-slot limit time periods (13.1 versus 4.5 fish/hr of electrofishing for Largemouth Bass over 15.0 in and 0.6 versus 0.2 fish/hr for Largemouth Bass over 20.0 in). PSD and RSD_{15} values for Largemouth Bass demonstrate that most of the fish in the lake are below 12.0 in (Table 8). Overall, the Largemouth Bass and Spotted Bass populations rated as "Fair" (Tables 9 and 10, respectively). It should be noted, however, that the parameter "Spring CPUE age-1", for both Spotted Bass and Largemouth Bass, continues to be debilitatingly high.

Black and White crappie sampling (Fall)

From October 31 through November 1, trap nets were run in the upper reaches of Cave Run Lake for assessment of the Black and White crappie populations. A total of 397 crappie were captured (Table 11). Of those, 93% were White Crappie that ranged in size from 2.0 to 14.0 in. The majority of the greater-than-stock-size individuals for both species were below 8.0 in (Table 12). White Crappie relative weights were in the lower 80% range, while Black Crappie were in the lower 90% range (Table 13). A subsample of White Crappie were collected for determination of age and growth characteristics of the population. This subsample showed that the average fish reached 10.0 inches in their 5^{th} year (although some as early as their 4th; Table 14) and that the majority of the population was in their second to fourth year and ranged in size from 5.0 to 14.0 in (Table 15). The overall assessment of the White Crappie population in the upper reaches of the lake was rated as "Fair" (Table 13).

Cave Run Lake Tailwaters

Creel Survey

From 01 March to 31 October, a roving creel survey was conducted in the Cave Run Lake Tailwaters. There were over 2,500 angling trips across just over 5,700 man-hours made in the tailwaters during this time (Table 17). While

the number of trips were lower than previous years, the catch rates (both harvest and catch of fish per hour) were higher than previous surveys. As in prior surveys, most anglers were casting male residents still fishing from the bank. Crappie made up most of the fish caught (6,517 fish), followed by panfish (3,015 fish), and catfish (326 fish; Table 18). Most of the trips made to the tailwaters were for black bass (54.1% of trips), followed by crappie (18.4% of trips), and Muskellunge (8.49% of trips). Table 19 shows the number of fish harvested and released by inch class. White Crappie made up most of the fish caught (5,270 fish), with anglers harvesting fish as small as 5.0 in, but harvest started in earnest at around 8.0 in. Tables 20 through 25 show the harvest by month for the major species groups. Anglers caught the most crappie from April through June, with May and June being the most successful (Table 20). The fall was the best time to fish for black bass, with anglers having the most success in September (Table 21). Anglers caught catfish evenly throughout the whole year (Table 22). Trips for Muskellunge were only made in May, June, and October with 15 fish being caught in May (Table 23). Anglers caught the most panfish in May but had the most success in July (Table 24). Finally, no trips were made specifically for trout to the tailwaters, and of the 6,000 trout stocked in the year, only 153 were reported caught in this creel survey (Table 25).

Angler Attitude Survey

In conjunction with the creel survey, anglers were asked a series of questions pertaining to their attitudes towards fishing in the Cave Run Lake Tailwaters (Table 26). Reflective of the creel survey, the most fished for species was crappie. Most bass, crappie, muskie, sauger/walleye, and catfish anglers were satisfied with their angling experiences (60.4%, 84.2%, 63.7%, 57.7% and 83.5%, respectively). However, most trout anglers (N=9) were neutral on their experience. All anglers surveyed used rod and reel with only one individual ever targeting Paddlefish in the tailwaters. Most of the anglers fish primarily from the bank (94.9%). Of those bank anglers, 64.5% (169 individuals) stated they never fished from the hatchery side of the river, and only 1.1% (3 individuals) claimed to always fish from the hatchery side. Only 5.3% of anglers claimed to have observed a Bighead Carp or Silver Carp while fishing in the Cave Run Tailwater; however, only 64.1% think they could accurately identify one of those species.

Grayson Lake (1,512a)

Black bass sampling (Spring/Fall)

The black bass population of Grayson Lake was nocturnally electrofished on 02-04 of May. In total, 877 fish were collected ranging in size from 3.0 to 20.0 in (Table 27). Most of these fish (78%) were Largemouth Bass and the remainder were Spotted Bass (22%). Catch rates by length group were similar to the 1999 to 2021 average with the exception of fish in the less than 8.0-in range which were slightly lower (Table 28). Of those Largemouth Bass over 8.0 in, the majority were under 12.0 in as demonstrated by PSD values. In addition, the upper portions of the lake have a higher ratio of bigger fish to smaller fish, although the upper section also produced the lowest catch rates of fish overall (Table 29). Overall, the Largemouth Bass population was rated as “Fair” (Table 30).

The black bass population of Grayson Lake was also sampled in October for determination of relative weights and spawning strength of Largemouth Bass. From October 17-19, 990 fish were collected using nocturnal electrofishing (Table 31). Overall, relative weights ranged from the low to upper 80’s (Table 32). Larger fish seemed to exhibit better condition but were sampled in far lower numbers. When compared to previous years’ relative weight values, weights in 2022 were slightly lower than the 1990- to 2021-average but very similar to values collected in fall of 2021 (Table 33). Indices of year class strength for Largemouth Bass were interesting in 2022. Mean length of age-0 fish was well above average, while CPUE of overall age-0 fish was much lower than average, and CPUE of age-0 fish over 5.0 in was slightly lower than average (Table 34). After several decades of excessively high reproduction and recruitment, 2022 brought a welcome dip in these parameters. The lake was again not stocked with age-0 Largemouth Bass.

Hybrid Striped Bass sampling (Fall)

From 24 - 28 October, gill nets were run across the lake for determination of the health of the hybrid striped bass population. In total, 86 fish were collected in 16 net-nights (Table 35). Relative weights were similar to previous years’ averages (Table 36). A subsample of individuals were collected for determination of age and growth

characteristics. This showed that the fish in Grayson Lake reach preferred size (15.0 in) in their second or third year, memorable size (20.0 in) in their third or fourth year, and a trophy size (25.0 in) in their sixth year (Table 37). Most of the two- to three-year-old hybrid striped bass in the lake are between 16.0 and 22.0 in (Table 38). Overall, the population was rated as "Good" with scoring based on lake specific values (Table 39).

Lake Carnico (114a)

Creel Survey

From April through October, a roving creel survey was conducted on Lake Carnico. Based on our records, this is the first creel survey done on Lake Carnico. Overall, 710 trips were made on the lake, and this represented almost 2,500 man-hours (Table 40). The majority of the anglers were resident males casting from a boat (Table 40). Relatively few fish were caught or harvested during this creel survey. The most frequently caught fish was Largemouth Bass (854 caught, 0 harvested) and the most frequently harvested group was crappie (98 caught, 51 harvested; Table 41). Most of the Largemouth Bass caught were 12.0 in or less and catch rates of fish across the board were disappointingly low (Table 42). Monthly success tables are provided for crappie (Table 43), Largemouth Bass (Table 44), and Bluegill (Table 45); however, catch rates are low and variable so caution must be used when examining these tables.

Angler Attitude Survey

In conjunction with the creel survey, anglers were asked a series of questions pertaining to their attitudes towards fishing at Lake Carnico (Table 46). The most fished for species was bass, followed by sunfish, saugeye, catfish, and crappie. The majority of those that fished Lake Carnico in 2022 were not residents of the Nicholas County Development Area. More bass, sunfish, saugeye, catfish, and crappie anglers were satisfied than were dissatisfied and all anglers were evenly split on support of a move to a 12.0-in minimum size limit on Largemouth Bass. Over 70% of anglers felt as though the vegetation situation on the lake was getting worse or staying the same.

Greenbo Lake (181a)

Black bass sampling (Spring/Fall)

On 28 April, Greenbo Lake was nocturnally electrofished for an assessment of the Largemouth Bass population. In total, 235 fish were captured ranging in size from 2.0 to 22.0 in (Table 47). Except for the 8.0- to 11.9-in and 12.0- to 14.9-in length groups of fish, all length groups had similar or higher catch rates when compared to previous years (Table 48). PSD values were similar to previous years, but RSD_{15} values were significantly higher, indicating a better population of fish over 15.0 in when compared to past years (Table 49). The overall assessment rating was "Good" for the Largemouth Bass population at Greenbo Lake when compared to other lakes of similar size (Table 50).

On 30 September, the lake was sampled to determine the strength of the spawning class. Assessment of the spawning class showed a slightly lower than normal year class of fish and therefore Greenbo Lake was supplementally stocked with Largemouth Bass to make up for this drop off (stocked at a rate of 15 fish/acre or 2,715 fish; Table 51).

Lake Reba (76a)

Black bass sampling (Spring/Fall)

On 25 April, Lake Reba was diurnally electrofished for assessment of the Largemouth Bass fishery. In total, 575 fish were collected ranging in size from 3.0 to 21.0 in (Table 52). Catch rates by inch class were all higher when compared to previous years (Table 53), but PSD and RSD_{15} values were slightly lower than the average (Table 54). Overall assessment of the Largemouth Bass population was "Excellent" for 2022 (Table 55).

The Largemouth Bass population of Lake Reba was also sampled in October for determination of relative weights and spawning strength. On 03 October, 304 fish were collected (Table 56). Overall, relative weights ranged in the low 90's and were very comparable to previous years' conditions (Table 57). Indices of year class strength for Largemouth Bass were slightly lower than average, but supplemental stocking was not conducted due to previous years' high recruitment levels (Table 58).

Smokey Valley (36a)

Largemouth Bass sampling (Spring/Fall)

On 02 May, Smoky Valley Lake was diurnally electrofished for assessment of the Largemouth Bass fishery. In total, 150 fish were captured ranging in size from 3.0 to 17.0 in (Table 59). Catch rates for smaller fish (less than 8.0 in and 8.0-11.0 in) were lower than the ten-year average, while catch rates for larger fish (12.0-14.9 in, greater than 15.0 in, and greater than 20.0 in) were similar to the 10-year average (Table 60). PSD values were higher than the 10-year average, while RSD_{15} values were similar to previous years (Table 61). Overall, the Largemouth Bass population was rated as "Fair" (Table 62).

On 17 October, the Largemouth Bass population at Smoky Valley Lake was again diurnally electrofished for determination of relative weights. In total, 152 fish were sampled in this effort ranging in size from 3.0 to 16.0 in (Table 63). Relative weights were in the middle 80's with the larger fish showing slightly better condition than the smaller size classes of fish (Table 64). Fish condition was similar to previous sampling years with the exception of the larger fish, which were higher.

Lake Wilgreen (131a)

Largemouth Bass sampling (Spring)

On 22 April, Lake Wilgreen was diurnally electrofished for assessment of the Largemouth Bass fishery. In total, 278 fish were captured ranging in size from 2.0 to 21.0 in (Table 65). Catch rates for fish under 15.0 in were lower than the historical average, while catch rates for larger fish (greater than 15.0 in and greater than 20.0 in) were similar to previous years (Table 66). Both PSD and RSD_{15} values were higher than previous years (Table 67). Overall, the Largemouth Bass population was rated as "Excellent" (Table 68).

Table 1. Yearly summary of sampling conditions by waterbody, species sampled, and date.

Water body	Species	Date (2022)	Time (24hr)	Gear	Weather	Water Temp (ºF)	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Cave Run Lake	Muskie	4/11	800	electro	cloudy	53	727.90	17	good	upper section
Cave Run Lake	Muskie	4/12	800	electro	rainy/wind	50	727.80	20	good	middle section
Cave Run Lake	Muskie	4/13	800	electro	cloudy/wind	52	727.80	-	good	lower section
Cave Run Lake	LMB	4/25	2000	electro	nocturnal	67	729.06	26	good	upper section
Cave Run Lake	LMB	4/26	2000	electro	nocturnal	63	729.14	36	good	middle section
Cave Run Lake	LMB	4/27	2000	electro	nocturnal	64	729.29	-	good	lower section
Cave Run Lake	BC/WC	11/1	800	trap net	cloudy/warm	59	727.59	-	good	upper section only
Cave Run Lake	BC/WC	11/2	800	trap net	cloudy/cooler	58	727.47	-	good	upper section only
Cave Run Lake	BC/WC	11/3	800	trap net	fog/cool	58	727.38	-	good	upper section only
Cave Run Lake	BC/WC	11/4	800	trap net	sunny/warm	59	727.27	-	good	upper section only
Grayson Lake	LMB	5/2	2000	electro	nocturnal	66	646.11	12	good	upper section (Caney)
Grayson Lake	LMB	5/3	2000	electro	nocturnal	-	646.11	72	fair	middle section (Bruin), rain 2 samples only
Grayson Lake	LMB	5/4	2030	electro	nocturnal	68	645.88	84	good	lower section (Dam/Deer Creek)
Grayson Lake	LMB	10/17	1900	electro	nocturnal	57	643.76	30	good	upper section (Caney)
Grayson Lake	LMB	10/18	1900	electro	nocturnal	58	643.71	36	good	middle section (Bruin)
Grayson Lake	LMB	10/19	1900	electro	nocturnal	61	643.65	48	good	lower section (Dam/Deer Creek)
Grayson Lake	Hybrid	10/25	800	gill net	sunny/warm	58	643.25	-	good	*note: 125', 5 panel nets used
Grayson Lake	Hybrid	10/26	800	gill net	cloudy/wind	61	643.21	-	good	*note: 125', 5 panel nets used
Grayson Lake	Hybrid	10/27	800	gill net	cloudy	59	643.15	-	good	*note: 125', 5 panel nets used
Grayson Lake	Hybrid	10/28	800	gill net	cloudy/cool	59	643.09	-	good	*note: 125', 5 panel nets used
Greenbo Lake	LMB	4/28	2030	electro	cool, clear	64	normal	140	good	
Greenbo Lake	LMB	9/29	2030	electro	cool, clear	70	normal	-	good	
Lake Reba	LMB	4/25	930	electro	sun, wind	67	normal	60	good	
Lake Reba	LMB	10/3	930	electro	clear, cool	65	~6" Low	-	good	
Smoky Valley	LMB	5/2	900	electro	clear, warm	63	normal	25	good	
Smoky Valley	LMB	10/17	900	electro	overcast	58	~6" Low	60	good	
Lake Wilgreen	LMB	4/22	930	electro	sunny, hot	58	normal	30	fair	

Table 2. Length frequency and CPUE (fish/hr) of Muskellunge collected in the upper, middle, and lower sections during 18 hours of 30-minute runs (6 hours in each section) at Cave Run Lake on 11-13 April.

		Inch class																								
Area	Species	13	14	15	16	28	29	30	31	32	33	34	35	36	37	38	39	40	41	43	44	51	Total	CPUE	SE
Upper	Muskellunge	1		4			1			1	1		1	1		1							11	1.8	0.5
Middle	Muskellunge		4	1	1	1	1		5	1		3	3	3	2	2	1			1	1	1	31	5.2	1.2
Lower	Muskellunge	1	4	2			2	1	1	1	1	1	3	4	6	7	4	3	2	1			44	7.3	1.3
Total		2	8	7	1	1	4	1	6	3	2	4	7	8	8	10	5	3	2	2	1	1	86	4.8	0.1

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Table 3. Number of fish and mean relative weight (W_r) values for length groups of Muskellunge collected across all lake units in Cave Run Lake from 2003-2022. Standard errors are in parentheses.

	Length group									
	≤ 20.0 in		20.1 - 30.0 in		30.1 - 38.0 in		≥ 38.1 in		Total	
Year	N	W_r	N	W_r	N	W_r	N	W_r	N	W_r
2022	8	77 (3)	5	93 (3)	39	87 (3)	24	86 (2)	76	86 (2)
2021*										
2020	15	80 (4)	6	90 (5)	25	89 (2)	8	82 (4)	54	86 (2)
2019										
2018	8	80 (1)	21	88 (2)	20	92 (2)	10	87 (3)	59	88 (1)
2017	4	88 (3)	31	92 (1)	54	88 (1)	18	87 (3)	107	89 (1)
2016	5	81 (1)	25	89 (2)	31	89 (1)	9	100 (4)	70	90 (1)
2015*										
2014	30	80 (1)	24	89 (1)	57	91 (1)	29	91 (2)	140	88 (1)
2013	11	79 (2)	4	95 (2)	41	94 (2)	17	92 (3)	73	91 (1)
2012	14	75 (1)	28	88 (2)	58	102 (12)	20	86 (1)	120	93 (6)
2011	23	83 (2)	29	93 (2)	40	91 (1)	27	88 (2)	119	89 (1)
2010	19	79 (1)	64	92 (1)	52	94 (2)	18	90 (1)	153	91 (1)
2009	12	88 (4)	11	97 (2)	36	93 (1)	23	93 (1)	82	93 (1)
2008	27	76 (1)	40	114 (17)	48	94 (1)	11	89 (2)	126	96 (6)
2007	35	84 (1)	9	102 (4)	18	95 (3)	14	92 (2)	76	90 (1)
2006	17	75 (1)	13	88 (2)	26	89 (1)	13	87 (1)	69	85 (1)
2005	26	81 (4)	23	91 (1)	38	89 (1)	22	85 (2)	109	87 (1)
2004	10	79 (2)	10	90 (3)	32	87 (1)	15	80 (1)	67	85 (1)
2003	22	82 (3)	16	96 (3)	33	92 (2)	9	87 (2)	80	90 (1)

nedmuscr.d22-d03

* Sample was not collected

Table 4. Average length and weight of known-age muskellunge. Standard errors are in parentheses.

		Age class										
		Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7	Age 8	Age 9	Age 10	Age 11
2011	N=	33										
	L=	14.9 (0.2)										
	W=	0.6 (0.0)										
2012	N=	61	15									
	L=	14.4 (0.1)	23.4 (0.5)									
	W=	0.5 (0.0)	2.7 (0.2)									
2013	N=	74	1	7								
	L=	13.9 (0.1)	25.1	31.0 (0.4)								
	W=	0.5 (0.0)	19.5	7.5 (0.5)								
2014	N=	73	23	9	15							
	L=	14.8 (0.1)	23.4 (0.4)	31.7 (0.4)	34.0 (0.8)							
	W=	0.6 (0.0)	2.9 (0.2)	8.1 (0.4)	10.2 (0.9)							
2015*												
2016	N=	40	18	15	13	1	5					
	L=	14.0 (0.1)	23.2 (0.2)	31.0 (0.4)	34.2 (0.5)	39.1	38.5 (1.0)					
	W=	0.5 (0.0)	2.8 (0.1)	7.3 (0.3)	10.2 (0.6)	16.0	15.0 (2.2)					
2017	N=	59	17	22	17	9	5	4				
	L=	13.5 (0.1)	24.1 (0.7)	29.8 (0.5)	34.3 (0.4)	37.3 (0.5)	37.5 (0.5)	37.6 (0.4)				
	W=	0.4 (0.0)	2.9 (0.2)	6.3 (0.3)	10.2 (0.4)	13.5 (0.9)	12.8 (0.7)	13.2 (0.8)				
2018	N=	45	23	3	2	7	2	4				
	L=	14.0 (0.1)	21.9 (0.4)	32.0 (1.2)	32.1 (0.7)	35.1 (0.7)	36.2 (2.2)	38.3 (2.4)				
	W=	0.5 (0.0)	2.3 (0.2)	8.4 (1.0)	9.9 (0.7)	11.0 (0.7)	11.8 (1.8)	15.2 (3.1)				
2019*												
2020	N=	34	2	3	12	2	4	1	4	1		
	L=	14.7 (0.2)	18.5 (1.6)	28.5 (1.4)	33.4 (0.5)	38.0 (2.4)	36.9 (0.8)	38.2	38.3 (1.1)	39.2		
	W=	0.6 (0.0)	1.0 (0.0)	6.3 (0.9)	9.4 (0.4)	12.3 (1.7)	12.1 (0.6)	8.8	14.5 (1.9)	12.4		
2021*	N=											
	L=											
	W=											
2022	N=	18	0	12	2	3	7	11	2	2	1	1
	L=	14.8 (0.2)		30.6 (0.4)	32.5 (1.0)	36.7 (0.8)	38.0 (0.9)	36.8 (0.4)	38.2 (0.4)	39.1 (0.5)	38.3	37.2
	W=	0.5 (0.0)		7.3 (0.4)	8.8 (1.1)	12.7 (1.0)	13.8 (1.0)	12.0 (0.5)	14.1 (0.2)	14.7 (0.7)	15.1	11.6
Average (Present)	N=	437	99	71	61	26	23	20	6	3	1	1
	L=	14.3 (0.0)	23.0 (0.2)	30.6 (0.2)	33.9 (0.3)	36.6 (0.4)	37.7 (0.4)	37.3 (0.5)	38.3 (0.7)	39.1 (0.3)	38.3	37.2
	W=	0.5 (0.0)	2.9 (0.2)	7.1 (0.2)	10.0 (0.3)	12.5 (0.5)	13.4 (0.6)	12.7 (0.7)	14.3 (1.2)	13.9 (0.8)	15.1	11.6

nedmuscr.d22-d11

* Sample was not collected

Table 5. Population assessment of Muskellunge based on spring electrofishing at Cave Run Lake from 2003-2022.

Year		CPUE age 1	CPUE ≥ 20.0 in	CPUE ≥ 30.0 in	CPUE ≥ 36.0 in	CPUE ≥ 40.0 in	Total score	Assessment rating
2022	Value	1.0	3.8	3.5	2.2	0.5	13	Good
	Score	1	2	3	4	3		
2021*								
2020	Value	2.1	2.2	1.8	0.8	0.2	6	Poor
	Score	1	1	1	1	2		
2019*								
2018	Value	3.3	3.4	2.0	0.9	0.5	9	Fair
	Score	2	1	1	2	3		
2017	Value	3.8	5.9	4.1	2.2	0.7	17	Excellent
	Score	3	3	3	4	4		
2016	Value	2.4	3.8	2.4	0.9	0.2	9	Fair
	Score	1	2	2	2	2		
2015*								
2014	Value	4.1	6.1	4.8	2.8	1.1	18	Excellent
	Score	3	3	4	4	4		
2013	Value	4.2	3.4	3.2	1.6	0.6	13	Good
	Score	3	1	3	3	3		
2012	Value	3.5	5.9	4.3	1.9	0.6	16	Good
	Score	2	3	4	4	3		
2011	Value	1.9	5.3	3.7	2.2	0.9	14	Good
	Score	1	2	3	4	4		
2010	Value	6.8	7.4	3.9	1.9	0.6	18	Excellent
	Score	4	4	3	4	3		
2009	Value	2.6	3.9	3.3	1.7	0.7	14	Good
	Score	2	2	3	3	4		
2008	Value	2.7	5.5	3.3	1.3	0.3	13	Good
	Score	2	3	3	3	2		
2007	Value	3.6	2.5	1.8	1.2	0.4	9	Fair
	Score	2	1	1	2	3		
2006	Value	2.4	2.9	2.2	1.2	0.4	9	Fair
	Score	1	1	2	2	3		
2005	Value	2.9	5.5	4.0	2.0	0.8	16	Good
	Score	2	3	3	4	4		
2004	Value	1.3	3.2	2.6	1.3	0.4	10	Fair
	Score	1	1	2	3	3		
2003	Value	1.9	3.2	2.3	1.0	0.3	8	Poor
	Score	1	1	2	2	2		

nedmuscr.d20-09; nedMS2cr.d08; nedMK1cr.d07; nedmuscr.d06-95

* Sample was not collected

Table 6. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 1.5 hours (4.5 hours total) of 30-minute nocturnal electrofishing runs in each area of Cave Run Lake from 25-27 April.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Upper	Largemouth Bass		3	11	9	2	2	4	6	4	9	8	5	1	1	4	1		2	72	48.0	8.3
	Spotted Bass					1	5	1												7	4.7	2.4
	Smallmouth Bass																			0		
Middle	Largemouth Bass	2	27	57	53	13	5	31	23	11	11	6	4	3	5		2	1	1	255	170.0	44.7
	Spotted Bass		11	11	5	10	15	18	9	1										80	53.3	16.4
	Smallmouth Bass			1	1									1						3	2.0	1.2
Lower	Largemouth Bass	8	40	89	65	20	43	32	20	15	13	5	3	6	2		1	1		363	242.0	26.9
	Spotted Bass	6	38	6	14	29	17	11	8	2	1									132	88.0	32.2
	Smallmouth Bass					1	7		3	1	1			1						14	9.3	7.4
Total	Largemouth Bass	10	70	157	127	35	50	67	49	30	33	19	12	10	8	4	4	2	3	690	153.3	32.2
	Spotted Bass	6	49	17	19	40	37	30	17	3	1									219	48.7	16.0
	Smallmouth Bass			1	1	1	7		3	1	1			2						17	3.8	2.6

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Table 7. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Cave Run Lake from 1990-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	88.7	23.5	43.6	10.0	14.2	2.6	6.9	2.1	0.7	0.3	153.3	32.3
2021	107.1	25.3	81.6	17.7	20.2	4.9	15.3	2.8	0.7	0.3	224.2	35.5
2020*												
2019	185.6	45.1	89.1	13.6	38.4	3.5	21.3	2.2	0.7	0.3	334.4	57.9
2018	34.3	4.9	85.0	13.9	28.0	3.5	16.0	2.5	0.3	0.2	163.3	18.5
2017	73.5	8.0	55.3	7.4	32.3	3.0	21.5	2.8	0.5	0.3	182.7	15.4
2016	83.8	12.7	99.7	9.2	64.3	8.4	25.5	2.9	1.3	0.6	273.3	22.8
2015*												
2014	59.0	7.5	69.3	10.6	23.8	3.4	20.0	3.1	2.0	0.7	172.0	12.9
2013	93.0	6.1	56.7	5.0	20.7	2.3	17.7	2.3	1.5	0.4	188.0	10.1
2012	46.0	6.7	88.0	4.9	25.5	3.6	18.3	2.4	1.3	0.4	177.8	10.7
2011*												
2010*												
2009*												
2008	25.8	6.2	23.3	2.6	8.3	1.8	3.5	1.0	0.5	0.5	61.0	8.5
2007	67.5	7.2	43.3	3.5	19.9	2.8	7.9	1.3	0.3	0.2	138.7	10.7
2006	50.7	10.1	48.5	7.7	14.7	2.0	10.2	1.4	0.2	0.2	124.0	19.1
2005	75.0	13.1	41.7	6.4	14.7	2.7	7.2	1.6	0.7	0.4	138.5	22.2
2004	29.0	3.0	60.7	5.9	26.0	3.0	14.1	13.5	0.3	0.2	129.8	10.1
2003	41.0	6.0	64.6	5.2	24.8	2.3	20.3	2.9	0.8	0.3	150.6	13.0
2002*												
2001	22.8	3.7	54.7	5.4	27.6	2.3	12.6	1.6	0.3	0.2	117.7	8.6
2000	45.1	4.9	78.3	6.5	26.8	2.9	9.0	1.5	0.4	0.3	159.3	10.7
1999	67.6	7.2	51.3	3.5	21.6	1.8	8.6	1.5	0.0		149.0	8.7
1998	18.7	3.5	17.9	2.9	20.6	2.1	6.9	1.5	0.0		64.0	7.6
1997	37.1	3.6	50.4	5.2	24.6	2.6	4.4	0.8	0.1	0.1	116.5	10.4
1996	58.9	6.5	42.4	4.0	15.3	1.5	4.0	0.7	0.0		116.1	9.5
1995	27.8	5.3	80.5	11.5	36.6	3.9	6.4	0.7	0.1	0.1	151.3	17.9
1994	62.5	7.0	54.7	7.9	38.8	3.1	3.7	0.6	0.3	0.2	159.6	15.5
1993	47.1	5.4	110.7	10.3	36.2	4.8	4.9	0.8	0.3	0.1	198.8	15.3
1992	52.0	4.3	77.9	5.1	21.9	1.8	2.8	0.6	0.2	0.1	152.8	6.8
1991	32.5	4.7	64.5	4.9	31.0	2.1	6.3	1.0	0.4	0.2	134.3	7.2
1990	23.3	2.7	43.0	2.7	18.5	2.2	3.4	0.9	0.2	0.1	88.2	5.8

nedpsdcr.d22-d90

* Sample was not collected

Table 8. PSD and RSD values obtained for Largemouth and Spotted bass taken in spring electrofishing samples in each area of Cave Run Lake; 95% confidence intervals are in parentheses.

Area	Species	≥ Stock size	PSD	RSD_a
Upper	Largemouth Bass	47	66 (± 14)	19 (± 11)
	Spotted Bass	7	-	-
Middle	Largemouth Bass	103	32 (± 9)	12 (± 6)
	Spotted Bass	53	2 (± 4)	-
Lower	Largemouth Bass	141	22 (± 7)	7 (± 4)
	Spotted Bass	68	4 (± 5)	-
Total	Largemouth Bass	291	33 (± 5)	11 (± 4)
	Spotted Bass	128	3 (± 3)	-

nedpsdcr.d22

[a] Largemouth Bass = RSD_{15}, Spotted Bass = RSD_{14}

Table 9. Population assessment of Largemouth Bass based on samples collected at Cave Run Lake from 2007-2022 (scoring based on statewide assessment).

Year		Mean length age 3	CPUE 12.0-15.0 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	CPUE age 1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	Value		14.2	6.9	0.7	85.1	12	Fair		
	Score	2	1	2	3	4				
2021	Value		20.2	15.3	0.7	102.4	14	Good		
	Score	2	2	3	3	4				
2020	Value									
	Score									
2019	Value		38.4	21.3	0.7	170.2	17	Excellent		
	Score	2	4	4	3	4				
2018	Value	11.9	28.0	16.0	0.3	35.8	13	Good	0.612	45.8%
	Score	2	3	3	3	2				
2017	Value		32.3	21.5	0.5	72.0	17	Excellent		
	Score	2	4	4	3	4				
2016	Value	11.2	64.3	25.5	1.3	81.3	18	Excellent	-0.743	52.4%
	Score	2	4	4	4	4				
2015*	Value									
	Score									
2014	Value		23.8	20.0	2.0	59.0	17	Excellent		
	Score	2	3	4	4	4				
2013	Value		20.7	17.7	1.5	91.3	15	Good		
	Score	2	2	3	4	4				
2012	Value	11.8	25.5	18.3	1.3	45.3	16	Good	0.852	57.3%
	Score	2	3	3	4	4				
2011*	Value									
	Score									
2010*	Value									
	Score									
2009*	Value									
	Score									
2008	Value		8.3	3.5	0.5	24.9	10	Fair	0.786	54.4%
	Score	2	1	1	3	3				
2007	Value	12.4	19.9	7.9	0.3	66.5	12	Fair	0.703	51.0%
	Score	2	2	2	2	4				

nedpsdcr.d22-d00

* Sample was not collected

Table 10. Population assessment of Spotted Bass based on samples collected at Cave Run Lake from 2000-2022 (scoring based on statewide assessment).

Year		Mean length age 3	CPUE 11.0-14.0 in	CPUE ≥ 14.0 in	CPUE age 1	Total score	Assessment rating
2022	Value		0.9	0.0	20.2	7	Fair
	Score	1	1	1	4		
2021	Value		2.7	0.0	22.9	7	Fair
	Score	1	1	1	4		
2020	Value						
	Score						
2019	Value		4.0	0.2	16.0	7	Fair
	Score	1	1	1	4		
2018	Value		4.2	0.3	39.5	7	Fair
	Score	1	1	1	4		
2017	Value	8.7	5.0	0.5	27.2	8	Fair
	Score	1	1	2	4		
2016	Value		5.3	0.8	24.8	8	Fair
	Score	(1)	1	2	4		
2015*	Value						
	Score						
2014	Value		1.8	0.3	10.8	7	Fair
	Score	(1)	1	1	4		
2013	Value		4.2	0.3	11.8	7	Fair
	Score	(1)	1	1	4		
2012	Value		7.0	0.2	20.0	8	Fair
	Score	(1)	2	1	4		
2011*	Value						
	Score						
2010*	Value						
	Score						
2009*	Value						
	Score						
2008	Value		0.7	0.0	7.8	7	Fair
	Score	(1)	1	1	4		
2007	Value		2.3	0.2	13.6	7	Fair
	Score	(1)	1	1	4		
2006	Value		2.8	0.3	15.3	7	Fair
	Score	(1)	1	1	4		
2005	Value		1.7	0.3	9.2	7	Fair
	Score	(1)	1	1	4		
2004	Value		2.9	0.4	5.9	8	Fair
	Score	(1)	1	2	4		
2003	Value		3.0	0.4	13.3	8	Fair
	Score	(1)	1	2	4		
2002*	Value						
	Score						
2001	Value		2.5	0.3	9.0	7	Fair
	Score	(1)	1	1	4		
2000	Value		2.7	0.0	13.6	7	Fair
	Score	(1)	1	1	4		

nedpsdcr.d22-d00

* Sample was not collected

Table 11. Species composition, relative abundance, and CPUE (fish/nn) for crappie collected in 4 net-nights (4 nights with 10 nets) of sampling at Cave Run Lake from 31 October to 04 November.

	Inch class															
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	SE
White Crappie	1	46	5	72	65	68	37	18	16	24	8	8	2	370	9.3	1.4
Black Crappie		6	6	6	6	2	1							27	0.7	0.3

nedctncr.d22

Table 12. PSD and RSD_{10} values obtained for Black and White crappie in Cave Run Lake; 95% confidence intervals are in parentheses.

Species	≥ Stock size	PSD	RSD_{10}
White Crappie	318	36 (± 5)	18 (± 4)
Black Crappie	15	7 (± 13)	

nedctncr.d22

Table 13. Number of fish and mean relative weight (W_r) values for length groups of Black and White crappie collected in Cave Run Lake by trap netting. Standard errors are in parentheses.

	Length group							
	5.0 - 7.9 in		8.0 - 9.9 in		≥ 10.0 in		Total	
Species	No.	W_r	No.	W_r	No.	W_r	No.	W_r
White Crappie	205	83 (1)	55	80 (1)	58	84 (1)	318	83 (1)
Black Crappie	14	92 (5)	1	92 (-)			15	92 (5)

nedctncr.d22

Table 14. Mean back calculated lengths (in) at each annulus for White Crappie collected from Cave Run Lake in November 2022; includes 95% confidence interval (CI) for mean length for each age class.

Year	No.	Age								
		0	1	2	3	4	5	6	7	8
2022	(8)	3.6								
2021	15		3.6							
2020	15		3.7	5.6						
2019	14		4.1	6.2	7.7					
2018	23		4.2	6.2	7.7	9.0				
2017	13		4.2	6.4	7.8	9.2	10.6			
2016	5		4.5	6.7	8.0	9.2	10.4	11.6		
2015	4		4.3	6.1	7.2	8.2	9.1	10.2	11.2	
2014	2		4.2	6.1	7.3	8.1	8.9	9.9	11.1	12.3
Mean		3.6	4.0	6.1	7.7	9.0	10.2	10.8	11.2	12.3
Number		(8)	91	76	61	47	24	11	6	2
Smallest		3.1	2.5	4.8	6.4	7.1	8.0	8.4	9.1	11.8
Largest		4.8	5.2	7.7	10.2	12.0	12.1	12.9	12.0	12.7
SE		0.2	0.0	0.1	0.1	0.2	0.2	0.4	0.5	0.4
95% CI (±)		0.4	0.2	0.3	0.4	0.6	0.9	1.6	1.8	1.7

Table 15. Age frequency and CPUE (fish/nn) of White Crappie sampled at Cave Run Lake in 2022.

Age	Inch class													Total	%	CPUE	SE
	2	3	4	5	6	7	8	9	10	11	12	13	14				
0	1	46	2											49	13.5	1.2	0.2
1			3	60	4									67	18.4	2.0	0.4
2				12	51	45								108	29.7	2.7	0.5
3						23	15	8		2				48	13.2	1.2	0.2
4							22	8	11	10	1	2		54	14.8	1.3	0.2
5								2	3	12	4	2		23	6.3	0.5	0.1
6									3		1	2	2	8	2.2	0.2	0.1
7								2			2	1		5	1.4	0.1	<0.1
8											1	1		2	0.5	0.1	<0.1
Total	1	46	5	72	55	68	37	20	17	24	9	8	2	364	100	9.3	1.4
%	<1	13	1	20	15	19	10	6	5	7	3	2	1	100			

nedctncr.d20, nedaagcr.d20

Table 16. Population assessment of White Crappie based on samples collected at Cave Run Lake from 2010 - 2022 (scoring based on statewide assessment). Location of the sample (U = Upper lake, M = Middle lake, L = Lower lake) is also included.

Year	Location		CPUE (excl age 0)	Mean length age 2	CPUE ≥ 8.0 in	CPUE age 1	CPUE age 0	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	U Only	Value	8.1	6.7	2.8	2.0	1.2	10	Fair	-0.550	42.3%
		Score	3	1	2	2	2				
2020	All Sections	Value	14.8	6.6	3.1	6.9	12.6	14	Good	-0.556	42.6%
		Score	4	1	2	3	4				
2019	M/L Only	Value	1.4		1.2	0.1	0.3	5	Poor		
		Score	1	1	1	1	1				
2018	U Only	Value	10.8		2.2	2.8	1.5	9	Fair		
		Score	2	1	2	2	2				
2017		Value									
		Score									
2016	U Only	Value	2.7	7.4	1.1	0.4	0.1	6	Poor		
		Score	2	1	1	1	1				
2015	U Only	Value	3.8	7.5	1.2	1.1	0.9	8	Poor	-0.410	33.6%
		Score	2	1	1	2	2				
2014		Value									
		Score									
2013	U Only	Value	4.6		2.0	1.4	1.5	9	Fair		
		Score	2	1	2	2	2				
2012	All Sections	Value	5.8	7.9	0.7	2.2	2.8	9	Fair	-1.067	65.6%
		Score	2	1	1	2	3				
2011	U Only	Value	21.4		3.4	11.6	17.3	16	Good		
		Score	4	1	3	4	4				
2010	U Only	Value	3.6		1.4	0.9	2.5	8	Poor		
		Score	2	1	1	1	3				

nedctncr.d22, d20, d19-d18, d16-d15, d13-d10; nedaagcr.d22, d20, d16, d15, d12

Table 17. Fishery statistics derived from a daytime creel survey at the Cave Run Lake tailwaters during the 2022 creel (March through October).

	2022	2004
Fishing trips		
No. of fishing trips	2,632	9,882
(per acre)	(2632.2)	
Fishing pressure		
Total man-hours (SE)	5,701 (176.7)	20,878 (619.7)
Man hours/acre	5700.6	20878.0
Catch/harvest		
No. of fish caught (SE)	10,586 (1,582.1)	28,011 (3,639.7)
No. of fish harvested (SE)	3,544 (581.24)	10,165 (1,518.2)
Lbs. of fish harvested	1,345	5,476
Harvest rate		
Fish/hour	0.6	0.5
Fish/acre	3544.5	10,165
Lbs/acre	1345.0	5,476
Catch rate		
Fish/hour	1.8	1.3
Fish/acre	10586.0	28,011
Misc. characteristics (%)		
Male	86.6	82.8
Female	13.4	17.1
Resident	94.6	96.0
Non-resident	5.4	3.9
Method (%)		
Still fishing	69.5	77.8
Casting	30.4	22.0
Trolling	0.1	0.0
Fly Fishing	0.0	0.1
Mode (%)		
Bank	94.4	97.7
Boat	5.4	2.2
Kayak	0.2	0.1

Table 18. Fish harvest statistics derived from the 2022 creel survey in the Cave Run Lake Tailwaters.

	White Crappie	Black Crappie	Crappie Group	Bluegill	Rock Bass	Redbreast Sunfish	Warmouth	Redear Sunfish	Green Sunfish	Panfish Group	Channel Catfish	Flathead Catfish	Catfish Group
Number caught	5383	1134	6517	2905	50	31	18	8	4	3015	294	32	326
(per acre)	5383.2	1133.6	6516.8	2904.7	49.6	30.7	17.9	8.3	4.1	3015.3	293.5	32.3	325.9
Number harvested	1814	514	2328	766	9	26	5			806	193	25	218
(per acre)	1813.9	514.1	2328.1	765.9	9.4	25.6	4.9			805.8	193.3	24.5	217.8
% of total number harvested	51.2	14.5	65.7	21.6	0.3	0.7	0.1			22.7	5.5	0.7	6.1
Pounds harvested	476.8	167.0	643.8	94.6	0.7	-	1.7			97.0	212.7	41.2	253.9
(per acre)	476.8	167.0	643.8	94.6	0.7	-	1.7			97.0	212.7	41.2	253.9
% of total pounds harvested	35.4	12.4	47.9	7.0	0.1	-	0.1			7.2	15.8	3.1	18.9
Mean length (in)	8.07	8.39		5.89	4.50	7.00	8.00				14.90	16.25	
Mean w eight (lb)	0.22	0.30		0.13	0.07	-	0.35				1.07	1.70	
Number fishing trips for that species			485.0							124.2			151.0
% of all trips			18.4							4.7			5.7
Hours fished for that species			1,050.3							268.9			482.0
(per acre)			(1050.3)							(268.9)			(482.0)
Number harvested fishing for that species			1854							159			97
Pounds harvested fishing for that species			529.7							23.0			127.2
Number harvested per hour fishing for that species			1.6							0.6			0.2
% success fishing for that species			31.6							19.0			16.3

Table 18 (cont).

	Largemouth Bass	Spotted Bass	Smallmouth Bass	Black Bass Group	Rainbow Trout	White Bass	Walleye	Muskie	Com. Carp	FW Drum	Sauger	Buffalo Spp.	Gar Spp.	Redhorse Spp.	Anything
Number caught	211	42	42	295	153	112	45	31	28	27	20	11	4	3	
(per acre)	211.3	41.8	41.7	294.8	153.1	111.7	44.6	30.7	28.2	27.0	19.7	11.1	4.1	3.2	
Number harvested	20	3		24	83	49	19	18							
(per acre)	20.5	3.2		23.7	82.9	49.4	19.2	17.6							
% of total number harvested	0.6	0.1		0.7	2.3	1.4	0.5	0.5							
Pounds harvested	27.9	1.4		29.3	40.2	41.5	38.7	200.6							
(per acre)	27.9	1.4		29.3	40.2	41.5	38.7	200.6							
% of total pounds harvested	2.1	0.1		2.2	3.0	3.1	2.9	14.9							
Mean length (in)	13.89	10.00			10.91	12.79	17.20	35.67							
Mean w eight (lb)	1.38	0.45			0.47	0.86	1.85	1.29							
Number fishing trips for that species				1,423.4		2.7		223.47							1,423.4
% of all trips				54.1		0.1		8.49							54.1
Hours fished for that species				3,082.6		5.8		483.94							3,082.6
(per acre)				(3082.6)		(5.8)		(483.94)							(3082.6)
Number harvested fishing for that species				4		0		5							
Pounds harvested fishing for that species				3.4				52.90							
Number harvested per hour fishing for that species				0.0				0.01							
% success fishing for that species				1.8				1.20							9.707

Table 19. Length distribution (length of released fish are estimates) for each species of fish harvested (H) or released (R) at Cave Run Lake Tailwaters from March through October 2022.

Species		Inch class																											Total	
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	29	32	35	36	37	Capture	Overall
Muskellunge	H																										9	4	5	18	31
	R																									4		4	5	13	
Common Carp	H																													0	28
	R										4					4	4		8	4			4							28	
Buffalo Species	H																													0	11
	R																							7	4					11	
Redhorse Species	H																													0	3
	R											3																		3	
Channel Catfish	H							4	4			24	16	36	28	24	20	20	4	8				5						193	293
	R							4	4	13	4	46	4	4	13				4				4							100	
Flathead Catfish	H											4			12			4				5								25	33
	R																						4		4					8	
White Bass	H									7		18	14	4	4	2														49	111
	R			4				8		12	8		12	12		6														62	
Rock Bass	H			5	4																									9	49
	R	4			4	11	7	14																						40	
Warmouth	H							5																						5	18
	R		9			4																								13	
Redbreast Sunfish	H						26																							26	31
	R				5																									5	
Green Sunfish	H																													0	4
	R			4																										4	
Bluegill	H		41	111	177	198	177	49		13																				766	2,904
	R	12	352	668	602	266	152	61	25																					2,138	
Redear Sunfish	H																													0	8
	R				4	4																								8	
Smallmouth Bass	H																													0	42
	R									5		23	9							5										42	
Spotted Bass	H									3																				3	42
	R							14		10	5		10																	39	
Largemouth Bass	H											4	8		4	4														20	211
	R							12	8	57	32	20	8	28	20						6									191	
White Crappie	H				49	165	329	366	465	313	90	21	16																	1,814	5,383
	R	29	83	629	968	736	571	323	120	83	4	23																		3,569	
Sauger	H																													0	20
	R										4		4		12															20	
Walleye	H													4	4	4		4					3							19	44
	R									4	4	4	7	4	2															25	

Table 19 (cont).

Species		Inch class																											Total	
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	29	32	35	36	37	Capture	Overall
Freshwater Drum	H																													0	27
	R					8		4				4			11															27	
Black Crappie	H					4	96	124	207	68	12	3																		514	1,133
	R			151	209	146	63	25	21		4																			619	
Gar Species	H																													0	4
	R													4																4	
Rainbow Trout	H								9	39	13	4	4	9	5															83	153
	R						4	11	15	26		11	3																	70	

Table 20. Monthly crappie angling success in the Cave Run Lake Tailwaters during the 2022 creel survey period.

			Catch			Harvest						
	Trips	Hours	Fishing for		Total	Fishing for		Total	Mean length (in)		Mean weight (lbs)	
Month	fishing for	fishing for	Total	Fish/hr	catch	Total	Fish/hr	harvest	BC	WC	BC	WC
MAR	67.2	145.5	474	3.3	488	208	0.4	208	-	8.5	-	0.26
APR	143.7	311.2	1,041	3.3	1,241	330	0.3	384	-	8.1	-	0.22
MAY	84.7	183.5	1,544	8.4	1,959	521	0.3	672	9.1	9.1	0.39	0.34
JUN	90.2	195.2	1,281	6.6	1,512	533	0.4	591	-	8.6	-	0.27
JUL	33.5	72.6	194	2.7	576	76	0.1	94	8.5	7.5	0.31	0.17
AUG	17.5	38.0	15	0.4	72	0	0.0	31	8.0	-	0.25	-
SEP	17.0	36.8	188	5.1	403	48	0.1	122	8.5	7.8	0.31	0.20
OCT	31.2	67.6	162	2.4	267	138	0.5	226	8.5	6.8	0.31	0.12
Total	485.0	1050.3	4,899	4.7	6,517	1,854	0.3	2,328				
Mean									8.4	8.1	0.30	0.22

Table 21. Monthly black bass angling success in the Cave Run Lake Tailwaters during the 2022 creel survey period.

			Catch			Harvest						
	Trips fishing	Hours fishing	Fishing for		Total	Fishing for		Total	Mean length (in)		Mean weight (lbs)	
Month	for	for	Total	Fish/hr	catch	Total	Fish/hr	harvest	LMB	SPB	LMB	SPB
MAR	0.0	0.0	-	-	5	-	-	0	-	-	-	-
APR	12.5	27.1	0	0.0	13	0	0.0	6	13.0	10.0	1.11	0.45
MAY	0.0	0.0	-	-	29	-	-	5	15.0	-	1.73	-
JUN	42.3	91.5	4	0.0	37	4	0.1	12	13.7	-	1.29	-
JUL	0.0	0.0	-	-	33	-	-	0	-	-	-	-
AUG	17.5	38.0	10	0.3	87	0	0.0	0	-	-	-	-
SEP	14.9	32.2	22	0.7	33	0	0.0	0	-	-	-	-
OCT	17.8	38.6	20	0.5	57	0	0.0	0	-	-	-	-
Total	105.0	227.4	56	0.2	295	4	0.0	24				
Mean									13.9	10.0	1.38	0.45

Table 22. Monthly catfish angling success in the Cave Run Lake Tailwaters during the 2022 creel survey period.

			Catch			Harvest						
	Trips fishing	Hours fishing	Fishing for		Total	Fishing for		Total	Mean length (in)		Mean weight (lbs)	
Month	for	for	Total	Fish/hr	catch	Total	Fish/hr	harvest	CCF	FHC	CCF	FHC
MAR	0.0	0.0	-	-	0	-	-	0	-	-	-	-
APR	25.0	54.1	13	0.2	38	10	0.3	29	15.0	-	1.08	-
MAY	63.6	137.6	15	-	44	5	0.1	29	14.0	16.5	0.88	1.78
JUN	36.6	79.3	17	0.2	54	17	0.3	29	15.6	-	1.21	-
JUL	40.2	87.2	5	-	33	0	0.0	9	13.5	-	0.79	-
AUG	11.7	25.3	26	1.0	56	26	0.5	46	14.2	-	0.93	-
SEP	19.1	41.4	22	0.5	70	22	0.3	52	16.0	16.0	1.31	1.62
OCT	15.6	33.8	17	0.5	30	17	0.6	24	16.0	-	1.31	-
Total	211.8	458.7	115	0.3	326	97	0.3	218				
Mean									14.9	16.3	1.07	1.70

Table 23. Monthly Muskellunge angling success in the Cave Run Lake Tailwaters during the 2022 creel survey period.

	Trips	Hours	Catch			Harvest				
	fishing	fishing	Fishing for		Total	Fishing for		Total	Mean length	Mean weight
Month	for	for	Total	Fish/hr	catch	Total	Fish/hr	harvest	(in)	(lbs)
MAR	0.0	0.0	-	-	0	-	-	0	-	-
APR	0.0	0.0	-	-	0	-	-	0	-	-
MAY	45.4	98.3	15	0.2	19	5	0.3	10	36.0	11.64
JUN	45.1	97.6	0	0.0	4	0	0.0	4	36.0	11.64
JUL	0.0	0.0	-	-	0	-	-	0	-	-
AUG	0.0	0.0	-	-	0	-	-	0	-	-
SEP	0.0	0.0	-	-	4	-	-	4	35.0	10.58
OCT	33.5	72.4	3	0.0	3	0	0.0	0	-	-
Total	123.9	268.4	18	0.1	31	5	0.2	18		
Mean									35.7	11.29

Table 24. Monthly panfish angling success in the Cave Run Lake Tailwaters during the 2022 creel survey period.

	Trips	Hours	Catch			Harvest				
	fishing	fishing	Fishing for		Total	Fishing for		Total	Mean length	Mean weight
Month	for	for	Total	Fish/hr	catch	Total	Fish/hr	harvest	(in)	(lbs)
MAR	0.0	0.0	-	-	29	-	-	0	-	-
APR	0.0	0.0	-	-	221	-	-	64	6.9	0.20
MAY	42.4	91.8	219	2.4	292	39	0.1	68	6.5	0.17
JUN	31.0	67.1	104	1.5	983	83	0.1	289	5.1	0.09
JUL	13.4	29.1	184	6.3	618	0	0.0	123	5.1	0.08
AUG	0.0	0.0	0	-	97	0	0.0	92	6.5	0.18
SEP	17.0	36.8	163	4.4	724	37	0.1	166	6.2	0.15
OCT	6.7	14.5	3	0.2	51	0	0.0	3	5.0	0.08
Total	110.4	239.2	673	2.8	3,015	159	0.1	806		
Mean									5.9	0.13

Table 25. Monthly trout angling success in the Cave Run Lake Tailwaters during the 2022 creel survey period.

	Trips	Hours	Catch			Harvest				
	fishing	fishing	Fishing for		Total	Fishing for		Total	Mean length	Mean weight
Month	for	for	Total	Fish/hr	catch	Total	Fish/hr	harvest	(in)	(lbs)
MAR	0.0	0.0	-	-	0	-	-	0	-	-
APR	0.0	0.0	-	-	29	-	-	0	-	-
MAY	0.0	0.0	-	-	29	-	-	29	10.7	0.44
JUN	0.0	0.0	-	-	98	-	-	54	11.2	0.51
JUL	0.0	0.0	-	-	0	-	-	0	-	-
AUG	0.0	0.0	-	-	0	-	-	0	-	-
SEP	0.0	0.0	-	-	0	-	-	0	-	-
OCT	0.0	0.0	-	-	0	-	-	0	-	-
Total	0.0	0.0	-	-	153	-	-	83		
Mean									10.9	0.47

Table 26. Angler attitude survey carried out with 2022 creel survey on the Cave Run Lake Tailwaters.

2. Which species do you fish for at Cave Run Tailwaters (check all that apply)? (N=278)

Crappie= 54.1%; **Catfish**= 43.1%; **Muskie**= 27.4; **Bass**= 22.4%; **Other**= 18.2%;
Sauger/Walleye= 9.6%; **Trout**= 3.2%

(Other includes "Bluegill" (19 anglers), "panfish" (4 anglers), "White Bass" (4 anglers), "Drum" (2 anglers) and "Suckers" (2 anglers)).

3. Which species do you fish for most at Cave Run Tailwaters (check only one)?

Crappie= 39.5%; **Catfish**= 25.6%; **Other**= 11.7%**; Bass**= 10.7%; **Muskie**= 10.3%;
Sauger/Walleye= 1.1%; **Trout**= 0.7%

(Other includes "Bluegill" (9 anglers), "panfish" (2 anglers), "White Bass" (2 anglers), and "Suckers" (1 angler)).

4. On average, how many times do you fish Cave Run Tailwaters in a year? (N=280)

1st Time =	12.1%	**1 - 4 =**	21.7%
5 - 10 =	22.8%	**≥ 10 =**	43.1%

Bass Anglers

5. What level of satisfaction do you have with bass fishing at Cave Run Tailwaters? (N=63)

Very Satisfied	30.2%	**Somewhat Satisfied**	30.2%	**Total**	60.4%
Very Dissatisfied	2.1%	**Somewhat Dissatisfied**	4.8%	**Total**	6.9%
Neutral	33.3%				

5a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (6.9%)*

Number of Fish	100.0%

Crappie Anglers

6. What level of satisfaction do you have with crappie fishing at Cave Run Tailwaters? (N=144)

Very Satisfied	47.9%	**Somewhat Satisfied**	33.3%	**Total**	81.2%
Very Dissatisfied	1.4%	**Somewhat Dissatisfied**	5.6%	**Total**	7.0%
Neutral	11.8%				

6a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (7.0%)*

Number of Fish	70.0%	**Size of Fish**	30.0%

Muskie Anglers

7. What level of satisfaction do you have with muskie fishing at Cave Run Tailwaters? (N=77)

Very Satisfied	33.8%	**Somewhat Satisfied**	29.9%	**Total**	63.7%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	3.9%	**Total**	3.9%
Neutral	32.5%				

7a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (3.9%)*

Number of Fish	66.7%	**Size of Fish**	33.3%

8. About what percentage of legal-size muskie have you harvested in the last 3 years from the Cave Run Lake Tailwaters? (N=76)

Almost All =	17.1%	**About 75% =**	0.0%
About 50% =	0.0%	**About 25% =**	1.3%
Very Few =	10.5%	**None =**	71.0%

Sauger/Walleye Anglers

9. What level of satisfaction do you have with sauger/walleye fishing at Cave Run Tailwaters? (N=26)

Very Satisfied	15.4%	**Somewhat Satisfied**	42.3%	**Total**	57.7%
Very Dissatisfied	3.8%	**Somewhat Dissatisfied**	15.4%	**Total**	19.2%
Neutral	23.1%				

9a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (19.2%)*

Number of Fish	100.0%

Table 26 (cont).

Catfish Anglers

10. What level of satisfaction do you have with catfish fishing at Cave Run Tailwaters? (N=121)

Very Satisfied	52.1%	**Somewhat Satisfied**	31.4%	**Total**	83.5%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	5.8%	**Total**	5.8%
Neutral	10.7%				

10a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (5.8%)*

Number of Fish	85.7%	**Size of Fish**	14.3%

Trout Anglers

11. What level of satisfaction do you have with Trout fishing at Cave Run Tailwaters? (N=9)

Very Satisfied	11.1%	**Somewhat Satisfied**	22.2%	**Total**	33.3%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	22.2%	**Total**	22.2%
Neutral	44.4%				

11a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were satisfied (22.2%)*

Number of Fish	100.0%

All Anglers

12. When you fish Cave Run Tailwaters, what method do you use the most (check all that apply)? N=275

Rod and Reel =	100.0%
Snagging =	0.0%
Bowfishing =	0.0%
Other =	0.0%

13. Do you specfically target paddlefish while fishing in the Cave Run Tailwaters? N=269

Yes =	0.4%	**No =**	99.6%

13a. If yes, what method do you use? N=1

Snagging =	100.0%
Bowfishing =	0.0%
Other =	0.0%

14. When you fish Cave Run Tailwaters do you primarily: N=277

Fish from the Bank =	94.9%
Fish from a Boat =	4.3%
Fish from a Kayak =	0.7%

14a. If you responded as "Fish from the Bank" in question 14, what percentage of your trips do you fish from the Hatchery side of the river? N=262

Always =	1.1%
About 75% =	6.1%
About 50% =	5.0%
About 25% =	23.3%
Never =	64.5%

15. Have you observed any Bighead or Silver Carp while fishing in the Cave Run Tailwaters? N=281

Yes =	5.3%	**No =**	94.7%

15a. Do you feel like you could properly identify Bighead or Silver Carp from other fish species? N=281

Yes =	35.9%	**No =**	64.1%

Table 27. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 1.5 hours (4.5 hours total) of 30-minute nocturnal electrofishing runs in each area of Grayson Lake from 02-04 May.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Upper	Largemouth Bass		4	4	9	13	27	16	16	21	7	3	3	2	3	3	2	1	2	136	90.7	16.7
	Spotted Bass					2	1	1												4	2.7	1.8
Middle	Largemouth Bass	2	47	72	15	19	43	18	29	19	7	5	1	1	1	1	1			281	281.0	33.0
	Spotted Bass	1	4	1	4	4	2	1	1	1										19	19.0	17.0
Lower	Largemouth Bass		19	37	8	26	59	17	40	24	14	10	5	3	3			2		267	178.0	22.1
	Spotted Bass	12	18	17	22	33	30	21	11	4	2									170	113.3	21.2
Total	Largemouth Bass	2	70	113	32	58	129	51	85	64	28	18	9	6	7	4	3	3	2	684	171.0	30.0
	Spotted Bass	13	22	18	26	39	33	23	12	5	2									193	48.3	20.6

nedpsdgl.d22

Table 28. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Grayson Lake from 1999-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	68.8	20.7	82.3	10.9	13.8	2.4	6.3	1.5	0.5	0.5	171.0	30.0
2021	105.8	36.0	94.7	15.1	10.4	1.6	10.2	2.5	1.1	0.5	221.1	47.9
2020*												
2019	145.5	47.4	86.0	17.1	15.0	2.2	9.5	3.0	1.8	1.0	256.0	59.4
2018	130.4	26.9	117.6	22.1	16.7	3.9	8.4	1.7	1.1	0.5	273.1	51.4
2017	90.9	13.7	107.1	17.9	19.8	2.3	8.9	1.3	0.9	0.5	226.7	25.5
2016	178.3	15.4	93.7	7.4	15.7	2.4	11.0	1.5	1.7	1.0	298.7	16.1
2015	55.1	14.2	90.9	12.5	18.9	4.0	14.9	2.6	3.3	0.9	179.8	27.8
2014	53.5	10.7	97.3	11.3	12.7	1.6	13.5	2.0	2.2	0.7	176.9	18.3
2013	75.2	11.3	78.2	5.7	13.2	1.5	16.3	2.1	1.5	0.4	182.8	14.4
2012	67.0	11.4	91.0	6.5	16.8	2.2	13.3	2.8	0.3	0.3	188.0	16.1
2011*												
2010*												
2009	22.8	4.0	41.0	4.2	17.0	2.7	12.7	2.0	0.8	0.3	93.5	10.3
2008	25.7	7.2	22.5	4.4	11.5	2.5	3.7	0.9	0.3	0.2	63.3	11.5
2007	48.0	8.0	46.8	3.8	16.0	2.1	5.0	0.8	0.2	0.2	115.8	11.6
2006	18.8	2.9	55.5	7.4	23.7	3.9	5.3	1.1	0.3	0.2	103.3	10.1
2005	50.1	8.0	70.2	7.9	25.1	3.7	2.9	0.5	0.2	0.2	148.3	15.9
2004	162.3	22.0	77.8	10.1	12.9	1.4	2.9	0.6	0.3	0.2	255.9	31.9
2003	128.3	10.7	79.5	6.5	6.3	0.8	2.2	0.6	0.7	0.4	216.3	15.1
2002	132.5	17.9	54.5	5.5	4.8	1.4	3.0	0.8	0.8	0.4	194.8	22.7
2001	220.8	30.6	54.2	3.2	6.7	0.9	2.2	0.5	0.2	0.2	283.9	30.2
2000	143.3	20.6	65.7	5.9	13.4	1.5	6.7	1.0	0.3	0.2	229.1	25.9
1999	172.7	21.6	102.4	10.1	24.1	2.1	4.6	0.7	0.2	0.2	303.8	31.3

nedpsdgl.d22-d21; d19-d12; d09 - d99

* Sample was not collected

Table 29. PSD and RSD values obtained for Largemouth and Spotted bass taken in spring electrofishing samples in each area of Grayson Lake; 95% confidence intervals are in parentheses.

Area	Species	≥ Stock size	PSD	RSD_a
Upper	Largemouth Bass	106	25 (± 8)	12 (± 6)
	Spotted Bass	4	-	-
Middle	Largemouth Bass	126	13 (± 6)	3 (± 3)
	Spotted Bass	9	11 (± 22)	-
Lower	Largemouth Bass	177	21 (± 6)	5 (± 3)
	Spotted Bass	101	6 (± 5)	-
Total	Largemouth Bass	409	20 (± 4)	6 (± 2)
	Spotted Bass	114	6 (± 4)	-

nedpsdgl.d22

[a] Largemouth Bass = RSD_{15}, Spotted Bass = RSD_{14}

Table 30. Population assessment of Largemouth Bass based on samples collected at Grayson Lake from 2007-2022 (scoring based on statewide assessment).

Year		Mean length age 3	CPUE 12.0-15.0 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	CPUE age 1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	Value		13.8	6.3	0.5	54.3	12	Fair		
	Score	2	1	2	3	4				
2021	Value	11.7	10.4	10.2	1.1	97.1	12	Fair	-0.547	42.10%
	Score	2	1	2	3	4				
2020*	Value									
	Score									
2019	Value		15.0	9.5	1.8	142.8	13	Good		
	Score	2	1	2	4	4				
2018	Value		16.7	8.4	1.1	126.9	13	Good		
	Score	2	2	2	3	4				
2017	Value	12.2	19.8	8.9	0.9	85.1	13	Good		
	Score	2	2	2	3	4				
2016	Value		15.7	11.0	1.7	169.3	12	Fair		
	Score	2	1	2	3	4				
2015	Value		18.9	14.9	3.3	53.8	15	Good		
	Score	2	2	3	4	4				
2014	Value		12.7	13.5	2.2	46.9	14	Good		
	Score	2	1	3	4	4				
2013	Value		13.2	16.3	1.5	73.2	14	Good		
	Score	2	1	3	4	4				
2012	Value		16.8	13.3	0.3	48.5	13	Good		
	Score	2	2	3	2	4				
2011*	Value									
	Score									
2010*	Value									
	Score									
2009	Value		17.0	12.7	0.8	19.9	11	Fair	-0.361	30.30%
	Score	2	2	2	3	2				
2008	Value	11.6	11.5	3.7	0.3	21.3	8	Poor	-0.445	35.90%
	Score	2	1	1	2	2				
2007	Value		16.0	5.0	0.2	45.9	9	Fair	-0.538	41.60%
	Score	1	1	1	2	4				

nedpsdgl.d22-d02; nedaaggl.d21, d17, d08

* Sample was not collected

Table 31. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 1.5 hours (4.5 hours total) of 30-minute nocturnal electrofishing runs in each area of Grayson Lake from 17-19 October.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Upper	Largemouth Bass	1	7	15	10	2	1	13	15	18	9	5	3	1	2	1				2	105	70.0	16.4
	Spotted Bass																				0		
Middle	Largemouth Bass		6	50	63	12	30	81	92	67	15	8	5	1	2	3			1	1	437	291.3	55.1
	Spotted Bass		19	25	6	6	6	7	8	1											78	52.0	12.7
Lower	Largemouth Bass		2	11	19	7	13	38	46	29	13	6	2	1	3	1	1		1	1	194	129.3	7.0
	Spotted Bass		48	38	13	25	21	16	9	2	4										176	117.3	20.7
Total	Largemouth Bass	1	15	76	92	21	44	132	153	114	37	19	10	3	7	5	1		2	4	736	163.6	37.1
	Spotted Bass		67	63	19	31	27	23	17	3	4										254	56.4	37.1

nedwrsgl.d22

Table 32. Number of fish and mean relative weight (W_r) values for each length group of Largemouth Bass captured at Grayson Lake by section. Standard errors are in parentheses.

	Length group							
	8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		Overall	
Section	No.	W_r	No.	W_r	No.	W_r	No.	W_r
Upper	54	84 (1)	9	88 (3)	5	89 (4)	68	85 (1)
Middle	255	79 (1)	14	79 (2)	7	92 (3)	276	80 (1)
Lower	126	77 (1)	9	79 (3)	7	85 (2)	142	77 (1)
Total	435	79 (0)	32	81 (2)	19	89 (2)	486	80 (0)

nedwrsgl.d22

Table 33. Number of fish and mean relative weight (W_r) values for each length group of Largemouth Bass captured at Grayson Lake from 1990 to 2022. Standard errors are in parentheses.

	Length group							
	8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		Overall	
Year	No.	W_r	No.	W_r	No.	W_r	No.	W_r
2022	435	79 (0)	32	81 (2)	19	89 (2)	486	80 (0)
2021	463	80 (0)	42	79 (2)	13	90 (2)	518	80 (0)
2020*								
2019*								
2018*								
2017	464	84 (2)	57	84 (1)	20	90 (2)	541	84 (1)
2016*								
2015*								
2014*								
2013*								
2012	300	83 (0)	37	86 (2)	10	100 (3)	347	84 (0)
2011	235	85 (1)	34	86 (2)	19	92 (2)	288	85 (1)
2010	174	81 (1)	31	77 (1)	3	90 (3)	208	81 (1)
2009	115	80 (1)	25	82 (2)	14	95 (3)	154	72 (1)
2008	124	80 (1)	16	86 (2)	12	96 (1)	152	82 (1)
2007	120	83 (1)	20	84 (2)	6	95 (3)	146	84 (1)
2006	130	84 (1)	33	85 (2)	12	95 (3)	175	85 (1)
2005	234	81 (0)	61	81 (1)	10	89 (4)	305	81 (0)
2004	313	87 (0)	64	84 (1)	8	86 (2)	385	86 (0)
2003	642	82 (0)	72	81 (1)	10	90 (3)	724	82 (0)
2002	350	84 (1)	40	83 (1)	15	90 (3)	405	84 (1)
2001	89	81 (1)	42	82 (1)	14	93 (2)	145	83 (1)
2000*								
1999	179	77 (1)	35	78 (2)	7	88 (3)	221	77 (1)
1998	556	90 (0)	89	84 (1)	16	94 (3)	661	89 (0)
1997	392	85 (0)	89	81 (1)	9	92 (3)	490	84 (0)
1996	433	82 (0)	95	81 (1)	7	90 (2)	535	82 (0)
1995	437	87 (0)	57	83 (1)	20	95 (2)	514	86 (0)
1994	493	84 (0)	86	81 (1)	13	93 (2)	592	84 (0)
1993	704	87 (0)	93	81 (1)	22	96 (3)	819	86 (0)
1992	317	85 (0)	45	82 (1)	5	90 (4)	367	84 (0)
1991	18	84 (2)	1	83	0		19	84 (2)
1990	79	84 (1)	13	85 (3)	1	105	93	84 (1)

nedwrsgl.d22-d21,d17, d12-d01, d99-d90

* Sample was not collected

Table 34. Indices of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected in September of 2003 to 2022 while nocturnal electrofishing at Grayson Lake.

		Age 0		Age 0		Age 0 ≥ 5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	5.0	<0.1	44.7	12.7	24.2	8.4		
2021	Total	4.7	<0.1	67.6	18.9	23.6	10.2	54.3	18.9
2020		*		*		*		97.1	36.5
2019	Total	4.8	<0.1	167.7	36.5	67.7	14.3	*	
2018	Total	4.9	<0.1	164.2	39.3	74.2	19.8	142.8	47.3
2017	Total	5.2	<0.1	91.1	20.1	63.1	15.3	126.9	28.0
2016	Total	4.7	<0.1	116.4	24.1	38.9	9.7	85.1	12.7
2015	Total	4.8	<0.1	126.0	16.7	48.7	8.6	169.3	15.1
2014	Total	4.6	<0.1	101.8	15.7	31.8	8.3	53.8	14.3
2013	Total	4.3	<0.1	81.3	11.2	15.3	3.3	46.9	9.5
2012	Total	4.5	<0.1	139.1	23.0	41.8	6.1	65.7	9.1
2011	Total	4.0	<0.1	83.6	15.0	11.1	2.6	48.5	12.0
2010	Total	4.8	<0.1	98.2	17.3	42.0	6.9	*	
2009	Total	4.1	0.1	33.1	5.7	4.2	1.4	*	
2008	Total	4.1	<0.1	66.0	16.4	8.7	2.8	19.9	3.8
2007	Total	4.3	0.1	44.9	9.2	12.9	2.8	29.8	10.0
2006	Total	4.1	<0.1	87.1	17.9	12.0	2.6	45.9	8.0
2005	Total	4.0	<0.1	72.3	17.0	11.7	2.2	17.3	2.8
2004	Total	4.3	0.1	40.4	5.7	11.3	2.1	46.8	7.8
2003	Total	4.3	<0.1	59.1	6.8	10.4	1.7	158.9	21.7

nedbsigl.d19-d18, d16-d13 nedwrsgl.d22-d21,d17,d12 - d03; nedpsdgl.d22-d21,d19-d12, d09 - d04 nedaaggl.d03, d08, d17, d21

* Sample was not collected

Table 35. Length frequency and CPUE (fish/nn) for hybrid striped bass collected at Grayson Lake while gill netting (16 net-nights) 24-28 October.

	Inch class																						
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	CPUE	SE
Hybrid striped bass	1	3	1				11	10		8	7	5	4	16	10	5	1	3		1	86	5.4	1.1

nedhybgl.d22

Table 36. Number of fish and mean relative weight (W_r) values for each length group of hybrid striped bass collected at Grayson Lake from 2011 to 2022. Standard errors are in parentheses.

	Length group							
	8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		Total	
Year	No.	W_r	No.	W_r	No.	W_r	No.	W_r
2022	4	83 (3)	21	77 (1)	60	84 (1)	85	82 (1)
2018	17	86 (2)	31	84 (1)	65	83 (1)	113	84 (1)
2016	21	85 (2)	26	79 (1)	27	81 (1)	74	81 (1)
2014	23	79 (2)	10	76 (2)	43	83 (1)	76	81 (1)
2011	4	72 (1)	26	81 (1)	43	85 (1)	71	83 (1)

nedhybgl.d22,d18,d16,d14,d11

Table 37. Mean back calculated lengths (in) at each annulus for hybrid striped bass collected from Grayson Lake in October 2022; includes 95% confidence interval (CI) for mean length for each age class.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2021	21	8.8							
2020	20	9.0	14.2						
2019	34	8.8	14.8	18.3					
2018	2	10.3	16.0	18.9	21.4				
2017	1	9.4	15.2	18.1	19.9	21.1			
2016	2	9.3	15.0	17.7	20.3	22.6	24.2		
2013	1	9.9	15.4	17.9	19.7	22.2	22.8	23.4	23.9
Mean		8.9	14.7	18.3	20.5	22.1	23.7	23.4	23.9
Number		81	60	40	6	4	3	1	1
Smallest		3.3	5.8	15.3	18.4	21.1	28.8		
Largest		11.0	16.8	20.2	22.2	23.6	25.1		
SE		0.1	0.2	0.2	0.6	0.6	0.7		
95% CI (±)		0.5	0.7	0.6	2.2	2.2	2.7		

nedaaggl.d22

Table 38. Age frequency and CPUE (fish/nn) of hybrid striped bass sampled using gill nets for 16 net-nights at Grayson Lake in October 2022.

	Inch class																						
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	%	CPUE	SE
0	1	3	1																		5	6	0.3	0.3
1							11	10													21	24	1.3	0.4
2										8	7	3	1								19	22	1.2	0.3
3												2	3	16	10	4					35	41	2.2	0.6
4																	1	1			2	2	0.1	0.1
5																1					1	2	0.1	<0.1
6																		1		1	2	2	0.1	0.1
7																					0			
8																					0			
9																		1			1	1	0.1	<0.1
Total	1	3	1				11	10		8	7	5	4	16	10	5	1	3		1	86	100		
%	1	3	1				13	12		9	8	6	5	19	12	6	1	3		1	100			

nedhybgl.d22; nedaaggl.d22

Table 39. Population assessment for hybrid striped bass based on samples collected during the fall at Grayson Lake from 2011 to 2022 (scoring based on lake-specific assessment for 125-foot nets).

Year		CPUE (excl age 0)	Mean length age 2	CPUE age 1	CPUE ≥ 15.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	Value	5.1	16.6	1.3	3.8	12	Good	-0.684	49.50%
	Score	4	2	3	3				
2018	Value	8.7	15.1	2.7	5.9	13	Good	-0.675	49.10%
	Score	4	1	4	4				
2016	Value	2.6	17.5	1.4	1.4	11	Good	-0.415	34.00%
	Score	3	3	3	2				
2014	Value	3.2	14.4	2.5	0.7	9	Fair	-0.352	29.70%
	Score	3	1	4	1				
2011	Value	3.6	16.5	1.5	2.2	11	Good		
	Score	4	2	3	2				

nedhybgl.d22, nedaaggl.d22

Table 40. Fishery statistics derived from a daytime creel survey at Lake Carnico during 2022 creel (April through October; SE = standard error) .

	2022
Fishing trips	
No. of fishing trips	710
(per acre)	(06.3)
Fishing pressure	
Total man-hours (SE)	2,465 (146.12)
Man hours/acre	22.0
Catch/harvest	
No. of fish caught (SE)	1,508 (292.57)
No. of fish harvested (SE)	123 (54.53)
Lbs. of fish harvested	73
Harvest rate	
Fish/hour	0.0
Fish/acre	1.1
Lbs/acre	0.7
Catch rate	
Fish/hour	0.7
Fish/acre	13.5
Misc. characteristics (%)	
Male	92.7
Female	7.3
Resident	96.3
Non-resident	3.7
Method (%)	
Casting	69.1
Still fishing	23.6
Trolling	6.1
Spider Rig	1.2
Mode (%)	
Boat	68.7
Bank	24.4
Dock	6.9

Table 41. Fish harvest statistics derived from the 2022 creel survey at Lake Carnico.

	Largemouth Bass	Bluegill	Redear Sunfish	Panfish Group	White Crappie	Black Crappie	Crappie Group	Channel Catfish	Saugeye	Carp	Anything
Number caught	854	513	5	518	23	75	98	23	12	4	
(per acre)	7.6	4.6	0.0	4.6	0.2	0.7	0.9	0.2	0.1	0.0	
Number harvested	0	43	0	43	12	39	51	14	12	4	
(per acre)		0.4		0.4	0.1	0.3	0.5	0.1	0.1	0.0	
% of total number harvested		34.5		34.5	10.0	31.7	41.7	11.0	10.0	2.9	
Pounds harvested		3.4		3.4	10.5	20.7	31.2	15.4		22.9	
(per acre)		0.0		0.0	0.1	0.2	0.3	0.1		0.2	
% of total pounds harvested		4.7		4.7	14.4	28.4	42.8	21.1		31.4	
Mean length (in)		5.00			12.00	10.00		15.50	15.00	24.00	
Mean w eight (lb)		0.08			0.85	0.53		1.20		6.44	
Number fishing trips for that species	390.5			73.9			118.3	41.9			84.9
% of all trips	55.0			10.4			16.7	5.9			12.0
Hours fished for that species	1356.7			256.8			410.9	145.7			295.1
(per acre)	(12.1)			(2.3)			(3.7)	(1.3)			(2.6)
Number harvested fishing for that species	0			21			49	14			
Pounds harvested fishing for that species				0.9			29.8	16.0			
Number harvested per hour fishing for that species				0.1			0.0	0.1			
% success fishing for that species	0.0			5.0			11.5	10.0	3.3		

Table 42. Length distribution (length of released fish are estimates) for each species of fish harvested (H) or released (R) at Lake Carnico from April through October 2022.

		Inch class																				Total	
Species		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20	21	24	Capture	Overall
Largemouth Bass	H																					0	854
	R							86	17	109	37	365	55	66	20	66	6	14	9	4		854	
Bluegill	H			21		22																43	514
	R	71	240	120	37	3																471	
Black Crappie	H						10			10	10		9									39	74
	R				4					31												35	
White Crappie	H											12										12	23
	R			8						3												11	
Channel Catfish	H														11	3						14	23
	R															3		6				9	
Saugeye	H															12						12	12
	R																					0	
Redear Sunfish	H																					0	5
	R			5																		5	
Carp	H																				4	4	4
	R																					0	

Table 43. Monthly crappie angling success in Lake Carnico during the 2022 creel survey period.

			Catch			Harvest						
	Trips fishing	Hours fishing	Fishing for		Total	Fishing for		Total	Mean length (in)		Mean weight (lbs)	
Month	for	for	Total	Fish/hr	catch	Total	Fish/hr	harvest	BC	WC	BC	WC
APR	0.0	0.0	0	0.0	0	0	0.0	0	-	-	-	-
MAY	83.9	291.4	49	0.0	49	49	0.2	49	12.0	10.0	0.85	0.53
JUN	6.1	21.3	2	0.1	2	0	0.0	0	10.0	-	0.45	-
JUL	2.3	8.2	28	3.4	35	0	0.0	0	-	9.5	-	0.45
AUG	0.0	0.0	0	0.0	8	0	0.0	0	4.0	-	0.02	-
SEP	5.7	19.9	0	0.0	2	0	0.0	2	-	10.0	-	0.53
OCT	15.2	52.7	0	0.0	0	0	0.0	0	-	-	-	-
Total	113.2	393.5	79	0.2	96	49	0.1	51				
Mean									11.7	10.0	0.80	0.50

Table 44. Monthly Largemouth Bass angling success in Lake Carnico during the 2022 creel survey period.

			Catch			Harvest				
	Trips fishing	Hours fishing	Fishing for		Total	Fishing for		Total	Mean length	Mean weight
Month	for	for	Number	Fish/hr	catch	Number	Fish/hr	harvest	(in)	(lbs)
APR	0.0	0.0	0	0.0	0	0	0.0	0	-	-
MAY	83.9	291.4	87	0.3	87	0	0.0	0	-	-
JUN	36.8	128.0	25	0.2	25	0	0.0	0	-	-
JUL	58.7	204.0	153	0.8	163	0	0.0	0	-	-
AUG	127.5	443.0	377	0.9	377	0	0.0	0	-	-
SEP	49.7	172.8	148	0.9	150	0	0.0	0	-	-
OCT	28.4	98.8	49	0.5	51	0	0.0	0	-	-
Total	385.1	1338.1	839	0.6	853	0	0.0	0		
Mean									-	-

Table 45. Monthly Bluegill angling success in Lake Carnico during the 2022 creel survey period.

	Trips	Hours	Catch			Harvest				
			Fishing for		Total	Fishing for		Total	Mean length	Mean weight
Month	fishing for	fishing for	Number	Fish/hr	catch	Number	Fish/hr	harvest	(in)	(lbs)
APR	0.0	0.0	0	0.0	0	0	0.0	0	-	-
MAY	0.0	0.0	0	0.0	25	0	0.0	0	-	-
JUN	6.1	21.3	62	2.9	69	0	0.0	0	-	-
JUL	9.4	32.6	184	5.6	291	21	0.6	43	5.0	0.1
AUG	5.0	17.4	61	3.5	94	0	0.0	0	-	-
SEP	7.7	26.6	30	1.1	32	0	0.0	0	-	-
OCT	3.8	13.2	2	0.2	7	0	0.0	0	-	-
Total	32.0	111.1	339	3.1	518	21	0.2	43		
Mean									5.0	0.1

Table 46: Angler attitude survey carried out in conjunction with 2022 creel survey on Lake Carnico.

2. Which species do you fish for at Lake Carnico (check all that apply)? (N=278)

Bass= 61.51%; Sunfish= 6.47%; Saugeye= 1.44%; Catfish= 14.39%; Crappie= 17.63%; Other= 5.4%
(Other includes "Anything" (13 anglers)).

3. Which species do you fish for most at Lake Carnico (check only one)?

Bass= 57.91%; Sunfish= 6.83%; Saugeye= 0.36%; Catfish= 14.03%; Crappie= 16.55%; Other= 4.32%
(Other includes "Anything" (12 anglers)).

4. On average, how many times do you fish Lake Carnico in a year? (N=272)

1st Time =	23.2%	**1-4 =**	26.8%
5-10 =	23.9%	**>10 =**	26.1%

5. Are you a resident of Lake Carnico or the Nicholas County Development Area surrounding Lake Carnico? (N=268)

Yes =	9.7%	**No =**	90.3%

Bass Anglers

6. What level of satisfaction do you have with bass fishing at Lake Carncio? (N=167)

Very Satisfied	12.0%	**Somewhat Satisfied**	37.7%	**Total**	49.7%
Very Dissatisfied	1.8%	**Somewhat Dissatisfied**	26.4%	**Total**	28.2%
Neutral	22.2%				

6a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction? (note: This only includes the 28.2% dissatisfied anglers)

Size of Fish	4.3%	**Number of Fish**	40.2%
Other	55.3%	(Other includes "Vegetation" (24 anglers)).	

Sunfish Anglers

7. What level of satisfaction do you have with crappie fishing at Lake Carnico? (N=17)

Very Satisfied	17.7%	**Somewhat Satisfied**	47.1%	**Total**	64.7%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	23.5%	**Total**	23.5%
Neutral	11.8%				

7a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction? (note: This only includes the 23.5% dissatisfied anglers)

Size of Fish	75.0%	
Other	25.0%	(Other includes "Vegetation" (1 angler)).

Saugeye Anglers

8. What level of satisfaction do you have with saugeye fishing at Lake Carncio? (N=3)

Very Satisfied	0.0%	**Somewhat Satisfied**	66.7%	**Total**	66.7%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	0.0%	**Total**	0.0%
Neutral	33.3%				

8a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction? (note: This only includes the 0% dissatisfied anglers)

Catfish Anglers

9. What level of satisfaction do you have with catfish fishing at Lake Carnico? (N=38)

Very Satisfied	7.9%	**Somewhat Satisfied**	36.8%	**Total**	44.7%
Very Dissatisfied	3.1%	**Somewhat Dissatisfied**	21.1%	**Total**	24.2%
Neutral	31.6%				

8a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction? (note: This only includes the 24.2% dissatisfied anglers)

Number of Fish	55.6%	(Other includes "Vegetation" (4 anglers) and "Private
Other	44.5%	dock owners feeding fish (1 angler)).

Table 46 (cont.)..

Crappie Anglers

10. What level of satisfaction do you have with crappie fishing at Lake Carnico? (N=45)

Very Satisfied	13.3%	**Somewhat Satisfied**	42.2%	**Total**	55.6%
Very Dissatisfied	2.2%	**Somewhat Dissatisfied**	8.9%	**Total**	11.1%
Neutral	33.3%				

10a. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction? (note: This only includes the 11.1% dissatisfied anglers)

Number of Fish	20.0%	
Other	80.0%	(Other includes "Vegetation" (4 anglers)).

All Anglers

11. Would you support a change to a 12" minimum size limit on Largemouth Bass at Lake Carnico (N=265)?

Yes =	56.6%	**No =**	43.4%

12. Over the last 3 years, do you feel like the vegetation issues at Lake Carnico are (N=206)?

Getting Worse =	40.3%	**Staying the Same =**	36.4%
Improving =	23.3%		

Table 47. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Greenbo Lake (Greenup Co.) on 28 April.

	Inch class																							
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
Largemouth Bass	3	3	4	13	26	24	17	22	14	34	29	12	10	6	7	3		4	3		1	235	156.7	5.4

nedpsdgb.d22

Table 48. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Greenbo Lake from 2009 to 2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	48.7	7.8	58.0	5.1	34.0	3.2	16.0	4.6	2.7	1.3	156.7	5.4
2021	60.0	12.8	75.3	19.5	38.7	4.7	35.3	12.3	4.7	3.0	209.3	26.8
2020*												
2019	31.7	3.9	35.3	6.1	47.7	4.1	9.0	2.2	3.3	1.6	176.0	15.2
2018	63.3	7.8	72.7	10.8	95.3	7.6	20.0	5.0	7.3	3.3	251.3	22.8
2017	24.0	5.6	78.0	13.1	82.7	10.7	16.0	2.3	4.0	1.5	200.7	17.2
2016	40.7	7.8	103.3	5.5	76.7	7.6	18.0	5.5	6.0	2.9	238.7	15.0
2015	38.7	4.8	68.0	7.7	58.0	8.1	12.7	3.0	2.0	1.4	177.3	16.8
2014	28.0	7.2	52.7	3.0	116.0	16.1	7.3	1.6	3.3	1.2	204.0	16.0
2013	14.0	1.7	78.7	7.4	75.3	17.3	8.7	2.2	1.3	0.8	176.7	22.4
2012	25.3	4.8	111.3	11.8	64.7	8.0	8.7	2.8	2.0	0.9	210.0	21.1
2011	46.0	13.1	91.3	9.3	58.0	8.9	6.7	3.2	1.3	0.8	202.0	14.8
2010	78.0	12.9	87.3	3.5	45.3	9.3	13.3	5.8	2.0	1.4	224.0	11.3
2009	44.7	9.4	60.0	8.7	50.0	8.0	18.0	3.4	2.7	1.3	172.7	16.7

nedpsdgb.d22-d21, d19-d09

* Sample was not collected

Table 49. Largemouth Bass PSD and RSD_{15} values for spring electrofishing at Greenbo Lake from 2009 to 2022; 95% confidence intervals are in parentheses.

Year	≥ Stock size	PSD	RSD_{15}
2022	162	46 (± 8)	15 (± 5)
2021	224	50 (± 7)	24 (± 6)
2020*			
2019	214	60 (± 6)	11 (± 4)
2018	282	61 (± 6)	11 (± 4)
2017	265	56 (± 6)	9 (± 3)
2016	297	48 (± 6)	8 (± 3)
2015	208	51 (± 7)	9 (± 4)
2014	264	70 (± 6)	4 (± 2)
2013	244	52 (± 6)	5 (± 3)
2012	277	40 (± 6)	5 (± 3)
2011	234	51 (± 6)	4 (± 3)
2010	219	40 (± 7)	9 (± 4)
2009	192	53 (± 7)	14 (± 5)

nedpsdgb.d22-d21, d19-d09

* Sample was not collected

Table 50. Population assessment of Largemouth Bass based on samples collected at Greenbo Lake from 2009-2022 (scoring based on statewide assessment).

Year		Mean length age 3	CPUE 12.0-15.0 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	CPUE age 1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	Value		32.7	34.0	16.0	2.7	14	Good		
	Score	2	3	3	3	3				
2021	Value	10.5	44.0	38.7	35.3	4.7	16	Good	-0.311	26.70%
	Score	2	3	3	4	4				
2020*	Value									
	Score									
2019	Value		25.3	47.7	9.0	3.3	14	Good	-	-
	Score	3	2	4	2	3				
2018	Value		22.7	95.3	20.0	7.3	16	Good	-	-
	Score	3	2	4	3	4				
2017	Value		6.0	82.7	16.0	4.0	14	Good	-	-
	Score	3	1	4	2	4				
2016	Value		14.7	76.7	18.0	6.0	16	Good	-1.17	68.80%
	Score	3	2	4	3	4				
2015	Value	11.2	38.7	58.0	12.6	2.0	15	Good	-	-
	Score	3	3	4	2	3				
2014	Value	11.2	21.3	116.0	7.3	3.3	14	Good	-	-
	Score	3	2	4	2	3				
2013	Value	11.2	3.8	75.3	8.7	1.3	12	Good	-	-
	Score	3	1	4	2	2				
2012	Value	11.2	2.0	64.7	8.7	2.0	13	Good	-0.812	56.60%
	Score	3	1	4	2	3				
2011	Value	10.7	9.5	58.0	6.7	1.3	12	Good	-	-
	Score	2	2	4	2	2				
2010	Value	10.7	5.3	45.3	13.3	2.0	13	Good	-0.597	45.00%
	Score	2	1	4	3	3				
2009	Value	10.7	3.2	50.0	18.0	2.7	13	Good	-0.415	34.00%
	Score	2	1	4	3	3				

nedpsdgb.d22-d21, d19-d09

* Sample was not collected

Table 51. Indices of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected in September of 2005 to 2022 while nocturnal electrofishing at Greenbo Lake.

		Age 0		Age 0		Age 0 ≥ 5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	3.2	0.1	61.3	8.5	2.0	1.4		
2021	Total	4.0	0.1	88.0	29.3	24.0	9.5	32.7	5.0
2020	Total	3.5	0.1	40.0	15.4	1.3	0.8	44.0	11.5
2019		*						*	
2018		*						25.3	4.1
2017		*						26.7	5.0
2016		*						6.0	2.9
2015	Total	3.4	0.2	63.3	6.7	9.3	2.5	4.0	2.7
2014	Total	4.2	0.2	51.3	10.8	15.3	4.1	38.7	4.8
2013	Total	3.3	0.1	99.3	9.8	3.3	1.6	21.3	6.3
2012	Total	3.5	<0.1	219.3	35.0	13.3	5.9	3.8	1.4
2011	Total	3.5	0.2	44.0	11.9	6.0	1.7	2.0	0.9
2010	Total	3.9	0.1	40.7	9.2	8.7	2.6	9.5	2.8
2009	Total	5.1	0.2	48.0	6.0	26.0	4.8	5.3	0.4
2008	Total	3.5	0.1	82.0	7.6	2.0	1.4	3.2	1.3
2007	Total	3.9	0.1	44.7	11.3	3.3	1.2	1.0	0.9
2006	Total	3.6	0.1	45.3	9.2	2.7	1.7	2.1	1.0
2005	Total	3.8	0.1	32.0	7.0	4.0	1.0	35.6	5.5

nedbsigb.d22, d20 d15-d13, nedwrsgb.d21, d16, d12-05; nedpsdgb.d22-d21, d19-d05
nedaaggl.d21, d16, d12, d11-d05
* Sample was not collected

Table 52. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.25 hours (5- 15-minute runs) of diurnal electrofishing at Lake Reba on 25 April.

	Inch class																					
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	10	68	83	64	11	6	43	70	102	51	13	25	11	6	4	4	2	1	1	575	460.0	40.3

nedpsdlr.d22

Table 53. Spring electrofishing CPUE (fish/hr) for various length groups of Largemouth Bass collected at Lake Reba from 1995-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	188.8	32.0	176.8	22.4	71.2	10.3	23.2	6.6	1.6	1.0	460.0	40.3
2021	94.0	18.9	154.0	19.5	49.0	10.8	12.0	1.6	2.0	1.2	309.0	37.3
2020	251.0	34.1	191.0	24.9	54.0	4.2	4.0	1.6	1.0	1.0	500.0	37.0
2019	187.0	55.2	223.0	34.7	34.0	9.3	5.0	3.0	0.0	0.0	449.0	30.6
2018	193.0	45.5	56.0	8.2	29.0	6.8	8.0	8.0	0.0	0.0	286.0	28.3
2017	373.6	51.5	175.2	19.9	94.4	21.2	21.6	2.4	4.8	0.8	664.8	53.0
2016	108.0	15.8	102.0	23.7	41.0	10.0	13.0	1.9	2.0	1.2	264.0	19.5
2015	103.2	26.5	84.0	9.2	96.8	12.9	33.6	5.7	4.0	1.8	317.6	23.0
2014	56.0	11.0	144.0	12.4	95.0	10.8	75.0	18.1	7.0	5.7	370.0	22.7
2013	60.1	7.8	102.4	7.7	63.3	11.0	27.1	8.7	0.0		252.9	26.9
2012	103.3	16.5	90.7	9.0	68.0	8.2	16.7	4.2	1.3	0.8	278.7	13.5
2011	66.0	11.4	108.7	16.8	106.0	18.6	25.3	6.1	2.0	1.4	306.0	35.8
2010	67.7	8.1	118.3	19.4	57.7	8.0	6.8	1.7	0.7	0.7	246.0	26.8
2009	47.3	7.6	238.7	12.9	92.7	7.3	26.0	3.2	0.7	0.7	404.7	23.4
2008	77.3	18.4	208.0	28.4	34.0	6.3	12.7	2.6	0.0		332.0	47.1
2007	134.7	20.9	216.7	45.9	60.7	5.2	18.7	4.1	0.7	0.7	430.7	52.2
2006	189.3	18.9	70.7	13.5	26.0	4.9	6.0	2.3	0.0		292.0	27.1
2005	53.3	9.3	57.3	8.1	45.3	4.3	13.3	2.2	0.7	0.7	169.3	16.4
2004	30.0	8.9	125.3	21.5	51.3	9.2	6.7	2.2	0.0		213.3	26.0
2003	110.0	17.9	126.0	10.9	52.0	6.1	8.0	2.5	0.7	0.7	296.0	27.3
2002	138.0	33.6	140.0	31.3	31.0	6.6	5.0	1.0	0.0		314.0	67.0
2001	196.0	25.0	32.0	15.1	9.3	5.3	4.0	2.3	0.0		241.3	32.4
2000	104.1	17.3	35.1	6.6	4.6	0.6	8.0	3.3	0.0		151.7	11.3
1999	122.7	29.4	10.0	3.5	8.0	2.1	18.0	4.7	0.7	0.7	158.7	27.3
1998	76.0	23.7	10.0	2.6	23.0	5.5	21.0	3.4	2.0	1.2	130.0	28.5
1997												
1996	104.0	32.2	7.0	3.4	15.0	5.7	14.0	2.6	0.0		140.0	28.8
1995	160.0	52.9	21.0	7.7	74.0	7.4	3.0	1.9	0.0		258.0	61.5

nedpsdlr.d22-d95

Table 54. Largemouth Bass PSD and RSD_{15} values from spring electrofishing at Lake Reba from 1995 to 2022; 95% confidence intervals are in parentheses.

Year	≥ Stock size	PSD	RSD_{15}
2022	339	35 (± 5)	9 (± 3)
2021	215	28 (± 1)	6 (± 3)
2020	249	23 (± 5)	2 (± 2)
2019	262	15 (± 4)	2 (± 2)
2018	93	40 (± 10)	9 (± 6)
2017	364	40 (± 5)	7 (± 3)
2016	156	35 (± 7)	8 (± 4)
2015	268	61 (± 6)	16 (± 4)
2014	314	54 (± 6)	24 (± 5)
2013	243	47 (± 6)	14 (± 4)
2012	263	48 (± 6)	10 (± 4)
2011	360	55 (± 5)	11 (± 3)
2010	270	35 (± 6)	4 (± 2)
2009	536	33 (± 4)	7 (± 2)
2008	382	18 (± 4)	5 (± 2)
2007	444	27 (± 4)	6 (± 2)
2006	154	31 (± 7)	6 (± 4)
2005	174	51 (± 7)	11 (± 5)
2004	275	32 (± 6)	4 (± 2)
2003	279	32 (± 5)	4 (± 2)
2002	176	20 (± 6)	3 (± 2)
2001	33	30 (± 16)	9 (± 10)
2000	43	28 (± 14)	19 (± 12)
1999	98	72 (± 12)	50 (± 13)
1998	26	81 (± 10)	39 (± 13)
1997*			
1996	54	96 (± 8)	62 (± 19)
1995	54	79 (± 8)	3 (± 3)

nedpsdlr.d22 - d98, d96 - d95

* Sample was not collected

Table 55. Population assessment of Largemouth Bass based on samples collected at Lake Reba from 2007-2022 (scoring based on statewide assessment).

Year		Mean length age 3	CPUE 12.0-15.0 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	CPUE age 1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	Value		71.2	23.2	1.6	189.6	18	Excellent		
	Score	4	4	3	3	4				
2021	Value		49.0	12.0	2.0	83.0	17	Excellent		
	Score	4	4	2	3	4				
2020	Value	11.6	54.0	4.0	1.0	234.0	15	Good	-1.037	64.60%
	Score	4	4	1	2	4				
2019	Value		34.0	5.0	0.0	162.0	12	Fair		
	Score	3	3	1	1	4				
2018	Value		29.0	8.0	0.0	184.0	13	Good		
	Score	3	3	2	1	4				
2017	Value		94.4	21.6	4.8	321.6	18	Excellent		
	Score	3	4	3	4	4				
2016	Value		41.0	13.0	2.0	101.0	15	Good		
	Score	3	3	2	3	4				
2015	Value	11.0	96.8	33.6	4.0	72.8	19	Excellent	-0.464	37.10%
	Score	3	4	4	4	4				
2014	Value		95.0	75.0	7.0	50.0	18	Excellent		
	Score	3	4	4	4	3				
2013	Value		63.3	27.1	0.0	28.4	15	Good		
	Score	3	4	4	1	3				
2012	Value		68.0	16.7	1.3	76.0	16	Good		
	Score	3	4	3	2	4				
2011	Value		106.0	25.3	2.0	52.7	16	Good		
	Score	3	4	3	3	3				
2010	Value	11.4	57.7	6.8	0.7	47.1	14	Good	-1.019	63.90%
	Score	3	4	2	2	3				
2009	Value		92.7	26.0	0.7	65.3	16	Good	-0.162	15.00%
	Score	3	4	3	2	4				
2008	Value		34.0	12.7	0.0	113.0	13	Good	-1.030	64.30%
	Score	3	3	2	1	4				
2007	Value		60.7	18.7	0.7	183.7	16	Good	-1.040	65.00%
	Score	3	4	3	2	4				

nedpsdlr.d20

Table 56. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.0 hour (4- 15-minute runs) of diurnal electrofishing at Lake Reba on 03 October.

	Inch class																		
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE	SE
Largemouth Bass	14	57	34	12	6	23	48	35	22	17	14	7	7	4	1	3	304	304.0	38.3

nedwrslr.d22

Table 57. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass captured at Lake Reba from 1994 to 2022..

	Length group							
	8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		Overall	
Year	No.	W_r	No.	W_r	No.	W_r	No.	W_r
2022	121	92 (7)	28	91 (2)	8	94 (2)	157	92 (5)
2021*								
2020	220	89 (1)	57	88 (1)	5	99 (2)	282	89 (1)
2016*								
2018*								
2017*								
2016*								
2015	216	91 (1)	62	89 (1)	7	91 (4)	285	91 (1)
2014*								
2013*								
2012*								
2011	114	93 (1)	80	89 (1)	16	94 (2)	210	92 (1)
2010	191	90 (3)	116	86 (1)	12	86 (7)	319	89 (2)
2009	91	86 (1)	31	84 (1)	2	88 (11)	124	85 (1)
2008	219	84 (1)	32	86 (1)	1	81	252	84 (1)
2007	142	91 (5)	17	83 (2)	8	93 (3)	167	90 (5)
2006	243	91 (1)	75	93 (1)	18	101 (2)	336	92 (0)
2005	134	90 (1)	27	90 (3)	9	92 (3)	170	90 (1)
2004	186	87 (1)	73	90 (1)	10	95 (2)	269	88 (0)
2003	65	85 (1)	28	87 (2)	2	83 (3)	95	86 (1)
2002	67	92 (2)	12	87 (3)	1	93	80	91 (1)
2001	92	94 (1)	53	92 (1)	12	99 (2)	157	93 (1)
2000	60	97 (1)	13	95 (3)	9	98 (3)	82	97 (1)
1999	56	90 (1)	6	92 (3)	3	96 (4)	65	91 (1)
1998	9	93 (3)	3	94 (5)	3	103 (5)	15	95 (2)
1997	25	94 (2)	6	98 (1)	9	101 (2)	40	96 (1)
1996*								
1995	12	99 (3)	27	99 (3)	10	107 (3)	49	101 (2)
1994	37	92 (2)	56	95 (1)	3	104 (6)	96	95 (1)

nedwrslr.d22, d20, d15, d11-d97, d95-d94

* Sample was not collected

Table 58. Indices of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass while diurnal electrofishing at Lake Reba from 2003 to 2022.

		Age 0		Age 0		Age 0 ≥ 5.0 in		Age 1	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	3.9	0.1	120.0	28.8	15.0	5.3		
2021	Total	4.3	<0.1	371.0	54.2	70.0	19.2	189.6	31.9
2020	Total	4.6	0.1	122.0	24.5	34.0	11.1	83.0	15.6
2019	Total	4.8	0.1	373.0	28.7	153.0	22.0	234.0	41.3
2018	Total	4.8	<0.1	318.0	43.0	126.0	27.4	162.0	46.7
2017	Total	4.8	0.1	501.3	123.3	196.0	34.2	184.0	42.3
2016	Total	5.1	0.1	490.0	43.9	279.0	8.1	321.6	48.5
2015	Total	4.5	0.6	116.0	34.5	35.2	10.2	101.0	15.2
2014	Total	4.1	0.1	375.0	29.6	74.0	16.5	100.0	27.3
2013	Total	3.9	0.1	80.0	16.4	12.0	4.4	50.0	8.9
2012	Total	4.5	0.1	129.1	16.8	37.2	6.0	54.6	9.4
2011	Total	4.4	<0.1	334.9	44.8	84.4	19.5	76.0	14.9
2010	Total	3.9	0.1	58.7	18.9	10.7	4.8	57.3	10.5
2009	Total	4.0	0.1	58.7	15.6	11.3	8.1	47.1	7.0
2008	Total	4.2	0.1	58.7	15.6	11.3	8.1	65.3	7.1
2007	Total	4.3	0.1	44.0	11.2	5.3	2.2	113.0	27.2
2006	Total	4.3	<0.1	175.3	35.9	30.0	8.7	183.7	22.1
2005	Total	5.2	0.1	225.0	48.6	133.0	30.2	192.0	19.5
2004	Total	4.2	0.1	76.7	9.6	15.3	1.9	61.0	10.4
2003	Total	3.7	0.2	23.3	4.8	0.7	0.7	47.3	14.0

nedwrslr.d22, nedpsdlr.d22

Table 59. Length frequency and CPUE (fish/hr) for Largemouth Bass collected in 0.75 hours of diurnal electrofishing (3- 15-minute runs) at Smoky Valley Lake (Carter Co.) on 02 May.

	Inch class																	
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE	SE
Largemouth Bass	1	26	6	1	20	17	8	15	27	17	8	2			2	150	200.0	19.7

nedpsdsv.d22

Table 60. Spring electrofishing CPUE (fish/hr) for various length groups of Largemouth Bass collected at Smoky Valley Lake from 1990-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	72.0	16.2	89.3	4.8	36.0	0.0	2.7	1.3	0.0		200.0	19.7
2021	70.7	31.4	97.3	15.0	33.3	16.4	1.3	1.3	1.3	1.3	202.7	62.2
2020	73.3	9.3	98.7	24.9	29.3	2.7	1.3	1.3	0.0		202.7	21.5
2019	134.7	43.7	106.7	32.7	37.3	16.2	5.3	5.3	1.3	1.3	284.0	66.1
2018	127.7	30.1	178.7	28.2	36.0	9.2	4.0	2.3	0.0		341.3	59.3
2017*												
2016	110.6	29.5	125.2	21.1	18.1	4.9	2.0	1.2	0.0		256.0	52.8
2015	46.1	14.3	86.4	13.2	13.4	2.2	2.0	1.2	0.0		147.9	26.5
2014	71.1	16.6	177.4	28.8	24.4	5.5	1.0	1.0	0.0		273.9	42.6
2013	100.9	8.5	109.8	11.5	8.9	1.9	2.0	1.2	0.0		221.6	6.5
2012	112.1	21.8	98.9	22.3	12.8	2.0	1.0	1.0	0.0		224.7	41.4
2011	150.0	34.0	69.0	8.7	10.0	6.2	0.0		0.0		229.5	31.8
2010	47.7	9.3	65.9	7.8	3.3	1.1	1.0	1.0	0.0		117.9	15.3
2009	97.0	6.6	145.0	23.7	14.0	2.6	1.0	1.0	0.0		383.0	153.4
2008	155.0	23.3	199.0	34.4	46.0	7.8	0.0		0.0		607.0	260.2
2007	119.0	21.8	229.0	32.5	37.0	6.4	2.0	1.2	0.0		573.0	223.4
2006	112.0	12.8	256.0	33.8	62.0	8.7	4.0	1.6	0.0		633.5	234.4
2005	54.4	10.2	190.4	22.7	63.2	9.1	0.8	0.8	0.0		397.6	90.9
2004*												
2003*												
2002*												
2001	117.3	11.6	180.0	14.1	46.7	12.7	2.7	2.7	0.0		346.7	11.6
2000	68.0	13.0	218.0	22.1	69.0	13.7	1.0	1.0	0.0		356.0	46.8
1999*												
1998	135.0	32.2	132.0	25.5	75.0	15.1	3.0	1.0	0.0		546.0	264.9
1997	46.0	8.9	63.0	6.0	39.0	4.1	3.0	1.9	0.0		151.0	3.8
1996	30.0	5.8	77.0	11.5	50.0	7.8	3.0	1.9	0.0		160.0	14.3
1995	41.0	14.4	104.0	21.9	84.0	17.7	2.0	2.0	0.0		231.0	43.7
1994	72.0	5.9	104.0	14.5	94.0	10.5	7.0	1.9	0.0	1.0	277.0	13.2
1993	34.7	18.3	58.7	28.6	24.7	13.9	4.0	4.0	0.0		122.0	63.1
1992	43.4	8.9	96.1	10.9	94.0	6.8.	7.3	3.5	1.8	1.0	261.0	36.8
1991	18.0	2.6	129.0	17.1	18.0	2.0	6.0	1.2	1.0	1.0	171.0	16.9
1990	58.7	9.7	109.2	21.8	34.1	1.2	18.6	5.8	2.4	1.2	352.0	158.0

nedpsdsv.d22-d18, d16-d05, d01-d00, d98-d90

* Sample was not collected

Table 61. Largemouth Bass PSD and RSD_{15} values from spring electrofishing at Smoky Valley Lake from 1990 to 2022; 95% confidence limits are in parentheses.

Year	≥ Stock size	PSD	RSD_{15}
2022	96	30 (± 9)	1 (± 3)
2021	99	26 (± 9)	1 (± 2)
2020	97	24 (± 9)	1 (± 2)
2019	112	29 (± 8)	4 (± 3)
2018	164	18 (± 6)	2 (± 2)
2017*			
2016	137	14 (± 6)	1 (± 2)
2015	91	15 (± 7)	2 (± 3)
2014	156	12 (± 5)	1 (± 1)
2013	105	10 (± 6)	2 (± 3)
2012	101	13 (± 7)	1 (± 2)
2011	70	14 (± 8)	
2010	67	6 (± 6)	1 (± 3)
2009	160	9 (± 5)	1 (± 1)
2008	245	19 (± 5)	(± 0)
2007	268	15 (± 4)	1 (± 1)
2006	322	20 (± 4)	1 (± 1)
2005	318	25 (± 5)	0 (± 1)
2004*			
2003*			
2002*			
2001	172	22 (± 6)	1 (± 2)
2000	288	24 (± 5)	0 (± 1)
1999*			
1998	210	37 (± 7)	1 (± 2)
1997	105	40 (± 9)	3 (± 3)
1996	130	41 (± 8)	2 (± 3)
1995	190	45 (± 7)	1 (± 1)
1994	205	49 (± 7)	3 (± 2)
1993	131	33 (± 8)	5 (± 4)
1992	213	51 (± 7)	4 (± 3)
1991	153	16 (± 6)	4 (± 3)
1990	194	30 (± 6)	11 (± 4)

nedpsdsv.d22-d18, d16-d05, d01-d00, d98-d90

* Sample was not collected

Table 62. Population assessment of Largemouth Bass based on samples collected at Smoky Valley Lake from 2007-2022 (scoring based on statewide assessment).

Year		Mean length age 3	CPUE 12.0-15.0 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	CPUE age 1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	Value		36.0	2.7	0.0	44.0	11	Fair		
	Score	3	3	1	1	3				
2021	Value		69.3	33.3	1.3	1.3	13	Good		
	Score	3	4	3	1	2				
2020	Value	11.2	29.3	1.3	0.0	60.4	12	Fair	-1.099	66.70%
	Score	3	3	1	1	4				
2019	Value		37.3	5.3	1.3	129.3	14	Good		
	Score	4	3	1	2	4				
2018	Value	11.9	36.0	4.0	0.0	61.3	13	Good	-0.780	53.70%
	Score	4	3	1	1	4				
2017*	Value									
	Score									
2016	Value	11.0	18.1	2.0	0.0	47.3	10	Fair	-0.273	23.90%
	Score	3	2	1	1	3				
2015	Value		13.4	2.0	0.0	36.7	10	Fair		
	Score	3	2	1	1	3				
2014	Value		24.4	1.0	0.0	70.1	11	Fair		
	Score	3	2	1	1	4				
2013	Value		8.9	2.0	0.0	80.0	10	Fair		
	Score	3	1	1	1	4				
2012	Value	11.5	12.8	1.0	0.0	68.0	10	Fair	-0.936	60.80%
	Score	3	1	1	1	4				
2011	Value		10.0	0.0	0.0	150.5	8	Poor		
	Score	1	1	1	1	4				
2010	Value	9.6	3.3	1.0	0.0	34.9	7	Poor	-0.787	54.50%
	Score	1	1	1	1	3				
2009	Value		14.0	1.0	0.0	9.0	7	Poor	-0.223	20.00%
	Score	1	2	1	1	2				
2008	Value		46.0	0.0	0.0	56.0	11	Fair	-0.550	22.50%
	Score	1	4	1	1	4				
2007	Value	9.6	37.0	2.0	0.0	7.0	7	Poor	-0.513	40.10%
	Score	1	3	1	1	1				

nedpsdsv.d22-d18, d16-d05, d01-d00, d98-d90

* Sample was not collected

Table 63. Length frequency and CPUE (fish/hr) for Largemouth Bass collected in 0.75 hours of diurnal electrofishing (3- 15-minute runs) at Smoky Valley Lake (Carter Co.) on 17 October, 2022.

	Inch class																
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE	SE
Largemouth Bass	11	16	7		5	24	20	16	25	19	7	1		1	152	202.7	58.5

nedpsdsv.d22

Table 64. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass captured at Smoky Valley Lake from 1990 to 2022.

	Length group							
	8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		Overall	
Year	No.	W_r	No.	W_r	No.	W_r	No.	W_r
2022	84	83 (1)	27	81 (1)	1	94	112	83 (1)
2001*								
2020	65	84 (1)	35	84 (1)	2	92 (9)	102	84 (1)
2019*								
2018	123	84 (1)	24	84 (1)	6	87 (3)	153	84 (1)
2017*								
2016	79	79 (1)	24	73 (2)	1	79	104	77 (1)
2015*								
2014*								
2013*								
2012*								
2011	117	87 (1)	23	78 (3)	1	81	141	85 (1)
2010	90	81 (1)	12	82 (2)			102	81 (1)
2009	80	83 (1)	9	86 (2)	1	89	90	83 (1)
2008	104	83 (1)	20	81 (1)			124	82 (1)
2007	99	85 (1)	10	87 (3)			109	85 (1)
2006*								
2005*								
2004	108	85 (1)	43	84 (1)			151	85 (1)
2003*								
2002	111	83 (0)	25	83 (1)			136	83 (0)
2001	129	83 (1)	27	84 (1)			156	83 (0)
2000	70	82 (1)	32	83 (2)	1	88	103	82 (1)
1999*								
1998	92	91 (1)	37	87 (1)	1	85	130	90 (1)
1997*								
1996	93	87 (1)	34	81 (1)	5	79 (5)	132	85 (1)
1995*								
1994	57	86 (1)	40	82 (1)	4	84 (7)	101	84 (1)
1993	81	91 (2)	67	86 (1)	5	93 (1)	153	89 (1)
1992	83	87 (1)	54	81 (1)	3	72 (8)	140	85 (1)
1991	85	86 (1)	58	81 (1)	5	76 (3)	148	84 (1)
1990	150	89 (1)	33	85 (1)	11	92 (2)	194	88 (0)

nedwrssv.d22, d20, d18, d16, d11-d07, d04, d02-d00, d98, d96, d94-d90

* Sample was not collected

Table 65. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in 1.5 hours (6- 15-minute runs) of diurnal electrofishing at Lake Wilgreen on 22 April.

	Inch class																					
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	4	17	15	8	14	26	17	8	19	27	16	10	16	15	22	15	18	6	3	2	278	185.3	17.4

nedpsdlw.d22

Table 66. Spring electrofishing CPUE (fish/hr) for various length groups of Largemouth Bass collected at Lake Wilgreen from 1991-2022.

	Length group											
	< 8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥ 15.0 in		≥ 20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	56.0	10.3	47.3	5.2	28.0	6.3	54.0	7.1	3.3	1.2	185.3	17.4
2021*												
2020*												
2019*												
2018	20.0	4.5	40.0	8.8	21.3	4.1	42.0	5.0	2.7	1.3	123.3	10.3
2018*												
2016	68.7	12.9	91.3	10.2	80.0	7.0	164.0	12.8	6.7	1.7	404.0	26.8
2015*												
2014	18.7	2.5	71.3	7.1	49.3	9.7	117.3	12.0	8.7	1.9	256.7	21.0
2013*												
2012	58.0	13.1	118.0	11.0	46.7	10.2	78.7	8.2	10.7	2.2	301.3	25.1
2011	84.0	18.0	66.0	12.9	25.3	4.1	42.0	4.7	3.3	2.2	217.3	31.2
2010	42.7	5.7	79.3	14.4	53.3	6.5	51.3	4.1	1.3	0.8	226.7	21.7
2009	19.3	5.6	76.0	14.2	52.0	12.0	50.0	9.5	1.3	0.8	197.3	26.5
2008	8.7	1.9	24.7	5.9	18.7	3.8	10.7	3.7	0.7	0.7	62.7	9.0
2007	238.7	25.9	194.7	16.1	115.3	15.0	18.7	2.2	2.7	1.3	567.3	30.6
2006	56.7	9.9	195.3	8.6	148.0	15.8	22.0	5.8	2.7	0.8	422.0	29.1
2005	86.7	17.9	12.0	12.8	108.7	23.0	6.0	2.7			371.3	45.3
2004*												
2003	89.2	11.1	376.8	41.0	48.0	6.3	12.8	2.5	0.4	0.4	526.8	50.2
2002*												
2001*												
2000	361.0	51.0	274.0	10.6	58.0	12.3	6.0	1.2			699.0	57.0
1999	152.0	6.3	235.0	29.6	43.0	11.8	8.0	2.3	2.0	1.2	438.0	42.9
1998*												
1997*												
1996	149.0	47.8	247.0	24.8	90.0	19.8	15.0	6.2	5.0	1.0	601.0	73.0
1995	77.0	22.7	382.0	45.3	42.0	9.3	10.0	2.6	1.0	1.0	511.0	71.6
1994	298.0	79.5	427.0	50.1	46.0	7.4	24.0	4.9	2.0	1.2	795.0	122.0
1993*												
1992	244.0	42.4	100.0	22.3	70.7	14.1	12.0	4.0	1.3	1.3	426.7	64.1
1991	72.0	6.1	206.7	16.7	58.7	5.8	5.3	1.3	1.3	1.3	342.7	18.7

nedpsdlw.d22, d18, d16, d14, d12-d05, d03, d00-d99, d96-d94, d92-d91

* Sample was not collected

Table 67. Largemouth Bass PSD and RSD_{15} values from spring electrofishing at Lake Wilgreen from 1991 to 2022; 95% confidence intervals are in parentheses.

Year	≥ Stock size	PSD	RSD_{15}
2022	194	63 (± 7)	42 (± 7)
2021*			
2020*			
2019*			
2018	155	61 (± 8)	41 (± 8)
2017*			
2016	503	73 (± 4)	49 (± 4)
2015*			
2014	357	70 (± 5)	49 (± 5)
2013*			
2012	365	52 (± 5)	32 (± 5)
2011	200	51 (± 7)	32 (± 6)
2010	276	57 (± 6)	28 (± 5)
2009	267	57 (± 6)	28 (± 5)
2008	81	54 (± 11)	20 (± 9)
2007	493	41 (± 4)	6 (± 2)
2006	548	47 (± 4)	6 (± 2)
2005	427	40 (± 5)	2 (± 1)
2004*			
2003	1094	14 (± 2)	3 (± 1)
2002*			
2001*			
2000	338	19 (± 4)	2 (± 1)
1999	286	18 (± 4)	3 (± 2)
1998*			
1997*			
1996	352	30 (± 5)	4 (± 2)
1995	434	12 (± 3)	2 (± 1)
1994	497	14 (± 3)	5 (± 2)
1993*			
1992	137	45 (± 8)	7 (± 4)
1991	203	24 (± 6)	2 (± 2)

nedpsdlw.d22, d18, d16, d14, d12-d05, d03, d00-d99, d96-d94, d92-d91

* Sample was not collected

Table 68. Population assessment of Largemouth Bass based on samples collected at Lake Wilgreen from 2006-2022 (scoring based on statewide assessment).

Year		Mean length age 3	CPUE 12.0-15.0 in	CPUE ≥ 15.0 in	CPUE ≥ 20.0 in	CPUE age 1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2022	Value		28.0	54.0	3.3	49.3	17	Excellent		
	Score	4	3	4	3	3				
2021*	Value									
	Score									
2020*	Value									
	Score									
2019*	Value									
	Score									
2018	Value		21.3	42.0	2.7	10.7	15	Good		
	Score	4	2	4	3	2				
2017*	Value									
	Score									
2016	Value	11.7	80.0	164.0	6.7	48.7	19	Excellent	-0.056	5.40%
	Score	4	4	4	4	3				
2015*	Value									
	Score									
2014	Value		49.3	117.3	8.7	9.3	18	Excellent		
	Score	4	4	4	4	2				
2013*	Value									
	Score									
2012	Value		46.7	78.7	10.7	30.7	19	Excellent		
	Score	4	4	4	4	3				
2011	Value		25.3	42.0	3.3	55.3	17	Excellent		
	Score	4	2	4	3	4				
2010	Value		53.3	51.3	1.3	6.0	15	Good	-0.331	28.10%
	Score	4	4	4	2	1				
2009	Value		52.0	50.0	1.3	6.0	15	Good	-0.162	15.00%
	Score	4	4	4	2	1				
2008	Value	12.6	18.7	10.7	0.7	5.3	11	Fair	-0.633	46.90%
	Score	4	2	2	2	1				
2007	Value		115.3	18.7	2.7	230.0	18	Excellent	-0.580	32.50%
	Score	4	4	3	3	4				
2006	Value		148.0	22.0	2.7	58.1	18	Excellent	-0.069	6.60%
	Score	4	4	3	3	4				

nedpsdlw.d22, d18, d16, d14, d12-d05, d03, d00-d99, d96-d94, d92-d91

* Sample was not collected

SOUTHEASTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Conditions encountered during sampling at southeastern district lakes are listed in Table 1.

Lake Cumberland (50,250 acres)

Lake levels in Lake Cumberland rose to 705 msl in 2013 and 723 msl in 2014 with the completion of repairs to Wolf Creek Dam. Sampling completed after 2013 was conducted in areas that were sampled prior to 2007. Samples from 2007-2012 were conducted in areas farther downstream in the embayments due to reduced water levels during dam repairs; therefore, any comparisons of the 2007-2012 data should be interpreted accordingly.

Black Bass Sampling (Spring)

Diurnal electrofishing studies were conducted at Wolf Creek dam, Faubush Creek, Fishing Creek, and Lily Creek embayments of Lake Cumberland during May 2022 to assess the black bass populations. The length-frequency and catch-per-unit-effort (CPUE) of the black bass species collected in each area is shown in Table 2, and the catch-per-hour (by area and length group) of the three black bass species are shown in Tables 3-6. Spotted Bass (51%) comprised the majority of the black bass population in Lake Cumberland, and Largemouth Bass made up an additional 44% of the black bass population. Catch rates of Largemouth Bass in 2022 were slightly lower than rates observed in 2021; however, overall catch rates remain above the 10-year average (51.5 fish/hr). Catch rates of Largemouth Bass $\geq$15.0 in declined for the second consecutive year, but good numbers of fish in the smaller size classes should bolster the population going forward. Catch rates for Spotted Bass continue to increase, and with increasing catch rates of Spotted Bass $\leq$14.0 in, the population should remain strong over the next several years. Overall catch rates for Smallmouth Bass declined for the second year, with the biggest decline being observed in fish $\geq$14.0 in. Catch rates for Smallmouth Bass $\leq$11.0 in are better than average, which will help boost the population going forward. Table 7 compares the catch-per-hour by length group of black bass in Lake Cumberland to other SEFD lakes sampled in 2022.

Largemouth Bass catch rates greatly exceeded three of the four CPUE management objectives, with only the catch rate of fish $\geq$20.0 in failing to meet the objective (Assessment rating=Good; Table 8). Spotted Bass greatly exceeded two of the three catch rate management objectives, with only the CPUE of age-1 fish failing to meet the objective (Assessment rating=Excellent; Table 9). The Smallmouth Bass population did not meet any of the CPUE management objectives (Assessment rating=Fair; Table 10).

Largemouth Bass exhibited excellent size structure, with a PSD value of 78 ($RSD_{15=}$ 48; Table 11). Spotted bass had a good size distribution with a PSD of 56 (RSD_{14}=11; Table 11). Smallmouth Bass had a moderate size structure (PSD=36, RSD_{14}=26; Table 11). Table 12 compares the size structure of black bass populations in Lake Cumberland to other SEFD lakes sampled in 2022.

Black Bass Sampling (Fall)

Diurnal electrofishing was conducted in the Fishing Creek embayment on 28 September 2022 to index Largemouth Bass year class strength (Tables 13 and 14). Catch rates of age-0 Largemouth Bass in 2022 were more than double the rates that were observed in 2021 (Table 14). Table 15 compares the CPUE of age-0 Largemouth Bass in Lake Cumberland to other SEFD lakes sampled in fall 2022. Relative weight (Wr) values for Largemouth Bass and Spotted Bass collected during the September sampling are shown in Table 16. Table 17 compares Wr values for black bass in Lake Cumberland to other SEFD lakes sampled in fall 2022.

Walleye and White Bass Sampling

Gill nets were used in November 2022 to evaluate the Walleye and White Bass populations in the

Jamestown/Bugwood, Conley Bottom, and Waitsboro/Burnside areas of Lake Cumberland. A total of 197 Walleye were captured in 30 net-nights for a catch rate of 6.6 fish/nn. Length frequency and CPUE of Walleye is shown in Table 18. Walleye ranged from 9.0-23.0 in, with the mode being the 16.0-in class (39 fish). None of the catch rate management objectives for Walleye were met during the 2022 sampling (Table 19). Mean length of age 2+ Walleye at capture (18.8 in) met the growth objective of 18.0 in (Table 19). Age-growth data for male and female Walleye are shown in Tables 20 and 21, respectively. The age-growth for both sexes combined is shown in Table 22. Eight year classes were represented in the catch, with the 2021 year class (age 1; 38%) and 2020 year class (age 2; 36%) comprising the majority of the Walleye population (Table 23). The Walleye assessment score was 12 (rating=Good; Table 24). Relative weight (Wr) values for Walleye are shown in Table 25. The Walleye population in Lake Cumberland is in a rebuilding phase following a fish die-off in 2019, and with consistent stockings, the population should continue to improve over time.

A total of 5 White Bass were captured in 30 net-nights for a catch rate of 0.2 fish/nn. Length frequency and CPUE of White Bass is shown in Table 18. White Bass ranged from 11.0-14.0 in. Due to the low number of fish collected, additional age-growth analyses were not performed. Relative weight (Wr) values for White Bass are in Table 25.

Striped Bass were also recorded during Walleye gill netting. Thirty net-nights captured 157 Striped Bass for a catch rate of 5.2 fish/nn. Length-frequency and CPUE of Striped Bass are shown in Table 18. Striped Bass ranged from 7.0 to 30.0 in with the mode being the 17.0-in class (25 fish). The age-growth data for Striped Bass collected during 2022 is shown in Table 26. Six year-classes were represented in the catch, with the 2021 (age 1) year class being the most abundant (52%; Table 27). Increased numbers of Striped Bass stocked the last few years is helping to rebuild the population following poor year classes in 2018 and 2019. Relative weight (Wr) values for Striped Bass are listed in Table 25. Relative weight values for 12.0- to 19.9-in Striped Bass have been lower than average the last few years, so we will continue to monitor the population to determine if changes in stocking rates are needed.

Cumberland Tailwater

Trout Sampling (Fall)

Nocturnal electrofishing sampling was conducted November 6 and 7 2022 to assess the trout population in the Lake Cumberland tailwater. Electrofishing was completed in seven different areas of the tailwater. Table 28 has the length-frequency and CPUE for the four trout species that were collected in each area. Cutthroat Trout, which were first introduced in March 2019, were observed at three locations during the fall sampling, and five Brook Trout were observed during sampling. Catch rates of Rainbow Trout increased in the <15.0-in and 18.0- to 19.9-in groups during 2022 (Table 29). Brown Trout catch rates for fish <15.0 in showed a marked improvement in 2022; however, population numbers remain well below the historic average of 65.0 fish/hr (Table 30). Relative weight (Wr) values for each trout species are shown in Table 31. Relative weights for Rainbow Trout declined for the second consecutive year, and Brown Trout relative weights during 2022 were consistent with the previous two years of sampling.

Laurel River Lake (6,060 acres)

Black Bass Sampling (Spring)

Electrofishing sampling was conducted during May 2022 to assess the black bass population in Laurel River Lake. Electrofishing was conducted in four areas of the lake including the dam, Spruce Creek, the upper Laurel River arm, and upper Craigs Creek. Length-frequency and CPUE of the three black bass species collected in each area is shown in Table 32. The catch-per-hour (by area and length group) of the three black bass species are shown in Tables 33-36. Largemouth Bass (62%) comprised the majority of the black bass population in Laurel River Lake. Spring catch rates for all three species of black bass in Laurel River Lake were lower in 2022 compared to 2021. Largemouth Bass catch rates for fish ≥15.0 in and ≥20.0 in increased in 2022 but catch rates for smaller fish declined during the spring sampling. Although overall Spotted Bass catch rates were lower in 2022, increases in catch rates of fish ≥15.0 in were observed. In addition, Spotted Bass ≥17.0 in were collected during sampling. Smallmouth Bass overall catch rates were slightly lower in 2022; however, catch rates of fish ≤14.0 in increased,

which should help the population going forward. Table 7 compares the catch-per-hour by length group of black bass in Laurel River Lake to other SEFD lakes sampled in spring 2022.

The Largemouth Bass population met two of the four catch rate objectives, with the CPUE of Largemouth Bass ≥20.0 in (0.2 fish/hr) and the CPUE of age-1 fish (4.0 fish/hr) failing to meet the objectives (Assessment rating=Good; Table 37). Spotted Bass met two of the three catch rate management objectives, with the catch rate of age-1 fish failing to meet the objective (Assessment rating=Fair; Table 38). The Smallmouth Bass population met two of the three catch rate management objectives, with the catch rate of age-1 fish failing to the meet the objective (Assessment rating=Good; Table 39).

Size structure values were excellent for Largemouth Bass (PSD=82, RSD_{15} = 31) and Smallmouth Bass PSD=66, RSD_{14} = 25; Table 40). Spotted Bass exhibited good size structure with a PSD of 50 and an RSD_{14} of 8 (Table 40). Table 12 compares the size structure values of black bass populations in Laurel River Lake to other SEFD lakes sampled in 2022.

Black Bass Sampling (Fall)

Nocturnal electrofishing was conducted in the Laurel River arm on 29 September 2022 to index Largemouth Bass year class strength (Tables 41 and 42). Age-0 catch rates in 2022 were lower than rates observed in 2021, and as a result, age-0 Largemouth Bass were stocked in Laurel River Lake to help bolster the 2022 year class (Table 42). Table 15 compares the CPUE of age-0 Largemouth Bass in Laurel River Lake to other SEFD lakes sampled in fall 2022. Relative weight (Wr) values for black bass collected during September sampling are shown in Table 43. Relative weight values for Largemouth Bass ranged from 93-97 across the size classes, and Spotted Bass relative weights were 106-111. Table 17 compares Wr values for black bass in Laurel River Lake to other SEFD lakes sampled in fall 2022.

Cedar Creek Lake (784 acres)

Black Bass Sampling (Spring)

Diurnal electrofishing was conducted on 12 May 2022 to assess the Largemouth Bass population in Cedar Creek Lake. The length-frequency and CPUE of Largemouth Bass is shown in Table 44. Size structure of Largemouth Bass was excellent (PSD=77, RSD_{15}=63; Table 45). Table 12 compares the size structure values of the Largemouth Bass population in Cedar Creek Lake to other SEFD lakes sampled in 2022. The catch-per-hour (by length group) of Largemouth Bass from 2013-2022 is shown in Table 46. Although overall catch rates of Largemouth Bass in Cedar Creek Lake decreased for the third consecutive year, catch rates of bass ≥20.0 in increased in 2022 (Table 46). Table 7 compares the catch-per-hour by length group of Largemouth Bass in Cedar Creek Lake to other SEFD lakes sampled in 2022. Three of the four CPUE management objectives were exceeded for the Largemouth Bass population, with the CPUE of bass 12.0-14.9 in (16.7 fish/hr) failing to meet the objective of 20.0 fish/hr (Assessment rating=Good; Table 47).

Black Bass Sampling (Fall)

Diurnal electrofishing was conducted on 26 September 2022 to index the Largemouth Bass year-class strength (Tables 48 and 49). Catch rates of age-0 Largemouth Bass in 2022 were the highest observed in the last 10 years (Table 49). Table 15 compares the CPUE of age-0 Largemouth Bass in Cedar Creek Lake to other SEFD lakes sampled in fall 2022. Relative weight (Wr) values for Largemouth Bass are found in Table 50. Although relative weights are good for bass ≥12.0 in, we would like to see improvements in the fish <12.0 in. Table 17 compares Wr values for Largemouth Bass in Cedar Creek Lake to other SEFD lakes sampled in fall 2022.

Bluegill/Redear Sunfish Sampling

Diurnal electrofishing was conducted on 18 May 2022 to assess the Bluegill and Redear Sunfish populations in Cedar Creek Lake. The length-frequency and CPUE of Bluegill and Redear Sunfish is shown in Table 51. The catch-per-hour (by length group) of Bluegill and Redear Sunfish is shown in Table 52. Bluegill catch rates

increased in 2022, and fish up to 8.0 in were collected during sampling. The Redear Sunfish catch rate remained consistent from 2021, and the catch rate of fish ≤6.0 in also increased, which should help bolster the population in the coming years. PSD and RSD values for Bluegill and Redear Sunfish are shown in Table 53. The Bluegill population exhibited a poor size structure (PSD=6, RSD_8=0; Table 53). The Redear Sunfish population exhibited a good size structure (PSD=40, RSD_9=3; Table 53).

2022 Daytime Creel Survey

A roving daytime creel survey was conducted on Cedar Creek Lake (784 acres) from 1 April-29 October 2022. Results from the creel survey are shown in Tables 54-61. Anglers made an estimated 14,226 fishing trips and expended 74,335 hours (94.82 man-hours/acre) during the survey period. Angler pressure decreased dramatically from the last survey in 2009 (Table 54). Black bass anglers accounted for 74% of all fishing trips to the lake, followed by crappie (9%) and panfish (9%) anglers (Table 55). Table 56 shows the number of fish harvested and released by anglers on Cedar Creek Lake. Anglers harvested approximately 2% of the legal (≥20.0 in) Largemouth Bass that were caught.

Cedar Creek Angler Attitude Survey
An angler attitude survey was conducted in conjunction with the creel survey to gather angler opinions about the various fisheries in Cedar Creek Lake (Figure 1). A total of 425 anglers were interviewed. Nearly 50% percent of the anglers interviewed fish Cedar Creek Lake ten or more times per year. Anglers identified bass as the species they fished for most (78%), followed by crappie (11%), and Bluegill (8%). Eighty-six percent of the bass anglers were satisfied with the bass fishery in the lake, with the number of fish being the number one reason for angler dissatisfaction, followed by anglers feeling there are too many anglers (32%).

Crappie angler satisfaction (68%) increased from 2009 when only 39% of the crappie anglers were satisfied. Of those crappie anglers who were dissatisfied, 76% reported size of fish as the reason for their dissatisfaction.

Panfish anglers were generally satisfied with the fishing at Cedar Creek Lake. Nearly 84% of the Bluegill anglers were satisfied with the Bluegill fishing, and the size of fish was the main reason for angler dissatisfaction. Eighty-three percent of the Redear Sunfish anglers were satisfied with the Redear Sunfish fishery, and the number of fish and size of fish were listed as the reasons for angler dissatisfaction.

Seventy percent of the Channel Catfish anglers were satisfied with the Channel Catfish fishery in the lake. The most common response for angler dissatisfaction was the number of fish.

Eighty-five percent of the anglers are satisfied with the current fishing regulations on the lake. In addition, anglers who fished Cedar Creek Lake were split in their opinion on the amount of vegetation in the lake. Fifty-one percent of anglers responded there was too much vegetation and 48% responded the amount of vegetation was just right.

Bert T. Combs Lake (36 acres)

Largemouth Bass Sampling (Spring)

Diurnal electrofishing was conducted on 27 April 2022 at Bert T. Combs Lake to assess the Largemouth Bass population. Table 7 compares the catch-per-hour by length group of Largemouth Bass in Bert T. Combs Lake to other SEFD lakes sampled in 2022. The size structure values of the Largemouth Bass population in Bert T. Combs Lake and other SEFD lakes sampled in 2022 are compared in Table 12. Length frequency and CPUE for Largemouth Bass is shown in Table 62. Catch-per-hour (by length group) for Largemouth Bass is shown in Table 63. The catch rates for the Largemouth Bass population were lower than rates observed in 2019, but still higher than catch rates observed prior to 2019. The Largemouth Bass size structure was poor, with a PSD value of 14 (RSD_{15}=3; Table 64).

Beulah Lake (87 acres)

Largemouth Bass Sampling (Spring)

Diurnal electrofishing was conducted on 27 April 2022 at Beulah Lake to assess the black bass population. Table 7 compares the catch-per-hour by length group of black bass in Beulah Lake to other SEFD lakes sampled in 2022. The size structure values of black bass populations in Beulah Lake and other SEFD lakes sampled in 2022 are compared in Table 12. Length frequency and CPUE for black bass is shown in Table 65. Catch-per-hour (by length group) for black bass is shown in Table 66. The catch rates for the Largemouth Bass population were slightly lower than rates observed in previous years. The Largemouth Bass size structure was poor, with a PSD value of 18 (RSD_{15}=2; Table 67).

Largemouth Bass Sampling (Fall)

Diurnal electrofishing was conducted on 3 October 2022 at Beulah Lake to determine age-growth and body condition of the Largemouth Bass population. Age-growth data from Largemouth Bass collected in 2022 is shown in Table 68. Relative weight values for Largemouth Bass are shown in Table 69.

Cannon Creek Lake (243 acres)

Black Bass Sampling (Spring)

Diurnal electrofishing was conducted on 25 April 2022 at Cannon Creek Lake to assess the black bass population. Table 7 compares the catch-per-hour by length group of black bass in Cannon Creek Lake to other SEFD lakes sampled in 2022. The size structure values of the black bass population in Cannon Creek Lake and other SEFD lakes sampled in 2022 are compared in Table 12. Length frequencies and CPUE for black bass are shown in Table 70. The catch-per-hour (by length group) for the three bass species is shown in Table 71. The catch rates of the black bass populations were slightly lower than rates observed in 2018 and the population is mostly comprised of smaller individuals. Table 72 lists the PSD and RSD values for the black bass species in the lake.

Liberty Lake (81 acres)

Channel Catfish Sampling

Channel Catfish sampling using tandem hoop nets was conducted at Liberty Lake from 24-27 October 2022 to assess the success of Channel Catfish spawning boxes in the lake. Forty-five Channel Catfish were collected and ranged in size from 14.0-23.0 in (Table 73). Relative weights for the Channel Catfish ranged from 82-84 across the size class (Table 74). Although Channel Catfish use of the spawning boxes has been documented from 2020-2022, recruitment appears to be limited based on data collected during hoop net sampling.

Angler Utilization Survey

One Browning Dark Ops HD Pro X trail camera was installed at Liberty Lake from March 2022 to February 2023 to assess angler utilization of the reservoir. The trail camera was configured to take motion-detected and time-lapse pictures of the boat ramp, courtesy dock, and surrounding bank access areas. Angler utilization data was collected bimonthly from March 2022 to February 2023 and included number of anglers, angling type (boat, bank, or canoe/kayak), and estimated length of each angling trip (hours). Angler utilization data was analyzed by randomly selecting 16 days each month. Due to a camera malfunction, no data was collected for the first two weeks of March 2022.

Between March 2022 and February 2023, an estimated 1,275 angling trips to were taken to Liberty Lake with an annual average of 6.9 trips per day and 16.0 trips per acre. Total monthly angling trips ranged from 280 trips in June 2022 to 11 trips in January 2023. Most angling trips (76%: 975 trips) were taken between May 2022 and September 2022. Overall, bank angling trips accounted for 50% (635 trips) of total trips taken to Liberty Lake. Boat angling

trips accounted for 31% (396 trips) and canoe/kayak angling trips accounted for 19% (244 trips) of total angling trips (Table 75).
Additionally, between March 2022 and February 2023, it was estimated that Liberty Lake received 1,926 hours of angling pressure with May (458 hours) and June (401 hours) having the highest angler utilization rates. The average angling trip length during this period was 1.5 hours. Monthly average trip lengths ranged from 0.7 hours in December 2022 to 1.9 hours in May and October 2022. Boat angling trips accounted for 46% of total angling pressure (880 hours) with an overall average trip length of 2.2 hours. Bank angling trips accounted for 33% (635 hours) and canoe/kayak angling trips accounted for 21% (411 hours) of total angling pressure. The overall average trip length for bank and canoe/kayak angling was 1.0 hours and 1.7 hours, respectively (Table 76).

Wood Creek Lake (625 acres)

Black Bass Sampling (Spring)

Diurnal electrofishing was conducted on 28 April 2022 in the Pump Station and Dock areas of Wood Creek Lake to assess the black bass population. Length frequency and CPUE for black bass are shown in Table 77. The size structure for Largemouth Bass and Spotted Bass was poor, with Largemouth Bass having a PSD value of 24 (RSD_{15}=11) and Spotted Bass having a PSD of 0 (RSD_{14}=0; Table 78). Table 12 compares the size structure values of black bass populations in Wood Creek Lake to other SEFD lakes sampled in 2022. Catch-per-hour (by length group) for Largemouth Bass and Spotted Bass are shown in Tables 79 and 80, respectively. The Largemouth Bass population is dominated by fish <12.0 in, and the Spotted Bass population continues to decline. Table 7 compares the catch-per-hour by length group of black bass in Wood Creek Lake to other SEFD lakes sampled in 2022. The Largemouth Bass population assessment is shown in Table 81, and only one of the four catch rate management objectives was met (Assessment rating=Fair).

Black Bass Sampling (Fall)

Diurnal electrofishing was conducted on 27 September 2022 in the Pump Station and Dock areas of Wood Creek Lake to index Largemouth Bass year class strength (Tables 82 and 83). Catch rates of age-0 Largemouth Bass in 2022 were higher than catch rates observed over the last five years (Table 83). Table 15 compares the CPUE of age-0 Largemouth Bass in Wood Creek Lake to other SEFD lakes sampled in fall 2022. Relative weight values for Largemouth Bass and Spotted Bass in Wood Creek are shown in Table 84. Table 17 compares Wr values for black bass in Wood Creek Lake to other SEFD lakes sampled in fall 2022.

Table 1. Summary of sampling conditions by waterbody, species sampled, and date for the Southeastern Fisheries District in 2022.

Water body	Location	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Lake Cumberland											
	Dam	black bass	5/9/2022	1035	shock	Sunny, high 60s S winds at 7-9 mph	63-65	721.8	96	good	Floating debris present
	Faubush Creek	black bass	5/12/2022	815	shock	Sunny, 60s, calm winds early	69-70	722.6	40-60	good	
	Fishing Creek	black bass	5/12/2022	1131	shock	Sunny, 70s, winds at 5 mph	70-74	722.6	24-40	fair	flooded standing trees kept boat off bank
	Lily Creek	black bass	5/9/2022	1355	shock	Sunny, high 70s S winds at 7-9 mph	70-72	721.8	72	good	back of coves murky
	Fishing Creek	black bass	9/28/2022	1015	shock	Increasing clouds, mid 50s, NE winds 8-12	72	700.5	22	fair	water was murky
	Jamestown	Walleye	11/14-11/16		gill net	Sun and clouds, 40s winds variable	61	688.7	72	good	
	Conley Bottom	Walleye	11/14-11/16		gill net	Sun and clouds, 40s winds variable	61	688.7	53	good	
	Waitsboro	Walleye	11/21-11/23		gill net	Sunny, 40-60s, winds at variable	56-57	687.7	48	good	
Cumberland Tailwater											
	Above Helms	trout	11/6/2022	1750	shock	Overcast, occasional rain, 68	62.4	3160 cfs		good	
	Below Helms	trout	11/6/2022	1800	shock	Clouds early, 70, SW winds decreasing	61.5	3160 cfs		good	
	Rainbow Run	trout	11/6/2022	1800	shock		63.5	3160 cfs		good	
	Big Willis	trout	11/6/2022	1820	shock	Cloudy and warm, 71		3160 cfs		good	
	Crocus Creek	trout	11/6/2022	1800	shock			3160 cfs		good	
	Hwy 61 Traces	trout	11/7/2022	1740	shock	70, clear, N winds 10-14 mph	62.7	3740 cfs		good	
	Cloyds	trout	11/7/2022	1800	shock			3740 cfs		good	
Laurel River Lake											
	Dam	black bass	5/10/2022	925	shock	Sunny, mid 60s, light winds	68	1016	84	good	
	Spruce Creek	black bass	5/11/2022	1140	shock	Overcast, 80s, light winds	74	1016	40	good	
	Craig's Creek	black bass	5/10/2022	1200	shock	Sunny, 70s and low 80s, light winds	70-72	1016	96	good	
	312 Bridge	black bass	5/11/2022	830	shock	Overcast, 70s, light winds	70	1016	18	poor	water murky and overhanging trees kept boat off bank
	312 Bridge	black bass	9/29/2022	1930	shock	Clear, mid to upper 50s, N winds at 8 mph	72	1007	24	fair	water was somewhat murky
Cedar Creek Lake		LMB	5/2/2022	1000	shock	Sunny, clear, 70s, N winds 8 mph	65-67	full	40	fair	Eurasian watermilfoil getting thick
		LMB	9/26/2022	1050	shock	Sunny, clear, 66°, NW wind 10-15, gusts to 28	69-72	full	33	fair	vegetation was thick & kept boat off bank
		BLG/RESF	5/18/2022	830	shock	Cloudy then clearing, 70s, increasing winds	72-74	full	60	fair	vegetation was thick
Bert T. Combs Lake		LMB	4/27/2022	1335	shock	Sunny, breezy, mid 60's	63	full	73	fair	High water levels and overhanging trees kept boat off bank
Beulah Lake		LMB	4/27/2022	940	shock	Sunny, breezy, low 50's	63	full	108	good	Water clarity varied throughout sampling
		LMB	10/3/2022	1030	shock	Cloudy, 5-8 mph winds, Mid 50's	66	low	85	good	Fish collected for age-growth
Cannon Creek Lake		black bass	4/25/2022	1115	shock	Mostly sunny, some clouds, low 70's	66	full	138	good	Water very clear
Liberty Lake		catfish	11/24-11/27		hoop net	daytime highs 50-70, some rain, windy	57-59	down 6.5'	48	good	
Wood Creek Lake		black bass	4/28/2022	1000	shock	Sunny,upper 40s, slight breeze	62-64	1020	40-68	good	no vegetation in the upper part of the lake
		black bass	9/27/2022	1000	shock	Clear, cool, 50s, W winds 10, gusts to 24	72	1019.3	36-52	good	Elodea not present, some water willow around banks

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours of 15-minute diurnal electrofishing runs for black bass in Lake Cumberland during May 2022.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Dam	Largemouth Bass				4	5	2	4	6	8	3	5	11	30	23	14	4	2		121	80.7	15.9
	Spotted Bass		1	2	4	6	7	3	7	16	41	50	10	6	2					155	103.3	17.2
	Smallmouth Bass				1	1						2				1				5	3.3	1.6
Faubush	Largemouth Bass	1	1		2	2	2	2	3	8	6	12	11	10	9	11	3			83	55.3	7.4
Creek	Spotted Bass	1	5	5	8	10	38	16	15	1	7	7	4	2	1					120	80.0	17.1
	Smallmouth Bass					2	1				1							2		6	4.0	2.1
Fishing	Largemouth Bass	1	6	7	11	14	8	3	5	12		8	17	12	9	6	4	1		124	82.7	8.0
Creek	Spotted Bass	2			3	4	5	5	3	3	2	3	1							31	20.7	8.9
	Smallmouth Bass																1			1	0.7	0.7
Lily	Largemouth Bass	1		2	2	6	3	3	3		11	5	9	8	6	6	1	1		67	44.7	12.2
Creek	Spotted Bass			4	8	12	27	12	11	13	26	16	8	8	3					148	98.7	6.3
	Smallmouth Bass	1		2	4	7	5	7	2			1	3			2			1	35	23.3	5.1
Total	Largemouth Bass	3	7	9	19	27	15	12	17	28	20	30	48	60	47	37	12	4		395	65.8	6.3
	Spotted Bass	3	6	11	23	32	77	36	36	33	76	76	23	16	6					454	75.7	9.3
	Smallmouth Bass	1		2	5	10	6	7	2		1	3	3			3	1	2	1	47	7.8	2.3

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Table 3. Comparison of catch-per-hour of black bass (by area) captured during spring electrofishing on Lake Cumberland during the period of 2017-2022.

	Stock					Quality					Preferred				
Species/Area	2017	2018	2019	2021	2022	2017	2018	2019	2021	2022	2017	2018	2019	2021	2022
Largemouth Bass															
Dam	54.7	34.7	61.3	84.0	74.7	45.3	28.7	48.7	82.0	61.3	31.3	26.0	42.0	70.0	48.7
Faubush Creek	63.3	48.0	46.0	57.3	51.3	59.3	41.3	39.3	50.0	41.3	38.7	25.3	31.3	26.7	22.0
Fishing Creek	30.0	38.0	123.3	84.0	56.7	26.0	31.3	94.0	70.0	38.0	10.7	12.7	54.0	28.0	21.3
Lily Creek	28.7	20.0	36.0	36.0	37.3	28.0	18.0	26.7	26.7	31.3	20.7	12.7	20.0	13.3	14.7
Mean	44.2	35.2	66.7	63.6	55.0	39.7	29.8	52.2	54.9	43.0	25.3	19.2	36.8	31.3	26.7
Spotted Bass															
Dam	48.7	101.3	75.3	96.0	98.7	43.3	78.0	50.0	87.0	83.3	16.0	27.3	12.7	19.0	12.0
Faubush Creek	13.3	15.3	55.3	34.0	67.3	5.3	6.0	30.7	22.7	14.7	0.0	3.3	8.0	6.0	4.7
Fishing Creek	9.3	11.3	11.3	4.0	17.3	8.0	3.3	7.3	2.0	6.0	0.0	1.3	0.7	0.0	0.7
Lily Creek	40.7	96.0	98.0	71.3	90.7	21.3	50.0	62.0	34.0	49.3	6.0	19.3	18.0	9.3	12.7
Mean	28.0	56.0	60.0	47.3	68.5	19.5	34.3	37.5	31.8	38.3	5.5	12.8	9.8	7.6	7.5
Smallmouth Bass															
Dam	8.7	3.3	20.0	17.0	2.7	6.7	2.0	14.0	17.0	2.0	4.7	2.0	11.3	16.0	0.7
Faubush Creek	0.7	4.0	1.3	0.7	4.0	0.7	1.3	0.7	0.7	2.0	0.7	1.3	0.7	0.7	1.3
Fishing Creek	0.0	0.7	0.0	0.7	0.7	0.0	0.7	0.0	0.7	0.7	0.0	0.7	0.0	0.7	0.7
Lily Creek	3.3	21.3	24.7	18.0	18.7	2.0	14.0	19.3	14.0	4.7	1.3	8.0	12.7	10.7	4.0
Mean	3.2	7.3	11.5	8.4	6.5	2.3	4.5	8.5	7.3	2.3	1.7	3.0	6.2	6.2	1.7

Largemouth Bass - ≥8.0 in = stock, ≥12.0 in = quality, ≥15.0 in = preferred.

Smallmouth Bass and Spotted bass - ≥7.0 in = stock, ≥11.0 in = quality, ≥14.0 in = preferred.

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Table 4. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Lake Cumberland May 2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	10.8	2.5	12.0	2.2	16.3	2.2	26.7	3.9	0.0	0.0	65.8	6.3
2021	5.8	1.6	8.7	1.5	23.6	3.4	31.3	5.2	0.2	0.2	69.5	6.7
2019	18.7	3.4	14.5	2.9	15.3	3.7	36.8	5.2	0.2	0.2	85.3	12.8
2018	4.3	0.8	5.3	1.0	10.7	1.6	19.2	2.8	0.3	0.2	39.5	3.9
2017	2.8	0.7	4.5	1.4	14.3	2.4	25.3	3.5	0.2	0.2	47.0	5.6
2016	5.0	1.8	9.3	3.3	9.8	1.5	12.8	2.4	0.5	0.4	37.0	6.4
2015	6.3	2.3	9.3	2.6	14.2	3.4	8.0	1.7	0.0	0.0	37.8	7.8
2014	9.5	3.7	12.8	4.4	9.7	2.4	8.2	2.0	0.3	0.2	40.2	8.5
2013	1.8	1.1	8.2	2.6	8.2	1.8	4.7	1.1	0.2	0.2	22.8	5.0
2012	15.3	3.8	21.0	3.7	21.7	4.9	11.7	2.4	0.2	0.2	69.7	13.0

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Table 5. Spring electrofishing CPUE (fish/hr) for each length group of Spotted Bass collected at Lake Cumberland during May 2022.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	12.5	1.9	24.8	5.1	30.8	6.4	7.5	1.6	0.0	0.0	75.7	9.2
2021	8.9	2.7	13.3	3.5	24.2	5.4	7.6	1.9	0.2	0.2	54.0	9.2
2019	16.2	3.0	17.8	2.7	27.7	4.3	9.8	2.1	0.0	0.0	71.5	9.9
2018	12.8	2.4	15.5	3.2	21.5	5.3	12.8	3.3	0.3	0.3	62.7	11.7
2017	6.5	1.3	6.7	1.4	14.0	2.4	5.5	2.2	0.0	0.0	32.7	5.2
2016	4.8	1.9	7.2	1.2	9.7	2.4	3.5	1.2	0.0	0.0	25.2	4.5
2015	4.2	1.2	6.0	1.2	10.3	2.5	3.5	1.0	0.0	0.0	24.0	4.2
2014	7.2	1.9	11.2	2.5	7.7	2.4	2.3	1.2	0.0	0.0	28.3	6.0
2013	1.8	0.6	7.7	1.6	9.8	2.4	1.5	0.7	0.0	0.0	20.8	3.8
2012	27.3	4.7	20.5	3.9	8.8	2.6	0.7	0.5	0.0	0.0	57.3	10.1

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Table 6. Spring electrofishing CPUE (fish/hr) for each length group of Smallmouth Bass collected at Lake Cumberland during May 2022.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	3.0	1.2	2.5	1.1	0.7	0.3	1.7	0.5	1.2	0.5	7.8	2.3
2021	1.5	0.6	0.9	0.6	1.1	0.5	6.2	2.0	2.9	1.0	9.6	2.8
2019	2.3	1.4	1.8	0.5	2.3	0.9	6.2	2.3	3.5	1.4	12.7	3.5
2018	2.8	0.8	1.8	0.8	1.5	0.7	3.0	1.0	1.7	0.6	9.2	2.4
2017	0.5	0.3	0.7	0.3	0.7	0.4	1.7	0.9	1.2	0.7	3.5	1.4
2016	4.2	2.2	1.2	0.6	1.0	0.4	2.5	0.8	1.0	0.4	8.8	2.6
2015	1.2	0.7	1.0	0.4	1.7	0.6	5.2	1.8	2.0	0.8	9.0	2.4
2014	1.2	0.6	3.2	1.5	1.7	0.7	2.0	1.1	0.8	0.4	8.0	2.8
2013	1.0	0.6	2.3	0.6	0.3	0.2	1.7	0.5	0.3	0.2	5.3	1.3
2012	4.3	1.4	2.3	0.7	0.3	0.2	1.7	0.7	0.5	0.3	8.7	2.1

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Table 7. Catch-per-hour of black bass captured during spring electrofishing on lakes in the Southeastern Fishery District during 2022.

Species/Lake	Stock*	Quality*	Preferred*
Largemouth bass			
Lake Cumberland	55.0	43.0	26.7
Laurel River Lake	55.5	45.7	17.2
Cedar Creek Lake	122.0	94.0	77.3
Bert T. Combs Lake	138.7	19.6	4.4
Beulah Lake	129.3	22.7	2.7
Cannon Creek Lake	57.3	11.3	1.3
Wood Creek Lake	133.3	32.0	14.0
Spotted bass			
Lake Cumberland	68.5	38.3	7.5
Laurel River Lake	29.3	14.7	2.3
Beulah Lake	2.7	0.7	0.0
Cannon Creek Lake	25.3	10.0	0.0
Wood Creek Lake	2.7	0.0	0.0
Smallmouth bass			
Lake Cumberland	6.5	2.3	1.7
Laurel River Lake	5.3	3.5	1.3
Cannon Creek Lake	1.3	0.7	0.0

*Largemouth Bass - ≥8.0 in = stock, ≥12.0 in = quality, ≥15.0 in = preferred

*Smallmouth Bass and Spotted bass - ≥7.0 in = stock, ≥11.0 in = quality, ≥14.0 in = preferred

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Table 8. Population assessment for Largemouth Bass based on spring electrofishing at Lake Cumberland from 2012-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessment rating
Management objective		≥13.0 in	≥5.0 fish/hr	≥10.0 fish/hr	≥8.0 fish/hr	≥0.5 fish/hr		
2022	Value		15.3	16.3	26.7	0.0		
	Score	4	2	2	4	1	13	G
2021	Value	14.1	8.7	23.6	31.3	0.2		
	Score	4	1	3	4	2	14	G
2019	Value		29.0	15.3	36.8	0.2		
	Score	4	3	1	4	2	14	G
2018	Value		6.3	10.7	19.2	0.3		
	Score	4	1	1	3	2	11	F
2017	Value		3.8	14.3	25.3	0.2		
	Score	4	1	1	4	2	12	F
2016	Value	13.7	9.2	9.8	12.8	0.5		
	Score	4	1	1	2	3	11	F
2015	Value		8.3	14.2	8.0	0.0		
	Score	4	1	1	2	1	9	F
2014	Value		12.8	9.7	8.2	0.3		
	Score	4	2	1	2	2	11	F
2013	Value		6.6	8.2	4.7	0.2		
	Score	4	1	1	1	2	9	F
2012	Value	14.0	21.0	21.7	11.7	0.2		
	Score	4	2	2	2	2	12	F

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Table 9. Population assessment for Spotted Bass based on spring electrofishing at Lake Cumberland from 2012-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	Total score	Assessment rating
Management objective		≥9.6 in	≥4.0 fish/hr	≥7.0 fish/hr	≥2.0 fish/hr		
2022	Value		2.1	30.8	7.5		
	Score	3	3	4	4	14	E
2021	Value		5.8	24.2	7.6		
	Score	3	4	4	4	15	E
2019	Value		7.5	27.7	9.8		
	Score	3	4	4	4	15	E
2018	Value		2.5	21.5	12.8		
	Score	3	3	4	4	14	E
2017	Value		0.6	14.0	5.5		
	Score	3	1	4	4	12	G
2016	Value		1.2	9.7	3.5		
	Score	3	2	3	4	12	G
2015	Value		1.7	10.3	3.5		
	Score	3	2	4	4	13	G
2014	Value		1.2	7.7	2.3		
	Score	3	2	2	3	10	G
2013	Value	11.1	0.0	9.8	1.5		
	Score	3	1	3	3	10	G
2012	Value		14.0	8.8	0.7		
	Score	3	4	3	2	12	G

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Table 10. Population assessment for Smallmouth Bass based on spring electrofishing at Lake Cumberland from 2012-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	Total score	Assessment rating
Management objective		≥11.0 in	≥2.0 fish/hr	≥3.0 fish/hr	≥2.0 fish/hr		
2022	Value		0.2	0.7	1.7		
	Score	1	1	2	3	7	F
2021	Value		1.1	1.1	6.2		
	Score	1	2	3	4	10	G
2019	Value		0.5	2.3	6.2		
	Score	1	2	4	4	11	G
2018	Value		1.0	1.5	3.0		
	Score	1	2	3	4	10	G
2017	Value		0.0	0.7	1.7		
	Score	1	1	2	3	7	F
2016	Value		2.8	1.0	2.5		
	Score	1	3	3	4	11	G
2015	Value		0.3	1.7	5.2		
	Score	1	1	3	4	9	F
2014	Value		0.2	1.7	2.0		
	Score	1	1	3	4	9	F
2013	Value		0.3	0.3	1.7		
	Score	1	1	2	3	7	F
2012	Value		2.5	0.3	1.7		
	Score	1	3	2	3	9	F

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Table 11. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Lake Cumberland during May 2022; 95% confidence limits are in parentheses.

		Largemouth Bass			Spotted Bass			Smallmouth Bass		
Year	Area	≥ Stock size*	PSD	RSD_{15}	≥ Stock size*	PSD	RSD_{14}	≥ Stock size*	PSD	RSD_{14}
2022	Dam	112	82 (± 7)	65 (± 9)	148	84 (± 6)	12 (± 5)	4	75 (± 49)	25 (± 49)
	Faubush Creek	77	81 (± 9)	43 (± 11)	101	22 (± 8)	7 (± 5)	6	50 (± 44)	33 (± 41)
	Fishing Creek	85	67 (± 10)	38 (± 10)	26	35 (± 19)	4 (± 8)	1	100 (± 0)	100 (± 0)
	Lily Creek	56	84 (± 10)	39 (± 13)	136	54 (± 8)	14 (± 6)	28	25 (± 16)	21 (± 15)
	Total	330	78 (± 5)	48 (± 5)	411	56 (± 5)	11 (± 3)	39	36 (± 15)	26 (± 14)
2021	Total	350	86 (± 4)	49 (± 5)	260	67 (± 6)	16 (± 5)	46	87 (± 10)	74 (± 13)
2019	Total	400	78 (± 4)	55 (± 5)	360	63 (± 5)	16 (± 4)	69	74 (± 10)	54 (± 12)
2018	Total	211	85 (± 5)	55 (± 7)	336	61 (± 5)	23 (± 5)	44	61 (± 15)	41 (± 15)
2017	Total	265	90 (± 4)	57 (± 6)	168	70 (± 7)	20 (± 6)	19	74 (± 20)	53 (± 23)
2016	Total	192	71 (± 6)	40 (± 7)	136	58 (± 8)	15 (± 6)	32	66 (± 17)	47 (± 18)
2015	Total	189	70 (± 7)	25 (± 6)	132	63 (± 8)	16 (± 6)	47	87 (± 10)	66 (± 14)
2014	Total	184	58 (± 7)	27 (± 6)	150	40 (± 8)	9 (± 5)	45	49 (± 15)	27 (± 13)
2013	Total	126	61 (± 9)	22 (± 7)	121	56 (± 9)	7 (± 5)	27	44 (± 19)	37 (± 19)
2012	Total	326	61 (± 5)	21 (± 4)	224	25 (± 6)	2 (± 2)	33	36 (± 17)	30 (± 16)

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*Largemouth Bass = ≥8.0 in, Smallmouth Bass and Spotted Bass = >7.0 in

Table 12. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Lake Cumberland, Laurel River Lake, Cedar Creek Lake, Bert T. Combs Lake, Beulah Lake, Cannon Creek Lake, and Wood Creek Lake during 2022; 95% confidence limits are in parentheses.

	Largemouth Bass		Smallmouth Bass		Spotted Bass	
Lake	PSD	RSD_{15}	PSD	RSD_{14}	PSD	RSD_{14}
Lake Cumberland	78 (± 5)	48 (± 5)	36 (± 15)	26 (± 14)	56 (± 5)	11 (± 3)
Laurel River Lake	82 (± 4)	31 (± 5)	66 (± 17)	25 (± 15)	50 (± 7)	8 (± 4)
Cedar Creek Lake	77 (± 6)	63 (± 7)				
Bert T. Combs Lake	14 (± 6)	3 (± 3)				
Beulah Lake	18 (± 5)	2 (± 2)			25 (± 49)	0 (± 0)
Cannon Creek Lake	20 (± 8)	2 (± 3)	50 (± 98)	0 (± 0)	39 (± 16)	0 (± 0)
Wood Creek Lake	24 (± 6)	11 (± 4)			0 (± 0)	0 (± 0)

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Table 13. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 1.5 hours of 15-minute diurnal electrofishing runs for black bass in Fishing Creek of Lake Cumberland on 28 September 2022.

	Inch class																				
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	5	9	1	14	21	13	8	7	7	8	1	5	4	7	2	3	1		116	77.3	17.6
Spotted Bass		13	6	2	1	4	3	3	3	4	3		1	1					44	29.3	7.7
Smallmouth Bass		1				1	1											1	4	2.7	1.3

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Table 14. Indices of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected in the fall (September and October) in electrofishing samples in the Fishing Creek area of Lake Cumberland.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1 [a]	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
	Lake Cumberland								
2022	Fishing Creek	5.8	0.2	44.7	13.2	34.7	13.1		
2021	Fishing Creek	4.5	0.3	20.7	4.3	10.0	4.9	33.3	6.2
2020	Fishing Creek	4.1	0.4	16.0	5.0	4.7	2.4	12.7	4.4
2019	Fishing Creek	5.8	0.4	6.7	4.5	4.7	3.2	NA	NA
2018	Fishing Creek	6.2	0.2	17.3	2.9	15.3	2.2	58.0	11.0
2017	Fishing Creek	4.2	0.5	11.3	4.4	3.3	1.6	6.7	2.0
2016	Fishing Creek	6.8	0.2	20.0	9.2	19.3	8.7	4.0	2.1
2015	Fishing Creek	5.1	0.2	18.7	14.1	8.7	6.4	13.3	4.9
2014	Fishing Creek	6.7	0.2	9.3	2.2	9.3	2.2	26.0	4.9
2013	Fishing Creek	6.1	0.1	80.0	23.8	61.3	15.9	26.0	13.6

[a] Age-1 Largemouth Bass CPUE based only on Fishing Creek location

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Table 15. Year class strength at age 0 and mean lengths (in) of age-0 Largemouth Bass collected in September 2022 in electrofishing samples at Lake Cumberland, Laurel River Lake, Cedar Creek Lake, and Wood Creek Lake.

		Age 0		Age 0		Age 0 ≥5.0 in	
Lake	Area	Mean length	SE	CPUE	SE	CPUE	SE
Lake Cumberland	Fishing Creek	5.8	0.2	44.7	13.2	34.7	13.1
Laurel River Lake	Laurel River Arm	4.7	0.2	15.9	3.1	5.2	1.3
Cedar Creek Lake		4.0	0.1	158.0	55.3	19.3	6.1
Wood Creek Lake		4.4	0.1	56.7	21.4	14.0	6.4

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Table 16. Number of fish and mean relative weight (W_r) for each length group of black bass collected in Fishing Creek of Lake Cumberland on 28 September 2022. Standard error is in parentheses.

Species	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Largemouth Bass	No.	W_r	No.	W_r	No.	W_r
	30	87 (1)	10	85 (2)	13	83 (3)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted Bass	No.	W_r	No.	W_r	No.	W_r
	13	93 (2)	7	89 (3)	2	96 (9)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Smallmouth Bass	No.	W_r	No.	W_r	No.	W_r
	2	83 (2)	0	0 (0)	1	76 (-)

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Table 17. Number of fish and mean relative weight (W_r) for each length group of black bass collected in Lake Cumberland, Laurel River Lake, Cedar Creek Lake, and Wood Creek Lake during September 2022. Standard error is in parentheses.

		Length group					
Species	Location	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	Lake Cumberland (Fishing Creek)	30	87 (1)	10	85 (2)	13	83 (3)
	Laurel River Lake (Laurel River Arm)	26	96 (2)	21	93 (2)	16	97 (2)
	Cedar Creek Lake	32	87 (2)	24	93 (2)	37	97 (1)
	Beulah Lake	40	81 (1)	19	82 (2)	1	90 (-)
	Wood Creek Lake	67	85 (1)	11	82 (2)	2	82 (4)
Spotted Bass		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	Lake Cumberland (Fishing Creek)	13	93 (2)	7	89 (3)	2	96 (9)
	Laurel River Lake (Laurel River Arm)	13	111 (3)	6	106 (3)	7	106 (3)
	Wood Creek Lake	7	93 (2)	0	0 (0)	0	0 (0)
Smallmouth Bass		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	Lake Cumberland (Fishing Creek)	2	83 (2)	0	0 (0)	1	76 (-)
	Laurel River Lake (Laurel River Arm)	6	86 (6)	0	0 (0)	0	0 (0)

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Table 18. Length frequency and CPUE (fish/nn) of Walleye, White Bass, Sauger, Striped Bass, and hybrid striped bass collected from the Jamestown/Bugwood (10 net-nights), Conley Bottom (10 net-nights), and Burnside/Waitsboro (10 net-nights) areas of Lake Cumberland in November 2022.

		Inch class																								
Area	Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	26	27	28	29	30	Total	CPUE	SE
Jamestown/Bugwood																											
	Walleye									12	11	8	14	10	12	1	2	1							71	7.1	1.0
	White Bass								2																2	0.2	0.1
	Sauger																								0	0.0	0.0
	Striped Bass		5	6		1		1	1	4	4	5	1			2	2	3			3	2	1		41	4.1	1.1
	Hybrid striped bass																								0	0.0	0.0
Conley Bottom																											
	Walleye			2	1	6			1	8	18	8	11	4	3	1									63	6.3	1.2
	White Bass																								0	0.0	0.0
	Sauger																								0	0.0	0.0
	Striped Bass	1	3	3					5	2	9	14	8	3		2	3	6	5	1	4	2			71	7.1	1.5
	Hybrid striped bass														1										1	0.1	0.1
Burnside/Waitsboro																											
	Walleye			8	6	4			1	9	10	5	6	9	4	1									63	6.3	1.1
	White Bass					2	1																		3	0.3	0.2
	Sauger										1		1	2											4	0.4	0.2
	Striped Bass	1	5	3	2			1	1	7	7	6	1			4	4	1			1			1	45	4.5	1.4
	Hybrid striped bass														1										1	0.1	0.1
Total																											
	Walleye			10	7	10			2	29	39	21	31	23	19	3	2	1							197	6.6	0.6
	White Bass					2	1		2																5	0.2	0.1
	Sauger										1		1	2											4	0.1	0.1
	Striped Bass	2	13	12	2	1		2	7	13	20	25	10	3		8	9	10	5	1	8	4	1	1	157	5.2	0.8
	Hybrid striped bass														2										2	0.1	0.1

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Table 19. Population assessment for Walleye based on fall gill netting at Lake Cumberland from 2004-2022.

Year		Parameters: CPUE ≥age 1+	Mean length age 2+ at capture	CPUE ≥20.0 in	CPUE age 1+	Total score	Assessment rating
Management objective		≥6.0 fish/nn	≥18.0 in	≥1.5 fish/nn	≥3.0 fish/nn		
2022	Value	5.6	18.8	0.8	2.5		
	Score	3	3	3	3	12	G
2020	Value	4.9	18.8	0.8	1.5		
	Score	3	3	3	2	11	G
2018	Value	12.5	18.7	1.5	8.2		
	Score	4	3	4	4	15	E
2016	Value	8.4	19.4	1.1	4.9		
	Score	4	4	4	4	16	E
2014	Value	9.3	18.3	0.8	3.6		
	Score	4	2	3	4	13	G
2012	Value	6.3	18.2	0.2	3.1		
	Score	3	2	2	3	10	G
2010	Value	3.3	17.6	0.1	1.9		
	Score	2	2	1	3	8	F
2008	Value	5.9	18.5	0.9	2.5		
	Score	3	3	3	3	12	G
2006	Value	14.8	19.1	3.9	3.1		
	Score	4	4	4	3	15	E
2004	Value	8.9	18.8	1.8	4.6		
	Score	4	3	4	4	15	E

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Table 20. Mean back calculated lengths (in) at each annulus for male Walleye collected from Lake Cumberland during 2022, including the 95% confidence interval (CI) for each mean length per age group.

		Age						
Year	No.	1	2	3	4	5	6	7
2021	20	11.0						
2020	19	10.5	16.0					
2019	3	12.2	17.2	19.2				
2018	3	10.7	15.1	17.0	18.2			
2017	2	11.5	16.4	17.6	18.8	19.6		
2016	2	11.1	16.7	18.7	19.8	20.8	21.8	
2015	1	9.8	16.9	19.2	19.9	20.3	21.0	21.4
Mean		10.9	16.2	18.2	19.0	20.2	21.6	21.4
Number		50	30	11	8	5	3	1
Smallest		7.7	13.5	16.2	16.9	19.4	21.0	21.4
Largest		13.7	17.8	19.5	20.3	21.4	22.1	21.4
SE		0.2	0.2	0.3	0.4	0.3	0.3	
95% CI ±		0.4	0.4	0.6	0.8	0.6	0.7	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 21. Mean back calculated lengths (in) at each annulus for female Walleye collected from Lake Cumberland during 2022, including the 95% confidence interval (CI) for each mean length per age group.

		Age		
Year	No.	1	2	3
2020	9	11.3	17.2	
2019	2	13.5	18.1	20.0
Mean		11.7	17.4	20.0
Number		11	11	2
Smallest		6.9	14.6	18.5
Largest		14.4	19.0	21.5
SE		0.6	0.3	1.5
95% CI ±		1.2	0.7	2.9

* Otoliths were used for age-growth determinations; Intercept = 0
sedagcwf.d22

Table 22. Mean back calculated lengths (in) at each annulus for Walleye (both sexes) collected from Lake Cumberland during 2022, including the 95% confidence interval (CI) for each mean length per age group.

		Age						
Year	No.	1	2	3	4	5	6	7
2021	28	10.8						
2020	28	10.8	16.4					
2019	5	12.7	17.6	19.5				
2018	3	10.7	15.1	17.0	18.2			
2017	2	11.5	16.4	17.6	18.8	19.6		
2016	2	11.1	16.7	18.7	19.8	20.8	21.8	
2015	1	9.8	16.9	19.2	19.9	20.3	21.0	21.4
Mean		11.0	16.5	18.5	19.0	20.2	21.6	21.4
Number		69	41	13	8	5	3	1
Smallest		6.9	13.5	16.2	16.9	19.4	21.0	21.4
Largest		14.4	19.0	21.5	20.3	21.4	22.1	21.4
SE		0.2	0.2	0.4	0.4	0.3	0.3	
95% CI ±		0.4	0.4	0.7	0.8	0.6	0.7	

Otoliths were used for age-growth determinations; Intercept = 0
sedagcbw.d22

Table 23. Age-frequency and CPUE (fish/nn) of Walleye collected at Lake Cumberland in 30 net-nights during November 2022.

	Inch class															
Age	9	10	11	14	15	16	17	18	19	20	21	22	Total	%	CPUE	SE
0	10	7	10										27	13.8	0.9	0.2
1				2	29	36	7						74	37.8	2.5	0.3
2						3	14	25	18	11			71	36.2	2.4	0.3
3									5	2	1	1	9	4.6	0.3	0.1
4								6		2			8	4.1	0.3	<0.1
5										4			4	2.0	0.1	<0.1
6											1	1	2	1.0	0.1	<0.1
7											1		1	0.5	<0.1	<0.1
Total	10	7	10	2	29	39	21	31	23	19	3	2	196	100.0	6.5	
%	5.1	3.6	5.1	1.0	14.8	19.9	10.7	15.8	11.7	9.7	1.5	1.0				

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Table 24. Population assessment for Walleye gill netted at Lake Cumberland in November 2022.

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	5.6	3
Growth rate (Mean length age 2+ at capture)	18.8	3
Size structure (CPUE ≥20.0 in)	0.8	3
Recruitment (CPUE age 1)	2.5	3
Instantaneous mortality (Z)	0.745	
Annual mortality (A)	52.5	
Total score		12
Assessment rating		G

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Table 25. Number of fish and mean relative weight (W_r) for each length group of Walleye, White Bass, Sauger, Striped Bass, and hybrid striped bass collected in Lake Cumberland during November 2022. Standard error is in parentheses.

Species	Length group					
	10.0-14.9 in		15.0-19.9 in		≥20.0 in	
	No.	W_r	No.	W_r	No.	W_r
Walleye	19	94 (1)	133	94 (1)	22	92 (1)
	6.0-8.9 in		9.0-11.9 in		≥12.0 in	
	No.	W_r	No.	W_r	No.	W_r
White Bass	0	0 (0)	1	94 (-)	1	91 (-)
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	No.	W_r	No.	W_r	No.	W_r
Sauger	0	0 (0)	0	0 (0)	4	95 (5)
	12.0-19.9 in		20.0-29.9 in		≥30.0 in	
	No.	W_r	No.	W_r	No.	W_r
Striped Bass	66	86 (1)	35	82 (1)	0	0 (0)
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	No.	W_r	No.	W_r	No.	W_r
Hybrid striped bass	0	0 (0)	0	0 (0)	2	86 (1)

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Table 26. Mean back calculated lengths (in) at each annulus for Striped Bass collected from Lake Cumberland during 2022, including the 95% confidence interval (CI) for each mean length per age group.

		Age				
Year	No.	1	2	3	4	5
2021	51	10.3				
2020	28	11.9	19.1			
2019	1	14.2	20.8	26.4		
2018	1	13.3	17.1	20.5	22.6	
2017	4	13.2	19.0	21.7	24.1	26.5
Mean		11.1	19.1	22.3	23.8	26.5
Number		85	34	6	5	4
Smallest		6.3	15.5	20.5	22.6	26.0
Largest		15.3	21.0	26.4	25.3	26.8
SE		0.2	0.2	0.9	0.4	0.2
95% CI ±		0.5	0.4	1.7	0.9	0.4

Otoliths were used for age-growth determinations; Intercept = 0
sedagcbs.d22

Table 27. Age-frequency and CPUE (fish/nn) of Striped Bass collected at Lake Cumberland in 30 net-nights of Walleye gill netting during November 2022.

	Inch class																					
Age	7	8	9	10	11	13	14	15	16	17	18	19	21	22	23	24	27	28	Total	%	CPUE	SE
0	2	13	12	2															29	18.8	1.0	0.3
1					1	2	7	13	20	25	10	2							80	51.9	2.7	0.5
2												1	8	9	10	4			32	20.8	1.1	0.2
3																		1	1	0.6	<0.1	<0.1
4																1			1	0.6	<0.1	<0.1
5																	8	3	11	7.1	0.4	0.1
Total	2	13	12	2	1	2	7	13	20	25	10	3	8	9	10	5	8	4	154	100.0	5.1	
%	1.3	8.4	7.8	1.3	0.6	1.3	4.5	8.4	13.0	16.2	6.5	1.9	5.2	5.8	6.5	3.2	5.2	2.6				

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Table 28. Species composition, relative abundance, and CPUE (fish/hr) of trout collected during 8.75 hours of 15-minute nocturnal electrofishing runs for trout in Cumberland tailwater during November 2022.

		Inch class																					
Area	Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	CPUE	SE
Above Helms	Rainbow Trout		4	35	107	130	55	21	6	2	6	6	2	7	1							382	305.6	30.0
	Brown Trout			4	28	52	14	5	1	1		1				1						107	85.6	46.3
	Brook Trout						1															1	0.8	0.8
	Cutthroat Trout							1														1	0.8	0.8
Below Helms	Rainbow Trout	2		7	14	35	30	13	4	5	5	3	1	2								121	96.8	19.7
	Brown Trout				9	14	2	1														26	20.8	9.2
	Brook Trout						1															1	0.8	0.8
	Cutthroat Trout					1																1	0.8	0.8
Rainbow Run	Rainbow Trout	1	2	5	26	30	19	9	6	5	8	6	6	3								126	100.8	17.4
	Brown Trout			3	24	35	14	3	1	3									1	1		85	68.0	20.0
	Brook Trout					2	1															3	2.4	1.0
	Cutthroat Trout																					0	0.0	0.0
Big Willis	Rainbow Trout	1	11	10	12	19	15	6	4	12	10	5	5	4	1						1	116	92.8	13.8
	Brown Trout				5	25	8	2						1		1						42	33.6	10.0
	Brook Trout																					0	0.0	0.0
	Cutthroat Trout						1															1	0.8	0.8
Crocus Creek	Rainbow Trout		1	1	9	7	11	3	4	6	2	7	7		2			1				61	48.8	10.5
	Brown Trout				6	11	9	1	1		1											29	23.2	5.1
	Brook Trout																					0	0.0	0.0
	Cutthroat Trout																					0	0.0	0.0
Hwy 61 Bridge	Rainbow Trout		4	3	5	8	3		2	1	4	2	4	2		1	1					40	32.0	8.7
	Brown Trout			1	4	4	3	1														13	10.4	4.1
	Brook Trout																					0	0.0	0.0
	Cutthroat Trout																					0	0.0	0.0
Cloyd's Landing	Rainbow Trout				1	2	3	3	2	1	1	2	2	1	1							19	15.2	2.9
	Brown Trout				2	3	4	1	2	1												13	10.4	1.6
	Brook Trout																					0	0.0	0.0
	Cutthroat Trout																					0	0.0	0.0
Total	Rainbow Trout	4	22	61	174	231	136	55	28	32	36	31	27	19	5	1	1	1			1	865	98.9	16.5
	Brown Trout			8	78	144	54	14	5	5	1	1		1		2			1	1		315	36.0	8.3
	Brook Trout					2	3															5	0.6	0.2
	Cutthroat Trout					1	1	1														3	0.3	0.2

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Table 29. Fall electrofishing mean CPUE (fish/hr) of <15.0 in, 15.0-17.9 in, 18.0-19.9 in, and ≥20.0 in Rainbow Trout in the Lake Cumberland tailwater from 2000 to 2022. Data collected from sample sites 1-5 each year, except 2007 and 2020 which was based on sites 1-4.

	Length group							
	<15.0 in		15.0-17.9 in		18.0-19.9 in		≥20.0 in	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	112.8	19.9	12.6	1.4	3.2	0.7	0.3	0.2
2021	96.5	9.5	15.8	1.5	2.2	0.7	0.8	0.3
2020	80.2	14.9	10.4	1.5	4.0	0.7	0.6	0.3
2019	79.4	15.5	6.7	1.4	1.8	0.6	0.5	0.3
2018	75.5	20.7	13.1	2.2	1.9	0.6	0.2	0.2
2017	44.5	7.1	21.8	2.4	1.4	0.5	0.0	
2016	196.5	38.2	6.2	1.3	1.0	0.4	0.5	0.3
2015	60.6	8.7	9.0	1.9	1.3	0.6	0.2	0.2
2014	127.7	15.7	8.6	1.1	3.0	0.7	0.2	0.2
2013	118.9	15.3	23.2	3.6	0.5	0.3	0.0	
2012	127.5	18.0	0.5	0.3	0.2	0.2	0.0	
2011*	55.2	7.7	1.1	0.6	0.0		0.2	0.2
2010	129.0	18.7	1.3	0.5	0.3	0.2	0.0	
2009	78.4	14.7	5.4	1.6	0.5	0.3	0.0	
2008	166.1	32.3	18.1	4.3	1.4	0.5	0.0	
2007	175.0	40.5	25.0	3.5	6.4	1.3	0.6	0.3
2006	185.8	33.4	29.3	3.0	4.3	1.2	0.3	0.2
2005	166.2	28.9	9.3	2.4	2.1	0.8	0.0	
2004	66.1	10.7	2.2	0.8	0.6	0.4	0.0	
2003	55.0	11.4	2.1	0.7	1.0	0.4	0.2	0.2
2002	121.0	18.6	10.7	2.4	1.4	0.7	1.0	0.6
2001	109.7	17.2	21.0	3.7	5.5	1.3	0.7	0.4
2000	65.8	12.4	9.4	1.3	1.4	0.7	0.5	0.4

sedctwn1.t22

*2011 sampling was conducted in February.

Table 30. Fall electrofishing mean CPUE (fish/hr) of <15.0 in, 15.0-17.9 in, 18.0-19.9 in, and ≥20.0 in Brown Trout in the Lake Cumberland tailwater from 2000 to 2022. Data collected from sample sites 1-5 each year, except 2007 and 2020 which was based on sites 1-4.

	Length group							
	<15.0 in		15.0-17.9 in		18.0-19.9 in		≥20.0 in	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	45.1	10.9	0.3	0.2	0.2	0.2	0.6	0.3
2021	13.1	1.7	1.1	0.4	0.3	0.2	0.0	0.0
2020	7.4	1.3	0.8	0.4	0.0	0.0	0.6	0.4
2019	16.8	2.4	1.0	0.4	0.3	0.2	0.5	0.4
2018	29.3	6.8	1.0	0.5	0.5	0.3	2.2	0.6
2017	31.4	6.4	1.4	0.5	1.4	0.5	2.6	0.7
2016	27.5	5.1	4.5	1.1	3.0	0.8	2.2	0.8
2015	41.0	6.0	5.6	1.8	1.9	0.7	1.9	0.7
2014	86.4	13.6	7.2	2.1	1.4	0.6	1.6	0.8
2013	70.2	12.0	2.4	0.8	1.1	0.6	4.6	1.5
2012	32.0	8.5	2.6	0.8	3.2	1.2	2.7	0.9
2011*	26.6	4.4	6.6	1.2	3.4	0.9	4.0	1.2
2010	14.4	2.3	3.7	0.9	1.3	0.5	0.6	0.4
2009	55.8	9.9	9.1	2.0	5.3	1.7	2.7	1.1
2008	108.6	15.6	14.1	2.9	6.4	1.0	2.6	0.7
2007	112.2	25.1	29.0	6.2	5.8	1.3	3.4	0.7
2006	56.6	11.7	30.2	10.1	5.6	1.5	5.0	1.5
2005	84.5	10.2	14.9	3.1	7.0	1.7	9.3	2.4
2004	42.7	4.1	11.8	3.3	7.7	2.0	3.2	0.9
2003	52.0	7.0	20.2	5.0	3.8	1.4	1.9	0.7
2002	97.9	13.2	31.2	6.6	5.6	1.1	2.9	0.9
2001	71.2	9.0	30.2	8.7	5.8	1.5	5.2	1.3
2000	71.5	13.1	18.9	4.7	6.6	1.6	9.0	2.5

sedctwn1.t22

*2011 sampling was conducted in February.

Table 31. Number of fish and mean relative weight (W_r) for each species of trout collected in the Cumberland tailwater during November 2022. Standard error is in parentheses.

	Species			
	Rainbow Trout		Brown Trout	
Location	No.	W_r	No.	W_r
Above Helms	374	82 (0)	107	83 (1)
Below Helms	119	78 (1)	25	81 (1)
Rainbow Run	123	85 (2)	85	84 (1)
Big Willis	104	81 (1)	42	83 (1)
Crocus Creek	56	82 (1)	29	89 (2)
Hwy 61	36	81 (1)	13	88 (2)
Cloyds	19	84 (1)	13	92 (2)
Total	831	82 (0)	314	84 (1)

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Table 32. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours of 15-minute electrofishing runs for black bass in Laurel River Lake during May 2022.

		Inch class																				
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Dam	Largemouth Bass		1		1	1	4	6	1	2	2	11	17	29	17	4				1	97	64.7
	Spotted Bass					1	2	2	1	2		3	1	1			1				14	9.3
	Smallmouth Bass		1	1	1			1					2								6	4.0
Spruce	Largemouth Bass	3	1				3	5	6	6	1	7	21	23	28	8	2				114	76.0
Creek	Spotted Bass		1			2	5	7	7	6	9	7	15	8							67	44.7
	Smallmouth Bass		3		1	5	3	4	1	1	3	2	3	2	1	2	1	1			33	22.0
Laurel	Largemouth Bass	1	5	4	4	1			3	6	5	6	10	15	19	6	6	3	3		97	64.7
River	Spotted Bass					3	2	4	3		3	4	5	1							25	16.7
Arm	Smallmouth Bass		1									2	1								4	2.7
Upper	Largemouth Bass			1		3	5	7	8	1		3	10	19	5	1					63	42.0
Craigs	Spotted Bass		1			2	14	18	7	8	9	7	11	3							80	53.3
Creek	Smallmouth Bass	1					1											1			3	2.0
Total	Largemouth Bass	4	7	5	5	5	12	18	18	15	8	27	58	86	69	19	8	3	3	1	371	61.8
	Spotted Bass		2			8	23	31	18	16	21	21	32	13			1				186	31.0
	Smallmouth Bass	1	5	1	2	5	4	5	1	1	3	4	6	2	1	2	1	2			46	7.7

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Table 33. Comparison of catch-per-hour of black bass (by area) captured during spring electrofishing on Laurel River Lake during the period of 2018-2022.

	Stock					Quality					Preferred				
Species/Area	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Largemouth Bass															
Dam	47.3	30.7	40.0	58.0	60.0	36.7	24.7	11.3	43.3	52.7	16.0	8.7	5.3	9.3	14.7
Spruce Creek	50.7	50.7	24.0	46.7	71.3	39.3	42.7	14.0	36.0	59.3	18.0	25.3	10.7	11.3	25.3
Laurel River Arm	75.3	74.0	97.3	88.0	54.7	50.7	46.7	46.7	68.0	45.3	33.3	27.3	19.3	22.7	24.7
Craigs Cr. headwaters	51.3	68.0	36.0	60.7	36.0	36.7	36.7	14.0	45.3	25.3	12.0	13.3	4.0	9.3	4.0
Mean	56.2	55.8	49.3	63.3	55.5	40.8	37.7	21.5	48.2	45.7	19.8	18.7	9.8	13.2	17.2
Spotted Bass															
Dam	2.0	3.3	2.7	8.7	8.7	0.7	1.3	0.0	4.0	4.0	0.0	0.0	0.0	0.0	1.3
Spruce Creek	30.0	17.3	14.7	30.0	42.7	12.7	13.3	6.7	18.0	26.0	6.7	1.3	1.3	4.0	5.3
Laurel River Arm	15.3	22.7	33.3	37.3	14.7	3.3	10.0	8.0	24.0	8.7	1.3	1.3	3.3	0.7	0.7
Craigs Cr. headwaters	30.7	18.7	26.0	48.0	51.3	16.0	6.7	11.3	24.7	20.0	4.0	2.0	2.0	2.0	2.0
Mean	19.5	15.5	19.2	31.0	29.3	8.2	7.8	6.5	17.7	14.7	3.0	1.2	1.7	1.7	2.3
Smallmouth Bass															
Dam	0.7	4.0	0.0	6.7	2.0	0.0	2.0	0.0	5.3	1.3	0.0	2.0	0.0	4.0	0.0
Spruce Creek	4.0	2.0	2.0	8.0	16.0	2.7	2.0	0.0	5.3	10.0	2.7	1.3	0.0	4.0	4.7
Laurel River Arm	0.7	2.0	3.3	4.7	2.0	0.0	2.0	0.0	4.0	2.0	0.0	2.0	0.0	2.7	0.0
Craigs Cr. headwaters	1.3	1.3	4.0	6.0	1.7	1.3	1.3	4.0	4.0	0.7	0.7	1.3	4.0	3.3	0.7
Mean	1.7	2.3	2.3	6.3	5.3	1.0	1.8	1.0	4.7	3.5	0.8	1.7	1.0	3.5	1.3

Largemouth Bass - ≥8.0 in = stock, ≥12.0 in = quality, ≥15.0 in = preferred.
Smallmouth Bass and Spotted bass - ≥7.0 in = stock, ≥11.0 in = quality, ≥14.0 in = preferred.
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Table 34. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Laurel River Lake during May 2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	6.3	1.3	9.8	1.6	28.5	3.7	17.2	2.8	0.2	0.2	61.8	6.2
2021	14.0	4.8	15.2	2.2	35.0	3.6	13.2	2.1	0.0	0.0	77.3	7.4
2020	16.8	2.7	27.8	3.7	11.7	2.5	9.8	1.7	0.0	0.0	66.2	8.0
2019	9.0	1.9	18.2	3.4	19.0	1.8	18.7	2.4	0.8	0.3	64.8	6.3
2018	3.2	0.8	15.3	2.2	21.0	2.2	19.8	2.2	0.5	0.3	59.3	4.9
2017	8.7	1.3	24.5	3.0	22.0	2.6	24.0	2.2	0.2	0.2	79.2	5.2
2016	6.5	1.5	18.2	3.3	25.2	2.9	20.7	3.0	0.8	0.3	70.5	7.9
2015	11.5	2.6	16.5	2.5	23.0	3.2	21.7	2.2	1.2	0.5	72.7	7.1
2014	5.8	1.2	20.0	4.9	16.8	2.5	21.5	2.6	0.8	0.3	64.2	7.9
2013	5.0	1.2	13.3	2.1	26.3	3.0	21.2	2.1	1.2	0.4	65.8	4.6

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Table 35. Spring electrofishing CPUE (fish/hr) for each length group of Spotted Bass collected at Laurel River Lake during May 2022.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	5.5	1.6	10.8	2.2	12.3	3.3	2.3	0.8	0.2	0.2	31.0	6.5
2021	8.5	1.6	9.8	2.0	16.0	4.2	1.7	0.8	0.0	0.0	36.0	6.7
2020	6.0	1.6	10.0	3.7	4.8	1.2	1.7	0.9	0.0	0.0	22.5	5.5
2019	3.5	0.8	6.2	1.4	6.7	1.6	1.2	0.4	0.0	0.0	17.5	2.6
2018	4.2	0.9	8.5	1.4	5.2	1.2	3.0	1.0	0.0	0.0	20.8	3.2
2017	4.8	1.1	5.3	0.9	6.3	1.5	3.0	0.8	0.0	0.0	19.5	3.2
2016	4.0	0.9	6.3	1.4	4.5	1.1	2.3	0.7	0.0	0.0	17.2	2.4
2015	2.0	0.7	2.8	0.7	4.8	1.0	3.3	0.9	0.0	0.0	13.0	1.9
2014	3.0	0.7	8.2	1.7	6.3	1.5	3.8	1.2	0.0	0.0	21.3	3.6
2013	3.3	0.8	4.8	1.4	10.8	2.9	2.2	0.7	0.0	0.0	21.2	3.9

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Table 36. Spring electrofishing CPUE (fish/hr) for each length group of Smallmouth Bass collected at Laurel River Lake during May 2022.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	3.0	1.0	1.2	0.6	2.2	0.8	1.3	0.8	0.5	0.3	7.7	2.3
2021	2.7	0.9	0.8	0.3	1.2	0.5	3.5	1.2	1.5	0.7	8.2	1.5
2020	2.7	1.0	0.5	0.3	0.0	0.0	1.0	0.7	0.0	0.0	4.2	1.1
2019	0.5	0.3	0.2	0.2	0.2	0.2	1.7	0.6	1.0	0.4	2.5	0.6
2018	2.0	0.8	0.2	0.2	0.2	0.2	0.8	0.3	0.2	0.2	3.2	0.9
2017	0.7	0.4	0.2	0.2	0.7	0.4	0.8	0.4	0.2	0.2	2.3	0.7
2016	0.5	0.3	1.0	0.5	0.5	0.4	2.0	0.6	1.2	0.5	4.0	1.1
2015	0.3	0.3	0.3	0.3	0.2	0.2	1.3	0.5	0.5	0.3	2.2	0.9
2014	0.7	0.3	0.5	0.3	0.5	0.4	2.3	0.6	1.0	0.4	4.0	0.9
2013	0.3	0.2	0.2	0.2	1.0	0.6	0.8	0.4	0.0	0.0	2.3	0.8

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Table 37. Population assessment for Largemouth Bass based on spring electrofishing at Laurel River Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessment rating
Management objective		≥13.0 in	≥10.0 fish/hr	≥20.0 fish/hr	≥10.0 fish/hr	≥0.5 fish/hr		
2022	Value		4.0	28.5	17.2	0.2		
	Score	4	1	3	3	2	13	G
2021	Value		12.2	35.0	13.2	0.0		
	Score	4	2	4	3	1	14	G
2020	Value		22.7	11.7	9.8	0.0		
	Score	4	3	1	2	1	11	F
2019	Value		15.5	19.0	18.7	0.8		
	Score	4	2	2	3	3	14	G
2018	Value	13.4	1.5	21.0	19.8	0.5		
	Score	4	1	2	3	3	13	G
2017	Value		4.3	22.0	24.0	0.2		
	Score	3	1	2	4	2	12	F
2016	Value		3.3	25.2	20.7	0.8		
	Score	3	1	3	4	3	14	G
2015	Value		1.3	23.0	21.7	1.2		
	Score	3	1	3	4	3	14	G
2014	Value		1.6	16.8	21.5	0.8		
	Score	3	1	2	4	3	13	G
2013	Value	13.1	1.2	26.3	21.2	1.2		
	Score	3	1	3	4	3	14	G

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Table 38. Population assessment for Spotted Bass based on spring electrofishing at Laurel River Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	Total score	Assessment rating
Management objective		≥11.0 in	≥3.0 fish/hr	≥7.0 fish/hr	≥1.0 fish/hr		
2022	Value		0.3	12.3	2.3		
	Score	1	1	4	3	9	F
2021	Value		1.7	16.0	1.7		
	Score	1	2	4	3	10	G
2020	Value		0.8	4.8	1.7		
	Score	1	1	1	3	6	P
2019	Value		0.8	6.7	1.2		
	Score	1	1	2	2	6	P
2018	Value		0.7	5.2	3.0		
	Score	1	1	1	4	7	F
2017	Value		1.3	6.3	3.0		
	Score	1	2	2	4	9	F
2016	Value		1.0	4.5	2.3		
	Score	1	2	1	3	7	F
2015	Value		0.3	4.8	3.3		
	Score	1	1	1	4	7	F
2014	Value		0.5	6.3	3.8		
	Score	1	1	2	4	8	F
2013	Value		0.3	10.8	2.2		
	Score	1	1	4	3	9	F

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Table 39. Population assessment for Smallmouth Bass based on spring electrofishing at Laurel River Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	Total score	Assessment rating
Management objective		≥13.0 in	≥3.0 fish/hr	≥1.5 fish/hr	≥1.0 fish/hr		
2022	Value		1.2	2.2	1.3		
	Score	3	2	4	3	12	G
2021	Value		1.1	1.2	3.5		
	Score	3	2	3	4	12	G
2020	Value		1.5	0.0	1.0		
	Score	3	2	1	3	9	F
2019	Value		0.2	0.2	1.7		
	Score	3	1	1	3	8	F
2018	Value		1.3	0.2	0.8		
	Score	3	2	1	2	8	F
2017	Value		0.3	0.7	0.8		
	Score	3	1	2	2	8	F
2016	Value		0.2	0.5	2.0		
	Score	3	1	2	4	10	G
2015	Value		0.0	0.2	1.3		
	Score	3	1	1	3	8	F
2014	Value		0.0	0.5	2.3		
	Score	3	1	2	4	10	G
2013	Value	13.2	0.0	1.0	0.8		
	Score	3	1	3	2	9	F

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Table 40. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Laurel River Lake during May 2022; 95% confidence limits are in parentheses.

		Largemouth Bass			Spotted Bass			Smallmouth Bass		
Year	Area	≥ Stock size*	PSD	RSD_{15}	≥ Stock size*	PSD	RSD_{14}	≥ Stock size*	PSD	RSD_{14}
2022	Dam	90	88 (± 7)	24 (± 9)	13	46 (± 28)	15 (± 20)	3	67 (± 65)	0 (± 0)
	Spruce Creek	107	83 (± 7)	36 (± 9)	64	61 (± 12)	13 (± 8)	24	63 (± 20)	29 (± 19)
	Laurel River Arm	82	83 (± 8)	45 (± 11)	22	59 (± 21)	5 (± 9)	3	100 (± 0)	0 (± 0)
	Upper Craigs Creek	54	70 (± 12)	11 (± 9)	77	39 (± 11)	4 (± 4)	2	50 (± 98)	50 (± 98)
	Total	333	82 (± 4)	31 (± 5)	176	50 (± 7)	8 (± 4)	32	66 (± 17)	25 (± 15)
2021	Total	380	76 (± 4)	21 (± 4)	186	57 (± 7)	5 (± 3)	38	74 (± 14)	55 (± 16)
2020	Total	296	44 (± 6)	20 (± 5)	115	34 (± 9)	9 (± 5)	14	43 (± 27)	43 (± 27)
2019	Total	335	67 (± 5)	33 (± 5)	93	51 (± 10)	8 (± 5)	14	79 (± 22)	71 (± 25)
2018	Total	337	73 (± 5)	35 (± 5)	117	42 (± 9)	15 (± 7)	10	60 (± 32)	50 (± 33)
2017	Total	423	65 (± 5)	34 (± 5)	99	57 (± 10)	18 (± 8)	10	90 (± 20)	50 (± 33)
2016	Total	384	72 (± 5)	32 (± 5)	89	46 (± 10)	16 (± 8)	22	68 (± 20)	55 (± 21)
2015	Total	367	73 (± 5)	35 (± 5)	70	70 (± 11)	29 (± 11)	13	69 (± 26)	62 (± 28)
2014	Total	350	66 (± 5)	37 (± 5)	120	51 (± 9)	19 (± 7)	22	77 (± 18)	64 (± 21)
2013	Total	365	78 (± 4)	35 (± 5)	114	68 (± 9)	11 (± 6)	13	85 (± 20)	38 (± 28)

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*Largemouth Bass = ≥8.0 in, Smallmouth Bass and Spotted Bass = ≥7.0 in

Table 41. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 1.5 hours of 15-minute nocturnal electrofishing runs for black bass in Laurel River Lake on 29 September 2022.

		Inch class																		
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	19	Total	CPUE	SE
Laurel River Arm	Largemouth Bass	1	5	10	13	13	23	12	6	3	5	10	5	6	6	5	3	2	128	85.3	16.6
	Spotted Bass	1	5	1	11	12	8		3	2	4	1	1	4	3				56	37.3	6.5
	Smallmouth Bass		2	3	2	11	9												27	18.0	4.6

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Table 42. Indices of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected in the fall (September and October) in electrofishing samples at Laurel River Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1[a]	
Year class	Area	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Laurel River Arm	4.7	0.2	15.9	3.1	5.2	1.3		
2021	Laurel River Arm	3.1	0.0	98.7	18.3	2.0	2.0	10.0	2.3
2020	Laurel River Arm	5.0	0.2	12.0	6.0	7.3	4.2	10.7	2.5
2019	Laurel River Arm	4.2	0.4	12.7	4.1	5.3	2.7	26.7	4.6
2018	Laurel River Arm	4.2	0.3	21.3	7.6	6.7	3.7	17.3	5.5
2017	Laurel River Arm	3.6	0.3	7.3	2.4	1.3	1.3	2.0	1.4
2016	Laurel River Arm	3.4	0.1	24.0	4.8	2.7	1.3	4.7	1.9
2015	Laurel River Arm	3.5	0.1	5.3	2.0	0.0	0.0	6.7	2.5
2014	Laurel River Arm	4.4	0.1	19.3	4.3	4.0	1.0	4.0	1.5
2013	Laurel River Arm	4.0	0.1	21.3	6.6	2.7	1.3	6.7	2.2

[a] Age-1 Largemouth Bass CPUE based only on Laurel River Arm location

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Table 43. Number of fish and mean relative weight (W_r) for each length group of black bass collected at 312 Bridge in Laurel River Lake on 29 September 2022. Standard error is in parentheses.

Species	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Largemouth Bass	No.	W_r	No.	W_r	No.	W_r
	26	96 (2)	21	93 (2)	16	97 (2)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted Bass	No.	W_r	No.	W_r	No.	W_r
	13	111 (3)	6	106 (3)	7	106 (3)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Smallmouth Bass	No.	W_r	No.	W_r	No.	W_r
	6	86 (6)	0	- (-)	0	- (-)

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Table 44. Length frequency and CPUE (fish/hr) of Largemouth Bass collected at Cedar Creek Lake in 1.5 hours (0.75 hours in lower end; 0.75 hours upper end; 15-min runs) of diurnal electrofishing on 12 May 2022.

		Inch class																					
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Lower	Largemouth Bass	5	4	9	3	5	11	8	2	2		4	8	12	18	6	11	6	3	1	118	157.3	2.7
Upper	Largemouth Bass	3	3	4	5	1	6	7	1	5	3	3	7	12	12	10	9	11	4	1	107	142.7	17.3
Total	Largemouth Bass	8	7	13	8	6	17	15	3	7	3	7	15	24	30	16	20	17	7	2	225	150.0	8.5

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Table 45. PSD and RSD_{15} values obtained for Largemouth Bass taken in spring electrofishing samples in each area of Cedar Creek Lake on 12 May 2022; 95% confidence levels are in parentheses.

	Lower Lake			Upper Lake			Total		
Year	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{15}
2022	92	75 (± 9)	62 (± 10)	91	79 (± 8)	65 (± 10)	183	77 (± 6)	63 (± 7)
2021	91	69 (± 10)	48 (± 10)	133	85 (± 6)	59 (± 8)	224	79 (± 5)	55 (± 7)
2020	118	61 (± 9)	31 (± 8)	120	85 (± 6)	52 (± 9)	238	73 (± 6)	41 (± 6)
2019	101	69 (± 9)	59 (± 10)	103	73 (± 9)	53 (± 10)	204	71 (± 6)	56 (± 7)
2018	45	49 (± 15)	36 (± 14)	53	74 (± 12)	62 (± 13)	98	62 (± 10)	50 (± 10)
2017	37	54 (± 16)	30 (± 15)	81	72 (± 10)	52 (± 11)	118	66 (± 9)	45 (± 9)
2016[a]	73	67 (± 11)	47 (± 12)	104	75 (± 8)	52 (± 10)	177	72 (± 7)	50 (± 7)
2015[b]	95	79 (± 8)	52 (± 10)	107	81 (± 7)	53 (± 9)	202	80 (± 6)	52 (± 7)
2014	237	82 (± 5)	48 (± 6)	345	81 (± 4)	47 (± 5)	582	82 (± 3)	47 (± 4)
2013	448	69 (± 4)	33 (± 4)	299	66 (± 5)	36 (± 5)	747	68 (± 3)	34 (± 3)

[a] diurnal sampling beginning in 2016

[b] sampling effort was reduced to 1.5 hours beginning in 2015

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Table 46. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected from Cedar Creek Lake from 2013-2022.

		Length group											
		<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	Area	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	Total	28.0	6.2	28.0	6.7	16.7	3.9	77.3	6.3	6.0	0.9	150.0	8.5
2021	Total	26.7	7.1	32.0	5.7	35.3	5.3	82.0	13.5	4.7	1.9	176.0	11.3
2020	Total	24.7	12.1	42.7	8.8	50.7	8.0	65.3	10.5	3.3	1.2	183.3	15.9
2019	Total	58.7	20.7	39.3	6.1	20.0	5.1	76.7	8.7	5.3	0.8	194.7	25.4
2018	Total	48.7	21.7	24.7	6.8	8.0	1.5	32.7	7.1	1.3	0.8	114.0	23.4
2017	Total	44.7	8.9	26.7	6.5	16.7	2.6	35.3	9.3	2.0	0.9	123.3	9.3
2016	Total	19.3	5.0	33.3	3.2	26.0	5.7	58.7	8.2	5.3	1.7	137.3	7.5
2015	Total	14.0	4.8	26.7	4.2	37.3	5.7	70.7	6.1	5.3	1.3	148.7	8.7
2014	Total	6.3	1.7	30.3	6.0	57.7	8.8	78.3	12.0	5.7	1.1	172.6	25.7
2013	Total	6.3	2.1	69.1	3.7	72.0	8.1	72.3	5.0	10.3	2.3	219.7	12.1

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Table 47. Population assessment for Largemouth Bass based on spring electrofishing at Cedar Creek Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessement rating
Management objective		≥11.5 in	≥16.0 fish/hr	≥20.0 fish/hr	≥30.0 fish/hr	≥4.0 fish/hr		
2022	Value		22.0	16.7	77.3	6.0		
	Score	4	2	2	4	4	16	G
2021	Value		21.3	35.3	82.0	4.7		
	Score	4	2	3	4	4	17	E
2020	Value	12.4	22.7	50.7	65.3	3.3		
	Score	4	3	4	4	3	18	E
2019	Value		47.3	20.0	76.7	5.3		
	Score	4	3	2	4	4	17	E
2018	Value		51.3	8.0	32.7	1.3		
	Score	4	3	1	4	2	14	G
2017	Value		44.7	16.7	35.3	2.0		
	Score	4	3	2	4	3	16	G
2016	Value		16.0	26.0	58.7	5.3		
	Score	4	2	3	4	4	17	E
2015	Value	12.0	8.0	37.3	70.7	5.3		
	Score	4	2	3	4	4	17	E
2014	Value		3.7	57.7	78.3	5.7		
	Score	4	1	4	4	4	17	E
2013	Value		4.9	72.0	72.3	10.3		
	Score	4	1	4	4	4	17	E

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Table 48. Length-frequency and CPUE (fish/hr) of Largemouth Bass collected during 1.5 hours of diurnal electrofishing (0.75 hours in lower end; 0.75 hours in upper end; 15-minute runs) at Cedar Creek Lake on 26 September 2022.

		Inch class																			
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower	Largemouth Bass	11	79	61	17	3	8	6	6	3	3	3	3	1	4	3	2	4	2	1	220	293.3
Upper	Largemouth Bass	8	30	19	8	3	3	4	3	1	6	6	5	6	7	3	6	2	3		123	164.0
Total	Largemouth Bass	19	109	80	25	6	11	10	9	4	9	9	8	7	11	6	8	6	5	1	343	228.7

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Table 49. Indices of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected in the fall (September and October) in electrofishing samples at Cedar Creek Lake.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.0	0.1	158.0	55.3	19.3	6.1		
2021	3.6	0.1	103.3	26.6	6.7	2.5	22.0	5.0
2020	3.4	0.1	69.3	16.7	5.3	2.5	21.3	5.6
2019	3.3	0.1	113.3	14.9	2.0	0.9	22.7	12.2
2018	4.2	0.1	52.7	10.6	9.3	2.0	47.3	17.4
2017	4.0	0.1	68.7	15.8	10.7	3.8	51.3	21.9
2016	4.0	0.1	131.3	45.2	36.7	10.1	44.7	8.9
2015	3.4	0.1	50.0	18.6	4.0	1.5	16.0	4.5
2014	3.8	0.2	19.3	7.6	3.3	1.2	8.0	4.0
2013	3.5	0.2	9.4	3.9	0.3	0.3	3.7	1.2

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Table 50. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected in Cedar Creek Lake on 26 September 2022. Standard error is in parentheses.

		Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Species	Area	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lower	18	84 (2)	7	95 (2)	16	98 (2)
	Upper	14	90 (2)	17	91 (3)	21	96 (2)
	Total	32	87 (2)	24	93 (2)	37	97 (1)

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Table 51. Length frequency and CPUE (fish/hr) of Bluegill and Redear Sunfish collected at Cedar Creek Lake in 1.25 hours (7.5-min runs) of diurnal electrofishing on 18 May 2022.

	Inch class												
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	SE
Bluegill	46	348	294	167	64	29	6	1			955	764.0	84.8
Redear Sunfish		29	23	71	42	53	77	25	6	1	327	261.6	46.4

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Table 52. Spring electrofishing CPUE (fish/hr) for each length group of Bluegill and Redear Sunfish collected at Cedar Creek from 2011-2022.

		Length group											
		<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Species	Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
Bluegill													
	2022	315.2	42.7	420.0	61.9	28.0	4.5	0.8	0.8			764.0	84.8
	2021	136.0	42.6	238.4	28.5	14.4	3.1	0.0	0.0			388.8	63.9
	2019	257.6	47.6	204.0	30.3	18.4	4.3	1.6	1.1			481.6	48.7
	2018	492.0	137.7	268.0	31.4	8.8	5.5	0.8	0.8			769.6	150.6
	2016	599.2	108.4	464.0	90.4	8.0	2.7	0.0	0.0			1071.2	164.8
	2015	372.0	51.8	510.4	66.9	12.8	4.8	0.0	0.0			895.2	110.5
	2014	396.5	60.6	367.5	98.4	27.5	5.9	1.0	0.7			792.5	116.2
	2013	410.0	102.7	318.5	48.2	21.5	4.6	0.0	0.0			750.0	126.4
	2012	65.1	14.0	206.9	40.8	16.5	5.3	0.0	0.0			288.5	52.7
	2011	301.0	45.9	411.0	56.7	21.0	4.8	0.0	0.0			733.0	81.1
Redear Sunfish													
	2022	23.2	6.8	108.8	26.2	104.0	24.0	25.6	13.8	0.8	0.8	261.6	46.4
	2021	5.6	3.2	81.6	24.0	116.8	32.6	58.4	29.6	4.0	3.2	262.4	53.3
	2019	10.4	4.0	54.4	14.7	37.6	11.3	15.2	5.9	0.8	0.8	117.6	25.1
	2018	14.4	4.9	52.0	7.1	26.4	7.5	1.6	1.1	0.0	0.0	94.4	12.8
	2016	5.6	2.1	63.2	16.3	24.0	6.5	2.4	1.2	0.0	0.0	95.2	20.7
	2015	1.6	1.1	45.6	9.2	42.4	8.5	8.8	2.8	1.6	1.1	98.4	14.9
	2014	5.0	1.6	45.0	10.8	27.0	7.6	8.5	3.3	0.0	0.0	85.5	16.1
	2013	4.0	2.2	33.0	7.2	163.5	75.4	31.0	10.9	0.5	0.5	231.5	84.4
	2012	2.1	1.2	22.4	5.3	43.7	10.5	3.2	1.3	0.0	0.0	71.5	14.7
	2011	3.0	1.4	56.5	10.7	21.0	3.9	0.5	0.5	0.0	0.0	81.0	14.3

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Table 53. PSD and RSD values obtained for Bluegill and Redear Sunfish taken in spring electrofishing samples in Cedar Creek Lake on 18 May 2022; 95% confidence levels are in parentheses.

Species	Year	No. ≥ Stock size	PSD	RSD[a]
Bluegill				
	2022	561	6 (± 2)	0 (± 0)
	2021	316	6 (± 3)	0 (± 0)
	2019	280	9 (± 3)	1 (± 1)
	2018	347	3 (± 2)	0 (± 1)
	2016	590	2 (± 1)	0 (± 0)
	2015	654	2 (± 1)	0 (± 0)
	2014	792	7 (± 2)	0 (± 0)
	2013	680	6 (± 2)	0 (± 0)
	2012	419	7 (± 3)	0 (± 0)
	2011	864	5 (± 1)	0 (± 0)
Redear Sunfish				
	2022	275	40 (± 6)	3 (± 2)
	2021	307	52 (± 6)	9 (± 3)
	2019	121	31 (± 8)	2 (± 2)
	2018	82	20 (± 9)	0 (± 0)
	2016	73	19 (± 9)	0 (± 0)
	2015	115	29 (± 8)	4 (± 4)
	2014	144	34 (± 8)	1 (± 2)
	2013	434	65 (± 4)	1 (± 1)
	2012	124	35 (± 8)	1 (± 2)
	2011	140	6 (± 4)	0 (± 0)

[a] Bluegill = RSD_8, Redear Sunfish = RSD_9

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Table 54. Fishery statistics derived from creel surveys on Cedar Creek Lake (784 acres) from 1 April - 29 October 2022, 1 April - 31 October 2009, and 5 April - 29 October 2005.

	2022	2009	2005
Fishing trips			
Number of fishing trips (per acre)	14,226 (18.15)	38,561 (49.18)	10,110 (12.89)
Average trip length	5.23	5.00	3.93
Fishing pressure			
Total man-hours (SE)[a]	74,335 (1,573)	192,691 (4,288)	39,735 (939)
Man hours/acre	94.82	245.78	50.68
Catch/harvest			
Number of fish caught (SE)	85,817 (9,012)	296,539 (20,314)	76,439 (5,559)
Number of fish harvested (SE.)	18,835 (3,780)	85,321 (8,672)	36,879 (3,017)
Pounds of fish harvested	5,107	20,921	6,887
Harvest rates			
Fish/hour	0.22	0.41	0.90
Fish/acre	24.02	108.83	47.04
Pounds/acre	6.51	26.68	8.78
Catch rates			
Fish/hour	1.09	1.46	1.88
Fish/acre	109.46	378.24	97.50
Miscellaneous characteristics (%)			
Male	93	85	83
Female	7	15	17
Resident	98	97	97
Non-resident	2	3	3
Method (%)			
Still fishing	21	78	54
Casting	78	21	46
Fly	0	<1	1
Trolling	<1	<1	0
Spider rigging	<1	0	0
Mode (%)			
Boat	88	77	82
Bank	3	23	18
Kayak	9	0	0
Dock	0	<1	0

[a]SE = standard error

Table 55. Fish harvest statistics derived from a daytime creel survey at Cedar Creek Lake (784 acres) from 1 April - 29 October 2022.

	Black bass group	Largemouth Bass	Crappie group	Black Crappie	White Crappie	Catfish group	Channel Catfish	Panfish group	Bluegill	Redear Sunfish	Green Sunfish	Anything
No. caught	37,968	37,968	16,512	11,702	4,810	460	460	30,876	24,157	6,682	37	
(per acre)	48.43	48.43	21.06	14.93	6.14	0.59	0.59	39.38	30.81	8.52	0.05	
No. harvested	42	42	7,294	5,386	1,908	214	214	11,284	7,840	3,445	-	
(per acre)	0.05	0.05	9.30	6.87	2.43	0.27	0.27	14.39	10.00	4.39	-	
% of total no. harvested	t	t	38.7	28.6	10.1	1.1	1.1	59.9	41.6	18.3	-	
Lbs. harvested	226	226	2,499	1,879	620	326	326	2,056	1,110	945	-	
(per acre)	0.29	0.29	3.19	2.40	0.79	0.42	0.42	2.62	1.42	1.21	-	
% of total lbs harvested	4.43	4.43	48.9	36.8	12.1	6.4	6.4	40.2	21.7	18.5	-	
Mean length (in)		21.3		8.5	9.1		15.6		6.0	5.9	-	
Mean weight (lb)		5.23		0.32	0.35		1.35		0.14	0.15	-	
Number of fishing trips for that species	10,488		1,308			145		1,282				1,003
Percent of all trips	73.7		9.2			1.0		9.0				7.1
Hours fished for that species	54,802		6,835			757		6,701				5,240
Hours fished for that species (per acre)	69.90		8.72			0.97		8.55				6.68
Number harvested fishing for that species	11		5,731			164		8,900				-
Lb harvested fishing for that species	47		2,114			299		1,617				-
No./hr harvested fishing for that species	t		1.01			0.23		1.52				-
Percent success fishing for that species	t		46.5			38.5		47.4				21.4

t < 0.005 fish/hr or < 0.5%

Table 56. Length distribution for each species of fish harvested and released at Cedar Creek Lake (784 acres) during 1 April - 29 October 2022.

	Inch class																							
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	28	Total
Largemouth Bass																								
Harvested																		14		28				42
Released						1,002	247	2,731	189	5,244	1,496	5,636	4,387	4,517	3,413	4,445	2,280	1,612	378	247	87	15		37,926
Black Crappie																								
Harvested				991	80	1,279	2,062	559	16	304	16	32	16	16	15									5,386
Released		124	2,271	2,722	529	513	16	93		31					17									6,316
White Crappie																								
Harvested				143	158	301	660	430	57	129		30												1,908
Released		86	915	1,244	300	343	14																	2,902
Channel Catfish																								
Harvested										61	15			46		15		31	15	15		16		214
Released								66		82	16	16				16		33					17	246
Bluegill																								
Harvested		183	3,479	1,481	2,081	616																		7,840
Released	1,544	6,877	4,585	2,611	239	461																		16,317
Redear Sunfish																								
Harvested			359	54	1,794	1,005	18	215																3,445
Released		306	1,529	1,097	36	270																		3,238
Green Sunfish																								
Harvested																								0
Released				37																				37

Table 57. Black bass catch and harvest statistics derived from a daytime creel survey at Cedar Creek Lake (784 acres) for each species of black bass caught and released by all anglers from 1 April - 29 October 2022.

		Largemouth Bass C&R		
	Harvest	12.0-14.9	>15.0	Total
Total number of bass	42	12,376	21,381	37,968
% of black bass harvested by number	100			
Total weight of fish (lb)	226	21,496	37,140	66,103
% of black bass harvested by weight	100			
Mean length (in)	21.3			
Mean weight (lb)	5.23			
Rate (fish/hour)	0.001			

Table 58. Monthly black bass angling success at Cedar Creek Lake (784 acres) during the 2022 daytime creel survey period; data does not include black bass < 8.0 inches.

Month	Total no. of bass caught	Total no. of bass harvested	Number of bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/hour by bass anglers
Apr	5,326	17	1,478	7,724	5,118	0.58	0	0.000
May	5,009	0	1,229	6,421	4,679	0.70	0	0.000
Jun	6,678	14	1,513	7,908	6,396	0.72	0	0.000
Jul	7,663	0	1,968	10,284	7,557	0.69	0	0.000
Aug	6,335	0	1,793	9,370	6,193	0.65	0	0.000
Sep	3,860	0	1,302	6,805	3,772	0.54	0	0.000
Oct	3,097	11	1,204	6,290	3,021	0.45	11	0.002
Total	37,968	42	10,487	54,802	36,736		11	
Mean						0.62		0.000

Table 59. Monthly crappie angling success at Cedar Creek Lake (784 acres) during the 2022 daytime creel survey period.

Month	Total no. of crappie caught	Total no. of crappie harvested	Number of crappie fishing trips	Hours fished by crappie anglers	Crappie caught by crappie anglers	Crappie caught/hour by crappie anglers	Crappie harvested by crappie anglers	Crappie harvested/hour by crappie anglers
Apr	2,568	2,064	407	2,129	2,480	1.86	2,047	1.532
May	5,651	1,780	190	993	3,174	3.25	1,101	1.128
Jun	2,057	986	111	580	591	2.40	141	0.571
Jul	1,991	987	157	820	1,991	3.26	987	1.614
Aug	1,690	490	106	554	1,213	2.69	490	1.086
Sep	1,246	463	145	756	1,192	1.58	464	0.615
Oct	1,309	523	192	1,003	1,286	1.43	501	0.559
Total	16,512	7,293	1,308	6,835	11,927		5,731	
Mean						2.15		1.005

Table 60. Monthly catfish angling success at Cedar Creek Lake (784 acres) during the 2022 daytime creel survey period.

Month	Total no. of catfish caught	Total no. of catfish harvested	Number of catfish fishing trips	Hours fished by catfish anglers	Catfish caught by catfish anglers	Catfish caught/hour by catfish anglers	Catfish harvested by catfish anglers	Catfish harvested/hour by catfish anglers
May	73	37	0	0	0	0.00	0	0.000
Jun	28	14	0	0	0	0.00	0	0.000
Jul	247	88	60	315	211	0.89	88	0.370
Aug	90	65	27	138	78	0.37	65	0.309
Sep	11	11	15	80	11	0.14	11	0.135
Oct	11	0	7	39	0	0.00	0	0.000
Total	460	215	109	572	300		164	
Mean						0.39		0.227

Table 61. Monthly panfish angling success at Cedar Creek Lake (784 acres) during the 2022 daytime creel survey period.

Month	Total no. of panfish caught	Total no. of panfish harvested	Number of panfish fishing trips	Hours fished by panfish anglers	Panfish caught by panfish anglers	Panfish caught/hour by panfish anglers	Panfish harvested by panfish anglers	Panfish harvested/hour by panfish anglers
Apr	538	434	93	487	521	2.31	434	1.923
May	16,679	6,863	608	3,177	13,688	4.56	5,560	1.852
Jun	5,607	2,423	141	738	3,085	6.95	1,381	3.111
Jul	5,285	1,427	229	1,199	3,699	4.02	1,409	1.530
Aug	1,471	116	97	508	1,213	2.67	116	0.256
Sep	838	11	84	438	706	2.06	0	0.000
Oct	458	11	30	154	294	2.41	0	0.000
Total	30,876	11,285	1,282	6,701	23,206		8,900	
Mean						4.11		1.525

Table 62. Length frequency and CPUE (fish/hr) of Largemouth Bass collected at Bert T. Combs Lake in 1.125 hours (7.5-min runs) of diurnal electrofishing on 27 April 2022.

	Inch class																
Species	3	4	6	7	8	9	10	11	12	13	15	16	18	19	Total	CPUE	SE
Largemouth Bass	1	1	4	7	13	28	32	61	16	1	1	1	1	2	169	150.2	24.7

sedpsdbc.d22

Table 63. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Bert T. Combs Lake on 27 April 2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	11.6	5.4	119.1	22.0	15.1	2.8	4.4	2.4	0.0	0.0	150.2	24.7
2019	53.6	21.1	110.4	11.3	35.2	4.2	1.6	1.1	1.6	1.1	200.8	27.9
2015	15.2	5.3	67.2	11.0	14.4	5.4	0.8	0.0	0.0	0.0	97.6	27.9
2012	30.7	12.0	71.3	14.3	24.0	4.3	0.7	0.7	0.0	0.0	126.7	28.9
2009	21.3	9.3	45.3	7.9	38.7	5.8	6.0	0.9	4.0	1.5	111.3	16.2
2006	5.3	1.3	100.7	21.2	25.3	4.3	11.3	2.8	4.7	3.2	142.7	25.7

sedpsdbc.d22

Table 64. PSD and RSD_{15} values obtained for Largemouth Bass taken in spring electrofishing samples at Bert T. Combs Lake on 27 April 2022; 95% confidence levels are in parentheses.

Year	≥ Stock size	PSD	RSD_{15}
2022	156	14 (± 6)	3 (± 3)
2019	184	25 (± 6)	1 (± 2)
2015	103	18 (±8)	1 (± 2)
2012	144	26 (± 7)	1 (± 1)
2009	135	50 (± 8)	7 (± 4)
2006	206	27 (± 6)	8 (± 4)

sedpsdbc.d22

Table 65. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected at Beulah Lake in 1.5 hours (15.0-min runs) of diurnal electrofishing on 27 April 2022.

	Inch class																		
Species	3	4	5	6	7	8	9	10	11	12	13	14	17	20	23	24	Total	CPUE	SE
Largemouth Bass	3	7	7	20	48	23	17	58	62	23	5	2	1	1	1	1	279	186.0	10.4
Spotted Bass	2	2			1	1	1		1								8	5.3	3.2

sedpsdbl.d22

Table 66. Spring electrofishing CPUE (fish/hr) for each length group of black bass collected at Beulah Lake on 27 April 2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Species Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
Largemouth Bass												
2022	56.7	12.2	106.7	9.2	20.0	4.1	2.7	1.3	2.0	0.9	186.0	10.4
2018	42.7	8.5	146.7	16.2	25.3	3.7	4.7	2.2	2.7	1.7	219.3	20.9
2015	90.0	16.1	124.0	5.2	12.0	4.0	4.0	1.8	2.7	0.8	230.0	18.3
2012	54.0	11.0	155.3	19.9	22.0	4.1	10.0	3.7	6.0	3.2	241.3	29.7
2009	82.0	12.8	168.7	23.3	51.3	6.9	6.7	1.7	4.0	1.5	308.7	20.5
2006	87.3	18.2	185.3	13.3	4.7	1.9	4.7	1.9	2.0	0.9	282.0	23.9
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
Spotted Bass												
2022	3.3	1.9	1.3	0.8	0.7	0.7	0.0	0.0	0.0	0.0	5.3	3.2
2018	1.3	0.8	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2.7	1.3
2015	0.0	0.0	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.8
2012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Smallmouth Bass												
2022	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2018	2.0	1.4	1.3	0.8	3.3	2.2	2.0	2.0	2.0	2.0	8.7	3.5
2015	15.3	1.6	1.3	0.8	0.7	0.7	0.0	0.0	0.0	0.0	17.3	2.0
2012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

sedpsdbl.d22

Table 67. PSD and RSD_{15} values obtained for Largemouth Bass taken in spring electrofishing samples at Beulah Lake on 27 April 2022; 95% confidence levels are in parentheses.

Year	≥ Stock size	PSD	RSD_{15}
2022	194	18 (± 5)	2 (± 2)
2018	265	17 (± 5)	3 (± 2)
2015	210	11 (± 4)	3 (± 2)
2012	281	17 (± 4)	5 (± 3)
2009	340	26 (± 5)	3 (± 2)
2006	292	5 (± 2)	2 (± 2)

sedpsdbl.d22

Table 68. Mean back calculated lengths (in) at each annulus for Largemouth Bass collected from Beulah Lake during fall 2022, including the 95% confidence interval (CI) for each mean length per age group.

		Age					
Year	No.	1	2	3	4	5	6
2021	15	4.5					
2020	18	4.6	7.9				
2019	7	5.2	7.9	9.7			
2018	15	5.7	9.2	10.6	11.5		
2017	6	5.8	9.1	10.9	11.9	12.6	
2016	8	5.3	8.0	10.6	11.7	12.4	13.0
Mean		5.0	8.4	10.5	11.6	12.5	13.0
Number		69	54	36	29	14	8
Smallest		3.3	5.7	8.8	9.7	11.5	12.1
Largest		7.2	10.9	11.8	13.0	14.3	15.3
SE		0.1	0.1	0.1	0.1	0.2	0.3
95% CI ±		0.3	0.3	0.3	0.3	0.4	0.7

Otoliths were used for age-growth determinations; Intercept = 0
sedagbl.d22

Table 69. Number of fish and mean relative weight (W_r) for each length group of Largemouth Bass collected at Beulah Lake on 3 October 2022. Standard error is in parentheses.

Species	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	40	81 (1)	19	82 (2)	1	90 (-)

sedwrbl.d22

Table 70. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected at Cannon Creek Lake in 1.5 hours (15.0-min runs) of nocturnal electrofishing on 25 April 2022.

	Inch class														
Species	3	4	5	7	8	9	10	11	12	13	22	23	Total	CPUE	SE
Largemouth Bass	1			1	11	10	18	30	12	3	1	1	88	58.7	10.1
Spotted Bass		1	1	6	4	4	9	13	2				40	26.7	1.7
Smallmouth Bass							1	1					2	1.3	0.8

sedpsdcc.d22

Table 71. Spring electrofishing CPUE (fish/hr) for each length group of black bass collected at Cannon Creek Lake on 25 April 2022.

		Length group											
		<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Species	Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
Largemouth Bass													
	2022	1.3	0.8	46.0	7.1	10.0	3.5	1.3	0.8	1.3	0.8	58.7	10.1
	2018	1.3	0.8	50.7	9.2	9.3	2.0	0.7	0.7	0.0	0.0	62.0	11.0
	2015	3.3	1.6	10.0	2.0	9.3	3.2	0.7	0.7	0.7	0.7	23.3	4.3
	2012	2.5	1.5	23.0	3.8	5.0	1.5	1.5	0.7	0.5	0.5	32.0	5.1
	2009	12.5	1.9	13.0	3.0	10.0	1.7	0.0	0.0	0.0	0.0	35.5	4.8
	2006	2.4	1.1	15.2	2.1	2.8	0.9	2.4	0.9	0.4	0.4	22.8	2.6
		<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
		CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
Spotted Bass													
	2022	5.3	1.3	11.3	1.6	10.0	2.7	0.0	0.0	0.0	0.0	26.7	1.7
	2018	4.7	1.9	38.0	4.7	6.7	1.7	0.0	0.0	0.0	0.0	49.3	7.1
	2015	18.7	8.3	14.7	2.9	4.7	1.9	0.0	0.0	0.0	0.0	38.0	8.1
	2012	10.0	3.1	24.5	4.6	4.5	1.8	0.0	0.0		0.0	39.0	8.5
	2009	31.5	7.2	24.0	3.6	10.5	3.1	0.0	0.0	0.0	0.0	66.0	9.4
	2006	3.2	1.4	15.2	3.3	2.8	1.0	0.4	0.4	0.0	0.0	21.6	4.9
Smallmouth Bass													
	2022	0.0	0.0	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	1.3	0.8
	2018	4.0	2.1	0.7	0.7	2.7	2.0	0.0	0.0	0.0	0.0	7.3	2.6
	2015	2.0	1.4	0.0	0.0	2.7	1.3	0.0	0.0	0.0	0.0	4.7	1.9
	2012	0.5	0.5	3.0	1.0	4.0	1.5	0.0	0.0	0.0	0.0	7.5	1.9
	2009	12.5	1.9	1.5	0.7	9.5	1.3	0.0	0.0	0.0	0.0	23.5	2.4
	2006	1.2	0.9	4.4	1.3	2.8	1.2	0.0	0.0	0.0	0.0	8.4	2.2

sedpsdcc.d22

Table 72. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Cannon Creek Lake on 25 April 2022; 95% confidence limits are in parentheses.

	Largemouth Bass			Spotted Bass			Smallmouth Bass		
Year	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{14}	≥ Stock size	PSD	RSD_{14}
2022	86	20 (± 8)	2 (± 3)	38	39 (± 16)	0 (± 0)	2	50 (± 98)	0 (± 0)
2018	91	16 (± 8)	1 (± 2)	72	14 (± 8)	0 (± 0)	5	80 (± 39)	0 (± 0)
2015	30	50 (± 18)	3 (± 7)	32	22 (± 15)	0 (± 0)	4	100 (± 0)	0 (± 0)
2012	59	22 (± 11)	5 (± 6)	70	13 (± 8)	0 (± 0)	14	57 (± 27)	0 (± 0)
2009	46	43 (± 14)	0 (± 0)	85	25 (± 9)	0 (± 0)	22	86 (± 15)	0 (± 0)
2006	51	25 (± 12)	12 (±9)	47	17 (± 11)	2 (± 4)	18	39 (± 23)	0 (± 0)

sedpsdcc.d22

Table 73. Length frequency and CPUE (fish/net-set) of Channel Catfish collected from Liberty Lake. Channel Catfish were collected using three sets of baited, tandem hoop nets (3 nets with three nets each set with 72 hour soak time) that were set on 24 October 2022.

	Inch class												
Species	14	15	16	17	18	19	20	21	22	23	Total	Average per set	SE
Channel Catfish	2	1	11	18	3	6	1	1	1	1	45	15.0	12.6

sedhnlib.d22

Table 74. Number of fish and mean relative weight (W_r) for each length group of Channel Catfish collected at Liberty Lake during October 2022. Standard error is in parentheses.

Species	Area	Length group							
		11.0-15.9 in		16.0-23.9 in		≥24.0 in		Total	
		No.	W_r	No.	W_r	No.	W_r	No.	W_r
Channel Catfish	Total	3	84 (2)	42	82 (1)	0	-	45	82 (1)

sedhnlib.d22

Table 75. Cumulative angler counts based on trail camera data for Liberty Lake (79 acres) from March 2022 to February 2023. Angling type percentage is in parentheses.

	Angling Trips			Angling Trips by Type		
	Trips	Trips/Day	Trips/Acre	Boat	Bank	Canoe/Kayak
March*	26	2.9	0.3	3 (12)	23 (88)	0 (0)
April	120	7.5	1.5	29 (24)	63 (53)	28 (23)
May	242	15.1	3.1	72 (30)	112 (46)	58 (24)
June	280	17.5	3.5	79 (28)	149 (53)	52 (19)
July	202	12.6	2.6	55 (27)	109 (54)	38 (19)
August	121	7.6	1.5	40 (33)	55 (46)	26 (21)
September	130	8.1	1.6	51 (39)	48 (37)	31 (24)
October	83	5.2	1.1	50 (60)	26 (31)	7 (9)
November	26	1.6	0.3	8 (31)	18 (69)	0 (0)
December	12	0.7	0.2	2 (17)	9 (75)	1 (8)
January	11	0.7	0.1	6 (55)	5 (45)	0 (0)
February	22	1.4	0.3	1 (5)	18 (82)	3 (13)
Total	1275	6.9	16.0	396 (31)	635 (50)	244 (19)

*partial month's data

Table 76. Cumulative angling pressure based on trail camera data for Liberty Lake (79 acres) from March 2022 to February 2023.

	Angling Trip Length			Angling Trip Length by Type								
				Boat			Bank			Canoe/Kayak		
	Trips	Total hours	Hours/ Trip	Trips	Total hours	Hours/ Trip	Trips	Total hours	Hours/ Trip	Trips	Total hours	Hours/ Trip
March*	26	39	1.5	3	8	2.8	23	31	1.3	0	0	0.0
April	120	195	1.6	29	79	2.7	63	65	1.0	28	51	1.8
May	242	458	1.9	72	273	3.8	112	101	0.9	58	84	1.4
June	280	401	1.4	79	149	1.9	149	179	1.2	52	73	1.4
July	202	267	1.3	55	93	1.7	109	107	1.0	38	67	1.8
August	121	170	1.4	40	66	1.7	55	65	1.2	26	39	1.5
September	130	145	1.1	51	40	0.8	48	30	0.6	31	75	2.4
October	83	155	1.9	50	127	2.5	26	18	0.7	7	10	1.4
November	26	27	1.0	8	15	1.9	18	12	0.7	0	0	0.0
December	12	9	0.7	2	1	0.5	9	6	0.7	1	2	2.0
January	11	29	2.6	6	27	4.5	5	2	0.4	0	0	0.0
February	22	31	1.4	1	2	2.0	18	19	1.1	3	10	3.3
Total	1275	1926	1.5	396	880	2.2	635	635	1.0	244	411	1.7

*partial month's data

Table 77. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 1.5 hours of 15-minute diurnal electrofishing runs for black bass in Wood Creek Lake on 28 April 2022.

		Inch class																		
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Pump Station	Largemouth Bass	3	11	9	2	7	12	16	26	12	9	5	3	3	3	3	1		125	166.7	28.9
	Spotted Bass						1	1	2										4	5.3	2.7
Dock	Largemouth Bass	1	7	16	1	14	22	23	28	13	7	2	1	1	1	1	4	4	146	194.7	23.7
	Spotted Bass																		0	0.0	0.0
Total	Largemouth Bass	4	18	25	3	21	34	39	54	25	16	7	4	4	4	4	5	4	271	180.7	17.8
	Spotted Bass						1	1	2										4	2.7	1.7

sedpsdwc.d22

Table 78. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Wood Creek Lake on 28 April 2022; 95% confidence limits are in parentheses.

		Largemouth Bass			Spotted Bass		
Year	Area	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{14}
2022*	Pump Station	93	29 (± 9)	11 (± 6)	4	0 (± 0)	0 (± 0)
	Dock	107	20 (± 8)	10 (± 6)	0	0 (± 0)	0 (± 0)
	Total	200	24 (± 6)	11 (± 4)	4	0 (± 0)	0 (± 0)
2021*	Total	176	25 (± 6)	10 (± 4)	22	33 (± 33)	0 (± 0)
2020*	Total	248	25 (± 5)	10 (± 4)	22	27 (± 19)	0 (± 0)
2019*	Total	320	16 (± 4)	2 (± 2)	12	17 (± 22)	0 (± 0)
2018*	Total	223	33 (± 6)	12 (± 4)	17	41 (± 24)	6 (± 12)
2017*	Total	181	25 (± 6)	4 (± 3)	32	34 (± 17)	3 (± 6)
2016*	Total	110	42 (± 9)	8 (± 5)	23	26 (± 18)	0 (± 0)
2015	Total	259	41 (± 6)	10 (± 4)	37	30 (± 15)	0 (± 0)
2014	Total	334	34 (± 5)	10 (± 3)	61	21 (± 10)	0 (± 0)
2013	Total	256	23 (± 5)	9 (± 4)	79	14 (± 8)	1 (± 2)

* Lower lake area was not sampled

sedpsdwc.d22

Table 79. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Wood Creek Lake during April 2022.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022*	47.3	7.1	101.3	11.0	18.0	4.4	14.0	2.3	0.0	0.0	180.7	17.8
2021*	52.0	17.9	88.0	15.5	17.3	3.0	12.0	2.7	2.0	0.9	169.3	29.6
2020*	40.0	17.5	124.7	26.7	24.0	5.2	16.7	2.8	2.7	2.0	205.3	44.7
2019*	55.3	23.0	178.7	39.9	30.0	5.3	4.7	1.2	0.0	0.0	268.7	67.1
2018*	56.7	15.9	99.3	15.9	32.0	5.8	17.3	3.7	1.3	0.8	205.3	36.8
2017*	121.3	48.5	90.0	19.9	25.3	4.3	5.3	1.7	0.7	0.7	242.0	70.8
2016*	40.0	14.5	42.7	9.0	24.7	3.2	6.0	0.9	0.7	0.7	113.3	21.3
2015	11.7	2.4	51.3	10.6	26.3	6.0	8.7	2.0	1.3	0.6	98.0	15.8
2014	19.0	4.2	74.0	13.4	25.7	4.7	11.7	3.1	1.0	0.7	130.3	19.8
2013	16.7	5.4	65.3	12.1	12.0	1.8	8.0	1.6	1.0	0.5	102.0	17.7
2012	13.7	4.6	57.0	15.2	11.0	2.5	3.7	0.9	0.3	0.3	85.3	19.4

* Lower lake area was not sampled
sedpsdwc.d22

Table 80. Spring electrofishing CPUE (fish/hr) for each length group of Spotted Bass collected at Wood Creek Lake during April 2022.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022*	2.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	1.7
2021*	0.7	0.7	4.0	2.1	2.0	0.9	0.0	0.0	0.0	0.0	6.7	3.0
2020*	2.0	1.4	9.3	6.3	4.0	4.0	0.0	0.0	0.0	0.0	15.3	10.9
2019*	2.0	1.4	6.0	3.4	1.3	0.8	0.0	0.0	0.0	0.0	9.3	4.7
2018*	2.0	1.4	6.0	3.2	4.0	2.5	0.7	0.7	0.0	0.0	12.7	5.5
2017*	6.7	4.0	11.3	5.6	6.7	4.0	0.7	0.7	0.0	0.0	25.3	12.5
2016*	5.3	4.6	9.3	5.7	4.0	2.5	0.0	0.0	0.0	0.0	18.7	10.6
2015	4.3	1.7	7.3	2.1	3.7	0.9	0.0	0.0	0.0	0.0	15.3	3.9
2014	6.3	2.5	13.7	2.7	4.3	1.5	0.0	0.0	0.0	0.0	24.3	5.1
2013	6.0	2.0	19.7	5.4	3.3	1.7	0.3	0.3	0.0	0.0	29.3	7.0
2012	17.7	4.4	11.0	2.3	3.3	1.2	0.0	0.0	0.0	0.0	32.0	7.1

* Lower lake area was not sampled
sedpsdwc.d22

Table 81. Population assessment for Largemouth Bass based on spring electrofishing at Wood Creek Lake from 2013-2022 (scoring based on statewide assessment).

Year		Mean length age 3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessement rating
Management objectives		≥11.5 in	≥8.0 fish/hr	≥20.0 fish/hr	≥17.0 fish/hr	≥2.0 fish/hr		
2022	Value		34.0	18.0	14.0	0.0		
	Score	1	3	2	3	1	10	F
2021	Value		32.0	17.3	12.0	2.0		
	Score	1	3	2	2	3	11	F
2020	Value		34.0	24.0	16.7	2.7		
	Score	1	3	2	3	3	12	F
2019	Value	10.1	44.7	30.0	4.7	0.0		
	Score	1	3	3	1	1	9	F
2018	Value		40.7	32.0	17.3	1.3		
	Score	3	3	3	3	2	14	G
2017	Value		105.3	25.3	5.3	0.7		
	Score	3	4	2	1	2	12	F
2016	Value		29.3	24.7	6.0	0.7		
	Score	3	3	2	2	2	12	F
2015	Value		5.0	26.3	8.7	1.3		
	Score	3	1	3	2	2	11	F
2014	Value	11.3	6.0	25.7	11.7	1.0		
	Score	3	1	3	2	2	11	F
2013	Value		14.0	12.0	8.0	1.0		
	Score	3	2	1	2	2	10	F

sedpsdwc.d22

Table 82. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 1.5 hours of 15-minute diurnal electrofishing runs for black bass in Wood Creek Lake on 27 September 2022; standard error is in parentheses.

		Inch class																
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE
Pump station	Largemouth Bass	2	5	3			2	4	5	6	9	3	1	1		1	42	56.0
	Spotted Bass		1	1		2		2	1	3							10	13.3
Dock	Largemouth Bass	1	20	33	18	3	1	5	11	13	15	5	1	1	1		128	170.7
	Spotted Bass		1							1							2	2.7
Total	Largemouth Bass	3	25	36	18	3	3	9	16	19	24	8	2	2	1	1	170	113.3
	Spotted Bass		2	1		2		2	1	4							12	8.0

sedyoywc.d22

Table 83. Indices of year class strength at age 0 and age 1 and mean lengths (in) of age-0 Largemouth Bass collected in fall (September and October) electrofishing samples at Wood Creek Lake.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.4	0.1	56.7	21.4	14.0	6.4		
2021	3.9	0.1	43.3	6.7	3.3	1.2	34.0	5.2
2020	4.2	0.1	43.3	15.3	6.0	2.9	32.0	12.0
2019	4.5	0.1	45.3	14.3	9.3	3.8	34.0	15.6
2018	4.3	0.1	37.3	14.9	8.0	3.7	44.7	20.4
2017 [a]	4.1	0.2	16.0	4.4	2.7	1.3	40.7	12.7
2016	4.0	0.1	74.7	22.6	8.7	1.6	105.3	43.5
2015	4.2	0.1	32.7	7.8	8.0	2.2	29.3	12.8
2014 [a]	3.7	0.2	2.7	0.9	0.0	0.0	5.0	1.0
2013 [a]	3.4	0.2	11.3	3.0	1.0	0.5	6.0	1.7

sedyoywc.d22

[a] Age-0 Largemouth Bass stocked in the fall

Table 84. Number of fish and mean relative weight (W_r) for each length group of black bass collected at Wood Creek Lake during 27 September 2022. Standard error is in parentheses.

Species	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Largemouth Bass	No.	W_r	No.	W_r	No.	W_r
	67	85 (1)	11	82 (2)	2	82 (4)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted Bass	No.	W_r	No.	W_r	No.	W_r
	7	93 (2)	0	-	0	-

sedyoywc.d22

Figure 1. Results of the Cedar Creek Lake angler attitude survey conducted from April 1-October 29, 2022.

CEDAR CREEK LAKE ANGLER ATTITUDE SURVEY 2022

14. Have you been surveyed this year? Yes - stop survey No – continue

15. Name _____ Zip code _____

16. Have you ever fished at Cedar Creek Lake before? (N=425) 99% Yes 1% No
If NO, go to question 12.

17. How many times do you fish Cedar Creek Lake a year? (N=406)
24% 1 to 4 27% 5 to 10 49% More than 10

18. Which species of fish do you fish for at Cedar Creek Lake (**check all that apply**)? (N=419)
89% Bass 27% Crappie 19% Bluegill 16% Redear Sunfish 7% Channel Catfish

19. Which one species do you fish for most at Cedar Creek Lake (**check only one**)? (N=419)
78% Bass 11% Crappie 8% Bluegill 1% Redear Sunfish 3% Channel Catfish

-Answer the following questions for each species you fish for – (see question 5)

Largemouth Bass Anglers

20. In general, what level of satisfaction do you have with Largemouth Bass fishing at Cedar Creek Lake? (N=367)
43% Very satisfied 43% Somewhat satisfied 5% Neutral 9% Somewhat dissatisfied 0% Very dissatisfied 0% No opinion

7a. If you responded with somewhat or very dissatisfied in question (7) – what is the single most important reason for your dissatisfaction? (N=34)
47% Number of fish 12% Size of fish 0% Not happy with regulations 32% Too many anglers 9% Other _____

Crappie Anglers

21. In general, what level of satisfaction do you have with crappie fishing at Cedar Creek Lake? (N=112)
11% Very satisfied 57% Somewhat satisfied 13% Neutral 19% Somewhat dissatisfied 0% Very dissatisfied 0% No opinion

8a. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction? (N=21)
19% Number of fish 76% Size of fish 0% Not happy with regulations 5% Too many anglers 9% Other _____

Bluegill Anglers

22. In general, what level of satisfaction do you have with Bluegill fishing Cedar Creek Lake? (N=78)
19% Very satisfied 65% Somewhat satisfied 5% Neutral 10% Somewhat dissatisfied 0% Very dissatisfied 0% No opinion

9a. If you responded with somewhat or very dissatisfied in question (9) – what is the single most important reason for your dissatisfaction? (N=8)
37% Number of fish 63% Size of fish 0% Not happy with regulations 0% Too many anglers 0% Other _____

Redear Sunfish Anglers

23. In general, what level of satisfaction do you have with Redear Sunfish fishing Cedar Creek Lake? (N=68)
12% Very satisfied 71% Somewhat satisfied 9% Neutral 9% Somewhat dissatisfied 0% Very dissatisfied 0% No opinion

10a. If you responded with somewhat or very dissatisfied in question (10) – what is the single most important reason for your dissatisfaction? (N=6)

50% Number of fish 50% Size of fish 0% Not happy with regulations 0% Too many anglers 0% Other _____

Channel Catfish Anglers

24. In general, what level of satisfaction do you have with Channel Catfish fishing at Cedar Creek Lake? (N=27)

22% Very satisfied 48% Somewhat satisfied 11% Neutral 15% Somewhat dissatisfied 4% Very dissatisfied 0% No opinion

11a. If you responded with somewhat or very dissatisfied in question (11) – what is the single most important reason for your dissatisfaction? (N=5)

80% Number of fish 20% Size of fish 0% Not happy with regulations 0% Too many anglers 0% Other _____

All Anglers

25. Are you satisfied with the current size and creel limits on all sport fish at Cedar Creek Lake? (N=422) 85% Yes 15% No

If NO:

12a. If not, which species are you dissatisfied with and what size and creel limits would you prefer?

Largemouth Bass size limit (N=44)

14% 18 in
14% 15-18 in slot
11% slot limit
9% 24 in
9% 22 in
7% 12-15 in slot
5% 15 in
5% 12-18 in slot
2% 20 in
2% 17-19 in reverse slot
2% 17 in
2% 16-19 in slot & keep 1 over 22 in
2% 15-18 in reverse slot
2% 14-17 in slot
2% 14 in
2% 13-16 in slot
2% 13 in
2% 12-16 in slot
2% 12 or 15 in
2% 12 in

Largemouth Bass creel limit (N=40)

20% 0
18% 1
20% 2
18% 3
3% 4
10% 5
5% 1 or 2
5% 3 or 4
3% 4 or 5

Crappie size limit (N=9)

22% 9 in
33% 10 in
22% 9 or 10 in
11% 12 in
11% need size limit

Crappie creel limit (N=2)

50% 30
50% raise limit

Bluegill size limit (N=1)

100% 4 in

Channel Catfish size limit (N=2)

100% 12 in

Channel Catfish creel limit (N=3)

67% 4

33% raise limit

26. During the past three years, what are your feelings regarding the amount of aquatic vegetation in Cedar Creek Lake? (N=421)

51% Too much vegetation 48% Just the right amount 1% Too little vegetation

27. Do you own a smart phone? (N=425)

96% Yes 4% No

14a. If YES, do you use it regularly as a fishing tool, such as accessing the KDFWR website for regulations or for GPS locations? (N=407)

62% Yes 38% No

EASTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

Table 1 shows sampling conditions by water body for eastern fishery district lakes in 2022.

Buckhorn Lake

Muskellunge

Diurnal electrofishing was conducted during mid-March (Tables 2-4). Only 6 fish were collected and they ranged in size from 13.3-39.7 in (Table 2), with the largest fish weighing 21.5 pounds. Relative weight (Wr) values by length group are listed in Table 3 and range from 95% to 117%. Relative weight increased with increasing fish size. An assessment rating of "Poor" was observed for the fishery primarily due to low overall catch rates (Table 4). Please note that the 2017-2019 samples were conducted during poor conditions. There is a narrow window of opportunity to conduct early spring electrofishing at Buckhorn Lake due to dynamic fluctuations in water levels and muddy lake conditions which significantly affect visibility. Sampling conditions for the 2022 sample included turbid water with reduced visibility (Table 1). A total of 327 Muskellunge (13.0 in) were stocked in 2022 which is a slight reduction from the standard 405 fish/yr. Stocking sites included the marina and Trace Fork Confluence boat ramps. These fish did not have any wire tag or fin clip for identification due to an ongoing Muskellunge research project being conducted on the Kentucky River. Future stockings should include an appropriate identification mark.

Black Bass

Spring nocturnal electrofishing was conducted in the upper and lower sections of the lake during May 2022 to assess the black bass populations. Length-frequency and catch-per-unit-effort (CPUE) of Largemouth Bass collected in each area is shown in Table 5, and the CPUE by length group over time is shown in Table 6. The overall Largemouth Bass catch rate (128.9 fish/hr; Table 5) was up slightly from 2021 (Table 6). Water levels and sampling conditions were significantly better at the time of spring sampling in 2022. Fish in the 8.0- to 11.9-in length group showed the largest increase in catch rate compared to 2021 (61.8 and 38.0 fish/hr, respectively). Catch rates for the four remaining length groups were all slightly higher than the 2021 catch rates and were within the range of observed values through time. Size structure indices were similar to previous years (PSD=34, RSD_{15} =3; Table 7) and indicative of a population skewed towards smaller individuals. The Largemouth Bass population rated "Fair" based on assessment parameters (Table 8).

Fall nocturnal electrofishing was completed for black bass to determine length frequency and year class strength. Length-frequency data shows that the highest density of fish in the fall 2022 sample ranged from 9.0 to 12.0 inches in length (Table 9). The 2022 catch rates of age-0 Largemouth Bass (97.2 fish/hr) were higher than the results of the fall 2020 and 2021 surveys (Table 10). Mean age-0 length (5.0 in) was slightly above average. Recruitment has been higher in recent years with above average CPUE observed for age-0 fish from 2016-2019 and 2022. Relative weight (Wr) values for Largemouth Bass collected during the September sample are shown in Table 11.

Other species stocked in Buckhorn Lake in 2022 include 24,600 Redear Sunfish (2.25 in) during September and approximately 5,050 Rainbow Trout (8.0-12.0 in) stocked in the tailwater during the months of April-June and October-November.

Carr Creek Lake

Black Bass

Spring nocturnal electrofishing was completed in May to assess the black bass population. The length-frequency and CPUE of Largemouth Bass collected in each area is shown in Table 12. The overall Largemouth Bass CPUE (238.8 fish/hr) was the highest it has been in the last 20 years. Fish in the 8.0- to 11.9-in length group showed the largest increase in catch rate ever documented (Table 13). The recruitment of age-1 fish has consistently remained

high since 2013 and is most likely due to the continuing expansion of hydrilla in the lake. The catch rate of Largemouth ≥15.0 in (10.4 fish/hr) remains slightly below average (Table 13). Largemouth Bass size structure indices were lower than previous years (PSD=27; RSD_{15} =7) and indicative of a population skewed toward smaller individuals (Table 14). The population assessment improved to "Good" for Largemouth in 2022 (Table 15). Age and growth data was last taken in 2019. Growth rates over the last 12 years have remained high indicating a stable population. With continued high recruitment and the increase in catch rates of 8.0- to 11.9-in fish, it is likely that growth rates will soon begin to decrease. Age and growth data will be collected again in the spring of 2024.

Nocturnal black bass electrofishing was completed in September to index Largemouth Bass year class strength (Tables 16 and 17). Catch rates of age-0 Largemouth Bass were higher in 2022 than in most previous years (Table 17). Extreme flooding in Knott County during summer 2022 caused Carr Creek Lake to reach record pool levels and remain high and muddy for an extended period through late summer. The lack of water clarity significantly suppressed hydrilla growth lake wide. As a result, fall sampling efforts were more effective and electrofishing boats were able to reach critical bank line, shallow water habitat that young-of-year Largemouth Bass typically occupy. Mean age-0 Largemouth Bass length (5.1 in) was above average. Fall YOY sampling suggests an above average Largemouth Bass year class in 2022 with good potential for overwinter survival due to the increase in mean length. Relative weight (Wr) values for Largemouth Bass collected during the September sample are shown in Table 18. Relative weight increased with increasing fish size. Largemouth Bass DNA samples for genetic analysis were collected as fin clips in October.

Walleye

Diurnal electrofishing samples were collected in the early spring for Walleye (Tables 19-21). Additionally, during this sampling effort, broodfish were collected for Minor Clark Fish Hatchery. Over multiple days sampling for broodfish, a total of 65 Walleye were sampled for a catch rate of 8.4 fish/hr. The majority of fish were in the 18.0- to 22.0-in size class (Table 19). Catch rates by age group are shown in Table 20. The majority of Walleye collected are between 2 and 5 years old. The total relative weight value was 98 (Table 21). All length groups showed an increase in Wr value over the 2021 sample. A total of 35,190 (1.6 in) Walleye were stocked in May.

In previous years, Grass Carp were stocked jointly by KDFWR and the USACE in an effort to help control hydrilla. No grass carp were stocked in 2022. A Redear Sunfish stocking program was initiated in October 2018 and stocking continued in 2019 and 2020 with 14,200 (1.2 in) fish stocked in September of each year. Due to a sudden and unexpected loss of fish at the hatchery, Redear Sunfish were not stocked in 2021. Stocking resumed in 2022 with 14,200 (2.25 in) fish stocked in September. Due to the recent establishment of zebra mussels, an annual Blue Catfish stocking program was initiated in October 2020. Stocking has continued through September 2022 with 7,100 (7.0 in) fish. In 2021, a Black Crappie stocking program was initiated with 17,790 Black Crappie (2.5 in) stocked in August. Stockings continued in 2022 with 17,780 (2.1 in) blacknose Black Crappie. Tailwater stockings included 4,000 (total) Rainbow Trout during the months of April, May, October, and November.

During 2019, zebra mussels were documented for the first time in the lake, and they became prolific in number by year end. For 2020, the zebra mussel population peaked by early summer and numbers looked to have significantly reduced by fall. As of 2021, the zebra mussel population appears to have reached carrying capacity and has stabilized. This follows several other recent invasive species introductions to Carr Creek Lake including purple loosestrife (2013), hydrilla (2008), and Alewife (2000).

Cranks Creek Lake

Black Bass

Spring diurnal electrofishing was completed in May to assess the black bass population. Due to the distance from the district office, diurnal electrofishing was utilized in an effort to increase efficiency. Two lakes (Cranks Creek and Martins Fork) were sampled in one day as well as completion of fish habitat improvement projects at both locations. Length distribution and CPUE are presented in Tables 22 and 23. The overall largemouth CPUE of 126.4 fish/hr was down slightly from recent years but within the range of observed values through time. This number may have been affected by the decision to utilize diurnal electrofishing. Largemouth Bass size structure indices were

slightly better than previous years (PSD=24; RSD_{15}=10; Table 24). The population assessment dipped to "Fair" for Largemouth Bass in 2022 (Table 25). Cranks Creek Lake receives limited tournament fishing pressure; however, it is considered a location of high angler harvest of all species. Catch rates drop off quickly once largemouth reach the 12.0-in minimum length limit. Age and growth data over time continues to show that Largemouth Bass growth at Cranks Creek Lake is slow with fish only reaching a mean length of 10.7 in by age 3 (Table 25). Largemouth Bass are the dominant black bass species and this lake continues to produce some trophy-size fish. In the spring 2021 survey, 23.0-in and 25.0-in Largemouth Bass were sampled.

Fall nocturnal electrofishing was completed in October for black bass to determine length frequency and year class strength (Tables 26 and 27). Age-0 Largemouth Bass CPUE (8.0 fish/hr) was observed to be well below average. Mean age-0 length (4.8 in) was above average. Relative weight (Wr) values for Largemouth Bass collected during the October sample are shown in Table 28. This lake's weighted regression shows that the YOY year class is often density dependent. Stocking advanced fingerlings in the fall does not always benefit the year class. Catch rates for young-of-year Largemouth Bass were low enough that the decision was made to stock fingerlings (4.4-in fish) at a rate of 15 fish/acre in October 2022. This is a clear, relatively infertile lake. Past efforts to apply fertilizer have had little to no effect due to water chemistry.

Approximately 5,000 Rainbow Trout (total) were stocked in the lake during the months of January, April, May, and October. Channel Catfish (2,640; 6.0 in) were also stocked in November. No vegetation controls were utilized in 2022; however, herbicides have been used when needed in the past, and future work may include a low-rate stocking of Grass Carp.

Dewey Lake

Black Bass

Nocturnal boat electrofishing to assess the black bass population at Dewey Lake was conducted in April (Tables 29-32). Largemouth Bass accounted for around 93% of the black bass collected during standardized spring sampling. The length-frequency and CPUE of Largemouth Bass collected in each area is shown in Table 29. The catch rate for Largemouth Bass increased to 105.2 fish/hr but remains slightly below the lake average of 143.6 fish/hr (Table 30). Largemouth Bass size structure indices (PSD = 60; RSD_{15} = 25; Table 31) were similar to previous years, offering anglers good opportunity for catching quality fish. The spring assessment for Largemouth Bass improved in 2022 to "Good" (Table 32). The most recent assessment shows that catch rate of fish ≥15.0 in is increasing. Previous assessments suggest that recruitment of spring age-1 Largemouth Bass had been decreasing. Advanced fingerling Largemouth Bass were overwintered (2021) at Minor Clark fish hatchery for stocking in the spring of 2022. Due to predatory bird loss at the hatchery, a reduced number of advanced fingerlings (3,645 total, 5.7-in fish) survived and were stocked in March.

Fall nocturnal electrofishing was completed in October for black bass to determine length frequency and year class strength (Tables 33 and 34). Mean age-0 length in the fall (5.2 in) was above the average of 4.7 in. Fall YOY sampling suggests good potential for overwinter survival due to the increase in mean length. The total CPUE of age-0 (39.2 fish/hr) and age-0 ≥ 5.0 in (22.8 fish/hr) fish was consistent with the lake average (42.6 and 18.8 fish/hr, respectively). No supplemental stocking of young-of-year fingerlings was required in the fall of 2022. Relative weight (Wr) values for Largemouth Bass collected during the September sample are shown in Table 35. Average relative weight for Largemouth Bass ≥15.0 in was good (93) and considered acceptable for length groups ranging from 8.0-11.9 and 12.0-14.9 in (89 and 90, respectively).

Crappie

Trap netting was conducted in the fall to sample White and Black crappie. Due to drought conditions statewide, the US. Army Corps. of Engineers (Huntington District) delayed drawdown of lake water levels to winter pool until the first week in December. This is a departure from the typical November 1st start date. The timing of our crappie sampling efforts is planned to coincide with the winter pool drawdown schedule. This delay in schedule caused us to sample a month later than normal and outside of normal water temperatures. As a result, our catch rates were significantly reduced. The crappie populations at Dewey Lake have been stable over time and we have no reason to

suspect that these reduced catch rates accurately reflect the actual population. As such, the data has not been included in this report. Crappie sampling efforts will resume as scheduled in the fall of 2024.
Due to a reduction in hatchery production, a total of 8,029 Blue Catfish (7.0 in) were stocked in October. The normal stocking rate would be 11,000. An additional 305 Muskellunge (12.2 in) were stocked in September. A total of 4,000 Rainbow Trout (1,000/mo; 9.5 in) were stocked in the Dewey Lake tailwater in April, May, October, and November.

Fishtrap Lake

Black Bass

Spring nocturnal electrofishing was completed in May to assess the black bass population. The length-frequency and CPUE of black bass collected in each area is shown in Table 36, and the catch-per-hour (by length group) is shown in Table 37. Overall catch rates for Largemouth Bass decreased slightly in 2022 when compared to 2021, especially for fish in the 8.0- to 11.9-in range (Table 37). PSD data showed a Largemouth Bass population skewed towards larger sizes (PSD=73, RSD_{15} =25; Table 38). The PSD and RSD_{15} values were higher than that seen in 2021. The spring assessment was once again "Fair" for Largemouth Bass (Table 39). The most recent assessments suggest that recruitment of spring age-1 Largemouth Bass is down significantly with the age-1 CPUE for 2021 and 2022 both being the two lowest recorded over the last 12 years (Table 39). Largemouth Bass advanced fingerlings were stocked in the fall of 2021 at a rate of 10 fish/acre. The spring sample for 2023 will be closely monitored to see if numbers return to normal.

Fall nocturnal electrofishing was completed in September for black bass to determine length frequency and year class strength (Tables 40 and 41). Mean age-0 Largemouth Bass length (5.4 in) in the fall was above average (5.0 in) for the third year in a row. The total CPUE of age-0 (30.0 fish/hr) and age-0 ≥5.0-in (20.8 fish/hr) fish was well below average (98.3 and 47.1 fish/hr, respectively). When fall age-0 catch data suggests the need for stocking, advanced fingerlings for Fishtrap Lake can be held over winter for stocking the following spring. Advanced fingerling Largemouth Bass will be overwintered at Minor Clark fish hatchery and stocked in the spring of 2023 if available. Relative weight (W_r) values for all black bass collected during the September sample are shown in Table 42. Largemouth Bass DNA samples for genetic analysis were collected as fin clips in September.

Due to a reduction in hatchery production, a total of 8,925 Blue Catfish (7.0 in) were stocked in the lake during October. The normal stocking rate would be 11,500. A total of 23,124 hybrid striped bass (1.5 in) were stocked in June. Rainbow Trout (6,000 total) were stocked in the tailwater in May, June, October, and November.

Fishtrap Lake is an aging reservoir with limited habitat currently available to fish populations lake wide. Reductions in recruitment as well as overall abundance of both black bass and crappie populations supports the need for fish habitat improvement projects at this lake. EFD staff began implementing improvements during the summer of 2021 with hinged, hardwood trees. These efforts were well received by both anglers and USACE personnel. Habitat improvement work continued in 2022 and will expand on a broader scale as more staff and resources become available in 2023.

Grants Branch Lake

Black Bass

Nocturnal boat electrofishing was conducted on 28 April 2022 at Grants Branch Lake to assess the black bass population. Length distribution and CPUE are presented in Tables 43 and 44. Largemouth Bass accounted for around 97% of the black bass collected during standardized spring sampling. Total catch rate for Largemouth Bass was 152.0 fish/hr. PSD and RSD_{15} values (29 and 16, respectively) suggest a Largemouth Bass population that is out of balance (Table 45). The population is skewed by an abundance of smaller bass (≤12.0 in), yet a good number of individuals of memorable size (≥20.0 in) are also present. With an RSD_{15} value of 16 and a CPUE of 6.0 fish/hr for ≥20.0-in fish, there is good opportunity for an above average angler success rate for larger fish.

Approximately 4,550 Rainbow Trout (total) were stocked in the lake during the months of January, March, and November. Channel Catfish (550; 6.0 in) were also stocked in November.

Martins Fork Lake

Black Bass

Nocturnal boat electrofishing to sample the black bass population on Martins Fork Lake was conducted on 4 May 2022. Spotted Bass made up 16% of all black bass collected during spring standardized sampling. A total of 46 Spotted Bass were collected ranging from 4.0-11.0 in (Table 46). A total of 228 Largemouth Bass were collected in 1.25 hours of spring sampling for a total CPUE of 182.4 fish/hr (Table 46). This catch rate was more than double the previous sample (2021). The most significant CPUE increase was in the <8.0-in size range suggesting high recruitment of spring age-1 fish to the population (Table 47). Size structure indices for Largemouth Bass continue to decrease over time (PSD=23, RSD_{15} =5; Table 48). Martins Fork Lake has a 12.0-in minimum size limit and offers anglers limited opportunity to catch trophy bass. Age and growth data was last collected in 2020 and growth rates of Largemouth Bass have slowly decreased with the mean length of age-3 fish only reaching 10.4 inches in 2021. The spring assessment was once again "Fair" for Largemouth Bass in 2022 (Table 49).

Fall nocturnal electrofishing was completed in October for black bass to determine length frequency and year class strength. Total fall catch rate was less than the spring with fewer fish greater than 15.0 in collected during this survey (Table 50). Mean age-0 Largemouth Bass length (5.1 in) was above average. The year class strength model indicated that 2022 was an average recruitment year for young-of-year Largemouth Bass (66.4 fish/hr) while number of age-0 fish ≥5.0 in (38.4 fish/hr) was above average (Table 51). No supplemental stocking of young-of-year fingerlings was required in the fall of 2022. The average relative weight (Wr) value for Largemouth Bass ≥15.0 in was good (96) but we would like to see increases for fish 8.0-11.9 and 12.0-14.9 in (Table 52). Like several other flood control reservoirs in the district, Martins Fork Lake is an aging reservoir that is becoming increasingly void of available fish habitat. EFD staff increased fish habitat improvement efforts here in 2022 and will continue these efforts as staff and resources allow. Black bass fin clips were sampled for DNA analysis in October.

Walleye

Native-strain Walleye have been stocked annually since 2013. While electrofishing for black bass species in May, only 8 Walleye (9.0-in) were observed (Table 46). During the fall survey for black bass species in October, two 11.0-in Walleye were collected (Table 50).

A total of 4,154 native-strain Walleye (5.4 in) were stocked in July. In addition, 6,700 Redear Sunfish (2.25 in) were stocked in September. Rainbow Trout (750 fish/mo) were stocked at the tailwater in April, May, June, October, and November.

Pan Bowl Lake

Black Bass

Diurnal electrofishing was conducted on 21 April 2022 to assess the Largemouth Bass population. The length-frequency and CPUE of Largemouth Bass is shown in Table 53 and the catch-per-hour (by length group) is shown in Table 54. Fish were sampled from approximately 4.0 to 21.0 in (Table 53). The highest density of Largemouth Bass collected were in the 8.0- to 11.9-in size range resulting in a marginal size structure (Table 54). PSD and RSD_{15} values (11 and 6, respectively) suggest a Largemouth Bass population that is out of balance (Table 55). The population is skewed by an abundance of smaller bass (8.0-11.9 in). High fishing pressure, due to the lake's location within the city of Jackson, is likely contributing to the low number of keeper fish (>12.0 in). During the 1990's to early-2000's, it was common to observe Largemouth Bass PSD values of 60-70. For 2023, a 12- to 15.0-in protective slot limit for Largemouth Bass will be instituted. This regulation will allow anglers to harvest small bass <12.0 in and hopefully help reduce the number of small fish in the population while still offering protection for larger fish up to 15.0 in.

Approximately 6,000 Rainbow Trout (total) were stocked in the lake during the months of March and October. Channel Catfish (1,865; 6.0 in) were also stocked in November.

Paintsville Lake

Black Bass

Spring nocturnal electrofishing studies were conducted in the upper and lower sections of the lake in May to assess the black bass population. Length-frequency and CPUE results from each area are shown in Table 56, and the catch-per-hour (by length group) over time is shown in Table 57. Overall catch rates for Largemouth Bass increased across all length groups in 2022 when compared to 2021. For the second year in a row, there has been an increase in catch rate of fish 12.0-14.9 in with the 2022 catch rate being the highest recorded since 2005 (Table 57). Largemouth Bass at Paintsville Lake continue to exhibit marginal size structure but with a slight improvement over previous years. The population is skewed toward smaller fish while having a few large fish present (PSD=38, RSD_{15} =10; Table 58). The most recent assessments (Table 59) suggest that recruitment of spring age-1 Largemouth Bass is beginning to slow down with a smaller catch rate over the past two springs (24.0 fish/hr in 2021; 21.6 fish/hr in 2022). The Largemouth Bass population assessment improved to "Good" for 2022 based on assessment parameters. The higher catch rates of fish ranging from 12.0-14.9 in and fish ≥20.0 in contributed to the improved assessment.

Fall nocturnal electrofishing was completed in October for black bass and specifically to determine length frequency and year class strength of Largemouth Bass (Tables 60 and 61). Mean age-0 Largemouth Bass length (4.9 in) was average. The year class strength model indicated that recruitment of young-of-year Largemouth for 2022 was above average (106.0 fish/hr). Numbers of age-0 fish ≥5.0 in (52.0 fish/hr) were also above average (Table 61). No supplemental stocking of young-of-year fingerlings was required in the fall of 2022. Average relative weight (Wr) for bass ≥15.0 in was good (98) but we would like to see increases for fish 8.0-11.9 and 12.0-14.9 in (Table 62). The 12.0- to 15.0-in slot length limit for Largemouth Bass was replaced with a minimum length limit of 12.0 in beginning 1 March 2019. The slot length regulation was in effect for 17 years (2002-2018). Bass angler acceptance of the new regulation has been largely positive. Largemouth Bass DNA samples for genetic analysis were collected as fin clips in October.

Paintsville Lake is an aging reservoir with limited habitat currently available to fish populations lake wide. Angler requests for lake enhancements support the need for fish habitat improvement projects at this location. EFD staff began implementing improvements during the summer of 2022 in a cooperative effort with a local group of anglers. A total of 59 pallet/tree structures and 10 experimental "Shelbyville Cube" PVC structures were added to lower, middle, and upper sections of the lake. The cooperative effort of habitat improvement is planned to continue for 2023.

Walleye broodfish collection was conducted in March; no females were collected.

The lake received a stocking of 10,000 Rainbow Trout (9.7 in) during February and 10,000 Brown Trout (8.1 in) in April. In addition, 57,058 Walleye (1.3 in) were stocked in May as well as 28,780 surplus blacknose Black Crappie in July.

The tailwater trout fishery received approximately 14,000 Rainbow Trout from April to July and September to November. Due to an increase in temperature in the tailwater, the Brown Trout stocking was permanently removed beginning in 2020.

Yatesville Lake

Black Bass

Spring nocturnal electrofishing studies were conducted in the upper and lower sections of the lake during April 2022 to assess the Black Bass populations at Yatesville Lake. Length distribution and CPUE are presented in Tables 63

and 64. The overall largemouth CPUE of 170.3 fish/hr was well above catch rates collected in the spring of 2021 and above the lake's historical average of 137.5 fish/hr. Catch rates were higher for all length groups of Largemouth Bass. Bass size structure indices were consistent with previous years and are within acceptable ranges (PSD=44; RSD_{15} =19; Table 65). The population assessment climbed to "Excellent" for Largemouth Bass in 2022 (Table 66). Above average catch rates for the 12.0-14.9 and ≥15.0-in size groups made the most significant contributions to the improved assessment rating. Recruitment of spring age-1 Largemouth Bass remains above average. Due to heavy angling pressure via tournaments from spring into fall, the population is monitored closely.

Fall nocturnal electrofishing was completed in September to determine year class strength of Largemouth Bass and to record length frequency data for all black bass species (Table 67 and 68). Largemouth Bass made up nearly all of the fall sample (99.5%). Total fall catch rate was slightly less than the spring with significantly fewer fish greater than 15.0 in collected during this survey as compared to the spring survey (Table 67). Age-0 overall CPUE (51.7 fish/hr) and age-0 ≥ 5.0-in CPUE (18.7 fish/hr) suggests that the 2022 year class was slightly below average (60.5 fish/hr and 32.0 fish/hr, respectively; Table 68). These values have been very consistent for the past three fall survey periods indicating stable reproductive success. No supplemental stocking of young-of-year fingerlings was required in the fall of 2022. Relative weight (Wr) values for Largemouth Bass collected during the September sample are shown in Table 69. Average relative weight for Largemouth Bass ≥15.0 in was very good (99). Largemouth Bass DNA samples for genetic analysis were collected as fin clips in September.

Crappie

Trap netting was conducted in the fall to sample White and Black crappie. Due to drought conditions statewide, the US. Army Corps. of Engineers (Huntington District) delayed drawdown of lake water levels to winter pool until the first week in December. This is a departure from the typical November 1st start date. The timing of our crappie sampling efforts is planned to coincide with the winter pool drawdown schedule. This delay in schedule caused us to sample a month later than normal and outside of normal water temperatures. As a result, our catch rates were significantly reduced. The most recent crappie population assessments on Yatesville Lake (2018 and 2020) scored a rating of "Excellent" both years. The crappie population here shows high catch rates of age-0 and age-1 fish indicating strong natural reproduction. We have no reason to suspect that the reduced catch rates for 2022 accurately reflect the actual population. As such, the data has not been included in this report. Crappie sampling efforts will resume as scheduled in the fall of 2024.

A total of 22,800 (7.0-in) Blue Catfish were stocked in the lake in October. Rainbow Trout were stocked in the tailwater of Yatesville Lake in April-May and October-November (750 fish each month).

Table 1. Summary of 2022 sampling conditions by waterbody, species sampled, and date.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water Temp (ºF)	Water level (elev ft)	Secchi (in)	Pertinent sampling comments[a,b]
Buckhorn Lake	Muskie	22-Mar	1100	shock	pt. cloudy	57.2	758.5	18	outflow : 379cfs; bp: 30.12; cond: 314; 1 boat; low er lake
Buckhorn Lake	LMB	19-May	2000	shock	cloudy	76.8	782.2	109	outflow : 311 cfs; bp: 29.77; cond: 274; 2 boats
Buckhorn Lake	LMB	22-Sep	2000	shock	pt. cloudy	77.7	781.7	84	outflow : 106cfs; bp: 29.95; 2 boats; YOY, Wr
Carr Creek Lake	Walleye	8-Mar	1000	shock	cloudy	50.1	1017.5	46	broodfish collection; cond: 350; 2 boats; w hole lake; w ater muddy
Carr Creek Lake	Walleye	15-Mar	1000	shock	cloudy	50.1	1018.3	72	broodfish collection; outflow : 175cfs; bp: 30.33; cond: 388; 2 boats; w hole lake; w ater clear
Carr Creek Lake	LMB	12-May	2000	shock	clear	77.7	1028.2	30	outflow : 67cfs; bp: 30.04; cond: 402; 2 boats; w ater clear
Carr Creek Lake	LMB	19-Sep	2000	shock	clear	77.0	1028.0	97	outflow :155cfs; cond: 508;2 boats; w ater clear; YOY, Wr
Carr Creek Lake	LMB	25-Oct	1000	shock	pt. cloudy	64.7	1026.3	34	outflow 44cfs; bp: 30.0; 1 Boat; DNA collection
Cranks Creek Lake	LMB	4-May	1600	shock	pt.cloudy	73.4	normal	31	bp:30.04; cond: 245; 1 boat; w hole lake; w ater turbid
Cranks Creek Lake	LMB	5-Oct	2000	shock	Clear/cool	64.3	normal	78	bp: 30.07; cond: 242; 1 boat; w hole lake; w ater clear; YOY, Wr, DNA collection
Dew ey Lake	LMB	18-Apr	2000	shock	cloudy/lt.rain	58.4	650.5	104	outflow : 13.4cfs; bp: 30.01; cond: 412; 2 boats; w hole lake; w ater clear and w indy
Dew ey Lake	LMB	3-Oct	2000	shock	clear/lt. w ind	68.0	650.4	60	outflow : 85.2; bp: 30.17; 2 boats; cond: 437; YOY, Wr; lake turning over
Dew ey Lake	Crappie	12/5-12/7	1000	trap net	cloudy	44.0	649.5	41	outflow : variable 264-152.1cfs; bp: 30.01; 10 nets; upper lake; w ater clear; crappie A&G
Fish Pond	LMB	25-Oct	1000	shock	pt.cloudy	58.6	1' low	190	bp: 30.00; cond: 581; 1 boat; w hole lake; w ater clear; DNA collection; Wr
FishTrap	LMB	17-May	2000	shock	pt.cloudy	76.4	757.6	102	outflow : 319.5 bp: 29.95; cond 571; 2 boats; w ater clear
FishTrap	LMB	26-Sep	2000	shock	w indy pt.cloudy	73.5	757.6	49	outflow : 101.0cfs; bp: 29.86; cond: 619; 2bBoats; DNA collection, YOY, Wr; Water clear
Grants Branch Parl	LMB	28-Apr	2000	shock	pt.cloudy	63.5	normal	60	bp: 30.17; boats; w hole lake; cond.96; w ater-clay colored
HighSplint	LMB	24-Oct	1000	shock	clear	60.8	low 1.0	142	cond: 367; 1 boat; w hole lake; w ater clear; DNA collection, Wr
Martins Fk Lake	LMB	4-May	2000	shock	clear	72.1	1309.8	77	bp: 30.04; cond: 174; 1 boat; w hole lake; w ater clear
Martins Fk Lake	LMB	5-Oct	2000	shock	clear	67.2	1309.1	53	outflow : minimum; bp: 30.07; 1 boat; cond: 194; w ater; clear; DNA collection, YOY, Wr
N.Fork Ky River	w alleye	16-Feb	1000	shock	clear/w indy	40.6		38	broodfish collection; flow : 710cfs; bp: 30.01; 1 boat; 1 dipper; w ater clear
Paintsville Lake	w alleye	11-Mar	1000	shock	clear	51.0	709.4	34	broodfish collection; outflow : 677.3cfs; bp: 33.03; cond: 115; 1 boat; w ater turbid
Paintsville Lake	w alleye	16-Mar	1000	shock	cloudy	48.5	709.5	42	outflow : 529.3cfs; bp: 30.15; cond: 113; 1 boat; broodfish collection
Paintsville Lake	LMB	2-May	2000	shock	pt.cloudy	69.6	709.9	89	outflow : 218cfs; bp: 30.0; cond: 87; 2 boats; w ater clear
Paintsville Lake	LMB	11-Oct	2000	shock	clear	65.3	708.4	68	outflow : 17.9cfs; bp: 30.19; cond: 132; 2 boats; w ater clear; DNA collection, YOY, Wr
Pan Bow l	LMB	21-Apr	1000	shock	cloudy/lt.rain	59.7	normal	110	cond: 194; bp: 30.3 ; 1 boat; 7.5min runs; w ater clear
Yatesville Lake	LMB	27-Apr	2000	shock	pt. cloudy	66.3	630.3	64	bp: 30.19; cond: 157; 2 boats; w ater clear
Yatesville Lake	LMB	29-Sep	2000	shock	clear	71.1	629.9	42	outflow : 30cfs; bp: 30.24; cond: 184; 2 boats; lake turning over; YOY, Wr, DNA collection
Yatesville Lake	Crappie	11/28-11/30	1000	trap net	cloudy	46.0	629.8	28	outflow : 33.7cfs; bp: 30.0; upper-middle lake; w ater clear; crappie A&G

[a] cond = conductivity in µS/cm

[b] bp = barometric pressure in inches

L= lower lake

U= upper lake

Table 2. Length frequency and electrofishing CPUE (fish/hr) of Muskellunge collected during spring sampling on Buckhorn Lake from 1998-2022. Results from 2002 are from fall electrofishing.

	Inch class																																							
Year	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	Total	CPUE	SE
2022				4																							1			1									6	2.7	1.0
2021																				no sample																					
2020			2	7	3	2													1			1			1			2			1								20	11.4	4.6
2019				1								1	1									1	1			1	2												8	3.6	2.2
2018		1	1			3				1				1		1						2		1		1	2												14	3.1	0.9
2017		3	7	1							1				1	1				2	2	1	1						2										22	6.8	1.1
2016				2	2	4						2	1	2			1						1	1		1	1		1	1					1				21	7.0	3.3
2015																				no sample																					
2014		1	2	1	6	2						1	2	1	4								1		1				1		1		2						26	7.4	1.9
2013			3	6	3							1											1	1			1												16	4.3	0.9
2012		1		1	8	20	2					1	2	1	6	1	1					1		2		1	3	2	2	1			1						57	13.4	1.8
2011			4	5	17	14	3					2		3	3	1				1		3	1	3		3	2	1	1		1			1					69	12.6	2.7
2010			1	4	13	18			1	1	1	1		6	6	10	6	1		2	3	2	1	3	2	1	2	1	4	3	1	1					1		96	12.9	1.6
2009	1			2	4	11	12	6					1		1	3	2	3	1	1		1	1	4	3	3	3		1		2				1		1		68	17.6	3.4
2008				2	6	10	6	1						1	1	3				1		1	5	2			1				1			1			1		43	8.3	1.6
2007					1	1	2	1					2	3	6	2		1			1		2		1	2		1	2		1	1				1		1	32	13.7	4.5
2006			1	8	10	6								1	2	3						1	1		1	3	2	1	1	1	1	1	1						45	14.2	2.2
2005					4	5	2					1		2	2							1			1			2	1	1	3		1				1		27	6.3	1.7
2004			2	9	23	16	2				1		6	7	19	9				3	5	6	6	6	4	5	7	5	8	3	1	1					1		155	16.7	2.1
2003	1		5	2	1	1									2	1	1		1	1	2	1	1				1									1			22	7.1	1.9
2002							1							2	1						3	1		1			2				1								12	6.0	0.8
2001					4	1	1				1			1									1		1	1		1									1		13	3.2	0.7
2000		1	3	2	3	1								4				1	2		7	1		1	1			2	1				1						31	8.2	0.5
1999		1	1	2	3	3	1			1	3	6	6	11	4	4	3				3	2	1		2	1		1											59	10.9	4.4
1998	1	1	2	7	4	1	1				1	4	3	1	1	1						1		1	1			1	1										33	6.6	2.9

EFDBLMSS.D98-D10, D12, D14, D16-D20, D22

LFRBHLSP.D11, D13

Table 3. Number of fish and mean relative weight (W_r) for each length group of Muskellunge collected at Buckhorn Lake (710 acres) from spring electrofishing. Standard errors are in parentheses.

	Length group									
	≤19.9 in		20.0-29.9 in		30.0-37.9 in		≥38.0 in		Total	
Year	No.	W_r	No.	W_r	No.	W_r	No.	W_r	No.	W_r
2022	4	95 (4)	0	0 (0)	0	0 (0)	1	117 (0)	5	100 (5)
2021					no sample					
2020	14	82 (1)	1	92 (<1)	4	93 (2)	1	102 (<1)	20	86 (2)
2019	1	72 (<1)	2	91 (1)	0		5	92 (3)	8	89 (3)
2018	4	83 (4)	2	91 (4)	6	95 (3)	0		12	90 (3)
2017	0		5	81 (5)	4	84 (1)	2	98 (2)	11	85 (3)
2016	4	78 (5)	6	87 (2)	4	91 (3)	3	96 (2)	17	87 (2)
2014	2	79 (1)	8	95 (2)	2	93 (4)	3	92 (1)	15	92 (2)
2013	0		1	73 (<1)	3	96 (2)	0		4	90 (6)
2012	22	82 (1)	12	91 (3)	8	96 (3)	4	92 (1)	46	88 (1)
2011	11	79 (1)	10	85 (2)	13	92 (2)	3	92 (4)	37	87 (1)
2010	20	79 (1)	33	94 (1)	15	96 (1)	10	97 (4)	78	91 (1)
2009	29	78 (1)	12	96 (4)	15	94 (3)	5	90 (4)	61	86 (2)
2008	16	83 (2)	6	98 (3)	9	96 (2)	3	97 (1)	34	90 (2)
2007	4	87 (2)	14	95 (2)	7	100 (2)	6	91 (5)	31	94 (1)
2006	6	90 (1)	6	106 (2)	9	94 (2)	5	93 (<1)	26	95 (2)
2005	7	75 (5)	5	93 (4)	4	94 (2)	7	93 (2)	23	87 (3)
2004	10	58 (3)	15	69 (5)	19	78 (5)	4	98 (4)	48	73 (3)
2003	1	73 (<1)	6	88 (3)	5	98 (2)	1	73 (<1)	13	89 (3)

EFDBLMSS.D03-D20, D-22

Table 4. Population assessment for Muskellunge from Buckhorn Lake (1,230 acres) captured during spring electrofishing from 2009-2022. Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2009	2010	2011	2012	2013	2014	2016	2017	2018	2019	2020	2022
CPUE age 1	4	3	4	4	2	2	2	2	1	1	4	1
	(9.3)	(5.1)	(7.8)	(7.5)	(3.2)	(3.4)	(2.7)	(3.4)	(1.1)	(0.5)	(8.0)	(1.8)
CPUE ≥20.0 in	4	4	2	3	1	2	2	1	1	1	1	1
	(7.7)	(7.8)	(4.7)	(5.9)	(1.1)	(4.0)	(4.3)	(3.4)	(1.8)	(3.1)	(3.4)	(0.9)
CPUE ≥30.0 in	4	3	2	2	1	1	2	1	1	2	2	1
	(4.7)	(3.4)	(2.9)	(3.1)	(0.8)	(1.7)	(2.3)	(1.9)	(1.3)	(2.2)	(2.9)	(0.9)
CPUE ≥36.0 in	3	3	2	4	1	2	3	1	1	2	3	2
	(1.8)	(1.7)	(1.1)	(2.1)	(0.3)	(1.1)	(1.3)	(0.6)	(0.4)	(0.9)	(1.7)	(0.9)
CPUE ≥40.0 in	4	3	3	2	1	4	2	1	1	1	3	1
	(1.0)	(0.4)	(0.4)	(0.2)	(0.0)	(0.9)	(0.3)	(0.0)	(0.0)	(0.0)	(0.6)	(0.0)
Total score	19	16	13	15	6	11	11	6	5	7	13	6
Assessment	Exc	Good	Good	Good	Poor	Fair	Fair	Poor	Poor	Poor	Good	Poor

EFDBLMSS.D09-D14, D16-D20, D21
LFRBHLSP.D11, D13

Table 5. Length frequency and CPUE (fish/hr) of black bass collected in approximately 2.25 hours of 15-minute nocturnal electrofishing samples at Buckhorn Lake (1,230 acres) on 19 May 2022.

		Inch class															
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	20	Total	CPUE	SE
Lower	Largemouth Bass	1	6	9	5	10	17	12	15	18	10	4	3		110	110.0	11.4
Upper	Largemouth Bass	7	27	19	6	7	16	22	40	18	10	5	2	1	180	144.0	23.9
Total	Largemouth Bass	8	33	28	11	17	33	34	55	36	20	9	5	1	290	128.9	14.7

EFDBLLSS.D22

Table 6. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Buckhorn Lake (1,230 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	35.6	7.6	61.8	6.3	28.9	5.2	2.7	0.9	0.4	0.4	128.9	14.7
2021	32.5	12.5	38.0	7.0	22.5	5.1	2.0	1.1	0.0	0.0	95.0	15.2
2020	no sample											
2019	40.0	11.6	56.0	4.3	26.7	3.8	5.3	0.8	2.0	0.9	128.0	16.6
2018	46.4	7.0	59.2	6.4	28.4	4.0	2.8	1.3	0.4	0.4	136.8	11.3
2017	91.3	19.9	40.0	4.3	34.7	7.1	8.7	2.4	0.7	0.7	174.7	19.7
2016	no sample											
2015	56.4	6.0	29.8	5.2	27.1	5.3	3.6	1.2	0.9	0.6	116.9	9.1
2014	9.3	3.4	25.3	6.3	6.0	1.7	2.7	1.3	0.0		43.3	9.9
2013	no sample											
2012	32.5	6.3	26.5	5.3	7.5	0.9	3.5	1.2	0.5	0.5	70.0	8.3
2011	no sample											
2010	21.2	4.5	31.8	6.6	18.3	3.7	10.7	2.6	0.4	0.4	82.0	11.7
2009	41.2	3.5	32.0	7.7	17.2	4.8	14.5	3.0	0.0		104.8	13.2
2008	14.8	5.5	27.0	7.2	21.4	3.3	13.8	1.8	0.0		77.0	12.0
2007	14.5	4.3	26.0	2.7	20.5	3.3	14.0	2.4	0.5	0.5	75.0	6.0
2006	14.2	2.2	35.2	4.6	40.5	5.1	15.2	3.4	0.3	0.3	105.1	11.0
2005	17.0	3.5	45.0	5.1	38.3	5.5	8.3	1.2	0.3	0.3	108.7	7.9
2004	38.0	6.2	51.7	6.5	29.3	4.2	4.3	1.2	0.0		123.3	11.6
2003	22.7	3.5	18.7	2.3	28.3	3.8	6.3	1.2	0.0		76.0	6.9

EFDBLLSS.D03-D22

Table 7. PSD and RSD_{15} values for Largemouth Bass in each area of Buckhorn Lake (1,230 acres) on 19 May 2022. Numbers in parentheses are 95% confidence intervals.

Area	Species	≥ Stock size	PSD	RSD_{15}
Lower	Largemouth Bass	89	39	0
			(29-50)	(3-7)
Upper	Largemouth Bass	121	30	3
			(22-38)	(0-5)
Total	Largemouth Bass	210	34	3
			(27-40)	(1-5)

EFDBLLSS.D22

Table 8. Population assessment for Largemouth Bass collected during spring at Buckhorn Lake (1,230 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year										
Parameter	2008	2009	2010	2012	2014	2015	2017	2018	2019	2021	2021
Mean length age 3 at capture	3 (12.6)	3 (13.3)	3 (13.3)	3 (13.3)	2 (12.1)	2 (12.1)	2 (12.1)	2 (12.1)	2 (12.1)	2 (11.7)	2 (11.7)
Spring CPUE age 1	1 (11.2)	4 (43.8)	3 (26.1)	3 (36.1)	1 (8.7)	4 (56.0)	4 (90.7)	4 (48.4)	4 (48.7)	3 (37.5)	4 (44.9)
Spring CPUE 12.0-14.9 in	2 (21.4)	2 (17.2)	2 (18.3)	1 (7.5)	1 (6.0)	3 (27.1)	4 (34.7)	3 (28.4)	3 (26.7)	2 (22.5)	3 (28.9)
Spring CPUE ≥15.0 in	3 (13.8)	3 (14.5)	2 (10.7)	1 (3.5)	1 (2.7)	1 (3.6)	2 (8.7)	1 (2.8)	1 (5.3)	1 (2.0)	1 (2.7)
Spring CPUE ≥20.0 in	1 (0.0)	1 (0.0)	2 (0.4)	2 (0.5)	1 (0.0)	3 (0.9)	3 (0.7)	2 (0.4)	4 (2.0)	1 (0.0)	2 (0.4)
Total score	10	13	12	10	6	13	15	12	14	9	12
Assessment rating	Fair	Good	Fair	Fair	Poor	Good	Good	Fair	Good	Fair	Fair
Instantaneous mortality (z)	0.42	0.64	0.73	0.77							
Annual mortality (A)	34.20	47.40	51.80	54.90							

EFDBLLSS.D06-D10, D12, D14-D19, D21-D22
EFDBLLAS.D04, D09
EFDBLLAF.D20

Table 9. Length frequency and CPUE (fish/hr) of black bass collected in approximately 2.50 hours of 15-minute electrofishing samples at Buckhorn Lake (1,230 acres) on 22 September 2022.

		Inch class															
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	SE
Lower	Largemouth bass	8	26	29	7	2	10	8	8	10	9	4	1	1	123	98.4	16.4
Upper	Largemouth bass	23	66	58	26	1	5	22	19	12	18	6	2	2	260	208.0	39.9
Total	Largemouth bass	31	92	87	33	3	15	30	27	22	27	10	3	3	383	153.2	27.3

EFDBLLSF.D22

Table 10. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected by electrofishing at Buckhorn Lake (1,230 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	5.0	0.1	97.2	24.3	48.0	11.1		
2021	4.9	0.1	58.8	9.3	26.4	3.6	44.9	7.6
2020	4.8	0.1	50.9	6.2	22.9	2.6	37.5	12.2
2019	4.4	0.1	119.3	14.6	28.7	6.0	no spring sample	
2018	4.7	0.1	114.5	29.8	44.5	9.1	48.7	12.2
2017	4.6	0.1	161.6	20.1	49.6	9.4	48.4	7.9
2016	5.0	<0.1	169.7	44.0	85.7	23.9	90.7	20.0
2015	4.2	0.1	80.0	15.9	17.6	2.0	no spring sample	
2014	4.4	0.1	86.5	24.9	26.5	8.6	56.0	6.0
2013	4.1	0.1	68.8	10.8	16.8	4.3	8.7	3.5
2012	5.0	0.2	39.0	9.6	21.0	7.2	no spring sample	
2011	4.5	0.1	126.7	26.7	42.0	10.0	36.1	6.5
2010	4.3	0.1	67.0	5.0	22.5	5.8	no spring sample	
2009			no fall sample				26.1	5.2
2008	4.9	0.1	21.4	3.7	9.9	2.3	43.8	3.5
2007	4.5	0.2	18.8	6.4	9.6	3.4	11.2	3.8
2006	4.2	0.2	17.6	4.1	5.3	1.9	13.0	3.7
2005	4.0	0.2	44.7	6.6	10.0	3.5	11.2	2.1
2004	3.6	<0.1	176.7	34.0	9.3	4.6	16.3	3.5
2003	4.7	0.5	106.0	13.8	39.7	4.6	35.5	5.4
2002	4.5	0.1	99.3	7.4	38.7	2.6	19.2	3.3

EFDBLLSF.D02-D08, D10-
EFDBLLAS.D04, D09
EFDBLLAF.D20
EFDBLLSS.D02-D22

Table 11. Number of fish and mean relative weight (W_r) for length groups of Largemouth and Spotted bass collected at Buckhorn Lake during September 2022. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lower	36	86 (1)	14	90 (2)	1	89 (1)
	Upper	47	92 (4)	23	89 (2)	2	79 (24)
	Total	83	89 (2)	37	89 (1)	3	82 (14)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	W_r	No.	W_r	No.	W_r
Spotted Bass	Lower	0	0 (0)	0	0 (0)	0	0 (0)
	Upper	1	87 (1)	0	0 (0)	0	0 (0)
	Total	1	87 (1)	0	0 (0)	0	0 (0)

EFDBLLSF.D22

Table 12. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples at Carr Creek Lake (710 acres) on 12 May 2022.

		Inch class																		
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	Total	CPUE	SE
Lower	Smallmouth Bass			2															2	1.6	1.0
	Spotted Bass		2	2	1	1	1		1										8	6.4	2.0
	Largemouth Bass	3	27	31	29	33	26	22	12	13	6	3	8	1	4	1	1		220	176.0	43.2
Upper	Smallmouth Bass																		0	0.0	0.0
	Spotted Bass	2		2		1	3												8	6.4	2.0
	Largemouth Bass	8	46	73	28	66	50	25	23	25	16	6	8	2				1	377	301.6	32.2
Total	Smallmouth Bass			2															2	0.8	0.5
	Spotted Bass	2	2	4	1	2	4		1										16	6.4	1.4
	Largemouth Bass	11	73	104	57	99	76	47	35	38	22	9	16	3	4	1	1	1	597	238.8	32.7

EFDCLLSS.D22

Table 13. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Carr Creek Lake (710 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	98.0	17.1	102.8	15.0	27.6	5.4	10.4	2.1	0.4	0.4	238.8	32.7
2021	69.5	9.4	28.5	4.7	11.0	3.0	9.0	2.6	0.0	0.0	118.0	118.0
2020	no sample											
2019	59.5	20.6	48.5	9.5	22.5	3.2	16.5	2.9	1.0	0.7	147.0	29.2
2018	107.0	13.8	41.0	10.5	11.0	2.1	19.0	5.3	0.5	0.5	178.0	20.0
2017	28.5	6.6	25.5	7.1	12.5	3.3	17.0	3.1	0.5	0.5	83.5	12.6
2016	30.0	7.6	40.0	11.9	10.7	3.0	15.3	3.6			96.0	16.8
2015	69.5	23.2	18.5	4.1	15.5	3.7	22.0	6.1	1.0	0.7	125.5	28.5
2014	115.0	23.6	48.0	7.8	25.0	4.3	18.5	3.5	1.0	0.7	206.5	18.1
2013	113.3	51.4	20.0	4.5	16.0	3.7	16.7	2.2	2.7	1.3	166.0	53.2
2012	15.0	3.1	21.5	3.5	9.0	1.5	13.5	3.5	1.5	0.7	59.0	8.4
2011	11.0	4.4	10.5	2.6	5.5	1.3	16.0	4.5	1.0	1.0	43.0	9.8
2010	13.8	3.2	10.8	2.6	10.8	2.1	12.6	3.5	0.9	0.6	47.9	4.8
2009	5.1	0.7	10.3	2.6	17.1	3.0	16.0	3.4	0.6	0.6	48.6	6.1
2008	3.0	1.3	16.4	2.6	24.7	5.4	23.7	3.3	0.5	0.5	67.8	8.4
2007	8.0	1.9	20.8	4.7	18.6	3.4	15.7	3.6	0.5	0.5	63.0	5.5
2006	22.3	7.0	30.9	4.8	27.9	3.3	29.9	3.1	0.7	0.5	111.0	10.2
2005	20.0	2.7	19.8	1.6	24.8	2.4	14.0	1.8	0.3	0.3	78.6	4.9
2004	135.0	17.7	24.4	5.3	8.4	1.4	9.0	1.2	0.2	0.2	176.9	18.8
2003	67.6	11.3	15.9	2.2	11.1	1.5	10.7	1.5	0.4	0.3	105.2	14.4
2002	116.3	14.2	16.9	1.7	12.3	1.6	7.1	1.2			152.7	13.3

BBRPSCFL.D02-D05
EFDCLLSS.D02-D22

Table 14. PSD and RSD values for each species of black bass collected in each area of Carr Creek Lake (710 acres) on 12 May 2022. Numbers in parentheses are 95% confidence intervals.

	Smallmouth bass			Spotted bass			Largemouth bass		
Area	≥ Stock size	PSD	RSD_{14}	≥ Stock size	PSD	RSD_{14}	≥ Stock size	PSD	RSD_{15}
Lower	0			4	25 (0-74)		130	28 (21-30)	12 (6-17)
Upper	0			0			222	26 (20-32)	5 (2-8)
Total	0			4	13 (0-37)		352	27 (22-32)	7 (5-10)

EFDCLLSS.D22

Table 15. Population assessment for Largemouth Bass collected from Carr Creek Lake (710 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2021	2022
Mean length age 3 at capture	4 (12.6)	4 (12.6)	4 (12.6)	4 (13.5)	4 (13.5)	4 (13.5)	4 (13.5)	4 (13.5)	4 (13.5)	4 (13.1)	4 (13.1)	4 (13.1)
Spring CPUE age 1	2 (10.0)	2 (9.0)	2 (13.9)	4 (114.7)	4 (116.0)	4 (71.0)	3 (35.3)	3 (31.0)	4 (111.5)	4 (64.0)	4 (71.0)	4 (106.4)
Spring CPUE 12.0-14.9 in	1 (10.8)	1 (5.5)	1 (9.0)	2 (16.0)	2 (25.0)	2 (15.5)	1 (10.7)	1 (12.5)	1 (11.0)	2 (22.5)	1 (11.0)	3 (27.6)
Spring CPUE ≥15.0 in	2 (12.6)	3 (16.0)	3 (13.5)	3 (16.7)	3 (18.5)	3 (18.5)	3 (15.3)	3 (17.0)	3 (19.0)	3 (16.5)	2 (9.0)	2 (10.4)
Spring CPUE ≥20.0 in	2 (0.9)	2 (1.0)	2 (1.5)	3 (2.7)	2 (1.0)	2 (1.0)	1 (0.0)	2 (0.5)	2 (0.5)	2 (1.0)	1 (0.0)	2 (0.4)
Total score	11	12	12	16	15	15	12	13	14	15	12	15
Assessment rating	Fair	Fair	Fair	Good	Good	Good	Fair	Good	Good	Good	Fair	Good
Instantaneous mortality (z)	0.34	0.27	0.44									
Annual mortality (A)	29.10	23.80	35.80									

BBRPSCFL.D05
EFDCLLSS.D08-D19, D21-D22
EFDCLLAS.D08
EFDCLLAF.D13, D19

Table 16. Length frequency and CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples at Carr Creek Lake (710 acres) on 19 September 2022.

		Inch class																			
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20	Total	CPUE	SE
Lower	Smallmouth Bass										1								1	0.8	0.8
	Spotted Bass	1	2	1	1	3	7	4	6	2	1								28	22.4	8.6
	Largemouth Bass	1	7	30	5	11	56	44	24	7	5	5	2	4	1		1		203	162.4	25.9
Upper	Smallmouth Bass																		0	0.0	0.0
	Spotted Bass	2	1		7	10	5	3	6	3									37	29.6	5.7
	Largemouth Bass	3	34	35	12	37	100	47	38	18	16	3	3	3		1	1	2	353	282.4	62.3
Total	Smallmouth Bass										1								1	0.4	<0.1
	Spotted Bass	3	3	1	8	13	12	7	12	5	1								65	26.0	5.0
	Largemouth Bass	4	41	65	17	48	156	91	62	25	21	8	5	7	1	1	2	2	556	222.4	37.6

EFDCLLSF.D22

Table 17. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected by electrofishing at Carr Creek Lake (710 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	5.1	0.1	44.5	10.1	26.5	5.8		
2021	5.5	0.1	19.6	5.4	16.4	4.9	106.4	18.5
2020	4.8	0.1	50.9	6.2	22.9	2.6	71.0	9.8
2019	5.2	0.3	6.7	2.0	4.0	1.6	no sample	
2018	5.4	0.1	18.7	5.4	12.7	4.2	64.0*	21.2
2017	3.9	0.2	19.3	5.8	4.7	1.9	111.5*	13.9
2016	4.6	0.1	32.0	7.9	10.4	3.0	31.0	6.4
2015	4.7	0.2	45.3	9.6	16.0	6.1	35.3	8.0
2014	4.4	0.3	13.3	4.2	5.3	1.7	71.0*	23.2
2013	4.4	0.2	14.0	4.6	4.8	1.8	116.0*	23.8
2012	4.3	0.2	34.5	10.9	11.5	4.0	114.7*	51.8
2011	4.6	0.1	17.6	5.7	7.2	3.0	13.2	2.6
2010	4.6	0.2	13.5	4.4	5.0	1.7	9.0	3.1
2009	3.6	0.3	12.5	2.8	3.5	1.6	10.0	2.5
2008	4.3	0.2	15.2	6.6	3.8	1.7	3.1	0.8
2007	3.7	0.5	5.0	2.2	1.0	0.7	2.4	1.2
2006	4.2	0.2	11.0	4.1	3.0	1.0	7.6	2.0
2005	4.7	0.1	15.8	6.7	5.6	1.7	21.3	6.7
2004	5.2	<0.1	132.0	17.3	88.2	12.7	18.8	2.6
2003	4.4	0.1	14.0	5.4	5.8	2.3	133.8*	17.5

* Includes supplemental spring stocked fish

BBRWRCFL.D03-D05

BBRSCCFL.D03

EFDCLLSF.D03-D21

EFDCLLAS.D08

EFDCLLSS.D03-D19, D21-22

EFDCLLAF.D13, D19

Table 18. Number of fish and mean relative weight (W_r) for length groups of black bass collected at Carr Creek Lake during September 2022. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lower	98	84 (1)	12	83 (1)	6	95 (4)
	Upper	82	85 (1)	22	83 (1)	7	95 (3)
	Total	180	84 (1)	34	83 (1)	13	95 (2)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	W_r	No.	W_r	No.	W_r
Spotted Bass	Lower	20	88 (2)	3	85 (3)	0	0 (0)
	Upper	16	90 (2)	0	0 (0)	0	0 (0)
	Total	36	89 (2)	3	85 (3)	0	0 (0)
		No.	W_r	No.	W_r	No.	W_r
Smallmouth Bass	Lower	0	0 (0)	1	76 (1)	0	0 (0)
	Upper	0	0 (0)	0	0 (0)	0	0 (0)
	Total	0	0 (0)	1	76 (1)	0	0 (0)

EFDCLLSF.D22

Table 19. Length frequency and CPUE (fish/hr) of Walleye collected at Carr Creek Lake (710 acres) during daytime spring electrofishing.

	Inch class																							
Year	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	CPUE	SE
2022								2	4	8	4	7	13	14	5	4		3	1				65	8.4	1.6
2021			1					1				9	26	43	38	18	4		1				141	13.8	3.4
2020											1	11	21	17	23	7	4	2	1				87	8.9	1.4
2019									1	7	9	18	39	58	39	25	9		1	1		1	208	16.6	2.7
2018								6	3	6	8	5	25	30	12	22	9	1		1			128	14.7	2.0
2017								1			6	7	18	13	13	9	2		1	1			71	21.9	3.1
2016									3	3	7	16	21	26	18	13	1	4	1				113	20.6	2.3
2015								2	3	7	9	13	14	11	12	7	3	1					82	21.6	17.4
2014									1		2	14	9	12	10	6	1		1				56	11.8	2.9
2013									3	2	8	11	13	16	21	9	2	2	1				88	10.7	1.4
2012								1	1	2	1	13	19	22	14	4	4	5	1				87	20.8	2.5
2011	1	1				1			2	6	8	8	5	15	7	11	5	5	2	3	1		81	15.4	5.2
2010								6	8	7	7	10	15	16	14	16	13	8	8	9		1	138	12.7	3.3
2009								1	4	3	9	18	21	17	15	13	10	11	2				124	21.3	1.3
2008									1	2	5	12	16	19	21	19	15	14	7	3	1	1	136	12.8	1.2
2007								1		1	2	4	3	11	15	8	4	4	5	2			60	32.9	7.4
2006											1	4	6	7	9	9	8	3	4	2	2		55	31.3	5.4
2005									1	1	2	10	2	10	6	5	4	3	1	1			46	28.2	5.0
2004											1	3	13	10	13	13	4	3	1				61	27.1	7.4
2003		2	1			1	1	2			3	7		4	2		1	1	1	1	1		28	26.7	8.5
2002	no sample																								
2001							2	4	3	14	8	6	2	2	1				2				44	20.4	4.7
2000							5	28	10	6	8	2	3	3	1		1	6	4	1			78	20.8	4.6

EFDCLWSS.D00-D22

Table 20. Spring electrofishing catch rate (fish/hr) for each age of Walleye collected from Carr Creek Lake (710 acres) from 2010-2022.

	Year												
Age	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1													
2	2.1	1.3	1.6	1.0	0.9	3.2	1.8	1.5	1.7	0.9	0.4	0.5	1.5
3	3.2	5.0	7.8	4.2	4.5	9.1	8.1	9.0	5.2	6.6	3.5	5.2	3.4
4	2.6	3.6	5.1	2.6	3.6	5.2	5.2	5.7	3.7	4.3	2.4	3.6	1.6
5	1.4	1.6	2.9	1.2	1.3	1.6	2.4	2.4	1.6	2.1	1.1	2.0	1.0
6	0.3	0.4	0.9	0.5	0.4	0.6	0.8	0.8	0.3	0.6	0.5	0.7	0.2
7	0.4	0.4	0.5	0.1	0.1	0.2	0.2	0.2	0.4	0.2	0.2	0.1	0.1
8	0.9	0.7	0.8	0.5	0.5	0.6	0.8	0.9	0.5	0.6	0.4	0.6	0.3
9	0.8	1.0	1.2	0.5	0.5	0.7	1.0	0.9	1.0	0.9	0.4	0.7	0.4
10	0.2	0.3	0.1	0.1	0.2	0.2	0.3	0.4	0.3	0.3	0.1	0.2	0.1

EFDCLWSS.D09-D22
EFDCLWAS.D09

Table 21. Number of fish and mean relative weight (W_r) for each length group of Walleye collected at Carr Creek Lake (710 acres) on 8 and 15 March 2022. Standard errors are in parentheses.

Length group									
≤ 9.9 in		10.0-14.9 in		15.0-19.9 in		≥20.0 in		Total	
No.	W_r	No.	W_r	No.	W_r	No.	W_r	No.	W_r
0	0 (0)	2	103 (0)	27	99 (1)	25	97 (1)	54	98 (1)

EFDCLWSS.D22

Table 22. Length frequency and CPUE (fish/hr) of black bass collected in 1.25 hours of 15-min electrofishing runs at Cranks Creek Lake (219 acres) on 4 May 2022.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	16	18	19	20	21	Total	CPUE	SE
Spotted Bass								1										1	0.8	0.8
Largemouth Bass	1	14	8	5	33	13	26	24	11	10	2	1	3	2	1	3	1	158	126.4	9.1

EFDCCLSS.D22

Table 23. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Cranks Creek Lake (219 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	48.8	2.3	59.2	9.8	10.4	2.4	8.0	2.5	3.2	1.5	126.4	9.1
2021	50.4	6.4	79.2	6.6	5.6	2.7	9.6	6.0	4.8	3.9	144.8	7.3
2020						no sample						
2019	118.4	21.9	92.8	6.3	4.0	1.8	6.4	2.0	2.4	1.0	221.6	21.9
2018	60.8	5.3	71.2	3.4	8.0	3.4	11.2	2.3	6.4	2.0	151.2	6.5
2017	76.8	14.3	62.4	13.9	18.4	2.7	15.2	3.9	8.8	3.8	172.8	17.8
2016						no sample						
2015	27.2	6.0	76.0	8.3	15.2	0.8	13.6	2.4	6.4	1.6	132.0	10.8
2014						no sample						
2013						no sample						
2012	34.4	12.0	32.8	4.6	5.6	2.4	8.8	2.3	2.4	1.0	81.6	14.5
2011	57.6	6.0	52.0	10.5	9.6	1.6	11.2	3.9	5.6	3.5	130.4	15.4
2010	80.8	27.6	43.2	10.4	9.6	3.0	14.4	2.0	4.8	2.3	148.0	41.2
2009						no sample						
2008	33.0	7.9	51.0	6.6	27.0	4.4	8.0	3.7	3.0	1.9	119.0	8.2
2007						no sample						
2006						no sample						
2005	59.2	16.6	70.4	10.5	4.0	1.3	6.4	2.0	2.4	1.0	140.0	17.3
2004	40.7	7.6	40.0	5.8	3.3	1.9	4.0	2.1	0.7	0.7	88.0	11.1
2003						no sample						
2002						no sample						
2001	20.0	6.4	22.0	8.3	2.7	1.3	2.0	0.9	0.7	0.7	46.7	13.8
2000	51.3	11.1	24.7	3.8	2.7	1.3	2.0	1.4	2.0	1.4	80.7	12.5

EFDCCLSS.D00-D22

Table 24. PSD and RSD values for each species of black bass in each area of Cranks Creek Lake (219 acres) on 4 May 2022. Numbers in parentheses are 95% confidence intervals.

	Largemouth Bass			Spotted Bass		
	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{14}
Total	97	24 (15-32)	10 (4-16)	1	0	0

EFDCCLSS.D22

Table 25. Population assessment for Largemouth Bass collected from Cranks Creek Lake (219 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year								
Parameter	2010	2011	2012	2015	2017	2018	2019	2021	2022
Mean length age 3 at capture	3 (11.2)	3 (11.2)	3 (11.2)	1 (10.0)	1 (10.0)	1 (10.0)	2 (10.7)	2 (10.7)	2 (10.7)
Spring CPUE age 1	4 (68.8)	3 (45.6)	3 (28.0)	2 (19.2)	4 (72.8)	3 (42.4)	4 (115.2)	4 (60.0)	3 (22.4)
Spring CPUE 12.0-14.9 in	1 (9.6)	1 (9.6)	1 (5.6)	2 (15.2)	2 (18.4)	1 (8.0)	1 (4.0)	1 (5.6)	1 (10.4)
Spring CPUE ≥15.0 in	3 (14.4)	2 (11.2)	2 (8.8)	3 (13.6)	3 (15.2)	2 (11.2)	2 (6.4)	2 (9.6)	2 (8.0)
Spring CPUE ≥20.0 in	4 (4.8)	4 (5.6)	3 (2.4)	4 (6.4)	4 (8.8)	4 (6.4)	4 (2.4)	4 (4.8)	3 (3.2)
Total score	15	13	12	12	14	11	13	13	11
Assessment rating	Good	Good	Fair	Fair	Good	Fair	Good	Good	Fair
Instantaneous mortality (z)	0.49	0.56	0.53						
Annual mortality (A)	38.90	43.10	40.90						

EFDCCLAS.D08
EFDCCLAF.D13,D19
EFDCCLSS.D10-D19, D21-D22

Table 26. Length frequency and CPUE (fish/hr) of black bass collected in 1.25 hours of 15-min nocturnal electrofishing runs at Cranks Creek Lake (219 acres) on 5 October 2022.

	Inch class																	
Species	3	4	5	6	7	8	9	10	11	12	13	14	18	19	20	Total	CPUE	SE
Spotted Bass	1				2		2									5	4.0	2.5
Largemouth Bass	1	5	5	2	39	35	18	8	3	3		1	1	1	2	124	99.2	12.7

EFDCCLSF.D22

Table 27. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected by electrofishing at Cranks Creek Lake (219 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.8	0.2	8.0	1.6	3.2	1.4		
2021	4.4	0.1	31.2	5.4	5.6	2.0	22.4	2.0
2020	4.3	0.1	43.2	17.6	8.0	4.2	60.0	9.1
2019	3.9	0.1	17.6	9.9			no sample	
2018	4.4	0.1	58.0	6.6	19.0	10.3	115.2	22.1
2017	4.2	0.1	77.3	11.6	13.3	3.5	42.4	6.7
2016	4.1	0.1	70.4	29.7	2.4	1.0	72.8	12.6
2015	4.3	0.2	37.0	14.6	9.0	3.0		
2014	4.0	0.1	104.8	24.5	20.8	5.1	19.2	5.3
2013	3.9	0.2	11.2	5.4	0.8	0.8		
2012	4.1	0.1	66.4	27.4	10.4	5.3		
2011	5.3	0.1	51.2	5.4	34.4	5.3	28.0	10.7
2010	4.3	0.1	93.3	28.5	16.0	6.1	45.6	6.0
2009	3.9	0.1	64.0	29.8	7.2	4.8	68.8	26.1
2008								
2007	4.3	0.1	32.0	8.7	7.2	2.9	23.0	7.3
2006								
2005								
2004							50.4	15.3
2003							15.0	4.3
2002	5.1	0.1	34.4	10.6	20.8	7.7		
2001	5.0	0.1	27.3	5.2	13.3	3.0		
2000							14.3	4.8
1999							44.3	10.4

EFDCCLSF.D01-D02, D07, D09-D22
EFDCCLAS.D08
EFDCCLSS.D00-D01, D04-D05, D08, D10-D12, D15, D17-D19, D21
EFDCCLAF.D13, D19

Table 28. Number of fish and mean relative weight (W_r) for length groups of Largemouth and Spotted bass collected at Cranks Creek Lake during October 2022. Standard errors are in parentheses.

	Length group					
Species	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	50	75 (1)	4	82 (3)	4	101 (8)

	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	No.	W_r	No.	W_r	No.	W_r
Spotted Bass	4	84 (2)	0	0 (0)	0	0 (0)

EFDCCLSF.D22

Table 29. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples by area at Dewey Lake (1,100 acres) on 18 April 2022.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Lower	Spotted Bass	1	2	1	1	2	1	6	3	1		1								19	15.2	4.8
	Largemouth Bass	1	14	18	15	8	13	8	6	5	10	10	11	15	8	4	1	1	1	149	119.2	16.0
Upper	Spotted Bass																			0	0.0	0.0
	Largemouth Bass		3	4	10	3	9	11	12	11	11	16	8	6	2	2	2	1	3	114	91.2	16.2
Total	Spotted Bass	1	2	1	1	2	1	6	3	1		1								19	7.6	3.4
	Largemouth Bass	1	17	22	25	11	22	19	18	16	21	26	19	21	10	6	3	2	4	263	105.2	11.7

EFDDLLSS.D22

Table 30. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Dewey Lake (1,100 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	30.4	9.8	30.0	3.2	26.4	2.3	18.4	2.9	1.6	0.9	105.2	11.7
2021	11.2	3.0	23.6	4.1	22.0	3.3	11.6	2.1	2.0	0.9	68.4	7.2
2020						no sample						
2019	11.0	1.0	32.0	3.7	34.0	4.8	25.0	3.4	1.0	1.0	102.0	5.0
2018	30.0	9.0	32.0	2.5	28.0	5.7	23.2	4.3	1.6	0.7	113.2	8.6
2017	22.7	5.7	27.3	7.1	20.0	5.4	23.3	4.3	1.3	0.8	93.3	10.3
2016	22.5	3.1	25.5	4.9	47.0	5.4	24.0	3.5	1.0	0.7	119.0	9.9
2015	21.2	3.0	35.2	5.2	43.2	5.4	24.0	4.2	0.8	0.5	123.6	11.2
2014	12.4	2.6	40.4	8.1	31.2	6.6	20.0	2.1	1.2	0.9	104.0	16.2
2013	20.8	3.9	92.8	14.8	54.0	6.5	17.2	1.9	1.2	0.6	184.8	20.8
2012	27.2	4.6	63.2	7.0	34.9	3.9	10.7	2.5	0.4	0.4	136.0	8.6
2011						no sample						
2010	42.6	5.9	98.0	27.6	12.3	2.8	8.3	2.0	0.0	0.0	161.2	33.0
2009	83.7	12.7	62.8	6.3	18.8	1.9	14.4	3.4	0.5	0.5	179.8	16.9
2008	87.4	10.4	86.5	9.5	21.6	3.6	16.3	3.4	0.8	0.5	211.7	12.4
2007	54.9	9.6	80.8	9.8	35.1	5.0	30.2	4.1	1.5	0.7	200.9	19.9
2006	32.3	5.7	66.4	8.6	24.2	3.6	24.9	3.6	0.7		147.8	10.0
2005	39.3	5.0	59.2	6.3	31.0	3.2	24.5	1.9	0.3		153.9	12.8
2004	96.2	11.9	34.7	3.8	20.0	3.2	17.5	2.6	1.0		168.3	13.9
2003	71.1	10.1	55.6	4.4	23.1	1.8	22.0	2.1	0.7		171.8	14.6
2002						no sample						
2001	150.1	17.2	57.8	5.7	26.9	2.7	17.8	1.6	0.6		252.6	22.8
2000	62.2	4.7	44.0	4.4	23.6	3.5	10.3	1.3	0.1		140.1	9.5
1999	78.9		34.6		39.5		12.8		0.5		165.8	12.7
1998	20.1		51.4		43.2		7.2		0.6		122.0	8.5
1997	15.3		53.3		32.3		11.0		1.0		112.0	12.2
1996						no sample						
1995	46.6		59.6		28.5		3.6		0.0		138.3	16.9
1994						no sample						
1993	43.7		71.8		15.6		8.8		0.8		140.0	
1992	57.4		64.1		17.2		7.4		0.2		146.1	
1991	73.8		50.6		18.4		3.5		0.2		146.4	
1990	58.8		68.0		32.0		11.4		0.6		171.4	
1989	75.0		27.5		10.8		7.0		0.0		120.7	
1988	84.0		40.7		26.7		2.0		0.0		154.7	
1987	44.6		38.3		12.0		0.6		0.0		95.4	

EFDDLLSS.D87-D22

BBRPSDEW.D03-D05

Table 31. PSD and RSD values for each species of black bass collected in each area of Dewey Lake (1,100 acres) on 18 April 2022 . Numbers in parentheses are 95% confidence intervals.

	Largemouth Bass			Spotted Bass		
Area	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{14}
Lower	93	66 (56-75)	32 (23-42)	14	14 (0-33)	0
Upper	94	54 (44-64)	17 (9-25)	0		
Total	187	60 (53-67)	25 (18-31)	14	14 (0-33)	0

EFDDLLSS.D22

Table 32. Population assessment for Largemouth Bass collected from Dewey Lake (1,100 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2009	2010	2012	2013	2014	2015	2016	2017	2018	2019	2021	2022
Mean length age 3 at capture	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.8)	2 (11.8)	2 (11.8)	2 (11.8)
Spring CPUE age 1	4 (55.6)	2 (16.4)	2 (19.5)	2 (20.8)	1 (10.8)	2 (17.2)	2 (20.5)	2 (21.3)	3 (29.2)	1 (11.0)	1 (11.2)	3 (29.6)
Spring CPUE 12.0-14.9 in	2 (18.8)	1 (12.3)	4 (34.9)	4 (54.0)	4 (31.2)	4 (43.2)	4 (47.0)	2 (20.0)	3 (28.0)	4 (34.0)	2 (22.0)	3 (26.4)
Spring CPUE ≥15.0 in	3 (14.4)	2 (8.3)	2 (10.7)	3 (17.2)	4 (20.0)	4 (24.0)	4 (24.0)	4 (23.3)	4 (23.2)	4 (25.0)	2 (11.6)	3 (18.4)
Spring CPUE ≥20.0 in	3 (0.5)	1 (0.0)	2 (0.4)	3 (1.2)	3 (1.2)	3 (0.8)	3 (1.0)	4 (1.3)	4 (1.6)	3 (1.0)	4 (2.0)	4 (1.6)
Total score	14	8	12	14	14	15	15	14	16	14	11	15
Assessment rating	Good	Poor	Fair	Good	Good	Good	Good	Good	Good	Good	Fair	Good
Instantaneous mortality (z)	0.48	0.77	0.64									
Annual mortality (A)	38.40	53.90	35.80									

EFDDLLSS.D09-D10, D13-D19, D21-D22
EFDDLLAS.D08
EFDDLLAF.D13, D18

Table 33. Species composition, relative abundance, and CPUE (fish/hr) of black bass captured during 2.50 hours of 15-minute nocturnal electrofishing runs at Dewey Lake (1,100 acres) on 3 October 2022.

		Inch class																			
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	SE
Lower	Spotted Bass	2	4		2	2		3	4											17	13.6	7.9
	Largemouth Bass	3	21	25	15	6	20	19	11	4	8	5	4	3	4	2	4	1	1	156	124.8	12.0
Upper	Spotted Bass																			0	0.0	0.0
	Largemouth Bass	6	11	15	4	5	14	11	11	14	20	13	6	8	7	3				148	118.4	26.9
Total	Spotted Bass	2	4		2	2		3	4											17	6.8	4.3
	Largemouth Bass	9	32	40	19	11	34	30	22	18	28	18	10	11	11	5	4	1	1	304	121.6	16.2

EFDDLLSF.D22

Table 34. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected from electrofishing at Dewey Lake (1,100 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	5.2	0.1	39.2	6.9	22.8	5.4		
2021	4.9	0.1	32.0	8.3	15.6	5.3	29.6	9.9
2020	4.6	0.2	11.6	3.6	2.8	1.34	11.2	3.0
2019	5.0	0.1	41.5	9.8	21.5	5.0	no sample	
2018	4.9	0.1	43.6	7.8	22.2	3.1	11.0	1.0
2017	4.6	0.1	50.0	9.4	16.5	3.6	29.2	9.0
2016	4.9	0.1	33.5	5.1	17.0	3.5	21.3	5.8
2015	3.7	0.2	38.7	9.9	7.3	3.0	20.5	3.2
2014	3.9	0.1	36.8	8.3	10.0	4.3	17.2	3.5
2013	3.4	0.2	25.2	6.3	3.2	0.8	10.8	2.8
2012	4.4	0.1	26.0	5.3	7.2	1.7	20.8	3.9
2011	4.6	0.1	37.2	9.3	14.8	3.6	19.5	4.4
2010	5.0	0.1	67.6	14.2	38.4	8.5	no sample	
2009	5.3	0.1	45.7	8.8	28.8	5.2	16.4	3.3
2008	5.0	0.1	54.9	14.3	30.0	7.4	55.6	12.1
2007	4.8	0.1	54.3	12.8	21.2	4.2	49.5	10.0
2006	5.1	0.1	39.0	9.9	21.3	5.8	49.0	9.2
2005	4.4	0.1	58.7	16.1	16.9	6.6	27.9	5.5
2004	5.2	0.1	45.2	7.1	25.4	4.6	24.8	4.1
2003	4.9	0.1	38.9	10.6	15.1	3.8	79.7	10.5
2002	5.0	<0.1	75.6	14.2	37.6	9.4	61.2	9.4

BBRPSDEW.D03-D05
BBRDLLSF.D02
BBRWRDEW.D03-D04
BBRSCDEW.D03
EFDDLLSF.D02-D21
EFDDLLSS.D06-D10, D12-D19, D22
EFDDLLAS.D08
EFDDLLAF.D13, D18

Table 35. Number of fish and mean relative weight (W_r) for length groups of Largemouth and Spotted bass collected at Dewey Lake during October 2022. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lower	54	92 (10)	17	89 (2)	15	88 (3)
	Upper	48	87 (2)	35	90 (3)	18	96 (1)
	Total	102	89 (6)	52	90 (2)	33	93 (2)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	W_r	No.	W_r	No.	W_r
Spotted Bass	Lower	9	90 (3)	0	0 (0)	0	0 (0)
	Upper						
	Total	9	90 (3)	0	0 (0)	0	0 (0)

EFDDLLSF.D22

Table 36. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples at Fishtrap Lake (1,143 acres) on 17 May 2022.

		Inch class																			
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	Total	CPUE	SE
Lower	Smallmouth Bass					2			2			1							5	4.0	2.2
	Spotted Bass																		0	0.0	0.0
	Largemouth Bass	2	3	5	8	2	4	10	3	5	6	10	7	4	3		3	1	76	60.8	11.4
Upper	Smallmouth Bass											1							1	0.8	0.8
	Spotted Bass																		0	0.0	0.0
	Largemouth Bass		6	3	4	1		1	12	12	15	10	4	4	2	1	1		76	60.8	7.4
Total	Smallmouth Bass					2			2			2							6	2.4	1.2
	Spotted Bass																		0	0.0	0.0
	Largemouth Bass	2	9	8	12	3	4	11	15	17	21	20	11	8	5	1	4	1	152	60.8	6.4

EFDFLLSS.D22

Table 37. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass at Fishtrap Lake (1,143 acres) from 2000-2020.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2022	12.4	3.6	13.2	2.9	23.2	3.5	12.0	3.0	0.4	0.4	60.8	6.4
2021	6.8	2.24	23.2	4.87	28.8	2.6	12.4	2.7	0.4	0.4	71.2	6.6
2020	62.0	15.3	30.7	5.2	38.0	7.8	15.3	3.0	1.3	0.8	146.0	9.9
2019	34.0	5.7	17.6	1.9	31.2	5.9	6.8	1.7	0.4	0.4	89.6	8.7
2018	no sample											
2017	62.0	17.7	22.7	5.5	20.7	6.5	4.0	1.5	0.7	0.7	109.3	25.6
2016	no sample											
2015	23.6	3.5	48.4	6.8	33.6	4.6	18.0	2.6	2.4	0.9	123.6	8.6
2014	25.6	5.5	32.8	10.2	35.2	5.9	16.8	5.3	3.2	1.5	110.4	15.2
2013	no sample											
2012	54.7	9.0	20.7	1.9	12.0	2.3	12.7	4.3	3.3	2.6	100.0	9.4
2011	no sample											
2010	52.4	3.1	35.6	5.6	20.4	2.8	10.4	2.5	0.4	0.4	118.8	11.3
2009	44.2	10.7	61.4	11.8	20.4	4.8	9.9	2.4	0.6	0.6	135.9	15.1
2008	39.5	12.7	31.1	3.5	32.0	5.8	9.4	2.7	0.0		111.9	15.0
2007	28.7	4.7	53.9	8.3	33.0	3.5	7.9	1.9	1.2	0.9	123.5	13.5
2006	52.5	8.8	37.6	1.9	33.0	3.4	4.0	0.7	0.0		127.1	11.6
2005	61.8	10.2	67.6	10.0	38.9	6.5	14.9	2.0	0.0		183.3	20.8
2004	44.7	6.8	45.1	5.8	19.3	2.2	13.1	3.9	1.5		122.2	10.7
2003	43.0	4.4	25.0	7.6	16.0	4.9	11.0	3.4	2.0		95.0	4.1
2002	no sample											
2001	20.3	3.7	32.7	4.3	17.3	2.5	10.3	2.9	1.3		80.7	7.7
2000	28.7	4.2	29.0	2.3	19.0	2.6	23.0	4.3	3.4		99.7	9.9

EFDFLLSS.D00-D22

Table 38. PSD and RSD values for each species of black bass in each area of Fishtrap Lake (1,143 acres) on 17 May 2022. Numbers in parentheses are 95% confidence intervals.

	Smallmouth Bass			Spotted Bass			Largemouth Bass		
Area	≥ Stock size	PSD	RSD_{14}	≥ Stock size	PSD	RSD_{14}	≥ Stock size	PSD	RSD_{15}
Lower	5	60 (12-108)	20 (0-59)	0			58	67 (55-79)	31 (19-43)
Upper	1	100	100	0			63	78 (67-88)	19 (9-29)
Total	6	67 (25-108)	33 0-74)	0			121	73 (65-81)	25 (17-33)

EFDFLLSS.D22

Table 39. Spring population assessment for Largemouth Bass collected from Fishtrap Lake (1,143 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2007	2008	2009	2010	2012	2014	2015	2017	2019	2020	2021	2022
Mean length age 3 at capture	4 (13.6)	4 (13.6)	4 (13.6)	2 (11.7)	2 (11.7)	2 (11.7)	2 (11.7)	2 (11.8)	2 (11.8)	2 (11.8)	2 (11.8)	2 (11.8)
Spring CPUE age 1	3 (28.3)	3 (38.5)	4 (44..2)	4 (51.6)	4 (50.8)	3 (24.2)	2 (22.1)	4 (61.3)	3 (35.6)	4 (64.0)	1 (10.4)	2 (13.2)
Spring CPUE 12.0-14.9 in	4 (33.0)	4 (32.0)	2 (20.4)	2 (20.4)	1 (12.0)	4 (35.2)	4 (33.6)	2 (20.7)	4 (31.2)	4 (38.0)	3 (28.8)	3 (23.2)
Spring CPUE ≥15.0 in	2 (7.9)	2 (9.4)	2 (9.9)	2 (10.4)	2 (12.7)	3 (16.8)	3 (18.0)	1 (4.0)	2 (6.8)	3 (15.3)	2 (12.4)	2 (12.0)
Spring CPUE ≥20.0 in	3 (1.2)	1 (0.0)	3 (0.6)	2 (0.4)	4 (3.3)	4 (3.2)	4 (2.4)	3 (0.7)	2 (0.4)	4 (1.3)	2 (0.4)	2 (0.4)
Total score	16	14	15	12	13	16	15	12	13	17	10	11
Assessment rating	Good	Good	Good	Fair	Good	Good	Good	Fair	Good	Excellent	Fair	Fair
Instantaneous mortality (z)	0.72	0.59	0.67	0.66	0.50	0.43	0.52					
Annual mortality (A)	51.30	44.30	49.10	48.20	39.20	35.20	40.70					

EFDFLLSS.D06-D22
EFDFLLAS.D04, D10
EFDFLLAF.D17

Table 40. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in approximately 2.50 hours of 15-minute nocturnal electrofishing samples at Fishtrap Lake (1,143 acres) on 26 September 2022.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
Lower																									
	Smallmouth Bass							3					1	2		2	1					1	10	8.0	1.3
	Spotted Bass		1		1	2	4			2	1	1											12	9.6	8.6
	Largemouth Bass	1	1	7	7	3	2	3	11	9	6	11	15	8	9	7	1	1	5	2	1	1	111	88.8	15.2
Upper																									
	Smallmouth Bass																						0	0.0	0.0
	Spotted Bass																						0	0.0	0.0
	Largemouth Bass		9	5	20	18	5	2	5	5	8	2	10	15	8	5		1	2				120	96.0	12.7
Total																									
	Smallmouth Bass							3					1	2		2	1					1	10	4.0	1.5
	Spotted Bass		1		1	2	4			2	1	1											12	4.8	4.4
	Largemouth Bass	1	10	12	27	21	7	5	16	14	14	13	25	23	17	12	1	2	7	2	1	1	231	92.4	9.4

EFDFLLSF.D22

Table 41. Indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass electrofished at Fishtrap Lake (1,143 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	5.4	0.1	30.0	7.5	20.8	7.8		
2021	5.2	0.1	40.0	9.8	21.6	5.3	13.2	3.3
2020	5.2	0.1	66.0	15.9	34.8	10.8	10.4	2.5
2019	4.8	0.1	58.5	19.6	24.5	12.3	64.0*	15.1
2018	5.0	<0.1	184.5	24.5	88.0	14.0	35.6	5.4
2017	5.4	0.1	105.8	20.5	76.9	15.9	no sample	
2016	4.7	<0.1	105.2	25.1	32.0	6.3	61.3*	17.9
2015	4.9	0.1	139.0	25.2	62.0	16.7	no sample	
2014	4.8	0.1	54.0	8.8	21.2	3.6	22.1	3.1
2013	4.6	0.1	63.5	16.4	19.5	5.2	24.2	6.2
2012	5.1	0.1	72.7	24.3	38.0	12.0	no sample	
2011	5.1	0.1	119.4	26.9	69.1	13.3	50.8	8.2
2010	5.2	0.1	111.6	16.4	61.6	8.4	no sample	
2009	4.8	0.1	83.3	15.1	39.3	5.4	51.6	3.2
2008	4.6	0.1	75.3	25.9	26.3	9.5	44.2	10.7
2007	5.1	0.1	114.2	23.7	63.5	11.0	38.5	12.1
2006	5.0	0.1	72.7	14.1	36.5	8.0	28.3	4.5
2005	4.5	0.1	108.0	41.3	24.0	11.1	52.5	8.8
2004	5.0	<0.1	256.0	51.1	122.7	23.9	61.5	10.2
2003	5.1	<0.1	106.2	32.9	59.6	15.9	35.4	6.0

* Includes supplemental spring stocked fish

EFDFLLSF.D03-D21

EFDFLLSS.D04-D22

EFDFLLAS.D04, D10

EFDFLLAF.D17

Table 42. Number of fish and mean relative weight (W_r) for length groups of Largemouth, Smallmouth, and Spotted bass collected at Fishtrap Lake during September 2022. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lower	29	89 (1)	34	87 (1)	27	93 (2)
	Upper	20	92 (2)	26	90 (1)	16	88 (3)
	Total	49	90 (1)	60	88 (1)	43	92 (2)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	W_r	No.	W_r	No.	W_r
Spotted Bass	Lower	6	92 (2)	2	89 (5)	0	0 (0)
	Upper	0	0 (0)	0	0 (0)	0	0 (0)
	Total	6	92 (2)	2	89 (5)	0	0 (0)
		No.	W_r	No.	W_r	No.	W_r
Smallmouth Bass	Lower	3	89 (<1)	1	13 (<1)	6	85 (3)
	Upper	0	0 (0)	0	0 (0)	0	0 (0)
	Total	3	89 (<1)	1	13 (<1)	6	85 (3)

EFDFLLSF.D22

Table 43. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in approximately 1.0 hour of 15-min. nocturnal electrofishing runs in Grants Branch Lake (21 acres) on 28 April 2022.

	Inch class																					
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
Spotted Bass		1						1	1		1	1								5	5.0	2.5
Largemouth Bass	9	16	15	36	40	9	3	2	3	4	3		1	1	3	1	2	3	1	152	152.0	27.9

EFDGBLSS.D22

Table 44. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Grants Branch Lake (21 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	76.0	13.6	54.0	13.5	10.0	3.5	12.0	5.9	6.0	3.5	152.0	27.9

EFDGBLSS.D22

Table 45. PSD and RSD_{15} values for Largemouth Bass taken in spring electrofishing samples in Grants Branch Lake (21 acres) on 28 April 2022. Numbers in parentheses are 95% confidence intervals.

≥ Stock size	PSD	RSD_{15}
76	29	16
	(19-39)	(8-24)

EFDGBLSS.D22

Table 46. Length frequency and CPUE (fish/hr) of black bass and Walleye collected in 1.25 hours of 15-min nocturnal electrofishing runs in Martins Fork Lake (330 acres) on 4 May 2022.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Largemouth Bass	2	20	51	45	13	11	16	27	21	11	3	3	1	1	1	1	1	228	182.4	26.3
Spotted Bass		6	15	7	1	6	9	1	1									46	36.8	9.1
Smallmouth Bass		1				1			1									3	2.4	1.6
Coosa Bass		1	1	1														3	2.4	2.4
Walleye							8											8	6.4	2.4

EFDMLLSS.D22

Table 47. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Martins Fork Lake (330 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	104.8	22.0	60.0	11.2	13.6	5.5	4.0	1.3	0.0		182.4	26.3
2021	28.8	9.6	44.0	10.1	12.8	3.9	3.2	2.0	0.8	0.8	88.8	16.0
2020						no sample						
2019	73.6	24.0	64.0	16.0	12.0	4.2	14.4	1.6	0.0		164.0	15.0
2018	19.2	7.7	38.4	3.7	15.2	3.9	6.4	1.6	0.0		79.2	8.7
2017						no sample						
2016						no sample						
2015	26.4	5.7	46.4	7.9	40.8	8.3	20.8	2.9	1.6	1.0	134.4	14.9
2014	38.0	6.6	46.0	12.5	11.0	6.2	11.0	2.5	1.0	1.0	106.0	18.9
2013						no sample						
2012	16.8	4.6	12.0	3.8	5.6	2.4	10.4	4.3	0.8	0.8	44.8	8.3
2011	23.2	5.6	34.4	9.7	16.8	3.9	16.0	3.4	0.8	0.8	90.4	12.8
2010	17.6	6.3	26.4	16.4	8.0	2.8	19.2	2.7	0.8	0.8	71.2	22.8
2009	11.2	4.1	19.9	3.3	9.6	2.0	11.2	1.5	1.6	1.0	51.8	7.4
2008	7.8	4.8	19.5	7.2	20.2	3.7	19.4	2.4	0.8	0.8	66.9	12.2
2007	7.9	3.3	48.6	13.3	15.7	2.6	21.1	5.3	1.6	1.0	93.3	19.3
2006	9.3	2.0	19.9	6.0	13.3	3.0	9.3	2.7	0.7	0.7	51.7	10.7
2005	4.8	2.3	23.2	6.0	17.6	4.8	4.8	2.0	0.0		50.4	10.8
2004	2.7	2.7	89.3	19.2	4.0	2.3	5.3	3.5	0.0		101.3	26.8
2003	14.0	3.7	22.0	3.8	3.3	1.2	5.3	2.0	0.0		68.0	15.7

EFDMLLSS.D03-D22

Table 48. PSD and RSD values obtained for each black bass species taken in spring diurnal electrofishing samples in Martins Fork Lake (330 acres) on 4 May 2022; 95% confidence intervals are in parentheses.

Largemouth Bass			Spotted Bass			Smallmouth Bass		
≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{14}	≥ Stock size	PSD	RSD_{14}
97	23 (14-31)	5 (1-10)	18	6 (0-31)		2	50 (0-148)	

EFDMLLSS.D22

Table 49. Spring electrofishing population assessment for Largemouth Bass collected from Martins Fork Lake (330 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2007	2008	2009	2010	2011	2012	2014	2015	2018	2019	2021	2022
Mean length age 3 at capture	4 (14.3)	4 (14.3)	4 (11.8)	4 (11.8)	4 (11.8)	4 (11.8)	3 (10.9)	3 (10.9)	3 (10.9)	3 (10.9)	2 (10.4)	2 (10.4)
Spring CPUE age 1	2 (10.1)	2 (10.0)	1 (7.2)	1 (4.8)	2 (11.2)	2 (8.8)	3 (22.0)	3 (22.4)	2 (17.6)	4 (71.2)	3 (29.6)	4 (106.0)
Spring CPUE 12.0-14.9 in	2 (15.7)	2 (20.2)	1 (9.6)	1 (8.0)	2 (16.8)	1 (5.6)	1 (11.0)	3 (40.8)	2 (15.2)	1 (12.0)	1 (12.8)	2 (13.6)
Spring CPUE ≥15.0 in	3 (21.1)	3 (19.4)	2 (11.2)	3 (19.2)	3 (16.0)	2 (10.4)	2 (11.0)	3 (20.8)	2 (6.4)	3 (14.4)	1 (3.2)	1 (4.0)
Spring CPUE >20.0 in	3 (1.6)	2 (0.8)	3 (1.6)	2 (0.8)	2 (0.8)	2 (0.8)	2 (1.0)	3 (1.6)	1 (0.0)	1 (0.0)	2 (0.8)	1 (0.0)
Total score	14	13	11	11	13	11	11	15	10	12	9	10
Assessment rating	Good	Good	Fair	Fair	Good	Fair	Fair	Good	Fair	Fair	Fair	Fair
Instantaneous mortality (z)	0.80	0.48	0.54	0.37	0.33	0.54						
Annual mortality (A)	55.10	38.40	41.60	31.30	28.40	41.60						

EFDMLLSS.D07-D12, D14-D15, D18-D19, D21-D22
EFDMLLAS.D03, D09, X20
EFDMLLAF.D14

Table 50. Length frequency and CPUE (fish/hr) of black bass and Walleye collected at Martins Fork Lake (330 acres) during 1.25 hours of 15-minute nocturnal electrofishing samples on 5 October 2022.

	Inch class																
Species	2	3	4	5	6	7	8	9	10	11	12	13	15	19	Total	CPUE	SE
Smallmouth Bass	1				1			1	1						4	3.2	0.8
Spotted Bass			14	10	3	5	8	2	1	4					47	37.6	5.7
Largemouth Bass		4	31	41	7	6	26	27	15	9	10	2	1	1	180	144.0	35.8
Coosa Bass															0	0.0	0.0
Walleye										2					2	1.6	1.6

EFDMLLSF.D22

Table 51. Electrofishing indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected at Martins Fork Lake (330 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	5.1	0.1	66.4	18.1	38.4	8.1		
2021	4.9	0.1	87.2	16.9	36.8	5.9	106.0	22.6
2020	4.5	0.2	16.0	3.9	4.7	2.4	29.6	9.7
2019	5.0	0.1	46.0	10.5	21.0	7.6	no sample	
2018	5.4	0.1	67.0	11.1	44.0	8.2	71.2	23.3
2017	4.5	0.1	95.0	24.6	25.0	4.4	17.6	7.4
2016	4.5	0.1	67.0	26.5	15.0	9.0	no sample	
2015	4.6	0.1	59.0	24.4	18.0	7.4	no sample	
2014	4.9	0.1	39.2	11.8	21.6	8.2	22.4	4.1
2013	4.0	0.2	21.0	6.6	6.0	1.2	22.0	5.3
2012	4.8	0.2	28.8	4.6	13.6	3.9	no sample	
2011	4.7	0.1	20.0	6.8	7.2	1.5	8.8	2.7
2010	5.2	0.2	40.0	11.6	26.7	9.3	11.2	3.4
2009	4.3	0.2	23.2	8.3	7.2	2.3	4.8	2.0
2008	4.4	0.2	31.9	14.3	10.3	2.7	7.2	2.9
2007	4.6	0.2	28.7	8.7	10.4	3.0	10.0	5.1
2006	4.5	0.1	38.4	14.5	11.2	3.2	10.1	3.4
2005	4.4	0.2	32.0	4.3	10.0	2.6	10.0	2.3
2004			no fall sample				24.6	5.9
2003			no fall sample				77.5	18.5
2002	5.5	0.1	34.4	8.6	25.6	7.9	15.3	3.6

EFDMLLSF.D02, D05-D21
EFDMLLSS.D03-D19, D22
EFDMLLAS.D03, D09
EFDMLLAF.D20

Table 52. Number of fish and mean relative weight (W_r) for length groups of Largemouth, Smallmouth, and Spotted bass collected at Martins Fork Lake during October 2022. Standard errors are in parentheses.

	Length group					
Species	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	67	89 (10)	12	73 (3)	2	96 (9)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	No.	W_r	No.	W_r	No.	W_r
Spotted Bass	16	88 (1)	4	84 (3)	0	0 (0)
	No.	W_r	No.	W_r	No.	W_r
Smallmouth Bass	2	81 (4)	0	0 (0)	0	0 (0)
	10.0-14.9 in		15.0-19.9 in		≥20.0 in	
	No.	W_r	No.	W_r	No.	W_r
Walleye	2	69 (5)	0	0 (0)	0	0 (0)

EFDMFLSF.D22

Table 53. Length frequency and CPUE (fish/hr) of Largemouth Bass collected in approximately 1.0 hour of 7.5-min. electrofishing runs in Panbowl Lake (98 acres) on 21 April 2022.

	Inch class																			
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Largemouth Bass	7	25	5	21	46	44	28	11	4	3		1		1	3		3	1	203	203.0	22.1

EFDPBLSS.D22

Table 54. Spring electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Panbowl Lake (98 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	58.0	13.2	129.0	14.0	7.0	1.8	9.0	2.8	4.0	2.1	203.0	22.1
2020	51.2	14.0	147.2	17.8	11.2	6.0	1.6	1.6	0.0		211.2	24.0
2018	93.6	18.0	168.0	21.1	6.4	2.4	5.6	3.0	2.4	1.6	273.6	31.7
2016	75.4	9.1	148.6	23.4	16.0	3.9	9.1	2.7	4.6	1.6	249.1	23.9
2014	81.3	16.2	86.7	15.7	0.0		1.3	1.3	0.0		169.3	24.6
2012	37.0	10.7	81.0	13.9	3.0	2.1	2.0	2.0	1.0	1.0	123.0	21.9
2011	102.0	10.9	108.0	11.9	11.0	3.0	4.0	3.0	1.0	1.0	225.0	20.0
2010	72.0	22.5	105.0	19.4	7.0	2.8	10.0	2.9	2.0	1.3	194.0	32.1
2009	50.4	8.4	120.0	17.8	11.2	3.2	8.4	2.2	2.9	1.4	190.0	22.6
2008	28.0	10.0	91.0	15.6	21.5	6.4	18.0	4.7	7.0	1.8	158.5	26.9
2007	90.3	26.6	149.7	20.2	12.6	3.9	22.9	4.4	6.9	2.7	275.4	39.2
2005	12.8	4.1	65.8	13.3	9.4	3.6	18.0	4.3	1.8		106.0	18.9
2003	28.8	10.2	47.2	9.6	12.0	1.3	25.6	4.1	3.2		113.6	20.5
2000	34.0		52.0		18.0		34.7		8.7		138.7	21.8
1999	17.3		24.7		30.0		15.3		4.0		87.3	22.7
1998	26.0		20.0		5.0		10.0		3.0		61.0	20.6
1997	12.1		39.5		8.1		15.3		0.8		75.0	19.9
1996	20.0		56.0		9.0		14.0		2.0		99.0	27.4
1992	19.4		22.3		14.3		25.7		1.1		81.7	

EFDPBLSS.D03-D22

Table 55. PSD and RSD_{15} values for Largemouth Bass taken in spring electrofishing samples in Pan Bowl Lake (98 acres) on 21 April 2022. Numbers in parentheses are 95% confidence intervals.

≥ Stock size	PSD	RSD_{15}
145	11	6
	(6-16)	(2-10)

EFDPBLSS.D22

Table 56. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 2 May 2022.

		Inch class																					
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
Lower																								
	Spotted Bass						1	2	3	2	1											9	7.2	2.3
	Largemouth Bass	4	9	15	17	17	28	27	21	23	22	11	8	1	3	2	4	1	1	1	1	216	172.8	19.1
Upper																								
	Spotted Bass			1		1	2	1														5	4.0	2.2
	Largemouth Bass			6	5	8	9	10	17	20	13	8	8	1	2	4	1	1		1		114	91.2	7.9
Total																								
	Spotted Bass			1		1	3	3	3	2	1											14	5.6	1.6
	Largemouth Bass	4	9	21	22	25	37	37	38	43	35	19	16	2	5	6	5	2	1	2	1	330	132.0	16.7

EFDPLLSS.D22

Table 57. Spring nocturnal electrofishing CPUE (fish/hr) for each length group of Largemouth Bass collected at Paintsville Lake (1,150 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	32.4	6.2	62.0	9.5	28.0	3.4	9.6	2.8	1.6	0.7	132.0	16.7
2021	26.4	5.1	46.0	8.1	16.4	2.8	6.8	2.3	0.8	0.8	95.6	13.3
2020						no sample						
2019	50.9	16.4	52.6	5.0	12.0	2.5	11.4	3.0	1.7	1.2	126.9	16.2
2018	64.6	17.1	43.4	7.3	13.1	2.1	4.0	1.6	0.0	0.0	126.9	15.4
2017	35.2	5.3	61.2	11.3	6.4	1.4	6.4	1.5	0.8	0.5	109.2	16.3
2016	67.6	6.2	80.0	7.8	9.2	2.0	10.4	2.1	1.2	0.6	167.2	9.1
2015	83.6	7.4	68.4	11.5	17.8	3.6	10.7	3.0	2.7	1.5	180.4	15.4
2014	62.4	8.1	64.5	6.0	24.8	3.8	4.3	1.3	0.8	0.4	156.0	8.6
2013	58.6	4.9	60.0	5.6	4.6	1.1	4.0	1.0	0.3	0.3	127.1	7.0
2012	63.2	10.5	61.6	7.0	9.9	1.6	2.1	0.7	1.3	0.5	136.8	14.8
2011	40.6	7.2	56.9	5.1	9.4	1.9	3.7	0.9	1.1	0.5	110.6	11.6
2010	51.2	16.4	86.4	11.6	13.3	1.7	5.6	1.1	1.9	0.5	156.5	26.3
2009	28.1	8.0	69.2	24.6	6.2	2.6	2.3	1.0	0.0	0.0	105.9	16.4
2008	37.8	6.6	79.3	11.9	9.8	1.8	4.0	1.6	0.4	0.4	130.8	14.1
2007	39.8	9.5	81.6	23.0	11.1	3.1	6.5	0.8	0.0	0.0	139.0	20.5
2006	30.6	4.4	65.1	12.6	13.6	1.9	2.6	1.1	0.0	0.0	111.9	14.3
2005	80.4	31.9	133.3	38.9	35.1	6.0	6.2	1.2	0.4	0.4	255.1	72.7
2004	62.7	10.9	92.0	19.2	17.0	3.4	2.0	0.9	0.0	0.0	173.7	25.4
2003	106.0	21.2	71.0	10.8	19.7	5.7	3.0	1.3	0.3	0.3	199.7	35.2
2002	41.8	1.8	70.5	2.7	36.0	1.4	2.2	0.2	0.0	0.0	150.9	14.2
2001	42.3	5.5	63.0	10.8	46.7	4.8	4.3	0.9	0.7	0.5	156.3	17.5
2000	12.7	5.0	95.0	19.6	27.0	7.8	2.0	0.8	0.0	0.0	136.7	28.0
1999	36.3		65.7		36.7		2.3		0.0		141.0	12.1
1998	25.7		87.7		26.3		0.0		0.0		139.7	17.9
1997	29.0		40.0		26.3		1.0		0.3		96.3	11.5
1996						no sample						
1995						no sample						
1994	34.0		47.4		26.6		3.6		0.3		111.6	15.6
1993	16.4		26.3		22.5		2.8		0.6		68.0	
1992	16.4		44.0		21.3		0.7		0.0		82.4	
1991	26.6		33.1		12.0		0.4		0.4		72.0	
1990	34.0		31.3		2.7		2.0		0.0		70.0	
1989	15.4		16.0		3.4		0.9		0.0		36.3	
1988	6.8		10.6		1.6		0.3		0.0		19.3	

EFDPLLSS.D88-D22

Table 58. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples in each area of Paintsville Lake (1,150 acres) on 2 May 2022; 95% confidence intervals are in parentheses.

	Largemouth Bass			Spotted Bass		
Area	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{14}
Lower	154	36 (28-43)	9 (5-14)	9	33 (1-66)	0
Upper	95	41 (31-51)	11 (4-17)	0	0	0
Total	249	38 (32-44)	10 (6-13)	9	33 (1-66)	0

EFDPLLSS.D22

Table 59. Spring nocturnal electrofishing population assessment for Largemouth Bass collected in Paintsville Lake (1,150 acres). Actual values are in parentheses. Scoring based on statewide assessment.

Parameter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2021	2022
Mean length age 3 at capture	2 (11.7)	1 (10.6)	2 (11.2)	2 (11.2)	2 (11.2)	2 (11.2)	2 (11.2)	2 (11.2)	2 (11.9)	2 (11.9)	2 (11.9)	2 (11.9)
Spring CPUE age 1	4 (58.1)	3 (35.6)	4 (68.8)	4 (64.9)	4 (63.7)	4 (90.7)	4 (71.2)	3 (39.2)	4 (56.6)	4 (42.9)	3 (24.0)	2 (21.6)
Spring CPUE 12.0-14.9 in	1 (13.3)	1 (9.4)	1 (9.9)	1 (4.6)	3 (24.8)	2 (17.8)	1 (9.2)	1 (6.4)	1 (13.1)	1 (12.0)	2 (16.4)	3 (28.0)
Spring CPUE ≥15.0 in	1 (5.6)	1 (3.7)	1 (2.1)	1 (4.0)	1 (4.3)	2 (10.7)	2 (10.4)	2 (6.4)	1 (4.0)	2 (11.4)	2 (6.8)	2 (9.6)
Spring CPUE ≥20.0 in	4 (1.9)	3 (1.1)	4 (1.3)	2 (0.3)	3 (0.8)	4 (2.7)	3 (1.2)	3 (0.8)	1 (0.0)	4 (1.7)	3 (0.8)	4 (1.6)
Total score	12	9	10	10	13	14	12	11	9	13	12	13
Assessment rating	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair	Good
Instantaneous mortality (z)	1.18	0.57										
Annual mortality (A)	69.40	83.70										

EFDPLLSS.D08-D19, D21-D22
EFDPLLAS.D06, D11
EFDPLLAF.D12, D18

Table 60. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 2.5 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 11 October 2022.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
Lower																									
	Spotted Bass	1	1							1			1										4	3.2	3.2
	Largemouth Bass	3	29	67	82	26	5	22	36	26	18	12	4		2	1		1			2	1	337	269.6	38.2
Upper																									
	Spotted Bass									1													1	0.8	0.8
	Largemouth Bass	6	20	10	12	9	3	22	13	24	11	5	3		2	2	4	1	1	1			149	119.2	19.4
Total																									
	Spotted Bass	1	1							2			1										5	2.0	1.6
	Largemouth Bass	9	49	77	94	35	8	44	49	50	29	17	7		4	3	4	2	1	1	2	1	486	194.4	32.2

EFDPLLSF.D22

Table 61. Nocturnal electrofishing indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected at Paintsville Lake (1,150 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.9	0.1	106.0	22.5	52.0	16.6		
2021	4.5	0.1	81.8	30.0	26.7	7.6	21.6	5.0
2020	3.3	0.1	71.2	13.9	6.0	4.3	24.0	8.3
2019	4.4	0.1	74.7	9.3	25.3	4.5	no sample	
2018	4.6	0.1	50.9	9.8	22.9	7.8	42.9	15.9
2017	5.0	0.1	125.2	20.2	62.4	12.9	56.6	14.6
2016	5.0	0.1	70.0	6.3	34.0	8.6	39.2	6.1
2015	4.9	0.1	95.1	17.7	42.2	6.7	71.2	5.6
2014	4.8	0.1	60.0	11.0	27.0	7.3	90.7	7.4
2013	4.9	<0.1	111.7	13.8	53.1	5.0	63.7	8.3
2012	5.0	0.1	58.1	10.6	32.3	7.3	64.9	5.0
2011	5.1	0.1	36.3	7.2	19.7	4.3	68.8	11.1
2010	4.6	0.1	86.4	19.5	31.5	6.9	35.6	6.7
2009	4.6	0.1	64.6	13.3	23.1	10.7	58.1	17.6
2008	4.6	0.1	24.8	8.8	8.1	5.2	35.6	9.7
2007	5.1	0.1	52.4	24.0	30.2	15.6	51.5	7.3
2006	4.9	0.1	72.4	12.0	33.6	5.1	44.0	8.4
2005	4.5	0.1	46.0	9.6	10.7	2.7	43.5	5.9
2004	5.1	0.1	65.7	10.8	37.3	8.6	75.6	29.2
2003	4.8	0.1	31.3	6.1	14.0	2.2	61.4	10.7
2002							95.2	20.1

EFDPLLSF.D03-D21
EFDPLLSS.D02-D19, D22
EFDPLLAS.D03, D06, D11
EFDPLLAF.D12, D18

Table 62. Number of fish and mean relative weight (W_r) for length groups of Largemouth and Spotted bass collected at Paintsville Lake during October 2022. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lower	60	82 (1)	16	82 (2)	7	98 (3)
	Upper	56	88 (6)	8	87 (4)	11	98 (2)
	Total	116	85 (3)	24	84 (2)	18	98 (2)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	W_r	No.	W_r	No.	W_r
Spotted Bass	Lower	1	92 (<1)	1	107 (<1)	0	0 (0)
	Upper	1	100 (<1)	0	0 (0)	0	0 (0)
	Total	2	96 (4)	1	107 (<1)	0	0 (0)

EFDPLLSF.D22

Table 63. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in approximately 3.0 hours of 15-minute nocturnal electrofishing samples at Yatesville Lake (2,280 acres) on 27 April 2022.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	SE
Lower	Spotted Bass					1	1	1													3	2.0	1.4
	Largemouth Bass	2	19	21	18	8	20	28	21	28	23	17	12	11	12	6	3	2	1		252	168.0	11.7
Upper	Spotted Bass						1					1									2	1.3	0.8
	Largemouth Bass	2	22	24	26	5	26	48	18	16	19	6	13	9	9	5	8	1	1	1	259	172.7	24.1
Total	Spotted Bass					1	2	1				1									5	1.7	0.8
	Largemouth Bass	4	41	45	44	13	46	76	39	44	42	23	25	20	21	11	11	3	2	1	511	170.3	12.8

EFDYLLSS.D22

Table 64. Spring nocturnal electrofishing CPUE (fish/hr) for each length group of Largemouth Bass at Yatesville Lake (2,280 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	49.0	8.8	68.3	5.9	30.0	3.5	23.0	2.8	1.0	0.5	170.3	12.8
2021	26.3	5.3	27.0	7.7	14.7	2.3	11.0	2.0	0.3	0.3	79.0	14.6
2020	71.5	15.8	46.0	6.7	20.0	2.9	13.0	2.6	0.5	0.5	150.5	20.8
2019	49.7	5.2	58.3	6.6	28.3	5.4	15.7	3.1	0.0		152.0	11.9
2018	55.3	7.2	64.3	7.1	23.0	3.9	14.0	4.1	0.3	0.3	156.7	9.4
2017	76.7	11.1	55.3	8.7	37.3	4.8	21.0	4.1	0.7	0.7	190.3	17.0
2016	57.3	9.9	50.7	8.8	16.0	4.8	16.7	4.6	0.7	0.7	140.7	16.5
2015	57.3	7.3	67.3	5.4	23.0	3.1	23.3	3.8	0.7	0.5	171.0	8.6
2014	46.0	2.7	67.7	6.7	23.3	2.7	16.7	2.6	0.3	0.3	153.7	10.3
2013						no sample						
2012	23.2	2.8	49.2	7.4	21.6	2.6	8.4	2.1	0.8	0.5	102.4	10.3
2011						no sample						
2010	44.0	6.3	57.0	8.7	19.3	3.8	11.0	2.8	0.7	0.5	131.3	11.7
2009	28.6	5.4	68.3	7.5	30.6	2.8	16.6	3.2	0.0		144.1	9.7
2008	47.0	8.4	38.3	3.8	20.4	3.7	16.6	4.9	0.0		122.3	10.3
2007	47.7	5.9	62.3	5.7	31.3	4.2	15.8	2.7	0.0		157.1	10.7
2006	47.3	7.4	68.0	10.3	20.3	2.2	16.0	4.0	0.7		151.7	17.5
2005	43.7	7.8	61.3	6.6	42.0	4.7	21.7	2.1	0.3		168.7	15.4
2004	12.7	2.8	40.3	10.5	23.7	5.1	9.0	2.2	0.0		85.7	19.4
2003						no sample						
2002	54.3	7.8	50.0	4.4	19.3	2.9	16.7	3.2	0.0		140.3	7.4
2001	35.0	7.0	58.3	7.5	19.3	3.2	9.7	2.1	0.3		122.3	7.8
2000	63.3	8.0	55.7	7.9	9.3	1.1	7.0	1.6	0.0		135.5	13.7
1999	42.7		29.0		16.3		13.7		0.3		101.7	12.2
1998	10.7		25.7		16.3		5.7		0.0		58.3	7.2
1997	50.7		23.7		16.7		2.0		0.0		93.0	10.5
1996	21.5		65.5		7.8		1.5		0.0		96.3	11.5
1995						no sample						
1994						no sample						
1993	153.7		82.9		20.1		7.4		0.0		264.0	

EFDYLLSS.D93-D22

Table 65. PSD and RSD values for black bass species taken in spring electrofishing samples in each area of Yatesville Lake (2,280 acres) on 27 April 2022; 95% confidence intervals are in parentheses.

	Largemouth Bass			Spotted Bass		
Area	≥ Stock size	PSD	RSD_{15}	≥ Stock size	PSD	RSD_{14}
Lower	184	47 (40-55)	19 (13-25)	3	0	0
Upper	180	40 (33-47)	19 (13-25)	2	50 (0-148)	0
Total	364	44 (39-49)	19 (15-23)	5	20 (0-60)	0

EFDYLLSS.D22

Table 66. Spring nocturnal electrofishing population assessment for Largemouth Bass collected at Yatesville Lake (2,280 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2009	2010	2012	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mean length age 3 at capture	4 (13.5)	4 (13.5)	2 (12.4)	2 (12.4)	1 (11.1)	1 (11.1)	1 (11.1)	1 (11.1)	1 (11.1)	1 (11.1)	3 (12.6)	3 (12.6)
Spring CPUE age 1	3 (28.2)	4 (42.6)	2 (19.4)	3 (37.0)	4 (54.3)	4 (56.7)	4 (73.3)	4 (51.3)	4 (46.0)	4 (70.0)	3 (23.2)	4 (52.3)
Spring CPUE 12.0-14.9 in	3 (30.6)	2 (19.3)	2 (21.6)	3 (23.3)	3 (23.0)	1 (16.0)	4 (37.3)	3 (23.0)	3 (28.3)	2 (20.0)	1 (14.7)	3 (30.0)
Spring CPUE ≥15.0 in	3 (16.6)	2 (11.0)	2 (8.4)	3 (16.7)	4 (23.3)	3 (16.7)	4 (21.0)	3 (14.0)	3 (15.7)	2 (13.0)	2 (11.0)	4 (23.0)
Spring CPUE ≥20.0 in	1 (0.0)	3 (0.7)	3 (0.8)	2 (0.3)	3 (0.7)	3 (0.7)	3 (0.7)	2 (0.3)	1 (0.0)	3 (0.5)	2 (0.3)	3 (1.0)
Total score	14	15	11	13	15	12	16	13	12	12	11	17
Assessment rating	Good	Good	Fair	Good	Good	Fair	Good	Good	Fair	Fair	Fair	Excellent
Instantaneous mortality (z)	0.91	1.22	0.79	0.77								
Annual mortality (A)	59.80	70.40	54.60	53.70								

EFDYLLSS.D08-D10, D12, D14-D22
EFDYLLAS.D06, D12
EFDYLLAF.D21*
* Back calculated fall age file

Table 67. Length frequency and nocturnal electrofishing CPUE (fish/hr) of black bass collected at Yatesville Lake (2,280 acres) during 3.0 hours of 15-minute samples on 29 September 2022.

		Inch class																		
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	SE
Lower																					
	Spotted Bass			1															1	0.7	0.7
	Largmouth Bass	21	34	28	5	16	38	21	24	11	6	6	5	1	5	2	1	1	225	150.0	11.0
Upper																					
	Spotted Bass					1													1	0.7	0.7
	Largmouth Bass	10	34	23	9	23	60	30	17	11	5	5	8	2	1	1			239	159.3	13.1
Total																					
	Spotted Bass			1		1													2	0.7	0.5
	Largmouth Bass	31	68	51	14	39	98	51	41	22	11	11	13	3	6	3	1	1	464	154.7	8.3

EFDYLLSF.D22

Table 68. Fall electrofishing indices of year class strength at age 0 and age 1 and mean length (in) of age-0 Largemouth Bass collected during 2003-2022 at Yatesville Lake (2,280 acres).

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2022	4.6	0.1	51.7	5.8	18.7	3.1		
2021	4.7	0.1	52.7	13.4	21.0	5.5	52.3	9.0
2020	4.8	0.1	53.7	9.8	22.0	4.5	23.2	8.4
2019	5.0	0.1	85.3	16.1	34.7	9.5	70.0	15.3
2018	5.3	0.1	79.6	17.8	49.2	14.4	46.0	5.2
2017	5.1	0.1	84.4	8.7	46.4	7.1	51.3	7.1
2016	5.8	0.1	67.3	7.1	61.3	7.2	73.3	10.9
2015	5.0	0.1	92.0	11.3	48.7	9.9	56.7	9.9
2014	4.7	0.1	79.3	14.8	29.3	7.8	54.3	7.7
2013	5.2	0.1	39.6	5.8	25.6	5.0	37.0	2.9
2012	5.0	0.1	82.9	20.0	45.1	10.1	no sample	
2011	4.9	0.1	55.3	9.6	28.7	4.9	19.4	2.5
2010	5.1	0.1	78.6	11.5	45.1	8.7	no sample	
2009	4.9	0.1	32.7	6.5	16.3	4.0	42.6	6.4
2008	5.1	0.1	45.9	7.8	28.4	6.0	28.2	5.3
2007	5.3	0.1	37.4	10.6	23.2	6.1	45.0	8.1
2006	4.9	0.1	29.5	7.8	13.8	3.8	47.0	6.0
2005	4.7	0.1	47.0	12.3	20.0	7.1	45.9	7.2
2004	4.8	0.1	69.5	13.5	32.5	10.8	42.3	7.1
2003	5.3	0.1	46.0	6.3	29.3	4.4	12.7	2.8

EFDYLLSS.D03-D22
EFDYLLSF.D03-D21
EFDYLLAS.D05, D06, D12
EFDYLLAF.D15

Table 69. Number of fish and mean relative weight (W_r) for length groups of Largemouth and Spotted bass collected at Yatesville Lake during September 2022. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	W_r	No.	W_r	No.	W_r
Largemouth Bass	Lower	61	84 (4)	17	87 (2)	10	99 (3)
	Upper	59	81 (1)	17	85 (2)	4	98 (3)
	Total	120	83 (2)	34	86 (1)	14	99 (2)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	W_r	No.	W_r	No.	W_r
Spotted Bass	Lower	0	0 (0)	0	0 (0)	0	0 (0)
	Upper	1	98 (<1)	0	0 (0)	0	0 (0)
	Total	1	98 (<1)	0	0 (0)	0	0 (0)

EFDPLLSF.D22

WESTERN FISHERY DISTRICT

Project 2: Stream Fishery Surveys

FINDINGS

Lower Tennessee River

Diurnal electrofishing (120 PPS DC current) was conducted on September 16, 2022, in the lower Tennessee River at river mile 17. A total of 1.25 hours of sampling yielded 650 fish, comprised of 33 species (Table 1). An additional sample at river mile 22.4 was conducted by the Critical Species Investigation (CSI) branch. The results of their sampling can be found in the CSI annual report for 2022. The methods for this year's survey were different than past years in that all species were collected. Of the sportfish collected in the most recent study, Smallmouth Bass had the highest catch rate at 35.2 fish/hr. The catch rate (13.6 fish/hr) for Largemouth Bass was down from the 20.0 fish/hr collected in 2019. No Blue or Flathead catfish were collected. Low pulse (15 PPS) DC current was used to help collect catfish during one of the 900 sec. survey runs. Relative weights are provided in Table 2.

Lower Cumberland River

The lower Cumberland River was sampled using diurnal electrofishing on 15 September 2022, near Dycusburg, KY (CRM 20.0). A total of 1.5 hours of electrofishing yielded 397 fish, comprised of 27 species (Table 3). As seen in previous years, bluegill accounted for the highest catch rates of all sportfish species (11.3 fish/hr) while spotted bass had the second highest catch rate of all sportfish species (3.3 fish/hr). Largemouth bass were caught at 2.0 fish/hr. The catch rate of silver carp was 14.0 fish/hr, compared to 12.6 and 10.0 fish/hr collected during the 2015 and 2019 studies, respectively. The highest catch rates (excluding shad) were those of longnose gar (25.3 fish/hr). Relative weights are provided in Table 4.

Ohio River

The Ohio River was sampled using diurnal electrofishing on 19 and 22 September 2022. Sampling areas included Smithland Tailwater (ORM 918.5-920.1) and the area between Dam #52 and Shawnee Steam Plant (ORM 938.9-946.4). A total of 3.0 hours of electrofishing yielded 561 (187.0 fish/hr) fish, comprised of 30 species (Table 5). The catch rate for largemouth bass (1.7 fish/hr) was less than half of what it was in 2019. Blue catfish had the highest catch rate (28.7 fish/hr) of all species, excluding shad. Low pulse (15 PPS) DC current was used to help collect catfish in some of the sampling locations. Silver carp catch rates were 7.3 fish/hr, compared to 12.0 and 4.7 fish/hr in 2017 and 2019, respectively. Relative weights are provided in Table 6.

Mississippi River

The Mississippi River was sampled at two locations on September 20 and 23, 2022 by diurnal electrofishing. Water elevations were extremely low and prevented us from accessing any creeks. The first site was near Wickliffe, KY. The second site was near Columbus Belmont, KY. The 2.25 hours of sampling effort yielded 504 fish comprised of 25 different species (Table 7). White bass were collected at a rate of 4.4 fish/hr, down from 6.7 fish/hr collected in 2019, although some additional hybrid striped bass were caught as well. The catch rate for all catfish was 84.9 fish/hr and was comprised of mainly flathead catfish. Low pulse (15 PPS) DC current was used for 0.75 hours to collect catfish species. Silver carp catch rates were lower in the Mississippi river (3.6 fish/hr) than in other rivers we sampled this year, but as with past years this may have more to do with sampling conditions rather than actual relative abundance. Relative weights are provided in Table 8.

Table 1. Relative abundance and size distribution of species collected during diurnal electrofishing (PPS 120) on the Lower Tennessee River on 16 September 2022. Sample sites were in the area of river mile 17. Total effort was 1.25 hours. Low pulse (15 PPS) was used for 0.25 hours of the total sample time.

	Inch class																																	
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	38	Total	CPUE	SE
Spotted Gar																		1																1	0.8	0.8
Longnose Gar																							2	2		1	1	1	2	1	2	1		13	10.4	5.7
Shortnose Gar																	4	1	4	3	2		1			1								16	12.8	6.4
Bow fin																		1		1														2	1.6	1.6
Skipjack Herring			2																															2	1.6	1.0
Gizzard Shad		1	29	61	12	36	16	10	2	3	1	2																						173	138.4	41.1
Threadfin Shad		18	24	7																														49	39.2	30.5
Grass Carp																								1									1	2	1.6	1.6
Common Carp																1				1		1	2											5	4.0	3.1
Silver Carp																		1	1	2	3		1	1	1	2								12	9.6	8.6
Emerald Shiner			2																															2	1.6	1.0
Smallmouth Buffalo									1			5	3	3	1		1		1							1								16	12.8	10.8
Bigmouth Buffalo																	1	1		1	1					1								5	4.0	2.2
Black Buffalo														1			2	1	1				1	1										7	5.6	5.6
Spotted Sucker			1	1																														2	1.6	1.6
Shorthead Redhorse			2	21	5																													28	22.4	15.7
Channel Catfish			2																1															3	2.4	1.6
Inland Silverside		3	1																															4	3.2	3.2
White Bass				2	1	1																												4	3.2	1.5
Yellow Bass		8	31	1																														40	32.0	20.9
Green Sunfish		1	1	2																														4	3.2	2.3
Warmouth					1																													1	0.8	0.8
Bluegill	3	8	14	9	1	1																												36	28.8	7.4
Longear Sunfish		3	4	1	1																													9	7.2	2.9
Smallmouth Bass		1	20	12	8	3																												44	35.2	22.5
Spotted Bass			2	2	1																													5	4.0	1.8
Largemouth Bass				7	5	1	1	1			1							1																17	13.6	5.5
White Crappie								1	1	1																								3	2.4	2.4
Black Crappie									1																									1	0.8	0.8
Logperch			6	11																														17	13.6	11.6
Sauger					1																													1	0.8	0.8
Freshwater Drum		3	85	33	4																													125	100.0	86.2
Sunfish hybrids				1																														1	0.8	0.8

w fdtn.d22

*Kentucky Lake tailwater sampling data is available in Western Kentucky CSI branch Annual Performance Report

Table 2. Number of fish and mean relative weight (W_r) values for species collected during diurnal electrofishing on the Lower Tennessee River on 16 September 2022. Sample sites were in the area of river mile 17. Standard errors are in parentheses.

Species	No.	W_r
Gizzard Shad	33	93 (1)
Channel Catfish	1	76
White Bass	1	81
Bluegill	3	110 (4)
Largemouth Bass	3	92 (15)
White Crappie	3	95 (1)
Black Crappie	1	98
Sauger	1	104
Freshwater Drum	2	83 (8)

wfdtn.d22

Table 3. Relative abundance and size distribution of species collected during diurnal electrofishing on the Lower Cumberland River on 15 September 2022. Sample sites were in the area of river mile 20. Total effort was 1.5 hours targeting all fish species. Standard pulse (120 PPS) was used for 1.0 hour and low pulse (15 PPS) was used for 0.50 hours of the total sample time.

	Inch class																																
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Total	CPUE	SE
Longnose Gar												1							2	2	4	4	4	4	2	2	4	2	3	2	2	38	25.3	6.3
Shortnose Gar																2	2		1	1	2	1	1									10	6.7	2.7
Bow fin																			1		1		1	1	1							5	3.3	3.3
Skipjack Herring				1																												1	0.7	0.7
Gizzard Shad	1	22	34	11	14	40	24	11	1	6	2						1															167	111.3	44.6
Threadfin Shad	25	16	2																													43	28.7	20.5
Grass Carp																							2									2	1.3	0.8
Common Carp																		1														1	0.7	0.7
Silver Carp																		2	4	2	1	2	1	1	3	2		1		2		21	14.0	5.5
River Carpsucker														4	2	3	4															13	8.7	5.6
Blue Sucker																				1												1	0.7	0.7
Smallmouth Buffalo									1		1			2		3	4	4		1	1											17	11.3	4.2
Bigmouth Buffalo																			1													1	0.7	0.7
Black Buffalo															1				1													2	1.3	1.3
Golden Redhorse												1																				1	0.7	0.7
Channel Catfish																2																2	1.3	1.33
Flathead Catfish						1	1			1										1												4	2.7	1.7
White Bass			1		1																											2	1.3	0.8
Green Sunfish		2																														2	1.3	0.8
Warmouth		1																														1	0.7	0.7
Bluegill	1	2	6	5	1	2																										17	11.3	4.1
Longear Sunfish	3	7	18	1																												29	19.3	11.0
Redear Sunfish			1					1		1																						3	2.0	1.4
Smallmouth Bass								1	1																							2	1.3	0.8
Spotted Bass			1	1						2	1																					5	3.3	1.6
Largemouth Bass								1	1					1																		3	2.0	2.0
Freshwater Drum						1			1	1									1													4	2.7	1.3

wfdcr.d22

*Lake Barkley tailwater sampling data is available in Western Kentucky CSI branch Annual Performance Report

Table 4. Number of fish and mean relative weight (W_r) values for species collected during diurnal electrofishing on the Lower Cumberland River on 15 September 2022. Sample sites were in the area of river mile 20. Standard errors are in parentheses.

Species	No.	W_r
Gizzard Shad	85	91 (1)
Channel Catfish	2	102 (1)
Flathead Catfish	1	103
White Bass	1	108
Bluegill	16	114 (3)
Redear Sunfish	3	100 (2)
Smallmouth Bass	2	86 (10)
Spotted Bass	3	95 (1)
Largemouth Bass	3	111 (3)
Freshwater Drum	4	105 (4)

wfdcr.d22

Table 5 . Relative abundance and size distribution of species collected during diurnal electrofishing (120 PPS) on the Ohio River on 19 and 22 September 2022. Sample sites were in the area of river mile 944 and 920. Total effort was 3.0 hours consisting of twelve, 900-second runs directed at all fish species. Low pulse (15 PPS) was used for approximately 0.75 hours of the total sample time.

	Inch class																																		
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	Total	CPUE	SE
Spotted Gar																					1	2	2	1											6	2.0	1.0
Longnose Gar																				1			2		1	3							2		9	3.0	1.2
Shortnose Gar														1					3		2	5	2	1	2	2	1							19	6.3	3.0
Bowfin																								2											2	0.7	0.7
Skipjack Herring			2	1	1	2																													6	2.0	0.8
Gizzard Shad		2	15	25	10	6	6	3	1	1	1		2	1	1																				74	24.7	10.8
Threadfin Shad		9	53																																62	20.7	20.0
Grass Carp																					1			2				1							4	1.3	0.8
Common Carp																		1		1		2	1			2									7	2.3	1.7
Silver Chub			1																																1	0.3	0.3
Silver Carp																		1		1		1	2	1	4	3	2	2	3		1		1		22	7.3	2.7
Emerald Shiner			2																																2	0.7	0.7
River Carpsucker																	1																		1	0.3	0.3
Blue Sucker																							1												1	0.3	0.3
Smallmouth Buffalo				1										1	2	7	2	7	6	5			2						1						34	11.3	5.0
Blue Catfish		9	31	12	4		1	1	1	1				1		1				1		1	2		2	4	1	3	2	4	1	2		1	86	28.7	16.4
Channel Catfish			12	10	1		1											1	3	1	1	1		1											32	10.7	5.2
Flathead Catfish			3	14	3		3	6	2		2	3	1	1									1												39	13.0	10.5
Brook Silverside		1																																	1	0.3	0.3
White Bass					1	2						1																							4	1.3	0.9
Striped Bass															1				1																2	0.7	0.7
Orangespotted Sunfish		7																																	7	2.3	2.0
Bluegill	1	2	8	1	2	2	1																												17	5.7	5.0
Longear Sunfish	6	13	17	9																															45	15.0	8.8
Redear Sunfish		4		9	5	4	2																												24	8.0	5.6
Smallmouth Bass					2																														2	0.7	0.5
Spotted Bass				5	5		1	2	5	2	2	2	1	1																					26	8.7	3.8
Largemouth Bass					1	2	2																												5	1.7	1.0
Sauger					1	2																													3	1.0	0.7
Freshwater Drum									3	1				1		1	2	5	2		1	1		1											18	6.0	2.8

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Table 6. Number of fish and mean relative weight (W_r) values for species collected during diurnal electrofishing on the Ohio River on 19 and 22 September 2022. Sample sites were in the area of river mile 944 and 920. Standard errors are in parentheses.

Species	No.	W_r
Gizzard Shad	16	89 (2)
Blue Catfish	25	111 (2)
Channel Catfish	8	98 (5)
Flathead Catfish	6	91 (1)
White Bass	3	89 (8)
Striped Bass	2	91 (6)
Bluegill	5	111 (4)
Redear Sunfish	16	115 (3)
Spotted Bass	16	106 (2)
Sauger	3	91 (4)
Freshwater Drum	18	111 (3)

wfdor.d22

Table 7. Relative abundance and size distribution of species collected during diurnal electrofishing (120 PPS) on the Mississippi River on 20 and 23 September 2022. Sample sites were in the area of river mile 950 (just downstream of Wickliffe, KY) and 936 (just downstream of Columbus Belmont, KY). Total effort, 2.25 hours, of electrofishing was exerted; 9 - 900-second runs at each site where all species were dipped. Low pulse (15 PPS) was used for 0.5 hours of the total sample time.

	Inch class																																		
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	31	32	33	34	Total	CPUE	SE
Spotted Gar																									1								1	0.4	0.4
Longnose Gar																	1	3	3	5			1			1	2				1		17	7.6	3.2
Shortnose Gar															3	2		1	5	7	4	13	12	3		1		1					52	23.1	7.5
Mooneye				4																													4	1.8	1.4
Skipjack Herring				1	3																												4	1.8	1.0
Gizzard Shad		1	5	7	1	1		1																									16	7.1	3.0
Threadfin Shad	4	64																															68	30.2	24.4
Grass Carp																					1				1								2	0.9	0.9
Common Carp																		2	1	2	2	3	2	2	1	1							16	7.1	3.6
Mississippi Silvery Minnow	2	18	1																														21	9.3	4.7
Silver Carp																								2	2	2	1		1				8	3.6	1.2
River Carpsucker			1														1	3															5	2.2	1.4
Blue Sucker																								1	2	1							4	1.8	1.0
Smallmouth Buffalo		2									2	2	3	3	2	1		2	2	2	5	2	3	4	1	2							38	16.9	11.1
Black Buffalo																								1									1	0.4	0.4
Blue Catfish	3	8	7	2	1	1	1					2	1	1	1	6	4	2	1	5	1	3			2	1			1			2	56	24.9	21.0
Channel Catfish	3	16	8	1											1	3		2		1	1												36	16.0	9.2
Flathead Catfish		7	18	8	13	14	10	6	8	4	5	1	1	1	1	1	1																99	44.0	28.9
White Bass			2	1				2	1	2		1		1																			10	4.4	2.2
Bluegill			1	1																													2	0.9	0.6
Spotted Bass			1																														1	0.4	0.4
Largemouth Bass											1																						1	0.4	0.4
Black Crappie						1																											1	0.4	0.4
Freshw ater Drum	1	4	9	4					1	1	1	1	2	1	1	3		2	1	1													33	14.7	4.2
Hybrid striped bass														1		1		3	1	1		1											8	3.6	2.7

wfdmsr.d22

Table 8. Number of fish and mean relative weight (W_r) values for species collected during diurnal electrofishing on the Mississippi River on 20 and 23 September 2022. Sample sites were in the area of river mile 950 and 936. Standard errors are in parentheses.

Species	No.	W_r
Gizzard Shad	2	99 (1)
Blue Catfish	33	95 (3)
Channel Catfish	8	95 (4)
Flathead Catfish	11	115 (2)
White Bass	7	91 (3)
Bluegill	2	120 (1)
Largemouth Bass	1	90
Black Crappie	1	102
Hybrid Striped Bass	7	85 (1)
Freshwater Drum	17	102 (3)

wfdmsr.d22

WESTERN FISHERY DISTRICT

Project 3: Technical Guidance

FINDINGS

Table 1. Technical guidance given to pond owners in the Western Fishery District during the 2022 project year (April 1, 2022 - March 31, 2023). Approximately 100 telephone calls to the office regarding technical guidance and stocking were also handled. Additionally, numerous emails were replied to requesting farm pond technical guidance information.

County Pond Owner	Date of Inspection	Findings	Management Recommendations
No on-site visits were made during this project year			

NORTHWESTERN FISHERY DISTRICT

Project 3: Technical Guidance

FINDINGS

Requests for technical guidance information were received via e-mails, phone calls, and office visits. Problems included unbalanced populations, new pond construction, stocking, fish disease and fish kills, water quality issues, aquatic vegetation control, and general pond management. Requested information was relayed via phone, e-mail, office visit, and referencing the Pond Management section of the web site. There were 19 on-site visits conducted in 2021, providing various recommendations or surveying fish populations. On-site visits are only conducted for City, County, State, or Federally owned properties with public fishing opportunities.

SOUTHWESTERN FISHERY DISTRICT

Project 3: Technical Guidance

FINDINGS

Emails, phone calls, texts and a few office visits were means of providing technical guidance to landowners. Fish stocking and aquatic vegetation remained the top technical guidance requests.

CENTRAL FISHERIES DISTRICT

Project 3: Technical Guidance

FINDINGS

A total of 223 phone calls, 144 e-mails, and 1 walk-in office visits concerning farm pond problems were handled this year. Most common problems were unbalanced fish populations and excessive aquatic plant growth. During 2022, one landowner requested a Fisheries Special Management Permit (FMP) for their pond.

NORTHEASTERN FISHERY DISTRICT

Project 2: Streams Fishery Surveys

FINDINGS

Trout Stream Temperature Assessments

Temperature loggers were installed in all NEFD trout designated waters. Data collection spanned from May through November (Table 1). For our put-grow-take trout streams, Big Caney, Chimney Top, Dog Fork, Laurel, and Parched Corn all remained at a Class I designation, but East Fork Indian Creek dropped to a Class II designation (it had more than 5 days above 72° F for the year; Table 2). For our put-take streams, East Fork Indian Creek and Middle Fork Red River both dropped a Class from their 2021 designation (East Fork Indian Creek from a I to a II and Middle Fork Red River from a III to a III/IV) while the rest remained at their existing designation (Table 3).

Table 1. Water temperature data (^{o}F) for designated trout streams in 2022.

Stream name	Stream class rating	Location	Month																				
			May			June			July			August			September			October			November		
			Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Big Caney	I		52.6	59.6	68.1	58.6	64.9	74.4	64.8	66.5	68.3	62.7	65.8	71.4	50.6	61.7	66.6	42.2	50.4	56.3	33.7	45.5	57.6
Chimney Top	I	Upper	52.2	55.6	59.7	55.0	60.0	65.5	60.6	63.8	67.9	62.2	64.7	67.8	52.4	61.5	66.9						
		Lower	52.4	58.3	65.9	56.6	64.0	71.9	63.6	67.3	72.4	62.0	66.2	70.4	51.4	62.4	68.1						
Craney	III	Upper	55.7	61.9	67.7	65.1	69.5	75.7	67.5	72.9	79.0	66.0	71.3	77.9	56.6	66.1	73.0	43.6	51.9	60.0	33.0	45.7	60.5
		Lower							68.4	73.3	76.9	67.5	70.3	75.2									
Dog Fork	I		50.9	57.6	64.1	56.2	62.2	69.0	62.5	65.6	69.4	60.5	64.9	68.4	50.6	60.7	65.9	43.1	49.6	55.3	35.3	45.3	54.9
EF Indian	I	Upper	53.2	61.1	71.7	60.1	67.2	77.3	65.1	69.2	76.9	63.6	68.2	75.7	53.4	64.4	71.7	43.7	52.7	61.4	34.4	46.4	60.9
		Lower	54.2	63.7	72.9	64.6	71.0	79.8	66.3	72.4	78.5	65.4	70.9	75.4	54.3	66.6	72.2	44.9	53.0	61.3	34.6	47.0	60.8
EF Little Sandy	IV		56.0	65.4	76.0	60.1	72.1	84.3	69.5	75.1	81.1	66.7	73.5	80.1	46.7	64.8	76.1	36.2	51.3	68.3	25.6	46.3	63.9
Laurel Creek	I		52.9	58.3	65.0	58.0	63.1	71.7	62.6	65.8	72.1	62.1	66.2	70.8	50.6	62.1	67.2	41.2	49.8	55.8	32.1	45.1	58.4
MF Red	III	Upper	56.3	64.9	74.7	62.8	71.7	81.5	70.2	74.3	80.3	66.5	72.5	79.4	54.5	68.0	77.0	44.2	53.9	61.9	34.4	47.6	61.2
		Lower	56.7	65.9	76.5	65.4	74.1	84.1	70.5	76.0	83.7	68.4	73.5	80.9	55.7	69.3	77.7	45.6	55.0	61.8	35.4	47.8	61.7
NF Triplett	IV		56.5	65.6	76.9	66.6	73.6	84.3	68.1	76.5	82.1	68.2	73.6	79.2	53.8	68.9	77.0	43.6	54.8	65.7	35.4	47.7	66.4
Parched Corn	I	Upper	51.5	57.9	64.3	57.1	63.1	70.0	63.7	66.8	70.4	61.4	65.9	69.1	50.3	61.4	67.6	41.3	49.4	55.9	32.1	44.5	56.5
		Lower	51.6	58.1	65.1	57.2	63.5	71.4	64.0	67.1	71.1	63.5	65.8	69.4	52.8	61.8	66.5	44.5	50.0	55.4	32.0	44.3	55.0
Station Camp Creek	IV	**																					
Sturgeon Creek	IV	**																					
Swift Camp	III	Upper	55.7	63.4	72.5	63.0	70.3	80.0	68.9	72.8	78.8	66.4	70.6	75.6	52.8	65.2	71.8	43.1	50.6	57.2	32.3	44.3	57.1
		Lower				65.5	70.9	75.9	69.6	72.7	77.8												
Triplett Creek	IV		52.6	59.6	68.1	58.6	64.9	74.4	64.8	66.5	68.3	62.7	65.8	71.4	50.6	61.7	66.6	42.2	50.4	56.3	33.7	45.5	57.6

** missing data logger

Table 2. Stream classification ratings for put-grow-take streams in the Northeastern Fishery District.

Stream	Year	Number of days avg temp ≥ 72 °F in the year	Max avg daily temp from June-September	Number of days avg temp ≥ 73 °F in June	Max avg daily temp in June	Stream classification rating
Big Caney Creek	2022	0	64.7	0	64.9	I
	2021	0	70.3	0	67.6	I
	2020	0	70.1	0	64.8	I
	2019	0	69.4	0	64.9	I
Chimney Top Creek	2022	0	63.8	0	62.0	I
	2021	0	67.8	0	64.8	I
	2020	0	69.7	0	63.5	I
	2019	0	70.8	0	66.9	I
Dog Fork	2022	0	63.4	0	62.2	I
	2021	0	66.6	0	64.7	I
	2020	0	68.5	0	64.2	I
	2019	0	67.9	0	64.6	I
East Fork Indian Creek	2022	20	68.7	5	69.1	II
	2021	0	71.2	0	69.3	I
	2020	25	75.7	0	69.7	III
	2019	11	72.9	0	68	II
Laurel Creek	2022	0	64.3	0	63.1	I
	2021					
	2020					
	2019	1	72.7	0	66.9	I
Parched Corn Creek	2022	0	64.5	0	63.3	I
	2021	0	68.3	0	66.5	I
	2020	0	70.0	0	65.3	I
	2019	0	68.6	0	64.5	I

Table 3. Stream classification ratings for put-take streams in the Northeastern Fishery District.

Stream	Year	Number of days avg temp ≥ 72 °F in the year	Max avg daily temp from June-September	Number of days avg temp ≥ 73 °F in June	Max avg daily temp in June	Stream classification rating
Big Caney Creek	2022	0	64.7	0	64.9	I
	2021	0	70.3	0	67.6	I
	2020	0	70.1	0	64.8	I
	2019	0	69.4	0	64.9	I
Craney Creek	2022	52	71.1	2	69.6	III
	2021	20	75.8	2	75.8	III
	2020	52	78.5	2	74.3	III
	2019	48	77.0	0	72.2	III
East Fork Indian Creek	2022	20	38.7	5	69.1	II
	2021	0	71.2	0	69.3	I
	2020	25	75.7	0	69.7	III
	2019	11	72.9	0	68	II
East Fork Little Sandy River	2022	74	71.4	11	72.1	IV
	2021	75	79.4	7	79.4	IV
	2020	85	80.2	6	75.3	IV
	2019	76	80.3	4	77.6	IV
Laurel Creek	2022	0	64.3	0	63.1	I
	2021					
	2020					
	2019	1	72.7	0	66.9	I
Middle Fork Red River	2022	70	71.6	9	71.7	III/IV
	2021	44	75.6	3	75.6	III
	2020	80	79.2	5	75	IV
	2019	83	80.2	3	74.4	IV
Station Camp Creek	2022					
	2021					
	2020					
	2019	101	80.1	2	74.4	IV
Sturgeon Creek	2022					
	2021					
	2020					
	2019	83	80.0	3	76.1	IV
Swift Camp Creek	2022	33	69.7	4	70.3	II
	2021	14.0	73.9	2	73.9	II
	2020	25.0	76.6	0	71.9	III
	2019	53.0	81.3	1	73.1	III
Triplett Creek - Mainstem	2022					
	2021					
	2020					
	2019					
Triplett Creek- North Fork	2022	80	73.2	16	73.6	IV
	2021					
	2020					
	2019	90	81.0	4	78	IV

NORTHEASTERN FISHERY DISTRICT

Project 3: Technical Guidance

FINDINGS

In 2021, on-site visits were permanently suspended. Consultations will continue to be handled via telephone and written correspondence. In 2022, roughly 100-125 phone calls and about 20 written correspondences were handled. Most vegetation problems and a few population problems were resolved using email pictures, pond harvest log data, or the use of the "Managing Your Farm Ponds" web page. Typical problems responded to include: pond stocking, aquatic vegetation problems, undesirable species, fishing information, fish kills, farm pond management, fish pathogens, water quality, pond construction, structural problems with dams, and pond nuisances.

SOUTHEASTERN FISHERY DISTRICT

Project 2: Stream Fishery Surveys – Trout Streams

FINDINGS

Trout Stream Temperature Monitoring

HOBO MX TidbiT 400 (MX2203) temperature data loggers were deployed in Beaver Creek, Clear Creek, Elk Spring Creek, Hatchery Creek, and Rock Creek, to evaluate current trout management strategies. Data loggers were deployed at one upstream and one downstream location within each stream except Hatchery Creek, where one data logger was deployed in the middle wetland location. Water temperatures (°F) were recorded hourly from mid-April to late-October. Temperature data loggers were visually inspected to verify condition and continued submersion in mid-August. Monthly mean, maximum, and minimum temperatures for each stream are found in Table 1. Historical water temperatures and classifications for other trout streams within the Southeastern Fisheries District can be found in Tables 2-4.

Beaver Creek

Beaver Creek recorded 41 days with daily average temperatures equal to or exceeding 72°F, a maximum average daily temperature of 79°F between June and September, a maximum average daily temperature of 78.7°F during June, and 13 days with an average temperature equal to or exceeding 73°F during June. Observed temperatures in June were substantially higher than June temperatures observed during previous temperature monitoring (Table 3).

Clear Creek

Clear Creek recorded 36 days with daily average temperatures equal to or exceeding 72°F, a maximum average daily temperature of 76.8°F between June and September, a maximum average daily temperature of 76.8°F during June, and 7 days with an average temperature equal to or exceeding 73°F during June. Observed temperatures from June to September were slightly higher than temperatures for the time-period during previous temperature monitoring (Table 3).

Elk Spring Creek

Elk Spring Creek recorded zero days with daily average temperatures equal to or exceeding 72°F, a maximum average daily temperature of 69.8°F between June and September, a maximum average daily temperature of 68.2°F during June, and zero days with an average temperature equal to or exceeding 73°F during June (Table 3). The temperature data logger located in the upper section of Elk Spring Creek was unable to be retrieved.

Hatchery Creek

Hatchery Creek recorded zero days with daily average temperatures equal to or exceeding 72°F, a maximum average daily temperature of 62°F between June and September, a maximum average daily temperature of 51°F during June, and zero days with an average temperature equal to or exceeding 73°F during June (Table 4). The temperature data logger deployed in Hatchery Creek was unable to be retrieved; however, daily temperature records were received from The Wolf Creek National Fish Hatchery and used for trout stream classification purposes.

Rock Creek

Rock Creek recorded 32 days with daily average temperatures equal to or exceeding 72°F, a maximum average daily temperature of 76.6°F between June and September, a maximum average daily temperature of 75.9°F during June, and six days with an average temperature equal to or exceeding 73°F during June (Table 3). Observed temperatures in June were substantially higher than June temperatures observed during previous temperature monitoring (Table 3).

As outlined in the Trout Streams Program in Kentucky (found on the Kentucky Department of Fish and Wildlife Resources website), trout streams are currently classified as Class I, II, III, and IV streams based on four water temperature parameters: 1) the number of days overall stream temperatures average above 72° F in a calendar year, 2) maximum average daily temperature reached in the period June-September, 3) number of days overall stream temperatures average equal to or above 73° F in the month of June and 4) maximum average daily stream temperatures in the month of June. Class I streams have a minimal number of days (<5) above 72° F in a calendar year and have a maximum temperature that remains below 72° F during the period June-September. Class II streams have a low number of days (<25) above 72° F in a calendar year and have a maximum temperature that remains below 75° F during the period June-September. Class III and Class IV streams have a significant number of days (>25) above 72° F in a calendar year and most likely will be unable to provide significant carry-over to the next year. Separation of Class III and IV streams is based on the number of days the stream temperatures remain equal to or greater than 73° F during the month of June and the maximum stream temperature in June. Streams categorized as Class III have the potential to be stocked in June while Class IV streams are considered too warm to be stocked in June.

Based on these four water temperature parameters and historical temperature records, Elk Spring Creek and Hatchery Creek are classified as Class I trout streams (Tables 1, 3-4). Additionally, Beaver Creek and Clear Creek are classified as Class III trout streams and Rock Creek is classified as a Class IV trout stream (Tables 1 and 3). Changes to current management strategies for each of these streams are not recommended at this time.

Trout Stream Angler Utilization Surveys

Browning Dark Ops HD Pro X trail cameras were placed at Beaver and Elk Spring Creeks on February 28, 2022 (one camera at Elk Spring Creek and two cameras at Beaver Creek) to monitor angler utilization of these trout streams. Angler utilization data from each camera was collected monthly from March 2022-February 2023. Previously, one camera was placed at Laurel River Tailwaters from June 2021 to February 2022 and angler utilization data was also collected monthly. This data will be used to establish baseline angler utilization trends for future stocking recommendations.

Between March 2022 and February 2023, an estimated total of 307 anglers utilized Beaver Creek with an estimated utilization rate of 0.43 anglers per day. A high percentage of anglers (90.9%) utilized Beaver Creek between March and September and 94.1% of total anglers utilized the upper section of Beaver Creek (Table 5). An estimated total of 70 anglers utilized Elk Springs Creek with an estimated utilization rate of 0.2 anglers per day. More than 75% of anglers utilized Elk Springs Creek between March and September (Table 5). Both Beaver Creek and Elk Springs Creek are managed as put-and-take trout fisheries.

Between June 2021 and February 2022, an estimated total of 82 anglers utilized Laurel River Tailwaters with an estimated utilization rate of 0.31 anglers per day. Anglers utilizing Laurel River Lake Tailwaters during October and December accounted for 50% of total anglers (Table 6). The Laurel River Tailwaters is managed for a put-grow-take Brown Trout fishery and a put-and-take Rainbow Trout fishery.

Table 1. Water temperature data (°F) for designated trout streams in 2022.

Stream name	Stream class rating	Location	Month																				
			May			June			July			August			September			October			November		
			Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Beaver Creek	III	Upper	57	64.8	71	67	72.6	78	62	71.6	79	64	70.3	75	58	67.8	73	47	56.8	62		N/A	
		Lower	57	65.1	72	67	72.7	79	63	71.4	79	64	69.8	75	56	67.7	73	47	54.1	60		N/A	
Clear Creek	III	Upper	59	65.5	70	67	71.4	78	68	72.6	76	68	71.1	74	56	66.4	72	49	55.0	59		N/A	
		Lower	58	64.8	70	66	70.4	76	68	72.2	76	68	70.7	74	56	65.8	72	48	53.8	57		N/A	
Elk Spring Creek	I	Upper	*																			N/A	
		Lower	58	61.1	65	62	65.5	68	62	65.6	70	62	63.7	66	57	62.8	66	51	56.8	60		N/A	
Rock Creek	IV	Upper	55	61.6	67	65	68.6	74	67	71.0	75	67	68.9	71	54	64.1	70	48	55.6	69		N/A	
		Lower	56	63.7	69	68	72.3	78	69	73.5	78	68	71.2	75	57	66.9	72	51	57.4	69		N/A	
Hatchery Creek**	I	WCNFH	50	50.6	52	50	50.2	51	50	51.2	53	52	54.3	57	55	58.5	62	59	60.8	63	56	57.5	59

* missing data

** Data from Wolf Creek National Fish Hatchery

Table 2. Stream classification ratings for put, grow, and take streams in the Southeastern Fishery District.

Stream	Year	Number of days average temperature ≥ 72 °F in the year	Maximum average daily temperature from June-September	Number of days average temperature ≥ 73 °F in June	Maximum average daily temperature in June	Stream classification rating
Bark Camp Creek*	2021	0	71.7	0	70.2	I
	2018	2	72.2	0	70.8	II
	2011	23	73.8	0	71.6	II
Laurel River Tailwaters*	2021	0	57.0	0	50.4	I

*Put, grow, and take for Brown Trout; Put, take for Rainbow Trout

Table 3. Stream classification ratings for put, take streams in the Southeastern Fishery District.

Stream	Year	Number of days average temperature ≥ 72 °F in the year	Maximum average daily temperature from June-September	Number of days average temperature ≥ 73 °F in June	Maximum average daily temperature in June	Stream classification rating
Beaver Creek*	2022	41	79.0	13	78.7	IV
	2019	69	77.9	0	70.8	III
	2011	60	78.8	0	72	III
Cane Creek*	2021	7	72.8	0	69.9	II
	2018	5	73.6	0	71.1	II
	2010	6	72.9	0	70.2	II
Clear Creek*	2022	36	76.8	7	76.8	IV
	2018	35	74.9	2	73.5	III
	2011	44	75.9	4	72.7	III
Elk Spring Creek*	2022	0	69.8	0	68.2	I
	2019	0	66.1	0	63.2	I
	2011	0	63.4	0	61.9	I
Upper Hatchery Creek**	2022	0	62.0	0	51	I
	2020	0	58.0	0	57	I
	2019	0	64.0	0	58	I
	2018	0	58.0	0	58	I
	2017	0	64.0	0	57	I
Right Fork Buffalo Creek*	2021	21	74.3	0	71.5	II
	2020	58	77.7	0	71.9	III
	2011	39	76.7	1	73.4	III
Rock Creek*	2022	32	76.6	6	75.9	IV
	2019	30	75.4	0	71.6	III
	2011	66	78.6	18	77.1	IV
War Fork Creek*	2021	5	71.3	0	69.3	I
	2020	14	73.8	0	67.1	II
	2010	2	70.0	0	65.9	I

*Put and take for Rainbow Trout

**Put and take for all trout species

Table 4. Stream classification ratings for catch and release only streams in the Southeastern Fishery District.

Stream	Year	Number of days average temperature ≥ 72 °F in the year	Maximum average daily temperature from June-September	Number of days average temperature ≥ 73 °F in June	Maximum average daily temperature in June	Stream classification rating
Lower Hatchery Creek*	2022	0	62.0	0	51.0	I
	2020	0	58.0	0	57.0	I
	2019	0	64.0	0	58.0	I
	2018	0	58.0	0	58.0	I
	2017	0	64.0	0	57.0	I

*Catch and release for all trout species

Table 5. Cumulative angler counts at put and take trout streams based on trail camera data. No. of Days (D) signifies the number of full days the camera was running, Count (A) is the number of anglers counted at the sites and A/D is the number of anglers counted per day the cameras were running.

			Month																	
			Mar-May			June-July			Aug-Sep			Oct			Nov-Dec			Jan-Feb		
Stream	Year	Location	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D
Beaver Creek	22/23	Upper*	86	88	1.0	59	115	1.9	60	58	0.9	31	9	0.3	61	10	0.2	52	9	0.2
		Lower	92	5	0.1	60	5	0.1	60	8	0.1	31	0	0	61	0	0	52	0	0
		Total	178	93	0.5	119	120	1.0	120	66	0.6	62	9	0.1	122	10	0.1	104	9	0.1
Elk Springs Creek	22/23	Stocking Site**	89	17	0.2	60	21	0.4	59	15	0.3	31	3	0.1	61	9	0.1	52	5	0.1

* Stocked in April, May, October

** Stocked in April, May, June, October

Table 6. Cumulative angler counts at put, grow, and take trout streams based on trail camera data. No. of Days (D) signifies the number of full days the camera was running, Count (A) is the number of anglers counted at the sites and A/D is the number of anglers counted per day the cameras were running.

			Month											
			Jan -Mar			Apr-June			July-Sep			Oct-Dec		
Stream	Year	Location	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D	No. Days (D)	Count (A)	A/D
Laurel River Tailwaters*	20/21	Stocking Site	57	6	0.1	30	7	0.2	89	28	0.3	90	41	0.5

* Put, grow, take for Brown Trout (stocked in March); Put, take for Rainbow Trout (stocked in March-June, October)

SOUTHEASTERN FISHERY DISTRICT

Project 3: Technical Guidance

FINDINGS

Onsite technical guidance was not provided during 2022. Technical guidance requests were handled over the telephone, text, or by written correspondence. Topics encountered and responded to included: fish population balance, aquatic vegetation problems, fish stocking information, water quality problems, and fish disease.

Several other requests for information (approximately 200) about area fisheries and miscellaneous information about fish management in lakes and ponds were handled over the telephone and email.

EASTERN FISHERY DISTRICT

Project 2: Stream Surveys

FINDINGS

Trout Stream Assessments

In-stream temperature data loggers were deployed in Wolf Creek (Martin County) to record water temperature (^{o}F) once every hour from 24 March – 3 November. Two sites were monitored in this stream. The upstream monitoring site was four miles from the stocking site and the downstream site was about two miles below the stocking.

Wolf Creek is managed as a put-take fishery for rainbow trout (spring and fall stockings). Trout are stocked in April and November at a rate of 1000 trout/month. Recorded minimum and maximum temperature ranges are displayed in Table 1. Wolf Creek had supporting temperatures for trout during spring and fall time periods. Rainbow trout are managed under statewide limits. The trout management program should continue as currently set.

Stream classification ratings for put, grow, take, and put, take streams are shown in Tables 2 and 3.

Table 1. Water temperature data (^{o}F) for designated trout streams in 2022.

Stream name	Stream Class Rating	Location	Month																					
			April			May			June			July			August			September			October			November		
			Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
Wolf Creek	III	Upper	46.8	56.0	67.9	57.1	64.0	69.6	66.7	70.5	76.6	69.0	72.7	75.7	67.4	70.3	73.3	57.8	66.9	72.0	48.6	55.8	68.7	68.4	68.4	68.4
		Lower	45.5	56.1	68.8	56.7	64.3	69.8	66.4	69.2	73.2	69.0	71.6	73.7	68.4	71.1	74.0	57.8	67.3	72.7	49.2	56.4	68.4	68.1	68.3	68.6

Table 2. Stream classification ratings for put, grow, take streams in the Eastern Fishery District.

Stream	Year	Number of Days Average Temperature ≥ 72 °F in the Year	Maximum Average Daily Temperature from June-September	Number of Days Average Temperature ≥ 73 °F in June	Maximum Average Daily Temperature in June	Stream Classification Rating
Looney Creek	2020	0	66.5	0	64.2	I

Table 3. Stream classification ratings for put, take streams in the Eastern Fishery District.

Stream	Year	Number of Days Average Temperature ≥ 72 °F in the Year	Maximum Average Daily Temperature from June-September	Number of Days Average Temperature ≥ 73 °F in June	Maximum Average Daily Temperature in June	Stream Classification Rating
Paintsville Lake Tailwaters	2018	30	75.6	5	75.6	III
Russell Fork	2018	54	77.8	3	76.6	III
	2011	40	77.2	1	73.1	III
Greasy Creek	2020	70	79.6	0	72.8	III
	2010	102	81.3	22	80.4	IV
Right Fork Beaver Creek	2019	81	77.9	4	75.9	III
Wolf Creek	2022	28	74.9	3	74.9	III

EASTERN FISHERY DISTRICT

Project 3: Technical Guidance

FINDINGS

Onsite technical guidance was not provided during 2022. Technical guidance requests were handled over the telephone, by written correspondence, and through office walk-ins. Topics encountered and responded to included: nuisance fish species, vegetation issues, fish stocking, pond renovation, and pond seepage.

Many other requests for information about area fisheries and miscellaneous information about fish management in lakes and ponds were also handled.

Project 4: Fish Habitat Improvement - Public Lakes Fertilization

Lake		County	Size (acres)
Northwestern Fishery District	Subtotal		18
Washburn Lake		Ohio	18
Southwestern Fishery District	Subtotal		204
Marion County Lake		Marion	25
Spurlington Lake		Taylor	25
Briggs Lake		Logan	18
Shanty Hollow Lake		Warren	136
Central Fishery District	Subtotal		234
Beaver Lake		Anderson	146
Benjy Kinman Lake		Henry	88

Project 4: Fish Habitat Improvement - Fish Attractors

District / Lake	Fish Attractor Sites
Western Fishery District	
Barkley Lake	1630 cypress trees were planted (~5 ft tall)
Kentucky Lake	Refurbished 355 hardwood shallow water stake beds and made 2 new sites (new site=~50 stakes, refurbished site=~20 stakes); 55 plastic units*** were used to refurbish 4 existing deepwater fish attractor sites; 219 Christmas tree units** were used to refurbish 19 existing deepwater fish attractor sites; 234 hardwood units* were used to refurbish 78 existing deepwater fish attractor sites; 5 hardwood units* were used to make 2 new deepwater sites; 118 cypress trees were planted (~5 ft tall) * Hardwood: 1 tree = 1 unit ** Christmas tree: 1 tree = 1 unit *** Plastic: 1 8” concrete block filled with concrete and plastic gas pipe = 1 unit
Northwestern Fishery District	
Nolin River Lake	1 New Site * 48 reef balls
Mauzy Lake	7 Sites * 11 HDPE spider squares * 11 large shrubs
Carpenter Lake	3 Sites * 11 HDPE suspended gas pipe trees • 4 reef balls
Washburn Lake	17 Sites * 2 reef balls •108 Christmas trees
Goose Lake (PWMA)	1 Site * 105 Christmas trees
Highwall Pit (PWMA)	5 Sites * 5 HDPE suspended gas pipe structures * 7 HDPE gas pipe trunks with Christmas trees * 278 Christmas trees

Project 4: Fish Habitat Improvement - Fish Attractors cont.

District / Lake	Fish Attractor Sites
Southwestern Fishery District	
Barren River Lake	5 brush pile sites (2 refurbished xmas tree brush piles at fishing piers and 3 new hardwood and cedar combo drag in sites) ; BRL fish habitat project – see Fish Habitat Branch annual report
Green River Lake	9 brush pile sites (4 refurbished xmas tree sites at fishing piers and 1 hardwood tops, 4 cedar tree sites)
Mill Creek Lake	5 brush piles (cedar tree haul in and laydown drag in)
Shanty Hollow Lake	8 hardwood brush piles (laydown/drag in tops)
Three Springs/Basil Griffen Lake	Xmas tree brush piles (2 refurbished sites)
Central Fishery District	
Beaver Lake	2,123 Christmas trees (refurbished 31 sites and 1 new brush site); 40 wooden pallet structures (2 trees/structure)
Benjy Kinman Lake	4 new water willow beds; 3 buttonbushes ~18-24" tall were planted
Elmer Davis Lake	5 refurbished brush piles (49 trees from spillway)
Guist Creek Lake	14 brush piles (389 Christmas trees) – 13 sites refurbished and 1 new brush site
Long Run Park Lake	9 brush piles (428 Christmas trees) – 9 new sites
Taylorsville Lake	12 brush piles and 32 hinge style laydowns (140 large cedar trees) – 6 new brush sites – 6 brush sites refurbished – ½ mile shoreline with 32 trees (pull into lake to resemble a hinge tree)
Northeastern Fishery District	
Cave Run Lake	• Sites on the Zilpo Flats were refreshed with 25 gas pipe/cedar tree structures and 3 brush sites (cedar tree sites – 100+ additional trees)
Grayson Lake	• Refurbished 5 brush sites (Christmas tree sites – 200+ trees)
Lake Reba	• Refurbished all existing brush sites and created 2 new tree sites (Christmas tree sites- 250+ trees)
Lake Wilgreen	• Refurbished all existing brush sites and created 1 new tree site (Christmas tree sites- 250+ trees)
Lake Carnico	• Refurbished all existing brush sites (Christmas tree sites- 200 trees)

Project 4: Fish Habitat Improvement - Fish Attractors cont.

District / Lake	Fish Attractor Sites
Southeastern Fishery District	
Laurel River Lake	1 new brush site (350 Christmas trees total)
Eastern Fishery District	
Buckhorn Lake	5 hinged cuts (hardwood), 3 refurbished shallow brush piles (58 Christmas trees and drift wood), 2 new pallet structures
Cranks Creek Lake	20 hinged cuts (hardwood)
Dewey Lake	3 refurbished shallow water brushpiles (8 Christmas trees and drift wood); 1 refurbished reef (16 Christmas trees and hardwood drift); 12 hinged-cut tree (hardwood); 1 new shallow brush pile (20 Christmas trees
Fishtrap Lake	1 refurbished reef (65 Christmas trees)
Yatesville Lake	2 refurbished reefs (72 Christmas trees), 20 hinged cut (hardwood)
Martins Fork Lake	20 hinged cuts (hardwood)
Paintsville Lake	52 new pallet structures with cedar trees; 10 new plastic structures

Minor Clark Fish Hatchery 2022 Sport Fish Production

	Planned			Actual				
Species	**Number**	**Size (in)**	**Location/Use**	**Number**	**Size (in)**	**Pounds**	**No./lb.**	**Notes**
Muskellunge	0	0	West Virginia	112,500				Eggs
	0	0	Licking River	325,340				Fry
Total Fry/Eggs				437,840				
	398	9	Kentucky River Pool 11*	398	8.0	29.3	13.6	
	380	9	Kentucky River Pool 12**	380	8.0	28.0	13.6	
	182	9	Kentucky River Pool 13***	182	8.0	13.4	13.6	
	50	9	Kentucky River Pool 2	0				
	50	9	Kentucky River Pool 3	0				
	705	9	Barren River	0				
	500	9	Green River Pool 5	0				
	350	9	South Fork Kentucky River	0				
	375	9	North Fork Kentucky River	0				
	400	9	Licking River	0				
	200	9	Little Sandy River	0				
	145	9	Drakes Creek	0				
	250	9	Green River Pool 4	0				
	195	9	Tug Fork	0				
	500	9	Levisa Fork	0				
	85	9	Red River	0				
	30	9	West Fork Drakes Creek	0				
	15	9	Sexton Creek	0				
	30	9	Goose Creek	0				
	40	9	Redbird River	0				
	15	9	Station Camp	0				
	30	9	Triplett Creek	0				
	20	9	North Fork Triplett Creek	0				
Total	4,945			960	8.0	70.7	13.6	
			*Left Pectoral Fin Clip					
			**Right Pectoral Fin Clip					
			***Left Pelvic Fin Clip					
Muskellunge	2,700	13	Cave Run Lake**	2,700	12.0	752.0	3.6	
	2,700	13	Green River Lake**	2,135	12.1	627.9	3.4	
	400	13	Buckhorn Lake**	327	12.2	99.1	3.3	
	375	13	Dewey Lake**	305	12.2	92.4	3.3	
Total	6,175			5,467	12.1	1,571.4	3.4	
Grand Total	11,230			444,267		1,642.1		
			**Right Pectoral Fin Clip					

	Planned			Actual				
Species	**Number**	**Size (in)**	**Location/Use**	**Number**	**Size (in)**	**Pounds**	**No./lb.**	**Notes**
Hybrid Striped	200,000	1.5	Barren River Lake	201,736	1.4	152.9	1,319	
Bass	15,000	1.5	Grayson Lake	15,228	1.7	22.9	665	
	102,000	1.5	Rough River Lake	102,455	1.6	95.6	799	
	61,000	1.5	Taylorsville Lake	61,131	1.4	50.6	1,208	
	48,000	1.5	Herrington Lake	48,000	1.7	75.0	640	
	23,000	1.5	Fishtrap Lake	23,124	1.5	23.1	1,001	
	7,200	1.5	Lake Linville	7,258	1.8	23.9	304	
	9,500	1.5	Guist Creek Lake	9,512	2.2	44.6	213	
	4,100	1.5	KY River Pool 4	4,111	1.4	3.1	1,326	
	3,600	1.5	KY River Pool 5	3,600	1.3	2.2	1,632	
	4,700	1.5	KY River Pool 6	4,723	1.3	2.9	1,632	
	3,500	1.5	KY River Pool 8	3,590	1.3	2.2	1,632	
	4,100	1.5	KY River Pool 9	4,100	2.1	14.8	277	
			Ohio River					
	54,500	1.5	Markland Pool	79,244	1.2	43.3	1,830	
	41,500	1.5	McAlpine Pool	41,889	1.2	26.3	1,593	
	50,000	1.5	Cannelton Pool	50,012	1.3	33.4	1,467	
	36,000	1.5	Newburg Pool	71,574	1.4	48.8	1,467	
	43,700	1.5	JT Meyers Pool	43,754	1.6	52.4	835	
	60,500	1.5	Smithland Pool	60,566	1.3	45.3	1,337	
Grand Total	771,900			835,607	1.5	763.3	1,095	
Walleye (Erie)	0	0	Licking River	115,270				Fry
	0	0	Laurel River Lake	1,012,275				Fry
	0	0	West Virginia	1,051,362				Fry
Total				2,178,907				
	350,000	1.5	Lake Cumberland	309,495	1.2	135.6	2,282	
	40,000	1.5	Dale Hollow Lake (KY)	40,075	1.3	22.9	1,750	
	260,000	1.5	Laurel River Lake	220,274	1.3	118.9	1,853	
	200,000	1.5	Nolin River Lake	107,738	1.3	54.0	1,995	
	200,000	1.5	Green River Lake	146,303	1.3	69.2	2,114	
	10,000	1.5	Russell Fork	10,040	1.6	9.7	1,035	
	35,000	1.5	Carr Creek Lake	35,190	1.6	34.0	1,035	
	13,000	1.5	Licking River	13,051	1.8	14.4	906	
	57,000	1.5	Paintsville	57,058	1.3	33.4	1,708	
Total				939,224	1.3	492.1	1,909	
Grand Total				3,118,131				

	Planned			Actual				
Species	**Number**	**Size (in)**	**Location/Use**	**Number**	**Size (in)**	**Pounds**	**No./lb.**	**Notes**
Walleye (Native)	0	0	Tennessee	52,582				Fry
	7,500	2.5	North Fork Ky River	7,833	2.3	20.7	378	
	7,500	2.5	South Fork Ky River	8,676	2.3	25.5	340	
	5,000	2.5	Middle Fork Ky River	5,561	2.3	13.8	388	
	0	0	Cumberland River	34,944	1.5	21.0	1,664	
	0	0	Wood Creek Lake	8,789	1.6	4.9	1,793	
	27,200	2.5	Upper Cumberland River	28,834	2.2	68.8	419	
	3,280	4.5	Rockcastle River	3,280	4.8	66.0	50	
	8,180	4.5	Lower Barren	6,180	5	175.2	35	
	8,540	4.5	Martins Fork Lake	4,144	5.3	134.0	31	
Total	47,200	2.5		50,904	2.3	128.8	395	
Total	20,000	4.5		13,604	5.0	376.1	36	
Grand Total	67,200			160,823		529.9		
Saugeye								
	200,000	Eggs	Pfeiffer Hatchery	1,266,000				Eggs
Grand Total				1,266,000				
Striped Bass	500,000	1.5	Lake Cumberland	600,886	1.6	696.7	863	
	50,000	1.5	Kentucky Lake tailwater	50,057	1.7	56.9	880	
	50,000	1.5	Barkley Lake tailwater	50,024	1.6	57.6	868	
			Ohio River					
	49,000	1.5	Markland Pool	49,013	1.6	70.5	695	
	38,000	1.5	McAlpine Pool	37,635	1.6	47.4	794	
	46,000	1.5	Cannelton Pool	46,046	1.7	68.8	669	
	33,000	1.5	Newburg Pool	0				
	40,000	1.5	J.T. Meyers	39,990	1.7	82	488	
	55,000	1.5	Smithland Pool	54,967	1.7	89.3	616	
Grand Total	861,000	1.5		928,618	1.6	1,169	794	
Black Nose Crappie								
			Herrington Lake					
	20,250	2.0	Chimney Rock Ramp	40,500	2.0	90.0	450.0	
	20,000	2.0	Gwinn Island Ramp	40,500	2.0	90.0	450.0	
	20,000	2.0	Bryants Camp Ramp	40,500	2.0	90.0	450.0	
			Carr Creek Lake					
	8,875	2.0	Littcar Ramp	8,920	2.1	25.8	339.0	
	8,875	2.0	Marina Ramp	8,920	2.1	25.8	339.0	
	0		Hatchery Pond	812	2.1	2.4	337.0	
	0		Paintsville Lake	28,780	2.1	85.4	337.0	
	0		Laurel River Lake	41,656	2.0	94.0	443.0	
Grand Total	78,000			210,588	2.1	503.4	417.9	

	Planned			Actual				
Species	**Number**	**Size (in)**	**Location/Use**	**Number**	**Size (in)**	**Pounds**	**No./lb.**	**Notes**
Smallmouth Bass								
	100,000	2.0	Laurel River Lake	81,209	1.6	130.2	624	
Grand Total				81,209	1.6	130.2	624	
Largemouth	150,000	0.0	Pfeiffer Hatchery	156,714				Fry
Fry	0	0.0	Hatchery Oxbow	89,808				Fry
Total				246,522				
Largemouth	600	2.0	Waymond Morris park	0				
2.0-inch	1,800	2.0	Audobon Park Lake	0				
	400	2.0	Sandy Watkins Park Lake	0				
			Upper KY River					
	19,575	2.0	Pool 10 College Hill Ramp	19,614	1.8	46.6	421	
	15,450	2.0	Pool 11 Irvine Ramp	15,458	1.8	34.2	452	
	13,950	2.0	Pool 12 Ravenna Ramp	13,992	1.8	33.7	415	
			Cannelton Pool					
	270	2.0	Yellowbank Creek	275	1.8	0.6	459	
	660	2.0	Town Creek	670	1.8	1.5	459	
	8,500	2.0	Tar Fork/Clover Creek	8,510	1.8	18.5	459	
			McAlpine Pool					
	7,000	2.0	Harrod's Creek	7,005	1.9	19.9	352	
			Markland Pool					
	38,200	2.0	Craig's Creek	0				
	2,400	2.0	Big Sugar Creek	0				
	2,500	2.0	Little Sugar Creek	0				
	16,000	2.0	Big Bone Creek	0				
	10,200	2.0	Gunpowder Creek	0				
	5,800	2.0	Woolper Creek	0				
			Meldahl Pool					
	3,800	2.0	Big Snag Creek	3,889	1.8	8.7	447	
	8,400	2.0	Big Locust Creek	8,547	1.8	19.1	447	
	2,700	2.0	Big Turtle Creek	2,771	1.8	6.2	447	
	7,900	2.0	Bracken Creek	2,280	1.8	5.1	447	
	2,200	2.0	Lawrence Creek	0				
	0	0.0	N.F. Kentucky River	6,829	1.6	10.3	663	
	0	0.0	S.F. Licking River	8,019	1.6	11.7	688	
	0	0.0	Licking River	4,294	2.2	13.1	328	
	0	0.0	Stoner Creek	6,024	1.6	9.1	662	
	0	0.0	Little Sandy River	10,049	1.5	12.9	779	
	0	0.0	Kinniconick River	10,049	1.5	12.9	779	
	0	0.0	Tygarts Creek	10,049	1.5	12.9	779	
	0	0.0	Alabama	4,121	2.4	22.5	183	
	0	0.0	Tennessee	7,293	1.6	11.0	663	
	0	0.0	Hatchery oxbow	75				
Total	168,305			149,813	1.9	310.5	483	

	Planned			Actual				
Species	**Number**	**Size (in)**	**Location/Use**	**Number**	**Size (in)**	**Pounds**	**No./lb.**	**Notes**
Largemouth	75,000	5.0	Priority 1 lakes at 15/acre					
5.0-inch			Greenbo Lake	2,728	4.6	88.0	31	
			Kentucky River	1,608	4.0	36.5	41.5	
			Herrington Lake	12,078	4.3	351.1	34.4	
			Taylorsville Lake	15,263	4.4	459.3	33.2	
			Laurel River Lake	34,743	4.6	1204.0	28.9	
			Bullock Pen	2,015	4.6	72.5	27.8	
			Cranks Creek	3,296	4.4	104.0	31.7	
			Guist Creek Lake	1,606	4.5	55.0	29.2	
			Hatchery Oxbow	116	9.0			
	15,000		Dewey Lake	3,645	5.7	270.0	13.5	
Total	115,000			77,098	4.1	2,640.4	40.4	
Grand Total	245,230			226,911		2,950.9		
Grass Carp	0		Lake Carnico	76	8.8	27.0	2.8	
Grand Total				76	8.8	27.0	2.8	

Nonsport Forage Species

Forage Species

Fathead Minnows	**Pounds**	**Location/use**
	1,017	Muskellunge Ponds
	854	Hatchery Oxbow
	2,946	Overwinter LMB
Total Pounds FHM	4,817	

Goldfish		
	6,350	Muskellunge Ponds
	4,717	Walleye Broodstock
	1,119	Overwinter pond
	344	Future Brood stock
	275	Hatchery Oxbow
	3,676	Overwinter Display Pool
	404	Largemouth Bass
	2,920	Smallmouth Bass and Crappie
Total Pounds GOF	19,805	

Peter W. Pfeiffer Fish Hatchery 2022 Sport Fish Production

	Planned			Actual				
Species	**Number**	**Size (in)**	**Location/Use**	**Number**	**Size (in)**	**Pounds**	**No./lb.**	**Notes**
Channel Catfish								
	0		WV DNR	129,421	Fry	99	1,304.6	Surplus Fry
				129,421		99		
	120,800	15	FINS program	57,700	15	45,846	1.3	
	74,070	8-10	Stockers	75,270	8-10	6,968	10.8	
	194,870			132,970		52,814		
Blue Catfish								
	0		KY River Pool 1	73,894	Fry	37	1,980.0	Surplus Fry
	0		KY River Pool 2	76,923	Fry	39	1,980.0	Surplus Fry
	0		KY River Pool 4	58,014	Fry	29	1,980.0	Surplus Fry
				58,014		29		
	11,000	5-7	Dewey Lake	11,000	5-7	786	14.0	Hatch/stock 2022
	11,500	5-7	Fishtrap Lake	11,500	5-7	822	14.0	Hatch/stock 2022
	7,100	5-7	Carr Creek Lake	7,100	5-7	789	9.0	Hatch/stock 2022
	22,800	5-7	Yatesville Lake	22,800	5-7	2,533	9.0	Hatch/stock 2022
	920	5-7	Boltz Lake	920	5-7	102	9.0	Hatch/stock 2022
	1,460	5-7	Bullock Pen Lake	1,460	5-7	162	9.0	Hatch/stock 2022
	1,750	5-7	AJ Jolly Lake	1,750	5-7	194	9.0	Hatch/stock 2022
	7,600	5-7	Lake Beshear	7,600	5-7	543	14.0	Hatch/stock 2022
	950	5-7	Mill Creek Lake	950	5-7	68	14.0	Hatch/stock 2022
	210	5-7	Metcalf Co. Lake	210	5-7	15	14.0	Hatch/stock 2022
	1,690	5-7	Wilgreen Lake	1,690	5-7	121	14.0	Hatch/stock 2022
	42,300	5-7	KY River					
	24,000	5-7	Taylorsville Lake					
	133,280			66,980		6,135		
Hybrid Catfish								
	120,800	15	FINS Program	62,800	10-24	55,941	1.1	
				62,800		55,941		
Largemouth Bass								
	600	2	Waymond Morris	600		1.7		
	1,800	2	Audubon Park	1,800		5.3		
	400	2	Sandy Watkins	400		1.2		
	0	2	Elkhorn Creek Oser Landing	1,149		3.3		
	0	2	Elkhorn Creek Cardome	1,149		3.3		
	0	2	Elkhorn Creek great crossing	1,149		3.3		
	75,100	2	Ohio River Markland Pool	75,100		176.8		
	25,000	2	Ohio River Meldahl Pool	7,900		22.9	345.0	
	25,000			89,247		218		

	Planned			Actual				
Species	**Number**	**Size (in)**	**Location/Use**	**Number**	**Size (in)**	**Pounds**	**No./lb.**	**Notes**
Sauger								
		fry	KY River pools 3 and 4	235,974				Surplus fry
	5,000	1.5	Kentucky River Pool 2	5,000	1.75	6.1	819.7	
	10,000	1.5	Kentucky River Pool 3	10,000	1.5	7.2	1,388.9	
	10,000	1.5	Kentucky River Pool 4	20,985	1.75	29.3	716.2	
	10,000	1.5	Kentucky River Pool 5	10,000	1.75	13.1	763.4	
	10,000	1.5	Kentucky River Pool 6	11,823	1.5	7.9	1,496.6	
	15,000	1.5	Kentucky River Pool 8	15,000	1.75	21.0	714.3	
	10,000	1.5	Kentucky River Pool 9	10,000	1.75	12.9	775.2	
	10,000	1.5	Kentucky River Pool 10	10,000	1.75	14.0	714.3	
	10,000	1.5	Kentucky River Pool 11	10,000	1.75	14.0	714.3	
	10,000	1.5	Kentucky River Pool 12	10,000	1.75	12.9	775.2	
	5,000	1.5	Kentucky River Pool 13	5,000	1.75	6.1	819.7	
	105,000			117,808		144.5		
Saugeye								
	31,700	1.5	Guist Creek Lake	31,700	1.5	44.5	712.4	
	13,400	1.5	Bullock Pen Lake	13,400	1.5	17.0	790.6	
	16,900	1.5	Wilgreen Lake	16,904	1.5	21.8	775.4	
	9,600	1.5	Carpenter Lake	9,753	1.5	7.0	1,393.3	
	11,200	1.5	Lake Carnico	11,200	1.5	13.6	823.5	
	17,500	1.5	A.J. Jolly Lake	17,500	1.5	19.3	909.1	
	61,000	1.5	Taylorsville Lake	13,490	1.5	42.4	318.2	
	161,300			113,947		165.5		
Redear Sunfish								
		1.5	Elmer Davis Lake	2,800	.75	1.6	1,750	2022 spawn
	14,200	1.5	Carr Creek Lake	14,200	2.25	77.2	184	2022 spawn
	31,600	1.5	Beaver Lake	31,600	2.25	50.4	627	2022 spawn
	1,800	1.5	Audubon State Park	1,800	2.25	9.8	184	2022 spawn
	1,400	1.5	Walton City Lake	1,400	2.25	7.6	184	2022 spawn
	6,700	1.5	Martin's Fork Lake	6,700	2.25	36.4	184	2022 spawn
	0	1.5	Cave Run Lake	225,484	.75	128.9	1,749	2022 spawn
	24,600	1.5	Buckhorn Lake	24,600	2.25	133.6	184	2022 spawn
	80,300			308,584		445.5		
Lake Sturgeon								
	6,000	8	Upper Cumberland River	9,600	5.76	240	40	
	6,000			9,600		240		
Bluegill								
	2,000		City of Walton Lake	2,000	2.61	23	86.2	
	2,000		Waymond Morris	2,000	2.61	6	327.9	
	5,400		Audubon State Park	5,400	2.61	17.7	305.1	
	10,000	6-8	FINS Program	11,740	7.0	2,935.0	4.0	
	15,400			17,140		2,952.7		
Grand Total				1,342,485		119,184		

Trout Stocking Numbers

Species	Waterbody	Actual Number	Length (in)
Brook Trout	Lake Cumberland Tailwater	14,200	9-10

Species	Waterbody	Actual Number	Length (in)
Brown Trout	Fagan Branch Lake	1,000	8-9
Brown Trout	Fort Campbell	3,250	8-9
Brown Trout	Greenbo Lake	2,000	8-9
Brown Trout	Herrington Lake Tailwater	300	8-9
Brown Trout	Jennings Creek	500	8-9
Brown Trout	Lake Cumberland Tailwater	30,100	8-9
Brown Trout	Looney Creek	700	8-9
Brown Trout	Nolin River Lake Tailwater	250	8-9
Brown Trout	Otter Creek	500	8-9
Brown Trout	Paintsville Lake	4,175	8-9
Brown Trout	Roundstone Creek	200	8-9
Brown Trout	Sulphur Springs Creek	200	8-9
Brown Trout	Trammel Creek	600	8-9

Species	Waterbody	Actual Number	Length (in)
Rainbow Trout	Alexandria Community Park Lake	3,000	9-11
Rainbow Trout	Anderson County Community Park Lake	1,000	9-11
Rainbow Trout	Beaver Creek	1,000	9-11
Rainbow Trout	Beaver Creek - Right Fork	500	9-11
Rainbow Trout	Bert T. Combs Lake	2,000	9-11
Rainbow Trout	Beulah Lake	3,500	9-11
Rainbow Trout	Big Bone Lick State Park	800	9-11
Rainbow Trout	Big Caney Creek	750	9-11
Rainbow Trout	Bloomfield Park Lake	1,000	9-11
Rainbow Trout	Boone Tract 6 Acre Lake	1,000	9-11
Rainbow Trout	Boulder Lake	400	9-11
Rainbow Trout	Brickyard Pond	1,500	9-11
Rainbow Trout	Buckhorn Lake Tailwater	1,000	9-11
Rainbow Trout	Buffalo Creek	250	9-11
Rainbow Trout	Camp Ernst Lake	3,000	9-11
Rainbow Trout	Cannon Creek Lake	3,000	9-11
Rainbow Trout	Carr Creek Lake Tailwater	1,000	9-11
Rainbow Trout	Casey Creek	3,000	9-11
Rainbow Trout	Cave Run Lake Tailwater	1,000	9-11
Rainbow Trout	Cherokee Park Lake	1,500	9-11
Rainbow Trout	Clear Creek	800	9-11
Rainbow Trout	Clinton Rotary Park Lake	1,000	9-11
Rainbow Trout	Cranks Creek Lake	3,000	9-11
Rainbow Trout	Dewey Lake Tailwater	1,000	9-11

Species	Waterbody	Actual Number	Length (in)
Rainbow Trout	Eagle Lake (Morehead State)	1,000	9-11
Rainbow Trout	Easy Walker Park Pond	1,000	9-11
Rainbow Trout	Elk Spring Creek	800	9-11
Rainbow Trout	Fisherman's Park Lakes	2,000	9-11
Rainbow Trout	Fishpond Lake	2,000	9-11
Rainbow Trout	Fishtrap Lake Tailwater	2,000	9-11
Rainbow Trout	Flemingsburg City Reservoir (Old)	1,525	9-11
Rainbow Trout	Floyds Fork Creek	6,000	9-11
Rainbow Trout	Fort Campbell	2,400	9-11
Rainbow Trout	Grants Branch Lake	3,000	9-11
Rainbow Trout	Grayson Lake Tailwater	1,000	9-11
Rainbow Trout	Greasy Creek	400	9-11
Rainbow Trout	Greenbo Lake	5,550	9-11
Rainbow Trout	Gunpowder Creek Nature Park	800	9-11
Rainbow Trout	Herrington Lake Tailwater	900	9-11
Rainbow Trout	Higginson & Henry WMA	500	9-11
Rainbow Trout	Highsplint Lake	1,250	9-11
Rainbow Trout	Jacobson Park Lake	6,000	9-11
Rainbow Trout	James Beville Park Lake	1,500	9-11
Rainbow Trout	Jennings Creek	2,000	9-11
Rainbow Trout	Kentucky Horse Park Lake	1,500	9-11
Rainbow Trout	Kess Creek Park Lake	1,000	9-11
Rainbow Trout	Kingdom Come State Park Lake	1,000	9-11
Rainbow Trout	Lake Cumberland Tailwater	10,150	4-6
Rainbow Trout	Lake Cumberland Tailwater	5,000	15-16
Rainbow Trout	Lake Cumberland Tailwater	57,400	9-11
Rainbow Trout	Lake Mingo	1,000	9-11
Rainbow Trout	Lake Montgomery	3,025	9-11
Rainbow Trout	Lake Pollywog	1,500	9-11
Rainbow Trout	Laurel Creek	1,750	9-11
Rainbow Trout	Leary Lake	3,000	9-11
Rainbow Trout	Little Sandy River - East Fork	1,600	9-11
Rainbow Trout	Logan Hubble Park	3,000	9-11
Rainbow Trout	Looney Creek	500	9-11
Rainbow Trout	Lower Sportsman's Lake	1,000	9-11
Rainbow Trout	Lusby Lake	1,000	9-11
Rainbow Trout	Lynn Camp Creek	1,000	9-11
Rainbow Trout	Madisonville Park	3,000	9-11
Rainbow Trout	Martin County Lake	1,250	9-11
Rainbow Trout	Martins Fork Lake Tailwater	750	9-11
Rainbow Trout	Mason County Recreational Lake	1,500	9-11
Rainbow Trout	Metcalfe County Park Lake	500	9-11
Rainbow Trout	Middlesboro Canal	400	9-11
Rainbow Trout	Middleton Mills Park Lake	2,000	9-11
Rainbow Trout	Mike Miller Park Lake	1,500	9-11

Species	Waterbody	Actual Number	Length (in)
Rainbow Trout	Miles Park Lakes	2,500	9-11
Rainbow Trout	Mill Creek Lake (Wolfe & Powell Co.)	2,750	9-11
Rainbow Trout	Millenium Park Pond	1,000	9-11
Rainbow Trout	Nolin River Lake Tailwater	2,000	9-11
Rainbow Trout	Otter Creek	4,500	9-11
Rainbow Trout	Paintsville Lake	14,375	9-11
Rainbow Trout	Paintsville Lake Tailwater	2,000	9-11
Rainbow Trout	Panbowl Lake	2,199	9-11
Rainbow Trout	Panther Creek Park Lake	1,500	9-11
Rainbow Trout	Peabody WMA	3,500	9-11
Rainbow Trout	Pikeville City Lake	1,250	9-11
Rainbow Trout	Prisoners Lake	1,525	9-11
Rainbow Trout	Robert Barth Park Lake	1,500	9-11
Rainbow Trout	Roundstone Creek	800	9-11
Rainbow Trout	Royal Springs	400	9-11
Rainbow Trout	Russell Fork Creek	750	9-11
Rainbow Trout	Sandy Watkins Park	500	9-11
Rainbow Trout	Scott County Park Lake	1,000	9-11
Rainbow Trout	Sinking Creek	800	9-11
Rainbow Trout	Southgate Lake	1,000	9-11
Rainbow Trout	Southland Church Lake	1,000	9-11
Rainbow Trout	Station Camp Creek	750	9-11
Rainbow Trout	Sturgeon Creek	400	9-11
Rainbow Trout	Sulphur Springs Creek	1,000	9-11
Rainbow Trout	Taylorsville Lake Tailwater	2,000	9-11
Rainbow Trout	Three Springs Lake	3,000	9-11
Rainbow Trout	Tom Wallace Park Lake	3,000	9-11
Rainbow Trout	Trammel Creek	2,000	9-11
Rainbow Trout	Triplett Creek	1,500	9-11
Rainbow Trout	Upper Sportsman's Lake	3,000	9-11
Rainbow Trout	Waverly Park Lake	3,000	9-11
Rainbow Trout	Waymond Morris Park	1,500	9-11
Rainbow Trout	West Hickman Creek	500	9-11
Rainbow Trout	Whitehall Park Lake	3,000	9-11
Rainbow Trout	Wolfe Creek	1,000	9-11
Rainbow Trout	Wood Creek Lake	4,025	9-11
Rainbow Trout	Yatesville Lake Tailwater	750	9-11
Rainbow Trout	Yellow Creek Park Lake	1,500	9-11