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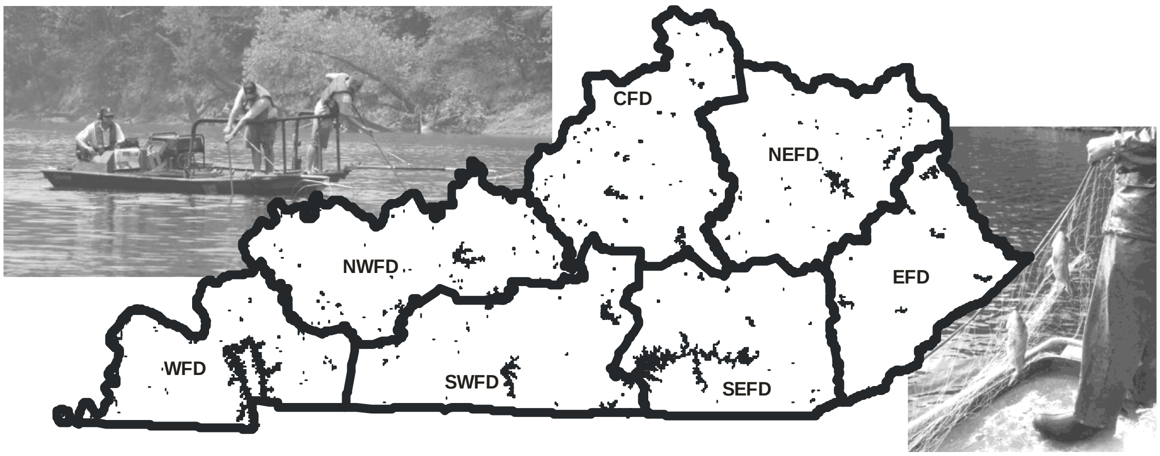
ANNUAL PERFORMANCE REPORT

District Fisheries Management

Projects A - C



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WESTERN FISHERY DISTRICT

Project A: Lake and Tailwater Fishery Surveys

FINDINGS

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

Kentucky Lake

During the spring, 651 black bass were collected by diurnal electrofishing (120 PPS, DC current). During this sampling period, 632 largemouth bass (63.2 fish/hr) were collected from Blood River, Jonathan Creek, Big Bear, and Sugar Bay (Table 2). The catch rates (CPUE) for largemouth bass between embayments varied (40.8 to 129.6 fish/hr). This variation could be due to changing weather conditions during the sampling period. The main similarity between embayments was that each one yielded a high catch rate of largemouth bass between 12.0 and 16.0 in. A secondary similarity was the moderate catch rate of small (<8.0 in) largemouth bass, with the exception of Blood River where it was low.

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 growth rate parameter was determined with age data collected in the fall, but back-calculated to spring growth. Growth to age 3 declined by almost a half an inch since 2012 and may be best explained by the higher density of intermediate size bass in the population. Of the assessment scores, growth showed the biggest drop. The CPUE of age-1 largemouth bass in the sample was low for a second consecutive year, and had a “poor” rating.

The size structure parameters used to assess the fishery by standards set in the Kentucky Lake Fish Management Plan (KLFMP) showed slight increases of smaller (<8.0 in) bass (Table 4). The catch rate of intermediate-size bass (12.0-14.9 in) continues to be above the plan recommendation. The catch rate of harvestable-size bass ($\geq$15.0 in) was also up from previous years’ data, and above the plan recommendation. However, the catch rate of trophy-size largemouth bass ($\geq$20.0 in) was below the KLFMP recommendation.

Proportional Stock Density (PSD) values were calculated for black bass collected from each embayment sampled during the spring (Table 5). The average PSD and RSD_{15} value for largemouth bass was 88 and 37, respectively. These average values are used in the KLFMP assessment. The PSD value is above the assessment range (55-75; Table 4). This value reflects the higher catch of 12.0-in and larger bass, in proportion to the catch of small-size bass. The RSD_{15} value was 37, which falls inside the targeted range (RSD_{15} of 20-40).

During October, 803 black bass were collected by diurnal electrofishing (120 PPS, DC current) from four embayments; Blood River, Big Bear, Sugar Bay and Jonathan Creek. Largemouth bass comprised 90% (90.8 fish/hr) of this sample (Table 6). During the 2015 fall sample, the largemouth bass catch rate was almost 65.0 fish/hr. In the 2015 sample there was a high catch (46.0 fish/hr) of small bass ($\leq$5.0 in), which represented the bulk of the age 0-year class. In the 2016 sample, that age class showed up as mostly 6.0-9.0 in bass with a similar catch rate of 46.0 fish/hr.

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 98 (Table 7). This value was down from the 2015 estimated relative weight value of 107, though the 30-year average is 96. The relative weight of largemouth bass is one parameter that is being watched as an indicator of the increasing population of Asian carp in the lake. As Asian carp numbers continue to increase, they could impact the productivity of the lake and hence the food chain.

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

Largemouth bass	$\text{Log}_{10}\,(\text{weight}) = -3.49275 + 3.19308 \times \text{Log}_{10}\,(\text{length})$
Smallmouth bass	$\text{Log}_{10}\,(\text{weight}) = -3.46865 + 3.12256 \times \text{Log}_{10}\,(\text{length})$
Spotted bass	$\text{Log}_{10}\,(\text{weight}) = -3.15822 + 3.82582 \times \text{Log}_{10}\,(\text{length})$

Otoliths were collected from largemouth bass during fall sampling. Otoliths were used to age bass so that the catch rates of age classes and growth could be evaluated. The CPUE of age-0 largemouth bass during the fall sample was 58.4 fish/hr (Table 8). The 2016 year class appears to be strong, and has excellent growth. The mean length of the age-0 largemouth bass was 6.4 in by their first fall. The catch rate of age-0 largemouth bass that were over 5.0 in was at least five times higher than in the previous two years. The high catch rate of age-0 largemouth bass is also evident in Table 9, which indicated over 60% of the sample were bass from this year class. The back-calculated growth of bass is found in Table 10.

Trap nets were fished for crappie in Blood River and Jonathan Creek embayments for 79 net-nights (nn) during October and November. In addition, Ledbetter Bay was sampled for 39 nn. This is the first time Ledbetter Bay has been sampled for crappie. The combined sampling effort yielded 783 crappie (6.6 fish/nn), of which 1.4 fish/nn (21%) were white crappie and 5.2 fish/nn (79%) were black crappie (Table 11). The Blood River and Jonathan Creek data is listed as "sub-total" on this table. The catch rate was much lower this year as compared to previous years. This is despite a population that should have a high density of intermediate-size crappie, as suggested by strong year classes in 2013-2015. In addition, crappie anglers this fall and early winter reported record catches of legal-size crappie. The low catch in the fall trap nets might have been caused by the unseasonably warm weather. Air temperature was 10-15 degrees warmer this fall as compared to normal fall air temperature. The water temperature was notably warmer; 5-10 degrees this fall.

One of the management objectives in the KLFMP is to maintain a catch rate for crappie (excluding age-0) of 20.0 fish/nn. Using only the Blood River and Jonathan Creek data, this year's sample yielded 8.0 fish/nn (Table 12). This catch rate is down from last year's sample (22.7 fish/nn). The above average year classes of 2013 and 2014 are the reason for the overall better catch in 2015. But these fish were likely missed by trap nets during 2016 due to the warmer weather and water temperature.

The number of crappie ≥8.0 in and ≥10.0 in collected in trap nets was 5.3 and 1.4 fish/nn, respectively (Table 12). The KLFMP objective for crappie is to maintain a catch rate of at least 10.0 fish/nn for crappie ≥8.0 in, and 4.0 fish/nn for crappie ≥10.0 in. Neither objective was met. Based on the perceived good year classes of 2013-2014, this year's values should have been higher. The low catch is likely due to the warmer weather and water temperatures during the fall sampling season.

Crappie at Kentucky Lake continue to have good growth rates. 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 9.7 in (Table 12).

Another management objective in the KLFMP is to maintain a catch rate of age-1 crappie of at least 11.0 fish/nn (Table 12). The catch rate for this age group of crappie was 2.9 fish/nn. For the past several years this parameter has been below the management objective due to a number of poor year classes, but did show improvement last year due to the strong 2014 year class.

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 13). This rating is assumed to be an inaccurate account for the crappie population since the catch rates were down, likely due to warmer weather and water temperatures.

The fall trap netting data was used to calculate proportional stock densities and length-weight equations for crappie. PSD and RSD_{10} values are reported in Table 14. The values are up considerably, and reflect a higher number of intermediate-size crappie in the population from a few good year classes. Length-weight equations for white and black crappie are listed below. Growth is similar to last year's growth.

White crappie	Log_{10} (weight) = -3.26852 + 2.96265 x Log_{10} (length)
Black crappie	Log_{10} (weight) = -3.27568 + 3.01059 x Log_{10} (length)

Tables 15 and 16 list the back-calculated lengths at age for white and black crappie, respectively. The age frequencies for white and black crappie collected are listed in Tables 17 and 18, respectively. The proportion of ages within a given length range is assumed accurate, but the catch rates are low due to poor samples collected.

During the spring of 2016, icthyoplankton sampling was conducted in the Jonathan Creek embayment of Kentucky Lake. Samples were conducted using a rectangular neuston net with a 100-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 icthyoplankton 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 was begun 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 C).

Based on results from 2015, one site was eliminated and two sites were added farther into the embayment. Samples were preserved immediately in 10% formalin or 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. The standard error and coefficients of variation of the mean and geometric mean were used to evaluate sample accuracy (Table 19). In 2015 the peak weekly density of crappie occurred on May 12th and was 70.50 crappie/1000m³. In 2016 the peak weekly density of crappie occurred on May 19th and was only 3.88 crappie/1000m³. Although the density of crappie was relatively high during our last sample week (June 9th), we feel that we captured the majority of the crappie spawn during the sampling timeframe. Based on these results, the spawn of crappie in Jonathan Creek in 2016 appears to have been poor relative to 2015. This will still need to be verified with trap netting in 2017.

In order to determine the hatch dates of crappies more precisely, based on growth rates, all crappie that were 8–11 mm in total length were assumed to represent a one-week cohort (Table 20). Just like last year, crappie in the 8–11 mm range appeared to be fully recruited to the gear, and were well represented in the sample. It is possible that crappie shorter than 8 mm were not located in the pelagic sample sites yet, and that crappie over 11 mm were more likely to avoid capture. This length range was also chosen because an 8 mm crappie would grow to 11.8 mm in one week (our sample interval), based on a growth rate of 0.65 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 8–11 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 21). A hatch date was then back-calculated for each individual fish using the assumed growth rate (0.66 mm/day) and the total length of each fish. A total length at hatch (4mm) 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 <u>at least</u> 40 days and extended at least until the end of May (Table 21). Because of our limited larval sampling window, we cannot be sure that crappie did not spawn before or after our sampling window. The literature reports most crappie spawns to be relatively short (1-2 months; Mitzner 1991 and Travnichek, et. al.1996). No strong peaks in successful spawning activity were observed. Unlike last year, the lake did not experience a spring flood. The elevation simply rose steadily following the guidelines established by TVA and the ACOE. A previous study evaluating the factors which affect crappie recruitment in Kentucky Lake found that higher discharge during the spawn and pre-spawn were correlated with good year classes of white crappie. However, black crappie were more likely to be successful during years with relatively low discharge during the spawn and pre-spawn (Martin, 2012). Unfortunately, we cannot tell from larval data which species had the stronger spawn, but it will be interesting to see whether the class of 2016 for each species will be well represented in our trap net samples in 2017. Similar to last year's survey we found much higher densities of larval crappie farther into the embayment (Table 19; Appendix C).

In June 2016 an effort was made to capture YOY crappie using a benthic otter trawl. Crappie were identified to species using dorsal fin counts, and a subsample of otoliths was collected from approximately 175 crappie for daily ring count analysis. Crappie smaller than 19 mm were often too small to accurately determine species, but were included in analyses that grouped both species together. 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. Five trawl sites were chosen to correspond loosely with the larval sampling sites. To evaluate whether hatching periods and growth rates differed by embayment, trawling was also conducted at 6 sites in the Blood River embayment. Otoliths were mounted convex side down 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 1-2 days, but if the difference between readers was less than 10% of the fish's age, the counts were averaged and accepted. This technique resulted in 10 fish being excluded from Jonathan Creek, and seven fish being excluded from Blood River. We were able to estimate an average daily growth rate for both species of crappie by using the equation [(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 19). There is no way to practically differentiate between crappie species in the larval samples. Thusly, the estimated growth rate used in the larval hatch date back calculation combined both species together.

Differences in growth rates and hatch dates between species and embayments were initially compared with an F-test for variances. Due to unequal variances, the hatch dates and growth rates were then compared using T-tests for unequal variances. In Jonathan Creek both black and white crappie had an average hatch date of the 1st of May. However, daily growth rates for black crappie were statistically significantly higher (0.68mm/day) than white crappie (.65mm/day) ($t=1.86$ $df=40$ $P=.03$).

In Blood River, the average black crappie hatched significantly sooner (May 5th) than the average white crappie (May 16th) ($t=5.83$ $df=31$ $P=<.0001$). However, despite a difference in average hatch dates of 11 days, there was no significant difference in the growth rates of white and black crappie in Blood River.

Surprisingly, there were significant differences between the hatch dates and growth rates of both embayments. Crappie in Blood River had an average daily growth rate of 0.73mm/day. This rate was significantly higher than crappie in Jonathan Creek which exhibited a growth rate of (0.66mm/day) ($t=5.61$ $df=123$ $P=<.0001$). The average crappie in Blood River hatched significantly later (May 19th), than the average crappie in Jonathan Creek (May 1st) ($t=16.32$ $df=91$ $P=<.0001$). The difference in hatch dates may be due to differences in embayment morphology or temperature differences, but we will continue to monitor this in the future. It is also possible that earlier hatched fish in Blood River experienced high mortality before we were able to capture them as juveniles in summer.

Sixteen species were collected in the trawl with gizzard shad being the dominant species (Table 22). A total of 118 white crappie and 22 black crappie were collected in Jonathan Creek. Yellow bass and bluegill were also caught in very high numbers in the same areas as crappie which may indicate a high degree of habitat preference overlap during this life stage. A total of 96 white crappie and 46 black crappie were collected in Blood River.

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 426 catfish were collected during the 65 electrofishing runs made (Table 23). Each run lasted 300 seconds, for a total sample time of 5.4 hours over a three-day period. Of the samples, blue catfish had the highest catch rate at 63.3 fish/hr, and made up 81% of the catfish collected. The catch rate is about double what was reported in 2015. Relative weight values are listed in Table 24. The relative weight values are all high, suggesting the fish are healthy.

Otoliths were collected during sampling in 2014. That data was used to extrapolate with this year's data to calculate age frequencies. Age frequency data for blue catfish is presented in Table 25. A high catch rate of age-4 blue catfish collected in 2014, did not equate to a higher catch rate of age-5 in 2015 or age-6 this year. In this most recent sample, the age 3 and 4 fish made up almost 65% of the sample.

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Lake Barkley

Black bass were collected by diurnal electrofishing (120 PPS, DC current) during the spring at sampling sites historically used on Lake Barkley. A total of 520 black bass were collected at a rate of 52.0 fish/hr (Table 26). Spotted and smallmouth bass accounted for about 4% of the total black bass sampled. This week of sampling yielded about half of what was reported from the 2015 study. At best, it was felt that sampling yielded only fair results. One likely cause for sample numbers to be down was the warmer than normal water temperatures during the standardized sampling. Additionally, numbers of smaller-size bass were down in the 2015 study. This might possibly explain the drop in intermediate-size bass during the most recent study. The largemouth bass catch rate was 49.7 fish/hr which falls below the ten-year average of 100.2 fish/hr (Table 27).

The overall PSD and RSD_{15} values for largemouth bass at Lake Barkley, along with values for individual embayments are listed in Table 28. The PSD value (86) is above the objective goal (PSD of 55-75) established in the Barkley Lake Fish Management Plan (BLFMP). This higher value indicates a bass fishery slightly skewed toward larger fish. The RSD_{15} (51) was also higher than the set goal (20-40). Again, the higher the value the more the population is skewed toward larger fish. The spring catch of small ($\leq$8.0 in) largemouth bass has been low the past two years (Table 27). The catch rate of larger ($\geq$15.0 in) largemouth bass also dropped back down after having a higher value in 2015.

The lake specific assessment score for Lake Barkley was "fair" (Table 29). The score was "good" for several years prior to 2010. Flood conditions in 2010, 2011, and 2013 as well as drought conditions in 2012 have influenced sampling likely resulting in lower ratings for these years. Although the fishery showed improvement in these ratings in 2015, the lack of trophy-size (≥20.0 in) largemouth bass and the decline in the number of age-1 fish collected continues to negatively sway these ratings. The annual mortality of largemouth bass older than a year was 33% as determined using catch-curve regression of fall caught largemouth (Table 29).

During 2015 largemouth bass age and growth data was collected in the fall instead of the spring. This statewide change in sampling procedure was made to simplify the reading of otoliths by eliminating the need to add an unseen annulus onto the outer edge. Age and growth data collected in the fall of 2015 were coupled with spring 2016 data to yield an estimate of the age distribution for largemouth bass which was historically comparable with previous spring samples. This was accomplished by back calculating the lengths of fall captured largemouth bass to their most recent annulus. These back calculated lengths were assumed to be equivalent to lengths of spring caught bass and were used to create a modified age-length key.

Catch rates for spring caught fish by age-class are shown in Table 30. Ages ranged from 0-11 and the dominant age-class was age-1. The low catch rate of age-1 bass reported in 2015, likely explains the unusually low catch of age 2 during this most recent sample.

Largemouth bass were sampled in October to collect length-weight data for condition factors, and to determine the strength of the 2016 year-class. A total of 430 bass were collected, with 83% being largemouth bass (Table 31). Largemouth bass had a catch rate of 50.7 fish/hr. These catch rates, much like the spring samples, are about half of what was reported from the 2015 fall sample. Once again, unseasonably warm water temperatures may have led to a lower fall catch rate. Relative weights were determined for all bass, but very few spotted and smallmouth bass were collected (Table 32). The relative weight for harvestable-size (≥15.0 in) largemouth bass was 104. The length-weight equation for largemouth bass at Lake Barkley is:

$$\text{Log}_{10}\text{ (weight)} = -3.54855 + 3.23513 \times \text{Log}_{10}\text{ (length)}$$

Mean length of the age-0 cohort of largemouth bass was 5.5 in (Table 33). 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. However, this year's catch rate of age-0 largemouth bass (22.7 fish/hr) is below average.

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 895 crappie were collected at a rate of 11.2 fish/nn (Table 34). Additionally, Crooked Creek (LBL) (44 nn) and Eddy Creek (40 nn) were sampled for a total of 84 net-nights. Both Crooked Creek and Eddy Creek provided a good sample (16.8 fish/nn), and will be sampled again in the future if possible.

White crappie accounted for 54% of the total catch, and were collected at a rate of 5.5 fish/nn (Table 34). Black crappie were collected at a rate of 4.5 fish/nn. Donaldson Creek and Crooked Creek both contained higher proportions of black crappie than Little River and Eddy Creek (Table 34). For historical comparisons, only data from Little River and Donaldson Creek were used in the standardized population parameters of Lake Barkley crappie in Table 35. The CPUE of harvestable-size (≥10.0 in) crappie was slightly higher than the ten-year average at 1.8 fish/nn. The CPUE of quality-size (≥8.0 in) crappie was 4.9 fish/nn, which is only slightly above the management objective (4.0 fish/nn) set in the BLFMP.

Crappie collected in trap nets were used to determine stock densities. The PSD (65) and RSD_{10} (22) of white crappie were higher than reported from the 2015 sample (Table 36). Last year, numbers of small fish where higher, but this year adult fish numbers were higher. The PSD (47) and RSD_{10} (11) values of black crappie suggest a more balanced size distribution of black crappie.

The length-weight equations of white and black crappie from Lake Barkley are:

White crappie	$\text{Log}_{10}\text{ (weight)} = -3.82119 + 3.50854 \times \text{Log}_{10}\text{ (length)}$
Black crappie	$\text{Log}_{10}\text{ (weight)} = -3.68702 + 3.43040 \times \text{Log}_{10}\text{ (length)}$

Otoliths from 362 crappie were used for age and growth analysis. Ages ranged from 0-6 years for white crappie and 0-5 years for black crappie (Tables 37 and 38). Growth continues to be good as crappie reached 10.0 in between age 2 and 3. The average length of age-2+ white crappie was 10.6 in, and black crappie was 9.5 in (Table 35). Age frequencies were estimated by combining catch data with age data. The catch of white crappie was dominated by age-1 and age-2 fish suggesting strong year classes from 2014 and 2015 (Table 39). Very few white crappie older than age-2 were collected which is reflective of the very weak year classes observed prior to 2014. Black crappie ages in Little River and Donaldson Creek were dominated by age-1 fish, suggesting a strong spawn in 2015 and a relatively weak 2016 spawn (Table 40). However, when the other embayments were included, age-0 and age-1 catch rates were almost even.

Assessment of the crappie population yielded a rating of "good" at Lake Barkley in 2016 (Table 41). The catch of age-0 and age-1 crappie was down from 2015 data, but still ranked favorably. The growth rate rankings dropped slightly. As these fish age, they should help bolster the number of large crappie in the system and increase angler catch rates.

The catfish population was sampled at Lake Barkley during June by using low pulse (15 PPS) boat electrofishing with one dipper along the main lake river channel. A chase boat with one dipper was also utilized to help collect catfish around the electrofishing boat for a total of two dippers. A total of 650 catfish were collected during the 83 electrofishing runs made (Table 42). Each run lasted 300 seconds, for a total sample time of 6.92 hours over a four-day period. Of the sample, blue catfish had the highest catch rate at 80.0 fish/hr, and made up 82% 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 near the ideal values of 100 and are listed in Table 43.

Age data from catfish collected in 2014 was used to calculate an age frequency for catfish collected during 2016. Age frequency data is presented in Tables 44 and 45 for blue catfish and channel catfish, respectively. These tables should be used with caution as some larger size classes were unrepresented in 2014, and were therefore excluded from this age frequency data. Of the blue catfish, almost 70% of the sample consisted of age 2-4 fish.

Lake Barkley Creel Survey

A random, non-uniform probability, roving creel survey was conducted on the Kentucky portion (45,600 a) of Lake Barkley from 17 February to 09 November 2016. The Kentucky portion of the lake was divided into eight creel areas (Appendix B). The survey was conducted five days per week, six hours per day. One hour each day was randomly chosen to conduct an angler count. The remaining five hours was dedicated to creeling anglers actively fishing. The overall temporal sampling scheme was twenty days per month, consisting of six weekend days and fourteen weekdays. Varying time period probabilities were assigned to each month. Higher geographic probabilities, resulting in more frequent interviews, were assigned to the Little River and Eddy Creek areas from March through May, and October and November, than were assigned to the other six areas. Equal probabilities were assigned to all areas from June to September. An angler attitude questionnaire concerning fishing on Lake Barkley was conducted by the creel clerk throughout the survey period (Appendix C).

During the 2016 creel, the typical angler was a male (88%) resident (72%) who was casting (57%) or still fishing (39%) from a boat (84%) (Table 46). Of the crappie anglers, 39% used a spider rig (defined as 3 or more poles per angler) for fishing. The average fishing trip for all anglers was 4.3 hours. There was a decline in the number of trips of almost 157% from the 2012 survey (229,892) to the recent survey (89,412). However, the 2012 survey reported almost a 60% increase in the number of trips over the 2008 survey (145,774). The number of fish caught was down from the 2012 survey by 230% while harvested was down 117%. The overall decrease in effort in this most recent survey resulted in low catch and harvest rates. Length frequencies of all harvested or released fish are given in Table 47.

Table 48 includes fish catch and harvest statistics for the 2016 creel survey. Crappie anglers accounted for 24% of fishing trips to Lake Barkley (17% in 2012, 14% in 2008). Estimated catch and harvest rates for crappie were down 30% and 39% between the 2016 and 2012 surveys, respectively. However, of the crappie caught, 61% were under harvestable size (Table 49). This higher proportion of sublegal size crappie corresponds to fall trap netting data that suggest good year classes in 2014 and 2015. As is typical, about 72% of the crappie were caught in March and April (Table 50). Previous surveys on Lake Barkley have only included one method category for crappie anglers using 3 or more poles. As part of our efforts to evaluate harvest by methods, crappie anglers were recorded as using the following methods: casting, still fishing (1-2 poles), spider rigging (3 poles), spider rigging (4-5 poles), spider rigging (>5 poles). During this survey, 39.2% of crappie anglers used 3 or more poles and had higher catch rates than anglers using fewer poles. Anglers using only 1 or 2 poles had a catch rate of 0.9 fish/hr. Using three poles, increased anglers catch rate to 1.7 fish/hr. Anglers using 4 or 5 poles caught crappie at a rate of 2.0 fish/hr. The highest catch rate came from those anglers using more than five poles at 4.1 fish/hr.

Black bass anglers accounted for 39% of all fishing trips to Lake Barkley during 2016 (Table 48). There were 34,944 black bass fishing trips in the 2016 creel. This represented a 69% decline from the number of trips reported in the 2012 survey. During previous surveys, any bass that was currently in the livewell was recorded as harvested. However, during this year's survey, anglers with bass in the livewell were asked if they intended to release them at the end of the day. In all cases, tournament anglers indicated that they intended to release their fish after the weigh-in. Additionally some non-tournament anglers simply chose to keep fish in the livewell for photographic or "mock tournament" purposes, but indicated that they would release them at the end of the day. As a comparison with previous surveys, bass kept in livewells by anglers were reported as harvested, even though they would be released at the end of the day. The harvest rate, which included tournament bass, was estimated to be 0.12 bass per hour for anglers actually targeting bass (Table 51). However, when tournament-harvested bass were removed from the actual harvest, the harvest rate dropped to 0.01 bass/hr. Largemouth bass accounted for 95% of the harvested black bass (Table 52).

About 8% of all trips were taken to catch panfish during 2016 (Table 48). This value is similar to that reported during the 2012 creel survey, but down 45% from that reported during the 2008 survey. Likewise, catch and harvest rates were also down. Almost 70% of the panfish were harvested during May (Table 53). Bluegill and redear sunfish accounted for 99% of the panfish harvested. Of the bluegill, only 42% of the fish caught were harvested, while 86% of the redear sunfish caught were harvested (Table 54).

Catfish anglers accounted for 14% of all fishing trips on Lake Barkley in 2016 (Table 48). The number of trips for catfish was up 62% from the 2012 survey, but similar to the 2008 survey. Of all the data from this survey, harvest of catfish was one of the only parameters that increased when compared to results of the 2012 survey. Harvest increased about 12%. Higher numbers of catfish caught were reported in May (Table 55). These were likely anglers targeting channel catfish in the embayments. The total catch of channel catfish was almost double the catch of blue catfish (Table 56).

Only about 2% of the anglers fishing Lake Barkley during 2016 sought *Morones* (Table 48). This group includes; white bass, yellow bass, striped bass and hybrids. However, it is likely that most anglers were fishing for white bass and incidentally caught some of these other species. Approximately 65% of the *Morones* caught were yellow bass, but white bass made up 65% of the *Morones* harvest. There were no reports of anglers targeting Morones in April (Table 57). The high catch during this month was likely due to crappie anglers incidentally catching yellow bass. The creel data indicated that 6,804 yellow bass $\geq$15.0 in were harvested (Table 58). It is expected that these larger fish where likely hybrid yellow bass (yellow x white cross). Typically, pure strain yellow bass do not grow that large.

Lake Beshear

Largemouth bass were collected by diurnal electrofishing (120 PPS, DC current) during April at Lake Beshear. Two hundred and fifty-seven largemouth bass were collected at a rate of 102.8 fish/hr. (Table 59). The catch rate of harvestable-size (≥12.0 in) largemouth bass was 67.2 fish/hr (Table 60). One objective in the Lake Beshear Fish Management Plan (LBFMP) is to maintain a catch rate of at least 45.0 fish/hr for harvestable-sized largemouth bass. Good year classes in 2011 and 2012 have helped exceed this objective. The catch of age-1 fish rebounded this year after two poor years. This year the catch of age-1 has met the plan objective of 10.0 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 for these size classes of bass were above the management objectives. Lake Beshear continues to have a quality bass fishery with high numbers of bass $\geq$15.0 in. The fishery rated "excellent" for the past two years (Table 61).

Largemouth bass were collected by diurnal electrofishing (120 PPS, DC current) in October (Table 59). The catch rate (83.5 fish/hr) was lower than reported during similar sampling the past two years. Sampling conditions were reported to be good. There is no obvious reason why the catch would have been lower. Relative weight data suggests that the 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 88 for all sizes of bass. The length-weight equation for largemouth bass at Lake Beshear is:

$$\mathrm{Log}_{10}\,(\mathrm{weight}) = -3.60720 + 3.21641 \times \mathrm{Log}_{10}\,(\mathrm{length})$$

Otoliths were removed from a subsample of largemouth bass ≤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 50.5 fish/hr (Table 62). The average length of the age-0 bass was 4.4 in.

Lake Pennyrile

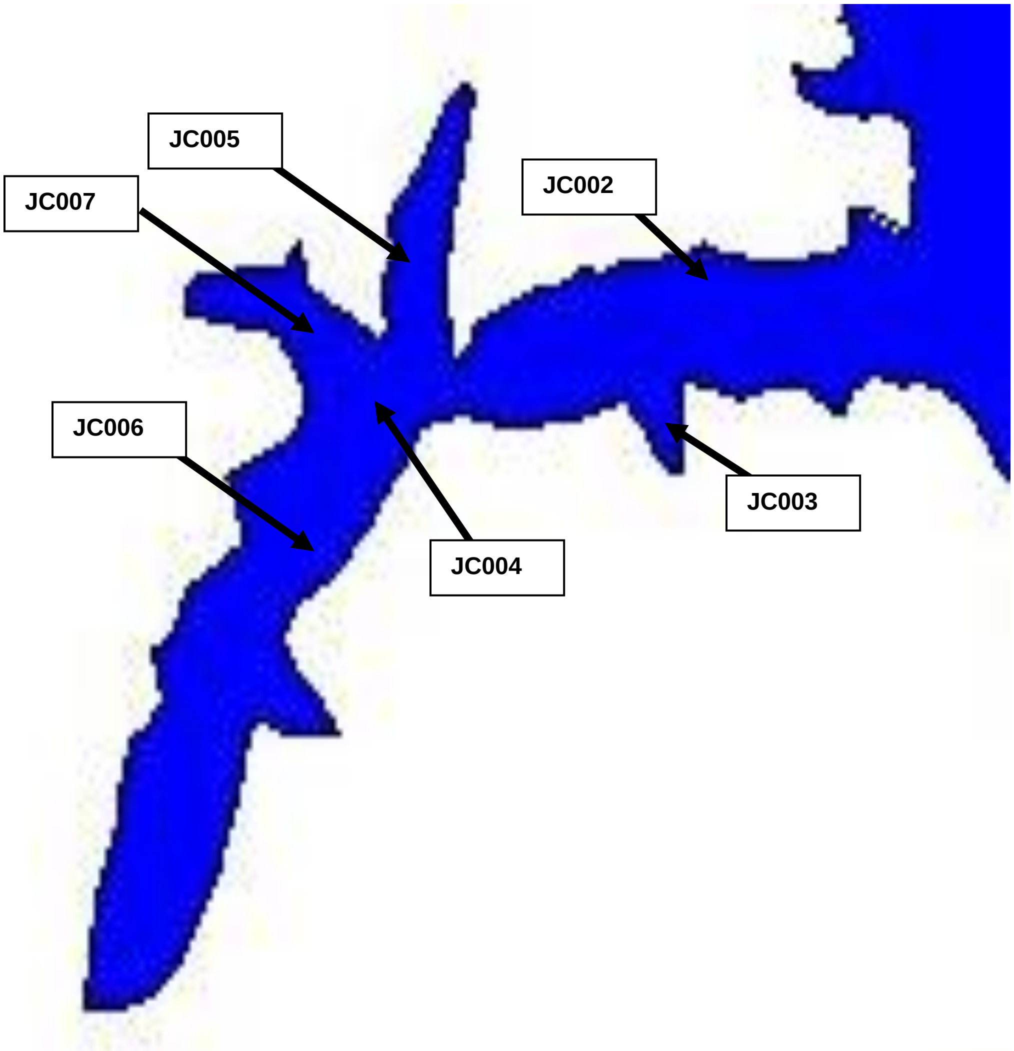
Electrofishing for all species of sportfish in Lake Pennyrile was conducted on 29 April 2016. One-hundred and twenty-two largemouth bass were captured at a rate of 122.0 fish/hr (Table 63). This catch rate is slightly above the 10-year average of 114.6 fish/hr. The majority of largemouth bass are still below 15.0 in. Only 3 (2%) bass over 15.0 in were captured in this year's sample. While 16 (13%) were 12.0 in or larger. The catch rate of fish $\geq$15.0 in (3.0 fish/hr) is above the 10-year average (Table 64).

The catch rate of bluegill $\geq$8.0 in was 41.0 fish/hr. (Table 65). The catch rate for large-size ($\geq$8.0 in) redear was above average. Over the past two years, the catch rate of large bluegill and redear sunfish has been above the 10-year average. The most probable explanation for this high catch rate is that there are too few large piscivorous predators and too little angler harvest to limit the abundance of large sunfish in the system. This is probably the most desirable situation since Pennyrile Lake is unlikely to develop into a trophy bass fishery.

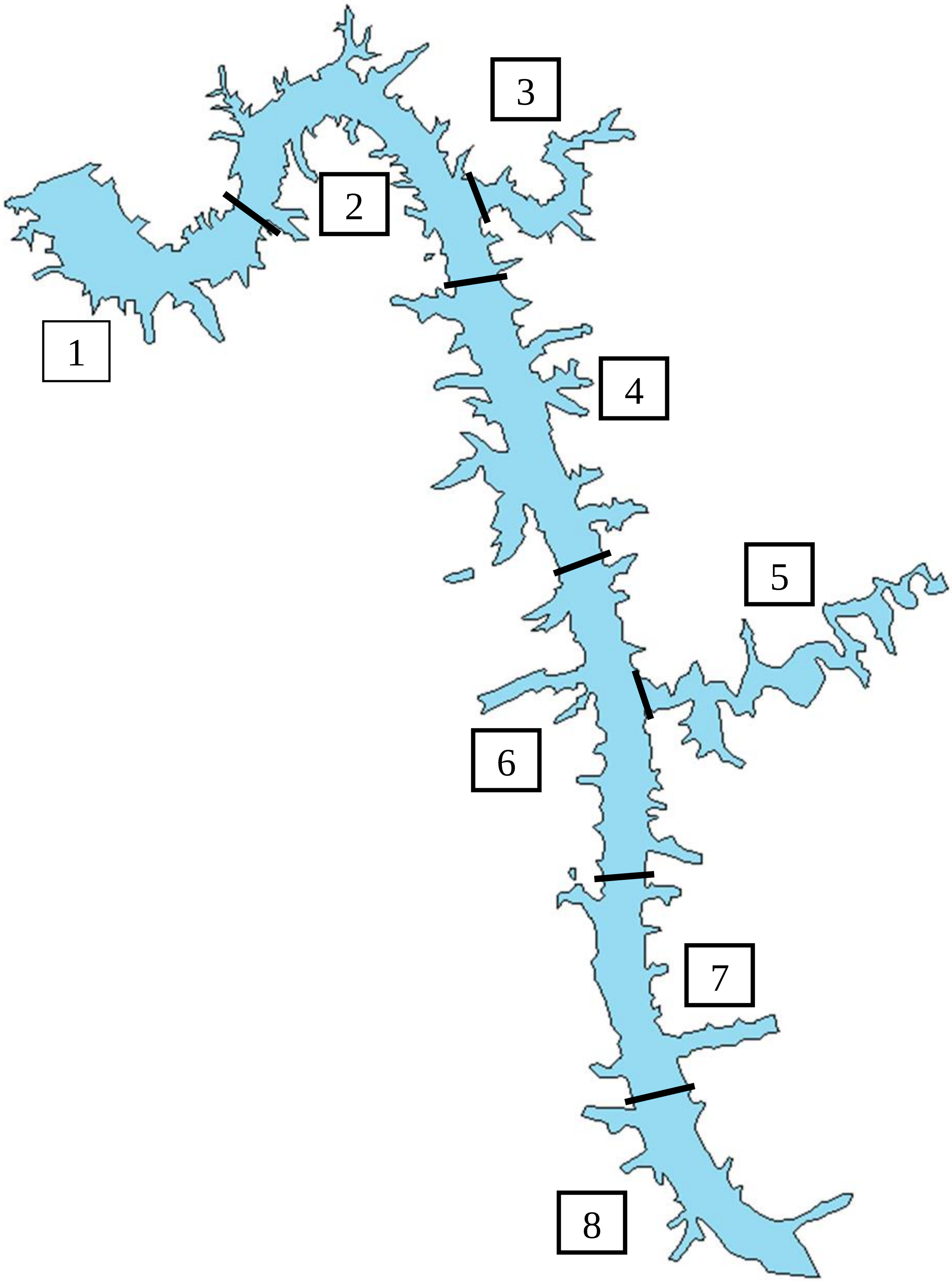
PSD and RSD values for largemouth bass, bluegill and redear sunfish are listed in Table 66. The PSD value for largemouth bass suggests a population skewed toward small bass. The largemouth fishery is likely stunted. PSD's and RSD's are above average for bluegill and redear, and skewed toward more adult fish.

A lake specific assessment for Pennyrile has not been possible in recent years without good age and growth estimates. In 2011 a small sample of bass were aged. In 2011 the largemouth bass population was rated as "fair" (Table 67). In more recent years, assessments have been completed using the age data from 2011. Age data collection will be attempted in 2017.

Appendix A. 2016 Larval fish sample sites in Jonathan Creek embayment, Kentucky Lake



Appendix B. Lake Barkley creel survey areas, 2016.



Appendix C. LAKE BARKLEY ANGLER ATTITUDE SURVEY 2016

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

2. Name ____ (**Optional**) and Zip Code ____________________

3. How many times do you fish Lake Barkley each year? (N = 634)

   First time here 3.5% 1 to 4 12.8% 5-10 15.5% More than 10 69.2%

4. Which species of fish do you fish for at Lake Barkley (**check all that apply**)?
   Redear 20.6% Black Bass 63.2% Crappie 51.2% Catfish 38.5% White bass 11.8%

   Bluegill 26.8% Yellow bass 1.6% *Morones* 0.6% Sauger 0.3% Anything 0.2%

5. Which one species do you fish for most at Lake Barkley (**check only one**)? (N = 623)

   Redear 1.4% Black Bass 49.6% Crappie 21.5% Catfish 19.3% White bass 2.7% Bluegill 5.3%

   Stripers 0.2%

-Answer the following questions for each species you fish for – (see question 4)

Redear Anglers

6. In general, what level of satisfaction or dissatisfaction do you have with redear fishing at Lake Barkley? (N = 103)
   Very satisfied 31.1% Somewhat satisfied 46.6% Neutral 12.6% Somewhat dissatisfied 4.9%

   Very dissatisfied 1.0% No opinion 3.9%

6a. If you responded with somewhat or very dissatisfied in question (6) – what is the single most important reason for your dissatisfaction? (N = 6)
   Number of fish 50.0% Size of fish 0% Not happy with regulations 0% Too many anglers 0%
   Don't know how to catch them 16.7% Can't find them anymore 16.7% Water level fluctuations 16.7%

Crappie Anglers

7. In general, what level of satisfaction or dissatisfaction do you have with crappie fishing at Lake Barkley? (N = 291)
   Very satisfied 16.5% Somewhat satisfied 46.4% Neutral 14.8% Somewhat dissatisfied 14.1%

   Very dissatisfied 3.4% No opinion 4.8%

7a. If you responded with somewhat or very dissatisfied in question (7) – what is the single most important reason for your dissatisfaction? (N = 52)
   Number of fish 88.5% Size of fish 0% Not happy with regulations 1.9% Too many anglers 0%
   Fluctuating water levels 5.8% **Other** - Muddy water and weather both 1.9%

Black Bass Anglers

8. In general, what level of satisfaction or dissatisfaction do you have with the black bass fishing at Lake Barkley? (N = 377)
   Very satisfied 39.0% Somewhat satisfied 42.7% Neutral 10.1% Somewhat dissatisfied 5.6%

   Very dissatisfied 1.3% No opinion 1.3%

8a. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction?(N = 30)
   Number of fish 80.0% Size of fish 0% Not happy with regulations 3.3% Too many anglers 0%

   Other___can't catch in June, don't know lake, need cleaning station, flood of 2010 - each 3.3%

Catfish Anglers

9. In general, what level of satisfaction or dissatisfaction do you have with the catfish fishing at Lake Barkley? (N = 232)

   Very satisfied 73.3% Somewhat satisfied 19.8% Neutral 3.0% Somewhat dissatisfied 0.9%
   Very dissatisfied 0% No opinion 3.0%

Appendix C. LAKE BARKLEY ANGLER ATTITUDE SURVEY 2016 (continued)

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 50.0% Size of fish 0% Not happy with regulations 0% Too many anglers 0%
Too much commercial fishing 0% **Other**___ too much trash in lake 50.0%

All Anglers

10. Are you satisfied with the current size and creel limits on all sport fish at Lake Barkley? (N = 640) Yes 93.3% No 6.7%

10a. If you responded "No" to Question 10, which species are you dissatisfied with and what size and creel limits would you prefer?

Creel Limit (CL), Length Limit (LL), Slot Limit (SL)

Crappie - 10 CL, 15 CL, 25 CL, 30 CL, 12" LL, 8" LL, 11"-14" SL, no LL,

Bass - 14" LL, 8'-12" SL, 14"-16" SL, keep one bass under 12" LL, 18" LL, 14" LL, all catch and release in April, 3 CL

Bluegill – need CL

Redear sunfish – 30 CL

Yellow bass – no CL

11. Would you support or oppose removing the 30 fish creel limit on yellow bass in Kentucky Lake and Lake Barkley, to allow unrestricted harvest of yellow bass? (N = 641)

Support 54.4% Oppose 3.9% No opinion 41.7%

11a. If opposed, why would you oppose removing the creel limit? (N = 25)

30 is enough 60%, May over harvest 20%, Doesn't matter 4%, Don't know enough 4%, Don't catch a limit often 8%,

Raise limit 4%

12. Are you aware that the Kentucky Department of Fish and Wildlife creates and maintains shallow water stakebeds marked with white poles, and deepwater brushpiles marked with white buoys as fish attractors in Lake Barkley? (N = 641)

Yes 65.2% No 34.8%

If you answered "No" to question 12, please skip to Question 14. Otherwise continue on to Question 12a.

12a. When you fish Lake Barkley, how regularly do you fish around our fish attractors? (N = 413)

Always 3.9% Frequently 23.0% Occasionally 51.8% Rarely 11.1% Never 10.2%

12b. If you answered "Rarely" or "Never", what is the single most important reason you don't fish around our fish attractors? (N = 88)

Over fished 18%, No boat 15%, Just don't 15%, No success 9%, Fish for other species 9%, Don't know their location 8%, Wrong water depth 8%, First time to lake 6%, Fishes own stuff 5%, Only during crappie season 3%, Boat too big 2%, Get snagged 1%

13. Are you aware that an interactive map is available on the Department's website which shows the locations of our fish attractors and provides a description of the habitat? (N = 430)

Yes 47.9% No 52.1%

14. Do you own a GPS device (handheld unit, depthfinder, Smartphone, etc.) that you use for fishing? (N = 641)

Yes 76.3%   No 23.7%

Appendix C. LAKE BARKLEY ANGLER ATTITUDE SURVEY 2016 (continued)

15. How many bass do you typically harvest from Lake Barkley each year? (N = 640)

None 68.9%   1-2 4.5%   3-10 12.8%   10-30 7.0%   More than 30 1.6%   Every keeper size bass caught 1.4%
Never bass fish 3.8%

16. When fishing for fun, how often do you hold fish in your livewell with the intent of releasing them at the end of the day? (N = 641)

Always 0.9%   Frequently 1.9%   Occasionally 5.5%   Rarely 13.1%   Never 78.6%

17. Have you participated in an organized fishing tournament for any species of fish on Lake Barkley within the last 12 months? (N = 640)

Yes 27.0%   No 73.0%

18. Are you aware that Asian carps are widely considered to be an excellent fish to eat? (N = 638)

Yes 60.2%   No 39.8%

Table 1. 2016 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
Kentucky	Jonathan	crappie	4/15/2016	6 tows	neustonic tow net	after dusk	62.4			calm/stable	good sample
Kentucky	Jonathan	crappie	4/22/2016	6 tows	neustonic tow net	after dusk	66.0	359.0		calm/stable	good sample
Lake Beshear		black bass	4/25/2016	2.5 hr	electrofishing	sunny/breezy	68.0	high	84	choppy	good sample
Kentucky	Jonathan	crappie	4/28/2016	6 tows	neustonic tow net	after dusk	69.4	359.0		calm/stable	good sample
Pennyrile		sportfish	4/29/2016	1 hr	electrofishing	cloudy/breezy	69.0	normal	35	calm	good sample
Barkley	Nickel	black bass	5/2/2016	2 hr	electrofishing	overcast	67.0	359.4	41	calm	fair sample, water a bit warm
Kentucky	Blood River	black bass	5/3/2016	2.5 hr	electrofishing	overcast/breezy	66.7	359.3	32	choppy	poor sample
Barkley	Little River	black bass	5/4/2016	2.5 hr	electrofishing	overcast	65.0	359.0	30	choppy	fair sample
Kentucky	Jonathan	crappie	5/5/2016	6 tows	neustonic tow net	after dusk	66.2	359.1		calm/stable	good sample
Kentucky	Big Bear	black bass	5/5/2016	2.5 hr	electrofishing	sunny/cool	64.2	359.4	30	calm	fair sample
Barkley	Donaldson	black bass	5/6/2016	3 hr	electrofishing	sunny	67.0	359.0	32	calm	poor sample, fish were shallow earlier in year
Kentucky	Jonathan	black bass	5/9/2016	2 hr	electrofishing	overcast/rainy	67.0	359.3	33	choppy	fair sample
Kentucky	Sugar Bay	black bass	5/11/2016	2.5 hr	electrofishing	sunny/breezy	70.5	359.4	81	choppy	good sample
Kentucky	Jonathan	crappie	5/12/2016	6 tows	neustonic tow net	after dusk	71.5	359.3		calm/stable	good sample
Barkley	Eddy Creek	black bass	5/13/2016	2.5 hr	electrofishing	sunny/calm	70.0	360.0	36	calm/stable	fair sample
Kentucky	Jonathan	crappie	5/19/2016	6 tows	neustonic tow net	after dusk	67.4	359.0		calm/stable	good sample
Kentucky	Jonathan	crappie	5/27/2016	6 tows	neustonic tow net	after dusk	73.1	360.1		calm/stable	good sample
Kentucky	Jonathan	crappie	6/2/2016	6 tows	neustonic tow net	after dusk	79.8	359.3		calm/stable	good sample
Kentucky	Patterson Landing	catfish	6/6/2016	2.1 hr	low pulse	sunny/clear	80.3	359.4	53	calm	good sample
Barkley	Devils elbow	catfish	6/9/2016	1.8 hr	low pulse	sunny/calm	78.0	359.3	49	calm	fair sample, low discharge before noon
Kentucky	Jonathan	crappie	6/9/2016	6 tows	neustonic tow net	after dusk	81.1	359.0		calm/stable	good sample
Kentucky	Little Bear	catfish	6/10/2016	1.7 hr	low pulse	sunny/breezy	79.0	359.0	60	calm	good sample
Barkley	Nickel	catfish	6/13/2016	1.7 hr	low pulse	sunny	83.0	359.0	38	calm/glassy	good sample
Barkley	Cravens Bay	catfish	6/14/2016	1.8 hr	low pulse	sunny	84.0	358.8		calm	good sample
Kentucky	Jonathan	crappie	6/15/2016	5 tows	benthic otter trawl	cloudy/calm	86.4	358.8		water falling slightly	good sample
Kentucky	Fenton	catfish	6/16/2016	1.7 hr	low pulse	sunny/breezy	82.8	358.8	60	calm	good sample
Barkley	Eddyville ferry	catfish	6/17/2016	1.66 hr	low pulse	sunny	84.0	359.0		calm	poor sample/inexperienced dipper
Kentucky	Blood River	crappie	6/23/2016	6 tows	benthic otter trawl	sunny/hot	85.3	358.8		calm/stable	good sample
Barkley	Nickel/Willow/Demumber	black bass	10/3/2016	2.5 hr	electrofishing	mostly sunny	73.0	354.5	24	calm	fair sample/water too warm
Lake Beshear		black bass	10/4/2016	2.5 hr	electrofishing	sunny	72.0	normal	47	calm	good sample
Barkley	Eddy Creek	black bass	10/5/2016	2 hr	electrofishing	sunny/windy	70.0	354.5	24	choppy	fair sample/water too warm
Kentucky	Jonathan	black bass	10/7/2016	2 hr	electrofishing	sunny	74.0	354.5	20	calm	good sample
Kentucky	Big Bear	black bass	10/10/2016	2 hr	electrofishing	sunny/breezy	68.0	354.4	36	choppy	good sample
Barkley	Little River	black bass	10/11/2016	2.5 hr	electrofishing	cloudy/windy	68.6	354.5	37	choppy	fair sample/anglers everywhere
Kentucky	Blood River	black bass	10/12/2016	4 hr	electrofishing	sunny/breezy	68.0	354.4	31	choppy	good sample
Kentucky	Sugar Bay	black bass	10/13/2016	4 hr	electrofishing	overcast/rainy	70.0	354.4	42	choppy	fair sample
Barkley	Crooked Creek	crappie	10/17 - 10/21	44 nn	trapnet	cloudy	71.0	354.0	27	calm/stable	fair sample/water too warm
Barkley	Eddy Creek	crappie	10/17 - 10/22	40 nn	trapnet	cloudy	70.0	354.0		calm/stable	SWFD sampled, fair sample/ warm water

Table 1 (cont).

Water body	Location	Species	Date	Effort	Gear	Weather	Water temp. °F	Water level	Secchi (in)	Water conditions	Pertinent sampling comments
Kentucky	Ledbetter	crappie	10/18 - 10/22	39 nn	trapnet	variable	69.0	354.2	30	variable	unseasonably w arm, w indy, poor sample
Barkley	Little River	crappie	10/24-10/28	40 nn	trapnet	sunny	65.0	354.0	20	calm/stable	fair sample/w ater still too w arm
Kentucky	Jonathan	crappie	10/25 - 10/29	40 nn	trapnet	variable	65.0	354.9	27	variable	unseasonably w arm, breezy, fair sample
Barkley	Donaldson	crappie	10/31-11/4	40 nn	trapnet	sunny	66.0	354.5	20	calm/stable	fair sample/w ater still too w arm
Kentucky	Blood River	crappie	11/1 - 11/5	39 nn	trapnet	variable	68.4	354.2	20	variable	unseasonably w arm, breezy, poor sample

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 10.0 hours (20- 30-minute runs) of diurnal electrofishing at Kentucky Lake during May 2016.

	Inch class																						
Area	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Blood River																							
Spotted bass									1												1	0.4	0.4
Largemouth bass	2	3	1	2	3	2	1		3	7	19	29	17	10	1	2					102	40.8	5.7
Jonathan Creek																							
Smallmouth bass							1							1							2	0.8	0.5
Largemouth bass	3	12	15	11	4	7	4	1	8	12	25	31	27	13	5	8	2	5	1		194	77.6	16.3
Big Bear																							
Smallmouth bass	1																				1	0.4	0.4
Spotted bass												1									1	0.4	0.4
Largemouth bass	1		3	10	9	10	3	1	1	6	30	45	38	22	8	1	2	1		1	192	76.8	6.5
Sugar Bay																							
Smallmouth bass			1	3	1		3		1		1	1			1						12	4.8	2.4
Spotted bass							2														2	0.8	0.8
Largemouth bass	5	3	9	10	12	7	4	4	8	19	16	20	14	4	3	3	3				144	57.6	5.9
Total																							
Smallmouth bass	1		1	3	1		4		1		1	1		1	1						15	1.5	0.7
Spotted bass							2		1			1									4	0.4	0.2
Largemouth bass	11	18	28	33	28	26	12	6	20	44	90	125	96	49	17	14	7	6	1	1	632	63.2	5.7

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Table 3. Lake specific assessment for largemouth bass collected at Kentucky Lake from 2007-2016. 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 Bay and Sugar Bay were used for historical comparison.

Year	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
2016	13.2	4.0	25.9	19.1	0.8			0.410	33.7
Score	2	1	4	3	1	11	F		
2015[A]	13.9	10.2	22.0	15.6	1.2			0.408	33.5
Score	4	1	3	2	2	12	G		
2014[A]	13.9	32.6	15.0	15.7	0.9			0.452	36.3
Score	4	2	1	2	1	10	F		
2013*[A]	13.9	40.2	9.6	15.8	0.8			0.446	35.9
Score	4	2	1	2	1	10	F		
2012*	13.9	35.6	26.9	17.5	0.8			0.588	44.5
Score	4	2	2	2	1	11	F		
2011*	12.9	7.4	34.0	8.6	0.9				
Score	3	1	2	1	1	8	F		
2010*	13.8	34.4	42.9	12.4	1.3				
Score	4	2	3	1	1	11	F		
2009[A]	13.8	27.9	24.3	13.5	1.4			0.429	34.9
Score	4	2	2	1	1	10	F		
2008[A]	13.8	73.1	19.1	24.2	1.9			0.575	43.7
Score	4	4	2	3	2	15	G		
2007[A]	13.8	22.2	28.8	26.1	1.3			0.560	32.2
Score	4	1	2	4	1	12	G		
Average	13.7	28.8	24.8	16.9	1.1	11.0		0.483	36.8

Data from 1985 to 2006 is listed in previous annual reports.

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

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

2010*, 2011* and 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.

2012* sample was hampered by low water levels during drought.

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 2007-2016.

	Mean length			Length group													
	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)	CPUE	Std err	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	CPUE	Std err	PSD	RSD_{15}
2016	13.2	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	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	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	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
2012	13.9	35.6	5.3	25.6	4.0	26.9	3.5	17.5	2.2	2.7	0.6	0.8	0.3	86.2	6.7	73	29
2011	12.4	7.4	1.6	5.1	1.1	34.0	5.4	8.6	2.0	3.7	1.0	0.9	0.6	61.1	7.7	76	15
2010	13.8	34.4	5.9	29.7	5.5	42.9	3.6	12.4	1.6	3.7	1.0	1.3	0.4	121.6	11.0	60	14
2009	13.8	27.9	5.0	29.5	5.3	24.3	2.2	13.5	1.2	4.2	0.6	1.4	0.3	112.6	10.3	46	16
2008	13.8	73.1	8.6	51.7	7.2	19.1	2.3	24.2	3.1	6.0	1.0	1.9	0.4	134.8	11.1	52	29
2007	13.8	22.2	4.0	18.0	3.3	28.8	2.8	26.1	1.7	5.4	0.7	1.3	0.4	93.3	7.1	73	35
Average	13.6	28.8		23.2		24.9		16.7		4.2		1.1		88.9		64.5	26.3
KLFMP	≥ 12.0 in	≥ 30				≥ 21		≥ 18				≥ 2				55-75	20-40

(Kentucky Bass Database.xls)

Data for 1985-2006 is listed in previous annual reports; KLFMP - Kentucky Lake Fish Management Plan objective goal.

Table 5. PSD and RSD_{15} values calculated for largemouth bass collected during diurnal electrofishing at Kentucky Lake during May 2016; 95% confidence limits are shown in parentheses.

Area	No. ≥8.0 in	PSD	RSD_{15}
Blood River	91	93 (+/-5)	33 (+/-10)
Jonathan Creek	149	87 (+/-6)	40 (+/-8)
Big Bear	169	91 (+/-4)	43 (+/-7)
Sugar Bay	105	78 (+/-8)	26 (+/-8)
Total	514	88 (+/-3)	37 (+/-4)

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Table 6. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 8.0 hours (16- 30-minute runs) of diurnal electrofishing at Kentucky Lake during October 2016.

	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	Std err
Blood River																							
Smallmouth bass				1	1		1	1						1							5	2.5	2.5
Spotted bass								1	1	1	1										4	2.0	2.0
Largemouth bass	1	20	20	27	30	25	14	3	1	8	3	2	8	8	6	8	2	1	1		188	94.0	26.6
Jonathan Creek																							
Smallmouth bass			2				1	1						3							7	3.5	0.5
Spotted bass									1				1								2	1.0	0.6
Largemouth bass		6	11	7	23	16	7	12	3	5	6	6	13	11	2	1	2	1	2	1	135	67.5	9.3
Sugar Bay																							
Smallmouth bass		3	10	10	9	3	1		1	1	1	1									40	20.0	1.8
Largemouth bass		1	5	6	18	56	69	24	7	3	6	10	8	7	6	4					230	115.0	18.7
Big Bear																							
Smallmouth bass			2	7	5			1			1		2		1						19	9.5	7.6
Largemouth bass	1	3	16	19	22	29	14	3	4	3	2	7	16	12	9	9	2			2	173	86.5	9.6
TOTAL																							
Smallmouth bass		3	14	18	15	3	3	3	1	1	2	1	2	4	1						71	8.9	2.0
Spotted bass								1	2	1	1		1								6	0.8	0.5
Largemouth bass	2	30	52	59	93	126	104	42	15	19	17	25	45	38	23	22	6	2	3	3	726	90.8	8.7

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Table 7. Number of bass and relative weight (Wr) for each length group of black bass collected at Kentucky Lake during October 2016.

		Length group									Total		
		8.0-11.9 in			12.0-14.9 in			≥15.0 in					
Species	Area	No.	Wr	Std err	No.	Wr	Std err	No.	Wr	Std err	No.	Wr	Std err
Largemouth bass	Blood River	26	100	2	13	91	4	26	97	2	65	97	1
	Big Bear	24	104	3	25	92	2	34	98	2	83	98	1
	Jonathan Creek	27	98	1	25	92	2	20	96	1	72	96	1
	Sugar Bay	103	107	1	24	94	2	17	102	2	144	105	1
	Total	180	105	1	87	92	1	97	98	1	364	100	1

		Length group									Total		
		7.0-10.9 in			11.0-13.9 in			≥14.0 in					
Species	Area	No.	Wr	Std err	No.	Wr	Std err	No.	Wr	Std err	No.	Wr	Std err
Spotted bass	Total	3	98	5	2	85	4	1	90		6	92	3
Smallmouth bass	Total	10	93	3	4	86	3	7	81	4	21	88	2

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Table 8. Age-0 CPUE (fish/hr) and mean length (in) of largemouth bass collected in the fall, and CPUE of age-1 largemouth bass collected the following spring during diurnal electrofishing at Kentucky Lake.

	Age 0[A]		Age 0[A]		Age 0 $\geq$5.0 in[A]		Age 1[B]	
Year class	Mean length	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2016	6.4	0.1	58.4	7.4	47.9	5.3		
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
2012	6.4	0.1	63.0	13.9	55.9	12.5	40.2	7.0
2011	5.7	0.1	75.9	8.3	54.1	6.4	35.6	5.3
2010	5.7	0.1	24.3	4.9	17.4	2.6	7.4	1.6
2009	5.0	0.1	30.9	5.4	16.7	2.8	34.4	5.9
2008	5.8	0.1	33.8	6.9	27.2	4.8	27.9	5.0
2007	7.1	0.1	122.2	26.5	106.4	24.6	73.1	8.6
Average	5.7		49.2		36.0		29.5	

[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).

*2010, 2011 and 2013 spring data was poor due to high water levels.

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

Data from 1990 to 2006 is listed in previous year reports.

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Table 9. Age frequency and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Kentucky Lake in October 2016.

	Inch class																							
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	%	CPUE	Std err
0	2	30	52	59	93	119	91	21													467	64.3	58.4	7.3
1						7	13	21	14	9	4										68	9.4	8.5	0.8
2									1	4	4	4	3	2							18	2.5	2.3	0.2
3										3	2	13	11	11	1	2					43	5.9	5.4	0.6
4										3	5	7	13	13	10	7	1				59	8.1	7.4	0.8
5											2	1	19	11	12	13	3				61	8.4	7.6	1.0
6																	1				1	0.1	0.1	0.0
7																		2			2	0.3	0.3	0.2
8																			2	1	3	0.4	0.4	0.2
9																	1			1	2	0.3	0.3	0.1
10																				1	1	0.1	0.1	0.1
11																			1		1	0.1	0.1	0.1
Total	2	30	52	59	93	126	104	42	15	19	17	25	46	37	23	22	6	2	3	3	726	100		
%	0	4	7	8	13	17	14	6	2	3	2	3	6	5	3	3	1	0	0	0	100			

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Table 10. Mean back-calculated length (in) at each annulus of largemouth bass including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake in fall 2016.

		Age						
Year-class	N	1	2	3	4	5	6	7
2015	14	6.7						
2014	4	5.5	10.5					
2013	10	6.9	10.6	13.0				
2012	13	7.1	10.5	12.1	13.5			
2011	15	7.1	11.0	12.8	14.1	15.3		
2009	1	10.9	13.1	15.6	16.9	17.8	18.4	19.1
Mean	57	6.9	10.8	12.7	13.9	15.5	18.4	19.1
Smallest		4.6	7.5	8.9	10.7	11.9		
Largest		10.9	13.8	15.6	16.9	17.8		
Std. Error		0.2	0.2	0.3	0.3	0.4		
Low 95% CI		6.5	10.3	12.2	13.3	14.6		
High 95% CI		7.3	11.2	13.2	14.6	16.3		

Otoliths were used to make age determinations. Intercept = 0.
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Table 11. Species composition, relative abundance, and CPUE (fish/nn) of crappie collected by trap nets fished during 118 net-nights of effort at three embayments of Kentucky Lake during October-November 2016. The Sub-Total is used for historical comparison and excludes the data for an embayment which historically had not been sampled.

		Inch class														
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	Std err
Blood River	White crappie	4		2	1	3	2	13	9	2	1	1		38	1.0	0.2
	Black crappie	12	3	1	6	23	50	57	54	25	11	2		244	6.3	1.2
Jonathan Cr.	White crappie	10		1	2	3	12	17	38	18	9	3	2	115	2.9	0.4
	Black crappie	25	5		9	62	53	72	45	32	3	1		307	7.7	1.2
Sub-Total	**White crappie**	**14**		**3**	**3**	**6**	**14**	**30**	**47**	**20**	**10**	**4**	**2**	**153**	**1.9**	**0.2**
	Black crappie	**37**	**8**	**1**	**15**	**85**	**103**	**129**	**99**	**57**	**14**	**3**		**551**	**7.0**	**0.8**
Ledbetter	White crappie	3							2	8	1			14	0.4	0.1
	Black crappie	44	3	4	4	1		1	1	7				65	1.7	0.5
TOTAL	**White crappie**	**17**		**3**	**3**	**6**	**14**	**30**	**49**	**28**	**11**	**4**	**2**	**167**	**1.4**	**0.2**
	Black crappie	**81**	**11**	**5**	**19**	**86**	**103**	**130**	**100**	**64**	**14**	**3**		**616**	**5.2**	**0.6**

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Table 12. 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 (f/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	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2016	1.7	6.3	8.0	0.2	0.7	0.9	10.0	9.3	9.7	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	8.8	9.2	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	8.8	9.7	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	8.8	9.4	2.4	6.3	8.7	0.5	1.8	2.3	1.7	2.9	4.6
2012[A]	4.2	8.7	12.9	0.0	0.2	0.2	10.5	9.6	10.0	3.4	7.0	10.4	2.8	2.5	5.3	1.4	3.1	4.5
2011	3.2	15.6	18.8	2.3	1.1	3.4	10.5	9.6	10.0	2.0	10.3	12.3	2.3	6.7	9.0	0.9	2.5	3.4
2010[A]	5.2	13.5	18.7	9.1	3.7	12.8	11.5	10.4	10.6	2.7	5.7	8.4	4.1	9.0	13.0	1.9	3.3	5.2
2009	2.0	14.2	16.2	1.4	2.0	3.4	11.5	10.4	10.6	1.6	12.0	13.6	1.8	3.0	4.9	0.3	10.1	10.4
2008[A]	0.4	14.9	15.3	0.4	1.4	1.8	11.2	10.2	10.7	0.4	13.0	13.3	0.2	6.2	6.3	0.2	8.3	8.5
2007	1.5	13.6	15.1	0.5	1.9	2.4	11.2	10.2	10.7	1.5	11.7	13.2	0.9	7.2	8.1	0.7	5.5	6.2
Average	3.2	11.6	14.8	2.0	1.7	3.8	10.7	9.6	10.1	2.2	7.7	9.8	2.0	4.8	6.8	1.0	3.8	4.8
KLFMP			≥ 20			≥ 8			≥ 9.5 in			≥ 10			≥ 11			≥ 4

[A] Indicates year where age and growth data was not collected. Age and growth data from the previous year was used to calculate the appropriate value.

Data from 1985 to 2006 is listed in previous annual reports.

KLFMP - Kentucky Lake Fish Management Plan objective goal.

Kentucky Lake Crappie Database

Table 13. Lake specific assessment for crappie collected at Kentucky Lake (Blood River and Jonathan Creek) from 2007-2016. 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	Total score	Assessment rating	Z	A
2016	8.0	2.9	0.9	5.3	9.7			1.072	65.8
Score	1	1	1	1	2	6	P		
2015	22.7	9.9	4.3	9.3	9.2			0.925	60.3
Score	4	3	3	3	1	14	G		
2014	10.5	6.7	2.9	3.9	9.7			0.910	59.7
Score	1	1	2	1	2	7	P		
2013	9.9	2.3	5.5	8.7	9.4			0.657	48.2
Score	1	1	3	2	1	8	P		
2012	13.0	5.3	0.5	10.4	10.0			1.028	64.2
Score	1	1	1	3	3	9	F		
2011	18.8	9.0	3.4	12.3	10.0			0.916	60.0
Score	3	2	2	3	3	13	F		
2010	18.7	13.0	12.8	8.4	10.6			0.556	42.6
Score	3	3	4	2	4	16	F		
2009	16.2	4.9	3.4	13.6	10.6			0.758	53.1
Score	2	1	1	4	4	12	F		
2008	15.3	6.3	1.8	13.3	10.7			0.440	35.6
Score	2	1	1	4	4	12	F		
2007	15.1	8.1	2.4	13.2	10.7			0.872	58.2
Score	1	2	1	3	4	11	F		
Average	14.8	6.8	3.8	9.9	10.1	10.8		0.813	54.77

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

Assessment Quartiles updated in 2015. Assessment on this table are based on new ranges.
Kentucky Lake Crappie Database

Table 14. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected with trap nets (118 net-nights each site) at Kentucky Lake (Blood River, Jonathan Creek and Ledbetter Bay) during October and November 2016. 95% confidence interval is shown in parentheses.

Location	Species	N	PSD	RSD_{10}
Blood River	White crappie	32	81 (± 14)	13 (± 12)
	Black crappie	228	65 (± 6)	17 (± 5)
Jonathan Creek	White crappie	104	84 (± 7)	31 (± 9)
	Black crappie	277	55 (± 6)	13 (± 4)
Sub Total	**White crappie**	**136**	**83 (± 6)**	**26 (± 7)**
	Black crappie	**505**	**60 (± 4)**	**15 (± 3)**
Ledbetter	White crappie	11	100 (± 0)	82 (± 24)
	Black crappie	14	64 (± 26)	50 (± 27)
Total	**White crappie**	**147**	**84 (± 6)**	**31 (± 8)**
	Black crappie	**519**	**60 (± 4)**	**16 (± 3)**

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Table 15. 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 Kentucky Lake (Blood River, Jonathan Creek and Ledbetter Bay) in fall 2016.

		Age					
Year class	N	1	2	3	4	5	6
2015	42	4.8					
2014	38	4.3	7.5				
2013	11	4.1	7.5	9.6			
2012	2	3.8	6.2	8.8	10.8		
2011	1	4.1	6.9	9.9	12.0	13.1	
2010	3	4.0	6.7	8.8	10.3	11.6	12.4
Mean	97	4.4	7.4	9.4	10.8	12.0	12.4
Smallest		3.1	5.6	7.2	9.5	11.0	11.9
Largest		7.8	12.3	10.9	12.0	13.1	13.0
Std err		0.1	0.1	0.2	0.3	0.5	0.3
Low 95% CI		4.3	7.1	9.0	10.1	11.0	11.8
High 95% CI		4.6	7.7	9.8	11.4	12.9	13.0

* Intercept = 0.

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Table 16. 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 Kentucky Lake (Blood River, Jonathan Creek and Ledbetter Bay) in fall 2016.

		Age					
Year class	N	1	2	3	4	5	6
2015	33	4.2					
2014	38	4.1	7.3				
2013	44	4.1	7.0	8.9			
2011	2	3.5	7.2	9.1	10.3	11.2	
2010	2	4.2	6.8	8.6	9.5	10.0	10.5
Mean	119	4.1	7.1	8.9	9.9	10.6	10.5
Smallest		3.1	4.7	7.3	9.3	9.6	9.8
Largest		5.9	9.4	10.8	10.7	11.7	11.2
Std err		0.1	0.1	0.1	0.3	0.5	0.7
Low 95% CI		4.0	6.9	8.7	9.3	9.7	9.2
High 95% CI		4.2	7.3	9.1	10.4	11.5	11.9

* Intercept = 0.

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Table 17. Age frequency and CPUE (fish/nn) of white crappie collected in trap nets fished for 79 net-nights in Kentucky Lake (Blood River and Jonathan Creek) during October and November 2016.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	13	Total	%	CPUE	Std err
0	14		3	1									18	12	0.2	0.1
1				2	6	14	25	18					65	42	0.8	0.1
2							5	26	16	3			50	33	0.6	0.1
3								3	4	6	1		14	9	0.2	0.0
4										1	1		2	1	<0.1	0.0
5												1	1	1	<0.1	0.0
6											2	1	3	2	<0.1	0.0
Total	14	0	3	3	6	14	30	47	20	10	4	2	153		1.94	
%	9	0	2	2	4	9	20	31	13	7	3	1				

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Table 18. Age frequency and CPUE (fish/nn) of black crappie collected in trap nets fished for 79 net-nights in Kentucky Lake (Blood River and Jonathan Creek) during October and November 2016.

	Inch class														
Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	Std err
0	37	8	1	1	6							53	10	0.7	0.1
1				14	74	63	9	6				166	30	2.1	0.3
2					5	40	92	35	16	3		191	35	2.4	0.3
3							28	58	39	10	1	136	25	1.7	0.2
4															
5										1	1	2	0	<0.1	<0.1
6									2		1	3	1	<0.1	<0.1
Total	37	8	1	15	85	103	129	99	57	14	3	551		7.0	
%	7	1	0	3	15	19	23	18	10	3	1				

wfdtpntk.d16, wfdtnagk.d16

Table 19. Length frequency, CPUE (fish/1000M³), median catch, and geometric mean catch (standard error given in parentheses) of each mm class of crappie collected during nocturnal neuston tow net sampling (54 tows) at 6 sample sites in the Jonathan Creek embayment of Kentucky Lake from 15 April-9 June 2016. See Appendix C for sample site locations.

		mm class														
Date	Location	5	6	7	8	9	10	11	12	13	14	15	>15	CPUE	Median	Geometric Mean
4/15/2016	JC002													0	0.0	0.0
	JC003													0		
	JC004													0		
	JC006													0		
	JC007															
	JC005													0		
4/22/2016	JC002													0	0.0	0.0
	JC003															
	JC004													0		
	JC006													0		
	JC007													0		
	JC005													0		
4/28/2016	JC002			3										3	1.0	1.28 (.55)
	JC003													0		
	JC004															
	JC006													0		
	JC007													0		
	JC005													0		
5/5/2016	JC002													0	1.0	2.44 (2.88)
	JC003													0		
	JC004															
	JC006													0		
	JC007					6	6							13		
	JC005					15								15		
5/12/2016	JC002													0	3.1	2.97 (2.18)
	JC003			4		4								9		
	JC004			4	8											
	JC006													0		
	JC007													0		
	JC005				4									4		
5/19/2016	JC002													0	7.5	3.88 (1.4)
	JC003			7										7		
	JC004			7												
	JC006			6										6		
	JC007													0		
	JC005						7							7		
5/27/2016	JC002													0	1.0	2.99 (5.44)
	JC003													0		
	JC004					4	8	4	4				4			
	JC006						5	5	11			5		27		
	JC007													0		
	JC005													0		
6/2/2016	JC002													0	1.0	1.43 (1.3)
	JC003													0		
	JC004													0		
	JC006			8										8		
	JC007													0		
	JC005															
6/9/2016	JC002													0	4.1	3.18 (2.5)
	JC003													0		
	JC004					4	4		4					12		
	JC006					10								10		
	JC007					6								6		
	JC005													0		

Table 20. Geometric mean catch rates for pelagic larval fish captured in neuston tow nets from 15 April-9 June 2016 (six tows per sample night). Standard errors given in parentheses. Temperature (degrees Fahrenheit) and water elevation (feet above sea level) also provided.

	Geometric Mean (Standard Error)					
	Pomoxis spp.		Clupeidae	Atherinidae		
Day	8.0-11.0mm	Total Catch	Total Catch	Total Catch	Temp	Elevation
4/15/2016	0.0	0.0	1.68 (.79)	0.0	62.4	358.2
4/22/2016	0.0	0.0	1.32 (.70)	0.0	66.0	359.0
4/28/2016	0.0	1.28 (.55)	1.29 (.59)	0.0	69.4	359.0
5/5/2016	2.4	2.44 (2.88)	60.08 (36.48)	0.0	66.2	359.1
5/12/2016	2.5	2.97 (2.18)	168.81 (49.9)	0.0	71.5	359.3
5/19/2016	1.5	3.88 (1.4)	348.6 (94.8)	3.32 (5.57)	67.4	359.0
5/27/2016	1.5	2.99 (5.44)	913.38 (225.5)	4.58 (11.25)	73.1	360.1
6/2/2016	1.0	1.43 (1.3)	8232.6 (3601.2)	15.39 (14.96)	79.8	359.3
6/9/2016	3.0	3.18 (2.5)	8606.3 (2663.2)	72.76 (87.76)	81.1	359.0

Table 21. Estimated hatch dates of crappies in the Jonathan Creek and Blood River embayments of Kentucky Lake during April, May, and June 2016 obtained with daily ring counts on otoliths from juveniles. In Jonathan Creek, hatch dates were also derived using larval fish lengths back calculated using a growth rate derived from the daily ring counts of juveniles. "# hatch" represents the time when crappie actually hatched on the nest. "#spawned" represents the time when crappie eggs were fertilized. Elevation and discharge at Kentucky Dam also provided. Environmental variables were provided by TVA and Murray State University.

	Jonathan Creek				**Blood River**				
	Back calculated	Back calculated	Daily ring count	Daily ring count	Daily Ring count	Daily ring count	Environmental variables		
	# hatch / 1000m³	# spawned / 1000m³	# hatch	# spawned	# hatch	# spawned	Elevation	Discharge (cfs)	Temp. F
17-Apr	0.0	0.0					358.5	12,347	65.2
18-Apr	0.0	0.7		2			358.5	12,397	65.1
19-Apr	0.0	0.7					358.7	12,265	64.8
20-Apr	0.0	1.1		1			358.8	12,332	65.2
21-Apr	0.7	1.1	2	1			359.0	12,606	65.4
22-Apr	0.7	0.0		6			359.2	13,466	65.6
23-Apr	1.1	0.0	1	3			359.2	19,072	66.2
24-Apr	1.1	0.0	1	6			359.1	25,197	67.0
25-Apr	0.0	0.0	6	8		1	359.2	25,567	67.3
26-Apr	0.0	0.7	3	8			359.0	25,428	68.2
27-Apr	0.0	0.7	6	2		1	359.0	25,154	68.5
28-Apr	0.0	1.0	8	13	1		359.0	26,070	*69.0
29-Apr	0.7	1.0	8	4			359.1	17,260	68.4
30-Apr	0.7	0.0	2	2	1		359.1	15,959	68.5
1-May	1.0	0.0	13	5		1	359.2	15,249	68.2
2-May	1.0	0.7	4	4			359.3	21,999	67.6
3-May	0.0	0.7	2	9		2	359.4	21,046	66.9
4-May	0.0	0.0	5	2	1	1	359.4	19,338	
5-May	0.7	0.0	4	2			359.5	20,186	*66.0
6-May	0.7	0.0	9		2	1	359.4	20,695	
7-May	0.0	0.0	2	1	1		359.3	15,723	
8-May	0.0	0.9	2			1	359.3	15,691	
9-May	0.0	0.9		1	1	3	359.3	15,844	
10-May	0.0	1.0	1			3	359.3	15,850	
11-May	0.9	1.0		1	1	1	359.4	15,719	
12-May	0.9	0.7	1		3	5	359.5	15,072	*71.0
13-May	1.0	0.7			3	5	359.7	23,612	
14-May	1.0	0.0	1		1	3	359.7	27,524	
15-May	0.7	0.0			5	4	359.4	28,492	
16-May	0.7	0.0			5	5	359.4	31,653	
17-May	0.0	0.0			3	1	359.3	26,396	
18-May	0.0	0.0			4	4	359.3	19,932	
19-May	0.0	0.0			5		359.3	26,227	*67.0
20-May	0.0	0.0			1	3	359.1	25,911	
21-May	0.0	0.0			4	3	359.4	15,515	
22-May	0.0	0.0				2	359.5	15,142	
23-May	0.0	0.7			3		359.5	27,991	
24-May	0.0	0.7			3	1	359.6	24,454	
25-May	0.0	1.4			2	3	359.5	27,012	
26-May	0.7	1.4				2	359.7	28,524	
27-May	0.7	0.0			1	3	360.0	27,088	*73.0
28-May	1.4	0.0			3	2	360.1	35,821	
29-May	1.4	0.0			2	3	360.0	35,619	
30-May	0.0	0.0			3		359.8	35,543	
31-May	0.0	0.0			2		359.6	35,298	
1-Jun	0.0	0.0			3		359.6	26,536	78.7

* represents temperature readings taken during the larval sampling events

Table 22. Length frequency, CPUE (fish/5-min sample), and standard error of each inch class of fish captured in benthic otter trawl samples on 15 June in Jonathan Creek (5 samples) and 23-24 June in Blood River (6 samples), in Kentucky Lake.

Area		Inch class														
Blood River	Species	0	1	2	3	4	5	6	7	8	10	12	15	Total	CPUE	Std err
	Gizzard shad		1256	1										1257	209.5	100.3
	Golden shiner					1								1	0.2	0.2
	Bluntnose minnow			1										1	0.2	0.2
	Bullhead minnow			1	1									2	0.3	0.3
	Channel catfish		7									2		9	1.5	1.2
	White bass			1										1	0.2	0.2
	Yellow bass					11	1	1						13	2.2	1.3
	Orange spotted sunfish			2	1	1								4	0.7	0.4
	Bluegill		160	3	44	26	12	3	1	1				250	41.7	15.3
	Longear sunfish			2	4									6	1.0	0.6
	Redear sunfish				3	4								7	1.2	0.5
	Smallmouth bass			1										1	0.2	0.2
	Largemouth bass		10	31										41	6.8	3.3
	White crappie	6	48		1	38	13	2	9	1				118	19.7	9.4
	Black crappie		20				1	1						22	3.7	2.2
	Freshwater drum					2	1		1		1			5	0.8	0.3

Jonathan		Inch class														
Creek	Species	0	1	2	3	4	5	6	7	8	10	12	15	Total	CPUE	Std err
	Gizzard shad		511			2				1				514	102.8	74.8
	Channel catfish				1		1						1	3	0.6	0.4
	Yellow bass		32	3		42	7	1						85	17.0	7.4
	Bluegill		140	3	19	5	2	3	3					175	35.0	10.4
	Longear sunfish			4	3	4	1							12	2.4	1.0
	Redear sunfish									1				1	0.2	0.2
	Largemouth bass		52	13										65	13.0	5.4
	White crappie		65		3	21		1	5	1				96	19.2	11.2
	Black crappie		31			9		4	1	1				46	9.2	4.4
	Yellow perch						1							1	0.2	0.2
	Freshwater drum					4	3			1	1			9	1.8	1.1

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Table 23. Length frequency and CPUE (fish/hr) of channel, blue, and flathead catfish collected from Kentucky Lake in June 2016 using low pulse (15 PPS) electrofishing along the main river channel. A chase boat was used. A total of 5.4 hours of sampling consisting of 65- 300-second runs.

	Inch class																																			
Species	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	35	36	37	38	39	40	46	Total	CPUE	Std err
Blue catfish			1	10	35	13	23	51	52	19	14	15	15	17	20	16	9	4	2	5	3	6	2		1	4	3			1			2		343	63.3	1.2
Channel catfish	4	2		3	9	3	2	5	4	3		1	3	3			1																		43	7.9	0.2
Flathead catfish					3	3	2		2	2	2	4	4	3			1	1	1	1	1	1		1	2	1		1	1		1	1		1	40	7.4	0.2

wfdkcat.d16

Table 24. Relative weight (W_r) of each length group of blue, channel, and flathead catfish collected from Kentucky Lake during June 2016. 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	Wr	Std err	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err
	203	99	1	48	105	2	8	119	5	259	101	1
	Length group											
Channel catfish	11.0-15.9 in			16.0-23.9 in			≥24.0 in			Total		
	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err
	14	115	9	8	98	3				22	109	6
	Length group											
Flathead catfish	12.0-19.9 in			20.0-29.9 in			≥30.0 in			Total		
	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err
	17	92	3	9	103	4	4	115	4	30	98	3

wfdkcat.d16

Table 25. Age frequency and CPUE (fish/hr) of blue catfish collected from low pulse (15 PPS) electrofishing at Kentucky Lake in June 2016.

	Inch class																					
Age	7	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	29	Total	%	CPUE	Std err
1	1																			1	0	0.2	<0.1
2		13	23																	36	13	6.6	0.4
3				50	42	4	3													99	35	18.3	0.4
4					10	15	11	15	15	18										84	29	15.5	0.3
5											12	6	5							23	8	4.2	0.1
6											7	10	5		2					24	8	4.4	0.1
7														4		5			1	10	3	1.8	0.1
8																	3			3	1	0.6	<0.1
10																		6		6	2	1.1	<0.1
Total	1	13	23	50	52	19	14	15	15	18	19	16	10	4	2	5	3	6	1	286			
%	0	5	8	17	18	7	5	5	5	6	7	6	3	1	1	2	1	2	0				

wfdkcat.d16 and wfdkcag.d14

Table 26. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 10 hours (20- 30-minute runs) of diurnal electrofishing at Lake Barkley from 2 May to 13 May 2016.

		Inch class																						Std
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	err
Lower																								
Donaldson Cr.	Smallmouth bass						2							1								3	2.0	2.0
	Spotted bass									1			1									2	1.3	1.3
	Largemouth bass	5	1	2				1	1	3	1		5	13	7		3	2				44	29.3	8.8
Fords	Smallmouth bass															1	1					2	1.3	1.3
	Largemouth bass	9	5	1	2	3	1		1	2		1	3	4	9	3	2		1			47	31.3	4.1
Middle																								
Little River	Smallmouth bass							1	2	1	1		1									6	2.4	1.5
	Spotted bass											2										2	0.8	0.8
	Largemouth bass		2		3	1	3	2	3	1	9	16	20	25	20	3	13	12	4	1		138	55.2	11.4
Eddy Cr.	Smallmouth bass												1									1	0.4	0.4
	Spotted bass																					0	0.0	0.0
	Largemouth bass	1		1	3	4	8	5	2	5	10	21	33	26	14	11	5	3	2		1	155	62.0	11.3
Upper																								
Nickell Cr.	Smallmouth bass				2			1					1					1				5	5.0	1.0
	Spotted bass																					0	0.0	0.0
	Largemouth bass			3	1	8	4	2	1		2	2	11	14	8	1		1	1			59	59.0	1.0
Willow	Smallmouth bass			1	1																	2	2.0	2.0
	Largemouth bass			2	3	6	6	6	1	2	2	3	10	5	6	1	1					54	54.0	10.0
Total	Smallmouth bass			1	3		2	2	2	1	1		3	1		1	1	1				19	1.9	0.8
	Spotted bass									1		2	1									4	0.4	0.5
	Largemouth bass	15	8	9	12	22	22	16	9	13	24	43	82	87	64	19	24	18	8	1	1	497	49.7	7.1

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Table 27. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Lake Barkley during late April/early May since 2007.

	Mean length age-3 at	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	capture	CPUE	Std err	CPUE	Std err		Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
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	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
2012	13.0	10.0	1.7	8.7	1.8	13.1	2.0	32.4	5.4	24.1	5.0	1.5	0.5	78.4	10.6
2011	Did not sample due to flooding														
2010		17.1	1.8	15.5	1.5	34.3	3.4	28.4	2.4	18.9	1.9	2.2	0.5	97.1	5.4
2009		69.2	7.4	63.9	7.5	42.5	3.5	38.8	2.7	34.0	3.4	2.4	0.4	179.3	10.2
2008		28.8	3.0	24.1	3.5	25.8	3.9	32.6	3.9	41.2	4.5	3.0	0.5	123.7	6.3
2007	12.7	6.7	0.7	4.8	0.9	21.4	2.6	66.5	4.7	47.6	4.5	1.8	0.5	140.3	9.7
Average	13.0	21.5		18.7		20.9		32.1		28.6		1.7		100.2	

(Revised_Barkley_Bass_Database.xlsx)

Data is available since 1985 in previous annual reports

* back-calculated fall age data used in 2015

Table 28. PSD and RSD$_{15}$ values calculated for largemouth bass collected during 10 hours (20- 30-minutes runs) of spring diurnal electrofishing at each area of Lake Barkley from 2 May to 13 May 2016. 95% confidence intervals are shown in parentheses.

Area	No. ≥8.0 in	PSD	RSD$_{15}$
Donaldson	36	86 (+/-12)	69 (+/-15)
Fords	27	85 (+/-9)	70 (+/-18)
Little River	132	93 (+/-5)	59 (+/-9)
Eddy Creek	146	86 (+/-6)	43 (+/-8)
Nickell	3	83 (+/-9)	50 (+/-13)
Willow	24	54 (+/-21)	21 (+/-17)
Total	431	86 (+/-5)	51 (+/-6)

wfdpsdb.d16

Table 29. Lake specific assessment for largemouth bass collected at Lake Barkley from 2007-2016. 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	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
2016	13.4	10.8	14.9	22.2	1.7			0.402	33.1
Score	4	1	1	2	1	9	F		
2015**	13.4	10.3	29.7	26.3	1.7			0.472	38.0
Score	4	1	2	2	1	10	F		
2014	13.0	22.2	22.8	23.5	1.4			0.649	47.8
Score	3	2	1	2	1	9	F		
2013	13.0	18.2	22.9	19.3	0.7			0.282	25.0
Score	3	1	1	1	1	7	P		
2012	13.0	10.0	32.4	24.1	1.5			0.431	35.0
Score	3	1	2	2	1	9	F		
2011	*	*	*	*	*				
2010[A]	12.7	17.1	28.4	18.9	2.2			0.400	33.0
Score	2	1	1	1	2	7	P		
2009[A]	12.7	69.2	38.8	34.0	2.4			0.422	34.0
Score	2	4	2	3	3	14	G		
2008[A]	12.7	28.8	32.6	41.2	3.0			0.339	29.0
Score	2	3	2	4	3	14	G		
2007[A]	12.7	6.7	66.5	47.6	1.8			0.317	27.0
Score	2	1	4	4	1	12	G		
Average	13.0	21.5	32.1	28.6	1.8	10.1		0.4	33.5

Older data is listed in previous annual reports.

(Revised _Barkley_bass_Database.xlsx)

* data not available ** used back calculated lengths from fall

[A] age and grow th data w as not collected. Previous year data used for age estimates.

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

Table 30. Age frequency and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Lake Barkley in May 2016. Age-1 data was calculated with a subsample of 2016 spring aged fish; however, 2015 back calculated fall age and growth data was used for the remaining calculations of age-frequency.

	Inch class																				
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	%	CPUE	Std err
1	15	8	9	12	22	22	14	5	1										108	11	10.8	1.3
2							2	4	12	12									30	22	3.0	2.3
3									1	10	32	47							90	24	9.0	2.6
4										2	7	23	23	14					69	13	6.9	1.1
5											4	12	35	32	3				86	12	8.6	1.1
6													12	9		12			33	5	3.3	0.6
7													17	9	13	12	9	4	64	10	6.4	1.0
8																	5		5	1	0.5	0.1
9																		4	4	1	0.4	0.2
11															3		5		8	2	0.8	0.2
Total	15	8	9	12	22	22	16	9	14	24	43	82	87	64	19	24	19	8	497	100		
%	3	2	2	2	4	4	3	2	3	5	9	16	18	13	4	5	4	2	100			

wfdpsdb.d16, wfdagmod.d15

Table 31. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 7.0 hours of diurnal electrofishing (14- 30-minute runs) for black bass in each area of Lake Barkley from 3-11 October 2016.

	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	Std err
Little River																						
Smallmouth bass		5	9	3	1		2		1		1			1						23	9.2	5.1
Spotted bass		2	1																	3	1.2	1.2
Largemouth bass	8	11	7	8	4	1	4	6	5	4	12	6	9	11	7	7	3	2		115	46.0	8.5
Eddy Creek																						
Smallmouth bass		6	6			3							1							16	8.0	2.9
Largemouth bass	4	15	20	16	7	3	2	5	5	2	9	18	9	9	7	2	1	1	1	136	68.0	6.3
Nickel																						
Smallmouth bass		6	3		1		1	1				1			1					14	14.0	4.0
Largemouth bass		3	5	6		1		1		1	1	3	3		3					27	27.0	9.0
Willow																						
Smallmouth bass		1	5	1												1				8	8.0	4.0
Largemouth bass		13	15	8	4	1		2	2	2	6	4	5	1		1		1		65	65.0	31.0
Demumbers																						
Smallmouth bass		5	3	1		1							1							11	22.0	
Largemouth bass	2			1	1		1	1	2	1	1	2								12	24.0	
Total																						
Smallmouth bass		23	26	5	2	4	3	1	1			2	2		1	2				72	10.3	2.2
Spotted bass		2	1																	3	0.4	0.4
Largemouth bass	14	42	47	39	16	6	7	15	14	10	29	33	26	21	17	10	4	4	1	355	50.7	6.4

wfdwrb.d16

Table 32. Number of fish and the relative weight (W_r) values for each length group of largemouth collected at Lake Barkley during 7.0 hours (14- 30-minute runs) of diurnal electrofishing from 3-11 October 2016.

		Length group								
		8.0-11.9 in			12.0-14.9 in			≥15.0 in		
Species	Area	No.	Wr	Std err	No.	Wr	Std err	No.	Wr	Std err
Largemouth bass	Little River	16	90	4	22	98	2	39	106	1
	Eddy Creek	15	101	3	29	97	2	30	99	1
	Nickel	2	95	6	5	95	7	6	94	4
	Willow	5	89	6	12	91	3	8	90	6
	Demumbers	4	105	4	4	100	4			
	Total	62	105	1	143	102	1	117	104	1

		Length group								
		7.0-10.9 in			11.0-13.9 in			≥14.0 in		
Species	Area	No.	Wr	Std err	No.	Wr	Std err	No.	Wr	Std err
Smallmouth bass	Little River	3	95	6	1	94	0	2	90	8
	Eddy Creek	3	90	2				1	83	0
	Nickel	3	99	7				2	105	14
	Willow							1	72	0
	Demumbers	1	102	0				1	86	0
	Total	17	96	2	1	90	0	9	94	2

wfdwrb.d16

Table 33. Age-0 CPUE (fish/hr) and mean length (in) of 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	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2016	5.5	0.9	22.7	4.5	14.9	3.1		
2015	4.7	0.1	46.4	6.5	16.6	6.5	10.8	1.8
2014	4.8	0.1	24.8	4.4	11.0	1.9	10.3	2.0
2013	5.8	0.1	55.0	8.7	43.3	6.0	22.2	3.7
2012	6.1	0.1	40.6	6.9	35.7	5.7	22.2	2.7
2011	5.5	0.1	18.6	2.7	13.4	2.4	10.0	1.7
2010	6.5	0.1	46.0	7.8	42.0	6.9	*	
2009	5.6	0.1	37.6	4.8	29.2	3.4	17.1	1.8
2008	6.2	0.1	55.6	6.7	50.2	6.3	69.2	7.4
2007	6.8	0.1	68.7	11.8	59.4	10.7	28.8	3.0
Average	5.8		41.6		31.6		23.8	

[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.

* Data not collected in spring of 2011 due to flood conditions.

wfdwrb.dxx, wfdpsdb.dxx

Table 34. Length frequency and CPUE (fish/nn) of each inch class of white and black crappie collected by trap nets (164 net-nights) at Lake Barkley from 17 October-4 November 2016. 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	13	14	Total	CPUE	Std err
Little River	White crappie	5	6	6	8	72	145	83	60	40	13	4	1	2	445	11.1	1.3
	Black crappie	7	11	3	5	14	5	6	8	4					63	1.6	0.3
Donaldson Creek	White crappie	5	4	6	5	2	1	8	27	33	14	4			109	2.7	0.4
	Black crappie	4	30	4	5	68	83	41	16	15	7	5			278	7.0	1.0
Sub-Total	**White crappie**	**10**	**10**	**12**	**13**	**74**	**146**	**91**	**87**	**73**	**27**	**8**	**1**	**2**	**554**	**6.9**	**0.8**
	Black crappie	**11**	**41**	**7**	**10**	**82**	**88**	**47**	**24**	**19**	**7**	**5**			**341**	**4.3**	**0.6**
Crooked Creek	White crappie	16	17	7	6	7	11	65	41	16	12	1			199	4.5	0.6
	Black crappie	34	86	47	9	11	25	45	34	13	3				307	7.0	0.7
Eddy Creek	White crappie	15	37	5	1	3	1	4	36	20	7	1			130	3.3	0.5
	Black crappie	6	54	9	2		2	3	2	2					80	2.0	0.6
TOTAL	**White crappie**	**41**	**64**	**24**	**20**	**84**	**158**	**160**	**164**	**109**	**46**	**10**	**1**	**2**	**883**	**5.5**	**0.5**
	Black crappie	**51**	**181**	**63**	**21**	**93**	**115**	**95**	**60**	**34**	**10**	**5**			**728**	**4.5**	**0.4**

wfdtpntb.d16

Table 35. Crappie population parameters used to manage the population at Lake Barkley for 2007-2016, with values determined from fall trap netting. To allow for historical comparisons, only data from Little River and Donaldson Creeks are presented.

	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	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2016	6.2	3.5	9.7	0.7	0.8	1.5	10.6	9.5	10.3	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	2.5	2.5	5.0	11.6	9.9	10.5	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	7.7	1.5	9.2	11.8	9.6	11.4	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	1.0	1.7	2.8	11.1	10.6	10.9	2.2	0.8	3.0	0.3	0.0	0.4	1.9	0.6	2.5
2012	4.1	2.6	6.7	1.2	0.1	1.3	10.9	10.0	10.5	4.0	2.2	6.3	1.1	0.9	2.0	2.8	0.9	3.7
2011[A]	4.6	2.8	7.4	9.0	1.0	10.0	11.6	10.5	11.1	3.0	0.7	3.6	4.2	2.6	6.8	0.8	0.2	1.0
2010	4.1	3.1	7.2	19.2	4.2	23.5	11.6	10.5	11.0	3.1	2.1	5.2	3.5	2.5	6.1	1.3	0.5	1.8
2009[A]	1.3	1.0	2.3	3.8	1.5	5.3	11.3	11.3	11.3	1.7	0.9	2.6	1.1	0.7	1.7	0.7	0.3	1.0
2008	1.1	1.7	2.8	4.0	0.9	4.9	11.3	11.3	11.3	1.7	1.1	2.7	0.6	1.4	2.0	0.7	0.4	1.0
2007[A]	2.3	1.5	3.8	1.6	0.4	2.0	10.7	10.5	10.6	1.8	1.4	3.3	0.9	0.7	1.6	1.4	0.5	1.8
Average	3.9	2.2	6.1	5.1	1.5	6.5	11.3	10.4	10.9	2.6	1.3	3.9	2.8	1.5	4.2	1.3	0.5	1.7

[A] Indicates year where age and growth data was not collected. Age and growth data from the previous year was used to calculate the appropriate value.

Data from 1985 to 2006 is listed in previous annual reports.

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Table 36. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected by trap-nets (164 net-nights) at Lake Barkley during the weeks of 17 October and 4 November 2016. Sub-Total uses only data collected from Little River and Donaldson Creek. Numbers in parentheses represent 95% confidence intervals.

Location	Species	N	PSD	RSD_{10}
Little River	White crappie	428	47 (+/-3)	14(+/-3)
	Black crappie	42	43 (+/-15)	10 (+/-9)
Donaldson	White crappie	94	91 (+/-6)	54 (+/-10)
	Black crappie	240	35 (+/-7)	11 (+/-4)
Sub-Total	**White crappie**	**522**	**55 (+/-4)**	**21 (+/-4)**
	Black crappie	**282**	**36 (+/-6)**	**11 (+/-4)**
Crooked Creek	White crappie	159	85 (+/-7)	18 (+/-6)
	Black crappie	140	68 (+/-8)	11 (+/-5)
Eddy Creek	White crappie	73	93 (+/-6)	38 (+/-11)
	Black crappie	11	64 (+/-20)	18 (+/-6)
Total	**White crappie**	**754**	**65 (+/-4)**	**22 (+/-2)**
	Black crappie	**433**	**47 (+/-5)**	**11 (+/-3)**

wfdtpntb.d16 wfdpnt1b.d16

Table 37. 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) during the weeks of 17 October and 4 November 2016.

		Age					
Year class	N	1	2	3	4	5	6
2015	72	4.6					
2014	81	5.0	8.3				
2013	4	5.0	8.8	11.3			
2011	1	3.9	5.7	7.3	8.3	9.2	
2010	3	5.1	8.5	10.9	11.8	12.8	13.5
Mean	161	4.8	8.3	10.7	10.9	11.9	13.5
Smallest		2.5	5.7	7.3	8.3	9.2	13.4
Largest		6.4	10.7	12.3	12.1	12.9	13.5
Std err		0.0	0.1	0.5	0.9	0.9	0.1
Low 95% CI		4.7	8.1	9.6	9.2	10.2	13.4
High 95% CI		4.9	8.5	11.7	12.7	13.6	13.6

* Intercept = 0.
wfdtnagb.d16

Table 38. 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) during the weeks of 17 October and 4 November 2016.

		Age				
Year class	N	1	2	3	4	5
2015	76	4.6				
2014	39	4.9	7.7			
2013	23	4.5	7.2	9.0		
2011	2	3.8	6.6	8.1	9.6	10.0
Mean	140	4.6	7.5	8.9	9.6	10.0
Smallest		3.4	5.0	6.8	8.2	8.4
Largest		7.5	9.7	11.6	11.0	11.7
Std err		0.1	0.1	0.3	1.4	1.6
Low 95% CI		4.5	7.2	8.3	6.9	6.9
High 95% CI		4.8	7.7	9.5	12.3	13.2

* Intercept = 0.
wfdtnagb.d16

Table 39. Age frequency and CPUE (fish/nn) of white crappie collected during 164 net-nights at Lake Barkley (Little River, Donaldson Creek, Crooked Creek, and Eddy Bay) during the weeks of 17 October and 4 November 2016. 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	13	14	Total	%	CPUE	Std err
0	10	10	11	11	17									59	11	0.7	0.1
1			2	2	57	146	81	40	2					330	59	4.1	0.6
2							10	47	69	25	6			157	28	2.0	0.2
3										2	2			4	1	0.1	<0.1
5									2					2	0	<0.1	<0.1
6												1	2	3	1	<0.1	<0.1
Total	10	10	13	13	74	146	91	87	73	27	8	1	2	555		6.9	
%	2	2	2	2	13	26	16	16	13	5	1	0	0				

Lake Barkley Total

	Inch class																
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	Std err
0	41	64	21	16	20									162	18	1.0	0.1
1			3	4	64	158	142	75	3					449	51	2.7	0.3
2							18	89	103	43	7			260	29	1.6	0.1
3										3	3			6	1	<0.1	<0.1
5									3					3	0	<0.1	<0.1
6												1	2	3	0	<0.1	<0.1
Total	41	64	24	20	84	158	160	164	109	46	10	1	2	883		13.6	1.0
%	5	7	3	2	10	18	18	19	12	5	1	0	0				

wfdtpn1b.d16 and wfdtnagb.d16

Table 40. Age frequency and CPUE (fish/nn) of black crappie collected during 164 net-nights at Lake Barkley (Little River, Donaldson Creek, Crooked Creek, and Eddy Bay) during weeks of 17 October and 4 November 2016. 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	Std err
0	11	41	7	3								62	18	0.8	0.1
1				8	79	83	31	3	4			208	61	2.6	0.4
2					3	5	14	13	11	3		49	14	0.6	0.1
3							2	8	4	4	4	22	6	0.3	0.1
5									1		1	2	1	<0.1	<0.1
Total	11	41	7	11	82	88	47	24	20	7	5	343		4.3	
%	3	12	2	3	24	26	14	7	6	2	1				

Lake Barkley Total

	Inch class														
Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	Std err
0	51	181	63	5								300	41	1.8	0.2
1				16	89	109	62	8	8			292	40	1.8	0.2
2					4	6	29	33	19	4		95	13	0.6	0.1
3							5	19	6	6	4	40	6	0.2	<0.1
5									1		1	2	0	<0.1	<0.1
Total	51	181	63	21	93	115	96	60	34	10	5	729		4.4	0.4
%	7	25	9	3	13	16	13	8	5	1	1				

wfdtpn1b.d16 and wfdtnagb.d16

Table 41. Lake specific assessment for crappie collected at Lake Barkley (Little River and Donaldson Creek) from 2007-2016. 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	Total score	Assessment rating	Z	A
2016	9.7	6.7	1.5	4.9	10.3			1.472	77.0
Score	4	4	1	3	2	14	G		
2015	14.5	12.2	5.0	5.1	10.5			0.680	49.3
Score	4	4	3	3	3	17	G		
2014	3.5	3.0	9.2	1.9	11.2			0.418	34.2
Score	1	2	4	1	4	12	F		
2013	3.0	0.4	2.8	3.0	10.9			0.788	54.5
Score	1	1	2	2	4	10	F		
2012	6.7	2.0	0.4	6.3	10.5			0.857	57.6
Score	2	2	1	4	3	12	F		
2011	7.4	6.8	10.0	3.6	10.9			1.188	69.5
Score	3	4	4	2	4	17	G		
2010	7.2	6.3	23.3	5.2	10.9			1.209	70.1
Score	3	4	4	3	4	18	E		
2009	2.3	1.7	5.3	2.6	11.3			1.330	73.5
Score	1	1	3	2	4	11	F		
2008	2.8	2.0	4.9	2.7	11.3			0.960	61.7
Score	1	2	3	2	4	12	F		
2007	3.8	1.8	2.0	3.2	10.6			1.047	64.9
Score	1	2	2	2	3	10	F		
Average	6.1	4.3	6.4	3.9	10.8	13.3		0.995	61.2

Rating

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

(Revised_Barkley_Crappie_Database.xlsx)

Table 42. Length frequency and CPUE (fish/hr) of channel, blue, and flathead catfish collected from Lake Barkley in June 2016 using low pulse (15 PPS) electrofishing along the main lake river channel. A chase boat was used. A total of 6.92 hours of sampling consisting of 83- 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	25	26	27	29	30	31	32	36	Total	CPUE	Std err
Channel catfish	3	4	10	4	8	17	14	7	3	8	14	3	6	1															102	15.4	2.3
Blue catfish	21	14	26	5	4	47	63	38	29	56	53	48	50	24	18	14	7	7	2	2	1		2						531	80.0	12.9
Flathead catfish						1		2		2			1	2						2		1		1	1	2	1	1	17	2.6	0.6

w fdcatb.d16

Table 43. Relative weight (W_r) of each length group of blue, channel, and flathead catfish collected from Lake Barkley during June 2016. 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	Wr	Std err	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err
	288	96	1	21	103	3				309	96	1
	Length group											
Channel catfish	11.0-15.9 in			16.0-23.9 in			≥24.0 in			Total		
	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err
	35	99	2	7	91	3				42	98	2
	Length group											
Flathead catfish	12.0-19.9 in			20.0-29.9 in			≥30.0 in			Total		
	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err	N	Wr	Std err
	5	102	3	4	106	6	5	116	4	14	108	3

wfdcatb.d16

Table 44. Age frequency and CPUE (fish/hr) of blue catfish (<20.0 in TL) collected from low pulse (15 PPS) electrofishing at Lake Barkley in June 2016. Age and growth data from 2014 was used to calculate the appropriate values.

	Inch class																				
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	*Total	%	*CPUE	Std err
1	3	4	26	5	1													39	8	5.9	1.8
2					3	47	63	29										142	29	21.3	4.7
3								10	29	56								95	19	14.3	2.7
4											53	48						101	21	15.2	2.4
5													33		5			38	8	5.8	1.1
6													17	24	13	5		59	12	8.8	1.8
7																9		9	2	1.4	0.5
9																	7	7	1	1.1	0.4
Total	3	4	26	5	4	47	63	39	29	56	53	48	50	24	18	14	7	490		*73.6	
%	1	1	5	1	1	10	13	8	6	11	11	10	10	5	4	3	1				

wfdcatb.d16 and wfdbcatag.d14

* fish >20.0 in TL were excluded, as these fish were not represented in the 2014 age data set.

Table 45. Age frequency and CPUE (fish/hr) of channel catfish (<14.0 in TL) collected from low pulse (15 PPS) electrofishing at Lake Barkley in June 2016. Age and growth data from 2014 was used to calculate the appropriate values.

	Inch class											
Age	5	6	7	9	10	11	12	13	*Total	%	*CPUE	Std err
1	4	10	4						18	26	2.7	1.0
2				17	7	1	1		26	38	3.9	0.9
3					7	6	2		15	22	2.2	0.5
4							1	8	9	13	0.9	0.4
Total	4	10	4	17	14	7	4	8	68			
%	6	15	6	25	21	10	6	12				

wfdcatb.d16 and wfdcatag.d14

* fish <14.0 in TL were excluded, as these fish were not represented in the 2014 age data set.

Table 46. Fishery statistics derived from a creel survey at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

Fishing Trips			
	No. of fishing trips (per acre)	89,412	(2.0)
Fishing Pressure			
	Total angler-hours (S.E.)	386,341	(8.5)
	Angler-hours/acre	16.5	
Catch / Harvest			
	No. of fish caught (S.E.)	457,127	(46,865)
	No. of fish harvested (S.E.)	172,992	(19,877)
	Lb of fish harvested	170,018	
Harvest Rates			
	Fish/hour	0.45	
	Fish/acre	3.79	
	Pounds/acre	3.73	
Catch Rates			
	Fish/hour	1.14	
	Fish/acre	10.02	
Miscellaneous Characteristics (%)			
	Male	88.01	
	Female	11.99	
	Resident	71.57	
	Non-resident	28.43	
Method (%)			
	Still fishing	38.88	
	Casting	57.46	
	Trolling	1.09	
	Trotline/Jugging	2.39	
	Bow Fishing	0.17	
	Crappie Anglers Only		
	Casting	57.43	
	Still fishing (1-2 poles)	3.34	
	Spider Rig (3 Poles)	26.54	
	Spider Rig (4-5 Poles)	4.67	
	Spider Rig (>5 Poles)	8.01	
Mode (%)			
	Boat	84.01	
	Bank	12.37	
	Dock	3.62	

Table 47. Length distribution for each species of fish harvested or released (lengths of released fish are estimated) at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

		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									10,204	9,705	7,154	3,050	2,606	721	333	55									
	R		110	876	10,626	34,015	9,093	4,765	9,969	1,260	329	110	219	383	274	110	109									
Black crappie	H									1,752	2,902	2,957	767	657	164	56										
	R				148	247	444	1,580	1,037	50																
Largemouth bass	H														5,067	6,898	3,335	1,569	752	196	262	327	131	65		
	R							2,212	992	3,547	839	8,353	12,740	23,534	10,146	7,934	2,746	2,441	801	381	305	114	153	153	38	38
Smallmouth bass	H														234	94	187	187	47		141		47			
	R			118	39	197	39	275		432	157	1,061	1,218	668	511	511	472	157	118	39	79	39	40			
Spotted Bass	H														24											
	R					40		40		80	80	320	40	80	40	40		40								
Bluegill	H			1,018	2,452	8,189	11,103	6,893	46																	
	R	46	1,719	20,720	6,086	9,431	2,602	324																		
Redear sunfish	H						236	898	473	2,080	993	331	95	95	45											
	R					147	98	244	196	48	48															
Longear sunfish	H				308																					
	R		224	5,879	404	763																				
Warmouth	H		40																							
	R					35	317																			
Green sunfish	R		41	40																						
Channel catfish	H							42	209	1,881	669	6,478	1,254	10,156	4,389	8,861	961	1,212	167	209	84	125				
	R			45			45	315	270	990	45	1,260	225	1,485	90	180	45	90		45				45		45
Blue catfish	H							40		361		883	201	1,806	120	2,609	2,087	5,418	120	1,605	40	361		441		201
	R							174	43	912		87	43	348		174		217		87		43		87		
Flathead catfish	H											138		35						34						
	R					57	57	57																		
White bass	H					443	30	30	384	2,568	1,800	5,313	1,535	443		27										
	R		81		728	1,497	1,861	1,173	202	2,993	40	3,479	728	647		81										
Hybrid striped bass	H															96										
	R															48										
Yellow bass	H			42	254	3,085	1,268	1,395	338	296		85	41													
	R		629	1,259	11,119	20,718	6,766	1,259	472	104																
Sauger	H																54									
	R									32					32		33									
Bullhead	R									48																
Buffalo	R											96														
Drum	H					57	57	170		170		111														
	R			89		89	45	537	179	1,432	89	1,566	313	537	671	582	268	984	179	179	45	45	45	403	134	224
Shad	R					57																				
Skipjack herring	H								55					55		109	55		164			107				
	R								67	135		67		67							68					
Common Carp	R						60		60							60										
Silver Carp	R																	62								
Grass Carp	R							92								30										
Golden Shiner	H						57																			
Gar	H																			73						
	R											62				62		62						125		

Table 47 (cont).

		Inch class																						
Species		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	44	45	46	47	48	49	56	Total
White crappie	H																							33,828
	R																							72,248
Black crappie	H																							9,255
	R																							3,506
Largemouth	H		33																					18,635
bass	R																							77,467
Smallmouth	H																							937
bass	R																							6,170
Spotted Bass	H																							24
	R																							800
Bluegill	H																							29,701
	R																							40,928
Redear sunfish	H																							5,246
	R																							781
Longear sunfish	H																							308
	R																							7,270
Warmouth	H																							40
	R																							352
Green sunfish	R																							81
Channel catfish	H		41																					36,738
	R				44																			5,264
Blue catfish	H		722	40	40		80		40		82													17,297
	R				174						260													2,649
Flathead catfish	H																							207
	R																						1	171
White bass	H																							12,573
	R																							13,510
Hybrid striped	H																							96
bass	R																							48
Yellow bass	H																							6,804
	R																							42,326
Sauger	H																							54
	R																							97
Bullhead	H																							48
Buffalo	R																							96
Drum	H																							565
	R		89	45	134	45																		8,948
Shad	R																							57
Skipjack herring	H																							545
	R																							404
Common Carp	R				58																			238
Silver Carp	R																							62
Grass Carp	R																							122
Golden Shiner	H																							57
Gar	H																							73
	R		63																					374

Table 48. Fish harvest statistics derived from a creel survey at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

	Black bass group	Largemouth bass	Smallmouth bass	Spotted bass	**Crappie group**	White crappie	Black crappie	**Catfish group**	Channel catfish	Flathead catfish	Blue catfish	Bullhead	**Panfish group**	Bluegill	Redear sunfish	Longear sunfish	Warmouth	Green sunfish
No. caught	**104,158**	96,103	7,108	825	**62,433**	106,076	12,762	**62,433**	42,003	434	19,948	48	**84,762**	70,630	6,077	7,579	393	81
(per acre)	**(2.28)**	(2.11)	(0.16)	(0.02)	**(1.37)**	(2.33)	(0.28)	**(1.37)**	(0.92)	(0.01)	(0.44)	(0.00)	**(1.86)**	(1.55)	(0.13)	(0.17)	(0.01)	T
No. harvested	**19,597**	18,635	937	25	**43,083**	33,828	9,255	**54,244**	36,739	208	17,298		**35,297**	29,701	5,246	309	41	
(per acre)	**(0.43)**	(0.41)	(0.02)	T	**(0.94)**	(0.74)	(0.20)	**(1.19)**	(0.81)	T	(0.38)		**(0.77)**	(0.65)	(0.12)	(0.01)	T	
% of total no. harvested	**11.3**	10.8	0.5	T	**24.9**	19.6	5.4	**31.4**	21.2	0.1	10.0		**20.4**	17.2	3.0	0.2	T	
Lb. harvested	**46,230**	43,701	2,495	34	**32,901**	24,847	8,054	**71,668**	35,878	204	35,586		**9,266**	5,707	3,534	24	1	
(per acre)	**(1.01)**	(0.96)	(0.05)	T	**(0.72)**	(0.54)	(0.18)	**(1.57)**	(0.79)	T	(0.78)		**(0.20)**	(0.13)	(0.08)	T	T	
% of total lb. harvested	**27.2**	25.7	1.5	T	**19.4**	14.6	4.7	**42.2**	21.1	0.1	20.9		**5.5**	3.4	2.1	T	T	
Mean length (in)		16.6	18.0	15.0		11.4	11.3		13.6	13.0	18.2			5.9	9.7	5.0	3.0	
Mean w eight (lb)		2.39	2.88	1.37		0.73	0.80		0.83	0.93	2.21			0.14	0.63	0.08	0.02	
No. of fishing trips for that species	**34,944**				**21,654**			**12,198**					**7,425**					
% of all trips	**39.1**				**24.2**			**13.6**					**8.3**					
Hours fished for that species	**150,991**				**93,565**			**52707**					**32083**					
(per acre)	**(3.31)**				**(24.22)**			**(1.16)**					**(0.70)**					
No. harvested fishing for that species	**18,857**				**42,590**			**47,718**					**31,747**					
Lb harvested fishing for that species	**44,576**				**32,573**			**65,276**					**8,322**					
No./hour harvested fishing for that species	**0.12**				**0.43**			**0.98**					**1.33**					
% success fishing for that species	**18.6**				**41.3**			**58.9**					**43.1**					

t = < .005

Table 48 (cont.).

	Sauger	**Morone Group**	White bass	Yellow bass	Hybrid striped bass	Drum	Skipjack herring	Gar	Buffalo	Silver carp	Common Carp	Grass carp	Shad	Golden Shiner	**Anything**
No. caught	152	**75,360**	26,084	49,131	145	9,514	950	448	97	63	239	122	57	57	
(per acre)	T	**(1.65)**	(0.57)	(1.08)	T	(0.21)	(0.02)	(0.01)	T	T	(0.01)	T	T	T	
No. harvested	55	**19,475**	12,574	6,804	97	566	545	74						57	
(per acre)	T	**(0.43)**	(0.28)	(0.15)	T	(0.01)	(0.01)	T						T	
% of total no. harvested	0.03	11.26	7.27	3.93	0.06	0.33	0.32	0.04						0.03	
Lb. harvested	84	**9,028**	7,906	922	200	210	571	53						6.8	
(per acre)	T	**(0.20)**	(0.17)	(0.02)	T	T	(0.01)	T						T	
% of total lb. harvested	0.05	**5.31**	4.65	0.54	0.12	0.12	0.34	0.03						T	
Mean length (in)	17.0		11.2	7.3	16.0	8.8	17.3	20.0						7.0	
Mean w eight (lb)	1.54		0.62	0.16	2.08	0.36	1.05	0.71						0.12	
No. of fishing trips for that species		**1,743**													**11,447**
% of all trips		**1.9**													**12.8**
Hours fished for that species		**7533**													**49,461**
(per acre)		**(0.17)**													**(1.08)**
No. harvested fishing for that species		**12,202**													
Lb harvested fishing for that species		**7,105**													
No./hour harvested fishing for that species		**1.97**													
% success fishing for that species		**51.2**													**14.4**

T = < 0.005

Table 49. Crappies catch and harvest statistics derived at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

	White crappie				Black crappie			
	Harvested	Released		Total	Harvested	Released		Total
	≥10.0 in	<10.0 in	≥10.0 in		≥10.0 in	<10.0 in	≥10.0 in	
Total no. of crappie	33,828	69,454	2,794	106,076	9,255	3,456	50	12,762
% of crappie harvested by number	78.5				21.5			
Total weight of crappie (lb)	24,847	8,359	337	33,543	8,054	855	12	8,920
% of crappie harvested by weight	75.5				24.5			
Mean length (in)	11.4				11.3			
Mean weight (lb)	0.73				0.80			
Rate (fish/hr)	0.068				0.019			

Table 50. Monthly crappie angling success at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

Month	Total no. of crappie caught	Total no. of crappie harvested	No. of crappie fishing trips	Hours fished for crappie	Crappie caught by crappie anglers	Crappie caught/ hour by crappie anglers	Crappie harvested by crappie anglers	Crappie harvested/ hour by crappie anglers
Feb	9,897	2,921	1,425	6,156	9,898	1.46	2,921	0.43
Mar	42,432	11,453	5,321	22,994	40,577	1.51	11,071	0.41
Apr	42,671	19,589	9,227	39,868	42,385	1.02	19,531	0.47
May	2,958	2,037	1,297	5,606	2,909	0.56	2,036	0.39
Jun	787	320	27	118	467	3.17	320	2.17
Jul			35	150				
Aug	24	24	90	388				
Sept	2,972	657	325	1,402	2,941	2.10	657	0.47
Oct	7,013	2,255	1,880	8,125	6,921	1.21	2,225	0.39
Nov	10,084	3,828	2,027	8,757	9,991	1.04	3,829	0.40
Total	118,838	43,083	21,654	93,565	116,089		42,590	
Mean						1.19		0.43

Table 51. Monthly black bass angling success at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

Month	Total no. of bass caught	Total no. of bass harvested	*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 by bass anglers	Bass harvested/ hour by bass anglers	*Bass harvested/ hour by bass anglers
Feb	649			385	1,664	649	0.30				
Mar	9,217	1,963	382	4,054	17,519	8,562	0.45	1,909	327	0.10	0.02
Apr	21,135	3,608	1,203	7,494	32,382	18,958	0.48	3,207	802	0.08	0.02
May	17,699	2,425	988	4,890	21,130	16,244	0.65	2,279	242	0.09	0.01
Jun	26,178	8,751	442	6,539	28,255	25,614	0.72	8,653	345	0.24	0.01
Jul	1,906	122	122	853	3,686	1,663	0.45	81	81	0.02	0.02
Aug	2,437	97	0	1,048	4,530	2,437	0.48	96		0.02	0.00
Sept	6,758	282	31	2,231	9,641	6,602	0.57	282	31	0.02	0.00
Oct	12,388	2,070	124	4,481	19,361	11,893	0.47	2,070	124	0.08	0.00
Nov	5,789	280	0	2,957	12,822	5,415	0.38	280	0	0.02	0.00
Total	104,158	19,597	*2,591	34,944	150,991	98,037		18,857	1,952		
Mean							0.57			0.12	*0.01

* harvest which excluded bass kept in a livewell, but which the angler stated they intended to release

Table 52. Black bass catch and harvest statistics derived at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

	Largemouth bass				Smallmouth bass				Spotted bass			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
	≥15.0 in	12.0-14.9 in	≥15.0 in		≥15.0 in	12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in	
Total no. of bass	18,635	44,627	25,251	96,103	937	2,947	1,967	7,108	25	440	120	825
*Total no. of bass	(*2,472)	(*43,061)	(*43,243)									
% of bass harvested by number	95.1				4.8				0.1			
Total weight of bass (lb)	43,701	62,786	35,526	152,692	2,495	3,269	2,178	9,337	34	365	101.5	698
% of bass harvested by weight	94.5				5.4				0.1			
Mean length (in)	16.6				18.0				15.0			
Mean weight (lb)	2.39				2.88				1.37			
Rate (fish/hr)	0.063				0.002				0.0001			

* harvest which excluded bass kept in a livewell, but which the angler stated they intended to release

Table 53. Monthly panfish angling success at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

Month	Total no. of panfish caught	Total no. of panfish harvested	No. 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
Feb	243							
Mar	3,327	600	326	1,408	1,310	1.18	437	0.39
Apr	12,085	4,067	1,773	7,660	6,644	1.40	2,578	0.54
May	57,850	26,670	4,291	18,543	53,778	3.39	25,652	1.62
Jun	2,999	959	301	1,300	2,680	3.03	787	0.89
Jul	81	81	87	376	41	0.18	41	0.18
Aug	507	97	45	194	72	1.00	48	0.67
Sept	2,378	876	142	614	1,846	5.22	845	2.39
Oct	4,170	1,761	460	1,988	2,595	2.72	1,359	1.42
Nov	1,120	187						
Total	84,762	35,297	7,425	32,083	68,966		31,747	
Mean						2.91		1.33

Table 54. Panfish catch and harvest statistics derived from Lake Barkley (45,600 a) from 17 February through 09 November 2016.

	Bluegill				Redear sunfish			
	Harvested	Released		Total	Harvested	Released		Total
		6.0-7.9 in	≥8.0 in			6.0-7.9 in	≥8.0 in	
Total no. of panfish	29,701	12,033	325	70,630	5,246	245	586	6,077
% of panfish harvested by number	84.1				14.9			
Total weight of panfish (lb)	5,707	896	25	8,756	3,534	98	235	3,867
% of panfish harvested by weight	61.6				38.1			
Mean length (in)	5.9				9.7			
Mean weight (lb)	0.14				0.63			
Rate (fish/hr)	0.071				0.012			

Table 55. Monthly catfish angling success at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

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	974	730	231	998	892	1.20	649	0.87
Mar	3,272	2,727	760	3,285	2,619	0.78	2,073	0.61
Apr	7,847	6,587	1,451	6,268	5,384	0.84	5,155	0.81
May	26,864	24,003	4,059	17,537	22,499	1.29	21,627	1.24
Jun	4,400	4,179	1,477	6,384	3,934	1.13	3,909	1.12
Jul	5,272	4,339	696	3,009	5,109	1.31	4,298	1.10
Aug	3,137	2,630	509	2,200	2,437	1.13	2,075	0.97
Sept	4,380	3,848	1,116	4,821	3,912	0.98	3,661	0.92
Oct	4,140	3,800	1,320	5,705	3,306	0.60	3,244	0.59
Nov	2,148	1,401	579	2,502	1,400	0.79	1,027	0.58
Total	62,434	54,244	12,198	52,707	51,492		47,718	
Mean						1.05		0.98

Table 56. Catfish catch and harvest statistics derived at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

	Blue catfish				Channel catfish				Flathead catfish			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
	≥15.0 in	12.0-14.9 in	≥15.0 in		≥15.0 in	12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in	
Total no. of catfish	17,298	478	1,043	19,948	36,739	2,970	584	42,003	208	57	113	434
% of catfish harvested by number	31.9				67.7				0.4			
Total weight of catfish (lb)	35,586	1,348	2,939	43,060	35,878	1,968	388	39,368	204	1,447	2895.2	5,993
% of catfish harvested by weight	49.7				50.1				0.3			
Mean length (in)	18.2				13.6				13.0			
Mean weight (lb)	2.21				0.83				0.93			
Rate (fish/hr)	0.048				0.097				0.0007			

Table 57. Monthly *Morone* angling success at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

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	5,679	325						
Mar	17,616	1,691	181	782	273	0.26		
Apr	14,606	1,833						
May	7,419	2,328	67	287	727	1.67	727	1.67
Jun	2,556	492	328	1,419	1,943	2.59	492	0.66
Jul	3,406	1,825	244	1,053	2,434	2.26	1,825	1.69
Aug	9,435	7,312	464	2,006	8,035	3.44	7,287	3.12
Sept	4,005	1,721	183	789	2,346	3.64	1,439	2.23
Oct	5,128	1,483	200	864	772	1.19	432	0.67
Nov	5,509	467						
Total	75,360	19,475	1,743	7,533	16,530		12,202	
Mean						2.63		1.97

Table 58. *Morone* catch and harvest statistics derived at Lake Barkley (45,600 a) from 17 February through 09 November 2016.

	White Bass				Yellow Bass				Hybrid Striped Bass			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
	>15.0 in	12.0-14.9 in	>15.0 in		>15.0 in	12.0-14.9 in	>15.0 in			12.0-14.9 in	>15.0 in	
Total no. of *Morone*	12,574	4,854	81	26,084	6,804			49,131	97		48	145
% of *Morone* harvested by number	64.6				34.9				0.5			
Total w eight of *Morone* (lb)	7,906	2,270	37	14,223	922			4,436	200		100.7	301
% of *Morone* harvested by w eight	87.6				10.4				2.2			
Mean length (in)	11.2				7.3				16.0			
Mean w eight (lb)	0.62				0.16				2.08			
Rate (fish/hr)	0.047				0.018				0.0004			

Table 59. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Lake Beshear during 2016.

	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	Std err
Spring	5	11	10	1	14	28	5	2	13	12	8	7	16	16	27	36	32	11	1	2	257	102.8	6.5
Fall	32	49	16	4	11	15	6	1	7	5	4		3	5	2	4	3				167	83.5	5.8

wfdpsdlb.d16 and wfdwrlb.d16

Table 60. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Lake Beshear during April or May of 2007 to 2016.

				Length group															
	Mean length age-3 at capture	Age-1		<8.0 in		≥12.0 in		12.0-14.9 in		≥15.0 in		≥18.0 in		≥20.0 in		Total			
Year		CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	PSD	RSD_{15}
2016[AB]	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	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	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	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
2012[A]	13.3	27.6	5.5	34.4	4.9	46.8	3.6	8.8	2.2	38.0	4.6	18.4	1.8	4.4	1.0	114.8	7.0	58	47
2011	13.3	11.7	2.2	13.5	1.7	65.0	9.2	17.5	4.8	47.5	5.9	23.5	3.0	5.5	1.7	92.5	10.3	82	60
2010[A]	13.8	22.3	4.9	9.0	1.7	51.0	6.9	11.3	1.3	39.7	6.1	14.0	3.8	3.7	1.9	82.7	15.7	69	54
2009[A]	13.8	5.2	1.6	3.6	1.7	35.6	3.0	6.0	0.6	29.6	2.9	13.6	1.7	4.4	1.6	47.2	4.6	82	68
2008[A]	13.8	10.4	3.7	8.4	3.9	32.0	4.6	11.2	3.8	20.8	3.4	10.0	2.7	3.6	1.7	51.6	6.8	74	48
2007[A]	13.8	25.0	4.2	15.0	3.3	50.3	8.6	15.0	4.2	35.3	5.2	16.0	2.6	4.7	1.0	83.0	12.8	74	52
Average	13.6	17.3		14.5		55.1		13.4		41.7		20.0		5.0		87.7		75.4	56.8
LBFMP	≥ 12.0 in	≥ 10				≥ 45		≥ 15		≥ 30				≥ 3				55 - 75	20 - 40

(Lake Beshear Bass Database.xls)

Data for 1985-2006 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.

Table 61. Lake specific assessment for largemouth bass collected at Lake Beshear from 2007-2016. 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	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
2016	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	4.4	17.6	60.8	8.0			0.457	36.7
Score	3	2	4	4	4	17	E		
2014[A]	13.3	1.9	18.0	43.6	4.4			0.145	13.5
Score	3	1	4	4	3	15	G		
2013[A]	13.3	33.8	18.0	45.0	6.0			0.355	29.9
Score	3	4	4	4	4	19	E		
2012[A]	13.3	27.6	8.8	38.0	4.4			0.291	25.2
Score	3	4	2	3	3	15	G		
2011	13.3	11.7	17.5	47.5	5.5			0.194	17.6
Score	3	3	4	4	4	18	G		
2010[A]	13.8	22.3	11.3	39.7	3.7			0.297	25.7
Score	3	4	3	3	2	15	G		
2009[A]	13.8	5.2	6.0	29.6	4.4			0.142	13.2
Score	3	2	1	2	3	11	G		
2008[A]	13.8	10.4	11.2	20.8	3.6			0.316	27.1
Score	3	3	3	1	2	12	G		
2007[A]	13.8	25.0	15.0	35.3	4.7			0.344	29.1
Score	3	4	3	3	3	16	G		
Average	13.6	17.3	13.4	41.7	5.0	15.5		0.296	25.3

Data from 1985 to 2006 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.

Assessment Quartiles were updated. Assessment on this table is updated with new ranges.

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

Lake Beshear Bass Data Base

Table 62. Age-0 CPUE (fish/hr) and mean length (in) of largemouth bass collected in the fall, and CPUE of age-1 largemouth bass collected the following spring during diurnal electrofishing at Lake Beshear.

Year class	Age 0[A]		Age 0[A]		Age 0 $\geq$5.0 in[A]		Age 1[B]	
	Mean length	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2016	4.4	0.1	50.5	6.0	10.0	4.0		
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
2009	3.6	0.1	24.8	5.3	2.0	0.6	22.3	4.9
2008	4.3	0.1	12.4	1.2	2.0	0.9	4.8	1.6
2007	4.8	0.1	21.6	3.5	9.6	2.3	10.0	1.4
Average	4.6		32.3		12.1		16.3	

[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

Table 63. Species composition, relative abundance, and CPUE (fish/hr) of sportfish collected during 1.0 hour (4- 900s-runs) of diurnal electrofishing at Lake Pennyrile on 29 April, 2016.

	Inch class																		
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	16	19	23	Total	CPUE	Std err
Largemouth bass			9	16	11	2	6	14	10	25	13	7	6	1	1	1	122	122.0	10.0
Bluegill	16	29	34	22	9	13	38	41									202	202.0	49.1
Redear sunfish			1	9	6	7	8	17	13								61	61.0	15.8
White crappie											2		1				3	3.0	1.9
Longear sunfish		4	11	14	21	7											57	57.0	14.3
Warmouth		1	1	1	3	4	10										20	20.0	6.6

wfdpsdp.d16

Table 64. Spring, diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Pennyrile Lake from 2007-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
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			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
2012*												
2011	32.0	10.4	68.0	7.7	12.0	2.5	1.6	1.0	0.8	0.8	113.6	18.3
2010	46.4	9.3	64.3	10.7	12.5	3.3	7.1	1.6	4.5	1.8	130.4	17.0
2009*												
2008	38.9	5.1	63.0	12.0	13.3	2.8	2.0	1.2	0.0	0.0	117.1	14.5
2007	41.3	2.5	66.0	4.0	14.0	2.3	2.7	1.3	0.7	0.7	124.0	5.2
Mean	40.8		59.5		11.4		2.8		1.2		114.6	

wfdpsdp.dxx

Data from 1990 to 2006 is listed in previous year reports.

*Did not sample

Table 65. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Lake Pennyrile during May from 2007-2016.

		Length group									
		<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		Total	
Species	Year	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
Bluegill											
	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	
	2014			12.0	4.3	15.0	6.6			27.0	7.9
	2013*	1.0	1.0	18.0	5.8	21.0	6.2			40.0	12.1
	2012	Did Not Sample									
	2011	1.6	1.0	36.8	20.2	41.6	14.2	5.6	1.6	85.6	35.7
	2010	3.6	1.9	81.3	17.2	40.2	6.2	6.3	2.7	131.3	17.0
	2009	Did Not Sample									
	2008	38.1	19.9	136.2	43.0	93.2	42.7	11.3	4.7	278.8	85.4
	2007	4.0	1.8	35.3	8.6	23.3	7.6	1.3	0.8	64.0	15.9
	Mean	17.7		58.6		43.8		16.3		130.0	
		Length group									
		<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		Total	
Redear sunfish											
	2016			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	
	2014			8.0	5.4	17.0	5.7	8.0	3.7	33.0	12.5
	2013*			4.0	2.3	9.0	5.5	12.0	2.8	25.0	6.6
	2012	Did Not Sample									
	2011			9.6	4.5	17.6	8.1	28.0	11.9	55.2	21.4
	2010			3.6	1.9	8.9	2.3	17.9	5.0	30.4	5.4
	2009	Did Not Sample									
	2008	2.7	1.8	21.0	9.2	12.8	6.3	41.0	25.1	77.4	40.4
	2007	2.0	1.4	21.3	7.9	16.7	8.1	10.7	1.7	50.7	16.4
	Mean	1.8		11.9		12.7		22.5		47.9	

wfdpsdp.dxx

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

Table 66. PSD and RSD values obtained for largemouth bass, bluegill and redear sunfish collected during 1.0 hour of diurnal electrofishing (4 - 900s-runs) at Lake Pennyrile on 29 April 2016. 95% confidence intervals are in parentheses.

Species	N	PSD	RSD*
Largemouth bass	78	21 (+/-9)	4 (+/-4)
Bluegill	157	59 (+/-9)	26 (+/-7)
Redear sunfish	60	63 (+/-11)	22 (+/-11)

* Largemouth = RSD_{15}, Bluegill = RSD_8, Redear sunfish = RSD_9.

wfdpsdp.d16

Table 67. Lake specific assessment for largemouth bass collected at Pennyrile Lake from 2007-2016. 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	Age-1 CPUE	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
2016	38.0	13.0	3.0	1.0	11.7				
Score	2	2	2	4	4	14	G		
2015	36.0	8.8	3.2	0.8	11.7				
Score	2	1	2	4	4	13	G		
2014	19.8	7.0	1.0		11.7				
Score	1	1	1		4	7	P		
2013	10.6	11.0	2.0	1.0	11.7				
Score	1	2	2	4	4	13	G		
2012	Did not sample								
Score									
2011	31.0	12.0	1.6	0.8	11.7			0.488	38.6
Score	1	2	1	4	4	12	F		
2010	36.1	12.3	7.1	4.5					
Score	2	2	4	4	1	13	G		
2009	Did not sample								
Score									
2008	27.9	13.3	2.0						
Score	1	2	2		1	6	P		
2007	33.1	14.0	2.7	0.7					
Score	2	1	1	1	1	6	P		
Average	29.1	11.4	2.8	1.1	11.7				

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

NORTHWESTERN FISHERY DISTRICT

Project A: 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 2016 field season.

Nolin River Lake

Black Bass Sampling

Spring electrofishing to monitor the black bass population at Nolin River Lake was conducted during May 2016 (Tables 2-5). Catch rates in 2016 were largely consistent with those collected during the last survey in 2014. The most notable difference was the catch rate for 12.0- to 14.9-in fish, which decreased approximately 50%. However, the catch rate of 12.0- to 14.9-in fish was above average in 2012 and 2014 and the 2016 catch rate is similar to catch rates collected in previous surveys. Overall, Nolin's largemouth bass population is stable and performing as expected.

Crappie Sampling

Trap netting was conducted during late October and early November to assess Nolin River Lake's crappie population (Tables 6-10). A total of 971 crappie (9.7 % black) were collected in 95 net-nights of effort. The 2016 catch rate for all length groups of white crappie was lower than what is typically collected. Although anecdotal conversations with anglers and conservation officers indicate anglers caught fewer crappie throughout the year, the above average temperature and stable weather conditions encountered during the sampling time period was most likely the contributing factor to the depressed catch rates. White crappie growth rate continues to be very good with white crappie averaging 10.7 in at age 2+ at capture. This is the second highest growth rate recorded for Nolin. Although trap net sampling indicates the crappie population is not producing as expected, the lower catch rates are to some extent the result of sampling conditions rather than a population decline.

Dissolved Oxygen – Temperature Profiles

Dissolved oxygen and temperature profiles were conducted in late July 2016 (Table 11). Profiles were completed at three sites (lower, middle, and upper) along the main channel of the lake. These profiles are similar to profiles completed during previous years with dissolved oxygen falling below 3.0 ppm from 14 to 18 feet deep depending on area of the lake.

Rough River Lake

Black Bass Sampling

Electrofishing to monitor spring black bass population trends at Rough River Lake was conducted during April 2016 (Tables 12-15). With the exception of 8.0- to 11.9-in largemouth bass, catch rates in 2016 are similar to catch rates documented over the last several years. The lower number of 8.0- to 11.9-in fish may lead to a reduction in harvestable fish in the next couple of years but should be temporary. Overall, largemouth catch rates have remained fairly consistent and the population produces a stable, quality fishery.

Hybrid Striped Bass Sampling

Gill netting to monitor the hybrid striped bass population was conducted the third week of November (Tables 16-20). Catch rates in 2016 were lower than those collected during the last couple of surveys, but are similar to catch rates over the last 10-15 years. The reduced catch rates are most likely the result of warm stable weather during the sampling period coupled with a lower than normal lake level that caused some traditional netting sites to become inaccessible. Growth rate is excellent with hybrids averaging 17.6 in at age 2+ in 2016, which is the highest growth rate documented at Rough River Lake. Gill netting will be conducted annually for the next few years as part of a project to document any differences in survival and growth rate of the reciprocal and original crosses.

Gill netting to assess the channel catfish population was conducted concurrently with hybrid striped bass sampling. A total of 129 channel catfish were collected in 6 net nights for a CPUE of 21.5 fish/net-night which is the highest catch rate for channel catfish recorded (Tables 21-22). Condition is good and similar to prior collections. The higher catch rate for channels appears to be related to the lower than normal lake level at time of sampling. Both the traditional net sites, that typically produce few catfish, and the new sites captured high numbers of channel catfish in 2016.

Dissolved Oxygen – Temperature Profiles

Dissolved oxygen and temperature profiles were conducted in June, July, and August in 2016 (Tables 23-25). Profiles were conducted at three sites (lower, middle, and upper) along the main channel of the south fork of the lake on each sample date consistent with samples in previous years. An additional site, at the state park beach, was added to the July sample. These profiles were conducted as part of a project to document survival and growth of the original and reciprocal hybrid striped bass crosses stocked at Rough River Lake.

Carpenter Lake

Largemouth Bass

Largemouth bass were sampled at Carpenter Lake in April 2016 (Tables 26-29). Catch rates in 2016 rebounded from the near record low catch rates collected in 2015. Catch rates in 2016 for all length groups were well above what is typically collected indicating that, as expected, the depressed 2015 catch rates were due to sampling anomalies rather than any population shift. Catch rate of fish 8.0- to 11.9-in was lower than samples from the past 13 years but catch rate of fish 12.0- to 14.9-in and ≥15.0 in were among the highest ever collected. We collected more large fish (>5 pounds) in 2016 than in recent memory.

Bluegill Redear Sunfish Sampling

Electrofishing to assess the bluegill/redear sunfish populations was conducted in May (Tables 30-32). Catch rates for bluegill in 2016 were lower than the last couple of years, but within the range of those collected over the last decade since gizzard shad were first discovered in the lake in 2006. The bluegill population over the last 10 years has been characterized by decreased growth rates and very few fish reaching 8.0 in. Age-growth data collected in October 2015 indicate a mean length at age 2 equal to that collected in 2010, however the 2010 data was a decline of approximately one inch from the 2003 sample collected prior to the gizzard shad introduction. It now takes an estimated 4-4+ years for a bluegill to reach 6.0 in, a decrease from 3-3+ in 2007-2010 and 2-2+ in the early 2000s. Most likely the gizzard shad population is negatively impacting the bluegill population. For unknown reasons gizzard shad eradication efforts conducted in March 2015 and February 2016 were unsuccessful. Alternative methods will be attempted in the future to reduce the number of shad.

Few redear sunfish were collected in 2016. An abundance of water lily during the spring sample made it difficult to capture both bluegill and redear sunfish likely resulting in the lower catch rate.

Channel Catfish Sampling

Channel catfish were sampled with tandem hoop nets during October (Table 33). Three tandem net sets baited with Zote© soap were fished for three nights resulting in a total of 39 channel catfish collected. Length frequency data is similar to that collected in 2009 and suggest both growth rates and angler utilization remain high.

Dissolved Oxygen – Temperature Profiles

Dissolved oxygen and temperature profiles were conducted in August and October (Tables 34-35). During the August sample dissolved oxygen levels were ≥3.0 ppm down to ~ 6.5 feet on the front side of the lake and down to

~ 8 feet on the back side. The October sample was prior to setting hoop nets to ensure the lake had mixed and there was no threat of setting nets below the thermocline.

Old and New Kingfisher Lakes

Old and New Kingfisher were drawn down December 2012 to complete renovation work. The lakes were allowed to dry during 2013 and renovation work was completed during the summer of 2014. As water levels increased, channel catfish, bluegill and advanced fingerling largemouth bass were stocked in fall of 2015. Standardized sampling to assess fish populations will resume in the spring of 2017.

Dissolved Oxygen – Temperature Profile

A dissolved oxygen and temperature profile was conducted in August (Table 36). Dissolved oxygen dropped below 3.0 ppm at just over 6 feet. This is an improvement of approximately 4-5 feet from samples taken during similar time periods prior to the renovation.

Ken Lake (Peabody WMA)

Low pulse electrofishing was conducted in June of 2016 to sample the blue catfish population in Ken Lake (Table 37). Fifty-seven blue catfish were collected in 1.0 hour of sampling for a CPUE of 57.0 fish/hr. Fish ranged in size from 17.0 to 43.0 in. Six channel catfish and two flathead catfish were captured in addition to the blue catfish. Low pulse electrofishing will be conducted again in 2017 and otoliths removed from a sub-sample of blue catfish 17.0-22.0 in for age/growth analysis.

In 2012 the level of Ken Lake was raised 6 feet by connecting a vertical 6-foot stand pipe via a 90 degree elbow to the existing horizontal outflow pipes. During June 2016 one of the two water control structures failed when the stand pipe elbow became dislodged from the horizontal outflow pipe. The level of Ken Lake fell approximately 5-6 feet back to the level of the original outflow pipe. Engineering division personnel have investigated and current plans are to contract the repair work, which should be completed in 2017.

Table 1. Annual summary of sampling conditions by waterbody, species sampled and date for Northwestern Fishery District lakes during 2016.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Nolin River Lake	LMB	5/5	930	Shock	Cloudy, windy, 51	65.7	515.58	29	Fair	Fish spawned out, in quiet water
Nolin River Lake	LMB	5/6	930	Shock	Sunny, breezy, 58	67.3	515.69	48	Fair	Fish deeper, most on left side of boat
Nolin River Lake	WB/WE	7/26	930	Temp/DO		90	515.34		Good	
Nolin River Lake	Crappie	10/24-10/28		Trap net	Sunny, blue skies, breezy, 70s, overcast 10/27	66-68	512-508	28	Good	Fish scattered diff depths, diff bottom types
Nolin River Lake	Crappie	10/31-11/4		Trap net	Sunny, warm, 60-70s, no wind to breezy	64-68	506.3-504.5	35	Good	
Rough River Lake	LMB	4/13	930	Shock	Sunny, light breeze	56.5	491	35	Fair	Fish on bedrock and wood only, 5-6' deep
Rough River Lake	LMB	4/14	930	Shock	Sunny to cloudy and breezy	57.6	491	48	Fair	Fish on bedrock and wood only, 5-6' deep
Rough River Lake	HSB	6/15	930	Temp/DO	Cloudy, 80s	84.6	497.53		Good	
Rough River Lake	HSB	7/25	930	Temp/DO	Sunny, warm	89	498.37		Good	
Rough River Lake	HSB	8/24	930	Temp/DO		83	501.4		Good	
Rough River Lake	HSB	11/14-11/18		Gill Net	Sunny, clear, 60s	53.2	480.3-479.3	16-24	Fair	Water too low for usual sites, set only on SF
Rough River Lake	HSB	12/2	1000	Gill Net	Sunny, clear, 35		470		Fair	Soaked 4 nets for 2 hrs each in lower lake
Carpenter Lake	LMB	4/6	1000	Shock	Clear to cloudy, windy to 25 mph, 62	58.6	Pool	52	Good	Lots big fish, 3-4' deep on large wood
Carpenter Lake	BG/RE	5/11	1000	Shock	Mostly cloudy, humid, 65	69.4	Pool	24	Fair	Few fish observed, fish tight to shore, Shad!
Carpenter Lake	All	8/2	1100	Temp/DO	Cloudy	87	Pool		Good	
Carpenter Lake	All	10/10	1030	Temp/DO	Sunny, calm	69	Pool	33	Good	
Carpenter Lake	CCF	10/10-10/13		Hoop	Sunny & calm 10/10, cloudy & breezy 10/13	69	Pool	33	Fair	No rain or front during set
New Kingfisher Lake	All	8/2	1030	Temp/DO	Cloudy	86	Pool		Good	
Honeycomb Lake (PWMA)	BG/RE	6/8	1000	Shock	Sunny, breezy, 75	76	Pool + 0.5'	6'+	Fair	No fish on beds, 1 dipper
Lil Gill Lake (PWMA)	BG/RE	6/8	1100	Shock	Sunny, breezy, 75	81	Pool - 0.5'	6'+	Fair	Fish on beds, 1 dipper
Ken Lake (PWMA)	BCF	6/7	1000	Shock	Sunny, windy, 15-20 mph	83	Pool - 2.5'		Fair	Water choppy, hard to see fish

Table 2. Species composition, length frequency, and CPUE (fish/hr) of black bass collected during 4.5 hours of 30-minute diurnal electrofishing at Nolin River Lake in May 2016.

		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	Std. error
Upper	Largemouth bass	4	9	3	11	14	10	17	27	23	14	33	20	14	5	2	3	5	3			217	108.5	11.6
	Spotted bass							2	2	3		2										9	4.5	1.7
Lower	Largemouth bass	10	13	7	8	9	4	3	12	11	24	46	30	8	4	6			3		1	199	79.6	23.2
	Spotted bass				1	5	1	1	2	7	4	1		1								23	9.2	3.6
Total	Largemouth bass	14	22	10	19	23	14	20	39	34	38	79	50	22	9	8	3	5	6		1	416	92.4	14.0
	Spotted bass				1	5	1	3	4	10	4	3		1								32	7.1	2.2

nwd1psd.d16

Table 3. PSD and RSD[a] values obtained for each black bass species taken in spring electrofishing samples in each area of Nolin River Lake during May 2016; 95% confidence intervals are in parentheses.

Area	Species	No. ≥ stock size	PSD (± 95%)	RSD[a] (± 95%)
Upper	Largemouth bass	176	56 (+/- 7)	18 (+/- 6)
	Spotted bass	9	56 (+/- 34)	
Lower	Largemouth bass	152	80 (+/- 6)	14 (+/- 6)
	Spotted bass	22	59 (+/- 21)	5 (+/- 9)
Total	Largemouth bass	328	67 (+/- 5)	16 (+/- 4)
	Spotted bass	31	58 (+/- 18)	3 (+/- 6)

[a] Largemouth bass = RSD_{15}, spotted bass = RSD_{14}.

nwd1psd.d16

Table 4. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Nolin River Lake during spring electrofishing 1999-2016.

	Length group										Total	
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2016	19.6	5.3	23.8	6.0	37.1	6.6	12.0	2.6	1.6	0.6	92.4	14
2015												
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
2013												
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
2011[a]												
2010[a]												
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

[a] Unable to sample due to high water

nwd1psd.d16

Table 5. Population assessment for largemouth bass based on spring electrofishing at Nolin River Lake from 2000-2016 (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
2016		23.1 (3)	37.1 (4)	12.0 (2)	1.6 (4)			> 13	G - E
2015									
2014		22.2 (2)	64.0 (4)	15.0 (3)	1.4 (4)			> 13	G - E
2013									
2012	13.4 (4)	82.9 (4)	53.8 (4)	16.0 (3)	0.2 (2)	0.582	44.1	17	Excellent
2011[a]									
2010[a]									
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

[a] Unable to sample due to high water

Table 6. Length frequency and CPUE (fish/nn) for each species of crappie collected in 95 net-nights of sampling at Nolin River Lake during November 2016.

	Inch class													
Species	2	3	4	5	6	7	8	9	10	11	12	Total	CPUE	Std. error
White crappie	7	206	254	62	14	20	68	135	81	28	2	877	9.2	1.7
Black crappie	1	33	20	1	10	5	8	7	8	1		94	1.0	0.2

nwd1tn.d16

Table 7. PSD and RSD_{10} values calculated for crappie collected in trap nets from Nolin River Lake during November 2016; 95% confidence limits are in parentheses.

Lake/Species	No.	PSD	RSD_{10}
Rough River Lake			
White crappie	410	77 (+/- 4)	27 (+/- 4)
Black crappie	40	60 (+/- 15)	22 (+/- 14)

nwd1tn.d16

Table 8. Mean back calculated lengths (in) at each annulus for white crappie collected at Nolin River Lake in November 2016.

Year		Age				
class	No.	1	2	3	4	5
2015	51	5.0				
2014	18	4.7	8.4			
2013	4	4.7	8.0	10.0		
2012	2	5.5	8.7	10.1	10.9	
2011	1	4.6	7.4	9.6	10.7	11.4
Mean		5.0	8.4	10.0	10.9	11.4
No.	76	76	25	7	3	1
Smallest		3.9	6.8	8.9	10.7	11.4
Largest		8.6	10.1	11.0	11.1	11.4
Std error		0.1	0.1	0.2	0.1	
95% CI (±)		0.1	0.2	0.4	0.2	

nwd1wca.d16

Table 9. Age-frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 95 net-nights at Nolin River Lake in November 2016.

	Inch class														
Age	2	3	4	5	6	7	8	9	10	11	12	No.	CPUE	Std. error	Age %
0	7	206	254	62								529	5.6		60.3
1					14	20	62	135	17			248	2.6	0.4	28.3
2							6		58	18		82	0.9	0.1	9.3
3									6	5	1	12	0.1	<0.1	1.4
4										5		5	<0.1	<0.1	0.6
5											1	1	<0.1	<0.1	0.1
Total	7	206	254	62	14	20	68	135	81	28	2	877			
(%)	0.8	23.5	29.0	7.1	1.6	2.3	7.7	15.4	9.2	3.2	0.2				

nwd1tn.d16, nwd1wca.d16

Table 10. Population assessment for white crappie based on fall trapnetting at Nolin River Lake from 2001-2016 (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
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)	1.14	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 (3)	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

Table 11. Dissolved oxygen (ppm) and temperature profile conducted at three sites at Nolin River Lake on 26 July 2016.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	32.2	9.6	32.6	10.1	32.8	10.6
2	32.2	9.8	32.6	10.1	32.7	11.1
4	31.8	10.0	32.2	10.3	32.0	11.9
6	31.5	10.4	31.7	10.5	31.7	11.2
8	31.4	10.3	31.3	9.9	31.4	9.5
10	29.5	10.4	29.9	6.6	29.9	6.9
12	28.3	7.3	29.4	4.7	29.2	5.7
14	27.7	5.5	27.8	0.8	27.8	3.9
16	26.8	2.8	26.4	0.5	27.0	3.2
18	26.2	1.2	25.8	0.5	25.3	3.0
20	25.0	0.7	24.6	0.4	24.7	2.8
22						
24						
25	23.5	0.4	23.5	0.4	23.8	2.2
26						
28						
30						
32						
34						
35						
36						
38						
40						
45						
50	69' deep		50' deep		32' deep	

NRL_TEMP_DO

Table 12. Species composition, length frequency, and CPUE (fish/hr) of black bass collected during 4.5 hours of 30-minute diurnal electrofishing at Rough River Lake in April 2016.

		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	Std. error
Upper	Largemouth bass		2	3	4	5	4	1	2	7	6	5	10	19	19	4	2	2	2				97	97.0	15.0
	Spotted bass								1	3	2	1											7	7.0	3.0
Mid	Largemouth bass		10	15	20	21	14	6	4	13	15	15	21	27	21	8	5	8	3	2	3	1	232	116.0	11.5
	Spotted bass						1			3	3	3	2										12	6.0	0.8
Low er	Largemouth bass	2	8	9	4	12	5	7	8	9	5	10	7	18	12	5		3	2		2	1	129	86.0	19.3
	Spotted bass		1					1	2	1	11	3	2										21	14.0	14.2
Total	Largemouth bass	2	20	27	28	38	23	14	14	29	26	30	38	64	52	17	7	13	7	2	5	2	458	101.8	9.0
	Spotted bass		1				1	1	3	7	16	7	4										40	8.9	1.9

nw d2psd.d16

Table 13. PSD and RSD[a] values obtained for each black bass species taken in spring electrofishing samples in each area of Rough River Lake during April 2016; 95% confidence intervals are in parentheses.

Area	Species	No.	PSD (± 95%)	RSD[a] (± 95%)
Upper	Largemouth bass	79	80 (+/- 9)	37 (+/- 10)
	Spotted bass	7	43 (+/- 40)	
Mid	Largemouth bass	152	75 (+/- 6)	34 (+/- 7)
	Spotted bass	12	67 (+/- 29)	
Lower	Largemouth bass	89	67 (+/- 10)	28 (+/- 10)
	Spotted bass	20	80 (+/- 17)	
Total	Largemouth bass	320	74 (+/- 5)	33 (+/- 5)
	Spotted bass	39	69 (+/- 14)	

[a] Largemouth bass = RSD_{15}, spotted bass = RSD_{14}.

nw d2psd.d16

Table 14. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Rough River Lake during spring samples 1999-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2016	30.7	7.5	18.4	2.9	29.3	4.7	23.3	2.5	2.0	0.8	101.8	9.0
2015[a]												
2014												
2013	20.9	3.1	49.6	5.0	32.4	3.6	31.3	3.6	3.3	0.6	134.2	8.1
2012	25.8	4.3	52.4	11.7	29.3	4.3	32.0	7.2	3.6	1.4	139.6	22.3
2011[a]												
2010[a]												
2009	29.1	3.2	47.8	4.2	42.7	4.3	17.6	2.5	0.7	0.3	137.1	7.0
2008[a]												
2007	26.4	3.5	27.3	4.7	27.8	4.1	13.1	1.2	0.2	0.2	94.7	8.9
2006	21.1	2.6	28.7	10.1	28.2	4.4	11.3	2.8	0.4	0.3	89.3	16.7
2005	26.9	6.2	34.0	7.6	38.9	5.2	14.2	2.5	0.7	0.3	114.0	41.7
2004	31.1	3.9	35.6	5.1	12.9	2.2	9.8	1.1	0.2	0.2	89.3	9.5
2003	61.6	7.0	27.8	6.9	20.0	5.6	18.4	3.2	0.7	0.3	127.8	15.4
2002	7.3	1.7	7.1	2.3	2.0	0.9	1.6	0.4	0.0	0.0	18.0	3.8
2001	30.7	7.5	21.3	4.5	16.4	5.0	3.1	1.7	0.0	0.0	71.6	11.2
2000	15.1	3.5	32.9	4.3	21.8	2.8	5.3	2.1	1.8	1.0	75.1	6.4
1999	n/d		28.4	2.1	21.3	4.1	8.9	2.4	0.4	0.4	58.7	4.6

[a] Unable to sample due to high water

nw d2psd.d16

Table 15. Population assessment for largemouth bass based on spring electrofishing at Rough River Lake from 1999-2016 (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
2016		33.8 (3)	29.3 (3)	23.3 (4)	2.0 (4)			> 14	G-E
2015[a]									
2014									
2013	12.3 (2)		32.4 (4)	31.3 (4)	3.3 (4)			> 14	G-E
2012		36.4 (3)	29.3 (3)	32.0 (4)	3.6 (4)			> 14	G-E
2011[a]									
2010[a]									
2009	12.6 (3)	28.4 (3)	42.7 (4)	17.6 (3)	0.7 (3)	0.884	58.7	16	Good
2008[a]									
2007	13.6 (4)	27.1 (3)	27.8 (3)	13.1 (3)	0.2 (2)	0.576	42.3	15	Good
2006	13.6 (4)	22.0 (2)	28.2 (3)	11.3 (2)	0.4 (2)	0.773	53.8	13	Good
2005	13.6 (4)	28.0 (3)	38.9 (4)	14.2 (3)	0.7 (3)	0.759	53.2	17	Good
2004	13.6 (4)	38.8 (3)	12.9 (1)	9.8 (2)	0.2 (2)	0.862	57.8	12	Good
2003	12.5 (3)	44.3 (4)	20.0 (2)	18.4 (3)	0.7 (3)	0.797	54.9	15	Good
2002	12.5 (3)	7.9 (1)	2.0 (1)	1.6 (1)	0.0 (1)			7	Poor
2001	12.5 (3)	28.0 (3)	16.4 (2)	3.1 (1)	0.0 (1)			10	Fair
2000	12.5 (3)	10.5 (1)	21.8 (2)	5.3 (1)	1.8 (4)			11	Good
1999	12.5 (3)	3.0 (1)	21.3 (2)	8.9 (2)	0.4 (2)			10	Fair

[a] Unable to sample due to high water

Table 16. Length frequency and CPUE (fish/nn) for hybrid striped bass collected in 6 net-nights of sampling at Rough River Lake during November 2016.

	Inch class																			
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	Std. err.
Hybrid striped bass	6	10	11	4	1	2	5	18	11	20	20	17	23	10	3	1	3	165	27.5	13.5

nwd2gn.d16

Table 17. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Rough River Lake during November 2016; 95% confidence limits are in parentheses.

Length group					
8.0-11.9 in		12.0-14.9 in		≥ 15.0 in	
No.	Wr	No.	Wr	No.	Wr
31	90 (2)	8	86 (7)	126	81 (0.5)

nw d2gn.d16

Table 18. Mean back calculated lengths (in) at each annulus for hybrid striped bass collected at Rough River Lake in November 2016.

Year		Age										
class	No.	1	2	3	4	5	6	7	8	9	10	11
2015	24	10.5										
2014	22	9.2	15.5									
2013	13	9.5	15.3	18.2								
2012	11	8.3	14.7	17.7	19.5							
2011	4	9.2	15.3	17.4	18.8	19.8						
2009	7	8.8	15.2	17.7	19.2	20.4	21.2	21.8				
2005	1	9.1	14.8	17.2	18.1	18.9	19.8	20.2	20.8	21.3	21.6	21.9
Mean		9.5	15.2	17.8	19.2	20.1	21.0	21.6	20.8	21.3	21.6	21.9
No.	82	82	58	36	23	12	8	8	1	1	1	1
Smallest		6.4	13.3	16.2	17.6	18.2	18.8	19.6	20.8	21.3	21.6	21.9
Largest		12.8	17.5	19.4	20.6	21.8	22.8	23.8	20.8	21.3	21.6	21.9
Std error		0.2	0.1	0.1	0.2	0.4	0.6	0.6				
95% CI (±)		0.3	0.2	0.2	0.3	0.7	1.1	1.1				

nw d2hsba.d16

Table 19. Age-frequency and CPUE (fish/nn) per inch class of hybrid stiped bass collected in 6 net-nights of sampling at Rough River Lake during November 2016.

	Inch class																				
Age	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No.	CPUE	Std. err.	Age (%)
0	6	10	11	4														31	5.2		18.8
1					1	2	5	18	3									29	4.8	1.7	17.6
2									8	20	10	6						44	7.3	4.2	26.7
3											8	9	9					26	4.2	2.8	15.7
4											3		9	5				17	2.8	2.0	10.3
5												3	1	3				7	1.2	0.8	4.2
6																					
7													3	2	2	1	3	11	1.6	1.1	6.7
11															1			1	0.1	0.1	0.6
Total	6	10	11	4	1	2	5	18	11	20	20	17	23	10	3	1	3	165			
(%)	4.8	6.1	6.7	2.4	0.6	1.2	3.0	10.9	6.7	12.1	12.1	10.3	13.9	6.1	1.8	0.6	1.8				

nwd2gn.d16, nwd2hsba.d16

Table 20. Population assessment for hybrid striped bass based on fall gill net sampling at Rough River Lake from 1999-2016 (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
2016	22.3 (3)	17.6 (3)	21.0 (4)	4.8 (3)	0.523	40.7	13	Good
2014	43.8 (4)	16.8 (2)	32.6 (4)	14.2 (4)	0.457	36.7	14	Excellent
2012	35.1 (4)	16.7 (2)	25.1 (4)	11.6 (4)	0.717	51.2	14	Excellent
2010	60.2 (4)	16.8 (2)	34.5 (4)	28.9 (4)	0.525	40.8	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	36.1	14	Excellent
2003	33.9 (4)	16.5 (2)	30.9 (4)	3.1 (2)	0.680	49.8	12	Good
2001	29.9 (4)	15.9 (1)	16.8 (4)	13.1 (4)			13	Good
1999	26.4 (4)	16.5 (2)	18.5 (4)	8.1 (4)			14	Excellent

Table 21. Length frequency and CPUE (fish/nn) for channel catfish collected in 6 net-nights of sampling at Rough River Lake during November 2016.

	Inch class																					
Species	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	30	Total	CPUE	Std. err.
Channel catfish	2	2	1	2		3	7	15	20	14	16	14	9	9	8	1	1	4	1	129	21.5	5.2

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Table 22. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Rough River Lake during November 2016. Standard errors are in parentheses.

Length group					
11.0-15.9 in		16.0-23.9 in		≥24.0 in	
No.	Wr	No.	Wr	No.	Wr
8	86 (3)	104	95 (1)	13	93 (2)

nwd2gn.d16

Table 23. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 15 June 2016.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	29.2	8.2	29.3	7.6	28.4	9.5
2	29.3	8.1	29.3	7.3	28.6	9.8
4	29.3	8.0	29.4	7.1	28.5	8.9
6	29.2	8.0	28.4	6.6	27.8	8.5
8	28.8	7.8	27.0	4.1	26.5	5.9
10	25.9	6.4	25.1	0.8	24.5	3.0
12	23.8	3.4	22.6	0.4	22.5	1.3
14	22.2	1.2	21.3	0.3	20.8	1.0
16	21.2	0.4	20.0	0.1	20.0	0.8
18						
20	19.2	0.3	18.4	0.0	18.5	0.3
22						
25	17.8	0.3	17.3	0.0	16.3	0.2
26						
28			depth 28'		depth 28'	
30						
32						
34						
36						
38						
40						
45	depth 48'					
50						

Table 24. Dissolved oxygen (ppm) and temperature profile conducted at four sites on Rough River Lake on 26 July 2016.

	Site location							
	State Pk Beach		Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO	Temp	DO
Surface	31.8	8.5	31.8	8.9	32.4	9.4	32.4	10.2
2	31.9	8.9	31.7	8.6	32.2	9.0	31.7	10.3
4	31.8	8.5	31.7	8.3	31.8	9.0	31.6	9.8
6	31.8	8.5	31.6	8.2	31.4	8.1	31.4	9.0
8	31.6	8.4	31.6	7.7	30.5	5.3	30.8	7.7
10	29.9	7.3	30.4	5.8	29.5	2.7	29.0	3.9
12	28.8	5.0	28.7	1.9	28.6	1.2	27.2	1.1
14	27.8	3.5	27.8	0.8	27.3	0.5	26.0	1.0
16	26.9	1.0	26.7	0.4	26.5	0.4	24.2	0.5
18	25.7	0.5	25.9	0.4	25.7	0.4	23.6	0.5
20	24.7	0.4	25.0	0.4	24.9	0.4	22.6	0.4
22								
25	23.3	0.4	23.5	0.4	22.5	0.4	21.0	0.4
26								
28							depth 28'	
30								
32					depth 32'			
34								
36								
40								
45								
50	depth 62'		depth 50'					

Table 25. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 24 August 2016.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	28.5	7.2	28.8	9.1	28.5	13.1
2	28.5	7.1	28.6	8.8	27.4	12.5
4	28.4	7.3	28.1	8.6	26.3	10.8
6	28.4	7.3	27.8	7.7	25.6	9.3
8	28.3	7.1	27.7	7.3	24.6	5.8
10	28.3	7.1	27.7	6.1	22.7	4.5
12	28.2	6.9	27.5	5.3	22.2	4.3
14	28.2	6.1	27.1	4.9	22.0	4.3
16	28.0	4.2	26.5	4.0	21.8	4.4
18	27.5	1.0	24.8	2.7	21.7	4.4
20	26.8	0.4	23.5	2.2	21.5	4.3
22			23.3	2.0	21.4	3.9
25	25.6	0.4	23.1	1.9	21.3	4.1
26			22.8	1.9	21.2	4.1
28			22.8	1.9	21.2	3.9
30			22.7	1.9	21.2	3.7
32			22.7	1.9		
34			22.7	1.9	depth 31'	
36						
38			depth 35'			
40						
45	depth 52'					
50						

Table 26. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.75 hour of 15-minute diurnal electrofishing at Carpenter Lake in April 2016.

	Inch class																						
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	Std. err.
Largemouth bass	8	26	32	7	1	5	14	23	25	16	8	9	4	2		1	2	5	1	1	190	253.3	41.9

nwd5psd.d16

Table 27. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples at Carpenter Lake during April 2016; 95% confidence intervals are in parentheses.

Lake	Species	No. $\geq$ 8.0 inches	PSD (+/- 95%)	RSD_{15} (+/- 95%)
Carpenter	Largemouth	117	63 (+/- 9)	21 (+/- 7)

nw d5psd.d16

Table 28. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carpenter Lake 1999-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2016	97.3	31.5	57.3	5.8	65.3	11.4	33.3	5.3	12.0	6.1	253.3	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
2002[a]	12.0	4.6	52.0	4.6	12.0	0.0	21.3	3.5	0.0		97.3	4.8
2001[a]	14.7	8.7	29.3	5.3	90.7	9.3	66.7	2.7	1.3		201.3	17.6
2000[a]	2.7	1.3	45.3	7.1	48.0	2.3	0.0				96.0	8.3
1999[a]	1.3	1.3	142.7	18.5	29.3	13.5	1.3	1.3			174.7	31.0

[a] Nocturnal sample

nw d5psd.d16

Table 29. Population assessment for largemouth bass based on spring electrofishing at Carpenter Lake from 2001-2016 (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
2016		97.3 (4)	65.3 (4)	33.3 (4)	12.0 (4)			> 16	G - E
2015	10.6 (2)*		12.0 (1)	17.3 (3)	0.0 (1)			> 7	P - F
2014		16.0 (2)	48.0 (4)	30.4 (4)	12.8 (4)			> 14	G - E
2013		69.3 (4)	20.0 (2)	22.7 (3)	5.3 (4)			> 13	G - E
2012		12.0 (2)	46.7 (4)	22.7 (3)	1.3 (2)			> 9	F - G
2011		182.7 (4)	73.3 (4)	9.3 (2)	4.0 (4)			> 14	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)			15	Good

* Back calculated age table

Table 30. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected during 0.75 hours of electrofishing at Carpenter Lake in May 2016.

	Inch class												
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	Std. error
Bluegill	1	5	21	43	36	76	41				223	297.3	52.5
Redear sunfish			1			1	5	3	4	2	16	21.3	7.9

nw d5bg.d16

Table 31. Spring electrofishing CPUE (fish/hr) for each length group of bluegill (1999-2016) and redear sunfish (2010-2016) collected at Carpenter Lake during spring samples.

Bluegill	Length group										Total	
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in			
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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		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
2000			4.0	2.3	10.7	4.8	12.0	6.1	0.0		26.7	9.6
1999			10.7	2.6	82.7	10.9	12.0	8.0	0.0		105.3	18.0

nw d5bg.d16

Redear	Length group										Total	
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in			
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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

nw d5bg.d16

Table 32. Population assessment for bluegill based on spring electrofishing at Carpenter Lake from 2001-2016 (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
2016			156.0 (4)	0.0 (1)			> 5	P - F
2015	4.9 (4)	4-4+ (2)	220.0 (4)	0.0 (1)			11	Good
2014			333.3 (4)	1.3 (2)			> 6	P - F
2013			312.0 (4)	0.0 (1)			> 5	P - F
2012			147.2 (4)	0.0 (1)			> 5	P - F
2011			180.8 (4)	0.0 (1)			> 5	P - F
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)			> 8	F - G

Table 33. Length frequency and CPUE (fish/hr) of catfish collected during 3 nights of tandem (3 sets with 3 nets each) hoop net sampling at Carpenter Lake during October 2016.

	Inch class																
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	25	Total	CPUE
Channel catfish	2		5	7	8	5	1	2	2		2	1	1	1	2	39	13.0

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Table 34. Dissolved oxygen (ppm) and temperature profile conducted at two sites on Carpenter Lake on 2 August 2016.

	Site Location			
	Front	11:15 AM	Back	11:55 AM
Depth (ft.)	Temp	DO	Temp	DO
Surface	30.6	6.1	30.6	7.1
1	30.6	6.2	30.5	7.1
2	30.4	5.1	30.2	6.7
3	30.1	4.2	30.0	5.8
4	30.0	3.1	29.9	5.4
5	29.9	3.1	29.9	5.3
6	29.9	3.1	29.8	4.8
7	29.9	2.4	29.8	4.3
8	29.8	2.0	29.8	4.0
9	29.7	0.6	29.6	1.8
10	29.5	0.4	28.9	0.4
11	28.9	0.4	28.0	0.4
12	27.2	0.3		
13	25.7	0.3	11' deep	
14	13' deep			

Table 35. Dissolved oxygen (ppm) and temperature profile conducted on Carpenter Lake on 10 October 2016.

	Site Location	
	Front	10:30 AM
Depth (ft.)	Temp	DO
Surface	21.0	5.6
1	21.0	5.6
2	21.0	5.6
3	21.0	5.5
4	21.0	5.4
5	21.0	5.3
6	21.0	5.3
7	21.0	5.4
8	21.0	5.4
9	21.0	5.3
10	21.0	5.3
11	21.0	5.2
12		
13	11.5' deep	
14		

Table 36. Dissolved oxygen (ppm) and temperature profile conducted on New Kingfisher Lake on 2 August 2016.

	Site Location	
	Middle	10:50 AM
Depth (ft.)	Temp	DO
Surface	29.8	6.0
1	29.8	5.9
2	29.7	5.4
3	29.7	4.9
4	29.7	4.3
5	29.6	4.0
6	29.6	3.0
7	29.5	1.7
8	29.1	0.5
9	28.2	0.4
10	27.3	0.4
11	26.2	0.3
12		
13	11' deep	

Table 37. Length frequency and CPUE (fish/hr) of catfish collected during 1.0 hr of diurnal low-pulse electrofishing (5.0 minute samples) at Ken Lake (PWMA) during June 2016.

	Inch class																						
Species	15	16	17	18	19	20	21	22	23	24	25	26	27	30	31	33	37	38	39	41	43	Total	CPUE
Blue catfish			1	11	20	3	6	1	1		1		4	2	1	2	1	1	1		1	57	57.0
Flathead catfish																			1	1		2	2.0
Channel catfish	1	4	1																			6	6.0

nwd15cat.d16

SOUTHWESTERN FISHERY DISTRICT

Project A: 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 April from both lake arms (Tables 2-5). A total of 679 black bass were collected at a rate of 113.2 fish/hr (Table 2). The overall catch rate for largemouth bass (95.5 fish/hr) was the lowest catch rate since 2009 (Table 3). Largemouth bass made up 84% of the total catch while spotted bass made up 16% (Table 2) and their distribution remains tied to the lower 1/3 of the reservoir. No smallmouth bass were collected in this year's spring sample. Though the 2015 year class appears weak (age-1 CPUE = 8.0 fish/hr; Table 4), the bass population assessment rated "Good". Largemouth bass size structure indices (PSD = 81 and RSD_{15} = 27; Table 5) were higher than previous year averages. Spotted bass size structure remains high quality as well (PSD = 90 and RSD_{14} =24). The smallmouth bass population statistics are unknown as samples historically have been low.

Fall young of year sampling (Tables 6 and 7) suggests that the 2016 year-class will be strong. Largemouth bass made up the majority of the fall sample (98%), while spotted bass only made up 2% of the sample (Table 6). No smallmouth bass were collected in this year's fall sample. Age-0 CPUE (191.8 fish/hr; Table 7) was high compared to most years. Age-0 largemouth bass mean length (4.3 in) was average compared to most years, as was age-0 CPUE $\geq$5.0 in (46.5 fish/hr).

Creel Survey: Results of a roving, daytime creel survey are presented in Tables 8-18. Anglers made an estimated 38,867 trips and fished for 162,756 hours with an average trip length of 4.19 hours. The number of trips is down from the 2010 creel survey (42,171 in 2010) and anglers caught 14,969 less fish, but 37,707 more fish were harvested compared to 2010 (Table 8). Overall, anglers caught 224,156 fish and harvested 97,207 of the fish caught. Black bass continue to be the most sought after fish species, accounting for 47% of effort followed by crappie (33%), anything (6%), and catfish and morone at 5% each (Table 9).

Bass angler trips (18,097) and the hours fished for bass (75,782) increased from the 2010 creel survey (16,683 and 70,027, respectively) but the catch rate (0.47 fish/hr) was down from 2010 (0.72 fish/hr; Tables 9 and 11). The estimated 31,315 largemouth bass caught is a decrease from the 65,300 caught in 2010, however, the estimated harvest for 2016 (8,670) increased from 2010 (6,677; Table 15).

Crappie angler trips (12,980) increased by 2,967 over the 2010 creel and the number of hours fished for crappie increased by 12,323 (54,354 hours in 2016; Table 9). Crappie catch rate (2.57 fish/hr) and harvest rate (1.15 fish/hr) were up when compared to the previous two (2007 and 2010) creel surveys (Table 12). The crappie catch was dominated by white crappie at 83% (115,195 fish) and 44% of the white crappie caught were harvested (50,767 fish; Table 16).

Morone angler trips (1,956) and the hours fished for morone (8,192) both decreased by 45% from the 2010 creel survey (Table 9). The Morone catch rate (0.45 fish/hr) was also down from 2010 while the harvest rate (0.27 fish/hr) remained the same (Table 13). The morone catch was dominated by hybrid striped bass (66%) and over half (62%) of the fish harvested were ≥15.0 in (Table 17).

Catfish anglers trips (2,078) and the hours fished for catfish (8,704) decreased from the 2010 creel survey (3,169 and 13,303, respectively; Table 9). The estimated 12,902 catfish caught is a slight increase from the 11,952 caught in 2010, however, the estimated harvest for 2016 (9,760) increased greatly from 2010 (894; Table 14). More channel catfish were caught (8,197) than either blue catfish (4,135) or flathead catfish (554), but of those channel catfish caught, only 71% were harvested; while 84% of the blue catfish and 91% of the flathead catfish caught were harvested (Table 18).

Angler Attitude Survey: Angler attitude results are presented in Figure 1. Anglers identified bass (44.3%) and crappie (41.5%) as the species they fished for most followed by catfish (5.2%) and hybrid striped bass (5.2%), which both decreased from the 2010 angler attitude survey. Overall satisfaction (very satisfied to somewhat satisfied) for bass, crappie, hybrid striped bass, and catfish ranged from 69-84%.

Response of all anglers to removing the 30 fish creel limit on yellow bass included 34.3% supporting and 63.3% with no opinion. Of the crappie anglers unhappy with fishing regulations, 68.8% prefer a 10.0-in size limit while others would prefer a 20 fish (60%) or 15 fish (30%) daily creel limit. Overall, few anglers expressed dissatisfaction with current regulations.

Most of the anglers (79%) were aware that KDFWR places fish habitat in Barren River Lake. Of those aware of the fish attractors, 60.9% fished them and the majority of anglers (82.7%) feel that they improve their fishing results. Over half of anglers using KDFWR placed fish attractors (52.6%) found them on their own and about half (47.3%) were not aware that all of the department placed fish attractors are on the KDFWR website.

Most anglers (66%) fished Barren River Lake with regularity (more than 10 time annually) and not surprisingly, the majority of Kentucky anglers (70%) that fished Barren River Lake traveled less than 30 miles. In-state anglers traveling greater than 30 miles comprised 19.2 % of anglers. Six states were represented by out-of-state anglers (n=36) comprising 10.8% of anglers with the majority coming from IN (14%), OH (31%) and TN (28%).

Briggs Lake (18 acres)

Black Bass

Nocturnal largemouth bass electrofishing samples were collected in April (Tables 19-21). The catch rate (262.4 fish/hr) was up slightly from the last time largemouth bass were sampled in 2012, but still lower than the samples of 2007-2011, which averaged 414.0 fish/hr (Table 20). The PSD value (42) was higher than in 2012 due to a drop in the 8.0- to 11.0-in length group (138.0 to 121.2 fish/hr) and an increase in the 12.0- to 14.9-in and ≥15.0-in length groups in 2016 (increase of 28.8 and 13.2 fish/hr, respectively; Tables 20 and 21). Since the lake is managed for bluegill/redear sunfish, the bass population assessment table was not included.

Channel Catfish

Channel catfish were sampled with tandem set hoop nets in late-October with limited success (5.2 fish/set-night) as few non-stocker-sized fish were collected (Table 22). Due to the lack of non-stocker-sized fish, other population assessment indices (age, relative weight, length group catch rates) were omitted. Dissolved oxygen levels remained good (>7 ppm) throughout the sampling period and were not a factor in low catch rates. Larger redear sunfish were well represented in hoop net samples and are a good source for an older-larger fish age sample.

Fagan Branch Reservoir (140 acres)

Black Bass

Largemouth bass were sampled by nocturnal electrofishing in May (Tables 23-26). The overall largemouth bass catch rate (279.0 fish/hr; Table 23) improved since the last sample in 2013, but remains lower than the samples of 2005, 2007, and 2010 which had an average catch rate of 355.7 fish/hr. The majority of the fish sampled were in the <8.0-in and 8.0- to 11.9-in length groups (82.0 and 174.0 fish/hr, respectively), while the 12.0- to 14.9-in length group (17.0 fish/hr) dipped to its lowest level since 1999 (Table 24). The bass population assessment rates as "Good" (Table 26). 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 were sampled by nocturnal electrofishing in May (Tables 27-32). Despite the lake's low productivity, it has historically supported a good bluegill and redear fishery. Overall CPUE for bluegill (248.5 fish/hr) was average when compared to previous years but the overall redear CPUE (56.9 fish/hr) was at its lowest level since 2001 (Tables 27-29). The majority of the redear sampled were in the ≥8.0-in length group (41.9 fish/hr), which was up from 2010, while the 6.0- to 7.9-in length group (10.5 fish/hr) was down from 2010 (62.9 fish/hr). Size structure for both populations was very good (bluegill PSD = 77, redear PSD = 89; Table 30). The bluegill and redear population assessments remain "Good", similar to previous years (Tables 31 and 32).

Marion County Lake (25 acres)

Black Bass

Nocturnal largemouth bass electrofishing samples were collected in April (Tables 33-36). The overall catch rate of bass (332.6 fish/hr) increased from the 2013 sample even though it was still slightly below the management objective of 385.0 fish/hr (Table 34). Bass PSD (18) was lower than in 2013 and the population is dominated by fish <12.0 in even though there was an increase in the catch rate of ≥15.0-in fish (25.1 fish/hr; Tables 34-35). The bass population assessment remains "Good" which is similar to previous years even though the lake is managed for quality-sized sunfish (Table 36).

Sunfish

Diurnal electrofishing results for bluegill and redear sunfish are presented in Tables 37-42. The overall catch rate for bluegill (340.0 fish/hr) decreased from 2014 while the catch rate for redear (82.0 fish/hr) remained the same (Tables 37-39). The catch rate of ≥6.0-in bluegill (150.0 fish/hr) was the highest seen since 2005 and the catch rate of ≥8.0-in bluegill (9.0 fish/hr) was up since the 2011 sample; these factors resulted in an "Excellent" rating in the population assessment (Table 41). The size structure of both populations was very good (bluegill PSD = 52, redear PSD = 76) when compared to previous years (Table 40). The catch rate of ≥8.0-in redear (52.0 fish/hr) increased from the previous sample in 2014 and was double the management objective of 25.0 fish/hr (Table 39). The redear population assessment rated "Excellent" even though the catch rate of ≥10.0-in fish (2.0 fish/hr) dropped from the 2014 sample (Table 42).

Green River Lake (8,210 Acres)

Muskie

Muskellunge sampling continues to be problematic as multiple attempts (Table 1) were made with electrofishing and standard crappie trapnets in 2016. Samplings results were not reflective of the current population (2014 angler attitude survey and angler catch rates) or historic sampling norms. Sample data and analysis can be found in the Kentucky Annual Performance Report for Statewide Fisheries Investigation Project, Subsection III, DJ Grant Number F40, Segment 39. Muskie-sized trapnet sampling will continue to be coordinated with surrounding states that utilize these nets as well as modification of electrofishing timing to find a reliable gear to assess the population.

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-mid May (Table 43). Low catch rates of the last 2 year classes (fish <11.0 in) has caused largemouth bass catch rates to drop off from previous years. Catch rate of largemouth bass ≥15.0 in (40.0 fish/hr) is still well above average (Table 43).

Largemouth bass size structure indices were similar to previous years' values (PSD = 83; RSD = 50; Table 45). The population assessment for largemouth bass remained "Good" which is similar to most years (Table 46).

Spotted bass catch rate (32.0 fish/hr) was similar to last year, but lower than historic levels (approximately 50.0 fish/hr). The population continues to produce fish >12.0 inches in length, which was rare prior to alewife introduction in 2004, when few spotted bass achieved such lengths.

Fall YOY sampling (Tables 47-48) suggests another decent largemouth bass year class for 2016.
Mean age-0 largemouth bass length (5.1 in) and age-0 CPUE $\geq$5.0 in (55.3 fish/hr) were both well above average.

Crappie

Trap netting for crappie was conducted during late-November to early-December (Table 1). The white crappie population remains heavy laden with 6.0- to 7.0-in fish from the 2014 bumper year class, which was not detected by 2014 trap net sampling. Black crappie, though still low density, continue to rise in number compared to a complete absence historically (n=31; Table 49). White crappie size structure index (PSD = 27; Table 50) reflects dominance of smaller fish. The long string of moderately-strong year classes of 2008, 2010, 2011, 2012, 2013 and 2014 was finally broken with a very weak 2015 year class. Diminished mean age-2+ size (7.5 in) of white crappie is a notable departure from previous years, but reflective of a strong 2014 year class (Table 52). Age-2+ crappie lengths in years prior to the persisting population increase were typically 9.0-in plus. The white crappie population assessment remained "Fair" due to poor growth rates and suspect use of age-0 catch rate as a population assessment objective. The length-weight equation for white crappie in 2016 was similar to previous years:

$$\text{Log}_{10}\text{ (weight)} = -3.84252 + 3.51708 \text{ x Log (length)}$$

Metcalfe County Lake (22 acres)

Black Bass

Largemouth bass were sampled by diurnal electrofishing on April 28 (Table 1); results are presented in Tables 53-55. Bass CPUE (148.0 fish/hr) was less than recent years (2014 = 198.0 fish/hr and 2013 = 234.0 fish/hr) despite the addition of 258 largemouth bass (6.0-12.0 in) in early July of 2013. Possible confounding factors included stocking on top of an already well above average number of 8.0–11.9 in fish and fish stocked coming from a high visibility lake (secchi depth 16-ft vs 2-ft at Metcalfe). The size structure remains diverse (PSD = 39, RSD = 25; Table 55) and similar to previous years. CPUE of 20.0-in plus fish returned to more normal levels (10.0 fish/hr) compared to an extraordinary high noted in 2014 (26.0 fish/hr). The lake consistently averages 6.0-8.0 fish/hr for this length group, which is well above any waterbody in the Southwest District.

Visible condition of all bass appears excellent and is similar to historic values (2000 -2002; Wr = 105). The lake is highly productive and supports a substantial and varied forage base (gizzard shad, bluegill, and longear sunfish) making it a good candidate for a bump in the bass population; yet the effects of stocking additional bass in 2013 were not seen 10 months later in spring of 2014, nor in subsequent years.

Bluegill

Results of the diurnal bluegill sampling on May 6 are presented in Tables 1 and 56-59. A decrease in size structure as well as lower CPUE's of all length groups were noted except for smaller fish (<3.0-in) when compared to historic data (Table 57). Size structure index (PSD = 37) for bluegill was similar to historic values (PSD = 47 in 2014, PSD = 39 in 2007, PSD = 32 in 2005). Declines in intermediate-size bass (8.0- to 11.9 and 12.0- to 15.0-in) would seem to be the driving factor for this change. The bluegill population assessment remained "Fair", similar to previous years, hindered by the absence of larger fish ($\geq$8.0 in).

As mentioned earlier, the lake is very productive (summertime secchi range is 18-30 in) and historically supports a substantial (bluegill CPUE > 1200+ fish/hr) and varied (bluegill, crappie, and longear) sunfish population along with a moderate gizzard shad population.

Mill Creek Lake (109 acres)

Sunfish

Results of diurnal sunfish electrofishing on May 6 are presented in Tables 60-63. The overall bluegill CPUE (639.0 fish/hr) was similar to previous years (Table 61). The bluegill population size structure remains dominated by intermediate-sized fish (549.0 fish/hr; PSD = 5), similar to previous years (Tables 61-62). The population assessment remains “Poor” (Table 63), though the bass population is well balanced. The presence of a substantial gizzard shad population would seem the likely factor hindering population improvement.

Spurlington Lake (25 acres)

Black Bass

Results of nocturnal largemouth bass electrofishing collected on April 19 are shown in Tables 64-67. Larger bass length groups were well above normal (12.0- to 14.9-in = 206.0 fish/hr; ≥15.0-in = 84.0 fish/hr; Table 65), while intermediate-sized fish (8.0- to 11.9-in) dipped below population norms (Table 65). The bass population, though still diverse, is dominated by larger fish (PSD = 75, RSD = 22; Table 66).

Sunfish

The sunfish population was sampled by diurnal electrofishing on May 5 (Table 1 and Table 68). Intermediate-size bluegill length group catch rates (3.0- to 5.9-in = 276.0 fish/hr; 6.0- to 7.9-in = 92.0 fish/hr) were significantly lower than recent years (Table 69). Increases in larger bass length groups noted previously seem a likely contributor to this. Similarly, reductions in redear catch rates for all length groups may be related to increased densities of larger bass (Table 70). Bluegill size structure remains diverse and similar to previous years (PSD = 27; Table 71). The bluegill population assessment dipped to “Good” due to a drop in large fish catch rates (Table 73), but was similar to most years. Bluegill mean back calculated length at age 2 (3.9 in; Table 72) was similar to previous age data collected in 2008 (3.8 in; Table 73). A redear population assessment is not available due to the lack of fish numbers for suitable age data.

Table 1. Lake sampling conditions in the Southwestern Fisheries District in 2016.

Lake	Date	Species	Weather	Water temp. surface (F)	Conductivity (umhos)	Secchi (in.)	Comments
Barren River	4/20	Bass	clear	73			8-ft below summer pool, outflow 500 cfs
	4/22	Bass	windy	70			8-ft below summer pool, outflow 500 cfs
	4/26	Bass	windy	70-72		66	7-ft below summer pool, outflow 500 cfs
	4/29	Bass		73	190	46	7-ft below summer pool, outflow 500 cfs
	10/4	YOY bass					summer pool & steady w/ 270 cfs outflow
	10/5	YOY bass					summer pool & steady w/ 270 cfs outflow
	10/6	YOY bass		74-78	200	24	summer pool & steady w/ 270 cfs outflow
	10/10	YOY bass		74	215		summer pool & steady w/ 270 cfs outflow
Briggs	4/24	Bass		73			Normal
	9/23, 26 & 29	Channel catfish		79			Hoopnets
	10/11	Bluegill & redear otoliths		68	189	24	Normal
Fagan Br.	5/5	Bass & BG/EF		66			Alternating runs of bass & bg/re
Marion Co.	4/19	Bass		73		54	Normal
	5/3	Bluegill & redear		71		24	Normal
Green River	2/17	Muskie EF	cloudy/cold	41	80	18	3-ft below summer pool & rising w/ 300 CFS outflow. (15 fish)
	2/22	Muskie EF	overcast		83	23	3-ft below summer pool & falling w/ 5200 cfs outflow (11 fish)
	2/28	Muskie EF					4-ft below summer pool & falling w/ 3000 cfs (3 fish)
	3/7	Muskie EF		48-54	85	24	at winter pool & steady w/ 1200 cfs ouflow (3 fish)
	3/8	Muskie EF	windy	48-50	90	26	at winter pool & steady w/ 800 cfs outflow (7 fish)
	3/28 &29	Muskie TN					2-ft above winter pool & steady w/ 140 cfs outflow (1 fish)
	4/4 to 7	Muskie TN					4-ft above winter pool & steady w/ 300 cfs (1 fish)
	4/28	Bass				84	stable water conditions @ summer pool
	5/2	Bass	calm		110		3-ft above summer pool & rising w/ 2400 cfs outflow
	5/3	Bass		68	120	96	4-ft above summer pool & steady w/ 4100 cfs outflow
	10/12	YOY bass		73	158	24-36	summer pool & steady w/ 80 cfs outflow
	10/13	YOY bass					summer pool & steady w/ 80 cfs outflow
	10/25	YOY bass		68-69	140		summer pool & steady w/ 400 cfs outflow
Metcalfe Co.	4/28	Bass		76			Normal
	5/6	Bluegill		65-66	250	30	Normal
Mill Creek	5/6	Bluegill-redear		68-69			Normal
Spurlington	4/19	Bass		69		48	Normal
	5/5	Bluegill-redear	clear	66			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 late-April 2016.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std err
Peninsula	Smallmouth bass																			0		
	Spotted bass	1	2		5	6		1	1	4	15	12	7	5	2					61	40.7	8.8
	Largemouth bass	1	5	6	4	6	6	10	6	2	13	23	34	23	21	5	8	3	1	177	118.0	12.9
Beaver Creek	Smallmouth bass																			0		
	Spotted bass																			0	0.0	
	Largemouth bass				3	4	2	1	6	7	23	42	25	11	9	2		2		137	91.3	19.9
Peter Creek	Smallmouth bass																			0		
	Spotted bass						1		1	2	12	13	6	3		1				39	26.0	11.0
	Largemouth bass		1	3	1	1		2	6	11	11	19	20	12	11	6	2	3		109	72.7	10.1
Walnut Creek	Smallmouth bass																			0		
	Spotted bass									2	2	2								6	4.0	
	Largemouth bass	2		2	2	4	3	1	9	27	43	19	16	10	4	2	1	3	2	150	100.0	2.3
TOTAL	Smallmouth bass																			0		
	Spotted bass	1	2		5	6	1	1	2	8	29	27	13	8	2	1				106	17.7	5.9
	Largemouth bass	3	6	11	10	15	11	14	27	47	90	103	95	56	45	15	11	11	3	573	95.5	7.4

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Table 3. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Barren River Lake 1997-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1997	6.7	1.4	31.1	5.2	48.4	6.4	49.3	6.5	3.3	0.7	135.6	11.6
1998	17.2	4.2	11.4	2.7	23.2	3.1	32.2	2.7	1.2	0.4	83.8	8.3
1999	10.7	2.4	31.3	5.6	41.7	6.9	36.3	4.7	2.3	0.6	120.8	11.2
2000	8.3	1.7	24.1	3.5	33.0	3.2	27.3	2.4	1.4	0.5	92.7	7.3
2001	11.8	1.6	42.3	4.0	49.3	6.3	61.9	4.1	1.1	0.4	165.3	9.6
2002	12.6	2.2	22.4	2.9	30.4	4.0	37.6	4.2	1.3	0.4	102.9	9.5
2003	21.7	3.4	22.5	3.5	20.5	2.9	39.5	4.7	0.3	0.2	104.2	10.6
2004	47.7	14.0	37.7	6.3	16.7	4.0	18.4	3.3	0.7	0.5	120.2	22.2
2005	17.7	2.9	66.0	7.7	31.5	4.7	36.8	3.4	2.0	0.7	152.0	8.6
2006	22.8	4.7	46.2	6.9	57.2	9.8	44.0	6.0	1.3	0.4	170.2	21.8
2007	12.7	3.1	44.2	10.9	37.7	5.0	37.2	5.8	1.0	0.6	131.7	17.0
2008	38.2	7.8	30.3	4.6	30.3	3.1	38.3	3.8	1.5	0.6	137.2	11.5
2009	14.7	4.1	25.7	2.4	18.8	2.3	23.2	3.9	1.3	0.6	82.3	9.8
2010	29.0	4.2	40.3	6.3	36.7	4.4	28.8	2.3	0.7	0.3	134.8	12.8
2011	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
2013	no data due to flooding											
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
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
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

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Table 4. Population assessment of largemouth bass based on spring sampling at Barren River Lake 2006-2016 (scoring based on statewide assessment).

	Year																	
	2006		2007		2008		2009		2010		2012		2014*		2015		2016	
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	14.1	4	14.1	4	14.4	4	14.4	4	14.4	4	14.4	4	14.6	4	14.6	4	14.6	4
Spring CPUE age-1	17.5	2	18.0	2	13.8	2	18.9	2	35.7	3	43.8	4	44.5	4	19.2	2	8.0	1
Spring CPUE 12.0-14.9 in	57.2	4	37.7	4	30.3	3	18.8	2	36.7	4	65.2	4	48.7	4	40.2	4	48.0	4
Spring CPUE ≥15.0 in	44.0	4	37.2	4	38.3	4	23.2	4	28.8	4	54.7	4	44.0	4	24.7	4	23.5	4
Spring CPUE ≥20.0 in	1.3	4	1.0	3	1.5	4	1.3	4	0.7	3	2.7	4	2.0	4	1.2	3	0.5	3
Instantaneous mortality (z)					-0.62								-0.558					
Annual mortality (A)%					46.2								44.2					
Total score		18		17		14		16		18		20		20		17		16
Assessment rating		Excellent		Excellent		Good		Good		Excellent		Excellent		Excellent		Excellent		Good

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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 late-April 2016. 95% confidence intervals are in parentheses.

Area	Species	No. $\geq$stock size	PSD	RSD[A]
Peninsula	Largemouth bass	155	85 (6)	39 (8)
	Spotted bass	53	85 (10)	26 (12)
Beaver Creek	Largemouth bass	130	88 (6)	18 (7)
	Spotted bass	0	*	*
Peter Creek	Largemouth bass	103	82 (8)	33 (9)
	Spotted bass	39	95 (7)	26 (14)
Walnut Creek	Largemouth bass	140	71 (8)	16 (6)
	Spotted bass	6	100 (0)	*
Total	Largemouth bass	528	81 (4)	27 (4)
	Spotted bass	98	90 (6)	24 (9)

[A] Largemouth bass = RSD_{15}, spotted bass = RSD_{14}.

* No fish of sufficient size were collected during sampling.

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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 from early-mid October 2016.

		Inch class																				
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std err
Peninsula	Smallmouth bass																			0		
	Spotted bass	3	1				4													8	5.3	1.3
	Largemouth bass	29	3	1	6	6	1	4	7	6	3	5	7	5	4	4			2	93	62.0	3.1
Beaver Creek	Smallmouth bass																			0		
	Spotted bass																			0		
	Largemouth bass		64	51	33	69	66	28	5	2	7	4	6	6	4	2	2			349	232.7	10.1
Peter Creek	Smallmouth bass																			0		
	Spotted bass		6	5	2						1				1					15	10.0	3.5
	Largemouth bass	20	183	27	8	12	6	8	1		4	3	6	3	5	2		2	4	294	196.0	17.1
Walnut Creek	Smallmouth bass																			0		
	Spotted bass		3	2																5	3.3	3.3
	Largemouth bass	12	343	139	19	23	10		1	5	4	2	2	2		1				563	375.3	63.8
TOTAL	Smallmouth bass																			0		
	Spotted bass	3	10	7	2		4				1				1					28	4.7	1.5
	Largemouth bass	61	593	218	66	110	83	40	14	13	18	14	21	16	13	9	2	2	6	1299	216.5	36.5

swdbrlyy.d16

Table 7. Indices of year-class strength at age-0 and age-1 and mean length (in.) of largemouth bass collected during diurnal fall electrofishing at Barren River Lake 2002-2016.

	Age-0[A]		Age-0[A]		Age-0 $\geq$5.0 in[A]		Age-1[B]	
Year-class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2002	4.0	0.05	171.7	25.8	34.2	4.1	26.9	3.7
2003	4.4	0.04	198.0	30.8	84.0	18.7	44.9	13.3
2004	3.7	0.04	108.4	22.2	20.8	3.9	11.2	2.5
2005	3.7	0.04	160.7	25.6	25.3	4.2	17.5	3.6
2006	3.4	0.02	299.7	87.2	21.8	5.6	18.0	4.8
2007	4.2	0.06	61.5	12.8	14.0	2.5	13.8	1.5
2008	3.8	0.03	307.5	46.9	59.7	10.5	18.9	4.4
2009	3.2	0.02	401.3	76.1	36.8	8.6	35.7	5.2
2010	5.7	0.05	166.6	19.1	105.0	18.7	ND	
2011	4.5	0.05	175.5	33.7	65.7	10.8	43.8	9.4
2012	5.1	0.08	70.0	16.7	32.7	11.0	ND	
2013	3.9	0.03	369.3	92.2	61.5	10.0	44.5	13.1
2014	4.4	0.08	108.5	27.5	33.0	6.3	19.2	na
2015	3.8	0.03	167.7	23.5	18.7	3.4	8.0	1.7
2016	4.3	0.04	191.8	38.9	46.5	13.9		

[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.

swdbrlbb.d02 - d16
swdbrlag. d02 - d16
swdbrlyy. d02 - d16

Table 8. Fish harvest statistics derived from a creel survey at Barren River Lake (10,000 acres) from 3 March through 31 October 2016.

Fishing trips			
	Number of fishing trips (per acre)	38,867	(3.89)
	Average trip length	4.19	
Fishing pressure			
	Total man-hours (SE)	162,756	(4896.4)
	Man-hours/acre	16	
Catch/harvest			
	Number of fish caught (SE)	224,156	(22388.8)
	Number of fish harvested (SE)	97,207	(10573.2)
	Pounds of fish harvested	95,785	
Harvest rates			
	Fish/hour	0.54	
	Pounds/hour	0.84	
	Fish/acre	9.72	
	Pounds/acre	9.58	
Catch rates			
	Fish/hour	1.3	
	Fish/acre	22.42	
Miscellaneous characteristics (%)			
	Male	89.65	
	Female	10.35	
	Resident	92.76	
	Non-resident	7.24	
Method (%)			
	Still fishing	27.18	
	Casting	59.8	
	Spider Rigging	2.73	
	Trolling	9.05	
	Jugging	1.24	
Mode (%)			
	Boat	89.9	
	Bank	9.27	
	Dock	0.83	

Table 9. Fish harvest statistics derived from a creel survey at Barren River Lake from 3 March to 31 October 2016.

	Blue catfish	Channel catfish	Flathead catfish	Hybrid striped bass	White bass	Yellow bass	Bluegill	Smallmouth bass	Spotted bass	Largemouth bass	White crappie	Black crappie
No. caught	4,135	8,197	554	4,425	1,493	793	23,449	189	4,416	36,018	115,196	23,495
(per acre)	(0.4)	(0.8)	(0.1)	(0.4)	(0.1)	(0.1)	(2.3)	(0.02)	(0.4)	(3.6)	(11.5)	(2.3)
No. Harvested	3,459	5,799	502	1,745	78	106	8,826	16	1,038	8,730	50,767	15,594
(per acre)	(0.3)	(0.6)	(0.1)	(0.2)	(0.01)	(0.01)	(0.9)	(0.002)	(0.1)	(0.9)	(5.1)	(1.6)
% total harvest	3.6	6.0	0.5	1.8	0.08	0.1	9.1	0.02	1.1	9.0	52.2	16.0
Lb harvested	20,627.4	10,062.0	2,649.5	3,747.0	42.9	35.5	2,191.0	37.3	1,189.7	16,773.5	27,662.8	10,523.4
(per acre)	(2.1)	(1.0)	(0.3)	(0.4)	(0.004)	(0.004)	(0.2)	(0.004)	(0.1)	(1.7)	(2.8)	(1.1)
% of total lb harvested	21.5	10.5	2.8	3.9	0.04	0.04	2.3	0.04	1.2	17.5	28.9	11.0
Mean length (in)	21.8	16.7	19.0	16.6	10.8	9.5	7.1	17.0	13.4	15.5	10.4	10.6
Mean w eight (lb)	4.4	1.5	3.3	2.5	0.6	0.3	0.3	2.3	1.0	1.9	0.5	0.7

	Catfish group	Morone group	Panfish group	Black bass group	Crappie group	Anything
No. of fishing trips for that species	2,078	1,956	1,360	18,097	12,980	2,395
% of all trips	5.3	5.03	3.5	46.6	33.4	6.2
Hours fishing for that species	8,703.5	8,190.7	5,696.1	75,781.7	54,353.8	10,030.5
No. harvested fishing for that species	7,707	1,657	6,211	9,163	65,858	
Lb harvested fishing for that species	31,064.8	3,555.1	1,805.6	17,135.6	37906..4	
No./hour harvested for that species	0.8	0.3	1.5	0.1	1.1	
% success fishing for that species	56.2	22.7	42.2	18.8	60.1	19.5

Table 10. Length distribution and species composition (released fish lengths were estimates) for each species of fish harvested at Barren River Lake from 3 March to 31 October 2016.

		Inch class																																	
Species	Status	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	34	36	37	38
Blue	Harvest										20		101	121	81	81	405	81	283	20	40	61	506	121	142		789	20	364		121	20	20		61
catfish	Released				78				26		26		26	26			52	78	312	26				26											
Channel	Harvest								18		496	275	642	1193	477	385	679	147	202				881	18	73	37	110		128	18				20	
catfish	Released			20					180		839	100	260	140	80	60	240	120	120	40	40		158												
Flathead	Harvest										26			53			79		79	53			26		79				107						
carfish	Released																34												17						
Hybrid	Harvet								129	97	97	194	291	129	242	48	210	48	97	16	32	16	32	16	51										
striped bass	Released				185	289	21		185	41	247	62	639	165	185	82	350	41	62	21	21		21		41		21								
White	Harvest								26	52																									
bass	Released		21	232	127	42			591	148	148	21	63	21																					
Yellow	Harvet							53	52																										
bass	Released		25		255	229	25		153																										
Bluegill	Harvest		263	1614	1614	544	3281	684	825																										
	Released	607	4698	1057	6930	98	1135	78	19																										
Smallmouth	Harvest															16																			
bass	Released				35		17				17	17	35		17		17			18															
Spotted	Harvest									19	94	57	510	302	56																				
bass	Released			20	41		82	20	409	205	962	655	737	205	41																				
Largemouth	Harvest								60		40	499	1658	2737	2018	719	759	100	80	20	20		20												
bass	Released						366	96	3661	520	4779	2679	5839	4317	2216	1156	1137	231	173	19	77	21													
White	Harvest							4173	25947	14389	4964	911	288	72	23																				
crappie	Released		108	452	8691	4367	48896	817	516	215	129	22	108	107																					
Black	Harvest							1045	6165	5773	1907	496	183		25																				
crappie	Released			21	864	442	6215	126	126		84	22																							

Table 11. Monthly black bass angling success at Barren River Lake during the 2016 daytime creel survey period (March 3 - October 31).

Month	Total number of black bass caught	Total number of black bass harvested	Number of black bass fishing trips	Hours fished by black bass anglers	Number caught by bass anglers	Number caught/hour by bass anglers	Number harvested by bass anglers	Number harvested/hour by bass anglers
March	5,163	330	1,660	6,950	4,285	0.57	264	0.04
April	7,608	2,115	3,095	12,959	7,028	0.61	2,115	0.18
May	7,319	1,464	2,041	8,545	7,155	0.68	1,344	0.13
June	7,339	2,642	3,925	16,435	7,138	0.42	2,551	0.15
July	2,235	595	1,713	7,172	2,058	0.27	530	0.07
August	2,136	391	964	4,036	2,066	0.44	363	0.08
September	4,775	1,562	2,760	11,558	4,552	0.39	1,450	0.13
October	4,047	686	1,941	8,127	3,608	0.42	546	0.06
Total	40,622	9,785	18,097	75,782	37,890	0.47	9,163	0.11

Table 12. Monthly crappie angling success at Barren River Lake during the 2016 daytime creel survey period (March 3 - October 31)

Month	Total number of crappie caught	Total number of crappie harvested	Number of crappie fishing trips	Hours fished by crappie anglers	Number caught by crappie anglers	Number caught/hour by crappie anglers	Number harvested by crappie anglers	Number harvested/hour by crappie anglers
March	31,772	16,347	3,091	12,942	31,245	2.51	16,216	1.31
April	48,206	28,998	4,890	20,475	48,171	2.14	28,998	1.29
May	4,287	1,479	627	2,624	4,092	1.63	1,374	0.55
June	4,000	587	439	1,836	3,597	2.53	551	0.39
July	2,846	338	368	1,539	2,749	2.14	321	0.25
August	8,291	2,191	364	1,525	8,208	4.47	2,136	1.16
September	23,627	10,174	1,559	6,528	23,516	3.62	10,085	1.55
October	15,662	6,247	1,644	6,885	15,487	2.43	6,177	0.97
Total	138,690	66,362	12,980	54,354	137,065	2.57	65,858	1.15

Table 13. Monthly morone angling success at Barren River Lake during the 2016 daytime creel survey period March 3 - October 31).

Month	Total number of morone caught	Total number of morone harvested	Number of morone fishing trips	Hours fished by morone anglers	Number caught by morone anglers	Number caught/hour by morone anglers	Number harvested by morone anglers	Number harvested/hour by morone anglers
March	1582	65.92	0	0	0	0	0	0
April	1,535	68	0	0	0	0	0	0
May	134	30	107	450	45	0.2	30	0.1
June	954	605	680	2,846	733	0.3	605	0.2
July	659	450	664	2,779	579	0.3	450	0.2
August	1,228	586	278	1,166	1,144	1.3	572	0.6
September	89	0	72	299	44	0.3	0	0
October	528	123	135	564	176	0.4	0	0
Total	6,710	1,929	1,956	8,191	2,721	0.45	1,657	0.27

Table 14. Monthly catfish angling success at Barren River Lake during the 2016 daytime creel survey period (March 3 - October 31).

Month	Total number of catfish caught	Total number of catfish harvested	Number of catfish fishing trips	Hours fished by catfish anglers	Number caught by catfish anglers	Number caught/hour by catfish anglers	Number harvested by catfish anglers	Number harvested/hour by catfish anglers
March	153.81	109.86	100.16	419.41	22	0.1	22	0.1
April	3479.82	2,252	289	1,210	2,354	2.2	1,910	1.8
May	2,719	2,300	761	3,186	2,345	0.9	2,166	0.8
June	2,972	2,294	351	1,469	1,835	0.8	1,706	0.7
July	1,029	756	126	526	579	0.5	531	0.5
August	656	419	64	269	280	0.9	266	0.8
September	1,294	1,138	186	779	780	0.7	736	0.6
October	598	493	202	847	388	0.5	370	0.5
Total	12,902	9,760	2,078	8,703	8,583	0.83	7,707	0.75

Table 15. Black bass catch and harvest statistics for all anglers derived from a 2016 (March 3 - October 31) daytime creel survey at Barren River Lake (10,000 acres) for each species.

	Largemouth bass						Spotted bass						Smallmouth bass					
	Harvest			Catch and release			Harvest			Catch and release			Harvest			Catch and release		
	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total
Total number of bass	2,197	6,473	8,730	13,297	9,348	27,287	661	358	1,038	2,354	246	3,377	0	16	16	69	52	173
% of black bass harvested by number			89.2						10.6						0.2			
Total weight of fish (lb)			16,773.5	16,808.0	11,813.4	28,621.4			1,189.7	1,872.0	195.7	2,067.7			37.3	80.0	57.5	137.5
% of bass harvested by weight			93.2						6.6						0.2			
Mean length (in)			15.5						13.4						17.0			
Mean weight (lb)			1.9						1.0						2.3			
Rate (fish/hour)			0.1						0.01						0.0001			

Table 16. Crappie catch and harvest statistics for all anglers derived from a 2016 (March 3 - October 31) daytime creel survey at Barren River Lake (10,000 acres) for each species.

	White crappie					Black crappie				
	Harvest		Catch and release			Harvest		Catch and release		
	≥9.0 in	Total	<9.0 in	≥9.0 in	Total	≥9.0 in	Total	<9.0 in	≥9.0 in	Total
Total number of crappie	50,767	50,767	62,514	1,914	64,428	15,594	15,594	7,542	358	7,900
% of crappie harvested by number		76.5					23.5			
Total weight of fish (lb)		27,662.8	11,542.0	354.3	11,896.3		10,523.4	1,763.0	84.4	1,847.4
% of crappie harvested by weight		76.5					27.6			
Mean length (in)		10.4					10.6			
Mean weight (lb)		0.5					0.7			
Rate (fish/hour)		0.3					0.07			

Table 17. Morone catch and harvest statistics for all anglers derived from a 2016 (March 3 - October 31) daytime creel survey at Barren River Lake (10,000 acres) for each species.

	Hybrid striped bass						Yellow bass						White bass					
	Harvest			Catch and release			Harvest			Catch and release			Harvest			Catch and release		
	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	<12.0 in	≥12.0 in	Total	<12.0 in	≥12.0 in	Total	<12.0 in	≥12.0 in	Total	12.0-14.9 in	≥15.0 in	Total
Total number of morone	582	937	1,745	948	1,010	2,679	105	0	105	687	0	687	78	0	78	232	21	1,414
% of morone harvested by number			90.5						5.5						4.0			
Total weight of fish (lb)			3,747.0	1,610.0	1,715.0	3,325.0			35.5						42.9	109.0	9.4	118.4
% of morone harvested by weight			98.0						0.9						1.1			
Mean length (in)			16.6						9.5						10.8			
Mean weight (lb)			2.5						0.3						0.6			
Rate (fish/hour)			0.01						0.0007						0.0004			

Table 18. Catfish catch and harvest statistics for all anglers derived from a 2016 (March 3 - October 31) daytime creel survey at Barren River Lake (10,000 acres) for each species.

	Blue catfish						Channel catfish						Flathead catfish					
	Harvest			Catch and release			Harvest			Catch and release			Harvest			Catch and release		
	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total	12.0-14.9 in	≥15.0 in	Total
Total number of catfish	121	3,337	3,458	52	520	676	1,413	4,368	5,799	1,199	998	2,397	26	476	502	0	51	51
% of catfish harvested by number			35.4						59.4						5.1			
Total weight of fish (lb)			20,627.4	122.0	1,209.7	1,331.7			10,062.0	1,308.0	1,090.4	2,398.4			2,649.5		244.3	244.3
% of catfish harvested by weight			61.9						30.2						7.9			
Mean length (in)			21.8						16.7						19.0			
Mean weight (lb)			4.4						1.5						3.3			
Rate (fish/hour)			0.02						0.04						0.002			

Table 19. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.625 hours (5-0.125 hour runs) of nocturnal electrofishing at Briggs Lake on 24 April 2016.

	Inch class																						
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Largemouth bass	1		6	7	8	30	26	12	14	20	15	13	5	2	2		2			1	164	262.4	14.8

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Table 20. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Briggs Lake 2000-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2000	27.9	8.1	92.6	19.1	64.7	12.0	10.3	2.8	NA		195.6	36.0
2001	120.6	21.6	73.5	10.9	41.2	9.3	5.9	4.2	1.5	1.5	241.0	25.0
2002	27.5	10.4	109.8	8.6	39.2	7.1	21.6	5.2	NA		202.0	17.5
2003	28.9	13.8	175.0	39.0	19.2	5.0	26.9	5.0	NA		260.0	51.1
2004	11.5	5.0	117.3	3.7	51.9	10.6	7.7	3.1	1.9	1.9	196.0	20.3
2005	46.0	6.8	194.0	21.3	28.0	5.2	26.0	5.0	6.0	3.8	294.0	27.4
2006	56.0	4.4	171.2	9.7	25.6	4.7	11.2	5.4	3.2	2.0	264.0	12.1
2007	38.0	6.8	412.0	32.4	18.0	2.0	2.0	2.0	NA		470.0	31.4
2008	154.0	16.1	286.0	19.7	36.0	6.9	14.0	6.8	8.0	5.7	490.0	30.9
2009	108.0	21.4	168.0	16.6	44.8	12.3	6.4	3.0	1.6	1.6	328.0	16.8
2010	34.0	10.5	236.0	29.7	32.0	8.0	10.0	5.0	NA		312.0	24.2
2011	132.0	14.8	308.0	20.0	24.0	3.3	6.0	3.8	4.0	2.3	470.0	11.5
2012	42.0	11.0	138.0	10.5	48.0	17.3	6.0	3.8	4.0	2.3	234.0	12.4
2016	35.2	10.3	121.2	10.6	76.8	13.5	19.2	6.0	1.6	1.6	262.4	14.8

swdbrgbb.d00 - d16

Table 21. PSD and RSD_{15} values obtained for largemouth bass collected during 0.625 hours (5 - 0.125-hour runs) of spring nocturnal electrofishing at Briggs Lake on 24 April 2016. 95% confidence intervals are in parentheses.

Species	No. of fish ≥stock size	PSD	RSD_{15}
Largemouth bass	142	42 (8)	8 (5)

swdbrgbb.d16

Table 22. Length frequency and CPUE (fish/set) of channel catfish collected during 6 nights of tandem (2 sets with 3 nets each) hoop net sampling at Briggs Lake on 20-23, 23-26, 26-29 October 2016.

	Inch class																				
Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	Std err
Channel catfish				8	11	4	4					1				1	1	1	31	5.2	2.2
Redear sunfish	6	9	51	24	21	1													112	18.7	6.7

swdbrgcc.d16

Table 23. Black bass relative abundance and CPUE (fish/hr) collected during 1.0 hour (4- 0.25-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on 5 May 2016.

	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	Std err
Largemouth bass	6	35	25	10	6	28	51	59	36	10	5	2		1		2	1				1	1	279	279.0	29.7

swdlclbb.d16

Table 24. Spring nocturnal electrofishing CPUE of each length group of largemouth bass collected at Fagan Branch Reservoir 1997-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1997	17.6	6.0	239.2	20.2	24.8	5.6					281.6	30.9
1999	2.7	1.3	149.3	14.0	17.3	1.3	1.3	0.8	0.7	0.7	170.7	13.7
2000	10.0	3.8	88.0	9.4	64.0	13.8	0.7	0.7			162.7	18.6
2001	23.3	4.3	34.0	3.8	110.7	8.1	2.7	1.3			170.7	7.6
2002	16.0	5.6	50.5	9.2	99.7	6.0	8.0	3.2			174.2	12.9
2005	105.6	19.2	173.6	19.7	76.8	4.6	15.2	2.9			371.2	39.1
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
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
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
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

swdlclbb.d97 - d16

Table 25. 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 5 May 2016. 95% confidence intervals are in parentheses.

Species	No. of fish ≥stock size	PSD	RSD_{15}
Largemouth bass	197	12 (5)	3 (2)

swdlclbb.d16

Table 26. Population assessment of largemouth bass based on nocturrnal spring sampling at Fagan Branch Reservoir 1999-2016. Slot limit (12.0-15.0 in) instituted in 2002 (scoring based on statewide assessment).

	1999		2000		2001		2002		2005		2007		2010		2013		2016	
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	11.5*	3	11.5	3	11.5*	3	11.5*	3	11.5*	3	10.6	2	10.6*	2	10.6*	2	10.6*	2
Spring CPUE age-1	2.7	1	4.7	1	17.3	2	16.0	2	44.0	3	20.8	2	12.8	2	32.0	3	67.0	4
Spring CPUE 12.0-14.9 in	17.3	2	64.0	4	110.7	4	100.6	4	76.8	4	72.8	4	80.8	4	37.0	3	17.0	2
Spring CPUE ≥15.0 in	1.3	1	0.7	1	2.7	1	8.6	2	15.2	3	8.0	2	13.6	3	5.0	1	6.0	2
Spring CPUE ≥20.0 in	0.7	2	0.0	0	0.0	0	0.0	0	0.0	0	0.8	2	0.8	2	2.0	3	2.0	3
Instantaneous mortality (z)			0.361								0.629							
Annual mortality (A)%			30.3								46.7							
Total score	9		9		10		11		13		12		13		12		13	
Assessment rating	Fair		Fair		Fair		Fair		Good		Fair		Good		Fair		Good	

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

swdlclag.d00 & d07

swdlclbb.d99-d16

Table 27. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected during 0.668 hours (4 - 0.167-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on 5 May 2016 .

	Inch class												Std.
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	4	7	3	16	17	18	59	41	1		166	248.5	13.5
Redear sunfish		2			1	3	4	9	18	1	38	56.9	9.0

swdlclbg.d16

Table 28. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Fagan Branch Reservoir from 1997-2016. 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
1997	7.2	31.2	108.8	11.2	158.4
	(2.0)	(9.4)	(12.0)	(3.4)	(8.3)
1999	5.3	20.0	46.0	4.0	75.3
	(2.2)	(8.3)	(9.6)	(2.1)	(14.0)
2000	16.7	32.0	47.3	6.7	102.7
	(6.5)	(8.3)	(6.4)	(2.2)	(10.8)
2001	99.1	102.1	105.1	22.5	328.8
	(46.1)	(48.9)	(32.7)	(9.5)	(97.9)
2005	74.3	198.2	42.8	42.8	319.8
	(18.9)	(30.6)	(11.9)	(11.9)	(37.6)
2007	76.0	50.0	78.0	36.0	240.2
	(11.6)	(20.8)	(24.1)	(20.8)	(47.8)
2010	220.0	526.0	242.0	14.0	1002.0
	(47.6)	(63.4)	(39.7)	(8.3)	(96.0)
2013	46.4	52.4	83.8	28.4	212.0
	(12.3)	(5.1)	(34.1)	(6.6)	(25.6)
2016	16.5	53.9	115.3	62.9	248.5
	(6.2)	(5.5)	(5.1)	(11.6)	(13.5)

swdlclbg.d01 - d16

Table 29. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Fagan Branch Reservoir from 1997-2016. 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
1997		2.4	25.6	12.8		40.8
		(1.6)	(6.8)	(4.6)		(10.0)
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)
2000			1.3	4.7	1.3	6.0
			(0.8)	(1.2)	(1.3)	(0.9)
2001		3.0	27.0	9.0	3.0	39.0
		(1.0)	(6.6)	(2.3)	(1.9)	(9.2)
2005		24.8	58.6	31.5	2.3	114.9
		(10.0)	(16.7)	(9.4)	(2.3)	(22.2)
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)
2010		86.0	40.0	42.0	4.0	168.0
		(18.3)	(19.6)	(7.6)	(2.3)	(40.3)
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)
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)

swdlclbg.d97 - d16

Table30. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear collected by nocturnal electrofishing at Fagan Branch Reservoir on 5 May 2016. Numbers in parentheses represent 95% confidence intervals.

Species	No. of fish ≥stock size	PSD	RSD[a]
Bluegill	155	77 (7)	27 (7)
Redear sunfish	36	89 (11)	53 (17)

[a] Bluegill=RSD_8; redear=RSD_9

swdlclbg.d16

Table 31. Bluegill population assessments from 1997-2016 at Fagan Branch Reservoir (scoring based on statewide assessment).

	Year																	
	1997		1999		2000		2001		2005		2007		2010		2013		2016	
Parameter	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
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
CPUE $\geq$6.0 in	120.0	4	50.0	2	54.0	2	127.6	4	47.3	2	114.0	4	256.0	4	112.3	4	178.1	4
CPUE $\geq$8.0 in	11.2	4	4.0	3	6.7	4	22.5	4	4.5	3	36.0	4	14.0	4	28.4	4	62.9	4
Instantaneous mortality (z)													-1.03					
Annual mortality (A)													64.2					
Total score:	12		9		10		12		9		12		12		12		12	
Assessment rating	Good		Fair		Good		Good		Fair		Good		Good		Good		Good	

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

swdlclag.d10

swdlclbg.d97 - d16

Table 32. Redear population assessments from 1997-2016 at Fagan Branch Reservoir (scoring based on statewide assessment).

Parameter	1997 Value	1997 Score	1999 Value	1999 Score	2000 Value	2000 Score	2001 Value	2001 Score	2005 Value	2005 Score	2007 Value	2007 Score	2010 Value	2010 Score	2013 Value	2013 Score	2016 Value	2016 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
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
CPUE ≥8.0 in	25.6	4	10.0	3	1.3	1	27.0	4	58.6	4	36.0	4	40.0	4	31.4	4	41.9	4
CPUE ≥10.0 in	0.0	1	4.0	4	1.3	3	3.0	4	2.3	4	16.0	4	4.0	4	1.5	3	1.5	3
Instantaneous mortality (z)													-0.784					
Annual mortality (A)													54.3					
Total score:	9		11		8		12		12		12		12		11		11	
Assessment rating	Fair		Good		Fair		Good		Good		Good		Good		Good		Good	

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

swdlclag.d10

swdlclbg.d97 - d16

Table 33. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.875 hours (7- 0.125-hour runs) of nocturnal electrofishing at Marion Co. Lake on 19 April 2016.

Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Largemouth bass	12	51	29	5	27	71	34	27	6	5	2	4	3	3	4	4	3	1	291	332.6	45.9

swdmclbb.d16

Table 34. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Marion County Lake 1999-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1999	106.7	29.3	46.2	15.0	39.5	10.6	1.7	1.1			194.1	42.0
2000	88.2	14.9	177.5	22.4	6.9	3.2	9.8	2.0			282.4	25.4
2001	170.6	17.6	173.5	15.9	1.0	1.0	1.0	2.9	1.0	1.0	384.0	31.3
2002	104.9	23.9	152.9	13.2	15.7	3.6	3.9	1.2	1.0	1.0	277.5	39.4
2003	42.9	10.6	226.4	18.1	40.7	7.3	7.7	3.4	3.4	2.4	317.6	13.3
2004	110.3	16.9	197.4	25.8	62.8	9.8	7.7	3.4	5.3	2.7	378.2	36.6
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
2006	112.0	20.8	170.3	30.6	59.4	5.5	38.9	4.1			380.6	53.8
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
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
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
2010	140.6	24.1	316.6	22.2	11.4	4.9	2.3	2.3			470.9	44.7
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
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

swdmclbb.d99 - d16

Table 35. PSD and RSD_{15} values obtained for largemouth bass collected during 0.875 hours (7- 0.125-hour runs) of spring nocturnal electrofishing at Marion County Lake on 19 April 2016. 95% confidence intervals are in parentheses.

Species	No. of fish ≥stock size	PSD	RSD_{15}
Largemouth bass	194	18 (5)	11 (5)

swdmclbb.d16

Table 36. Population assessment of largemouth bass based on nocturnal spring sampling at Marion County Lake from 2004-2016 (scoring based on statewide assessment).

	Year																	
	2004		2005		2006		2007		2008		2009		2010		2013		2016	
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	11.9	4	11.9*	4	11.9*	4	11.9*	4	11.9*	4	10.7	2	10.7*	2	10.7*	2	10.7*	2
Spring CPUE age-1	117.3	4	101.7	4	19.4	2	7.0	1	201.1	4	55.0	4	55.0*	4	55.0*	4	55.0*	4
Spring CPUE 12.0-14.9 in	65.3	4	133.7	4	59.4	4	28.0	3	16.0	2	12.0	1	11.4	1	51.4	4	14.9	2
Spring CPUE ≥15.0 in	8.0	2	9.1	2	38.9	4	12.0	2	16.0	3	11.0	2	2.3	1	14.9	3	25.1	3
Spring CPUE ≥20.0 in	5.3	4	1.1	2	0.0	1	1.0	2	3.4	3	4.0	4	0.0	1	3.4	3	4.6	4
Instantaneous mortality (z)	-0.936										-1.46							
Annual mortality (A)%	60.8										76.7							
Total score	18		16		15		12		16		13		9		16		15	
Assessment rating	Excellent		Good		Good		Fair		Good		Good		Fair		Good		Good	

*No age data or too little for calculation, values carried over from years with age data

swdmclbb.d04-d16

Table 37. Length frequency and CPUE (fish/hr) of each inch class of bluegill and redear sunfish collected by 1.0 hour of diurnal electrofishing (8- 0.125-hour runs) at Marion Co. Lake on 3 May 2016.

	Inch class												Std.
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	3	49	49	50	39	68	73	9			340	340.0	65.4
Redear sunfish		3	4	7	8	3	5	34	16	2	82	82.0	8.7

swdmclbg.d16

Table 38. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Marion Co. Lake 2002-2016. Standard errors are in parentheses.

Year	Length group				Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	
2002	57.1	152.0	78.9	16.0	304.0
	(30.3)	(40.5)	(6.4)	(3.5)	(67.2)
2003	164.0	212.0	118.7	5.3	500.0
	(33.9)	(34.1)	(23.9)	(4.0)	(60.4)
2004	303.0	255.0	35.0	1.0	594.0
	(59.0)	(38.7)	(10.0)	(1.0)	(85.9)
2005	102.0	210.0	63.0	3.0	378.0
	(18.6)	(31.9)	(16.7)	(2.1)	(53.1)
2006	77.3	501.3	25.3	4.0	608.0
	(15.1)	(25.5)	(7.6)	(2.7)	(34.1)
2007	73.0	291.0	39.0	3.0	406.0
	(22.8)	(39.5)	(7.5)	(1.5)	(50.1)
2008	60.0	73.0	130.0	11.0	274.0
	(31.6)	(13.6)	(14.6)	(4.0)	(45.1)
2009	48.0	109.7	58.3	1.1	217.1
	(22.2)	(20.9)	(10.6)	(1.1)	(35.4)
2010	55.0	72.0	25.0	5.0	157.0
	(27.7)	(10.5)	(9.1)	(2.1)	(25.8)
2011	499.4	107.4	73.1	14.9	694.9
	(112.4)	(16.3)	(10.7)	(2.7)	(126.5)
2012	270.0	213.0	32.0	7.0	522.0
	(86.0)	(45.5)	(4.3)	(3.8)	(95.5)
2014	49.0	267.0	112.0	1.0	429.0
	(19.0)	(72.6)	(28.9)	(1.0)	(101.8)
2016	52.0	138.0	141.0	9.0	340.0
	(18.0)	(24.5)	(39.6)	(4.1)	(65.4)

swdmclbg.d02 - d16

Table 39. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Marion Co. Lake 2002-2016. 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
2002	1.1	51.4	11.4	57.1		121.1
	(1.1)	(11.3)	(4.2)	(13.0)		(19.2)
2003	5.3	46.7	9.3	28.0	2.7	89.3
	(2.7)	(9.3)	(4.8)	(10.7)	(2.7)	(15.4)
2004	2.0	40.0	18.0	7.0	1.0	67.0
	(2.0)	(15.1)	(7.1)	(3.8)	(1.0)	(16.3)
2005		34.0	30.0	25.0	3.0	89.0
		(5.8)	(9.8)	(7.3)	(1.5)	(16.5)
2006		17.3	17.3	24.0	2.7	58.7
		(6.7)	(7.0)	(6.2)	(1.7)	(12.8)
2007		21.0	7.0	11.0	1.0	39.0
		(6.2)	(2.4)	(6.6)	(1.0)	(11.9)
2008	1.0	37.0	9.0	28.0	6.0	75.0
	(1.0)	(15.6)	(3.2)	(9.1)	(3.3)	(16.1)
2009		52.6	34.3	17.1	2.3	104.0
		(10.2)	(6.9)	(5.4)	(2.3)	(14.8)
2010	7.0	20.0	20.0	15.0	0.0	62.0
	(7.0)	(6.1)	(6.9)	(2.8)		(12.5)
2011	1.1	14.9	45.7	74.3	4.6	136.0
	(1.1)	(5.9)	(10.7)	(23.4)	(4.6)	(39.5)
2012	1.0	3.0	5.0	48.0	0.0	57.0
	(1.0)	(2.1)	(2.1)	(18.1)		(18.0)
2014	1.0	38.0	20.0	25.0	5.0	84.0
	(1.0)	(12.4)	(6.6)	(5.9)	(2.1)	(21.7)
2016	3.0	19.0	8.0	52.0	2.0	82.0
	(2.1)	(6.4)	(3.0)	(8.9)	(1.3)	(8.7)

swdmclbg.d02 - d16

Table 40. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear sunfish collected by diurnal electrofishing at Marion Co. Lake on 3 May 2016. Numbers in parentheses represent 95% confidence intervals

Species	No. of fish ≥stock size	PSD	RSD[A]
Bluegill	288	52 (6)	3 (2)
Redear sunfish	75	76 (10)	24 (10)

[A] Bluegill=RSD_8; redear sunfish=RSD_9

swdmclbg.d16

Table 41. Bluegill population assessments from 2005-2016 at Marion County Lake (scoring based on statewide assessment).

	Year																			
	2005		2006		2007		2008		2009		2010		2011		2012		2014		2016	
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	4.7*	3	4.7*	3	3.7	1	3.7*	1	3.7*	1	3.7*	1	3.7*	1	4.3	3	4.3*	3	4.3*	3
Years to 6.0 in	2.9*	4	2.9*	4	3.7	3	3.7*	3	3.7*	3	3.7*	3	3.7*	3	2.8	4	2.8*	4	2.8*	4
CPUE ≥6.0 in	67.0	3	29.3	2	42.0	2	141.0	4	59.4	3	30.0	2	88.0	3	39.0	2	113.0	4	150.0	4
CPUE ≥8.0 in	3.0	3	4.0	3	3.0	3	11.0	4	1.1	2	5.0	4	14.9	4	7.0	4	1.0	2	9.0	4
Instantaneous mortality (z)					-1.03										-0.746					
Annual mortality (A)					64.2										52.6					
Total Score:	13		12		9		12		9		10		11		13		13		15	
Assessment rating	Good		Good		Fair		Good		Fair		Good		Good		Good		Good		Excellent	

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

swdmclag.d07, swdmclag.d12

swdmclbg.d05 - d16

Table 42. Redear sunfish population assessments from 2005-2016 at Marion County Lake (scoring based on statewide assessment).

	Year																			
	2005		2006		2007		2008		2009		2010		2011		2012		2014		2016	
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	8.3*	4	8.3*	4	8.3*	4	8.3*	4	8.3*	4	8.3*	4	8.3*	4	8.3	4	8.3*	4	8.3*	4
Years to 8.0 in	2.8*	4	2.8*	4	2.8*	4	2.8*	4	2.8*	4	2.8*	4	2.8*	4	2.8	4	2.8*	4	2.8*	4
CPUE ≥8.0 in	25.0	4	24.0	4	11.0	3	28.0	4	17.1	3	15.0	3	74.3	4	48.0	4	25.0	4	52.0	4
CPUE ≥10.0 in	3.0	4	2.7	4	1.0	3	6.0	4	2.3	4	0.0	0	4.6	4	0.0	0	5.0	4	2.0	4
Instantaneous mortality (z)					NA										NA					
Annual mortality (A)					NA										NA					
Total Score:	16		16		14		16		15		11		16		12		16		16	
Assessment rating	Excellent		Excellent		Excellent		Excellent		Excellent		Good		Excellent		Good		Excellent		Excellent	

*No age data or too little for calculation, values carried over from years with age data

NA (data not amenable to calculations)

swdmclag.d07, swdmclag.d12

swdmclbg.d05 - d16

Table 43. 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 late-April to early-May.

Area	Species	Inch class																			Total	CPUE	Std err
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Green River Arm																							
Holmes Bend	Smallmouth bass									2		1									3	2.0	1.2
	Spotted bass				4	10	10	16	6	1	1	3	1	1	2						55	36.7	13.4
	Largemouth bass			14	20	12	5	3	8	19	20	16	18	6	5	11	12	4	1		174	116.0	23.9
Ramp 1	Smallmouth bass		2		3	4	3	2			1									1	16	10.7	7.7
	Spotted bass	1		2	6	12	12	3	8	2		1	2	2							51	34.0	10.3
	Largemouth bass	1	1	8	6	3	1	6	6	5	11	17	10	14	13	21	31	8	7	1	170	113.3	4.8
Robinson Creek Arm																							
Smith Ridge	Smallmouth bass							1													1	0.7	0.7
	Spotted bass		1	3		2	2	5	6	5											24	16.0	7.2
	Largemouth bass	1	3	2	7	12	6	4	5	8	6	3	1	4	4	3	7	7	1		84	56.7	7.0
Lone Valley	Smallmouth bass				2	2	1	1		1											7	4.7	2.7
	Spotted bass		1	2	1	10	8	7	9	6	4	6	1	2	5						62	41.3	11.6
	Largemouth bass							1		1	11	29	11	11	12	19	22	11	4		132	88.0	5.0
TOTAL	Smallmouth bass		2		5	6	4	4		3	1	1								1	27	4.5	2.1
	Spotted bass	1	2	7	11	34	32	31	29	14	5	10	4	5	7						192	32.0	5.5
	Largemouth bass	2	4	24	33	27	12	14	19	33	48	65	40	35	34	54	72	30	13	1	560	93.5	9.1

swdgrlbb.d16

Table 44. Spring diurnal electrofishing CPUE (fish/hr) of largemouth bass by length group collected at Green River Lake from late-April to 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	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
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
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
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
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
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
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
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
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
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
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
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
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
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
2010						no data due to flooding						
2011						no data due to flooding						
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
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
2014						no data due to flooding						
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
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

swdgrlbb.D97-D16

Table 45. 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 late-April to early-May 2016. 95% confidence intervals are in parentheses.

Area	Species	No. $\geq$stock size	PSD	RSD[A]
Green River Arm				
Holmes Bend	Largemouth bass	128	73 (8)	30 (8)
	Spotted bass	51	28 (21)	8 (7)
	Smallmouth bass	3	*	*
Ramp 1	Largemouth bass	151	88 (5)	63 (8)
	Spotted bass	42	17 (9)	10 (9)
	Smallmouth bass	11	18 (24)	9 (18)
Robinson Creek Arm				
Smith Ridge	Largemouth bass	60	62 (12)	45 (13)
	Spotted bass	20	25 (23)	*
	Smallmouth bass	1	*	*
Lone Valley	Largemouth bass	132	98 (2)	60 (8)
	Spotted bass	58	58 (12)	23 (10)
	Smallmouth bass	5	44 (34)	44 (34)
Total	Largemouth bass	471	83 (3)	50 (5)
	Spotted bass	171	26 (7)	9 (4)
	Smallmouth bass	20	*	*

[A] Largemouth bass = RSD_{15}, spotted bass and smallmouth bass = RSD_{14}.

swdgrlbb.d16

Table 46. Population assessment of largemouth bass based on nocturnal spring sampling at Green River Lake from 2005-2016 (scoring based on statewide assessment).

	2005		2006		2007		2008		2009		2012		2013		2015		2016	
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	14.4	4	14.4	4	14.4	4	14.4	4	14.6	4	14.6	4	14.6	4	13.1	4	13.1	4
Spring CPUE age-1	65.3	4	14.3	1	3.8	1	22.8	2	7.2	1	15.5	1	3.8	1	16.0	1	17.3	1
Spring CPUE 12.0-14.9 in	11.7	1	23.1	2	33.7	3	27.8	2	13.0	1	35.3	4	44.0	4	23.7	2	25.0	2
Spring CPUE ≥15.0 in	16.8	2	18.9	3	22.2	4	30.2	4	42.8	4	39.3	4	52.8	4	51.7	4	40.0	4
Spring CPUE ≥20.0 in	1.5	2	0.3	1	0.5	2	0.8	2	1.7	3	1.3	2	3.3	4	2.7	3	2.5	3
Instantaneous mortality (z)									-0.610						-0.473			
Annual mortality (A)%									45.7						37.71			
Total score		13		11		14		14		13		15		17		14		14
Assessment rating		Good		Fair		Good		Good		Good		Good		Excellent		Good		Good

sw dgrlag.D03, D09, 15

sw dgrlbb.D02-D16

Table 47. 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 mid-late October 2016.

		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	Std err
Green River Arm																							
Holmes Bend	Smallmouth bass				1	1										1					3	2.0	0.7
	Spotted bass		2	18	16	6		4	1	7	3	1									58	38.7	7.5
	Largemouth bass		5	23	36	21	14	4	3	2	4	3		1	2	1	2	1			122	82.0	14.1
Ramp 1	Smallmouth bass		1	3		1															5	3.3	1.8
	Spotted bass	6	37	11	4		2	6			1										67	44.7	30.9
	Largemouth bass	7	39	9	10	4	3	1	1	1		2		3		1					81	54.0	9.0
Robinson Creek Arm																							
Smith Ridge	Smallmouth bass													1	1						2	1.3	1.3
	Spotted bass		10	40	26	10	3	4	14	2	1	2		1							113	75.3	3.7
	Largemouth bass		3	42	46	35	14	5	9	12	1	1		3	3	3	1	1			179	119.3	4.8
Lone Valley	Smallmouth bass		10	4		1	3	1	1	1											21	14.0	4.6
	Spotted bass	14	89	15	8	5	8	11	6	9	5	2	1	2	2	2	1				180	120.0	9.2
	Largemouth bass	5	18	4		1		2		1	2		1		1	2	1			1	39	26.0	3.1
TOTAL	Smallmouth bass		11	7	1	3	3	1	1	1				1	1	1					31	5.2	2.0
	Spotted bass	20	138	84	54	21	13	25	21	18	10	5	1	3	2	2	1				418	69.7	12.0
	Largemouth bass	12	65	78	92	61	31	12	13	16	7	6	1	7	6	7	4	2		1	421	70.3	11.1

sw dgrlyy.d16

Table 48. Largemouth bass mean length (in) at age-0 and catch rates at age-0 and age-1 collected at Green River Lake since 2002.

	Age 0[A]		Age 0[A]		Age 0 $\geq$5.0 in[A]		Age 1[B]	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2002	3.9	0.1	32.7	9.7	5.3	1.2	7.3	1.6
2003	3.9	0.1	32.8	9.7	5.5	1.2	11.9	2.1
2004	5.0	0.1	60.8	9.0	28.0	3.6	65.3	7.7
2005	5.2	0.1	31.7	7.4	16.8	4.3	14.3	2.4
2006	4.3	0.1	13.5	3.4	3.7	1.2	3.8	1.0
2007	4.2	0.1	21.8	5.3	5.8	2.2	22.8	9.5
2008	4.8	0.1	23.7	5.8	11.5	3.6	7.2	1.8
2009	3.7	0.1	66.8	9.8	11.5	3.9	ND	
2010	4.8	0.1	45.0	8.1	18.3	4.9	ND	
2011	3.9	0.1	28.8	7.5	5.8	1.5	15.5	4.0
2012	4.2	0.1	16.5	4.2	5.0	2.0	3.8	0.8
2013	5.9	0.1	26.0	15.4	19.3	12.9	ND	
2014	data collected too late in year for reasonable comparisons							
2015	5.7	0.1	65.0	22.6	44.7	15.8	17.5	4.2
2016	5.1	0.1	55.3	8.7	30.3	7.9		

[A] Data collected by fall (Sept/October) 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

[B] Data collected during the following spring (May) nocturnal electrofishing.

swdgrlbb.D02 - D16
swdgrlag. D02 - D16
swdgrlyy. D02 - D13, 15-

Table 49. Length frequency and CPUE (fish/nn) for each inch class of crappie collected by trap net (60 net-nights) at Green River Lake on November 30 and December 1, 2016.

	Inch class													Std.
Species	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	error
White crappie	56	80	100	372	263	104	74	69	17	6	1	1142	19.0	3.0
Black crappie	5	2	4	12	4	2	2					31	0.5	0.2

swdgrltn.d16

Table 50. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white crappie collected by trap nets (60 net-nights) at Green River Lake from late-November to early-December 2016. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_{10}
White crappie	1006	27 (3)	9 (2)

swdgrltn.D16

Table 51. Age frequency and CPUE (fish/nn) of white crappie collected during 60 net-nights at Green River Lake during late-November and early-December 2016.

	Inch class														Std.
Age	3	4	5	6	7	8	9	10	11	12	13	Total	Percent	CPUE	error
0	56	80										136	10.0	2.6	0.8
1			50	34	50							134	34.0	8.8	2.1
2			50	287	125	52	33	6				553	16.0	4.0	0.8
3				17	25		11	15	1			69	19.0	4.8	0.8
4				17		26	28	24	10	3		108	15.0	3.9	0.7
5					38	10		9	4	2		63	2.0	0.6	0.1
6				17	25	10	4	9	2	1	1	69	2.0	0.5	0.1
8								3				0			
9						5						5	1.0	0.2	<0.1
11								3				3	1.0	0.3	0.1
Total	56	80	100	372	263	104	74	69	17	6	1	1142			
%	5	7	9	33	23	9	6	6	1	1	0	100			

swdgrltn.d16; swdgrlag.d16

Table 52. White crappie assessment from trap net samples at Green River Lake from 1991-2016 (scoring based on statewide assessment).

	White crappie													
	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
1991	8.7	2	2.9	2	6.9	2	6.2	3	9.3	3	-0.565581	43.2	12	F
1992	28.3	4	24.5	4	1.8	1	8.5	3	10.0	4	-0.9219538	70.4	16	G
1993	24.8	4	7.0	3	1.2	1	15.5	4	9.0	2	-0.949191	61.3	14	G
1994	8.7	2	2.5	1	11.8	3	6.1	3	9.3	3	-0.767229	53.6	12	F
1995	16.2	3	11.1	3	13.2	3	10.7	3	10.0	4	-1.055474	65.2	16	G
1996	13.4	3	6.5	2	3.2	2	6.0	2	9.2	3	-0.895818	59.2	12	F
1997	14.1	3	3.9	2	1.9	1	8.1	3	8.7	2	-1.121453	67.4	11	F
1998	9.2	2	2.5	1	3.8	2	8.0	3	9.3	3	-0.850455	57.3	11	F
1999	7.4	2	5.2	2	1.0	1	2.9	1	9.9	4	NA		10	F
2000	6.3	2	1.5	1	0.0	1	5.2	2	9.7	4	-0.824828	56.2	10	F
2001	4.3	1	0.2	1	10.8	3	4.2	2	9.5	3	-1.09953	66.7	10	F
2002	10.9	2	9.7	3	0.5	1	4.1	2	ND	4	-0.759078	53.2	12	F
2003	13.0	3	5.1	2	3.3	2	6.8	3	9.1	3	-1.075599	65.9	13	G
2004	17.7	3	9.6	3	3.8	2	7.9	3	8.4	1	-1.53876	78.5	12	F
2005*	13.8	3	3.0	2	1.7	1	8.0	3	ND	1	ND		10	F
2006	16.4	3	10.2	3	1.4	1	6.5	3	9.9	4	-1.090892	66.4	14	G
2007*	15.9	3	10.5	3	4.4	2	6.7	3	8.9	3	NA		14	G
2008	9.0	2	0.7	1	0.9	1	4.7	2	7.8	1	-0.728739	51.7	7	P
2009	20.1	3	4.1	2	0.9	1	9.7	3	ND	1	ND		10	F
2010	17.8	3	0.7	1	1.3	1	11.1	4	7.5	1	-1.10117	66.8	10	F
2011	22.9	4	8.3	3	2.6	1	10.0	3	7.9	1	NA		12	F
2012	18.2	3	3.8	2	0.1	1	8.8	3	8.1	1	NA		10	F
2013								no data						
2014	23.1	4	8.8	3	2.6	1	11.2	4	8.5	1	-0.58989	44.6	11	F
2015								no data						
2016	16.8	3	2.2	1	2.3	1	4.5	2	7.5	1	NA		8	F

* Age assessment data extrapolated from previous years age data

NA - catch data not amenable to mortality estimates

ND - no age data collected

sw dgltn.D86 - D16

sw dgrlag.d86-16

Table 53. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.50 hours (4- 0.125-hour runs) of diurnal electrofishing at Metcalfe Co. Lake on 28 April 2016.

	Inch class																						
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Largemouth bass	1	5	1	1	5	7	4	11	15	5		4	3	2	2	2	1	3	1	1	74	148.0	10.6

swdmetbb.d16

Table 54. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Metcalfe Co. Lake during late-April or early May since 2001.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2001	50.0	NA	98.0	NA	28.0	NA	28.0	NA	6.0	NA	204.0	NA
2002	80.5	NA	84.5	NA	6.0	NA	54.6	NA	6.0	NA	144.0	NA
2004	24.0	NA	64.0	NA	24.0	NA	32.0	NA	8.0	NA	144.0	NA
2006	10.0	2.0	76.0	12.0	26.0	5.0	30.0	6.0	6.0	3.8	142.0	12.4
2010	32.0	3.3	100.0	9.5	18.0	8.3	36.0	5.2	6.0	3.8	186.0	13.6
2013	24.0	16.3	142.0	28.4	12.0	5.2	56.0	10.3	14.0	6.8	234.0	29.5
2014	20.0	9.5	110.0	30.5	18.0	8.9	50.0	11.9	26.0	13.2	198.0	44.7
2016	26.0	8.9	74.0	6.0	18.0	3.8	30.0	3.8	10.0	3.8	148.0	44.7

swdmetbb.D01 - D16

NA - SE not applicable as run times were different than 2006 - 2014.

Table 55. PSD and RSD_{15} values obtained for largemouth bass collected during 0.5 hours (4 - 0.125-hour runs) of spring diurnal electrofishing at Metcalfe Co. Lake on 28 April 2016. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	61	39 (12)	25 (11)

swdmetbb.D16

Table 56. Length frequency and CPUE (fish/hr) of bluegill collected by diurnal electrofishing (0.5 hours; 4- 450-second runs) at Metcalfe County Lake on 6 May 2016 .

	Inch class									Std.
Species	1	2	3	4	5	6	7	Total	CPUE	Error
Bluegill	1	57	66	35	36	64	16	275	550.0	193.2

swdmetbg.D16

Table 57. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Metcalfe County Lake during early-mid May from 2005-2014 . Standard error in parentheses.

	Length group				
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	$\geq$8.0 in	Total
2005	66.8	807.7	366.2	0.0	1240.7
	(9.4)	(113.5)	(61.8)		(165.1)
2007	108.0	886.0	568.0	0.0	1562.0
	(33.1)	(171.7)	(132.8)		(270.1)
2011	102.0	1032.0	194.0	0.0	1328.0
	(25.6)	(156.7)	(39.1)		(196.9)
2014	22.4	326.4	288.0	0.0	636.8
	(9.3)	(53.2)	(50.0)		(107.7)
2016	116.0	274.0	160.0	0.0	550.0
	(44.1)	(99.6)	(53.4)		(193.2)

swdmetbg.D05, D07, D11, D14, D16

Table 58. PSD and RSD_{15} values obtained for bluegill collected during 0.5 hours (4 - 0.125 hour runs) of spring diurnal electrofishing at Metcalfe Co. Lake on 6 May 2016. 95% confidence intervals are in parentheses.

Species	No. $\geq$3.0 in	PSD ($\pm$ 95% CI)	RSD_8 ($\pm$ 95% CI)
Bluegill	217	37 (6)	*

swdmetbg.D16
*No fish greater than 8.0 in collected

Table 59. Bluegill population assessments from 2005-2016 at Metcalfe County Lake (scoring based on statewide assessment).

	Year									
	2005		2007		2011		2014		2016	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-2 at capture	4.4*	2	4.4	2	4.4*	2	4.4*	2	4.4*	2
Years to 6.0 in	3.6*	3	3.6	3	3.6*	3	3.6*	3	3.6*	3
CPUE $\geq$6.0 in	366.2	4	568.0	4	194.0	4	288.0	4	160.0	4
CPUE $\geq$8.0 in	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Instantaneous mortality (z)			1.07							
Annual mortality (A)			66.0							
Total score:		9		9		9		9		9
Assessment rating	Fair		Fair		Fair		Fair		Fair	

*No age data, values carried over from years with age data
swdmetag.D07
swdmetbg.D05 - D16

Table 60. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected during 1.0 hours (8- 450-sec runs) of diurnal electrofishing at Mill Creek Lake (Monrone Co.) on 6 May 2016.

	Inch class									Std.
Species	1	2	3	4	5	6	7	Total	CPUE	error
Bluegill	1	58	130	295	124	23	8	639	639.0	52.5
Redear sunfish			2		4	2		8	8.0	5.0

swdmilbg.D16

Table 61. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Mill Creek Lake from 2005-2016. Standard errors are in parentheses.

Year	Length group				Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	
2005	76.8	350.4	88.8	0.0	516.0
	(32.0)	(53.4)	(20.7)		(72.8)
2010	74.4	568.0	56.0	0.0	698.4
	(20.1)	(75.6)	(11.1)		(76.1)
2013	184.0	412.0	47.2	0.0	644.0
	(76.5)	(43.8)	(6.4)		(96.0)
2016	59.0	549.0	31.0	0.0	639.0
	(15.2)	(50.1)	(5.3)		(52.5)

SWDMILBG.D05 - D16

Table 62. Proportional stock density (PSD) and relative stock density RSD_8 of bluegill collected by diurnal electrofishing at Mill Creek Lake on 6 May 2016. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_8
Bluegill	580	5 (2)	0

swdmilbg.D16

Table 63. Bluegill population assessments from 2005, 2010, 2013 and 2016 at Mill Creek Lake (scoring based on statewide assessment).

	2005		2010		2013		2016	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-2 at capture	3.6*	2	3.6*	2	3.6	2	3.6*	2
Years to 6.0 in	4.3*	2	4.3*	2	4.3	2	4.3*	2
CPUE >6.0 in	88.8	4	56.0	3	47.2	2	31.0	2
CPUE >8.0 in	0.0	0	0.0	0	0.0	0	0.0	0
Instantaneous mortality (z)	ND		-0.75661		ND		ND	
Annual mortality (A)			53.1					
Total score:		8		7		6		6
Assessment rating	Fair		Fair		Poor		Poor	

* - age data carried over from year collected
swdmilag.d13
swdmilbg.D05 - D16

Table 64. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.50 hours (4- 0.125-hour runs) of nocturnal electrofishing at Spurlington Lake on 19 April, 2016.

	Inch class																			
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std err
Largemouth bass	4	1	4	1	4	14	10	20	37	38	28	15	14	4	5	2	2	203	406.0	27.8

swdsplbb.D16

Table 65. 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	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
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
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
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
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
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
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
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
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
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
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
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

swdsplbb. D02 - D16

Table 66. PSD and RSD_{15} values obtained for largemouth bass collected during 0.50 hours (4- 0.125-hour runs) of spring nocturnal electrofishing at Spurlington Lake on 19 April 2016. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	193	75 (6)	22 (6)

swdsplbb.D16

Table 67. Population assessment of largemouth bass based on nocturnal spring sampling at Spurlington Lake from 2004-2016 (scoring based on statewide assessment).

	2004		2005		2006		2007		2008		2009		2010		2013		2016	
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	10.5	4	10.5	2	10.5	2	10.5	2	10.5	2	10.5	2	10.5	2	10.5	2	10.5	2
Spring CPUE age-1	0.0	0	42.0	3	16.0	2	2.0	1	46.0	3	6.0	1	10.0	1	22.0	2	20.0	2
Spring CPUE 12.0-14.9 in	109.6	4	146.0	4	137.6	4	66.0	4	164.0	4	118.0	4	68.0	4	96.0	4	206.0	4
Spring CPUE ≥15.0 in	19.2	3	20.0	3	28.8	3	14.0	2	32.0	4	58.0	4	34.0	4	44.0	4	84.0	4
Spring CPUE ≥20.0 in	1.9	2	2.0	3	4.8	4	2.0	3	2.0	3	2.0	3	4.0	4	4.0	4	4.0	4
Instantaneous mortality (z)	-0.563																	
Annual mortality (A)%	43.1																	
Total score		13		15		15		12		16		15		17		16		16
Assessment rating		Good		Good		Good		Good		Good		Good		Excellent		Good		Good

swdsplag.D04

swdsplbb.D02-D16

Table 68 Length frequency and CPUE (fish/hr) of bluegill collected by diurnal electrofishing (4- 0.125-hour runs) at Spurlington Lake on 5 May 2016.

	Inch class												Std.
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	6	40	63	37	38	29	17	5			235	470.0	145.5
Redear sunfish		1	2	1			5	2	1	1	13	26.0	15.5
Warmouth			1		1	1	2	1			6	12.0	6.9

swdsplbg.d16

Table 69. Diurnal spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Spurlington Lake from 2005-2016. Standard errors are in parentheses.

Year	Length group				Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	
2005	66.0	216.0	50.0	16.0	348.0
	(14.4)	(45.7)	(15.8)	(8.6)	(68.9)
2006	138.0	302.0	46.0	14.0	482.0
	(47.7)	(54.7)	(8.9)	(2.0)	(100.2)
2007	496.0	606.0	50.0	4.0	1156.0
	(85.2)	(73.5)	(18.3)	(4.0)	(137.4)
2008	198.0	550.0	120.0	14.0	882.0
	(38.4)	(145.6)	(43.2)	(14.0)	(236.3)
2009	246.4	571.2	156.8	14.4	988.8
	(37.6)	(82.8)	(30.2)	(7.8)	(119.6)
2010	310.0	468.0	100.0	2.0	880.0
	(134.0)	(75.7)	(42.1)	(2.0)	(195.7)
2011	713.6	1057.6	156.8	8.0	1936.0
	(111.1)	(187.3)	(54.4)	(3.6)	(256.1)
2012	150.0	788.0	60.0	14.0	1012.0
	(42.4)	(178.0)	(7.7)	(5.0)	(227.6)
2014	104.0	465.0	204.8	22.4	796.8
	(37.4)	(76.5)	(40.5)	(6.9)	(131.8)
2016	92.0	276.0	92.0	10.0	470.0
	(28.8)	(99.2)	(20.0)	(3.8)	(145.5)

swdsplbg.D05 - D16

Table 70. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Spurlington Lake during early-mid May 2009-2016. 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
2009	1.6	6.4	28.8	24.0	*	60.8
	(1.6)	(3.0)	(12.6)	(11.0)		(22.4)
2010	24.0	18.0	10.0	12.0	*	64.0
	(12.7)	(10.5)	(5.0)	(5.2)		(27.1)
2011	3.2	40.0	59.2	11.2	1.6	113.6
	(3.2)	(10.1)	(22.6)	(9.3)	(1.6)	(34.3)
2012	*	8.0	18.0	8.0	*	34.0
		(5.7)	(6.8)	(0.0)		(3.8)
2014	*	8.0	30.4	11.2	*	49.6
		(2.6)	(17.8)	(6.0)		(22.4)
2016	2.0	6.0	10.0	8.0		26.0
	(2.0)	(3.8)	(7.6)	(8.0)		(15.5)

swdsplbg.D09-16

Table 71. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear sunfish collected by diurnal electrofishing at Spurlington Lake on 5 May 2016. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD[A]
Bluegill	189	27 (6)	3 (2)
Redear sunfish	12	NA	NA

[A] Bluegill=RSD_8; redear sunfish=RSD_9

* No fish of sufficient size were collected during sampling.

swdsplbg.d16

Table 72. Mean back-calculated length (in) at each otolith annulus for bluegill collected from Spurlington Lake on 11 October 2016, including the range of bluegill lengths at each age and the 95% cofidence interval for each age group.

		Age					
Year class	No.	1	2	3	4	5	6
2015	17	1.9					
2014	20	2.1	3.8				
2013	8	2.5	4.5	5.8			
2012	9	2.1	3.7	5.1	6.1		
2011	1	1.3	2.8	4.1	5.2	6.3	
2010	4	2.3	4.3	5.7	6.5	7.1	7.7
Mean		2.1	3.9	5.4	6.1	7.0	7.7
No.	59						
Smallest		1.1	2.4	3.3	4	6.3	7.1
Largest		3.5	5.4	7.1	6.9	7.5	8.2
Std error		0.1	0.1	0.2	0.2	0.2	0.2
95% CI (±)		0.2	0.2	0.4	0.5	0.5	0.5

swdsplabg.d16

Table 73. Bluegill population assessments from 2005-2016 at Spurlington Lake (scoring based on statewide assessment).

	2005		2006		2007		2008		2009		2010		2011		2012		2014		2016	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean backculated length at age-2	3.8*	2	3.8*	2	3.8*	2	3.8	2	3.8*	2	3.8*	2	3.8*	2	3.8*	3	3.8*	3	3.9	3
Years to 6.0 in	3.2*	3	3.2*	3	3.2*	3	3.2	3	3.2*	3	3.2*	3	3.2*	3	3.2*	3	3.2*	3	3.92	3
CPUE $\geq$6.0 in	66.0	3	60.0	3	54.0	3	134.0	4	171.2	4	102.0	4	164.8	4	74.0	3	227.2	4	102.0	4
CPUE $\geq$8.0 in	16.0	4	14.0	3	4.0	2	14.0	3	14.4	3	2.0	2	8.0	3	14.0	3	22.4	4	10.0	3
Instantaneous mortality (z)	ND		ND		ND		-1.091		ND		ND		ND		ND		ND		NA	
Annual mortality (A)							66.4													
Total Score:		12		11		10		12		12		11		12		12		14		13
Assessment rating	Good		Good		Fair		Good		Good		Good		Good		Good		Excellent		Good	

ND - no age data collected; NA - data not amenable
*No age data, values carried over from other years
sw dsplag.d08 (spring) & d16 (fall)
sw dsplbg.D03 - D16

Figure 1.

Barren River Lake Angler Attitude Survey 2016 (n=333)

For "part a or b" questions, the clerk is to categorize the respondent's answer and check the appropriate box.

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

2. Name & Zip Code: < 30 miles (70%) >30 miles (19.2%) out of state (10.8%, 6 states)

3. How often do you fish Barren River Lake in a year? (If "First time", go to question 14)
   First time – (4.2%) 1 to 4 – (18.0%) 5 to 10 - (11.9%) More than 10 - (65.9%)

4. Which species of fish do you fish for at Barren River Lake (*check ALL that apply*)?
   Bass – (57.1%) Crappie – (63.1%) Hybrid Striped Bass – (15.9%) Catfish – (14.4%)
   Anything – (4.5%) Bluegill – (0.9%) Walleye – (0.3%)

5. Which one species do you fish for most often at Barren River Lake (*check only ONE*)?
   Bass – (44.3%) Crappie – (41.5%) Hybrid Striped Bass – (5.2%) Catfish – (5.2%)
   Anything – (2.1%) Bluegill - (1.7%)

-Ask the following questions for each species the anglers fish for – (see question 4)

Bass Anglers

6. What level of satisfaction do you have with BASS fishing at Barren River Lake? (n=201)
   Very satisfied – (30.8%) Somewhat satisfied – (38.3%) Neutral – (15.9%)
   Somewhat dissatisfied – (10.4%) Very dissatisfied – (2.0%) No opinion – (2.5%)

6a. *If angler responds with somewhat or very* <u>*dissatisfied*</u>*:*
What is the single most important reason for your dissatisfaction? (n=28)
Number of fish – (30.3%) Size of fish – (14.3%) Tournaments – (17.8%) Misc. – (28.6%)

6b. *If angler responds that they are unhappy with the regulations (6a.):*
What type of regulation would you prefer to see on bass at Barren River Lake?
minimum size limit (n=2)
15 inch – (50.0%)
18 inch – (50.0%)

Crappie Anglers

7. What level of satisfaction do you have with CRAPPIE fishing at Barren River Lake? (n=212)
   Very satisfied – (43.9%) Somewhat satisfied – (40.1%) Neutral – (5.7%)
   Somewhat dissatisfied – (6.6%) Very dissatisfied – (0.9%) No opinion – (2.8%)

7a. *If angler responds with somewhat or very* <u>*dissatisfied*</u>*:*
What is the single most important reason for your dissatisfaction? (n=16)
Number of fish – (43.8%) Size of fish – (31.3%) Regulations - (6.3%) Misc. – (18.8%)

7b. *If angler responds that they are unhappy with the regulations (7a.):*
What type of regulation would you prefer to see on crappie at Barren River Lake?
minimum size limit (n=16)
8 inch – (6.3%)
10 inch – (68.8%)
15 inch – (6.3%)
Current – (18.6%)
fish daily creel limit (n=10)
15 fish – (30.0%)
20 fish – (60.0%)
25 fish – (10.0%)

Hybrid Striped Bass Anglers

8. What level of satisfaction do you have with HYBRID STRIPED BASS fishing at Barren River Lake? (n=57)
Very satisfied – (24.6%) Somewhat satisfied – (47.4%) Neutral – (17.5%)
Somewhat dissatisfied – (5.3%) Very dissatisfied – (1.8%) No opinion - (3.5%)

8a. *If angler responds with somewhat or very dissatisfied:*
What is the single most important reason for your dissatisfaction? (n=5)
Number of fish – (100.0%)

9. What type of hybrid fishing would you prefer at Barren River Lake? (read them options below) (n=26)
Catch/harvest larger, but fewer fish – (46.2%) Catch/harvest more fish, but fewer larger fish – (34.6%) No Preference – (19.2%)

Catfish Anglers

10. What level of satisfaction do you have with CATFISH fishing at Barren River Lake? (n=49)
Very satisfied – (42.9%) Somewhat satisfied – (36.7%) Neutral - (12.2%)
Somewhat dissatisfied - (2.0%) Very dissatisfied – (0%) No opinion – (6.1%)

10a. *If angler responds with somewhat or very <u>dissatisfied</u>:* What is the single most important reason for your dissatisfaction? (n=1)
Not enough access – (100.0%)

11. What methods do you use fishing for CATFISH at Barren River Lake? (check all that apply) (n=24)
Traditional Hook and Line – (75.0%) Hand-fishing – (8.3%) Floating Jugs – (16.7%)

12. How many days per year do you use each method at Barren River Lake? (ask only those checked above)
Traditional Hook and Line (n=16)
≥10 days – (50.0%)
11-20 days – (18.8%)
21-30 days – (31.2%)
Hand-fishing (n=2)
10 days – (50.0%)
20 days – (50.0%)
Floating Jugs (n=3)
5 days – (33.3%)
10days – (33.3%)
12 days – (33.3%)

13. What type of catfish fishing would you prefer at Barren River Lake? (read them options below) (n=22)
Catch/harvest larger, but fewer fish – (36.4%) Catch/harvest more fish, but fewer larger fish – (31.8%) No Preference (31.8%)

All Anglers

14. Would you support or oppose removing the 30 fish creel limit on yellow bass at Barren River Lake? (n=332)
    Support – (34.3%)   Oppose - (2.4%)   No Opinion – (63.3%)

15. Were you aware KDFWR places fish habitat (e.g. fish attractors/structures) within the lake?   (n=328)
    Yes – (79.0%)   No – (21.0%)   (If no, mention fish attractor maps available (website or give them one) then go to #18)

16. Do you regularly fish Department placed attractors/structures at Barren River Lake? (n=261)
    Yes – (60.9%)   No (39.1%) (if no go to #17)

16a. How did you find these attractors/structures? (check all that apply) (n=211)
On my own – (52.6%)   Friend/word of mouth – (23.2%)   KDFWR website – (15.6%)
Hotspots maps – (5.2%)   KY Afield – (0.9%)   TV – (0.9%)   Barren river blog – (0.5%)
Navionics – (0.5%)

16b.Do you feel the addition of Department placed attractors/structures has improved your fishing results? (n=179)
Yes – (82.7%)   No - (8.9%)   No opinion – (8.4%)

17. Were you aware that the locations of all Department placed attractors/structure are available on KDFWR website? (n=260)   Yes – (52.7%)   No – (47.3%)

18. Do you have any questions or comments about the _______________ (substitute answer from # 5) fishery at Barren River Lake?

Change crappie size limit to 10” (n=59)
Change crappie creel limit to 20 (n=18)
Change crappie creel limit to 15 (n=16)
Too many/limit bass tournaments (n=21)
Bass population/#’s down (n=13)
Stock smallmouth (n= 8)
Fish attractor placement (n=11)

- Fish attractors geared toward crappie & bluegill anglers, spread them out more (n=3)
- Need some for winter pool (n=3)
- Public input on placement (n=1)
- Put more out on main lake (n=1)
- Too many at Port Oliver access area; put in other areas (n=1)
- Put in more attractors (n=1)
- Mark attractors with bouys (n=1)

Many more (n=1) comments, but these were omitted for space contraints.

CENTRAL FISHERIES DISTRICT

Project A: Lake and Tailwater Fishery Surveys

FINDINGS

Lake sampling conditions for 2016 are summarized in Table 1.

Taylorsville Lake (3,050 acres)

Spring diurnal electrofishing was completed in April 2016 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; 30-minute runs). Length distribution and CPUE for largemouth bass are presented in Tables 2 and 3. The catch rate of bass collected in 2016 (218.7 fish/hr) was the highest ever recorded at Taylorsville Lake (historical average is 114.6 fish/hr). Catch rate for keeper bass (≥15.0 in) was 44.8 fish/hr; higher than the lake average (17.6 fish/hr) and was the highest catch rate recorded for harvestable-size fish. Ashes Creek continues to be the area with the highest catch rate for largemouth bass. The PSD for largemouth bass was 71, which was higher than the lake's average of 56 (Table 4). Additionally, the RSD_{15} value was 22; equal to the lake's average. The largemouth bass population assessment score, based on spring electrofishing data, was 17 ("Excellent"), which is higher than the average rating of "Good" at Taylorsville Lake (Table 5).

Length frequency, relative weights, and index of year class strength at age-0 and age-1 of largemouth bass based on September electrofishing are presented in Tables 6–8. Average body condition for largemouth bass was good in 2016 (W_r =92), but was slightly lower than the historical average (W_r =96) (Table 7). Catch rate of age-0 largemouth bass in the fall of 2016 (49.3 fish/hr) was higher than the lake's historic average of 41.9 fish/hr (Table 8). The year class strength model indicated above average recruitment for young-of-the-year largemouth bass in 2016, therefore no largemouth bass were stocked during 2016. Largemouth bass fingerlings have been stocked almost annually since 2000 at rates ranging from 5.0 fish/acre to 10.0 fish/acre and from 1985 to 1992 at various rates. The need for stocking and the numbers stocked in reservoirs are based (since 2004) on results of the age-0 year class strength sampled in early September and the predicted age-1 year class strength the following spring.

Trap netting effort for crappie (Table 9) resulted in the collection of 618 white crappie and 175 black crappie. Crappie were sampled with trap nets during 36 net-nights. PSD and RSD_{10} values are shown in Table 10. Age and growth determinations along with age frequency for black and white crappie were completed using otoliths and are shown in Tables 11-15. Age studies indicated white crappie reach 9.0 in between age 1 and age 2 while black crappie reached 9.0 in between age 2 and age 3. The crappie population assessment scores (Tables 13 and 16) rated white crappie as "Excellent" and black crappie as "Fair". Historically, the crappie population at Taylorsville Lake has been very cyclic with peaks occurring every 7 to 9 years. In an effort to help recruitment on the lake, white crappie were stocked from 2009 through 2013. Significant spawns have occurred in both 2013 and 2015, however the 2016 spawn appeared to be poor based off trap net data. Body condition of white and black crappie in the fall of 2016 were acceptable, but lower than expected for Taylorsville Lake (Table 17).

Fall gill netting for hybrid striped bass and white bass was conducted in October 2016 (Tables 18–26). A total of 167 hybrid striped bass were collected in 2016 compared to 47 in 2015, 90 in 2014, 132 in 2013, 47 in 2012, 94 in 2011 and 51 in 2010. Hybrid striped bass were captured in 8 net-nights (4 nets for 2 nights) for a CPUE of 15.2 (± 6.7) fish/nn. The hybrid striped bass population has exhibited notable fluctuations since 1990. The density of hybrid striped bass in Taylorsville Lake appeared to be negatively correlated with the amount of tailwater discharge (due to rainfall) and fishing pressure. It is theorized that above-normal discharge leads to escapement of hybrid striped bass but has little effect on the white bass density in the lake. Additionally, a late fall water quality issue with low oxygen in the lower portion of Taylorsville Lake may be causing additional stress on the hybrid striped bass. Age and growth studies were completed for hybrid striped bass using otoliths (Tables 19 and 20). Studies indicate hybrid striped bass reached 15.0 in between one to two years. This is good growth for hybrid striped bass at Taylorsville Lake. The relative weight (W_r) index for hybrid striped bass (82) continues to show below average body condition at Taylorsville Lake (Table 21). The average W_r for Taylorsville Lake is 86. The population assessment for hybrid striped bass was rated at "Good", an increase from the "Fair" rating in 2015 at Taylorsville Lake (Table 22). Annual stocking rates for hybrid striped bass have been 20 fish/acre (1.4 to 2.0 in) for the last 15 years. Taylorsville Lake was stocked with 63,750 (20.9 fish/acre; 1.2-1.8 in) hybrid striped bass in June 2016. The 2016 hybrid striped bass stocking in Taylorsville Lake included both crosses of hybrid striped bass (31,350 reciprocal cross hybrids (no OTC mark) and 32,400 original cross hybrid striped bass (OTC marked)). Data for white bass collected during fall 2016 gillnetting studies are presented in Tables 18 and 23-26. White bass comprised about 35% of the *Morones* sampled, compared to 27% in 2015, 47% in 2014, 29% in 2013, 59% in 2012, 72% in 2011, and 80% in 2010. Age and growth studies indicated white bass reach 12.0 in between age 2 and age 3 (Tables 23 and 24). Relative weight values (W_r=90) revealed acceptable body condition for all sizes of white bass (Table 25). The white bass population assessment was rated “Poor”, an average rating for white bass at Taylorsville Lake (Table 26).

Saugeye were collected during fall gill netting conducted in October. A total of 61 saugeye were collected ranging from the 9.0- to 18.0-in class. Age 0+ saugeye ranged from the 9.0- to 11.0-in class, while age 1+ saugeye were in the 15.0- to 18.0-in class (Table 18). Taylorsville Lake was stocked with 8,161 (2.7 fish/acre; 1.7 in) saugeye in 2016. This was the second stocking of saugeye into Taylorsville Lake. Taylorsville Lake has only received stockings of saugeye when there is a surplus at the hatchery.

Summer diurnal low-pulse electrofishing was completed in July 2016 to assess the blue catfish population. Two sections (Lower Lake: Big Beech Creek and Ashes/Jacks Creek, and Upper Lake: Chowning Lane and Van Buren areas) of Taylorsville Lake were sampled for 3.0 hours (15-minute runs). Two hundred and thirty-one blue catfish were collected in the lower section compared to 59 blue catfish collected in the upper section of the lake (Table 27). The number of blue catfish collected in 2016 (96.7 fish/hr) was lower than the lake’s historic average of 112.3 fish/hr (Table 28). Relative weight values revealed good body condition for all sizes of blue catfish (Table 29). A subsample of fish less than 13.0 in were collected for age determination using otoliths. The presence of age-1+ fish indicated natural reproduction with those fish ranging from the 9.0- to 12.0-in size class. Natural reproduction has been detected since 2012. Otoliths were also removed from a 44.7 in, 55.66 lb blue catfish harvested by an angler at Taylorsville Lake. This fish was age 14, which was from the second year class stocked. In an effort to target larger blue catfish, which have been reported by anglers and considered underestimated in the summer electrofishing, winter gillnetting was utilized. In February 2017, 5-in mesh gill nets were set in both the upper and lower sections of Taylorsville Lake in an effort to collect information on blue catfish ≥30.0 in. A total of 30 blue catfish were collected in 12 net-nights (Table 30). The catch rate of ≥30.0 in blue catfish was 2.3 fish/nn, which was lower than the catch rate of ≥30.0 in blue catfish in 2016 (5.5 fish/nn). Relative weight values indicated blue catfish during the winter months are in excellent conditions as the overall W_r was 115 (Table 31). A total of 23,500 (7.7 fish/acre) blue catfish (8.0-15.0 in) were stocked in Taylorsville Lake during August 2016.

A roving daytime angler creel survey was conducted at Taylorsville Lake from April through October. The last creel survey conducted at this lake was in 2009. Table 32 provides descriptive statistical parameters of the lake fishery. The number of fishing trips in 2016 (26,303) increased from 2009 (25,895). Total fishing pressure (man-hours) declined from 2009, however the number of fish caught, number of fish harvested and pounds of fish harvested all increased from the 2009 creel survey. Other parameters such as gender, residency and mode have remained about the same since 2009. However, some notable differences in angler methods include a 9.9% increase in casting and an 8.7% decrease in jugging.

Numbers of largemouth bass caught in 2016 decreased by about 3,400 fish from numbers seen in 2009 (Table 33 and 34), while the number of largemouth bass harvested in 2016 was comparable to 2009 creel survey results. Mean length of largemouth bass harvested was 15.8 inches in both the 2009 and 2016 surveys (Table 35). The number of fishing trips for black bass in 2016 was 8,322, less than the 9,032 trips recorded in 2009. Black bass was the second most sought-after group fished for in Taylorsville Lake in 2016. Black bass had been the most sought-after group in both the 2006 and 2009 surveys. Catch rate of bass by bass anglers increased from 1.19 fish/hr in 2009, to 1.49 fish/hr in 2016. Bass angler success rate was 9.7% in 2016, which improved from 8.1% in 2009. Largemouth bass continue to dominate the black bass population with only incidental catches of smallmouth bass. Black bass catch, harvest and monthly angling success are shown in Table 36.

Numbers of crappie caught increased from 16,747 fish caught in 2009 to 84,335 in 2016 (Table 33). Additionally, the number of crappie harvested increased from 15,084 fish in 2009 to 48,656 in 2016. Mean length of white and black crappie harvested was 10.4 in and 10.0 in, respectively (Table 37). Crappie were the most sought-after group fished for at Taylorsville Lake in 2016. The number of fishing trips for crappie increased from 5,479 in 2009 to

9,982 in 2016. Harvest rate by crappie anglers improved from 0.56 fish/hr to 0.94 fish/hr. Percent success of crappie anglers increased from 55% in 2009 to 58% in 2016. White crappie represented 80.2% of the crappie caught (44.5% in 2009) and 69.8% of the crappie harvested (47.0% in 2009). Crappie catch, harvest and monthly angling success are shown in Table 38.

The third most sought-after group was catfish with 2,817 trips by catfish anglers compared to 3,906 trips in 2006. Catfish numbers caught decreased from 25,857 fish in 2009 to 15,040 fish in 2016 (Table 33). Blue catfish contributed 52.6% of the catfish caught, compared to 47.0% in 2009. Pounds of catfish harvested increased from 27,699 lbs in 2009 to 33,357 lbs in 2016. Pounds of blue catfish harvested by catfish anglers increased from 679 lbs in 2003, 3,178 lbs in 2006, 19,182 lbs in 2009, to 25,970 lbs in 2016. Mean length of channel catfish harvested by catfish anglers was 14.9 inches (13.3 in 2009), blue catfish was 20.9 inches (16.9 inches in 2009) and flathead catfish was 25.5 inches. Harvest rate by catfish anglers decreased from 0.82 fish/hr (2009) to 0.64 fish/hr (2016). Success rate for catfish anglers decreased from 80.0% in 2009 to 66.1% in 2016. Catfish catch, harvest and monthly angling success are shown in Tables 39 and 40. During each interview, the creel clerk recorded the total number of jugs that each angler was fishing. The majority of anglers (71.6%) fished with less than 20 jugs. Twenty-one percent of anglers fished 21-30 jugs, 4.9% fished with 31-40 jugs and 2.9% fished with 41-50 jugs.

The *Morone* group (hybrid striped bass and white bass) was the least sought-after group at Taylorsville Lake in 2016 (Table 33). The number of hybrid striped bass (HSB) caught decreased from 5,667 fish (2,090 harvested) in 2009 to 1,461 (357 harvested) in 2016. White bass (WB) numbers caught significantly decreased with 17,808 caught in 2009 (4,982 harvested) to 904 caught in 2016 (737 harvested). Pounds of HSB harvested in 2016 totaled 286 lbs (0.09 lbs/a), whereas in 2009 it was 2,491 lbs (0.82 lbs/a). Pounds of WB harvested in 2016 totaled 327 lbs (0.11 lbs/a) while in 2009 it was 1,960 lbs (0.64 lbs/a). Mean length of HSB harvested in 2016 was 12.2 in while in 2009 it was 13.4 in. Mean length of WB harvested in 2016 was 8.5 in, with 9.1 in being the average in 2009. The number of trips for *Morones* decreased from 1,532 trips in 2009 to 476 trips in 2016. Hours spent fishing for these fish also decreased from 7,881 hrs (2.58 hrs/a) in 2009 to 2,144 hrs (0.70 hrs/a) during 2016. Harvest rate for *Morone* anglers remain consistent from 2009 (0.65 fish/hr) to 2016 (0.63 fish/hr). Success rate for these anglers decreased from 47% in 2009 to 31% in 2016. *Morone* catch, harvest and monthly angling success are shown in Tables 41 and 42.

Panfish, primarily bluegill, was the fourth sought-after group with a total of 31,707 fish caught during the 2016 season. Pounds harvested in 2016 was less than that seen in 2009—going from 3,171 lbs (1.04 lbs/a) in 2009 to 2,415 lbs (0.79 lbs/a) in 2016. The average length of bluegill harvested was 5.8 in, comparable to the average size (5.6 in) caught in 2009. Trips for panfish decreased from 1,510 trips in 2009 to 1,106 trips in 2016. The harvest rate for panfish in 2016 (2.4 fish/hr) was comparable to 2.6 fish/hr recorded in 2009. The percentage of successful panfish anglers was 88% while in 2009 it was 78%. Length distribution and numbers of species caught and harvested are shown in Table 34.

An angler attitude survey was conducted at Taylorsville Lake during the creel survey. Surveys were completed in the field by the creel clerk. A total of 212 surveys were completed in 2016 (278 surveys in 2009). The attitude survey reflected that 34.4% of all anglers fish for bass, which increased from 26.3% in 2009. Anglers fishing for crappie had the greatest increase with 84.0% of all anglers fishing for crappie in 2016 (57.6% in 2009). Anglers fishing for white bass, hybrid striped bass, channel catfish and blue catfish also increased from the results collected in 2009. The only decrease in 2016 from results in 2009 was in anglers seeking bluegill. Bass anglers (86.6%) and crappie anglers (94.8%) in 2016 expressed high levels of satisfaction, which increased from the 2009 survey. Sixty-two percent of crappie anglers were not satisfied with the current size limit. Of the crappie anglers dissatisfied, 85.3% stated they would prefer at 10.0-in size limit. White bass (100.0%), hybrid striped bass (100.0%) and channel catfish (76.6%) anglers were satisfied with the current size and creel limits for those species. Sixty percent of blue catfish anglers are not satisfied with the current size and creel limits with 44.2% of those anglers wanting a 30.0 in size limit. Eighty-nine percent of anglers reported that jug fishing had not affected on their fishing experience at Taylorsville Lake.

Herrington Lake (2,410 acres)

Diurnal electrofishing studies were completed in March 2016 to monitor the crappie population. Upper, middle, and lower lake sections were sampled for a total of 4.5 hours. A total of 204 crappie were collected, compared to 117 in 2014, 380 in 2012, 409 in 2011, 225 in 2010, 99 in 2009, 108 in 2008, 81 in 2007, and 84 in 2006 (Table 43). The PSD for both white (100) and black (99) crappie were similar to the lake's historical averages of 96 and 97, respectively (Table 44). The overall catch was dominated by black crappie, which made up 76.0% of the crappie sampled at Herrington Lake in 2016. A population assessment was developed for spring electrofishing of white and black crappie at Herrington Lake. The population assessment for white crappie indicated a "Poor" population for 2016, below the lake's average of "Fair" (Table 45). The population assessment for black crappie indicated a "Good" population for 2016 (Table 46), an above average rating.

Spring diurnal electrofishing studies were completed in April 2016 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 47. Largemouth bass dominated the black bass fishery, with spotted bass comprising 7.3% of the bass sampled. No smallmouth bass were collected in 2016. Numbers of largemouth bass collected in 2016 (110.0 fish/hr) was comparable to the lake's historic average of 113.8 fish/hr (Table 48). Fluctuations in the overall catch rates over the past couple of years seem to be related to lake level during sampling. The higher the lake level the lower the catch rate of bass at Herrington Lake. The lake level during the 2016 spring electrofishing sample was low, which may have led to a slight increase in the catch rate for largemouth bass. Catch rate for keeper bass (≥12.0 in) was 34.1 fish/hr, less than the lake's historical average (44.9 fish/hr). Overall, black bass catch rates were comparable in all three sections. The PSD for largemouth bass was 44, which was much lower than the lake's average of 56 (Table 49). Additionally, the RSD_{15} value was 23, which was similar to the lake average of 24. The largemouth bass population assessment score, based on spring electrofishing data, was 16 ("Good"), which is an average rating for Herrington Lake (Table 50).

Length frequency, relative weights and index of year class strength at age-0 and age-1 of largemouth bass based on September electrofishing at Herrington Lake are presented in Tables 51-53. Largemouth bass condition in 2016 (W_r =92) was equal to the lake's historical average (W_r =92) (Table 52). The year class strength model for Herrington Lake indicated an above average recruitment year for young-of-year largemouth bass in 2016 based on age-1 CPUE (Table 53). Age-0 CPUE (24.9 fish/hr) was less than the lake average (37.0 fish/hr). Herrington Lake was stocked with 29,361 (12.2 fish/acre) largemouth bass (4.2-4.8 in) in 2016.

Gill netting for hybrid striped bass and white bass was completed in October 2016. During the 20 net-night sampling period, 104 hybrid striped bass and 114 white bass were collected (Table 54). Otoliths were taken from both species for age and growth determinations. Results of these studies indicated excellent growth rates for both hybrids (Tables 55-56) and white bass (Tables 59-60). Hybrid striped bass continue to reach 15.0 in between age 1 and 2 (Table 55), as they have historically. Of the hybrid striped bass sampled, 83% were age-1+ or older (Table 56). Condition of hybrid striped bass in 2016 (W_r =89) was lower than the lake's historical average (W_r =93) (Table 57). The population assessment for hybrid striped bass indicated a "Fair" population (Table 58). White bass age and growth determinations showed they reached 12.0 in between age 1 and age 2 (Table 59). Of the white bass sampled, 91% were age-1+ and older (Table 60). The white bass population assessment indicated a "Fair" population, which is an average rating (Table 61). Body condition of white bass in 2016 (W_r=87) was lower than the lake's historical average (W_r=97) (Table 62). Herrington Lake was stocked with 53,748 (22.3 fish/acre; 1.2-1.8 in) hybrid striped bass in June 2016. The hybrid striped bass stocking was divided into 26,349 reciprocal cross hybrids (no mark) and 27,399 original cross hybrids (OTC marked).

Guist Creek Lake (317 acres)

Fall largemouth bass sampling was conducted for length frequency, relative weights and index of year class strength at age-0 (Tables 63-65). Relative weights indicated good body condition for bass, especially for bass over 15.0 in (Table 64). Mean length of age-0 largemouth bass (5.0 in) was larger than the lake average of 4.2 in and the catch rate of age-0 largemouth bass (56.0 fish/hr) was higher than the average recruitment (avg. = 45.6 fish/hr; Table 65). Therefore, largemouth bass were not stocked into Guist Creek Lake in 2016.

Guist Creek Lake was stocked with 26,570 (83.8 fish/acre; 1.8 in) saugeye in 2016. This was the fourth year of stocking saugeye into Guist Creek Lake. The lake was sampled for saugeye during November 2016 with a boat mounted electrofishing unit for a total of 1.5 hours (Table 66). Sampling yielded 62 saugeye (41.3 fish/hr) ranging in size from the 7.0- to 21.0-in size classes.

Channel catfish were sampled in November using three sets of three tandem hoop nets at Guist Creek Lake in 2016. Length frequency results for channel catfish showed a size distribution between the 7.0 in and 25.0 in size classes (Table 67). The PSD and RSD_{24} for channel catfish were 60 and 2, respectively (Table 68). Relative weights indicated slightly below average condition (W_r= 93) for channel catfish (Table 69). Overall catch rates (66.0 fish/set) were lower than the lake average of 127.0 fish/set (Table 70). Guist Creek Lake was not stocked with channel catfish in 2016.

Guist Creek Lake was stocked with 19,761 (62.3 fish/acre; 1.1 in) hybrid striped bass in June 2016.

<u>A.J. Jolly Lake (175 acres)</u>

Spring diurnal electrofishing was completed in April 2016 to assess the black bass population (Table 71). Results indicated largemouth bass catch rates (94.8 fish/hr) were greater than the lake's historical average (83.2 fish/hr) (Table 72). The PSD for largemouth bass was 61 and the RSD_{15} was 35 (Table 73). The population assessment indicated a "Good" bass population, the average rating since 2010 (Table 74). Fall diurnal electrofishing was conducted for relative weights and to index year class strength of age-0 largemouth bass in October (Tables 75-77). Relative weights indicated acceptable body condition (W_r = 89) (Table 76). Fall sampling indicated an above average number of age-0 bass, (44.0 fish/hr; average= 23.0 fish/hr) and above average size of age-0 bass in 2016 (5.1 in; average=4.5 in) (Table 77). Largemouth bass were not stocked during 2016.

A.J. Jolly Lake was stocked with 14,000 (80.0 fish/acre; 1.8 in) saugeye in 2016. This was the fourth year of saugeye stocking into A.J. Jolly Lake. Saugeye were collected during the spring largemouth bass sample (Table 71). Sampling yielded 81 saugeye (32.4 fish/hr) ranging in size from the 6.0- to 19.0-in size class. Additionally, saugeye were collected during the fall largemouth bass sample (Table 75). Sampling yielded 42 saugeye (21.0 fish/hr) ranging in size from the 5.0- to 22.0-in size class.

A.J. Jolly Lake was stocked with 1,750 (10.0 fish/acre; 4.0 – 9.0 in) blue catfish in April 2016.

A creel survey conducted during 2016 by the AJ Jolly Nature Resource Committee resulted in only 10 completed creel cards. From this very small sample size, the average trip length was 4.5 hrs with 60% of anglers fishing from a boat and 40% of anglers' bank fishing. The most sought after species was catfish (30%) followed by both saugeye or anything at 20% each.

An angler attitude survey was conducted at AJ Jolly Lake through both an online survey and an onsite survey conducted by the AJ Jolly Nature Resource Committee in conjunction with the Campbell County Fiscal Court during 2016. A total of 75 surveys were completed. The survey reflected that 56.1% of all anglers were satisfied the fishing at AJ Jolly compared to the 16.5% of anglers that were dissatisfied. Overall, 97.1% of anglers were satisfied with the current size and creel limits. The majority of anglers (63.4%) stated that they would prefer AJ Jolly to be managed for a balanced bass and bluegill fishery. Sixty-eight percent of anglers are satisfied with the current facilities at AJ Jolly compared to 4.3% of anglers that were dissatisfied.

<u>Beaver Lake (158 acres)</u>

A spring diurnal electrofishing sample was completed in April 2016 to assess the black bass population (Table 78). The CPUE for all sizes was 263.5 fish/hr, greater than the lake average of 240.7 fish/hr (Table 79). Largemouth bass sampling continues to show the bass removal conducted in the spring of 2011 was beneficial for sustaining increases to the catch rates of ≥15.0 in bass and ≥20.0 in bass. The PSD and RSD_{15} for largemouth bass respectively, were 34 and 9, compared to the current lake average of 29 and 4 (Table 80). The population assessment score indicated an "Excellent" bass population (Table 81), which is the best assessment rating for Beaver Lake largemouth bass since 2001. Fall diurnal electrofishing was conducted for relative weights and the index of age-0 year class strength (Tables 82 – 84). The relative weight index continues to reflect below expected average weights for most length groups of largemouth bass at Beaver Lake in 2016 (W_r = 82); which is lower than the lake average of 85 (Table 83). Fall sampling indicated above average numbers of age-0 bass, (370.0 fish/hr; average = 125.0 fish/hr) and the average size of largemouth bass (5.6 in) in the fall of 2016 at Beaver Lake was higher than the lake's average of 4.2 in (Table 84).

A spring diurnal electrofishing sample was completed in May 2016 to assess the panfish populations (Tables 85-91). Length frequency results showed the majority of bluegill were in the 4.0- to 7.0-in range (Table 85). The PSD for bluegill was 49 compared to the lake average of 29 (Table 86). The RSD_8 was 1, which is the lake average. CPUE for all length groups of bluegill was 450.4 fish/hr; considerable higher than the lake average of 244.4 fish/hr (Table 87). Redear sunfish PSD and RSD_9 were 38 and 8, respectively (Table 86). The population assessment for bluegill indicated a "Good" population rating, which is average for Beaver Lake (Table 88). The catch rate of redear sunfish ≥8.0 in was 2.4 fish/hr and was significantly lower than the lake average of 24.2 fish/hr (Table 89). Additionally, catch rates for all sizes were significantly lower than the lake's average catch rates for all sizes. The population assessment indicated a "Fair" redear sunfish fishery (Table 90). Relative weights for bluegill and redear sunfish were collected during the fall diurnal electrofishing sample. Overall, relative weight data for redear sunfish was good while body condition of bluegill was fair (Table 91). A total of 31,600 (200.0 fish/acre; 1.0-2.0 in) redear sunfish were stocked during September 2016.

Beaver Lake was stocked with 3,703 (23.4 fish/acre; 6.0 – 10.0 in) channel catfish in July 2016.

No applications of aquatic herbicides were completed at Beaver Lake in 2016. No liquid fertilizer applications have been made since 2001. Finally, one 18.0-in class gizzard shad was collected at Beaver Lake in 2016.

Benjy Kinman Lake (88 acres)

A spring nocturnal electrofishing sample was completed in April 2016 with an additional diurnal sample completed in May 2016 to assess the black bass population (Table 92). The CPUE for all sizes was 132.6 fish/hr, compared to 126.6 fish/hr collected in 2015 (Table 93). The PSD and RSD_{15} for largemouth bass respectively, were 21 and 7 (Table 94). The population assessment score indicated a "Fair" bass population (Table 95). Fall largemouth bass sampling was conducted for relative weights, age and growth, and index of year class strength at age-0 and age-1 in September 2016 (Tables 96-98). Relative weights indicated below average body condition for bass (W_r = 82) with larger fish exhibiting better condition compared to smaller length groups (Table 97). The better condition of larger fish is due to the gizzard shad forage base. CPUE for both age-0 and age-0 ≥5.0 in were collected for the third time at Benjy Kinman Lake (Table 98).

A spring diurnal electrofishing sample was completed for the first time at Benjy Kinman Lake in May 2016 to assess the panfish populations (Tables 99-102). Length frequency results showed the majority of bluegill were in the 3.0- to 4.0-in range with fish collected up to the 8.0-in size class (Table 99). The PSD and RSD_8 for bluegill was 27 and 1, respectively (Table 100). Length frequency results showed the majority of the redear sunfish were in the 3.0 in and 7.0- to 8.0-in size range (Table 99). Redear sunfish PSD and RSD_9 was 63 and 0, respectively (Table 100). Relative weights for bluegill and redear sunfish were collected during the fall diurnal electrofishing sample. Overall, the body condition for both bluegill (94) and redear sunfish (92) was good (Table 103).

A total of ten removal events took place from July 2016- March 2017 resulting in a total of 1,633 bigmouth buffalo, smallmouth buffalo, common carp, river carpsucker, and longnose gar were removed from Benjy Kinman Lake. The average weight of removed rough fish was 7.1 lbs. Therefore, it was estimated that 11,643 lbs of rough fish were removed from Benjy Kinman Lake in 2016/2017. The three-year total for rough fish removed from Benjy Kinman Lake is 2,468 fish at an estimated weight of 16,556 lbs (6.7 lbs average weight per fish).

Boltz Lake (92 acres)

Fall diurnal electrofishing was conducted for length frequency, relative weights and index of age-0 year class strength in September (Tables 104-106). Overall, the relative weight was 89, comparable to the lake's average relative weight of 90 (Table 105). Fall sampling indicated about average numbers of age-0 bass, (69.3 fish/hr; average= 52.8 fish/hr) and the average size (4.1 in) was comparable to the lake's average size of 4.2 in (Table 106). Largemouth bass were not stocked in Boltz Lake during 2016.

Spring diurnal electrofishing for bluegill was conducted in May 2016 (Table 107). The overall catch rate for bluegill was higher in 2016 (508.8 fish/hr) than the lake average (498.6 fish/hr; Table 108). The PSD for bluegill was 18 compared to the lake average of 24 (Table 109). 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 rating since 2010 (Table 110). Age and growth studies on bluegill showed that bluegill reached 6.0 in between age 3 and 4 (Table 111). The relative weight index reflected below-average condition for bluegill (W_r = 88) at Boltz Lake in 2016 (average W_r = 90) (Table 112).

Redear sunfish (18,400 fish; 200.0 fish/acre) were stocked in September 2016 that averaged 1.0-2.0 in.

Channel catfish were sampled in October using tandem hoop nets at Boltz Lake in 2016. Length frequency results for channel catfish showed a size distribution between the 12.0 and 20.0 in size classes (Table 113). The PSD and RSD_{24} for channel catfish was 12 and 0, respectively (Table 114). Relative weights indicated fair body condition for channel catfish (W_r = 85), which was lower than the average for the lake (W_r = 92) (Table 115). Overall, catch rates at Boltz Lake remain lower than the lake average of 59.9 fish/hr (Table 116). Channel catfish were not stocked during 2016. Boltz Lake was stocked with 920 (10.0 fish/acre; 4.0 – 9.0 in) blue catfish in 2016. Blue catfish were not sampled at Boltz Lake in 2016.

Saugeye were stocked into Boltz Lake for the second time during 2016. A total of 7,200 saugeye (78.3 fish/acre) were stocked at an average size of 1.8 in.

Currently, Boltz Lake does not have a population of gizzard shad.

Corinth Lake (96 acres)

Fall diurnal electrofishing for largemouth bass was conducted to determine length frequency, year class strength and relative weight (Tables 117-119). Relative weights of largemouth bass continue to be below average, except for largemouth bass ≥15.0 in. The overall relative weight in 2016 (W_r = 80) was less than the average relative weight observed at Corinth Lake (W_r = 84; Table 118). The year class strength model indicated that 2016 was a below average recruitment year for young-of-year largemouth bass (Table 119). Age-0 CPUE (30.0 fish/hr) in 2016 remained below the lake average (90.9 fish/hr); however, largemouth bass were not stocked into Corinth Lake in 2016.

Spring diurnal electrofishing for bluegill and redear sunfish was completed in May 2016 to obtain length frequency, CPUE and population assessment data (Table 120). Bluegill PSD (70) was significantly higher than the lake average of 30 (Table 121). Bluegill catch rates (204.8 fish/hr) in 2016 were less than the lake average (238.5 fish/hr; Table 122). The population assessment indicated a “Good” population, the average rating for the past ten years (Table 123). The redear sunfish catch rate (135.2 fish/hr) continued to increase in 2016 and was higher than the lake’s average (67.4 fish/hr; Table 120). Redear sunfish PSD was 80, higher than the lake average of 56 (Table 121) Catch rate for redear sunfish ≥8.0 in was 33.6 fish/hr in 2016 remaining higher than the lake average of 27.9 fish/hr (Table 124). The population assessment for redear sunfish continued to be rated as “Good” (Table 125). Relative weights and age/growth data was collected for bluegill and redear sunfish during the fall diurnal electrofishing survey. Growth data indicated that bluegill reach 6.0 in at age 2+ (Table 126). Redear sunfish reach 8.0 in at age 4+ (Table 127). Relative weights indicated fair condition for bluegill (88) and good condition for redear sunfish (91; Table 128).

Corinth Lake was stocked with 100 (1.0 fish/acre; 8.0-12.0 in) grass carp during 2016.

Elmer Davis Lake (149 acres)

Spring diurnal electrofishing studies were conducted in April 2016 for PSD, length frequency and CPUE for largemouth bass (Table 129). The total catch rate in 2016 (341.0 fish/hr) was higher than the historical lake average of 307.8 fish/hr (Table 130). Largemouth bass PSD and RSD_{15} were 60 (average = 28) and 16 (average = 8), respectively in 2016 (Table 131). The population assessment indicated an “Excellent” bass population, better than the ten-year average rating of “Good” at Elmer Davis Lake (Table 132). Fall electrofishing evaluated largemouth bass relative weight, age and growth and index of year class strength (Tables 133-136). Largemouth bass relative weight in 2016 (W_r =84) was less than the historical lake average (W_r =87; Table 134). Age and growth studies show that largemouth bass reach 12.0 in at age 3+ and 15.0 in at age 7 (Table 135). The year class strength model for Elmer Davis Lake indicated that 2016 was a below average recruitment year for young-of-year largemouth bass. Age-0 CPUE (80.0 fish/hr) in 2016 remained below the lake average (123.3 fish/hr) (Table 136). No largemouth bass were stocked due to a gizzard shad removal project that was completed in December 2016.

The relative weight index reflects average condition for both for bluegill (W_r = 95) and redear sunfish (W_r = 96) at Elmer Davis Lake in 2016; however both species are below the lake averages of 96 and 102, respectively (Table 137).

Channel catfish were sampled in October using tandem hoop nets at Elmer Davis Lake. Channel catfish collected ranged from the 13.0- to 23.0-in size classes (Table 138). Channel catfish were collected at 12.0 fish/set in 2016, which is lower than the lake average of 77.8 fish/set (Table 139). The PSD and RSD_{24} for channel catfish were 52 and 0, respectively (Table 140). Relative weights of channel catfish was 96 (Table 141). Elmer Davis Lake was not stocked with channel catfish in 2016.

The presence of gizzard shad at Elmer Davis are negatively impacting the management of panfish. Therefore, a low concentration (0.2 ppm) of rotenone was applied on December 13, 2016 to selectively eradicate gizzard shad. Prior to the rotenone application the valve on the dam was opened (October 10, 2016) releasing water until December 12, 2016; lowering the lake 11.75 feet at a rate of 1.0-4.0 in per day. Initially, the gizzard shad eradication appears to be successful, however additional sampling will be required during 2017 to completely evaluate the success of the treatment. A minimal number of non-target species were observed dead after the eradication which included largemouth bass, bluegill, redear sunfish, white and black crappie, warmouth, channel catfish and yellow bullhead.

During the drawdown, a leak located below the dam was monitored in an effort to identify the elevation (10.5 ft below full pool) at which to leak was occurring. The source of this leak was discovered in the shelf rock located in the cove adjacent to the ramp. Therefore, the lake elevation was maintained at a level lower than the leak so that the Engineering Division could address this issue.

Kincaid Lake (183 acres)

No spring electrofishing was conducted on Kincaid Lake in 2016 to assess the black bass population. Diurnal fall electrofishing for relative weights and index of year class strength at age 0 was conducted in October 2016 (Tables 142-144). Relative weights of largemouth bass length groups was average for Kincaid Lake in 2016 (2016 W_r = 92; lake average = 92) (Table 143). Age-0 CPUE (34.0 fish/hr) was below the lake average (37.8 fish/hr) (Table 144); however, largemouth bass were not stocked into Kincaid Lake in 2016. Kincaid Lake has hosted a population of gizzard shad for decades.

McNeely Lake (51 acres)

Spring diurnal electrofishing studies were conducted in May 2016 for PSD, length frequency and CPUE for largemouth bass (Table 145). Total catch rate in 2016 (229.0 fish/hr) was higher than the lake average of 223.2 fish/hr (Table 146). Largemouth bass PSD and RSD_{15} was 29 (average = 34) and 5 (average = 10), respectively in 2016 (Table 147). The population assessment indicated a “Fair” bass population, compared to the lake average of “Good” (Table 148). Diurnal fall electrofishing for largemouth bass in October 2016 was completed to collect length frequency, relative weight values, age and growth and to index the year class strength at age-0 (Table 149). Growth rates indicate most bass are reaching harvestable size (12.0 in) at age 4 (Table 150). Relative weights were at acceptable levels in 2016 (W_r = 89), equal to the lake average (W_r = 89; Table 151). CPUE for age-0 bass (96.0 fish/hr) is lower than the lake average of 119.8 fish/hr (Table 152). Largemouth bass were not stocked into McNeely Lake in 2016. Currently, McNeely Lake does not contain a population of gizzard shad.

Bluegill and redear sunfish were collected in October 2016 for relative weight values. Good body condition was observed for both bluegill (95) and redear sunfish (95) during the fall of 2016 (Table 153).

Channel catfish were not sampled at McNeely Lake in 2016. McNeely Lake was stocked with 1,275 (25.0 fish/acre; 6.0 -10.0 in) channel catfish in July 2016.

Charlie Vettiner Golf Course Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at the Charlie Vettiner Golf Course Lake (Jefferson Co.) in April 2016 are shown in Table 154. Largemouth bass were collected from the 9.0- to 19.0-in size classes and bluegill from the 2.0- to 6.0-in size classes. Other species collected include redear sunfish, hybrid sunfish, white crappie and channel catfish. Bathometry of the lake was also completed in 2016.

Flagship Park Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at Flagship Park Lake (Kenton Co.) in April 2016 are shown in Table 155. Largemouth bass were collected from the 9.0- to 20.0-in size classes and bluegill from the 3.0- to 9.0-in size classes. Other species collected included white crappie and channel catfish.

Iroquois Park Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at Iroquois Park Lake (Jefferson Co.) in April 2016 are shown in Table 156. Bluegill and blue catfish were the only two species collected, with most of the bluegill collected being less than 5.0 in.

Jericho Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Jericho Lake in May 2016 are shown in Table 157. Samples show largemouth bass from 3.0- to 20.0-inches in good numbers.

Leary Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at Leary Lake (Grant Co.) in April 2016 are shown in Table 158. Largemouth bass were collected from the 3.0- to 21.0-in size classes and bluegill from the 2.0- to 7.0-in size classes. Low numbers of both white crappie and channel catfish were also collected.

Logan Hubble Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Logan Hubble Lake (Garrard Co.) in June 2016 are shown in Table 159. Studies show good numbers of largemouth bass from the 3.0- to 18.0-in size class. Bluegill up to 7.0 in were collected as well as redear sunfish up to 10.0 in. Bathometry of the lake was also completed in 2016.

Lower Thomas Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Lower Thomas Lake (Owen Co.) in May 2016 are shown in Table 160. Studies show good numbers of largemouth bass from the 3.0- to 15.0-in size class. Bluegill up to the 8.0-in size class were collected as well as redear sunfish up to the 10.0-in size class. No shad were observed during 2016 following the shad removal completed in December 2014.

Mitchell Hill Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at Mitchell Hill Lake (Jefferson Co.) in April 2016 are shown in Table 161. Largemouth bass were collected from the 4.0- to 23.0-in size classes, with low numbers of bluegill present up to the 8.0-in size class. Bathometry of the lake was also completed in 2016.

Moremans Hill Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Moremans Hill Lake (Jefferson Co.) in April 2016 are shown in Table 162. Largemouth bass from the 4.0- to 19.0-in size class and bluegill up to the 7.0-in size class were collected. Other species collected in low number included warmouth and white crappie. Bathometry of the lake was also completed in 2016.

Thurman Hutchins Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Thurman Hutchins Lake (Jefferson Co.) in April 2016 are shown in Table 163. Largemouth bass were collected from the 3.0- to 18.0-in size class. Majority of the bluegill collected were in the 3.0- to 4.0-in size class with redear sunfish collected up to the 8.0-in size class. Other species collected included warmouth, hybrid bluegill and black crappie.

Veterans WMA Pond

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Veterans WMA Pond (Scott Co.) in June 2016 are shown in Table 164. Largemouth bass were collected from the 3.0- to 20.0-in size class. Bluegill collected were collected up to the 8.0-in size class with good numbers greater than 6.0 in. No other species were collected.

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 (Cane Run)	Crappie	3/28	1030	shock	Mostly cloudy / cool	54	728.07 ft	50	good	good sample
Herrington Lake (Gwinn Island)	Crappie	3/29	1000	shock	sunny /light breeze	56	728.21 ft	50	good	good sample
Herrington Lake (Kings Mill)	Crappie	3/30	1000	shock	Mostly sunny	57	728.21 ft	23	good	good sample
Herrington Lake (Kings Mill)	LMB	4/11	1030	shock	Cloudy	56	730.25 ft	24	Lake low	good sample
Herrington Lake (Gwinn Island)	LMB	4/12	1030	shock	Sunny/cool	56	730.41 ft	42	Lake rising	good sample
Thomas Hutchins Lake	LMB/BG/RESF	4/12	1200	shock	Sunny	55	3-4ft low	30	good	FINS sampled
Herrington Lake (Cane Run)	LMB	4/13	1030	shock	Mostly sunny/light breeze	56	730.46 ft	72	Clear	Good sample
Charlie Vettiner Lake	LMB/BG/RESF	4/14	1100	shock	Sunny	57	Full	60	good	good sample
Iroquois	LMB/BG/RESF	4/14	1300	shock	Sunny	61	Full	12	Muddy	good sample
Mitchell Hill Lake	LMB/BG/RESF	4/14	1500	shock	Sunny	64	Full	108	Clear	good sample
Moreman Hill	LMB/BG/RESF	4/14	1600	shock	Sunny	61	Full	42	good	good sample
AJ Jolly	LMB/Saugeye	4/18	1000	shock	Sunny	71	Full	12	good	good sample
Taylorsville Lake (Van Buren)	LMB	4/18	1030	shock	Mostly sunny	60	547.18 ft	40	good	good sample
Taylorsville Lake (Ashes)	LMB	4/19	1030	shock			547.17 ft		good	good sample
Taylorsville Lake (Big Beech)	LMB	4/20	1000	shock			547.15 ft		good	good sample
Benjy Kinman	LMB	4/20	2000	shock	Nocturnal	71		40	Good	Good sample
Flagship Park	LMB/BG/RESF	4/22	1200	shock	Cloudy	68	Full	22	Turbid	FINS sampled
Leary Lake	LMB/BG/RESF	4/22	0930	shock	Cloudy	67	Full	66	good	FINS sampled
Beaver	LMB	4/25	1000	shock		69	normal	138	good	good sample
Elmer Davis	LMB	4/26	0930	shock		67	normal	50	good	good sample
McNeely	LMB	5/2	1000	shock	Cloudy/light breeze	69	normal	112	good	good sample
Jericho	LMB	5/3	1000	shock		64	normal	18	turbid	good sample
Lower Thomas	LMB/BG/RESF	5/4	1030	shock			normal		good	good sample
Corinth	BG/RESF	5/11	1000	shock		65	normal	55	good	good sample
Boltz	BG/RESF	5/16	1100	shock			normal		good	good sample
KY Horse Park (Man-O-War Moat)	LMB/BG/RESF	5/17	1200	shock	Cloudy/rain	60	Full	18	good	FINS sampled
KY Horse Park (0.6 acre lake)	LMB/BG/RESF	5/17	1200	shock	Cloudy/rain	60	Full	18	good	FINS sampled
Kentucky Horse Park (0.3 acre lake	LMB/BG/RESF	5/17	1200	shock	Cloudy/rain	60	Full	18	good	FINS sampled
Benjy Kinman	LMB/BG/RESF	5/23	1100	shock	Sunny/clear	70	Low	36	good	good sample
Beaver	BG/RESF	5/24	1000	shock	Clear/sunny	69	Normal	66	good	good sample
Logan Hubble	LMB/BG/RESF	6/6	1000	shock	Sunny	77	Full	14	good	FINS sampled

Table 1 (cont.).

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Veterans WMA Pond	LMB/BLG	6/13		Shock	**Sunny**	80	Full	64	Good	good sample
Taylorsville	Blue catfish	7/6		shock		84	547.81 ft	36	Good	Thermocline @ 16 ft
Taylorsville	Blue catfish	7/7		shock		81	547.67 ft	35	good	Thermocline @ 15 ft
Boltz	LMB/BG/RESF	9/15	1100	shock	Overcast	80	Full pool	19	good	good sample
Benjy Kinman	LMB/BG/RESF	9/16	1100	shock	sunny	80	@ 4 ft. below normal	24	good	good sample
Guist Creek	LMB	9/19	1000	shock	Sunny/clear	77	@ 2 ft. below normal	19	good	good sample
Taylorsville (Ashes/Jacks)	LMB	9/20	930	shock	Sunny/clear	78	546.5 ft.	44	good	good sample
Taylorsville (Big Beech)	LMB	9/21	900	shock	sunny / clear	78	546.5 ft.	47	good	good sample
Taylorsville (Van Buren)	LMB	9/22	930	shock	Sunny	79	546.5 ft.		good	good sample
Herrington (Cane Run)	LMB	9/27	1000	shock	Clear/sunny	79	739.44 ft.		good	good sample
Herrington (Gwinn Island)	LMB	9/28	1000	shock	Partly cloudy	77	739.32 ft.		good	good sample
Herrington (Kings Mill)	LMB	9/29	1000	shock	Overcast/cool	72	739.31 ft.		good	good sample
Kincaid	LMB	10/3	1100	shock	Sunny/clear	70	Slightly above full pool	38	good	good sample
Elmer Davis	LMB/BG/RESF	10/4	1000	shock	Sunny/clear/warm	70	@ 5.5 in below pool	36	Good	Lake brown
Corinth	LMB/BG/RESF	10/5	0945	shock	Mostly sunny/warm	70	Slightly below full pool	116	Good	Large amount of coontail
AJ Jolly	LMB/saugeye	10/5	1100	shock	Sunny	70	Full pool	24	good	FINS sampled
McNeely	LMB/BG/RESF	10/6	0830	shock	Sunny	70	Full pool	35	good	Excessive blue green algae
Boltz	CCF	10/10	1000	hoop	Sunny	66	Full pool		Good	Good sample
Elmer Davis	CCF	10/11	1000	hoop	Mostly sunny		@ 8.0 in Below pool		Good	Good sample
Beaver	LMB/BG/RESF	10/12	1000	shock	Breezy/sunny	67	@ 4.5 in Below pool	36	Good	Good sample
Herrington	Morones	10/17 10/18 10/19 10/20	1000 1000 1000 1000	gillnet	mostly sunny mostly sunny mostly sunny mostly sunny	67 67 67 67	733.0 732.2 731.7 731.3		good	good sample
Taylorsville	Morones/ crappie	10/24 10/25 10/26 10/27	1000 1000 1000 1000	gillnet trap net	sunny sunny sunny overcast	67 66 66 66	545.3 545.3 545.2 545.2		good	good sample
Guist Creek	Saugeye	11/1	1200	Shock			@ 2 ft below pool		Good	Good sample
Guist Creek	CCF	11/4	1000	hoop			@ 2 ft Below pool		Good	Good sample
Taylorsville	BCF	2/20 2/21 2/22	1000 1000 1000	gillnet	mostly sunny mostly sunny sunny	50 50 51	545.0 545.0 545.0		good	Warmer water temps than normal

Table 2. Length distribution and CPUE (fish/hr) of black bass collected in 7.5 hours of 30-minute electrofishing runs in Taylorsville Lake in April 2016; numbers in parentheses are standard errors.

	Inch class																		
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Van Buren																			
Largemouth bass	3	9	18	26	12	10	52	99	130	109	51	41	23	20	9	6	1	619	247.6 (16.6)
Ashes Creek																			
Largemouth bass	2	11	20	8	3	24	87	74	134	88	44	50	41	20	11	6	4	627	250.8 (21.9)
Big Beech Creek																			
Largemouth bass	1	4	4	13	7	6	28	42	50	68	67	38	29	22	8	5	2	394	157.6 (17.6)
Smallmouth bass										1								1	0.1 (0.1)
Total																			
Largemouth bass	6	24	42	47	22	40	167	215	314	265	162	129	93	62	28	17	7	1640	218.7 (13.2)
Smallmouth bass										1								1	0.1 (0.1)

Dataset = cfdpstvl.d16

Table 3. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Taylorsville Lake from 1984-2016; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	Total
1984	50.4 (1.8)	88.0 (6.0)	6.0 (2.2)	0.0 (0.0)	0.0 (0.0)	144.4 (5.6)
1985	0.8 (0.6)	43.8 (5.4)	74.8 (9.2)	3.4 (1.0)	0.0 (0.0)	122.2 (14.4)
1986	1.8 (0.2)	11.2 (1.4)	21.0 (1.8)	24.4 (3.0)	0.0 (0.0)	59.0 (5.4)
1987	3.6 (0.6)	5.4 (0.6)	9.2 (1.0)	29.2 (2.6)	0.3 (0.1)	48.0 (3.8)
1988	3.2 (0.8)	8.4 (1.2)	6.0 (1.0)	19.6 (3.0)	0.2 (0.1)	37.2 (4.8)
1989	58.6 (15.6)	33.4 (5.8)	22.2 (3.4)	13.8 (3.0)	0.0 (0.0)	128.2 (24.0)
1990	57.0 (8.4)	54.2 (6.8)	22.8 (2.6)	21.8 (3.4)	0.5 (0.2)	154.4 (15.0)
1991	26.0 (2.8)	37.2 (2.8)	22.8 (2.1)	11.8 (1.4)	0.1 (0.1)	98.6 (5.2)
1992	58.5 (5.5)	42.6 (2.5)	36.9 (2.9)	17.6 (1.6)	0.1 (0.1)	155.6 (7.3)
1993	21.0 (3.6)	53.2 (4.8)	36.4 (13.8)	14.8 (1.9)	0.1 (0.1)	128.3 (8.6)
1994	25.1 (3.0)	39.9 (3.6)	40.7 (5.1)	15.0 (1.5)	0.1 (0.1)	122.3 (9.8)
1995	28.2 (3.5)	69.6 (3.9)	20.3 (1.3)	11.6 (1.4)	0.0 (0.0)	129.6 (6.8)
1996	16.2 (2.4)	41.0 (3.9)	49.8 (3.2)	16.0 (3.2)	0.1 (0.1)	122.6 (9.8)
1997	33.2 (6.3)	43.4 (4.0)	46.4 (1.8)	15.2 (1.8)	0.1 (0.1)	138.3 (7.7)
1998	20.0 (3.0)	26.4 (2.7)	30.5 (2.6)	21.7 (2.6)	0.4 (0.2)	98.7 (7.2)
1999	19.1 (2.8)	38.7 (3.2)	20.9 (3.0)	22.7 (2.6)	0.4 (0.39)	101.3 (7.1)
2000	17.7 (3.3)	33.1 (3.9)	16.1 (2.6)	10.5 (1.5)	0.5 (0.2)	77.5 (6.1)
2001	32.4 (4.1)	44.1 (3.7)	27.6 (3.6)	15.5 (2.7)	0.3 (0.2)	119.6 (8.3)
2002	33.7 (4.4)	22.3 (2.2)	12.8 (2.2)	9.6 (1.8)	0.5 (0.2)	78.4 (7.0)
2003	19.5 (2.9)	58.5 (4.8)	24.9 (2.2)	15.2 (2.1)	0.8 (0.4)	118.1 (9.2)
2004	14.1 (2.5)	26.7 (2.7)	42.9 (3.4)	13.2 (1.6)	0.3 (0.3)	96.9 (5.2)
2005	35.5 (5.9)	35.7 (4.9)	40.3 (4.3)	34.3 (3.4)	0.5 (0.4)	145.7 (12.7)
2006	20.3 (4.0)	39.6 (3.7)	20.3 (3.7)	16.5 (2.7)	0.3 (0.2)	96.7 (11.0)
2007	13.5 (2.5)	35.5 (4.1)	33.7 (3.6)	14.4 (2.4)	0.3 (0.2)	97.1 (9.1)
2008	13.9 (2.9)	30.1 (2.8)	33.6 (3.1)	22.5 (3.2)	0.0 (0.0)	100.1 (8.9)
2009	15.9 (3.5)	32.9 (3.6)	22.3 (2.5)	13.6 (2.1)	0.1 (0.1)	84.7 (6.9)
2010	45.7 (8.3)	36.3 (2.7)	49.7 (5.1)	16.4 (1.8)	0.3 (0.2)	148.1 (12.4)
2011	Sampling was not conducted due to extreme weather and lake conditions.					
2012	27.9 (4.0)	59.1 (6.0)	36.9 (3.0)	14.5 (1.2)	0.3 (0.2)	138.4 (8.6)
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)
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)
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)
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)

Dataset = cfdpstvl.d16– .d84

Table 4. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in each area of Taylorsville Lake in 2016; confidence intervals are in parentheses.

Area	Species	No. ≥8.0 in	PSD	RSD_{15}
Big Beech	Largemouth bass	563	69 (± 4)	18 (± 3)
Ashes Creek	Largemouth bass	586	68 (± 4)	23 (± 3)
Van Buren	Largemouth bass	372	78 (± 4)	28 (± 5)
Total	Largemouth bass	1521	71 (± 2)	22 (± 2)

Dataset = cfdpstvl.d16

Table 5. Population assessment for largemouth bass collected during spring electrofishing at Taylorsville Lake from 2000-2016 (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
2016	Value	12.9*	24.6	98.8	44.8	0.9				
	Score	3	3	4	4	3			17	Excellent
2015	Value	12.9*	16.8	32.7	19.3	0.3				
	Score	3	2	4	3	2			14	Good
2014	Value	12.9	23.6	35.1	21.3	0.5				
	Score	3	3	4	4	3			17	Excellent
2013	Value	13.1*	17.2	42.0	22.1	0.4				
	Score	3	2	4	4	2			15	Good
2012	Value	13.1*	28.1	39.9	14.5	0.3				
	Score	3	3	4	3	2			15	Good
2011	Value	Sampling was not conducted due to extreme weather and lake conditions.								
	Score									
2010	Value	13.1	49.5	49.7	16.4	0.3	0.574	43.7		
	Score	3	4	4	3	2			16	Good
2009	Value	12.9*	14.6	22.3	13.6	0.1				
	Score	3	2	2	3	1			11	Fair
2008	Value	12.9*	12.2	33.6	22.5	0.0				
	Score	3	2	4	4	1			14	Good
2007	Value	12.9*	10.3	33.7	14.4	0.3				
	Score	3	1	4	3	2			13	Good
2006	Value	12.9	17.5	20.3	16.5	0.3	0.824	56.1		
	Score	3	2	2	3	2			12	Fair
2005	Value	12.6*	38.3	40.3	34.3	0.5				
	Score	3	3	4	4	3			17	Excellent
2004	Value	12.6*	14.9	42.9	13.2	0.3				
	Score	3	2	4	3	2			14	Good
2003	Value	12.6*	21.2	24.9	15.2	0.8				
	Score	3	2	3	3	3			14	Good
2002	Value	12.6	34.8	12.8	9.6	0.5	0.495	39.0		
	Score	3	3	1	2	3			12	Fair
2001	Value	10.8	20.5	27.6	15.5	0.3	0.539	41.7		
	Score	1	2	3	3	2			11	Fair
2000	Value	10.1	14.1	16.1	10.5	0.5	0.455	36.6		
	Score	1	2	1	2	3			9	Fair

* 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 6. Length distribution and CPUE (fish/hr) of largemouth bass collected in 4.5 hours of 15-minute electrofishing runs for black bass in Taylorsville Lake in September 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Van Buren																				
Largemouth bass		25	24	14	17	11	1	5	4	8	15	3	6	2	2				137	91.3 (15.0)
Ashes Creek																				
Largemouth bass	1	18	17	13	6	3	1	5	8	10	15	10	7	7	4	3		1	129	86.0 (17.1)
Big Beech Creek																				
Largemouth bass		12	29	10	12	9	1	6	2	11	19	19	18	15	2				165	110.0 (6.6)
Total																				
Largemouth bass	1	55	70	37	35	23	3	16	14	29	49	32	31	24	8	3		1	431	95.8 (7.8)

Dataset = cfdwrtvl.d16

Table 7. Numbers of fish and the relative weight (W_r) for each length group of largemouth bass collected at Taylorsville Lake on 20-22 September 2016; standard errors are in parentheses.

Species	Area	Length group 8.0–11.9 in No.	8.0–11.9 in Wr	12.0–14.9 in No.	12.0–14.9 in Wr	≥15.0 in No.	≥15.0 in Wr	Total No.	Total Wr
Largemouth bass	Van Buren	18	91 (2)	24	91 (2)	4	93 (6)	46	91 (1)
	Ashes	24	88 (2)	32	92 (2)	15	102 (2)	71	93 (1)
	Big Beech	20	90 (2)	56	93 (1)	17	92 (3)	93	92 (1)
	Total	62	90 (1)	112	92 (1)	36	96 (2)	210	92 (1)

Dataset = cfdwrtvl.d16

Table 8. Indices of year class strength at age-0 and age-1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Taylorsville Lake. Age-1 CPUE and standard error could not be calculated in 2010 due to prolonged flood conditions in spring.

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 (Natural) CPUE	Age-1 (Natural) Std. error
2001	Total	4.6	1.3	63.6	11.7	13.3	1.0	34.8	4.3
2002	Total	5.3	0.1	29.1	4.8	18.7	3.5	21.2	2.8
2003	Total	5.4	0.1	32.2	5.4	19.1	3.4	14.9	2.5
2004	Total	4.4	0.1	50.0	6.2	15.1	3.6	38.3	6.2
2005	Total	4.9	0.1	31.8	4.2	15.3	2.5	17.5	3.8
2006	Total	4.9	0.1	54.7	4.9	25.8	2.9	10.3	2.0
2007	Total	4.4	0.1	22.4	3.2	6.7	1.8	12.2	2.6
2008	Total	5.5	0.1	20.9	3.9	16.7	3.5	14.6	3.1
2009	Total	4.9	0.1	90.2	14.5	39.8	6.5	49.5	8.7
2010	Total	5.2	0.1	45.2	4.9	27.7	3.3	*	*
2011	Total	4.8	0.1	40.4	2.8	17.8	1.6	27.5	3.8
2012	Total	5.1	0.1	54.4	5.3	27.8	3.3	17.2	2.2
2013	Total	4.9	0.1	50.0	6.0	23.8	4.3	23.6	3.7
2014	Total	5.5	0.1	21.1	4.3	15.4	3.0	16.8	3.7
2015	Total	6.0	0.1	14.4	2.1	12.7	2.1	24.6	3.0
2016	Total	5.0	0.1	49.3	7.1	21.3	2.7		

Dataset = cfdwrtvl.d16

Table 9. Length distribution and CPUE (fish/nn) of each species of crappie collected at Taylorsville Lake in 36 net-nights during October 2016.

	Inch class												Std.
Species	3	4	5	6	7	8	9	10	11	12	Total	CPUE	error
White crappie	1	6	9	68	251	157	104	13	5	4	618	17.2	3.1
Black crappie	1		2	18	46	54	34	16	4		175	4.9	1.1

Dataset = cfdtntvl.d16

Table 10. PSD and RSD_{10} values calculated for crappie collected at Taylorsville Lake in 36 net-nights during October 2016.

Species	No. $\geq$ 5.0 in	PSD	RSD_{10}
White crappie	611	46 (± 4)	4 (± 2)
Black crappie	174	62 (± 7)	11 (± 5)

Dataset = cfdtntvl.d16

Table 11. Mean back calculated lengths (in) at each annulus for otoliths from white crappie trap netted and gill netted at Taylorsville Lake in 2016.

		Age				
Year class	No.	1	2	3	4	5
2015	147	5.2				
2014	6	5.5	9.6			
2013	6	5.4	8.9	10.3		
2011	1	5.4	9.8	11.1	11.7	12.3
Mean	160	5.2	9.3	10.4	11.7	12.3
Smallest		3.2	7.6	9.0	11.7	12.3
Largest		8.2	10.6	11.8	11.7	12.3
Std error		0.1	0.3	0.4		
95% ConLo		5.1	8.7	9.6		
95% ConHi		5.3	9.8	11.1		

Intercept value = 0.00
Dataset = cfdagtvl.d16

Table 12. Age frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 36 net-nights at Taylorsville Lake in 2016.

	Inch class													Std
Age	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	err
0+	1	6	6								13	2	0.4	.1
1+			3	68	251	157	101	9			589	95	16.4	2.9
2+							3	1	3	2	9	1	0.2	.1
3+								2	3	2	6	1	0.2	0.1
5+										1	1	0	0.1	<0.1
Total	1	6	9	68	251	157	104	13	5	4	618	100	17.2	3.1
(%)	0	1	1	11	41	25	17	2	1	1	100			

Dataset = cfdtntvl.d16 and cfdagtvl.d16

CPUE of ≥8.0 in white crappie = 7.9 ± 2.6 fish/nn; ≥10.0 in = 0.6 ± 0.2 fish/nn

Table 13. Population assessment for white crappie collected during fall trap netting at Taylorsville Lake from 2000-2016 (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+	Total score	Assessment rating
2016	Value	16.8	11.3	7.9	16.4	0.4		
	Score	4	4	4	4	1	17	Excellent
2015	Value	5.6	10.5	3.5	4.4	16.9		
	Score	2	4	3	3	4	16	Good
2014	Value	2.9	10.9	2.2	2.5	0.4		
	Score	2	4	2	2	1	11	Fair
2013	Value	1.7	10.2	1.4	1.3	6.7		
	Score	1	3	1	2	4	11	Fair
2012	Value	0.7	10.1	0.6	0.5	1.1		
	Score	1	3	1	1	2	8	Poor
2011	Value	0.7	11.0	0.6	0.6	1.0		
	Score	1	4	1	1	2	9	Fair
2010	Value	0.4	9.5	0.3	0.4	1.0		
	Score	1	2	1	1	2	7	Poor
2009	Value	0.02	9.6*	0.02	0.02	0.2		
	Score	1	3	1	1	1	7	Poor
2008	Value	0.1	9.6*	0.1	0.1	0.1		
	Score	1	3	1	1	1	7	Poor
2007	Value	0.3	9.6*	0.3	0.0	0.04		
	Score	1	3	1	1	1	7	Poor
2006	Value	0.9	9.6	0.9	0.0	0.04		
	Score	1	3	1	1	1	7	Poor
2005	Value	3.2	9.6	1.5	2.7	0.0		
	Score	2	3	2	2	1	10	Fair
2004	Value	1.7	10.3	1.0	1.4	1.4		
	Score	1	3	1	2	2	9	Fair
2003	Value	1.8	10.1*	1.7	1.0	0.5		
	Score	1	3	2	2	2	10	Fair
2002	Value	1.6	10.1	1.5	0.6	0.7		
	Score	1	3	2	1	2	9	Fair
2001	Value	4.5	9.4	4.3	2.6	0.1		
	Score	2	2	3	2	1	10	Fair
2000	Value	6.5	8.6	6.3	0.5	0.5		
	Score	2	2	4	1	2	11	Fair

* Age data not collected

Table 14. Mean back calculated lengths (in) at each annulus for otoliths from black crappie trap netted at Taylorsville Lake in 2016.

		Age				
Year class	No.	1	2	3	4	5
2015	36	5.3				
2014	40	4.2	7.7			
2013	12	4.4	7.7	9.2		
2011	2	5.1	8.0	9.5	10.3	11.0
Mean	90	4.7	7.7	9.3	10.3	11.0
Smallest		3.1	6.6	8.4	10.1	11.0
Largest		8.4	8.7	9.8	10.4	11.1
Std error		0.1	0.1	0.1	0.1	0.1
95% ConLo		4.4	7.6	9.0	10.0	10.9
95% ConHi		4.9	7.9	9.5	10.5	11.2

Intercept value = 0.00
Dataset = cfdagtvl.d16

Table 15. Age frequency and CPUE (fish/nn) per inch class of black crappie trap netted for 36 net-nights at Taylorsville Lake in 2016.

	Inch class												Std
Age	3	4	5	6	7	8	9	10	11	Total	%	CPUE	err
0+	1		1							2	1	0.1	0.1
1+			1	18	43	3	3	6	2	77	44	2.1	0.5
2+					3	48	27	3		81	46	2.3	0.6
3+						3	4	7		14	8	0.4	0.1
5+									2	2	1	0.1	0.1
Total	1		2	18	46	54	34	16	4	175	100	4.9	1.1
%	1		1	10	26	31	19	9	2	100			

Dataset = cfdtntvl.d16 and cfdagtvl.d16
CPUE of ≥8.0 in black crappie = 3.0 ± 0.8 fish/nn; ≥10.0 in = 0.6 ± 0.2 fish/nn

Table 16. Population assessment for black crappie collected during fall trap netting at Taylorsville Lake from 2000-2016 (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+	Total score	Assessment rating
2016	Value	4.8	9.0	3.0	2.1	0.1		
	Score	3	2	3	3	1	12	Fair
2015	Value	8.6	9.2	2.0	6.0	1.2		
	Score	3	3	3	4	3	16	Good
2014	Value	6.3	9.3	2.4	5.2	0.9		
	Score	3	3	3	4	2	15	Good
2013	Value	4.5	9.1	4.1	0.9	2.2		
	Score	3	3	4	2	4	16	Good
2012	Value	9.8	9.6	1.7	9.3	0..9		
	Score	4	3	3	4	2	16	Good
2011	Value	0.8	9.8	0.5	0.5	2.5		
	Score	1	4	1	1	4	11	Fair
2010	Value	3.2	8.4	1.3	3.1	0.5		
	Score	2	2	2	3	2	11	Fair
2009	Value	0.2	9.8*	0.1	0.2	0.4		
	Score	1	4	1	1	2	9	Fair
2008	Value	0.6	9.8	0.5	0.2	0.4		
	Score	1	4	1	1	2	9	Fair
2007	Value	1.7	9.2	1.0	1.4	0.02		
	Score	1	3	2	2	1	9	Fair
2006	Value	3.3	9.5	3.3	0.1	0.5		
	Score	2	3	3	1	2	11	Fair
2005	Value	5.8	9.0	4.5	1.3	0.04		
	Score	3	2	4	2	1	12	Fair
2004	Value	12.0	9.3	1.2	11.7	1.2		
	Score	4	3	2	4	3	16	Good
2003	Value	1.3	10.3	1.1	1.0	1.3		
	Score	1	4	2	2	3	12	Fair
2002	Value	2.2	10.2	1.6	1.8	0.1		
	Score	2	4	3	3	1	13	Good
2001	Value	1.8	10.1	1.5	1.5	0.1		
	Score	2	4	2	3	1	12	Fair
2000	Value	0.8	9.6	0.7	0.5	0.2		
	Score	1	3	2	1	1	8	Poor

* Age data not collected

Table 17. Number of fish and the relative weight (Wr) for each length group of crappie at Taylorsville Lake in October 2016.

Species	Area	Length group 5.0–7.9 in		8.0–9.9 in		≥10.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
White crappie	Total	207	89 (1)	178	95 (1)	20	91 (2)	405	92 (1)
Black crappie	Total	36	85 (1)	70	91 (1)	18	92 (2)	124	89 (1)

Dataset = cfdtntvl.d16

Table 18. Length distribution and CPUE (fish/nn) of white bass, hybrid striped bass, and saugeye collected during 11 net-nights of gill netting in Taylorsville Lake in October 2016: numbers in parentheses are standard errors.

	Inch class																				
Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE
White bass	1	28	12		1	19	11	1	4											77	7.0 (1.9)
Hybrid striped bass		1	9	21	2		5	14	11	9	8	6	7	12	17	23	11	9	2	167	15.2 (6.7)
Reciprocal		1	6	8			3	8	9	9	8	6	7	12	17	21	10	9	2	136	12.4 (5.3)
Original			3	13	2		2	6	2							2	1			31	2.8 (1.6)
Saugeye				2	23	19				4	5	6	2							61	5.6 (2.9)

Dataset = cfdgntvl.d16

Table 19. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Taylorsville Lake in 2016.

		Age					
Year class	No.	1	2	3	4	5	6
2015	38	10.2					
2014	19	8.3	14.5				
2013	65	11.6	15.9	19.2			
2012	9	9.9	16.2	19.0	21.0		
2011	4	9.2	15.6	19.4	21.5	23.0	
2010	1	11.0	16.4	18.6	20.6	21.9	22.8
Mean	136	10.6	15.6	19.1	21.1	22.8	22.8
Smallest		5.5	10.9	13.8	19.7	21.9	22.8
Largest		13.7	18.4	22.1	22.3	23.8	22.8
Std error		0.2	0.1	0.1	0.2	0.3	
95% ConLo		10.2	15.4	18.9	20.7	22.2	
95% ConHi		10.9	15.9	19.4	21.5	23.4	

Intercept Value = 0.00
Dataset = cfdagtvl.d16

Table 20. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 11 net-nights at Taylorsville Lake in 2016.

	Inch class																					Std
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	%	CPUE	err
0+	1	9	21	2															33	20	3.0	1.4
1+						5	14	11	5										35	21	3.2	1.6
2+									4	7	3	3							17	10	1.6	1.0
3+										1	3	4	12	16	19	9	3		67	40	6.1	2.9
4+														1	4	2	2		9	5	0.8	0.4
5+																	3	2	5	3	0.5	0.2
6+																	1		1	1	0.1	0.1
Total	1	9	21	2		5	14	11	9	8	6	7	12	17	23	11	9	2	167	100	15.2	6.7
%	1	5	13	1		3	8	7	5	5	4	4	7	10	14	7	5	1	100			

Dataset = cfdagtvl.d16 and cfdgntvl.d16

Table 21. Number of fish and the relative weight (W_r) for each length group of hybrid striped bass collected at Taylorsville Lake in October 2016.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Hybrid striped bass	Total	32	85 (1)	30	82 (1)	104	82 (1)	166	82 (1)

Dataset = cfdgntvl.d16

Table 22. Population assessment for hybrid striped bass collected during fall gill netting at Taylorsville Lake from 2000-2016 (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 (AM)	Total score	Assessment rating
2016	Value	12.2	16.8	9.5	3.2	-	-		
	Score	3	2	3	2			10	Good
2015	Value	5.1	18.0	3.4	1.8	-	-		
	Score	2	3	2	2			9	Fair
2014	Value	10.9	17.5	3.0	8.4	-	-		
	Score	3	3	2	4			12	Good
2013	Value	3.5	18.3	1.5	2.0	-	-		
	Score	2	3	1	2			8	Fair
2012	Value	2.2	17.0	0.8	1.3	-	-		
	Score	1	2	1	2			6	Poor
2011	Value	11.5	16.4	3.1	7.9	-	-		
	Score	3	2	2	3			10	Good
2010	Value	3.8	16.7	1.0	2.9	-	-		
	Score	2	2	1	2			7	Fair
2009	Value	11.4	15.7	0.9	10.4	1.104	66.9%		
	Score	3	1	1	4			9	Fair
2008	Value	0.6	17.1	0.4	0.2	0.370	30.9%		
	Score	1	2	1	1			5	Poor
2007	Value	16.8	16.2	10.8	6.0	0.798	55.0%		
	Score	3	1	3	3			10	Good
2006	Value	8.5	16.8	0.8	8.0	1.262	71.7%		
	Score	3	2	1	3			9	Fair
2005	Value	1.1	15.2	0.4	0.6	0.437	35.4%		
	Score	1	1	1	1			4	Poor
2004	Value	4.6	16.0	1.0	3.6	0.964	61.9%		
	Score	2	1	1	2			6	Poor
2003	Value	9.4	16.6	6.6	2.6	1.522	78.2%		
	Score	3	2	3	2			10	Good
2002	Value	22.8	15.8	10.1	12.4	0.658	48.2%		
	Score	4	1	3	4			12	Good
2001	Value	13.3	16.0	2.0	11.1	1.437	76.2%		
	Score	3	1	1	4			9	Fair
2000	Value	9.9	15.9	5.9	3.1	1.263	71.1%		
	Score	3	1	3	2			9	Fair

Table 23. Mean back calculated lengths (in) at each annulus for otoliths from white bass gill netted at Taylorsville Lake in 2016.

		Age		
Year class	No.	1	2	3
2015	11	8.8		
2014	20	7.7	10.9	
2013	7	8.1	11.4	12.8
Mean	38	8.1	11.0	12.8
Smallest		5.8	10.0	11.9
Largest		9.6	12.1	13.5
Std error		0.1	0.1	0.3
95% ConLo		7.8	10.8	12.3
95% ConHi		8.3	11.2	13.4

Intercept Value = 0.00
Dataset = cfdagtvl.d16

Table 24. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 11 net-nights at Taylorsville Lake in 2016.

	Inch class												
Age	6	7	8	9	10	11	12	13	14	Total	%	CPUE	Std err
0+	1	32	17							50	57	4.6	1.1
1+					1	10				11	13	1.0	0.3
2+						11	8	1		20	23	1.8	0.6
3+							3		4	7	8	0.6	0.3
Total	1	32	17		1	21	11	1	4	88	100	8.0	1.9
%	1	36	19		1	24	13	1	5	100			

Dataset = cfdagtvl.d16 and cfdgntvl.d16

Table 25. Number of fish and the relative weight (W_r) for each length group of white bass collected at Taylorsville Lake in October 2016.

		Length group							
Species	Area	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	Total	50	93 (1)	22	86 (2)	16	89 (2)	88	90 (1)

Dataset = cfdgntvl.d16

Table 26. Population assessment for white bass collected during fall gill netting at Taylorsville Lake from 2000-2016 (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
2016	Value	3.4	12.0	1.5	1.0				
	Score	2	1	2	1			6	Poor
2015	Value	3.2	12.5	0.8	1.3				
	Score	1	2	1	1			5	Poor
2014	Value	4.5	11.3*	0.5	4.5				
	Score	2	1	1	3			7	Fair
2013	Value	1.4	11.3*	0.0	1.4	-	-		
	Score	1	1	1	1			4	Poor
2012	Value	3.3	11.3	0.5	2.2	1.037	64.5		
	Score	2	1	1	2			6	Poor
2011	Value	18.4	11.9	5.0	8.9	1.506	77.8		
	Score	4	1	3	4			12	Good
2010	Value	11.0	12.1	1.8	7.8	1.920	85.3		
	Score	3	1	2	4			10	Good
2009	Value	1.3	NS	0.1	1.1	1.030	64.3		
	Score	1	1	1	1			4	Poor
2008	Value	2.0	12.1	0.3	1.6	1.157	68.6		
	Score	1	1	1	2			5	Poor
2007	Value	6.4	11.7	0.8	4.6	1.102	66.8		
	Score	2	1	1	3			7	Fair
2006	Value	4.3	11.7	0.8	3.0	1.040	64.6		
	Score	2	1	1	2			6	Poor
2005	Value	5.0	11.6	1.2	1.8	1.054	65.2		
	Score	2	1	1	2			6	Poor
2004	Value	8.6	11.4	0.1	7.3	2.030	86.9		
	Score	3	1	1	4			9	Fair
2003	Value	6.9	11.7	2.0	3.5	0.944	61.1		
	Score	2	1	2	3			8	Fair
2002	Value	5.9	11.8	1.3	2.6	1.113	67.1		
	Score	2	1	2	2			7	Fair
2001	Value	23.5	12.1	6.8	14.9	0.971	62.1		
	Score	4	1	3	4			12	Good
2000	Value	20.8	12.2	8.1	7.4	0.766	53.5		
	Score	4	1	4	4			13	Good

* Age data not collected because no fish were captured at this age

Table 27. Length distribution 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 2016; numbers in parentheses are standard errors.

	Inch class																									
Area	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	Total	CPUE
Upper	1	9	8	3	7	6	2	3	5	6	4		3		1				1							59	39.3 (15.8)
Lower	9	35	44	36	15	9	12	10	18	10	13	4	1	3	1	1	3			1	1	2		2	1	231	154.0 (52.9)
Total	10	44	52	39	22	15	14	13	23	16	17	4	4	3	2	1	3		1	1	1	2		2	1	290	96.7 (31.5)

Dataset = cfdpstvl.d16

Table 28. Electrofishing CPUE (fish/hr) for each length group of blue catfish collected from Taylorsville Lake from 2007-2016; numbers in parentheses are standard errors.

	Length group				
Year	<12.0 in	12.0-19.9 in	20.0-29.9 in	>30.0 in	Total
2007	32.8 (10.9)	188.8 (25.8)	14.4 (4.2)	0.0	236.0 (36.5)
2008					
2009	6.8 (3.1)	96.1 (19.9)	16.3 (4.7)	0.0	119.1 (24.3)
2010	25.9 (12.2)	73.4 (13.5)	16.2 (4.2)	0.7 (0.4)	116.1 (21.2)
2011	3.9 (3.1)	14.0 (2.9)	8.1 (5.0)	1.1 (0.6)	27.1 (5.9)
2012	28.3 (9.1)	58.3 (15.7)	15.0 (4.7)	2.3 (1.2)	104.0 (22.8)
2013	4.0 (1.6)	42.0 (6.5)	11.0 (2.6)	3.0 (0.9)	60.0 (8.2)
2014	31.1 (11.3)	119.4 (21.1)	11.4 (2.5)	5.2 (1.7)	167.1 (27.5)
2015	31.4 (16.0)	47.1 (16.6)	4.6 (2.1)	1.9 (1.0)	84.9 (24.6)
2016	35.3 (15.4)	53.0 (21.5)	6.7 (2.7)	1.7 (1.2)	96.7 (31.5)

Dataset = cfdpstvl.d16

Table 29. Numbers of fish and the relative weight (W_r) for each length group of blue catfish collected at Taylorsville Lake on 6 and 7 July 2016; standard errors are in parentheses.

		Length group							
Species	Area	12.0-19.9 in		20.0–29.9 in		≥30.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Blue catfish	Upper	36	100 (3)	5	96 (3)	0		41	100 (2)
	Lower	123	97 (3)	15	99 (4)	5	108 (5)	143	98(2)
	Total	159	98 (2)	20	98 (3)	5	108 (5)	184	98 (2)

Dataset = cfdpstvl.d16

Table 30. Length distribution and CPUE (fish/nn) of blue catfish collected during 12 net-nights of gill netting in Taylorsville Lake in February 2017; numbers in parentheses are standard errors.

	Inch class																						
Area	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Total	CPUE
Lower	1									1	2	1	1		1								7	1.2 (0.8)
Upper							1		1			1	4	5	2	4	1	2	1			1	23	3.8 (1.5)
Total	1						1		1	1	2	2	5	5	3	4	1	2	1			1	30	2.5 (0.9)

Dataset = cfdgntvl.d16

Table 31. Numbers of fish and the relative weight (W_r) for each length group of blue catfish collected at Taylorsville Lake on 21 and 22 February 2017; standard errors are in parentheses.

		Length group							
Species	Area	12.0-19.9 in		20.0–29.9 in		≥30.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Blue catfish	Upper	0		2	138.5 (1)	18	114 (3)	20	116 (3)
	Lower	0		1	103	6	115 (4)	7	113 (4)
	Total	0		3	127 (12)	24	114 (2)	27	115 (2)

Dataset = cfdgntvl.d16

Table 32. Fishery statistics derived from a daytime creel survey at Taylorsville Lake (3,050 acres) during 02 April through 31 October 2016.

	2016		2009		2006		2003	
Fishing Trips	(4/2 to 10/31)		(4/6 to 10/31)		(3/14 to 10/31)		(3/3 to 10/30)	
No. of fishing trips (per acre)	26,303	(8.62)	25,895	(8.49)	28,253	(9.26)	50,855	(16.67)
Fishing Pressure								
Total man-hours (S.E.)[a]	118,363	(2,660.44)	133,217	(2,989.73)	142,230	(4,752.80)	234,388	(5,735.36)
Man-hours/acre	38.81		43.68		46.63		76.85	
Catch / Harvest								
No. of fish caught (S.E.)	187,575	(12,645.79)	162,089	(12,795.27)	173,169	(17,585.83)	254,797	(20,533.15)
No. of fish harvested (S.E.)	86,018	(7,295.44)	76,075	(6,611.33)	68,836	(8,970.38)	81,352	(8,007.52)
Lb of fish harvested	68,401		49,876		36,031		37,541	
Harvest Rates								
Fish/hour	0.70		0.56		0.48		0.33	
Lb/hour	1.00		0.61		0.50		0.44	
Fish/acre	28.20		24.94		22.57		26.67	
Lb/acre	22.43		16.35		11.81		12.31	
Catch Rates								
Fish/hour	1.51		1.19		1.20		1.09	
Fish/acre	61.50		53.14		56.78		83.54	
Miscellaneous Characteristics								
Male	88.24		87.49		89.65		89.59	
Female	11.76		12.51		10.35		10.41	
Resident	98.20		98.86		99.51		98.57	
Non-resident	1.80		1.14		0.49		1.43	
Method (%)								
Still fishing	44.50		49.66		58.07		51.36	
Casting	46.85		36.92		41.39		43.87	
Fly	0.00		0.26		0.05		0.02	
Trolling	0.07		3.45		0.49		4.75	
Jugging/Trotline	1.04		9.71					
Spider Rig	7.54							
Mode (%)								
Boat	87.89		85.12		87.00		95.14	
Bank	10.93		13.84		12.95		14.86	
Dock	1.18		1.04		0.05		0.00	

[a] S.E. = Standard Error

Table 33. Fish harvest derived from a creel survey on Taylorsville Lake (3050 acres) from 2 April to 31 October 2016.

	Black bass group	Largemouth bass	Smallmouth bass	Crappie group	White crappie	Black crappie	Catfish group	Channel catfish	Blue catfish	Flathead catfish
No. caught (per acre)	52,176.82 (17.11)	52,113.85 (17.09)	62.97 (0.02)	84,334.68 (27.65)	67,628.25 (22.17)	16,706.43 (5.48)	15,039.67 (4.93)	7,005.66 (2.30)	7,904.94 (2.59)	129.08 (0.04)
No. harvested (per acre)	1,676.75 (0.55)	1,676.75 (0.55)		48,655.55 (15.95)	33,975.29 (11.14)	14,680.25 (4.81)	14,062.84 (4.61)	6,377.97 (2.09)	7,555.79 (2.48)	129.08 (0.04)
% of total no. harvested	1.95	1.95		56.56	39.50	17.07	16.35	7.41	8.78	0.15
Lb harvested (per acre)	3,590.4 (1.18)	3,590.4 (1.18)		26,888.1 (8.82)	17,715.2 (5.81)	9,172.9 (3.01)	33,356.6 (10.94)	6,524.2 (2.14)	25,969.8 (8.51)	862.6 (0.28)
% of total lb harvested	5.25	5.25		39.31	25.90	13.41	48.77	9.54	37.97	1.26
Mean length (in)		15.8			10.4	10.0		14.9	20.9	25.5
Mean weight (lb)		2.05			0.52	0.53		1.11	3.45	7.05
No. of fishing trips for that species	8,322.15			9,981.52			2,817.12			
% of all trips	31.64			37.95			10.71			
Hours fished for that species (per acre)	37,449.69 (12.28)			44,916.84 (14.73)			12,677.06 (4.16)			
No. harvested fishing for that species	1,633			48,219			10,427			
Lb harvested fishing for that species	3,528.6			26,679.3			30,000.1			
No./hour harvested fishing for that species	0.052			0.940			0.641			
% success fishing for that species	9.70			58.17			66.05			

Table 33 (cont).

	Panfish group	Bluegill	Green sunfish	Warmouth	Morone group	Hybrid striped bass	White bass	Saugeye	Carp	Drum	Anything
No. caught (per acre)	31,707.48 (10.40)	26,975.40 (8.84)	4,703.68 (1.54)	28.39 (0.01)	2,365.79 (0.78)	1,461.34 (0.48)	904.45 (0.30)	607.28 (0.20)	266.30 (0.09)	1,076.61 (0.35)	
No. harvested (per acre)	19,793.15 (6.49)	18,719.65 (6.14)	1,045.11 (0.34)	28.39 (0.01)	1,094.36 (0.36)	357.30 (0.12)	737.07 (0.24)	42.93 (0.01)	56.79 (0.02)	635.77 (0.21)	
% of total no. harvested	23.01	21.76	1.22	0.03	1.27	0.42	0.86	0.05	0.07	0.74	
Lb harvested (per acre)	2,415.3 (0.79)	2,263.4 (0.74)	147.7 (0.05)	4.2 (0.01)	613.7 (0.20)	286.3 (0.09)	327.4 (0.11)	44.2 (0.01)	264.2 (0.09)	1,228.6 (0.40)	
% of total lb harvested	3.53	3.31	0.22	0.01	0.90	0.42	0.48	0.06	0.39	1.80	
Mean length (in)		5.8	6.2	6.0		12.2	8.5	15.0	21.5	16.5	
Mean weight (lb)		0.12	0.15	0.15		0.92	0.32	1.03	4.65	1.87	
No. of fishing trips for that species	1,106.03				476.45						3,599.53
% of all trips	4.21				1.81						13.69
Hours fished for that species (per acre)	4,977.14 (1.63)				2,144.04 (0.70)						16,197.90 (5.31)
No. harvested fishing for that species	11,588				854						
Lb harvested fishing for that species	1,393.1				474.7						
No./hour harvested fishing for that species	2.351				0.632						
% success fishing for that species	88.24				30.77						54.37

Table 34. Length distribution (length of released fish are estimated) for each species of fish harvested at Taylorsville Lake from 2 March – 31 October 2016.

	Inch class																		
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Largemouth bass																			
Harvested												29	441	647	500	29	31		
Released						13,887	161	23,788	64	4,468	354	3,504	1,832	1,254	836	225		32	32
Smallmouth bass																			
Released												31			32				
White crappie																			
Harvested							4,982	18,923	2,652	6,057	753	466	108		34				
Released		75	448	5,447	8,656	17,722	485	783		37									
Black crappie																			
Harvested							1,335	8,808	1,902	1,968	100	434	33	100					
Released					279	1,677		70											
Bluegill																			
Harvested		562	5,678	10,452	1,903	125													
Released	152	4,235	2,650	1,127	30	30		32											
Warmouth																			
Harvested				28															
Green sunfish																			
Harvested			174	662	209														
Released		652	652	2246	109														
Hybrid striped bass																			
Harvested								79	40	159	40	39	273	136	136	23			
Released								204		327	41	164	245		41	41			41
White bass																			
Harvested				26		184	79	316		79		53							
Released								139	28										

Table 34 (cont).

	Inch class																												
	6	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	31	32	34	35	36	37	38
Flathead catfish																													
Harvested													32		32	32												32	
Channel catfish																													
Harvested				64	1,084	670	1,945	733	829	351	319		223		96						32				32				
Released			126		126		157	94	31		63				31														
Blue catfish																													
Harvested					32		383	96	765	128	988	191	1,467	64	1,243	191	956	128	287	159	159	32	32	32	32	32	32	32	32
Released	29	58	87		29		87												29		30								
Saugeye																													
Harvested								43																					
Released			31		157	314	93																						
Drum																													
Harvested					64		32	32	191	127	32		127	31															
Released			31		63			63	63	31	126		64																
Carp																													
Harvested														28	29														
Released								30			90		90																

Table 35. Black bass catch and harvest statistics derived from a creel survey at Taylorsville Lake (3,050 acres) for black bass caught and released by all anglers from 2 March to 31 October 2016.

	Largemouth bass				Smallmouth bass			
		Catch and Release				Catch and Release		
	Harvest	12.0-14.9 in.	≥15.0 in.	Total	Harvest	12.0-14.9 in.	≥15.0 in.	Total
Total no of bass	1,678	8,326	4,211	52,114	0	31	32	63
% of black bass harvested by no.	100.0				0.0			
Total weight of fish (lbs)	3,590	4,645	2,350	31,733	0	55	56	111
% of black bass harvest by weight	100.0				0.0			
Mean length	15.8							
Mean weight	2.05							
Rate (fish/h)	0.015							

Table 36. Monthly black bass angling success at Taylorsville Lake during the 2016 creel survey.

Month	Total no. of black bass caught by all anglers	Total no. of black bass harvested by anglers	No. of fishing trips for black bass	Hours fished by black bass anglers	Black bass caught by black bass anglers	Black bass caught/hr by black bass anglers	Black bass harvested by black bass anglers	Black bass harvested/hr by black bass anglers
March	783	179	1,075.52	4,844.35	693	0.17	179	0.04
April	4,079	102	1,026.03	4,617.14	4,045	1.03	102	0.03
May	7,578		952.38	4,285.72	7,578	1.83		
June	14,197	852	1,303.47	5,865.63	13,999	2.35	852	0.14
July	6,801	283	973.70	4,381.64	6,800	1.82	283	0.08
August	5,433	37	933.65	4,201.41	5,282	1.37	37	0.01
September	8,111	180	1,028.16	4,626.70	8,075	1.92	180	0.04
October	5,194	43	1,028.24	4,627.08	4,636	1.29		
Total	52,177	1,677	8,322.15	37,449.69	51,108		1,633	
Mean						1.49		0.05

Table 37. Crappie catch and harvest statistics derived from a creel survey at Taylorsville Lake (3,050 acres) for crappie caught and released by all anglers from 2 March to 31 October 2016.

	White crappie				Black crappie			
		Catch and Release				Catch and Release		
	Harvest	<9.0 in.	≥9.0 in.	Total	Harvest	<9.0 in.	≥9.0 in.	Total
Total no of crappie	33,975	32,348	1,305	67,628	14,680	1,956	70	16,706
% of crappie harvested by no.	69.8				30.2			
Total weight of fish (lbs)	17,715	5,448	220	23,383	9,173	477	18	9,668
% of crappie harvest by weight	65.9				34.1			
Mean length	10.4				10.0			
Mean weight	0.52				0.53			
Rate (fish/h)	0.26				0.12			

Table 38. Monthly crappie angling success at Taylorsville Lake during the 2016 creel survey.

Month	Total no. of crappie caught by all anglers	Total no. of crappie harvested by all anglers	No. of fishing trips for crappie	Hours fished by crappie anglers	Crappie caught by crappie anglers	Crappie caught/hr by crappie anglers	Crappie harvested by crappie anglers	Crappie harvested/hr by crappie anglers
March	2,304	2,102	1,044	4,701.87	2,281	0.44	2,102	0.40
April	21,281	18,357	3,308	14,887.93	21,247	1.33	18,323	1.15
May	5,698	3,333	938	4,220.79	5,641	1.16	3,276	0.67
June	2,158	1,306	424	1,908.10	1,960	1.05	1,193	0.64
July	4,439	1,795	369	1,662.00	4,314	2.09	1,795	0.87
August	5,021	1,274	467	2,100.71	4,983	1.94	1,236	0.48
September	12,654	5,119	1,104	4,969.42	12,185	2.47	5,011	1.01
October	30,781	15,369	2,326	10,466.02	30,651	2.84	15,283	1.41
Total	84,335	48,656	9,982	44,916.84	83,262		48,219	
Mean						1.58		0.94

Table 39. Catfish catch and harvest statistics derived from a creel survey at Taylorsville Lake (3,050 acres) for catfish caught and released by all anglers from 2 March to 31 October 2016.

	Channel catfish				Blue catfish				Flathead catfish			
		Catch and Release				Catch and Release				Catch and Release		
	Harvest	12.0-14.9 in.	≥15.0 in.	Total	Harvest	12.0-14.9 in.	≥15.0 in.	Total	Harvest	12.0-14.9 in.	≥15.0 in.	Total
Total no of catfish	6,378	283	219	7,006	7,556	116	59	7,905	129	0	0	129
% of catfish harvested by no.	45.4				53.7				0.9			
Total weight of fish (lbs)	6,524	243	187	7,063	25,670	93	47	863	863	0	0	863
% of catfish harvest by weight	19.6				77.9				2.5			
Mean length	14.9				20.9				25.5			
Mean weight	1.11				3.45				7.05			
Rate (fish/h)	0.054				0.064				0.001			

Table 40. Monthly catfish angling success at Taylorsville Lake during the 2016 creel survey.

Month	Total no. of catfish caught by all anglers	Total no. of catfish harvested by all anglers	No. of fishing trips for catfish	Hours fished by catfish anglers	Catfish caught by catfish anglers	Catfish caught/hr by catfish anglers	Catfish harvested by catfish anglers	Catfish harvested/hr by catfish anglers
March	850	850	237	1,068.61	850	0.54	850	0.54
April	986	986	188	848.05	680	0.65	680	0.65
May	2,080	1,766	346	1,558.45	1,594	0.81	1,367	0.70
June	3,549	3,209	534	2,402.79	2,726	1.03	2,499	0.95
July	2,015	1,984	621	2,795.19	1,449	0.43	1,449	0.43
August	1,199	1,124	272	1,225.41	712	0.52	637	0.47
September	2,343	2,127	324	1,456.55	1,658	0.83	1,442	0.72
October	2,018	2,018	294	1,322.02	1,503	0.64	1,503	0.64
Total	15,040	14,063	2,817	12,677.06	11,172		10,427	
Mean						0.69		0.64

Table 41. Temperate bass (*Morones*) catch and harvest statistics derived from a creel survey at Taylorsville Lake (3,050 acres) for fish that were caught and released by all anglers from 2 March to 31 October 2016.

	Hybrid striped bass				White bass			
		Catch and Release				Catch and Release		
	Harvest	12.0 – 14.9 in.	≥15.0 in.	Total	Harvest	12.0 – 14.9 in.	≥15.0 in.	Total
Total no of *Morones*	357	532	368	1,461	737	0	0	904
% of *Morones* harvested by no.	32.6				67.4			
Total weight of fish (lbs)	286	653	453	1,645	327	0	0	409
% of *Morones* harvest by weight	46.6				53.4			
Mean length	12.2				8.5			
Mean weight	0.92				0.32			
Rate (fish/h)	0.002				0.008			

Table 42. Monthly *Morone* angling success at Taylorsville Lake during the 2016 creel survey.

Month	Total no. of Morones caught by all anglers	Total no. of Morones harvested by all anglers	No. of fishing trips for Morones	Hours fished by Morones anglers	Morones caught by Morone anglers	Morones caught/hr by Morone anglers	Morones harvested by Morone anglers	Morones harvested/hr by Morone anglers
March	313	268	47	213.72	268	1.85	268	1.85
April	68	68	0	0	0	0	0	0
May	28	28	0	0	0	0	0	0
June	568	398	63	282.68	425	1.30	340	1.04
July	63	31	67	302.18	31	0.14	31	0.14
August	37	0	39	175.06	37	0.33	0	0
September	0	0	38	171.36	0	0	0	0
October	1,288	301	122	550.84	1,117	2.36	215	0.45
Total	2,366	1,094	476	2,144.04	1,878		854	
Mean						1.16		0.63

TAYLORSVILLE LAKE ANGLER ATTITUDE SURVEY 2016

(Based on 212 surveys)

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

20. Name ____________________________________ and Zip Code ____________________

21. On average, how many times do you fish Taylorsville Lake in a year? (n=200)
First time **6.5%** 1 to 4 **36.5%** 5 to 10 **28.0%** More than 10 **29.0%**

22. Which species of fish do you fish for at Taylorsville Lake (**check all that apply**)?
Bass **34.4%** Crappie **84.0%** Hybrid striped bass **19.3%** White Bass **19.3%** Channel Catfish **32.1%**
Blue Catfish **38.2%** Bluegill **7.1%**

23. Which one species do you fish for most at Taylorsville Lake (**check only one**)? (n=148)
Bass **19.8%** Crappie **58.8%** Hybrid striped bass **2.0%** Channel Catfish **3.4%** Blue Catfish **14.9%** Bluegill **1.4%**

-Answer the following questions for each species you fish for – (see question 4)

Bass Anglers

24. In general, what level of satisfaction or dissatisfaction do you have with bass fishing at Taylorsville Lake? (n=75)
Very satisfied **29.3%** Somewhat satisfied **57.3%** Neutral **10.7%** Somewhat dissatisfied **2.7%**
Very dissatisfied **0.0%**

6a. If you responded with very or somewhat satisfied in question (6) - What is the single most important reason for your Satisfaction? (n=63)
Number of fish **60.3%** Size of fish **25.4%** Size Limit **6.3%** Creel Limit **6.3%** Too much cover **1.6%**

6b. If you responded with somewhat or very dissatisfied in question (6) - What is the single most important reason for your Dissatisfaction? (n=3)
Size of fish **66.7%** Too many anglers **33.3%**

25. Are you satisfied with the current size limits (15 in) and creel limits (6 fish) on bass at Taylorsville Lake? (n=61)
Yes **93.4%** No **6.6%**

7a. If not, what would you prefer? (n=2) Should be raised or slot limit **50%** Statewide size limit **50%**

26. Do you fish in any bass tournaments on Taylorsville Lake? (n=44) Yes **31.8%** No **68.2%**

Crappie Anglers

27. In general, what level of satisfaction or dissatisfaction do you have with crappie fishing at Taylorsville Lake? (n=175)
Very satisfied **61.7%** Somewhat satisfied **33.1%** Neutral **4.0%** Somewhat dissatisfied **1.1%**
Very dissatisfied **0.0%**

9a. If you responded with very or somewhat satisfied in question (9) - What is the single most important reason for your Satisfaction? (n=164)
Number of fish **71.9%** Size of fish **20.7%** Size Limit **4.3%** Creel Limit **3.0%**

9b. If you responded with somewhat or very dissatisfied in question (9) - What is the single most important reason for your Dissatisfaction? (n=3)
Number of fish **33.3%** Size of fish **33.3%** Too many anglers **33.3%**

28. Are you satisfied with the current size limits (9 in) and creel limits (15 fish) on crappie at Taylorsville Lake? (n=149)
Yes **38.3%** No **61.7%**

10a. If not, what would you prefer? (n=95)
10 in size limit **85.3%** 10 in size limit, 30 fish creel **2.1%** 10in size limit, 20 fish creel **3.2%** 11 in size limit **5.3%**
11 in size limit, 20 fish creel **1.1%** 12 in size limit, 30 fish creel **1.1%** 30 fish creel limit **1.1%** No size limit **1.1%**

White Bass Anglers

29. In general, what level of satisfaction or dissatisfaction do you have with white bass fishing at Taylorsville Lake? (n=43)

Very satisfied **18.6%** Somewhat satisfied **20.9%** Neutral **11.6%** Somewhat dissatisfied **41.9%**
Very dissatisfied **7.0%**

11a. If you responded with very or somewhat satisfied in question (11) - What is the single most important reason for your Satisfaction? (n=16)
Number of fish **56.3%** Size of fish **25.0%** Size Limit **6.3%** Creel Limit **12.5%**

11b. If you responded with somewhat or very dissatisfied in question (11) - What is the single most important reason for your Dissatisfaction? (n=20)
Number of fish **95.0%** Size of fish **5.0%**

30. Are you satisfied with the current size limits (None) and creel limits (15 fish) on white bass at Taylorsville Lake? (n=38)
Yes **100.0%** No **0.0%**

Hybrid Striped Bass Anglers

31. In general, what level of satisfaction or dissatisfaction do you have with hybrid striped bass fishing at Taylorsville Lake? (n=37)
Very satisfied **13.5%** Somewhat satisfied **29.7%** Neutral **8.1%** Somewhat dissatisfied **35.1%**
Very dissatisfied **13.5%**

13a. If you responded with very or somewhat satisfied in question (13) - What is the single most important reason for your Satisfaction? (n=15)
Number of fish **53.3%** Size of fish **40.0%** Creel Limit **6.7%**

13b. If you responded with somewhat or very dissatisfied in question (13) - What is the single most important reason for your Dissatisfaction? (n=18)
Number of fish **94.4%** Size of fish **5.6%**

32. Are you satisfied with the current size limits (None; only 5 may be over 15 inch) and creel limits (15 fish) on hybrid striped bass at Taylorsville Lake? (n=36) Yes **100.0%** No **0.0%**

Channel Catfish Anglers

33. In general, what level of satisfaction or dissatisfaction do you have with channel catfish fishing at Taylorsville Lake? (n=61)
Very satisfied **36.1%** Somewhat satisfied **52.5%** Neutral **3.3%** Somewhat dissatisfied **8.2%**
Very dissatisfied **0.0%**

15a. If you responded with very or somewhat satisfied in question (15) - What is the single most important reason for your Satisfaction? (n=51)
Number of fish **60.8%** Size of fish **31.4%** Size Limit **2.0%** Creel Limit **3.9%** Low Angler Pressure **2.0%**

15b. If you responded with somewhat or very dissatisfied in question (15) - What is the single most important reason for your Dissatisfaction? (n=5)
Number of fish **80.0%** Too many jugs/over fished **20.0%**

34. Are you satisfied with the current size limits (Only 1 fish may be longer than 25 inches) and creel limits (15 fish) on channel catfish at Taylorsville Lake? (n=47) Yes **76.6%** No **23.4%**

16a. If not, what would you prefer? (n=9)
10 fish creel **11.1%** 10 fish creel, 2 over 25 in **11.1%** 20 fish creel **22.2%** 2 over 25 in **11.1%**
Keep more over 25 in **33.3%**

Blue Catfish Anglers

35. In general, what level of satisfaction or dissatisfaction do you have with blue catfish fishing at Taylorsville Lake? (n=73)
Very satisfied **67.1%** Somewhat satisfied **27.4%** Neutral **5.5%** Somewhat dissatisfied **0.0%**
Very dissatisfied **0.0%**

17a. If you responded with very or somewhat satisfied in question (17) - What is the single most important reason for your Satisfaction? (n=60)
Number of fish **35.0%** Size of fish **61.7%** Size Limit **1.7%** Low Angler Pressure **1.7%**

36. Are you satisfied with the current size limits (Only 1 fish may be longer than 25 inches) and creel limits (15 fish) on blue catfish at Taylorsville Lake? (n=63) Yes **39.7%** No **60.3%**

18a. If not, what would you prefer? (n=43)

Keep 1 fish over 30 in **2.3%** Keep 2 fish over 30 in **7.0%** Keep 1 over 30 in, 10 fish creel **7.0%** Keep 2 fish over 25 in **11.6%** Keep 2 fish over 25 in, 25 fish creel **2.3%** 30 in size limit, 10 fish creel **7.0%** 30 in size limit **44.2%** 36 in size limit **4.7%** Keep more fish over 25 in **9.3%** No limits **2.3%** Reduce size limit **2.3%**

All Anglers

37. Have you ever fished for catfish at Taylorsville Lake with jugs/noodles? (n=191) Yes **38.7%** No **61.3%**

38. This legal method of fishing has become a popular method of fishing for catfish at Taylorsville Lake. Has jug fishing affected your fishing experience at Taylorsville Lake? (n=187) Yes **11.2%** No **88.8%**

39. If so, how often has it affected your fishing experience? (n=23)
    Always **0.0%** Often **17.4%** Sometimes **52.2%** Rarely **30.4%**

40. If so, how has jug fishing caused a problem with your fishing experience at Taylorsville Lake? (n=21)

    To many jugs **19.0%** Navigation problem **52.4%** Don't like jug fishing **4.8%** Taking to many fish **5.3%** Bass fishermen are rude **4.8%** Lack of respect on where jugs are set **4.8%** Trashing the lake **4.8%** All of the above **4.8%**

Table 43. Species composition, relative abundance, and CPUE (fish/hr) of crappie collected in 4.5 hours of 15-minute electrofishing runs in Herrington Lake, March 2016; numbers in parentheses are standard errors.

	Inch class															
Location/Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE
Upper																
White crappie							1	6	8	12	2	2			31	20.7 (4.3)
Black crappie						1	1	8	13	18	14	4			59	39.3 (11.2)
Middle																
White crappie							1	9	4	3					17	11.3 (6.0)
Black crappie							3	11	13	4	6	2	2		41	27.3 (12.1)
Lower																
White crappie								1							1	0.7 (0.7)
Black crappie							3	27	16	7	2				55	36.7 (16.8)
Total																
White crappie							2	16	12	15	2	2			49	10.9 (3.1)
Black crappie						1	7	46	42	29	22	6	2		155	34.4 (7.5)

Dataset = cfdpsher.d16

Table 44. PSD and RSD_{10} values calculated for crappie electrofished from Herrington Lake during March 2016.

Species	No. ≥5.0 in	PSD	RSD_{10}
White crappie	49	100 (± 0)	63 (± 14)
Black crappie	155	99 (± 1)	65 (± 8)

Dataset = cfdpsher.d16

Table 45. Population assessment for white crappie collected during spring electrofishing at Herrington Lake from 2003-2016 (scoring based on lake-specific assessment).

Year		Total CPUE	Mean length age-2 at capture	Spring CPUE ≥8.0 in	Spring CPUE ≥10.0 in	CPUE age-2	Total score	Assessment rating
2016	Value	10.9	8.8*	10.9	9.1	1.8^		
	Score	1	3	1	1	1	7	Poor
2015	Value				No sample			
	Score							
2014	Value	16.7	8.8	16.2	15.1	0.9		
	Score	1	3	1	2	1	8	Fair
2013	Value				No sample			
	Score							
2012	Value	72.0	8.0	69.6	48.9	12.1		
	Score	4	1	4	4	1	14	Good
2011	Value	78.4	8.3	68.2	7.3	72.8		
	Score	4	2	4	1	4	15	Good
2010	Value	27.1	9.1	14.9	8.0	8.4		
	Score	2	4	1	1	1	9	Fair
2009	Value	17.0	9.1	17.0	9.5	7.6		
	Score	1	4	2	1	1	9	Fair
2008	Value	15.8	9.3	15.6	5.3	12.5		
	Score	1	4	1	1	1	8	Fair
2007	Value	6.9	9.2	6.2	3.1	3.8		
	Score	1	4	1	1	1	8	Fair
2006	Value	11.6	8.9	11.3	10.2	0.7		
	Score	1	3	1	2	1	8	Fair
2005	Value	34.2	8.9	29.6	7.8	28.4		
	Score	2	3	2	1	2	10	Fair
2004	Value	27.6	8.4	21.1	5.8	23.1		
	Score	2	2	2	1	2	9	Fair
2003	Value	10.2	8.7	7.7	5.0	4.0		
	Score	1	3	1	1	1	7	Poor

* Age data not collected
^Calculations based on age data gathered in previous years

Table 46. Population assessment for black crappie collected during spring electrofishing at Herrington Lake from 2003-2016 (scoring based on lake-specific assessment).

Year		Total CPUE	Mean length age-2 at capture	Spring CPUE ≥8.0 in	Spring CPUE ≥10.0 in	CPUE age-2	Total score	Assessment rating
2016	Value	34.4	8.9*	34.2	22.4	11.8^		
	Score	4	3	4	4	2	17	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	Fair
2013	Value				No Sample			
	Score							
2012	Value	12.4	9.3	12.2	10.0	2.8		
	Score	2	4	2	3	1	12	Fair
2011	Value	12.4	8.8	11.3	8.0	6.1		
	Score	2	3	2	3	1	11	Fair
2010	Value	22.9	8.1	13.1	3.6	19.7		
	Score	2	1	2	1	2	8	Fair
2009	Value	7.8	9.1	7.5	4.5	3.1		
	Score	1	3	1	2	1	8	Fair
2008	Value	8.2	9.5	8.2	4.0	5.0		
	Score	1	4	1	2	1	9	Fair
2007	Value	11.1	9.4	10.2	4.4	8.7		
	Score	2	4	2	2	2	12	Good
2006	Value	7.1	9.2	6.7	5.8	1.0		
	Score	1	3	1	2	1	8	Fair
2005	Value	47.3	8.9	39.3	13.8	45.0		
	Score	4	3	4	4	4	19	Excellent
2004	Value	6.7	9.0	6.1	5.2	1.3		
	Score	1	3	1	2	1	8	Fair
2003	Value	3.0	8.0	2.2	1.7	1.0		
	Score	1	1	1	1	1	5	Poor

* Age data not collected
^Calculations based on age data gathered in previous years

Table 47. 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 2016; numbers in parentheses are standard errors.

	Inch class																				
Location/Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Upper																					
Largemouth bass		2	7	5	19	37	70	35	8	34	25	12	12	4	9	5	1	2	2	289	115.6 (23.6)
Spotted bass		1					1				2	2								6	2.4 (1.2)
Middle																					
Largemouth bass	3	8	5	11	16	32	36	13	16	24	28	6	12	10	16	8	10	5	1	260	104.0 (10.9)
Spotted bass	1	1			2	3	7	6	3	13	9	1								46	18.4 (3.6)
Lower																					
Largemouth bass	2	11	2	13	42	31	30	25	15	17	12	8	8	11	16	12	11	5	5	276	110.4 (10.2)
Spotted bass	1					1	1	3	1		4	1	1							13	5.2 (2.2)
Total																					
Largemouth bass	5	21	14	29	77	100	136	73	39	75	65	26	32	25	41	25	22	12	8	825	110.0 (9.0)
Spotted bass	2	2			2	4	9	9	4	13	15	4	1							65	8.7 (1.9)

Dataset = cfdpsher.d16

Table 48. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Herrington Lake from 1994-2016; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	Total
1994	4.9 (0.9)	30.1 (4.4)	21.5 (2.6)	17.9 (1.8)	2.1 (0.5)	74.4 (5.4)
1995	8.8 (2.3)	20.0 (4.4)	25.6 (4.0)	20.4 (1.4)	3.2 (0.7)	74.8 (9.6)
1996	9.5 (2.4)	24.4 (3.9)	20.3 (2.8)	26.5 (2.6)	3.1 (0.7)	80.9 (6.7)
1997	15.6 (2.3)	19.9 (3.4)	27.3 (2.6)	22.0 (1.7)	2.9 (0.6)	84.8 (6.1)
1998	37.2 (3.8)	45.3 (4.1)	30.9 (2.5)	21.3 (2.2)	1.9 (0.6)	134.8 (7.2)
1999	43.2 (5.2)	69.1 (6.6)	40.4 (3.9)	21.6 (2.4)	1.1 (0.3)	174.3 (14.3)
2000	15.6 (3.9)	53.5 (6.6)	26.9 (2.2)	12.3 (1.4)	0.3 (0.2)	108.3 (10.8)
2001	37.1 (6.7)	40.1 (6.3)	34.1 (4.5)	12.5 (1.5)	0.5 (0.3)	123.9 (15.3)
2002	19.5 (2.6)	32.1 (4.7)	25.5 (3.5)	24.0 (2.2)	1.6 (0.5)	101.1 (9.7)
2003	20.8 (4.4)	23.9 (2.4)	30.1 (2.8)	17.9 (1.7)	1.2 (0.4)	92.7 (4.2)
2004	29.6 (5.5)	64.8 (12.2)	38.7 (5.7)	29.7 (3.4)	1.5 (0.4)	162.8 (23.9)
2005	70.9 (9.7)	59.6 (7.1)	23.5 (3.0)	22.3 (3.4)	0.8 (0.4)	176.3 (15.4)
2006	24.7 (4.8)	36.7 (4.8)	38.4 (3.8)	19.3 (1.8)	0.4 (0.2)	119.1 (9.2)
2007	78.1 (10.4)	68.8 (7.3)	20.0 (2.5)	17.3 (2.3)	0.5 (0.3)	184.3 (17.1)
2008	31.3 (2.9)	39.7 (4.6)	29.5 (3.0)	22.1 (3.1)	1.5 (0.5)	122.7 (8.6)
2009	5.3 (1.2)	9.4 (1.1)	15.3 (2.2)	10.8 (1.4)	0.4 (0.2)	40.6 (4.4)
2010	41.5 (4.4)	34.0 (4.4)	28.7 (3.2)	25.1 (2.3)	0.9 (0.3)	129.2 (10.2)
2011	24.5 (3.7)	22.7 (2.0)	10.9 (1.3)	10.8 (1.5)	0.3 (0.2)	68.9 (1.4)
2012	69.6 (10.1)	70.7 (10.9)	40.9 (4.6)	14.8 (2.1)	1.1 (0.5)	196.0 (23.7)
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)
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)
2015	32.9 (3.4)	16.8 (2.2)	20.9 (1.9)	17.6 (2.5)	0.8 (03)	88.3 (6.1)
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)

Dataset = cfdpsher.d16- .d94

Table 49. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in each area of Herrington Lake in 2016; confidence intervals are in parentheses.

Area	Species	No. ≥8.0 in	PSD	RSD_{15}
Lower	Largemouth bass	175	50 (± 7)	34 (± 7)
Middle	Largemouth bass	185	52 (± 7)	27 (± 6)
Upper	Largemouth bass	219	33 (± 6)	11 (± 4)
Total	Largemouth bass	579	44 (± 4)	23 (± 3)

Dataset = cfdpsher.d16

Table 50. Population assessment for largemouth bass collected during spring electrofishing at Herrington Lake from 2000-2016 (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
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
2012	Value	13.8*	111.7	40.9	14.8	1.1				
	Score	4	4	4	3	3			18	Excellent
2011	Value	13.8	18.7	10.9	10.8	0.3	0.539	41.7%		
	Score	4	2	1	2	2			11	Fair
2010	Value	13.7*	49.6^	28.7	25.1	0.9				
	Score	4	4	3	4	3			18	Excellent
2009	Value	13.7*	6.2^	15.3	10.8	0.4				
	Score	4	1	1	2	2			10	Fair
2008	Value	13.7*	34.6^	29.5	22.1	1.5				
	Score	4	3	3	4	4			18	Excellent
2007	Value	13.7	96.5	20.0	17.3	0.5	0.485	38.4%		
	Score	4	4	2	3	3			16	Good
2006	Value	13.7*	25.1^	38.4	19.3	0.4				
	Score	4	3	4	3	2			16	Good
2005	Value	13.7*	72.1^	23.5	22.3	0.8				
	Score	4	4	3	4	3			18	Excellent
2004	Value	13.7*	33.5^	38.7	29.7	1.5				
	Score	4	3	4	4	4			19	Excellent
2003	Value	13.7	20.9	30.1	17.9	1.2	0.498	39.2%		
	Score	4	2	3	3	3			15	Good
2002	Value	11.7*	16.7^	25.5	24.0	1.6				
	Score	2	2	3	4	4			15	Good
2001	Value	11.7	28.2	34.1	12.5	0.5	0.455	36.6%		
	Score	2	3	4	2	3			14	Good
2000	Value	11.0	13.1	26.9	12.3	0.3	0.620	46.2%		
	Score	1	2	3	2	2			10	Fair

* 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 51. Length distribution and CPUE (fish/hr) of black bass collected in 4.5 hours of 15-minute electrofishing runs in Herrington Lake in September 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower																				
Largemouth bass	3	16	8	4	8	11	11	11	8	3	4	2	2	1	4			1	97	64.7 (12.9)
Spotted bass		2	1	1				3	1	2	1								11	7.3 (1.6)
Middle																				
Largemouth bass		6	19	3	1	3	3	15	9	6	6	5	3			1	1		81	54.0 (11.8)
Spotted bass		1		2			4			1		1							9	6.0 (0.9)
Upper																				
Largemouth bass	1	11	18	16	7	6	8	14	8	6	5	2	2	4	3	2	1	1	115	76.7 (15.3)
Spotted bass		1		1		1													3	2.0 (1.4)
Smallmouth bass														1					1	0.7 (0.7)
Total																				
Largemouth bass	4	33	45	23	16	20	22	40	25	15	15	9	7	5	7	3	2	2	293	65.1 (7.6)
Spotted bass		4	1	4		1	4	3	1	3	1	1							23	5.1 (0.9)
Smallmouth bass														1					1	0.2 (0.2)

Dataset = cfdwrher.d16

Table 52. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Herrington Lake on 27-29 September 2016. Standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Lower	41	91 (1)	9	86 (2)	8	93 (2)	58	90 (1)
	Middle	30	90 (1)	17	90 (5)	5	93 (6)	52	90 (2)
	Upper	36	94 (1)	13	95 (2)	13	95 (4)	62	94 (1)
	Total	107	92 (1)	39	91 (3)	26	94 (3)	172	92 (1)

Dataset = cfdwrher.d16

Table 53. Indices of year class strength at age-0 and age-1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Herrington Lake.

		Age-0		Age-0		Age-0 ≥5.0 in		Age-1 (Natural)	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2001	Total	4.5	0.1	18.3	2.9	5.9	0.9	16.7	2.2
2002	Total	4.6	0.2	9.8	2.0	4.9	1.2	20.9	4.3
2003	Total	4.6	0.1	51.1	6.0	27.3	5.3	33.5	6.0
2004	Total	4.9	0.1	15.6	3.0	9.0	2.1	72.1	9.5
2005	Total	5.3	0.1	24.2	5.1	16.9	4.5	25.1	4.9
2006	Total	4.8	0.1	40.9	5.8	20.4	4.3	96.5	11.6
2007	Total	5.1	0.1	8.0	2.5	5.3	1.9	34.6	3.0
2008	Total	5.1	0.1	25.8	4.9	13.8	3.7	6.2	1.2
2009	Total	4.7	0.1	109.8	16.2	55.1	15.5	49.6	5.4
2010	Total	5.8	0.1	22.0	3.4	17.6	3.3	26.6	3.6
2011	Total	5.8	0.1	54.5	7.8	43.8	6.7	111.7	17.7
2012	Total	5.4	0.1	33.6	6.2	21.8	4.9	11.3	2.1
2013	Total	4.5	0.1	49.1	4.9	19.3	3.1	33.9	4.3
2014	Total	4.7	0.1	36.9	6.0	20.0	3.5	38.4	3.9
2015	Total	5.2	0.1	67.8	10.3	44.8	7.9	59.2	
2016	Total	5.4	0.1	24.9	3.6	16.7	2.8	----	

Table 54. Length distribution and CPUE (fish/nn) of white bass and hybrid striped bass collected during 20 net-nights of gill netting in Herrington Lake in October 2016; numbers in parentheses are standard errors.

	Inch class																	
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE
White bass		6	4	2	14	25	34	22	4	3								114	5.7 (1.4)
Hybrid striped bass	1	2	3	12	1		1		4	32	38	4	1	2		1	2	104	5.2 (1.1)
Reciprocal	1	2	3	8					2	16	29	1	1	2		1	2	68	3.4 (0.6)
Original				4	1		1		2	16	9	3						36	1.8 (0.5)

Dataset = cfdgnher.d16

Table 55. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Herrington Lake in 2016.

		Age		
Year class	No.	1	2	3
2015	78	13.7		
2014	3	7.1	17.0	
2013	3	12.3	18.2	21.4
Mean	84	13.4	17.6	21.4
Smallest		6.2	16.4	21.0
Largest		15.6	18.5	21.7
Std error		0.2	0.3	0.2
95% ConLo		13.1	17.0	21.0
95% ConHi		13.8	18.3	21.9

Intercept Value = 0.00
Dataset = cfdagher.d16

Table 56. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 20 net-nights at Herrington Lake in 2016.

	Inch class																				Std
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	%	CPUE	err
0+	1	2	3	12	1													19	18	1.0	0.4
1+							1		4	32	38	4						79	76	4.0	0.8
2+													1	2				3	3	0.2	0.1
3+																1	2	3	3	0.2	0.1
Total	1	2	3	12	1		1		4	32	38	4	1	2		1	2	104	100	5.2	1.1
%	1	2	3	12	1		1		4	31	37	4	1	2		1	2	100			

Dataset = cfdagher.d16 and cfdgnher.d16

Table 57. Number of fish and the relative weight (W_r) for each length group of hybrid striped bass collected at Herrington Lake in October 2016.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Hybrid striped bass	Total	18	97 (1)	1	96 (0)	84	87 (1)	103	89 (1)

Dataset = cfdgnher.d16

Table 58. Population assessment for hybrid striped bass collected during fall gill netting at Herrington Lake from 2000-2016 (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
2016	Value	4.3	17.0	4.2	4.0				
	Score	2	2	2	3			9	Fair
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
2012	Value	1.1	19.6	1.0	0.8	-	-		
	Score	1	4	1	1			7	Fair
2011	Value	5.3	19.7	5.3	3.7	-	-		
	Score	2	4	3	3			12	Good
2010	Value	5.3	20.0	4.7	4.9	1.211	70.2		
	Score	2	4	2	3			11	Good
2009	Value	2.7	19.3	2.7	2.1	1.109	66.3		
	Score	1	4	2	2			9	Fair
2008	Value	6.0	20.2	6.0	3.6	0.912	59.8		
	Score	2	4	3	2			11	Good
2007	Value	6.2	20.6	4.9	5.6	1.122	67.4		
	Score	2	4	3	3			12	Good
2006	Value	1.3	21.4	1.3	4.0	0.633	46.9		
	Score	1	4	1	3			9	Fair
2005	Value	0.4	19.5	0.4	0.3	NA	NA		
	Score	1	4	1	1			7	Fair
2004	Value	2.5	20.8	2.2	0.1	NA	NA		
	Score	1	4	2	1			8	Fair
2003	Value	3.1	19.8	2.9	1.1	0.601	45.2		
	Score	1	4	2	2			9	Fair
2002	Value	8.2	20.8	7.0	3.6	0.770	53.7		
	Score	3	4	3	2			12	Good
2001	Value	4.7	20.1	4.7	0.8	NA	NA		
	Score	2	4	2	1			9	Fair
2000	Value	8.9	18.9	8.9	5.5	1.282	72.3		
	Score	3	4	3	3			13	Good

Table 59. Mean back calculated lengths (in.) at each annulus for otoliths from white bass gill netted at Herrington Lake in 2016.

		Age			
Year class	No.	1	2	3	4
2015	20	9.8			
2014	56	8.3	12.4		
2013	9	9.4	12.4	13.8	
2012	6	8.3	12.1	14.0	15.1
Mean	91	8.7	12.4	13.9	15.1
Smallest		6.4	10.6	12.2	14.3
Largest		11.2	14.1	15.3	15.7
Std error		0.1	0.1	0.2	0.2
95% ConLo		8.5	12.2	13.5	14.7
95% ConHi		9.0	12.5	14.3	15.6

Intercept Value = 0.00
Dataset = cfdagher.d16

Table 60. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 20 net-nights at Herrington Lake in 2016.

	Inch class												
Age	8	9	10	11	12	13	14	15	16	Total	%	CPUE	Std err
0+	6	3	1							10	9	0.5	0.2
1+		1	1	14	4					20	18	1.0	0.3
2+					21	34	14			68	59	3.4	0.9
3+						1	7	2		10	9	0.5	0.2
4+							1	2	3	6	5	0.3	0.1
Total	6	4	2	14	25	34	22	4	3	114	100	5.7	1.4
%	5	4	2	12	22	30	19	4	3	100			

Dataset = cfdagher.d16 and cfdgnher.d16

Table 61. Population assessment for white bass collected during fall gill netting at Herrington Lake from 2000-2016 (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
2016	Value	5.2	12.4	4.4	1.0				
	Score	2	1	3	1			7	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
2012	Value	9.8	13.7	5.9	5.4	0.975	62.3		
	Score	3	4	3	3			13	Good
2011	Value	10.8	13.7	9.2	4.4	0.877	58.4		
	Score	3	4	4	3			14	Excellent
2010	Value	7.9	13.6	4.0	6.2	1.351	74.1		
	Score	3	3	3	3			12	Good
2009	Value	3.4	13.1	2.3	2.7	0.900	59.3		
	Score	2	2	2	2			8	Fair
2008	Value	6.7	13.3	5.8	2.1	0.717	51.2		
	Score	2	2	3	2			9	Fair
2007	Value	5.6	13.6	3.8	2.9	0.722	51.4		
	Score	2	3	3	2			10	Good
2006	Value	1.9	13.9	1.3	0.9	*	*		
	Score	1	4	2	1			8	Fair
2005	Value	2.1	13.5	2.0	0.2	0.371	31.0		
	Score	1	3	2	1			7	Fair
2004	Value	10.1	13.9	6.7	9.2	0.726	51.6		
	Score	3	4	3	4			14	Excellent
2003	Value	2.5	14.1	1.9	0.6	0.381	31.7		
	Score	1	4	2	1			8	Fair
2002	Value	2.9	14.1	2.4	2.0	0.841	56.9		
	Score	1	4	2	2			9	Fair
2001	Value	1.9	14.0	1.8	1.1	0.418	34.2		
	Score	1	4	2	1			8	Fair
2000	Value	3.5	13.9	2.8	2.0	0.741	52.4		
	Score	2	4	2	2			10	Good

Table 62. Number of fish and the relative weight (Wr) for each length group of white bass collected at Herrington Lake in October 2016.

		Length group							
Species	Area	6.0–8.9 in		9.0–11.9 in		≥12.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
White bass	Total	6	93 (1)	20	89 (2)	88	86 (1)	114	87 (1)

Dataset = cfdgnher.d16

Table 63. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Guist Creek Lake in September 2016; numbers in parentheses are standard errors.

	Inch class																				
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Largemouth bass	4	36	36	8	7	34	22	14	17	15	9	7	12	6	13	8	3	1	2	254	169.3 (13.2)

Dataset = cfdwrgcl.d16

Table 64. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Guist Creek Lake on 19 September 2016. Standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	77	91 (1)	30	95 (1)	44	100 (1)	151	95 (1)

Dataset = cfdwrgcl.d16

Table 65. Indices of year class strength at age-0 and age-1 and mean lengths (in) of 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	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2000	Total	3.6	0.1	19.5	4.0	0.0		25.7	5.3
2001	Total	3.9	0.1	65.3	14.0	1.0	0.5	23.8	6.7
2002	Total	4.7	0.1	47.3	7.6	19.3	2.8	16.3	3.3
2003	Total	4.0	0.1	30.7	8.2	6.0	2.0	22.1	4.8
2004	Total	4.0	0.1	40.7	6.0	0.7	0.7	21.4	4.2
2005	Total	4.5	0.1	24.5	4.4	5.0	2.0	15.2	4.5
2006	Total	3.9	0.1	50.7	8.5	10.0	4.2	15.5	2.2
2007	Total	3.8	0.2	12.7	4.2	2.7	1.7	8.1	2.0
2008	Total	3.2	0.1	139.3	23.6	0.7	0.7	6.7	2.4
2009	Total	3.7	0.1	51.3	9.8	0.7	0.7	31.5	3.1
2010	Total	4.9	0.1	41.3	4.2	18.7	2.0	16.4	1.6
2011	Total	4.4	0.1	34.7	13.2	7.3	3.9	13.3	4.2
2012	Total	4.1	0.1	46.0	7.9	7.3	3.2	21.3	7.0
2013	Total	4.0	0.1	38.7	7.0	6.7	2.7	3.7	1.0
2014	Total	4.0	0.1	27.3	5.2	3.3	0.7	13.0	6.4
2015	Total	5.0	0.1	49.3	5.1	28.0	2.3	---	
2016	Total	5.0	0.1	56.0	8.6	29.3	7.4	---	

Table 66. Length distribution and CPUE (fish/hr) of saugeye collected in 1.5 hours of 15-minute electrofishing runs in Guist Creek Lake in November 2016; numbers in parentheses are standard errors.

	Inch class																
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Saugeye	2	1	8	3	3	3	6	13	9	4	1	1	4	2	2	62	41.3 (12.0)

Dataset = cfdwrgcl.d16

Table 67. Length composition, relative abundance, 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 1 November 2016. Nets were pulled three days after setting them and three sets of tandem nets were used for the sampling event.

	Inch class																				
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	Average per set
Channel catfish	2	1	3	1	2	11	22	22	20	23	15	8	19	11	11	17	6	3	1	198	66.0 (26.6)

Dataset = cfdhngcl.d16

Table 68. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Guist Creek Lake in 2016; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	191	60 (± 7)	2 (± 2)

Dataset = cfdhngcl.d16

Table 69. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Guist Creek Lake in October 2016; standard errors are in parentheses.

		Length group							
Species	Area	11.0–15.9 in		16.0–23.9 in		≥24.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Channel catfish	Total	77	88 (1)	110	96 (1)	4	104 (5)	191	93 (1)

Dataset = cfdhngcl.d16

Table 70. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Guist Creek Lake from 2006-2016; numbers in parentheses are standard errors.

	Length group			
Year	≥12.0 in	≥15.0 in	≥20.0 in	Total
2006	43.8 (12.5)	6.0 (2.1)	1.8 (0.8)	274.2 (95.6)
2007	208.2 (106.1)	60.0 (32.6)	13.0 (7.6)	382.0 (184.4)
2008	87.4 (24.4)	26.6 (10.4)	7.4 (2.9)	107.2 (29.2)
2009	45.4 (11.9)	22.2 (5.8)	4.4 (1.6)	73.0 (16.0)
2010	42.0 (10.3)	18.8 (4.4)	4.6 (1.6)	78.6 (19.9)
2011	13.2 (3.2)	4.6 (1.7)	0.2 (0.2)	31.6 (7.3)
2012	21.8 (12.0)	8.2 (5.5)	2.4 (1.6)	50.2 (26.4)
2013		No Sample		
2014	47.8 (14.0)	25.0 (9.5)	11.2 (3.3)	79.8 (20.6)
2015		No Sample		
2016	63.0 (25.7)	44.7 (18.6)	16.3 (7.8)	66.0 (26.6)

Dataset = cfdhngcl.d16- .d06

Table 71. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.5 hours of 15-minute electrofishing runs in A.J. Jolly Lake, April 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Largemouth bass	1	5	6	5	28	33	10	9	23	21	17	11	11	18	16	18	2	3	237	94.8 (16.3)
Saugeye				18	20	10	9	6	6	5	1	1	2	1		1	1		81	32.4 (3.6)

Dataset = cfdpsajj.d16

Table 72. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from A.J. Jolly Lake from 1996-2016; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	Total
1996	18.5 (2.8)	13.5 (1.7)	24.0 (5.7)	9.5 (2.5)	0.0	65.5 (7.4)
1997	11.6 (1.9)	37.2 (3.8)	19.6 (2.1)	20.4 (2.6)	0.8 (0.5)	88.8 (4.7)
1998	11.5 (1.9)	42.5 (8.0)	24.5 (2.4)	25.5 (3.5)	2.0 (1.1)	104.0 (11.6)
1999	5.0 (2.4)	21.0 (6.1)	32.0 (6.5)	26.0 (4.5)	4.0 (1.3)	84.0 (13.7)
2000	27.0 (5.4)	25.0 (4.3)	9.5 (1.5)	20.0 (3.3)	1.5 (0.7)	81.5 (7.9)
2001	35.5 (5.9)	48.5 (5.7)	12.0 (2.4)	26.0 (5.2)	2.0 (1.1)	122.0 (13.5)
2002	10.0 (2.1)	44.5 (8.2)	9.5 (1.5)	18.0 (3.1)	0.5 (0.5)	82.0 (10.5)
2003	14.5 (4.3)	40.5 (4.2)	19.0 (4.3)	7.5 (2.2)	0.0	81.5 (7.7)
2004*						
2005	55.5 (10.4)	19.5 (4.0)	12.5 (1.8)	7.0 (2.0)	0.0	94.5 (14.9)
2006	28.0 (6.9)	23.5 (3.5)	5.5 (2.0)	2.5 (1.1)	0.0	59.5 (7.6)
2007	31.6 (4.4)	36.8 (5.9)	15.2 (2.3)	14.0 (2.8)	0.0	97.6 (11.2)
2008	7.2 (1.4)	14.8 (4.1)	14.8 (2.7)	8.0 (3.1)	0.0	44.8 (6.2)
2009	15.6 (2.4)	19.6 (2.6)	12.8 (2.9)	12.8 (2.7)	2.0 (0.9)	60.8 (7.7)
2010	12.4 (2.6)	22.8 (4.0)	20.8 (3.8)	21.2 (3.7)	1.6 (0.9)	77.2 (8.9)
2011	26.8 (5.0)	12.8 (3.3)	12.4 (2.9)	20.4 (3.4)	0.8 (0.8)	72.4 (10.1)
2012	35.6 (6.0)	32.4 (6.9)	19.6 (2.4)	20.0 (4.8)	0.4 (0.4)	107.6 (14.5)
2013	11.6 (2.6)	23.2 (3.7)	24.0 (5.1)	17.2 (2.9)	1.6 (0.9)	76.0 (9.9)
2014	13.6 (2.8)	21.2 (2.9)	16.0 (3.2)	24.0 (5.1)	2.0 (0.9)	74.8 (9.1)
2015	43.2 (6.8)	24.8 (5.1)	12.4 (2.2)	15.2 (4.2)	0.8 (0.5)	95.6 (7.4)
2016	18.0 (3.4)	30.0 (4.2)	19.6 (4.2)	27.2 (9.8)	1.2 (0.9)	94.8 (16.3)

Dataset = cfdpsajj.d96 – d016
*No spring sample collected in 2004

Table 73. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in A.J. Jolly Lake in 2016; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	192	61 (± 7)	35 (± 7)

Dataset = cfdpsajj.d16

Table 74. Population assessment for largemouth bass collected during spring electrofishing at A.J. Jolly Lake from 2010-2016 (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
2016	Value	12.3*	5.2	19.6	27.2	1.2				
	Score	4	1	2	4	2			13	Good
2015	Value	12.3	38.8	12.4	15.2	0.8				
	Score	4	3	1	3	2			13	Good
2014	Value	11.9*	8.0	16.0	24.0	2.0				
	Score	4	2	2	3	3			14	Good
2013	Value	11.9*	10.4	24.0	17.2	1.6				
	Score	4	2	2	3	3			14	Good
2012	Value	11.9*	27.2	19.6	20.0	0.4				
	Score	4	3	2	3	2			14	Good
2011	Value	11.9	26.0	12.4	20.4	0.8				
	Score	4	3	1	3	2			13	Good
2010	Value	11.8*	4.0	20.8	21.2	1.6				
	Score	4	1	2	3	3			13	Good

* Age data not collected

Table 75. Length distribution and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute electrofishing runs for black bass in A.J. Jolly Lake in October 2016; numbers in parentheses are standard errors.

	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
Largemouth bass	1	12	24	32	19	6	16	21	12	11	7	7	5	5	5	3	1	1				188	94.0 (8.1)
Saugeye				2	3	2	3	8	6	1	1	1	3		2	1		1	4	2	2	42	21.0 (5.3)

Dataset = cfdwrajj.d16

Table 76. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at A.J. Jolly Lake on 5 October 2016; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	59	88 (1)	19	85 (2)	15	95 (4)	93	89 (1)

Dataset = cfdwrajj.d16

Table 77. Indices of year class strength at age-0 and age-1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at A.J. Jolly Lake.

		Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2004	Total	3.5	0.1	36.7	5.2	2.0	0.9	49.8	9.2
2005	Total	4.3	0.1	16.0	3.7	2.7	1.3	23.7	5.7
2006	Total	4.1	0.2	8.7	2.8	0.7	0.7	28.5	4.5
2007	Total	4.4	0.3	5.6	1.8	2.0	0.9	3.6	1.1
2008	Total	4.6	0.1	29.7	4.4	7.4	2.2	12.0	2.0
2009	Total	4.2	0.2	8.4	2.5	1.3	0.7	4.0	1.9
2010	Total	5.2	0.1	42.4	5.2	26.8	4.1	26.0	4.6
2011	Total	4.9	0.1	22.0	3.6	13.5	4.2	27.2	4.8
2012	Total	4.9	0.1	22.0	3.6	12.0	2.9	10.4	2.2
2013	Total	4.5	0.1	23.0	3.4	6.0	2.3	8.0	2.0
2014	Total	4.5	0.2	19.5	5.9	8.0	2.8	38.8	6.4
2015	Total	4.3	0.1	21.5	5.7	5.5	2.8	5.2	2.1
2016	Total	5.1	0.1	44.0	4.5	25.5	4.8		

Kentucky Department of Fish and Wildlife Resources

AJ JOLLY LAKE ANGLER ATTITUDE SURVEY 2016

(Based on 74 surveys)

1. Have you completed this survey this year? **12.2%** Yes **87.8%** No

2. In general, what level of satisfaction or dissatisfaction do you have with fishing at AJ Jolly Lake? (n=73)

   21.9% Very satisfied **34.2%** Somewhat satisfied **27.4%** Neutral **12.3%** Somewhat dissatisfied
   4.2% Very dissatisfied

   2a. If you responded with very or somewhat satisfied in question (2) - What is the single most important reason for your Satisfaction? (n=55)

   34.5% Number of fish **21.8%** Size of fish **3.6%** Size Limit **1.8%** Creel Limit **16.4%** Low Angler Pressure
   21.9% Other (close to home, campground, shoreline access, species variation, balanced lake, pleasant atmosphere)

   2b. If you responded with somewhat or very dissatisfied in question (2) - What is the single most important reason for your Dissatisfaction? (n=13)

   84.6% Number of fish **15.4%** Size of fish

3. Are you satisfied with the current size limits and creel limits at AJ Jolly Lake? (n=68)

   97.1% Yes **2.9%** No

   If not, what would you prefer (not sure what the size limits are currently, just not great fishing)

4. In general, what level of satisfaction or dissatisfaction do you have with the current facilities, boat ramp and courtesy dock at AJ Jolly Lake? (n=69)

   37.7% Very satisfied **30.4%** Somewhat satisfied **27.5%** Neutral **4.3%** Somewhat dissatisfied
   0% Very dissatisfied

5. If you were able to choose the type of fisheries management at A.J. Jolly Lake, which of the following scenarios would be your number one choice? (n=71)

   9.9% High numbers of small bluegill (3-5 inches) and low numbers of quality bass (13-20 inches), which could be hard to catch at times. (Quality Bass Management)
   63.4% Average numbers of quality bluegill (hand-sized) and average numbers of quality bass (8-14 inches)l (Balanced Bass and Bluegill Management)
   11.3% High numbers of smaller easily caught bass (generally under the 12 inch size limit) and lower numbers of quality bluegill (hand-size or bigger) (Quality Bluegill Management)
   15.4% Don't fish for bass or bluegill or No Opinion

Table 78. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute electrofishing runs in Beaver Lake, April 2016; numbers in parentheses are standard errors.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE
Largemouth bass	5	57	119	25	7	29	42	69	68	46	21	9	4	4	3	6	4	5	3	1	527	263.5 (31.0)

Dataset = cfdpsbvr.d16

Table 79. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Beaver Lake from 1992-2016; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	Total
1992	7.1 (2.1)	105.3 (8.6)	4.9 (1.1)	19.1 (4.8)	9.3 (3.3)	136.4 (5.6)
1993	22.5 (3.9)	59.5 (5.3)	76.0 (7.9)	13.0 (4.3)	8.5 (2.8)	171.0 (12.2)
1994	22.5 (2.8)	5.5 (2.5)	41.5 (3.3)	28.5 (4.5)	6.5 (2.8)	96.5 (6.9)
1995	73.0 (8.4)	37.5 (5.9)	10.0 (3.8)	34.0 (7.0)	6.0 (2.3)	154.5 (9.9)
1996	81.0 (11.6)	47.0 (6.3)	8.0 (2.0)	37.5 (2.9)	3.0 (0.7)	173.5 (17.8)
1997	84.5 (12.2)	99.5 (16.7)	8.5 (2.1)	42.5 (9.6)	6.0 (3.2)	235.0 (34.1)
1998	36.0 (4.2)	206.5 (17.6)	14.5 (4.8)	30.5 (6.6)	5.5 (1.7)	287.5 (22.8)
1999	42.0 (11.0)	71.5 (7.3)	17.0 (2.6)	22.0 (3.5)	7.5 (1.6)	152.5 (18.1)
2000	56.0 (7.7)	26.5 (5.6)	28.5 (2.2)	24.5 (2.9)	3.0 (1.3)	137.0 (9.8)
2001	142.5 (8.6)	66.5 (8.6)	25.5 (1.5)	39.0 (6.1)	4.0 (1.5)	273.5 (17.1)
2002	55.5 (10.8)	97.0 (13.6)	16.0 (2.1)	32.0 (4.9)	2.5 (1.1)	200.5 (26.8)
2003	142.5 (9.1)	131.5 (12.9)	20.0 (3.0)	18.0 (2.4)	2.0 (0.8)	312.0 (20.4)
2004	154.5 (5.5)	198.0 (15.1)	48.0 (7.5)	17.0 (3.7)	2.0 (0.8)	417.5 (20.3)
2005	68.5 (11.4)	298.0 (22.7)	42.0 (7.7)	15.0 (3.5)	4.5 (1.4)	423.5 (21.6)
2006	115.0 (11.3)	217.5 (36.5)	40.0 (3.7)	10.0 (2.3)	2.5 (1.1)	382.5 (34.9)
2007	30.5 (4.8)	176.5 (31.1)	42.5 (9.6)	10.0 (2.7)	3.0 (1.0)	259.5 (40.4)
2008	44.5 (6.6)	203.5 (22.4)	61.0 (6.0)	8.5 (1.8)	2.0 (0.8)	317.5 (29.4)
2009	14.5 (2.8)	146.5 (28.5)	84.5 (15.6)	3.5 (2.1)	0.5 (0.5)	249.0 (45.3)
2010	76.7 (6.8)	99.8 (8.5)	58.9 (4.5)	2.9 (0.7)	0.2 (0.2)	238.2 (14.3)
2011	23.5 (5.8)	56.0 (8.2)	70.5 (5.9)	6.5 (1.5)	0.0 (0.0)	156.5 (13.7)
2012	97.0 (11.6)	81.5 (6.4)	73.5 (6.8)	14.0 (2.9)	2.5 (1.1)	266.0 (12.5)
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)
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)
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)
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)

Dataset = cfdpsbvr.d16 - .d92

Table 80. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Beaver Lake in 2016; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	314	34 (± 5)	9 (± 3)

Dataset = cfdpsbvr.d16

Table 81. Population assessment for largemouth bass collected during spring electrofishing at Beaver Lake from 2000-2016 (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
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
2012	Value	10.7*	94.5	73.5	14.0	2.5				
	Score	2	4	4	3	3			16	Good
2011	Value	10.7*	23.4	70.5	6.5	0.0				
	Score	2	3	4	2	1			12	Fair
2010	Value	10.7	76.7	58.9	2.9	0.2	0.293	25.4		
	Score	2	4	4	1	1			12	Fair
2009	Value	10.3*	3.0^	84.5	3.5	0.5				
	Score	2	1	4	1	2			10	Fair
2008	Value	10.3*	23.0^	61.0	8.5	2.0				
	Score	2	3	4	2	3			14	Good
2007	Value	10.3	2.0	42.5	10.0	3.0	0.622	46.3		
	Score	2	1	3	2	3			11	Fair
2006	Value	10.7*	108.3^	40.0	10.0	2.5				
	Score	2	4	3	2	3			14	Good
2005	Value	10.7*	38.7^	42.0	15.0	4.5				
	Score	2	3	3	3	4			15	Good
2004	Value	10.7*	97.6^	48.0	17.0	2.0				
	Score	2	4	4	3	3			16	Good
2003	Value	10.7	133.2	20.0	18.0	2.0	0.540	41.7		
	Score	2	4	2	3	3			14	Good
2002	Value	11.7*	35.4^	16.0	32.0	2.5				
	Score	4	3	2	4	3			16	Good
2001	Value	11.7	47.8	25.5	39.0	4.0				
	Score	4	3	3	4	4			18	Excellent
2000	Value	10.7*	31.5^	30.0	24.5	3.0				
	Score	2	3	3	3	3			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 82. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.0 hours of 15-minute electrofishing runs for black bass in Beaver Lake in October 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Largemouth bass	1	49	205	111	10	23	68	59	55	32	11	5	1	1	2			1	634	634.0 (47.8)

Dataset = cfdwrbvr.d16

Table 83. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Beaver Lake on 12 October 2016; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	99	82 (1)	40	82 (1)	5	94 (4)	144	82 (1)

Dataset = cfdwrbvr.d16

Table 84. Indices of year class strength at age-0 and age-1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Beaver 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
2000	Total	3.7	0.1	127.3	32.9	6.7	2.2	47.8	5.7
2001	Total	4.6	0.1	139.3	28.1	40.7	13.9	35.4	8.9
2002	Total	4.4	0.1	104.0	7.5	19.3	4.6	133.2	9.3
2003	Total	3.7	0.1	117.3	22.0	0.0		97.6	5.0
2004	Total	3.7	0.1	86.7	17.1	3.3	1.6	38.7	10.7
2005	Total	4.0	<0.1	199.3	26.3	18.7	4.1	108.3	10.2
2006	Total	4.3	0.1	8.0	2.7	0.0		2.0	1.1
2007	Total	4.6	0.1	175.3	31.2	46.7	4.6	23.5	4.4
2008	Total	3.4	0.1	21.3	11.9	0.0		4.5	1.4
2009	Total	5.0	0.1	112.7	21.9	56.7	10.7	76.7	6.8
2010	Total	4.0	0.1	38.7	14.1	4.7	2.2	23.4	5.4
2011	Total	4.2	0.1	142.0	23.9	18.0	4.1	94.5	11.1
2012	Total	4.3	<0.1	124.6	24.6	17.7	4.0	50.0	7.1
2013	Total	3.8	0.1	78.7	6.2	3.3	2.2	47.3	7.4
2014	Total	4.1	0.1	94.7	15.0	14.0	3.5	46.3	7.6
2015	Total	4.2	<0.1	184.5	23.6	28.5	4.4	103.0	20.9
2016	Total	5.6	<0.1	370.0	34.9	320.0	25.8		

Table 85. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Beaver Lake, May 2016; numbers in parentheses are standard errors.

Species	Inch class 1	2	3	4	5	6	7	8	9	Total	CPUE
Bluegill	3	39	35	132	100	111	141	2		563	450.4 (81.4)
Redear sunfish		1		4	2	2	2	2	1	14	11.2 (2.1)

Dataset = cfdpsbvr.d16

Table 86. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Beaver Lake during May 2016. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	521	49 (± 4)	1 (± 1)
Redear sunfish	13	38 (±27)	8 (± 8)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpsbvr.d16

Table 87. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Beaver Lake from 1992-2016; numbers in parentheses are standard errors.

	Length group				
Year	<3.0 in	3.0–5.9 in	6.0-7.9 in	≥8.0 in	Total
1992	1.3 (0.9)	54.2 (10.2)	80.9 (15.1)	0.0	136.4 (24.0)
1993	2.5 (1.1)	47.0 (6.2)	79.5 (10.0)	0.0	129.0 (12.6)
1994	2.5 (1.1)	130.0 (21.0)	20.0 (4.0)	0.0	152.5 (24.2)
1995	2.0 (1.1)	174.0 (18.4)	16.5 (4.7)	0.0	192.5 (17.3)
1996	0.5 (0.5)	184.5 (27.3)	65.5 (11.5)	0.0	250.5 (34.5)
1997	2.5 (1.1)	58.0 (12.6)	86.5 (14.4)	0.5 (0.5)	147.5 (27.4)
1998	0.5 (0.5)	28.0 (4.3)	88.0 (15.0)	0.5 (0.5)	117.0 (19.0)
1999	14.0 (4.5)	13.0 (5.5)	10.5 (3.0)	0.0	37.5 (8.3)
2000	50.0 (12.7)	322.0 (23.1)	32.0 (13.6)	7.5 (3.8)	411.5 (41.2)
2001	19.0 (5.1)	211.5 (16.0)	122.0 (15.2)	0.0	352.5 (20.2)
2002	5.6 (1.7)	175.2 (22.9)	152.8 (27.7)	0.0	333.6 (44.7)
2003	33.6 (6.4)	141.6 (17.5)	128.8 (21.9)	0.0	304.0 (30.1)
2004	36.0 (16.0)	118.4 (32.4)	143.2 (29.3)	0.0	297.6 (56.4)
2005	21.6 (4.5)	109.6 (14.6)	97.6 (19.3)	4.0 (2.2)	232.8 (19.7)
2006	20.1 (4.9)	60.9 (8.6)	55.7 (13.5)	8.3 (2.9)	145.1 (24.7)
2007	12.0 (2.6)	34.4 (4.6)	53.6 (9.5)	2.4 (1.7)	102.4 (10.4)
2008	69.6 (11.1)	112.4 (13.3)	38.0 (6.3)	4.0 (1.4)	224.0 (24.6)
2009	17.2 (5.1)	60.4 (10.0)	40.4 (5.9)	1.6 (0.9)	119.6 (15.3)
2010	35.6 (8.2)	134.8 (10.6)	24.4 (5.9)	4.4 (1.5)	199.2 (17.5)
2011	68.4 (20.3)	299.2 (47.8)	51.6 (8.1)	5.2 (1.9)	424.4 (70.4)
2012	5.6 (2.1)	131.2 (26.1)	59.2 (15.1)	0.0	196.0 (32.1)
2013	1.6 (1.1)	192.8 (16.5)	77.6 (9.8)	1.6 (1.6)	273.6 (23.4)
2014	1.6 (1.6)	252.8 (33.4)	252.8 (56.6)	0.0	507.2 (37.4)
2015	0.0 (0.0)	160.8 (16.6)	212.0 (37.0)	0.0	372.8 (44.9)
2016	33.6 (12.0)	213.6 (30.6)	201.6 (45.1)	1.6 (1.1)	450.4 (81.4)

Dataset = cfdpsbvr.d16 - .d92

Table 88. Population assessment for bluegill collected during spring electrofishing at Beaver Lake from 2001-2016 (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
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
2012	Value	4.8	2-2+	59.2	0.0	-	-		
	Score	4	4	3	1			12	Good
2011	Value	4.7	2-2+	56.8	5.2	0.834	55.6		
	Score	3	4	3	4			14	Excellent
2010	Value	4.5	3-3+	28.8	4.4	0.594	44.8		
	Score	3	3	1	3			10	Good
2009	Value	4.8	3-3+	42.0	1.6	0.723	51.5		
	Score	4	3	2	3			12	Good
2008	Value	4.2	3-3+	42.0	4.0	0.497	39.2		
	Score	2	3	2	3			10	Good
2007	Value	3.7	3-3+	56.0	2.4	0.666	48.6		
	Score	1	3	3	3			10	Good
2006	Value	3.4	3-3+	64.1	8.3	*	*		
	Score	1	3	3	4			11	Good
2005	Value	4.0	3-3+	101.6	4.0	0.340	28.8		
	Score	2	3	4	3			12	Good
2004	Value	3.9	3-3+	143.2	0.0	*	*		
	Score	2	3	4	1			10	Good
2003	Value	3.9	3-3+	128.8	0.0	*	*		
	Score	2	3	4	1			10	Good
2002	Value	3.9	2-2+	152.8	0.0	*	*		
	Score	2	4	4	1			11	Good
2001	Value	4.5	2-2+	122.0	0.0	*	*		
	Score	3	4	4	1			12	Good

* Age data not collected

Table 89. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Beaver Lake from 1992-2016; numbers in parentheses are standard errors.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
1992	0.4 (0.4)	10.2 (2.8)	90.2 (12.9)	1.8 (1.0)	0.4 (0.4)	102.7 (13.2)
1993	0.0	2.0 (1.5)	57.0 (10.7)	5.0 (2.0)	0.0	64.0 (12.2)
1994	0.0	6.5 (1.8)	8.0 (2.6)	2.5 (1.3)	0.0	17.0 (4.1)
1995	0.0	2.0 (1.1)	12.5 (3.6)	7.0 (2.7)	0.0	21.5 (5.2)
1996	0.0	6.0 (2.0)	5.5 (2.5)	8.0 (2.6)	0.0	19.5 (5.1)
1997	0.0	13.0 (1.8)	9.0 (2.1)	8.0 (1.7)	0.0	30.0 (1.5)
1998	0.0	3.5 (1.2)	9.0 (2.0)	9.5 (4.6)	0.0	22.0 (5.7)
1999	0.0	0.0	0.5 (0.5)	7.5 (1.8)	2.0 (1.1)	8.0 (2.0)
2000	1.0 (0.7)	5.5 (2.0)	3.5 (1.8)	6.0 (2.0)	1.5 (1.1)	16.0 (3.7)
2001	0.5 (0.5)	34.5 (6.9)	30.0 (6.8)	8.5 (2.9)	0.5 (0.5)	73.5 (10.5)
2002	0.0	49.6 (11.1)	77.6 (18.1)	7.2 (3.9)	0.8 (0.8)	134.4 (27.8)
2003	0.8 (0.8)	21.6 (6.1)	87.2 (15.0)	7.2 (3.3)	0.0	116.8 (20.0)
2004	0.0	38.4 (9.0)	44.0 (8.7)	26.4 (7.4)	0.0	108.8 (17.1)
2005	1.6 (1.1)	46.4 (7.0)	80.8 (12.4)	62.4 (10.8)	0.0	191.2 (22.6)
2006	0.4 (0.4)	46.1 (6.2)	82.2 (6.2)	35.7 (5.7)	0.0	164.4 (13.8)
2007	0.0	25.2 (6.1)	74.0 (13.5)	32.4 (6.6)	0.0	125.3 (23.2)
2008	10.0 (2.7)	15.2 (2.5)	58.4 (12.2)	90.4 (16.5)	0.0	174.0 (26.8)
2009	0.8 (0.6)	23.6 (4.8)	26.8 (4.8)	29.6 (5.8)	0.0	80.8 (11.5)
2010	0.4 (0.4)	21.6 (3.9)	27.6 (4.4)	33.6 (7.0)	1.2 (0.9)	83.2 (10.5)
2011	0.0	13.6 (3.4)	11.2 (2.0)	23.2 (4.9)	0.0	48.0 (6.3)
2012	0.0	5.6 (1.7)	28.8 (4.3)	68.0 (12.9)	9.6 (2.6)	102.4 (14.1)
2013	0.0	6.4 (2.6)	3.2 (1.3)	12.0 (4.7)	2.4 (1.7)	21.6 (5.2)
2014	0.0	3.2 (2.0)	6.4 (1.6)	12.8 (5.4)	4.8 (3.2)	22.4 (3.0)
2015	0.0	1.6 (1.1)	3.2 (1.3)	1.6 (1.1)	0.0	6.4 (1.6)
2016	0.8 (0.8)	4.8 (1.8)	3.2 (1.8)	2.4 (1.7)	0.0	11.2 (2.1)

Dataset = cfdpsbvr.d16 – .d92

Table 90. Population assessment for redear sunfish collected during spring electrofishing at Beaver Lake from 2001-2016 (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
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
2012	Value	7.5	3-3+	68.0	9.6	0.342	29.0		
	Score	2	4	4	4			14	Excellent
2011	Value	7.6	3-3+	23.2	1.6	0.398	32.8		
	Score	3	4	4	3			14	Excellent
2010	Value	7.5	4-4+	33.6	1.2	0.435	35.3		
	Score	2	3	4	3			12	Good
2009	Value	6.7	4-4+	29.6	0.0	0.413	33.9		
	Score	2	3	4	1			10	Good
2008	Value	6.3	4-4+	90.4	0.0	0.243	21.6		
	Score	1	3	4	1			9	Fair
2007	Value	6.4	4-4+	32.4	0.0	0.898	59.3		
	Score	1	3	4	1			9	Fair
2006	Value	5.7	4-4+	35.7	0.0	0.410	33.6		
	Score	1	3	4	1			9	Fair
2005	Value	6.4	4-4+	62.4	0.0	0.373	31.1		
	Score	1	3	4	1			9	Fair
2004	Value	6.6*	4-4+*	26.4	0.0				
	Score	2	3	4	1			10	Good
2003	Value	6.6	4-4+	7.2	0.0				
	Score	2	3	2	1			8	Fair
2002	Value	6.4*	3-3+*	7.2	0.8				
	Score	1	4	2	2			9	Fair
2001	Value	6.4	3-3+	8.5	0.5				
	Score	1	4	2	2			9	Fair

* Age data not collected

Table 91. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Beaver Lake on 12 October 2016; standard errors are in parentheses.

	Length group									
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	80	91 (2)	52	82 (1)	0				132	87 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	2	69 (20)	8	94 (3)	8	95 (2)	1	88	19	92 (3)

Dataset = cfdwrbvr.d16

Table 92. Length distribution and CPUE (fish/hr) of largemouth bass collected in 3.25 hours of electrofishing in Benjy Kinman Lake during April and May 2016.

	Inch class																				
Month	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
April	5	21	16		4	42	33	44	45	13	15	2	1	3	2	4	2	2		254	127.0 (18.6)
May	10	49	29	6	3	12	20	12	16	14	3	1						1	1	177	141.6 (12.6)
Total	15	70	45	6	7	54	53	56	61	27	18	3	1	3	2	4	2	3	1	431	132.6 (15.6)

Dataset = cfdpsbkl.d16

Table 93. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Benjy Kinman Lake in 2016; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	Total
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.d16

Table 94. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing sample in Benjy Kinman Lake in 2016; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	208	21 (± 6)	7 (± 3)

Dataset = cfdpsbkl.d16

Table 95. Population assessment for largemouth bass collected during spring electrofishing at Benjy Kinman Lake for 2016 (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
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 96. Length distribution 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 2016; numbers in parentheses are standard errors.

	Inch class																	
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE
Largemouth bass	7	35	22	2	11	30	20	17	9	8	6	1	3	1		1	173	115.3 (13.0)

Dataset = cfdwrbkl.d16

Table 97. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Benjy Kinman Lake on 16 September 2016. Standard errors are in parentheses.

Species	Area	Length group 8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	71	81 (1)	15	83 (3)	5	94 (2)	91	82 (1)

Dataset = cfdwrbkl.d16

Table 98. Indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected in the fall in electrofishing samples at Benjy Kinman 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
2014	Total	4.2	0.1	16.0	5.4	2.5	1.3	11.1	2.2
2015	Total	4.0	0.1	78.0	16.2	8.7	2.4	51.1	9.1
2016	Total	4.7	0.1	43.3	6.0	15.3	3.2		

Table 99. Species composition, relative abundance, 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 2016; numbers in parentheses are standard errors.

Species	Inch class 1	2	3	4	5	6	7	8	Total	CPUE
Bluegill	6	65	123	122	37	56	46	2	457	365.5 (30.9)
Redear sunfish			23	10	1	9	19	15	77	61.6 (10.4)

Dataset = cfdpsbkl.d16

Table 100. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Benjy Kinman Lake during May 2016. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	386	27 (± 4)	1 (± 1)
Redear sunfish	54	63 (±13)	0 (± 0)

[a]Bluegill = RSD_8; Redear = RSD_9

Dataset = cfdpsbkl.d16

Table 101. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Benjy Kinman Lake during 2016; numbers in parentheses are standard errors.

Year	Length group <3.0 in	3.0–5.9 in	6.0-7.9 in	≥8.0 in	Total
2016	56.8 (13.4)	225.6 (30.9)	81.6 (15.6)	1.6 (1.1)	365.5 (30.9)

Dataset = cfdpsbkl.d16

Table 102. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Benjy Kinman Lake during 2016; numbers in parentheses are standard errors.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
2016	0.0	27.2 (6.4)	22.4 (6.2)	12.0 (3.4)	0.0	61.6 (10.4)

Dataset = cfdpsbkl.d16

Table 103. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Benjy Kinman Lake on 16 September 2016; standard errors are in parentheses.

	Length group									
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	75	97 (2)	27	84 (2)	0				102	94 (2)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	0		22	95 (1)	8	84 (3)	0		30	92 (2)

Dataset = cfdwrbkl.d16

Table 104. 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 September 2016; numbers in parentheses are standard errors.

	Inch class																	
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE
Largemouth bass	13	34	34	15	8	1	7	17	11	23	7	7	7	1	4	1	190	126.7 (9.4)

Dataset = cfdwrbol.d16

Table 105. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Boltz Lake on 15 September 2016. Standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	58	89 (1)	21	89 (1)	6	91 (3)	85	89 (1)

Dataset = cfdwrbol.d16

Table 106. Indices of year class strength at age-0 and age-1 and mean lengths (in) of 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	No. of fish	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1997	145	4.2	0.04	96.7	11.3	6.7	1.7	25.9	4.4
1998	147	5.0	0.05	98.0	12.0	48.0	5.8	77.7	31.0
1999	170	5.2	0.07	113.3	16.2	68.7	13.0	55.0	24.7
2000	19	3.0	0.27	12.7	6.7	1.3	1.	0.8	0.8
2001	46	3.2	0.09	30.7	6.9	0.7	0.7	0.8	0.8
2002	50	3.7	0.10	28.6	7.4	1.7	1.2	0.0	0.0
2003*	27	3.7	0.15	18.0	4.5	1.3	0.8	7.0	2.2
2004*	80	4.1	0.07	53.3	7.1	6.7	2.7	15.0	3.4
2005*	34	3.9	0.11	22.7	5.0	1.3	0.8	4.0	1.1
2006	90	4.6	0.06	60.0	7.5	18.7	3.7	20.5	3.6
2007	17	4.2	0.21	11.3	2.6	2.0	0.9	4.0	3.6
2008	108	3.6	0.07	72.0	11.9	5.3	1.7	3.5	1.6
2009	51	4.6	0.13	34.0	8.9	13.3	2.0	16.7	3.6
2010	54	4.9	0.11	36.0	5.8	18.0	5.2	8.6	2.7
2011	91	4.7	0.08	60.7	6.7	23.3	4.2	3.5	1.2
2012	127	4.4	0.07	84.7	12.2	18.7	5.6	21.5	4.3
2013*	102	4.4	0.09	68.0	16.2	20.0	6.7	4.0	0.8
2014	58	4.0	0.10	38.7	10.9	4.0	3.3	29.5	5.2
2015	71	4.1	0.07	47.3	3.6	6.0	1.4	---	
2016	104	4.1	0.1	69.3	7.8	15.3	2.8	---	

*Only includes wild largemouth bass CPUE for age-1 year class; stocked largemouth bass were marked by fin clip and removed from dataset.

Table 107. Species composition, relative abundance, and CPUE (fish/hr) of bluegill collected in 1.25 hours of 7.5-minute electrofishing runs in Boltz Lake, May 2016; numbers in parentheses are standard errors.

	Inch class									
Species	1	2	3	4	5	6	7	8	Total	CPUE
Bluegill	3	34	67	341	83	33	74	1	636	508.8 (38.4)

Dataset = cfdpsbol.d16

Table 108. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Boltz Lake from 1991-2016; numbers in parentheses are standard errors.

	Length group				
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	Total
1991	0.5 (0.5)	60.8 (8.5)	10.8 (2.1)		72.4 (9.6)
1993	15.2 (7.4)	57.2 (15.8)	10.0 (5.2)		82.8 (24.0)
1994	26.0 (7.3)	131.6 (17.6)	30.5 (5.1)	0.5 (0.5)	188.4 (25.6)
1995	50.0 (9.8)	232.5 (31.7)	57.6 (12.8)	1.5 (0.7)	347.6 (46.0)
1997	91.5 (16.9)	43.0 (7.5)	39.2 (7.0)	5.4 (2.0)	179.2 (19.9)
1998	886.9 (210.8)	94.6 (13.8)	53.1 (7.7)	13.1 (2.3)	1047.7 (216.9)
1999	144.6 (30.7)	140.0 (51.5)	35.4 (6.9)	6.9 (3.1)	326.2 (62.3)
2000	1799.2 (73.5)	393.8 (19.4)	10.8 (3.2)	0.8 (0.8)	2204.6 (63.8)
2001	167.8 (51.5)	257.7 (40.0)	11.5 (3.8)	0.8 (0.8)	437.7 (60.0)
2002	174.6 (26.8)	396.2 (45.6)	16.9 (3.6)		587.7 (62.4)
2003	156.9 (49.4)	373.1 (26.3)	51.5 (16.5)		581.5 (47.7)
2004	313.3 (29.9)	261.1 (27.2)	31.8 (12.0)		606.2 (58.8)
2005	131.5 (16.0)	205.4 (34.3)	15.4 (5.4)		352.3 (35.8)
2006	229.0 (42.0)	367.0 (41.6)	39.0 (12.0)		635.0 (63.5)
2007	208.8 (29.9)	135.2 (23.1)	30.4 (8.2)		374.4 (44.3)
2008	202.4 (28.5)	263.2 (33.7)	41.6 (5.8)		507.2 (54.2)
2009	5.6 (1.7)	165.6 (29.4)	44.8 (12.6)		216.0 (34.5)
2010	73.6 (18.7)	84.8 (15.4)	100.8 (23.6)		259.2 (32.2)
2011	331.2 (46.3)	237.6 (34.0)	164.0 (42.4)		732.8 (78.4)
2012	63.2 (21.8)	401.6 (54.5)	119.2 (21.1)		584.0 (62.2)
2013	36.8 (11.5)	162.4 (20.0)	117.6 (19.7)		316.8 (33.8)
2014	11.2 (3.0)	144.8 (21.1)	164.0 (28.2)		320.0 (37.6)
2015		No Sample			
2016	29.6 (10.7)	392.8 (36.7)	85.6 (15.4)	0.8 (0.8)	508.8 (38.4)

Dataset = cfdpsbol.d16-.d91

Table 109. PSD and RSD_8 values calculated for bluegill collected during 1.25 hours of electrofishing at Boltz Lake during May 2016. Fish were collected in 7.5-minute runs.

Species	No. ≥3.0 in	PSD	RSD_8
Bluegill	599	18 (± 3)	0 (± 0)

Dataset = cfdpsbol.d16

Table 110. Population assessment for bluegill collected during spring electrofishing at Boltz Lake from 2000-2016 (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
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
2012	Value	4.5	2-2+	119.2	0.0	-	-		
	Score	3	4	4	1			12	Good
2011	Value	4.7	2-2+	164.0	0.0	0.522	40.7		
	Score	3	4	4	1			12	Good
2010	Value	4.5	2-2+	100.8	0.0	*	*		
	Score	3	4	4	1			12	Good
2009	Value	4.2	3-3+	44.8	0.0	0.904	59.5		
	Score	2	3	2	1			8	Fair
2008	Value	4.0	3-3+	41.6	0.0	1.095	66.6		
	Score	2	3	2	1			8	Fair
2007	Value	4.8	2-2+	30.4	0.0	NA	NA		
	Score	4	4	2	1			11	Good
2006	Value	4.7	3-3+	39.0	0.0	0.830	56.4		
	Score	3	3	2	1			9	Fair
2005	Value	4.3	4-4+	16.0	0.0	1.097	66.6		
	Score	3	2	1	1			7	Fair
2004	Value	4.1	4-4+	18.3	0.0	1.012	63.7		
	Score	2	2	1	1			6	Poor
2003	Value	4.1	3-3+	53.6	0.0	0.379	31.5		
	Score	2	3	2	1			8	Fair
2002	Value	3.5	3-3+	11.3	0.0	1.640	80.6		
	Score	1	3	1	1			6	Poor
2001	Value	3.8	3-3+	12.8	0.8	1.794	83.4		
	Score	1	3	1	2			7	Fair
2000	Value	4.8	2-2+	10.9	0.7	1.593	79.7		
	Score	4	4	1	2			11	Good

Dataset = cfdpsbol.d16-.d00
* Age data not collected

Table 111. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected from Boltz Lake in 2016.

		Age					
Year	No.	1	2	3	4	5	6
2015	17	2.5					
2014	17	2.2	4.6				
2013	8	2.4	4.2	6.2			
2012	3	2.8	4.8	5.8	6.8		
2011	4	2.4	4.3	5.6	6.1	6.7	
2010	1	2.4	4.3	5.1	5.7	6.4	6.7
Mean	50	2.4	4.5	5.9	6.3	6.6	6.7
Smallest		1.4	3.4	5.1	5.7	6.4	6.7
Largest		3.7	5.8	6.7	7.0	6.9	6.7
Std error		0.1	0.1	0.1	0.2	0.1	
95% ConLo		2.2	4.3	5.7	6.0	6.4	
95% ConHi		2.5	4.7	6.1	6.6	6.8	

Intercept value = 0.00
Dataset = cfdagbol.d16

Table 112. Number of fish and the relative weight (Wr) for each length group of bluegill collected at Boltz Lake on 16 September 2016 standard errors are in parentheses.

	Length group							
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in		Total	
Bluegill	77	91 (2)	45	82 (1)	0		122	88 (1)

Dataset = cfdwrbol.d16

Table 113. Length composition, relative abundance, 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 10 October 2016. Nets were pulled three days after setting them, and 3 sets of tandem nets were used for the sampling event.

	Inch class						Total	Average per set
Species	12	13	14	15	16	20		
Channel catfish	3	4	8	0	1	1	17	5.7 (3.0)

Dataset = cfdhnbol.d16

Table 114. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Boltz Lake in 2016; confidence intervals are in parentheses.

Species	No. $\geq$stock size	PSD	RSD_{24}
Channel catfish	17	12 ($\pm$ 12)	0 ($\pm$ 0)

Dataset = cfdhnbol.d16

Table 115. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Boltz Lake in October 2016; standard errors are in parentheses.

Species	Area	Length group						Total	
		11.0–15.9 in		16.0–23.9 in		≥24.0 in			
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Channel catfish	Total	15	85 (1)	2	90 (8)			17	85 (2)

Dataset = cfdhnbol.d16

Table 116. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Boltz Lake from 2009-2016; numbers in parentheses are standard errors.

Year	Length group			Total
	≥12.0 in	≥15.0 in	≥20.0 in	
2006	43.8 (12.5)	6.0 (2.1)	1.8 (0.8)	274.2 (95.6)
2007	31.2 (3.3)	6.4 (1.0)	0.8 (0.4)	76.8 (12.7)
2008	9.6 (3.1)	1.6 (0.8)	0.2 (0.2)	27.4 (7.2)
2009	29.8 (14.0)	4.0 (1.6)	0.2 (0.2)	57.8 (27.7)
2010	15.6 (3.8)	3.6 (1.3)	0.4 (0.4)	32.6 (9.0)
2011	No Sample			
2012	1.7 (4.7)	1.0 (1.0)	0.3 (0.3)	2.3 (1.2)
2013	No Sample			
2014	1.3 (1.3)	0.3 (0.3)	0.0	2.3 (2.3)
2015	No Sample			
2016	5.7 (3.0)	0.7 (0.7)	0.3 (0.3)	5.7 (3.0)

Dataset = cfdhnbol.d16 - .d06

Table 117. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Corinth Lake on 5 October 2016 numbers in parentheses are standard errors.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Largemouth bass	17	26	3	11	36	29	22	34	36	9	8	6	3		2	1	1	1	245	163.3 (17.9)

Dataset = cfdwrcor.d16

Table 118. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Corinth Lake on 5 October 2016; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	98	78 (1)	23	83 (1)	8	92 (4)	129	80 (1)

Dataset = cfdwrcor.d16

Table 119. Indices of year class strength at age-0 and age-1 and mean length (in) of 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
1999	Total	4.3	0.1	74.0	12.3	8.0	2.9	293.2	46.0
2000	Total	4.3	0.1	35.3	7.4	3.3	1.9	63.4	10.9
2001	Total	4.6	0.1	112.7	15.6	32.0	6.8	35.3	7.4
2002	Total	4.6	0.1	163.3	13.7	42.0	4.5	54.3	13.4
2003	Total	4.1	0.1	73.7	9.2	4.6	1.8	21.1	5.1
2004	Total	4.0	0.1	74.0	6.2	2.7	1.3	32.4	4.2
2005	Total	4.4	0.1	41.3	2.7	4.7	1.2	11.1	2.7
2006	Total	4.9	0.1	176.5	15.2	78.0	9.9	86.7	14.3
2007	Total	5.1	0.04	152.7	31.2	89.3	28.8	47.7	9.1
2008	Total	5.1	0.1	112.7	15.0	66.0	12.9	21.8	5.4
2009	Total	4.5	0.1	17.3	2.5	2.0	1.4	39.7	3.3
2010	Total	5.9	0.04	140.0	9.9	134.0	8.2	90.2	9.8
2011	Total	4.3	0.1	116.7	22.0	22.0	3.7	24.5	4.9
2012	Total	5.0	0.1	52.9	5.0	26.2	3.0	13.0	4.6
2013	Total	4.2	0.1	170.7	18.6	34.7	7.4	29.0	4.3
2014	Total	3.4	0.04	56.7	8.9	0.0		29.9	2.5
2015	Total	4.4	0.1	35.3	5.7	2.0	1.4	NS	
2016	Total	4.1	0.1	30.0	3.5	1.3	0.8		

Dataset = cfdwrcor.d16-.d99

Table 120. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Corinth Lake, May 2016; numbers in parentheses are standard errors.

Species	Inch class 2	3	4	5	6	7	8	9	Total	CPUE
Bluegill	7	23	15	37	74	95	5		256	204.8 (11.2)
Redear sunfish		1	9	11	13	93	32	10	169	135.2 (21.4)

Dataset = cfdpscor.d16

Table 121. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Corinth Lake during May 2016. Fish were collected in 7.5-minute runs.

Species	No. $\geq$stock size	PSD	RSD[a]
Bluegill	283	70 ($\pm$ 6)	2 ($\pm$ 2)
Redear sunfish	145	80 ($\pm$ 6)	6 ($\pm$ 4)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpscor.d16

Table 122. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Corinth Lake from 1992-2016; numbers in parentheses are standard errors.

	Length group				
Year	<3.0 in	3.0–5.9 in	6.0-7.9 in	$\geq$8.0 in	Total
1992	3.0 (1.7)	36.0 (24.9)	49.0 (8.5)	10.0 (5.5)	98.0 (30.4)
1993	2.7 (1.3)	42.0 (13.1)	54.0 (10.9)	20.7 (5.2)	119.3 (26.2)
1996	6.0 (3.9)	75.0 (12.0)	54.5 (14.5)	1.5 (0.8)	137.0 (25.9)
1998	2.0 (1.1)	80.0 (19.4)	50.5 (10.3)	3.0 (1.0)	135.5 (23.7)
1999	42.0 (17.1)	113.0 (16.5)	32.5 (7.2)	17.0 (5.8)	204.5 (26.6)
2000	8.8 (2.5)	270.4 (20.1)	100.8 (12.0)	20.8 (3.6)	400.8 (25.9)
2001	7.2 (4.0)	185.6 (18.0)	140.0 (14.8)	5.6 (2.1)	338.4 (23.5)
2002	2.4 (1.2)	140.0 (16.7)	56.8 (12.1)	0.0	199.2 (26.6)
2003	14.2 (6.2)	164.4 (14.1)	91.6 (10.7)	0.9 (0.9)	271.1 (23.3)
2004	17.6 (4.9)	174.4 (15.9)	61.6 (10.9)	0.0	253.6 (22.7)
2005	12.0 (4.2)	262.4 (32.7)	82.4 (22.2)	0.0	356.8 (47.8)
2006	40.4 (6.0)	211.2 (17.9)	32.8 (6.4)	0.0	284.4 (14.7)
2007	13.2 (2.6)	148.8 (12.1)	98.0 (10.2)	0.0	260.0 (17.9)
2008	4.8 (1.2)	180.4 (13.7)	105.2 (12.4)	0.4 (0.4)	290.8 (18.8)
2009	9.2 (4.0)	151.6 (15.3)	166.8 (19.4)	0.0	327.6 (30.6)
2010	9.4 (2.6)	126.6 (11.1)	55.1 (6.9)	0.0	191.1 (15.5)
2011	32.0 (6.9)	222.8 (16.4)	60.0 (10.5)	0.0	314.8 (27.0)
2012	2.4 (1.2)	240.0 (24.6)	56.8 (6.1)	0.0	299.2 (27.7)
2013	0.8 (0.8)	60.0 (4.7)	106.4 (13.3)	0.0	167.2 (15.7)
2014	4.8 (2.1)	89.6 (14.4)	64.8 (10.4)	4.0 (1.3)	163.2 (23.1)
2015	4.0 (1.3)	106.4 (16.4)	115.2 (24.1)	4.8 (3.2)	230.4 (16.5)
2016	5.6 (1.7)	60.0 (9.2)	135.2 (13.41)	4.0 (2.2)	204.8 (11.2)

Dataset = cfdpscor.d16

Table 123. Population assessment for bluegill collected during spring electrofishing at Corinth Lake from 2000-2016 (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	Total score	Assessment rating
2016	Value	3.8	2-2+	139.2	4.0		
	Score	1	4	4	3	12	Good
2015	Value	5.5*	3-3+*	120.0	4.8		
	Score	4	3	4	4	15	Excellent
2014	Value	5.5	3-3+	68.8	4.0		
	Score	4	3	3	3	13	Good
2013	Value	4.7*	3-3*	106.4	0.0		
	Score	3	3	4	1	11	Good
2012	Value	4.7	3-3+	56.8	0.0		
	Score	3	3	3	1	10	Good
2011	Value	4.4	3-3+	60.0	0.0		
	Score	3	3	3	1	10	Good
2010	Value	4.0	3-3+	55.1	0.0		
	Score	2	3	2	1	8	Fair
2009	Value	4.8	3-3+	166.8	0.0		
	Score	4	3	4	1	12	Good
2008	Value	4.3	3-3+	105.6	0.4		
	Score	3	3	4	2	12	Good
2007	Value	4.6	3-3+	98.0	0.0		
	Score	3	3	3	1	10	Good
2006	Value	4.1	3-3+	32.8	0.0		
	Score	2	3	2	1	8	Fair
2005	Value	4.0	3-3+	82.4	0.0		
	Score	2	3	3	1	9	Fair
2004	Value	4.1	2-2+	61.6	0.0		
	Score	2	4	3	1	10	Good
2003	Value	4.3	2-2+	92.4	0.9		
	Score	3	4	3	2	12	Good
2002	Value	4.2	2-2+	56.8	0.0		
	Score	2	4	3	1	10	Good
2001	Value	4.3	2-2+	145.6	5.6		
	Score	3	4	4	4	15	Excellent
2000	Value	5.3	2-2+	121.6	20.8		
	Score	4	4	4	4	16	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 124. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Corinth Lake from 1992-2016; numbers in parentheses are standard errors.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
1992	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
1993	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	2.0 (2.0)	1.3 (1.3)	2.0 (2.0)
1996	0.5 (0.5)	7.0 (2.8)	5.5 (2.7)	10.5 (3.5)	4.0 (1.7)	23.5 (3.9)
1998	0.0 (0.0)	4.0 (0.8)	0.5 (0.5)	19.0 (4.3)	15.5 (3.3)	23.5 (4.0)
1999	0.0 (0.0)	3.7 (1.6)	2.7 (1.1)	5.3 (1.5)	3.2 (1.1)	21.5 (3.5)
2000	0.0 (0.0)	14.4 (4.1)	33.6 (15.8)	52.8 (6.6)	16.8 (4.2)	100.8 (21.9)
2001	1.6 (1.1)	20.8 (5.0)	54.4 (9.2)	72.8 (10.0)	44.0 (8.7)	149.6 (15.6)
2002	0.0 (0.0)	4.0 (1.8)	6.4 (2.0)	82.4 (15.4)	52.0 (8.7)	92.8 (15.9)
2003	0.9 (0.9)	11.6 (3.6)	11.6 (2.4)	28.4 (5.2)	24.9 (5.6)	52.4 (6.1)
2004	0.8 (0.8)	13.6 (1.7)	17.6 (5.2)	19.2 (5.2)	14.4 (3.3)	51.2 (6.8)
2005	0.0 (0.0)	38.4 (4.4)	28.8 (6.4)	31.2 (11.1)	3.2 (1.8)	98.4 (17.3)
2006	0.0 (0.0)	19.6 (3.9)	54.0 (6.6)	7.6 (1.5)	0.4 (0.4)	81.2 (7.2)
2007	0.0 (0.0)	5.2 (1.3)	37.6 (7.1)	21.2 (5.5)	0.0 (0.0)	64.0 (11.7)
2008	0.0 (0.0)	10.4 (2.2)	33.6 (4.5)	27.6 (5.0)	0.0 (0.0)	71.6 (7.9)
2009	0.0 (0.0)	2.4 (1.0)	65.2 (7.6)	38.0 (7.5)	0.4 (0.4)	105.6 (14.1)
2010	0.9 (0.5)	7.1 (1.5)	18.9 (3.0)	12.0 (2.5)	0.0 (0.0)	38.9 (5.0)
2011	1.6 (0.7)	26.0 (4.5)	36.8 (3.0)	20.0 (3.0)	0.0 (0.0)	84.4 (8.0)
2012	0.0 (0.0)	4.8 (2.1)	38.4 (8.4)	24.0 (5.1)	0.0 (0.0)	67.2 (14.2)
2013	0.0 (0.0)	1.6 (1.1)	25.6 (3.7)	29.6 (7.0)	0.8 (0.8)	56.8 (8.6)
2014	0.0 (0.0)	0.8 (0.8)	10.4 (3.8)	33.6 (15.2)	0.8 (0.8)	44.8 (16.0)
2015	0.0 (0.0)	22.4 (3.5)	53.6 (14.6)	42.4 (7.4)	1.6 (1.1)	118.4 (20.0)
2016	0.0 (0.0)	16.8 (4.7)	84.8 (15.5)	33.6 (7.1)	0.0 (0.0)	135.2 (21.4)

Dataset = cfdpscor.d16

Table 125. Population assessment for redear sunfish collected during spring electrofishing at Corinth Lake from 2002-2016 (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	Total score	Assessment rating
2016	Value	7.2	4-4+	33.6	0.0		
	Score	2	3	4	1	10	Good
2015	Value	8.1*	3-3+*	42.4	1.6		
	Score	4	4	4	3	15	Excellent
2014	Value	8.1	3-3+	33.6	0.8		
	Score	4	4	4	2	14	Excellent
2013	Value	7.8*	3-3+*	29.6	0.8		
	Score	3	4	4	2	13	Good
2012	Value	7.8	3-3+	24.0	0.0		
	Score	3	4	4	1	12	Good
2011	Value	7.8	3-3+	20.0	0.0		
	Score	3	4	3	1	11	Good
2010	Value	7.1	3-3+	12.0	0.0		
	Score	2	4	3	1	10	Good
2009	Value	7.7	3-3+	38.0	0.4		
	Score	3	4	4	2	13	Good
2008	Value	8.0	3-3+	27.6	0.0		
	Score	3	4	4	1	12	Good
2007	Value	7.6	3-3+	21.2	0.0		
	Score	3	4	4	1	12	Good
2006	Value	7.3	3-3+*	7.6	0.4		
	Score	2	4	2	2	10	Good
2005	Value	7.6	3-3+	31.2	3.2		
	Score	3	4	4	4	15	Excellent
2004	Value	9.1*	2-2+*	19.2	14.4		
	Score	4	4	3	4	15	Excellent
2003	Value	9.1*	2-2+*	28.4	24.9		
	Score	4	4	4	4	16	Excellent
2002	Value	9.1	2-2+	82.4	52.0		
	Score	4	4	4	4	16	Excellent

* Age data not collected

Table 126. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected from Corinth Lake in fall 2016.

		Age			
Year	No.	1	2	3	4
2015	13	2.3			
2014	19	2.2	3.8		
2013	16	2.5	4.3	6.1	
2012	1	2.7	4.6	6.3	7.0
Mean	49	2.3	4.1	6.1	7.0
Smallest		1.1	2.1	5.0	7.0
Largest		3.7	5.5	6.8	7.0
Std error		0.1	0.1	0.1	
95% ConLo		2.2	3.8	5.9	
95% ConHi		2.5	4.3	6.3	

Intercept value = 0.00
Dataset = cfdagcor.d16

Table 127. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected from Corinth Lake in fall 2016.

		Age			
Year	No.	1	2	3	4
2015	17	2.3			
2014	22	2.8	4.7		
2013	10	3.4	6.0	7.2	
2012	1	4.1	6.8	7.6	7.9
Mean	50	2.8	5.1	7.2	7.9
Smallest		1.6	3.4	6.3	7.9
Largest		4.1	7.0	8.3	7.9
Std error		0.1	0.2	0.2	
95% ConLo		2.6	4.8	6.8	
95% ConHi		3.0	5.4	7.6	

Intercept value = 0.00
Dataset = cfdagcor.d16

Table 128. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Corinth Lake on 5 October 2016; standard errors are in parentheses.

	Length group									
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	73	91 (5)	41	82 (1)	0				114	88 (3)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	20	102 (4)	77	88 (1)	13	90 (2)	0		110	91 (1)

Dataset = cfdwrcor.d16

Table 129. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 2.0 hours of 15-minute electrofishing runs in Elmer Davis Lake, April 2016; numbers in parentheses are standard errors.

	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
Largemouth bass	1	7	41	35	12	19	46	45	41	94	111	86	55	28	16	6	9	14	7	7	2	682	341.0 (18.1)

Dataset = cfdpselm.d16

Table 130. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Elmer Davis Lake from 1996-2016; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	>15.0 in	>20.0 in	Total
1996	102.0 (15.3)	163.5 (19.5)	37.0 (6.2)	9.5 (3.4)	4.5 (1.4)	312.0 (32.7)
1997	113.5 (20.1)	252.0 (27.2)	39.0 (5.6)	19.0 (3.7)	5.5 (1.8)	423.5 (43.9)
1998	52.5 (9.5)	93.3 (6.8)	16.8 (2.3)	7.5 (1.7)	3.2 (1.1)	170.1 (15.1)
1999	253.5 (32.9)	47.0 (8.3)	36.0 (6.9)	17.5 (5.5)	2.5 (1.1)	354.0 (45.4)
2000	134.5 (14.7)	136.5 (11.0)	31.5 (6.0)	29.0 (4.4)	2.0 (1.3)	331.5 (21.3)
2001	121.0 (17.0)	220.0 (21.2)	18.5 (2.4)	21.0 (4.1)	0.5 (0.5)	380.5 (24.9)
2002	99.0 (16.3)	124.0 (12.3)	4.0 (1.3)	10.0 (2.7)	0.5 (0.5)	237.0 (26.2)
2003	96.0 (10.2)	189.5 (16.5)	14.5 (3.9)	15.0 (2.7)	3.5 (1.6)	315.0 (25.1)
2004	107.5 (10.0)	123.5 (10.0)	22.0 (3.5)	15.0 (1.7)	3.5 (1.6)	268.0 (17.4)
2005	93.0 (10.6)	197.0 (11.2)	60.0 (10.4)	15.0 (2.4)	3.5 (1.2)	365.0 (27.2)
2006	74.5 (11.5)	123.5 (12.2)	40.5 (7.9)	6.5 (1.8)	1.0 (0.7)	245.0 (15.4)
2007	32.5 (5.8)	137.0 (16.4)	41.5 (10.3)	8.0 (2.8)	1.0 (0.7)	219.0 (28.9)
2008	149.0 (17.9)	188.0 (20.7)	45.0 (5.6)	14.5 (4.0)	2.0 (1.3)	396.5 (35.2)
2009	36.0 (6.0)	192.5 (19.0)	76.0 (9.0)	28.0 (3.8)	6.5 (2.3)	332.5 (30.2)
2010	41.0 (5.0)	147.5 (17.9)	71.5 (12.3)	24.0 (5.0)	3.0 (1.3)	284.0 (33.5)
2011	51.0 (6.2)	152.5 (20.4)	69.5 (8.1)	23.0 (4.5)	3.5 (1.2)	296.0 (30.9)
2012	83.5 (8.8)	197.5 (10.9)	85.5 (7.3)	27.5 (3.7)	4.5 (1.2)	394.0 (12.4)
2013			No Sample			
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)
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)
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)

Dataset = cfdpselm.d16 – .d96

Table 131. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Elmer Davis Lake in 2016; confidence intervals are in parentheses.

Species	No. >8.0 in	PSD	RSD_{15}
Largemouth bass	567	60 (± 4)	16 (± 3)

Dataset = cfdpselm.d16

Table 132. Population assessment for largemouth bass collected during spring electrofishing at Elmer Davis Lake from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE age-1	Spring CPUE 12.0-14.9 in	Spring CPUE >15.0 in	Spring CPUE >20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
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
2013					No Sample					
2012	Value	10.5	78.0	85.5	27.5	4.5	0.392	32.5		
	Score	2	4	4	4	4			18	Excellent
2011	Value	9.8*	32.4	69.5	23.0	3.5				
	Score	1	3	4	3	3			14	Good
2010	Value	9.8*	29.0^	71.5	24.0	3.0				
	Score	1	3	4	3	3			14	Good
2009	Value	9.8*	18.5^	76.0	28.0	6.5				
	Score	1	2	4	4	4			15	Good
2008	Value	9.8	127.5	45.0	14.5	2.0	0.489	38.6		
	Score	1	4	4	3	3			15	Good
2007	Value	10.5*	26.9^	41.5	8.0	1.0				
	Score	2	3	3	2	2			12	Fair
2006	Value	10.5*	68.1^	40.5	6.5	1.0				
	Score	2	4	3	2	2			13	Good
2005	Value	10.5*	78.1^	60.0	15.0	3.5				
	Score	2	4	4	3	3			16	Good
2004	Value	10.5	94.4	22.0	15.0	3.5	0.481	38.2		
	Score	2	4	2	3	3			14	Good
2003	Value	10.3*	57.5^	14.5	15.0	3.5				
	Score	2	4	2	3	3			14	Good
2002	Value	10.3*	80.6^	4.0	10.0	0.5				
	Score	2	4	1	2	2			11	Fair
2001	Value	10.3	52.8	18.5	21.0	0.5	0.516	40..3		
	Score	2	3	2	3	2			12	Fair
2000	Value	10.7	73.8	31.5	29.0	2.0	0.618	46.1		
	Score	2	4	3	4	3			16	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 133. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Elmer Davis Lake in October 2016; numbers in parentheses are standard errors.

	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
Largemouth bass	2	43	38	33	4	7	34	22	35	31	39	35	17	12	5	2	4	2	1	1	367	244.7 (17.8)

Dataset = cfdwrelm.d16

Table 134. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Elmer Davis Lake on 4 October 2016; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	99	85 (1)	65	82 (1)	27	88 (2)	191	84 (1)

Dataset = cfdwrelm.d16

Table 135. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected from Elmer Davis Lake in fall of 2016.

		Age									
Year	No.	1	2	3	4	5	6	7	8	9	10
2015	23	5.0									
2014	17	5.0	8.6								
2013	5	4.9	8.5	10.7							
2012	16	5.0	8.5	10.4	11.8						
2011	8	5.3	9.0	11.0	12.2	13.2					
2010	9	5.8	9.3	11.0	12.6	13.6	14.5				
2009	4	5.0	8.4	10.2	11.4	12.4	13.2	14.0			
2008	2	5.1	8.5	10.2	11.4	12.1	12.7	13.5	14.2		
2007	2	5.8	11.4	13.0	14.4	15.2	16.5	17.7	18.6	19.4	
2006	2	6.1	10.0	12.4	13.6	14.4	15.1	16.0	17.2	18.0	18.5
Mean	88	5.1	8.8	10.8	12.2	13.4	14.3	15.0	16.7	18.7	18.5
Smallest		3.5	7.4	9.0	10.5	11.3	12.1	12.7	13.3	17.0	17.6
Largest		7.4	11.9	13.4	14.8	16.2	17.7	17.9	18.9	20.0	19.5
Std error		0.1	0.1	0.2	0.2	0.3	0.4	0.6	0.9	0.6	1.0
95% ConLo		5.0	8.6	10.5	11.8	12.8	13.5	13.9	14.9	17.5	16.6
95% ConHi		5.3	9.1	11.1	12.6	13.9	15.1	16.2	18.4	19.9	20.4

Intercept value = 0.00
Dataset = cfdagelm.d16

Table 136. Indices of year class strength at age-0 and age-1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Elmer Davis Lake.

Year class	Area	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
		Mean length	Std. error	CPUE	Std. Error	CPUE	Std. error	CPUE	Std. error
2000	Total	3.8	(0.1)	269.6	(33.2)	14.4	(2.0)	52.8	(9.7)
2001	Total	4.5	(0.1)	210.7	(25.0)	47.3	(3.0)	80.6	(13.3)
2002	Total	4.3	(0.1)	67.3	(10.0)	13.3	(3.2)	57.5	(7.9)
2003	Total	4.2	(0.1)	179.0	(32.0)	27.0	(10.0)	94.4	(9.9)
2004	Total	4.3	(0.03)	180.0	(38.5)	24.7	(4.3)	78.1	(9.9)
2005	Total	4.4	(0.04)	190.0	(29.6)	33.3	(5.3)	68.1	(10.2)
2006	Total	3.7	(0.04)	166.0	(17.4)	8.0	(2.5)	26.9	(6.1)
2007	Total	4.3	(0.05)	114.0	(24.6)	17.3	(5.4)	127.5	(16.4)
2008	Total	3.9	(0.1)	73.3	(9.6)	0.7	(0.7)	18.5	(3.7)
2009	Total	4.2	(0.1)	108.0	(14.2)	20.0	(5.0)	29.0	(5.3)
2010	Total	4.7	(0.1)	108.0	(14.1)	34.7	(3.2)	32.4	(3.9)
2011	Total	4.0	(0.1)	74.0	(13.8)	14.7	(3.2)	78.0	(8.9)
2012	Total	3.4	(0.1)	56.0	(7.5)	6.0	(1.7)	NS	NS
2013	Total	3.5	(0.1)	20.0	(6.9)	0.0	(0.0)	8.0	(2.3)
2014	Total							28.0	(5.3)
2015	Total	4.0	(0.1)	77.3	(9.1)	11.3	(3.5)	46.5	(6.2)
2016	Total	4.4	(0.1)	80.0	(7.6)	24.7	(4.9)		

Dataset= cfdwrelm.d16

Table 137. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Elmer Davis Lake on 4 October 2016; standard errors are in parentheses.

Species	Length group							
	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in		Total	
Bluegill	74	98 (2)	46	91 (1)	0		120	95 (1)
	4.0–6.9 in		7.0–8.9 in		≥9.0 in		Total	
Redear sunfish	54	94 (2)	50	98 (1)	3	91 (5)	108	96 (1)

Dataset = cfdwrelm.d16

Table 138. Length composition, relative abundance, and CPUE (fish/set) of channel catfish at Elmer Davis Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 11 October 2016. Nets were pulled three days after setting them, and three sets of tandem nets were used for the sampling event.

	Inch class												
Species	13	14	15	16	17	18	19	20	21	22	23	Total	Average per set
Channel catfish	1	8	8	4	4	1	6		1	2	1	36	12.0 (9.5)

Dataset = cfdhnelm.d16

Table 139. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Elmer Davis Lake from 2009-2016; numbers in parentheses are standard errors.

	Length group			
Year	≥12.0 in	≥15.0 in	≥20.0 in	Total
2007	71.2 (26.0)	14.0 (4.2)	0.2 (0.2)	118.4 (45.2)
2008	111.8 (14.6)	23.4 (4.7)	0.4 (0.4)	134.0 (17.9)
2009	103.4 (38.6)	21.4 (7.2)	0.4 (0.2)	106.4 (39.7)
2010	28.0 (10.8)	17.0 (7.3)	2.0 (1.1)	32.4 (11.8)
2011	39.8 (14.3)	20.0 (6.6)	2.6 (1.0)	75.0 (25.4)
2012	No Sample			
2013	No Sample			
2014	No Sample			
2015	54.0 (5.7)	23.7 (3.7)	6.0 (2.0)	66.7 (10.9)
2016	12.0 (9.5)	9.0 (7.1)	1.3 (0.7)	12.0 (9.5)

Dataset = cfdhnelm.d16 - .d07

Table 140. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Elmer Davis Lake in 2016; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	36	52 (±17)	0

Dataset = cfdhnelm.d16

Table 141. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Elmer Davis Lake in October 2016; standard errors are in parentheses.

		Length group							
Species	Area	11.0–15.9 in		16.0–23.9 in		≥24.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Channel catfish	Total	17	94 (1)	19	98 (3)	0		36	96 (2)

Dataset = cfdhnelm.d16

Table 142. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.5 hours of 15-minute electrofishing runs in Kincaid Lake in October 2016; numbers in parentheses are standard errors.

	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
Largemouth bass	7	24	15	4	8	21	12	10	10	18	31	20	19	14	16	9	10	5	4	2	259	172.7 (17.5)

Dataset = cfdwrkin.d16

Table 143. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Kincaid Lake on 3 October 2016; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	50	87 (2)	64	90 (1)	60	98 (1)	174	92 (1)

Dataset = cfdwrkin.d16

Table 144. Indices of year class strength at age 0 and age 1 and mean length (in) of 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	No. of fish	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1999	25	3.1	(0.2)	16.7	(5.7)	0.0		1.5	(1.10)
2000	11	3.1	(0.2)	4.7	(1.6)	0.0		0.0	
2001	36	2.9	(0.1)	20.6	(6.7)	0.0		0.0	
2002	76	2.6	(0.1)	43.4	(10.6)	0.0		0.0	
2003	33	2.8	(0.1)	22.0	(4.7)	0.0		1.0	(0.7)
2004	19	3.0	(0.1)	12.7	(4.3)	0.0		0.0	
2005	259	2.5	(0.03)	129.5	(19.3)	0.0		1.5	(0.7)
2006	64	2.7	(0.1)	42.7	(11.9)	0.0		0.0	
2007	29	3.2	(0.1)	19.3	(4.8)	0.7	(0.7)	1.0	(0.7)
2008	42	3.3	(0.1)	28.0	(2.1)	0.0		2.5	(1.1)
2009	47	2.7	(0.04)	31.3	(8.2)	0.0		1.3	(0.5)
2010	80	4.2	(0.1)	53.3	(12.0)	14.0	(3.4)	5.0	(1.7)
2011	112	3.8	(0.1)	74.7	(28.8)	7.3	(4.2)	4.5	(1.4)
2012	71	3.4	(0.1)	47.3	(9.1)	0.7	(0.7)	1.0	(0.7)
2013	56	3.6	(0.1)	37.3	(13.8)	0.0		NS	
2014	37	2.6	(0.1)	24.7	(7.4)	0.0			
2015				No Sample					
2016	51	3.8	(0.1)	34.0	(6.4)	3.3	(1.9)		

Dataset = cfdwrkin.d16

Table 145. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 1.0 hour of 15-minute electrofishing runs for black bass in McNeely Lake in May 2016; numbers in parentheses are standard errors.

	Inch class																		
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Largemouth bass	1	14	16	7	8	32	28	35	35	29	12	3	2	5		1	1	229	229.0 (15.8)

Dataset = cfdpsmcl.d16

Table 146. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from McNeely Lake from 1996-2016; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	Total
1996	77.3 (9.2)	6.7 (2.0)	18.0 (3.4)	23.3 (2.8)	0.0 (0.0)	125.3 (11.0)
1998	80.0 (11.1)	134.7 (18.6)	7.3 (2.2)	14.0 (3.4)	0.7 (0.7)	236.0 (26.0)
1999	71.0 (10.6)	161.0 (4.4)	27.0 (7.4)	22.0 (5.3)	2.0 (1.2)	281.0 (7.5)
2000	44.7 (5.0)	144.7 (13.4)	104.7 (13.8)	20.7 (2.2)	4.0 (1.5)	314.7 (24.7)
2001	71.3 (10.1)	144.0 (6.4)	97.7 (16.4)	31.3 (3.8)	2.7 (1.3)	346.0 (28.1)
2002	28.7 (3.0)	48.0 (12.5)	43.3 (4.8)	9.3 (1.7)	0.0 (0.0)	129.3 (30.3)
2003	44.7 (8.2)	96.0 (12.4)	56.0 (10.7)	27.3 (3.2)	1.3 (0.8)	224.0 (19.7)
2004	27.3 (4.3)	58.0 (8.9)	23.3 (4.3)	28.0 (3.9)	2.7 (1.3)	136.7 (15.6)
2005	23.3 (6.3)	76.7 (5.9)	46.0 (4.9)	30.0 (6.2)	1.3 (0.8)	176.0 (8.6)
2006	56.0 (5.6)	72.7 (12.1)	37.3 (6.5)	24.0 (2.5)	1.3 (0.8)	190.0 (14.6)
2007	14.7 (1.7)	98.0 (11.9)	46.7 (13.1)	40.0 (8.9)	1.3 (1.3)	199.3 (30.8)
2008	127.3 (6.5)	124.0 (14.6)	58.7 (6.6)	20.7 (4.6)	1.3 (0.8)	330.7 (21.5)
2009	66.7 (12.3)	73.3 (10.9)	28.0 (7.7)	12.0 (3.3)	1.3 (0.8)	180.0 (17.2)
2010	49.3 (2.2)	92.7 (11.5)	14.7 (2.0)	14.0 (3.5)	1.3 (0.8)	170.7 (12.8)
2011	76.0 (14.9)	64.7 (14.5)	27.3 (4.2)	14.7 (2.7)	2.7 (2.0)	182.7 (18.8)
2012	40.8 (7.5)	109.6 (12.9)	31.2 (8.4)	21.6 (6.1)	0.8 (0.8)	203.2 (24.0)
2013			No Sample			
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)
2015	110.0 (27.8)	198.0 (18.5)	33.0 (7.6)	13.0 (5.3)	2.0 (1.15)	354.0 (43.13)
2016	46.0 (12.9)	130.0 (10.4)	44.0 (4.3)	9.0 (3.0)	0.0	229.0 (15.8)

Dataset = cfdpsmcl.d16 – d96

Table 147. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in McNeely Lake in May 2016; confidence intervals are in parentheses.

Species	No. $\geq$8.0 in	PSD	RSD_{15}
Largemouth bass	183	29 (±7)	5 (± 3)

Dataset = cfdpsmcl.d16

Table 148. Population assessment for largemouth bass collected during spring electrofishing at McNeely Lake from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE age-1	Spring CPUE 12.0-14.9 in	Spring CPUE $\geq$15.0 in	Spring CPUE $\geq$20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
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	Value					No Sample				
	Score									
2012	Value	10.5	15.2	31.2	21.6	0.8	0.356	30.0		
	Score	2	2	3	3	2			12	Fair
2011	Value	11.4*	72.0	27.3	14.7	2.7				
	Score	3	4	3	3	3			16	Good
2010	Value	11.4*	50.8^	14.7	14.0	1.3				
	Score	3	3	2	3	2			13	Good
2009	Value	11.4*	67.8^	28.0	12.0	1.3				
	Score	3	4	3	2	2			14	Good
2008	Value	11.4	130.0	58.7	20.7	1.3	0.527	40.9		
	Score	3	4	4	3	2			16	Good
2007	Value	11.0*	5.3^	46.7	40.0	1.3				
	Score	3	1	4	4	2			14	Good
2006	Value	11.0*	50.7^	37.3	24.0	1.3				
	Score	3	3	3	3	2			14	Good
2005	Value	11.0*	12.7^	46.0	30.0	1.3				
	Score	3	2	4	4	2			15	Good
2004	Value	11.0	24.7	23.3	28.0	2.7	0.319	27.3		
	Score	3	3	2	4	3			15	Good
2003	Value	9.8*	20.0^	56.0	27.3	1.3				
	Score	1	2	4	4	2			13	Good
2002	Value	9.8*	23.3^	43.3	9.3	0.0				
	Score	1	3	3	2	1			10	Fair
2001	Value	9.8	70.0	99.3	31.3	2.7	0.392	32.4		
	Score	1	4	4	4	3			16	Good
2000	Value	10.4*	40.7^	104.7	20.7	4.0				
	Score	2	3	4	3	4			16	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 149. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.25 hours of 15-minute electrofishing runs in McNeely Lake in October 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Largemouth bass	5	44	62	10	18	43	51	48	34	24	12	8	5	3	2	1	1	2	1	374	299.2 (22.4)

Dataset = cfdwrmcl.d16

Table 150. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected from McNeely Lake in 2016.

		Age									
Year	No.	1	2	3	4	5	6	7	8	9	10
2015	22	5.1									
2014	19	6.0	8.6								
2013	12	5.7	9.0	10.9							
2012	17	5.9	8.6	10.2	11.5						
2011	5	5.8	9.1	10.7	12.0	13.4					
2010	6	6.6	8.9	10.7	12.1	13.5	14.6				
2008	3	5.9	9.8	12.5	14.0	15.3	16.5	17.6	18.6		
2006	1	6.9	10.1	12.7	14.2	16.1	17.7	18.5	19.4	20.2	20.7
Mean	85	5.7	8.8	10.7	12.0	14.0	15.5	17.8	18.8	20.2	20.7
Smallest		4.1	7.6	8.8	9.8	11.3	13.7	17.0	17.9	20.2	20.7
Largest		7.8	10.3	12.7	14.2	16.1	17.7	18.5	19.5	20.2	20.7
Std error		0.1	0.1	0.1	0.2	0.4	0.4	0.4	0.4		
95% ConLo		5.6	8.7	10.4	11.5	13.3	14.6	17.0	18.0		
95% ConHi		5.9	9.0	11.0	12.4	14.7	16.3	18.6	19.5		

Intercept value = 0.00
Dataset = cfdagmcl.d16

Table 151. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at McNeely Lake on 6 October 2016; standard errors are in parentheses.

Species	Area	Length group						Total	
		8.0–11.9 in		12.0–14.9 in		≥15.0 in			
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	101	87 (1)	44	88 (1)	15	101 (2)	160	89 (1)

Dataset = cfdwrmcl.d16

Table 152. Indices of year class strength at age-0 and age-1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at McNeely Lake.

Year class	Area	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
		Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2000	Total	3.8	(0.1)	87.3	(16.1)	10.0	(2.3)	70.0	(9.4)
2001	Total	4.1	(0.9)	20.7	(1.6)	2.0	(1.4)	23.3	(2.4)
2002	Total	4.7	(0.1)	24.0	(5.8)	10.7	(3.8)	20.0	(2.5)
2003	Total	4.1	(0.1)	56.0	(14.0)	7.0	(1.9)	24.7	(3.5)
2004	Total	4.0	(0.1)	49.0	(2.4)	3.5	(0.9)	12.7	(2.4)
2005	Total	4.7	(0.1)	193.0	(17.2)	88.0	(12.1)	50.7	(7.2)
2006	Total	4.5	(0.1)	108.7	(23.3)	33.3	(5.7)	5.3	(1.7)
2007	Total	5.2	(0.04)	174.4	(49.0)	116.0	(28.3)	130.0	(6.7)
2008	Total	4.6	(0.1)	300.0	(34.5)	97.6	(16.6)	67.8	(11.7)
2009	Total	4.5	(0.04)	68.0	(5.7)	11.3	(1.2)	50.8	(2.2)
2010	Total	5.2	(0.04)	169.6	(15.1)	106.4	(12.2)	72.0	(14.2)
2011	Total	4.3	(0.05)	116.0	(12.8)	20.8	(6.6)	15.2	(6.4)
2012	Total	5.0	(0.04)	242.0	(10.0)	124.0	(11.0)	NS	NS
2013	Total	4.2	(0.04)	86.0	(11.5)	7.3	(2.8)	18.0	7.8
2014	Total	NS						109.0	27.8
2015	Total	4.2	(0.04)	126.4	(14.9)	12.0	(4.2)	38.0	13.1
2016	Total	5.0	(0.05)	96.0	(21.1)	56.8	(14.3)		

Dataset = cfdwrmcl.d16-.d00

Table 153. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at McNeely Lake on 6 October 2016; standard errors are in parentheses.

Species	Length group							
	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in		Total	
Bluegill	75	99 (2)	43	89 (1)	0		118	95 (1)
	4.0–6.9 in		7.0–8.9 in		≥9.0 in		Total	
Redear sunfish	46	95 (1)	37	96 (1)	7	95 (1)	90	95 (1)

Dataset = cfdwrmcl.d16

Table 154. Relative abundance, and CPUE (fish/hr) of fish collected in 0.167 hours of electrofishing in Charlie Vettiner Golf Course Lake, April 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Largemouth bass								3	1	6	5	3	3	2			1	1	25	149.7 (0)
Bluegill	1	1	4	2	7														15	89.8 (0)
Redear sunfish				1	6	6													13	77.8 (0)
Hybrid bluegill					1														1	6.0 (0)
White crappie										1									1	6.0 (0)
Channel catfish																		1	1	6.0 (0)

Dataset = uftg04cv.d16

Table 155. Species composition, relative abundance, and CPUE (fish/hr) of fish collected in 0.167 hours of electrofishing in Flagship Park Lake, April 2016; numbers in parentheses are standard errors.

	Inch class																				
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	29	Total	CPUE
Largemouth bass							2	8					2	4	2	4	2	2		26	155.7 (0)
Bluegill	1	14	42	31	11		1													100	598.8 (0)
White crappie					5	1														6	35.9 (0)
Channel catfish																			1	1	6.0 (0)

Dataset = uftg04fk.d16

Table 156. Species composition, relative abundance, and CPUE (fish/hr) of fish collected in 0.084 hours of electrofishing in Iroquois Park Lake, April 2016; numbers in parentheses are standard errors.

Species	Inch class																			Total	CPUE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Bluegill	1	20	32	25	8	2														88	1047.6 (0)
Blue catfish																	1		1	2	23.8 (0)

Dataset = uftg04ir.d16

Table 157. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of electrofishing in Jericho Lake, May 2016; numbers in parentheses are standard errors.

Species	Inch class																		Total	CPUE
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Largemouth bass	7	5	8	5	22	18	10	21	24	31	36	29	39	44	29	37	23	9	397	198.5 (17.5)

Dataset = cfdpsjer .d16

Table 158. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.375 hours of electrofishing in Leary Lake, April 2016; numbers in parentheses are standard errors.

Species	Inch class																					Total	CPUE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Largemouth bass			5	10	2	5	26	42	26	26	33	36	23	9	1		1		1		2	248	661.3 (93.5)
Bluegill	2	1	4	13	15	12	22	8														77	205.3 (34.7)
White crappie									1	1												2	5.3 (5.3)
Channel catfish												3					1					4	10.7 (7.1)

Dataset = uftg04le.d16

Table 159. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.50 hours of electrofishing in Logan Hubble Lake, June 2016; numbers in parentheses are standard errors.

Species	Inch class																	Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Largemouth bass		1	1	3	2	2		9	8	2	8	9	17	5	3		1	71	141.7 (23.0)
Bluegill	3	2	19	40	6	6												76	151.7 (17.1)
Redear sunfish				1		4	3	4	1									13	26.0 (8.7)
Hybrid bluegill							1											1	2.0 (2.0)

Dataset = uftg06lh.d16

Table 160. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.50 hours of electrofishing in Lower Thomas Lake, May 2016.

Species	Inch class																				Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Largemouth bass		10	18	18	2	1	3	3	6	12	15	2	4	1						1	96	192.0 (12.0)
Bluegill	21	30	8	14	10	18	5														106	212.0 (80.0)
Redear sunfish		1	5	9	10	27	18	17	1												88	176.0 (60.0)

Dataset = cfdpslth.d16

Table 161. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.167 hours of electrofishing in Mitchell Hill Lake, April 2016; numbers in parentheses are standard errors.

Species	Inch class																				Total	CPUE
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Largemouth bass	5					5	4	14	18	3										1	50	299.4 (0)
Bluegill		1	6	6	1																14	83.8 (0)

Dataset = uftg04mh.d16

Table 162. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.33 hours of electrofishing in Moremans Hill Lake, April 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Largemouth bass			4	2	2	5	1	1		4	6	1	1	1	3	1	1	1	34	101.8 (18.0)
Bluegill	3	25	32	78	49	7													194	580.8 (41.9)
Warmouth			1		1														2	6.0 (6.0)
White crappie						2						1							3	9.0 (9.0)

Dataset = uftg04mo.d16

Table 163. Species composition, relative abundance, and CPUE (fish/hr) of fish collected in 0.167 hours of electrofishing in Thurman Hutchins Lake, April 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE
Largemouth bass			5	4	3			2	1		1			1	1	2		2	22	131.7 (0)
Bluegill	1		27	31	4														63	377.3 (0)
Redear sunfish			1	11	10	8	11	4											45	269.5 (0)
Warmouth								1											1	6.0 (0)
Hybrid bluegill					1														1	6.0 (0)
Black crappie			1						1										2	12.0 (0)

Dataset = uftg04th.d16

Table 164. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.5 hours of electrofishing in Veterans WMA Pond, June 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Largemouth bass		10	8	2	16	9	4	3	3	7	7	4	2		1	2	1	1	80	160.0 (8.0)
Bluegill	12	26	43	32	58	3													174	348.0 (16.0)

Dataset = cfdpsvet.d16

NORTHEASTERN FISHERY DISTRICT

Project A: Lake and Tailwaters Fishery Surveys

FINDINGS

All sampling conditions can be found in Table 1. This includes dates, temperatures, secchi depths and any other pertinent sampling information during the sampling events.

Cave Run Lake (8,720a)

Muskellunge sampling

On March 15-17, the upper, middle and lower sections of Cave Run Lake were sampled for assessment of the muskellunge fishery. In total, 106 fish were collected with nearly half of those coming from the lower portion of the lake (Table 2). Overall relative weights continue to be in the upper 80% to lower 90% range and 2016 did not deviate much from the 2003-2014 average (Table 3). Once again, average length and weight of known-age fish was determined from marked members of the population. In Cave Run Lake, the fish tend to reach the minimum size limit of 36.0 inches in their fourth year and have the potential to exceed 40.0 inches in their fifth or sixth year (Table 4). Mean length and weight was also determined for known-sex fish with females continuing to be slightly longer and heavier than the males captured (Table 5). In 2016 the fishery overall was rated as “Fair” with a score of 9; this is a drop from the 2014 assessment score of 18 (Table 6). In October of 2016, Cave Run Lake was stocked with 2,800 young-of-year muskellunge. Stocked fish continue to be marked to indicate their spawning year as noted in the table below.

Year	Marking	Number Stocked	Average Length
2016	Right Cheek Wire Tag	2,800	11.8”
2015	Dorsal Fin Wire Tag	1,307	13.0”
2014	Left Cheek Wire Tag	2,900	13.3”
2013	Right Pectoral Fin Clip	2,800	12.6”
2012	Left Pelvic Fin Clip	1,923	12.4”
2011	Right Pelvic Fin Clip	2,800	12.8”
2010	Left Pectoral Fin Clip	2,811	12.5”

Black bass sampling (Spring/Fall)

On April 18-20, the upper, middle and lower sections of Cave Run Lake were nocturnally electrofished for assessment of the black bass population. In total, 2,312 fish were captured. The majority of these fish were largemouth bass (71%), followed by spotted bass (26%) and smallmouth bass (3%; Table 7). 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 1990-2015 average for all length groups of largemouth bass (Table 8). PSD and RSD_{15} values for largemouth bass demonstrate the lake has a good balance in size structure (Table 9). In October, fish were collected for determination of age and growth characteristics. From this we learned that on Cave Run Lake fish will enter the slot limit in their third year and exit as early as the forth but more likely the fifth (Table 10). These growth rates continue to show improvement when compared to pre-slot limit findings, but still are much lower than is desired. Overall, the largemouth bass population was rated as “Excellent”; boosted by continued high scores for catch rates of fish in the 12.0- to 14.9-in range, the greater than 15.0 in range, the greater than 20.0 in range and the catch rates of age-1 fish (Table 11).

The black bass population was again nocturnally electrofished from September 26-28 for assessment of relative weights and relative spawning strength. In total, 823 black bass were captured ranging in size from 2.0 to 20.0 in (Table 12). Of these fish, 57% were largemouth bass, 40% spotted bass and 3% smallmouth bass. Overall, largemouth bass relative weights ranged in the low 80s to the middle 90s (Table 13). Reproductive success for largemouth bass at Cave Run Lake continues to be exceptionally high and for this reason Cave Run Lake was not stocked with young-of-year largemouth bass in 2016 (Table 14).

Crappie sampling
Over the first week of November black and white crappie were sampled in the upper reaches of Cave Run Lake with trap nets. The primary objective of this sampling was to collect fish to compare growth rates between trap net sampled fish and fish collected from anglers fishing in this area. In these 32 net nights, 96 crappie were collected ranging in size from 3.0 to 13.0 in (Table 15). As is typical, most of the fish captured were white crappie (94%). The majority of the fish greater than stock size (5.0 in) were less than 8.0 in, which resulted in PSD and RSD_{10} values on the lower side (Table 16). Relative weights were in the upper 70s to mid-80s for both black and white crappie (Table 17). In 2015, staff worked with local anglers to obtain otoliths from fish caught in the middle and lower sections of the lake. From this data, large differences were observed when growth rates were compared from fish collected during fall trap netting in the upper sections of the lake and fish angled in the middle and lower sections of the lake. To determine if this was a difference in growth rates between the upper and middle/lower sections of the lake or gear selectivity of the fish, staff again worked with local anglers in 2016. Staff obtained otoliths for fish caught in the upper section of the lake by angling and compared those growth rates to fish caught through trap netting in the upper part of the lake. Through this, we observed very little difference between crappie growth rates with these two different sampling methods (Table 18). It could be concluded then, that the differences observed in 2015 are in fact related to growth. The major difference between these two areas is the harvest rate, with increased angler pressure in the lower 2/3's of the lake due to increases in habitat sites and availability. Cave Run Lake crappie serve to demonstrate that in low nutrient systems increased harvest by anglers can improve growth rates of fish. The overall assessment of the white crappie fishery at Cave Run Lake was again "Poor" in 2016 (Table 19). These results should, be taken with caution as sampling was only conducted in the upper reaches of the lake, and traditional sampling techniques are difficult to use on Cave Run Lake. Further, anecdotal reports suggest that anglers continue to experience excellent crappie fishing- particularly in the middle and lower portions of the lake.

Grayson Lake (1,512a)

Black bass sampling (Spring/Fall)
The black bass population of Grayson Lake was nocturnally electrofished from April 25-26. In total, 1,082 fish were collected ranging in size from 3.0 to 21.0 in (Table 20). The majority of these fish (83%) were largemouth bass followed by spotted bass (17%) and smallmouth bass (<1%). Unlike previous years, only the middle and lower sections of the lake were sampled, as low water conditions prohibited sampling in the upper reaches. Catch rates by length group were, across the board, higher than the average from 1999-2015 (Table 21). PSD and RSD_{15} values were on the lower side overall (Table 22) and the assessment of the largemouth bass fishery at Grayson Lake was "Fair" (Table 23).

From September 19-21, Grayson Lake was nocturnally electrofished for determination of spawning strength of largemouth bass. All assessment parameters were among the highest seen since 2003 (Table 24) and the lake was not stocked with young of year largemouth bass in 2016

Hybrid striped bass sampling (Fall)
From October 18-21, Grayson Lake was gill netted for assessment of the hybrid striped bass fishery. Due to the narrow nature of Grayson Lake, 125-foot, 5 panel gill nets were used, rather than the standard 250-foot, 5 panel nets. Comparisons between the Grayson Lake data and data collected from other lakes should be made with caution due to this gear difference. In total, 78 hybrid striped bass were collected ranging in size from 7.0 to 24.0 in (Table 25). Similar to 2014, relative weights were in the low 80's (Table 26). In addition to the length and weight data, otoliths were collected for determination of age and growth characteristics. Generally speaking, these fish exhibit reasonably good growth rates (mean length at capture of age-2 fish was 17.5 in), demonstrating the potential to reach 20.0 in by three years old (Table 27). The majority of the population sampled was age-0 to age-2 but fish were collected up to age-7 (Table 28). Using the statewide assessment for hybrid striped bass collected with 250-foot, 5 panel gill nets, the fishery at Grayson would be rated as "Fair", but these fish were collected using 125-foot, 5 panel nets so these comparisons are most likely invalid. Given more sampling events (minimum of 2 more) an individual lake assessment will be created for the preferred gear at Grayson Lake

Crappie sampling (Fall)

On October 26, the upper reaches of Grayson Lake were diurnally electrofished for an assessment of the crappie fishery. In total, 232 crappie were collected ranging in size from 5.0 to 11.0 in (Table 30). Of these fish, 91% were white crappie. PSD and RSD_{10} values were both on the lower side (Table 31) as were relative weights (Table 32). Growth rates for white crappie were excellent; however, when compared to other lakes across the state, values are poor (the fish collected took seven years to reach 10.0 in; Table 33). The majority of the crappie collected were age-1 and age-2 and those fish ranged in size from 6.0 to 8.0 in (Table 34). It should be mentioned (in light of the growth rate differences between the sections of Cave Run Lake) that the only section of Grayson Lake sampled for crappie was the upper section; growth rates may be faster in the lower reaches. Efforts should be made to better sample fish from across the lake in future years. Using an individual lake assessment, the crappie fishery at Grayson is rated as “Good” (Table 35).

Creel survey

From 01 April to 31 October, a roving creel survey was conducted on Grayson Lake. In 2016 there were significantly more trips and man hours spent on the lake than the previous creel survey (2008), which is most likely a reflection of the poor economic conditions in 2008; the hours and trips spent on the lake is more comparable to the 2002 and 1993 creel surveys (Table 36). As has been the case in previous years, the majority of the users on Grayson Lake are male residents who spend time casting from a boat. The most fished for species on the lake was black bass (3843.3 trips), followed by crappie (1624.1 trips), hybrid striped bass (412.2 trips), catfish (363.4 trips) and panfish (326.7 trips; Table 37). The most harvested species were crappie and panfish, but the most caught species were crappie and black bass. Anglers had the most success fishing for crappie (60.6% success) and the least for black bass species (2.5% success). All of these trends were similar to those observed in 2008. Table 38 shows the number of fish harvested and released by inch class. This table shows the very low (1%) harvest rate for largemouth bass, the fact that the majority of crappie are harvested at 8.0 in and that anglers caught hybrid striped bass that were in the 27.0 in class. The most successful times to catch black bass on Grayson were April, May and October which coincided with the most trips made for those species on the lake (Table 39) and this trend also held true for crappie anglers (Table 40). However, early spring and summer fishing was the key for hybrid striped bass anglers (Table 41).

Angler attitude survey

In conjunction with the creel survey anglers were asked a series of questions pertaining to their attitudes towards fishing on Grayson Lake (Table 42). Anglers were only surveyed once in the year. Overall, the most fished for species were bass, crappie and hybrid striped bass. Of those that fished for bass, 51% were satisfied and 31% had a neutral opinion. Those who were not satisfied were disappointed in the size of the fish caught. About a quarter of the bass anglers surveyed fish tournaments at a rate of 7-12 a year. Similarly, the majority of the anglers who fished for crappie were satisfied (95%) and they were most satisfied with the number of fish they caught and the size of these fish. Both hybrid striped bass anglers and catfish anglers were satisfied with their fishing experiences (81% and 69%, respectively). The majority of our anglers fish 1-4 times a month. Anglers support the 15.0-inch minimum size limit on largemouth bass (84%) and the re-introduction of hybrid striped bass (96%). The majority of anglers rated the habitat in the lake as good (70%). About two-thirds of all anglers knew of KDFWR’s efforts to boost the habitat in the lake, less than half of all anglers regularly fish it and overall, most know about and utilize department placed habitat. Those that fish it have found it on their own and feel that it has improved their fishing.

Greenbo Lake (181a)

Black bass sampling (Spring/Fall)

On April 21, Greenbo Lake was nocturnally electrofished to assess the largemouth bass population. A total of 358 fish were collected ranging from 3.0 to 24.0 in (Table 43). The catch rate of 15.0-in and greater bass was the best it has been since 2009. Likewise, the 20.0-in and greater catch rate was the best it has been since 2006 (Table 44). PSD values show around 50% of the fish sampled were over 12.0 in (Table 45). Bass at Greenbo Lake are reaching harvestable size (12.0 in) as early as three years old with most reaching this at age four or five (Table 46). The overall largemouth bass assessment was rated as “Good” (Table 47).

On September 21, Greenbo Lake was nocturnally electrofished to assess the spring spawning strength and relative weights of largemouth bass. A total of 172 fish were collected ranging from 2.0 to 16.0 in (Table 48). Catch rate of bass was down largely due to the dense mats of hydrilla in the shallows. Relative weights of those fish collected were similar to previous years (Table 49) After assessing the lake, it was determined that a supplemental stocking was necessary and on October 11, 980 fingerlings were stocked at a mean size of 4.3 in (Table 50). These fish were spawned as part of KDFWR's "Trophy Bass Propagation Program" as a fish collected from Greenbo Lake was a contributor to this project.

Miscellaneous

During last year's fall sample (2015), dense aquatic vegetation was found and believed to have been Elodea. This year the mats had increased in size and density. Vegetation was pulled and identified as hydrilla. It is now believed to have been misidentified in 2015. For a second year in a row grass carp were stocked to help combat the increase in vegetation. Forty-eight grass carp averaging 15.0 in were stocked into the lake. Continued evaluation will be needed to determine if an increased stocking rate is required to combat the vegetation.

Lake Reba (76a)

Black bass sampling (Spring)

On April 14, Lake Reba was diurnally electrofished for assessment of the largemouth bass population. In total, 264 fish were collected ranging in size from 3.0 to 23.0 in (Table 51). Catch rates by length group were very similar to the 2015 through 1995 average (Table 52). Both PSD and RSD_{15} values were lower than the 2015 through 1995 average (Table 53). The overall lake assessment saw a drop from "Excellent" to "Good" in 2016. This was due to a decrease in catch rates of fish in the greater than 15.0-in length group (Table 54). The management objective for catch rates of fish over 15.0 in fell just short of the desired goal but the objective for catch rates of fish over 20.0 in was met.

Black bass sampling (Fall)

On September 26, Lake Reba was diurnally electrofished for assessment of the spawning strength. Catch rates of age-0 fish were off the charts and the lake was not stocked in 2016 (Table 55).

Smoky Valley Lake (36a)

Black bass sampling (Spring)

On April 15, Smoky Valley Lake was diurnally electrofished for assessment of the largemouth bass population. In total, 240 fish were collected ranging in size from 3.0 to 15.0 in (Table 56). As has been the trend for the last several years, catch rates of fish in each category over 12.0 in were much lower than the 1990 to 2015 average (Table 57). PSD and RSD_{15} values were very low indicating the majority of the fish were under the 12.0-in mark (Table 58). In the fall, otoliths were collected to determine age and growth characteristics and this demonstrated the continuation of the slow growth rates (Table 59). The bass population at Smoky Valley Lake was rated as "Fair" in 2016.

Sunfish sampling (summer)

On May 16, Smoky Valley Lake was diurnally electrofished for assessment of the sunfish populations. In total, 153 sunfish were collected (Table 61). The majority of these fishes were bluegill (76%) followed by green sunfish (22%) and longear sunfish (2%). Catch rates of bluegill by length group were down across the board (Table 62) and very few of the stock-size fish were above 6.0 in (Table 63). Otoliths were collected for determination of age and growth characteristics and these demonstrate the slow growth of this population (Table 64) as well as a wide range of lengths of fish of the same age (Table 65). The overall assessment of the bluegill fishery at Smoky Valley Lake was "Fair" (Table 66).

Black bass sampling (Fall)

On October 07, Smoky Valley Lake was diurnally electrofished in order to obtain relative weights of largemouth bass. In total, 228 fish were sampled ranging in size from 3.0 to 15.0 in (Table 67). Relative weights were also much lower than the 1990 to 2015 average (Table 68).

Lake Wilgreen (131a)

Black bass sampling (Spring)
On May 18, Lake Wilgreen was diurnally electrofished for an assessment of the largemouth bass population. In total, 606 fish were collected ranging in size from 2.0 to 21.0 in (Table 69). Catch rates of fish in the greater than 15.0-in and greater than 20.0-in range were much higher than the 1990-2015 average, but catch rates of some of the smaller length groups were lower (Table 70). This has been a recent trend and since there doesn't appear to be a decline in fish moving through the population over time, there is little concern. PSD and RSD_{15} values reflect these higher numbers of larger fish with nearly 50% of fish over stock size exceeding 15.0 in (Table 71). In the fall, otoliths were collected from a subsample of fish in order to determine age and growth characteristics. These samples showed continued excellent growth in Lake Wilgreen (Table 72). The overall assessment of the fishery at Lake Wilgreen was "Excellent" with nearly perfect scores across the board (Table 73).

Sunfish sampling (summer)
On May 18, Lake Wilgreen was diurnally electrofished for assessment of the sunfish populations. In total, 1,052 sunfish were collected; of these 82% were bluegill, 13% were green sunfish and 3% were redear sunfish (Table 74). Catch rates of bluegill were similar to the 1990-2015 average, with the exception of the smaller fish which were higher than average and the larger fish which were below average (Table 75). This lower number of larger fish resulted in relatively lower PSD and RSD_8 values (Table 76). Otoliths were also collected from a subsample of 10 individuals from each inch class. This data showed fair growth rates with fish reaching 6.0 in by their third year (Table 77), and that the majority of the fish within the population were less than four years old (Table 78). The overall assessment of the bluegill fishery in Lake Wilgreen was "Fair" (Table 79). While very few redear sunfish were collected in our sample, our catch rates were not far off of the 1995-2015 average (Table 80). Of those fish collected, 63% of them were greater than 7.0 in, but none were over the 10.0-in mark (Table 81). Otoliths were also collected from redear sunfish and showed pretty slow growth rates (Table 82), and that the majority of the fish collected were around four years old (Table 83). The overall assessment of the redear sunfish fishery was "Poor" (Table 84); however, it should be noted that we have some difficulty sampling redear sunfish, as they generally are a little deeper and out of electrofishing range.

Black bass sampling (Fall)
On October 10, Lake Wilgreen was electrofished for assessment of relative weights of largemouth bass. In total, 373 fish were sampled ranging in size from 2.0 to 19.0 in (Table 85). Relative weights were in the mid-80s to mid-90s (Table 86). These values were very close to the average of values obtained between 1990 and 2015.

Table 1: Yearly summary of sampling conditions by waterbody, species sampled and date.

Water body	Species	Date (2016)	Time 24hr	Gear	Weather	Water Temp (°F)	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Cave Run Lake	Muskie	3/15	900	electro	sunny/clear	57	729.74	47	good	upper section
Cave Run Lake	Muskie	3/16	900	electro	sunny/wind	52	729.36	17	good	middle section (short 1 hour due to wind)
Cave Run Lake	Muskie	3/17	900	electro	sunny/clear	56	728.89	24	good	lower section
Cave Run Lake	LMB	4/18	2030	electro	clear	64	727.88	48	good	upper section
Cave Run Lake	LMB	4/19	2030	electro	clear	63	727.96	48	good	middle section
Cave Run Lake	LMB	4/20	2030	electro	clear	64	278.01	84	okay	lower section
Cave Run Lake	LMB	9/26	1930	electro	clear/warm	78	729.81	36	good	upper section
Cave Run Lake	LMB	9/27	2000	electro	clear/warm	77	729.78	36	good	middle section
Cave Run Lake	LMB	9/28	2000	electro	ov-cast/rain	77	729.75	36	good	lower section
Cave Run Lake	BC/WC	11/1	800	trap net	record highs	62	727.96	-	good	minimal flow, hot conditions
Cave Run Lake	BC/WC	11/2	800	trap net	record highs	62	727.75	-	good	minimal flow, hot conditions
Cave Run Lake	BC/WC	11/3	800	trap net	record highs	63	727.53	-	good	minimal flow, hot conditions
Cave Run Lake	BC/WC	11/4	800	trap net	cooler/clouds	61	727.33	-	good	minimal flow, hot conditions
Grayson Lake	LMB	4/25	2015	electro	clear	68	640.83	61	good	middle section; *no upper section sample
Grayson Lake	LMB	4/26	1830	electro	ov-cast/rain	69	640.90	51	good	lower section
Grayson Lake	LMB	9/19	1930	electro	clear/warm	79	644.28	69	good	upper section; < 10" LMB only sampled
Grayson Lake	LMB	9/20	2000	electro	clear/warm	78	644.80	-	good	middle section; < 10" LMB only sampled
Grayson Lake	LMB	9/22	1930	electro	clear/warm	80	644.80	-	good	lower section; < 10" LMB only sampled
Grayson Lake	HSB	10/18	900	gill net	hot	-	643.92	-	good	lower and middle sections (125'/5 panel net)
Grayson Lake	HSB	10/19	900	gill net	hot	-	643.89	-	good	lower and middle sections (125'/5 panel net)
Grayson Lake	HSB	10/20	900	gill net	hot	-	643.86	-	good	lower and middle sections (125'/5 panel net)
Grayson Lake	HSB	10/21	900	gill net	cooler/rain	-	643.99	-	good	lower and middle sections (125'/5 panel net)
Grayson Lake	BC/WC	10/26	830	electro	warm/sunny	56	643.92	24	good	upper section
Greenbo Lake	LMB	4/21	2030	electro	overcast	65	normal	-	good	
Greenbo Lake	LMB	9/21	2000	electro	clear/warm	79	normal	-	good	< 10" LMB only sampled; hydrilla infestation
Lake Reba	LMB	4/14	900	electro	sunny	56	~6" low	48	good	
Lake Reba	LMB	9/26	900	electro	clear/warm	77	normal	-	good	< 10" LMB only sampled
Smoky Valley	LMB	4/15	900	electro	sunny	53	normal	61	good	
Smoky Valley	BG/RE	5/16	900	electro	sunny/cool	58	~6" high	20	good	
Smoky Valley	LMB	10/7	930	electro	sunny	-	normal	-	good	
Lake Wilgreen	LMB	4/18	900	electro	sunny	64	normal	54	good	
Lake Wilgreen	BG/RE	5/18	930	electro	ov-cast/cool	61	normal	27	good	
Lake Wilgreen	LMB	10/10	830	electro	sunny	68	~6" low	24	good	

Table 2. Relative abundance and CPUE (fish/hour) of muskellunge collected in the upper, middle and lower sections during 17 hours of 30-minute runs spread across each area of Cave Run Lake (15-17 March).

		Inch class																																						
Species	Area	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	Total	CPUE	se
Muskellunge	Upper		1	6	6							1		5						1	2	1	1								1	1					26	4.3	1.0
	Middle		2	3	8	1						1		1				1		1	1			2	1			1	3								26	5.2	1.2
	Lower	1	1	1	7	4						1	4	3	2	1		2	1		2	6		4	4		2	4		2			1			1	54	9.0	1.9
	Total	1	4	10	21	5						3	4	9	2	1		3	1	2	5	7	1	6	5		2	5	3	2	1	1	1			1	106	6.2	0.9

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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 2003-2016. 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	(se)	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)
2016	5	80.5	(1.0)	25	88.9	(2.1)	31	88.5	(1.3)	9	99.6	(4.3)	70	89.5	(1.2)
2015*															
2014	30	79.9	(1.0)	24	89.4	(1.1)	57	90.5	(1.1)	29	91.4	(1.6)	140	88.2	(0.7)
2013	11	79.0	(1.8)	4	94.7	(1.9)	41	94.1	(1.5)	17	91.6	(2.8)	73	91.3	(1.3)
2012	14	74.6	(1.0)	28	87.5	(2.1)	58	102.3	(12.2)	20	86.4	(1.4)	120	92.9	(6.0)
2011	23	83.4	(2.4)	29	92.8	(1.5)	40	90.8	(1.4)	27	87.7	(1.6)	119	89.2	(0.9)
2010	19	79.3	(1.0)	64	92.1	(0.9)	52	93.6	(1.9)	18	89.6	(1.3)	153	90.7	(0.9)
2009	12	87.9	(4.4)	11	96.8	(1.5)	36	92.7	(1.0)	23	93.0	(1.3)	82	92.6	(0.9)
2008	27	76.4	(1.3)	40	114.3	(17.4)	48	93.6	(1.3)	11	89.0	(1.5)	126	95.9	(5.6)
2007	35	83.7	(0.9)	9	101.8	(3.8)	18	94.5	(2.5)	14	91.9	(1.5)	76	89.9	(1.1)
2006	17	74.9	(1.1)	13	87.6	(2.2)	26	88.7	(1.4)	13	87.3	(1.2)	69	84.8	(1.0)
2005	26	81.2	(3.8)	23	90.6	(1.1)	38	89.3	(1.0)	22	85.3	(2.4)	109	86.8	(1.2)
2004	10	79.0	(2.3)	10	89.9	(3.2)	32	87.4	(1.2)	15	80.2	(1.1)	67	84.9	(1.0)
2003	22	82.4	(3.0)	16	95.5	(2.6)	33	92.2	(1.6)	9	87.1	(2.1)	80	89.6	(1.3)

nedmuscr.d16-d03

* = Lake was not sampled due to high water

Table 4. Average length and weight of known-age muskellunge (standard error in parentheses) in comparison to historical averages (collected from known-age muskie from 1989-2003).

	Age class					
	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6
2011	N= 33 L= 14.9 (0.2) W= 0.59 (0.02)					
2012	N= 61 L= 14.4 (0.1) W= 0.49 (0.01)	N= 15 L= 23.4 (0.5) W= 2.78 (0.24)				
2013	N= 74 L= 13.9 (0.1) W= 0.50 (0.01)	N= 2 L= 22.3 (2.8) W= 2.60 (1.40)	N= 7 L= 31.0 (0.4) W= 7.50 (0.49)			
2014	N= 73 L= 14.7 (0.1) W= 0.55 (0.01)	N= 23 L= 23.4 (0.4) W= 2.93 (0.19)	N= 9 L= 31.7 (0.4) W= 8.06 (0.40)	N= 15 L= 34.0 (0.8) W= 10.19 (0.91)		
2015						
2016	N= 40 L= 14.0 (0.1) W= 0.64 (0.13)	N= 18 L= 23.2 (0.2) W= 2.82 (0.14)	N= 15 L= 31.0 (0.4) W= 7.31 (0.32)	N= 13 L= 34.2 (0.5) W= 10.15 (0.60)	N= 1 L= 39.1 (--) W= 16.00 (--)	N= 5 L= 38.5 (1.0) W= 14.96 (2.21)
Average (Present)	L= 14.4 (0.2) W= 0.53 (0.03)	L= 23.0 (0.3) W= 2.77 (0.08)	L= 31.3 (0.3) W= 7.78 (0.28)	L= 34.0 (0.1) W= 10.19 (0.03)	L= 39.1 (--) W= 16.00 (--)	L= 38.5 (--) W= 14.96 (--)
Historical Average	L= 15.1 W= 0.68	L= 23.8 W= 3.75	L= 30.5 W= 7.79	L= 35.0 W= 11.30	L= 37.3 W= 15.66	L= 38.3 W= 15.27

nedmuscr.d11-d16

Table 5. Average length and weight of male and female muskellunge (standard error in parentheses).

	Sex					
	Male			Female		
2011	N=	41		N=	54	
	L=	31.2	(1.0)	L=	34.6	(1.0)
	W=	8.20	(0.69)	W=	12.01	(0.93)
2012	N=	51		N=	37	
	L=	33.7	(0.4)	L=	37.6	(0.8)
	W=	9.68	(0.33)	W=	14.42	(0.98)
2013	N=	36		N=	25	
	L=	34.5	(0.8)	L=	37.0	(0.8)
	W=	10.88	(0.57)	W=	14.73	(1.04)
2014	N=	54		N=	34	
	L=	34.9	(0.4)	L=	39.7	(0.8)
	W=	10.99	(0.41)	W=	17.97	(1.24)
2015						
2016	N=	28		N=	18	
	L=	33.7	(0.6)	L=	34.1	(1.6)
	W=	9.84	(0.69)	W=	11.90	(1.77)
Average	L=	33.6	(0.7)	L=	36.6	(1.0)
	W=	9.92	(0.50)	W=	14.21	(1.11)

nedmuscr.d11-d16

Table 6. Muskellunge assessment for Cave Run Lake spring electrofishing from 1995-2016.

Year		CPUE age-1	Spring CPUE ≥20.0 in	Spring CPUE ≥30.0 in	Spring CPUE ≥36.0 in	Spring CPUE ≥40.0 in	Total score	Assessment rating
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		
2002*								
2001	Value	2.3	4.4	3.1	1.5	0.6	11	Fair
	Score	1	2	2	3	3		
2000	Value	1.7	2.8	1.8	0.9	0.3	7	Poor
	Score	1	1	1	2	2		
1999	Value	1.6	3.2	2.3	0.7	0.2	7	Poor
	Score	1	1	2	1	2		
1998	Value	3.8	2.8	2.8	1.0	0.3	10	Fair
	Score	3	1	2	2	2		
1997	Value	2.3	1.7	0.8	0.2	0.5	8	Poor
	Score	1	1	1	2	3		
1996	Value	5.2	4.2	2.4	0.8	0.4	11	Fair
	Score	3	2	2	1	3		
1995	Value	2.9	4.5	2.8	1.6	0.6	12	Fair
	Score	2	2	2	3	3		

nedmuscr.d16-09; nedMS2cr.d08; nedMK1cr.d07; nedmuscr.d06-95

* = Lake was not sampled due to high water

Table 7. Length frequency and CPUE (fish/hr) of black bass collected in 2.0 hours (6.0 hours total) of 30-minute nocturnal electrofishing runs in each area of Cave Run Lake from 18-20 April.

		Inch class																							Std.
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	error
Upper	Smallmouth bass																						0	0.0	-
	Spotted bass				4	2	4	3	6	1	1												21	10.5	7.9
	Largemouth bass	10	61	28	21	9	50	63	24	56	39	34	19	20	13	4	4	6	2	2	1	1	467	233.5	1.0
Middle	Smallmouth bass						2	1	3	2		1											9	4.5	2.1
	Spotted bass		15	28	14	42	41	40	34	9	3	2											228	114.0	21.3
	Largemouth bass	2	34	74	28	6	7	49	73	48	47	41	32	22	15	6	2	1					487	243.5	27.5
Lower	Smallmouth bass	1	1	3	17	11	5	6	2	2	4	2											54	27.0	11.6
	Spotted bass	9	86	27	30	39	44	61	43	9	5	2	2	3									360	180.0	47.3
	Largemouth bass	1	39	96	78	16	17	69	80	62	74	56	44	28	12	3	6	3	2				686	343.0	50.3
Total	Smallmouth bass	1	1	3	17	11	7	7	5	4	4	3											63	10.5	5.0
	Spotted bass	9	101	55	48	83	89	104	83	19	9	4	2	3									609	101.5	26.3
	Largemouth bass	13	134	198	127	31	74	181	177	166	160	131	95	70	40	13	12	10	4	2	1	1	1,640	273.3	22.8

nedpsdcr.d16

Table 8. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Cave Run Lake from 1990-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
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			149.0	8.7
1998	18.7	3.5	17.9	2.9	20.6	2.1	6.9	1.5			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			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

* = No sample due to high water

nedpsdcr.d90 - d16

Table 9. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples in each area of Cave Run Lake; 95% confidence intervals are in parentheses.

Area	Species	No. ≥8.0 in	PSD (± 95%)		RSDa (± 95%)	
Upper	Smalllmouth bass	0				
	Spotted bass	17	12	(± 16)	-	-
	Largemouth bass	338	43	(± 5)	16	(± 4)
Middle	Smalllmouth bass	9	33	(± 33)	-	-
	Spotted bass	171	8	(± 4)	-	-
	Largemouth bass	343	48	(± 5)	13	(± 4)
Lower	Smalllmouth bass	32	25	(± 15)	-	-
	Spotted bass	208	10	(± 4)	2	(± 2)
	Largemouth bass	456	50	(± 6)	12	(± 3)
Total	Smallmouth bass	41	27	(± 14)	-	-
	Spotted bass	396	9	(± 3)	1	(± 1)
	Largemouth bass	1,137	47	(± 3)	13	(± 2)

Largemouth bass = RSD_{15}, spotted and smallmouth bass = RSD_{14}

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Table 10. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Cave Run Lake in October 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age								
Year	No.	1	2	3	4	5	6	7	8	9
2016	0									
2015	46	5.6								
2014	25	5.6	9.0							
2013	17	5.7	9.2	11.2						
2012	7	6.5	10.0	12.1	13.6					
2011	4	6.2	10.0	12.4	13.9	14.9				
2010	1	5.5	9.7	11.7	13.4	14.4	15.5			
2009	0									
2008	0									
2007	1	6.5	9.8	12.0	14.3	15.6	16.7	17.2	17.7	18.0
Mean		5.7	9.3	11.6	13.7	15.0	16.1	17.2	17.7	18.0
Number		101	55	30	13	6	2	1	1	1
Smallest		3.5	6.7	9.2	11.1	13.9	15.5			
Largest		7.6	12.1	14.1	15.6	16.7	16.7			
Std. error		0.1	0.1	0.2	0.3	0.4	0.6			
95% CI (±)		0.4	0.6	0.9	1.1	1.7	2.4			

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Table 11. Population assessment of largemouth bass based on samples collected at Cave Run Lake 1992-2016.

Year		Mean length age-3	Spring CPUE 12.0-14.9 in	Spring CPUE ≥15.0 in	Spring CPUE ≥20.0 in	Spring CPUE age-1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2016	Value	12.4	64.3	25.5	1.3	81.3	18	Excellent	-0.743	52.40%
	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	57.30%
	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	54.40%
	Score	2	1	1	3	3				
2007	Value	12.4	19.9	7.9	0.3	66.5	12	Fair	0.703	51.00%
	Score	2	2	2	2	4				
2006	Value		14.7	10.2	0.2	49.2	11	Fair	0.799	55.00%
	Score	2	1	2	2	4				
2005	Value		14.7	7.2	0.7	43.0	12	Fair	0.897	59.00%
	Score	2	1	2	3	4				
2004	Value		26.0	14.1	0.3	28.1	13	Good	0.846	57.00%
	Score	2	3	3	2	3				
2003	Value	12.4	24.8	20.3	0.8	39.8	15	Good		
	Score	2	3	4	3	3				
2002*	Value									
	Score									
2001	Value	10.7	27.6	12.6	0.3	15.1	10	Fair		
	Score	1	3	2	2	2				
2000	Value	10.3	26.8	9.0	0.4	35.5	11	Fair		
	Score	1	3	2	2	3				

* = Lake was not sampled due to high water

Table 12. Length frequency 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 26-28 September.

Area/Species	Inch class																			Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
Upper																						
Smallmouth bass															1					1	0.7	0.7
Spotted bass		1							2			1								4	2.7	1.3
Largemouth bass	2	59	51	43	23	3	10	13	13	15	5	4	1	1	2		1			246	164.0	39.3
Middle																						
Smallmouth bass		2	2	2				1												7	4.7	1.8
Spotted bass	1	19	95	15	6	13	31	24	13	13	1									231	154.0	31.3
Largemouth bass		3	13	30	20	3	9	14	9	3	8	1	2	3						128	85.3	26.8
Lower																						
Smallmouth bass		3	8	1		1	2		1			1								17	11.3	2.4
Spotted bass		11	21	8	5	19	12	10	7	1	1									95	63.3	11.1
Largemouth bass		1	8	11	7	5	18	13	6	8	9		3	3		1			1	94	62.7	8.4
Total																						
Smallmouth bass		5	10	3		1	2	1	1			1								25	5.6	1.8
Spotted bass	1	31	116	23	11	32	43	36	20	14	2	1								330	73.3	24.0
Largemouth bass	2	63	82	84	50	11	37	40	28	26	22	5	6	7	2	1	1		1	468	104.0	20.7

nedwrscr.d16

Table 13. Number of fish and mean relative weight (W_r) values for length groups of black bass collected in Cave Run Lake sampled by nocturnal electrofishing.

Species	Area	Length group									Overall		
		8.0-11.9 in			12.0-14.9 in			≥15.0 in					
		No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.
Largemouth bass	Upper	50	85	1	9	84	4	4	84	5	63	85	1
	Middle	34	89	7	11	78	5	3	83	9	48	86	5
	Lower	45	80	1	12	83	2	5	109	17	62	83	2
	Total	129	84	2	32	81	2	12	94	8	173	85	2
		7.0-10.9 in			11.0-13.9 in			≥14.0 in			Overall		
		No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.
Spotted bass	Upper							1	79.00	-	1	79	-
	Middle				1	85	-				1	85	-
	Lower	3	77	2	1	83	-				4	78	2
	Total	4	79	3	1	83	-	1	79	-	6	80	2
		7.0-10.9 in			11.0-13.9 in			≥14.0 in			Overall		
		No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.
Smallmouth bass	Upper	2	92	2	1	93	-				3	92	1
	Middle	69	102	2	14	86	5				83	100	2
	Lower	27	93	2	2	79	12				29	92	2
	Total	98	99	1	17	86	4				115	97	1

nedwrscr.d16

Table 14. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in the fall while nocturnal electrofishing at Cave Run Lake.

Year class	Area	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
		Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2016	Total	4.8	0.1	62.4	19.7	29.8	8.0		
2015	Total	5.0	0.0	100.7	46.4	50.9	12.4	81.3	12.5
2014	Total	*						*	*
2013	Total	*						59.0	7.5
2012	Total	4.4	0.0	100.7	35.6	31.0	9.2	91.3	6.0
2011	Total	4.0	0.0	85.0	20.6	15.3	2.4	45.3	6.7
2010	Total	4.5	0.0	91.7	27.7	24.7	4.2	*	*
2009	Total	4.6	0.0	70.2	12.2	26.3	4.1	*	*
2008	Total	4.6	0.0	76.5	28.2	26.3	8.1	*	*
2007	Total	4.7	0.1	50.5	19.0	20.3	7.7	24.9	5.9
2006	Total	4.8	0.1	68.5	26.2	31.5	13.1	66.5	7.1
2005	Total	4.1	0.1	51.5	19.4	10.8	3.5	49.2	9.9
2004	Total	5.3	0.1	86.0	26.3	53.5	14.0	63.4	9.9
2003	Total	4.7	0.0	70.7	19.0	23.5	6.4	28.1	3.0

* No data collected

nedwrscr.d16 - d15, d09 - 03; nedpsdcrd14 - d12, d08-d02

nedaagcr.d03, d07

Table 15. Length frequency and CPUE (fish/nn) for crappie collected in 32 net-nights of sampling at Cave Run Lake from 1-4 November.

Species	Inch class											Total	CPUE	Std. error
	3	4	5	6	7	8	9	10	11	12	13			
White crappie	2	2	9	15	27	16	7	5	2	4	1	90	2.8	0.5
Black crappie			2	1	1		1	1				6	0.2	0.1

nedctncr.d16

Table 16. PSD and RSD_8 of black and white crappie collected at Cave Run Lake.

Species	No. ≥8.0 in	PSD (± 95%)		RSD_8 (± 95%)	
White crappie	86	41	(± 10)	17	(± 7)
Black crappie	6	33	(± 41)	14	(± 33)

nedctncr.d16

Table 17. Number of fish and mean relative weight (W_r) values for length groups of white and black crappie collected in Cave Run Lake by trap netting.

Species	Length group									Overall		
	5.0-7.9 in			8.0-9.9 in			≥10.0 in					
	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.
White crappie	50	76	2	23	78	2	12	86	2	85	78	1
Black crappie	4	90	6	1	79	-	1	77	-	6	86	4

nedctncr.d16

Table 18. Black and white crappie back caculated and mean length at capture compared between 2 sampling methods in the upper sections of the lake.

			Age						
			1	2	3	4	5	6	7
Black crappie	Trap net	Back caculated length	3.4	5.1	6.6	6.7	7.5		
		(n)	(6)	(4)	(3)	(3)	(2)		
		Length at Capture	5.3	-	9.9	6.8	8.3		
		(n)	(2)	(0)	(1)	(1)	(2)		
	Angling	Back caculated length	3.2	5.1	6.2	6.8	7.4	7.9	8.9
		(n)	(12)	(12)	(10)	(5)	(2)	(2)	(1)
		Length at capture	-	6.6	6.9	7.1	-	7.7	9.3
		(n)	(0)	(2)	(5)	(3)	(0)	(1)	(1)
White crappie	Trap net	Back caculated length	3.9	6.2	8.0	9.3	10.3	11.4	
		(n)	(63)	(50)	(26)	(7)	(3)	(2)	
		Length at capture	5.7	7.4	9.4	10.7	12.4	12.5	
		(n)	(13)	(24)	(19)	(4)	(1)	(2)	
	Angling	Back caculated length	3.8	6.0	7.9				
		(n)	(43)	(43)	(25)				
		Length at capture	-	6.9	9.0				
		(n)	(0)	(18)	(25)				

Table 19. Population assessment of white crappie based on samples collected at Cave Run Lake in 2016 compared to previous years (scoring based on statewide assessment).

Year		CPUE excluding age-0	Mean length age-2	Fall CPUE ≥8.0 in	CPUE age-1	CPUE age-0	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2016	Value	2.7	7.4	1.1	0.4	0.1	6	Poor		
	Score	2	1	1	1	1				
2015	Value	3.8	7.5	1.2	1.1	0.9	8	Poor	-0.800	55.10%
	Score	2	1	1	2	2				
2014	Value									
	Score									
2013	Value	4.6		2.0	1.4	1.5	9	Fair		
	Score	2	1	2	2	2				
2012	Value	5.8	7.9	0.7	2.2	2.8	9	Fair	-1.179	69.20%
	Score	2	1	1	2	3				
2011	Value	21.4		3.4	11.6	17.3	16	Good		
	Score	4	1	3	4	4				
2010	Value	3.6		1.4	0.9	2.5	8	Poor	-1.220	70.50%
	Score	2	1	1	1	3				
2009	Value	106.4		3.3	59.2	56.0	16	Good	-1.490	77.50%
	Score	4	1	3	4	4				
2008	Value	2.0		0.6	0.6	1.3	6	Poor	0.588	45.50%
	Score	1	1	1	1	2				
2007	Value	2.8	7.7	0.6	0.7	0.6	7	Poor	1.410	75.50%
	Score	2	1	1	1	2				
2006	Value	6.9		0.7	5.1	3.8	11	Fair	0.951	66.30%
	Score	3	1	1	3	3				
2005	Value	2.2		0.9	0.7	1.7	7	Poor	0.572	43.60%
	Score	1	1	1	1	3				
2004	Value	9.3	7.9	3.0	4.2	6.4	13	Good	0.762	53.30%
	Score	3	1	2	3	4				
2003	Value	1.6	7.8	0.7	0.2	0.1	5	Poor	0.391	32.30%
	Score	1	1	1	1	1				
2002	Value	4.4	7.3	0.8	1.1	0.6	8	Poor		
	Score	2	1	1	2	2				
2001	Value	1.7	6.9	0.4	0.6	0.1	5	Poor		
	Score	1	1	1	1	1				
2000	Value	1.6	7.5	0.4	0.4	0.3	5	Poor		
	Score	1	1	1	1	1				

nedctncr.d92-13; nedaagcr.d92-99, d01-04, 07, 12

Table 20. Length frequency and CPUE (fish/hr) of black bass collected in 3.0 hours (1.5 hours in the middle and lower areas) of nocturnal electrofishing (3- 30-minute runs) for black bass in Grayson Lake on 25 and 26 April.

	Inch class																					Std.
Area/Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	error
Middle																						
Smallmouth bass																				0		
Spotted bass	1	6	6	4	6	4	10	3	2											42	28.0	9.2
Largemouth bass	12	131	97	27	7	43	43	29	34	16	7	6	3	3	3	1	2	1		465	310.0	16.0
Lower																						
Smallmouth bass					1		1	1	1											4	2.7	1.3
Spotted bass	2	17	7	15	24	18	31	19	4	2		1								140	93.3	13.8
Largemouth bass	8	116	102	25	10	29	56	25	22	12	4	2	6	4	1	5		3	1	431	287.3	30.1
Total																						
Smallmouth bass					1		1	1	1											4	1.3	0.8
Spotted bass	3	23	13	19	30	22	41	22	6	2		1								182	60.7	16.4
Largemouth bass	20	247	199	52	17	72	99	54	56	28	11	8	9	7	4	6	2	4	1	896	298.7	16.1

nedpsdgl.d16

Table 21. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Grayson Lake from 1999-2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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

* = No sample due to high water

nedpsdgl.d16-d12; d09 - d99

Table 22. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples in each area of Grayson Lake; 95% confidence intervals are in parentheses.

Area	Species	No. ≥8.0 in	PSD (± 95%)		RSDa (± 95%)	
Middle	Smalllmouth bass	0				
	Spotted bass	25	8	(± 11)	-	-
	Largemouth bass	191	22	(± 6)	7	(± 4)
Lower	Smalllmouth bass	4	25	(± 49)	-	-
	Spotted bass	99	7	(± 5)	1	(± 2)
	Largemouth bass	170	22	(± 6)	12	(± 5)
Total	Smallmouth bass	4	25	(± 49)	-	-
	Spotted bass	124	7	(± 5)	1	(± 2)
	Largemouth bass	361	22	(± 4)	9	(± 3)

Largemouth bass = RSD15, spotted and smallmouth bass = RSD14
nedpsdgl.d15

Table 23. Population assessment of largemouth bass based on samples collected at Grayson Lake from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE 12.0-14.9 in	Spring CPUE ≥15.0 in	Spring CPUE ≥20.0 in	Spring CPUE age-1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
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				
2006	Value		23.7	5.3	0.3	17.3	9	Fair	-5.350	41.50%
	Score	1	3	1	2	2				
2005	Value		25.1	2.9	0.2	46.8	11	Fair	-0.731	51.90%
	Score	1	3	1	2	4				
2004	Value		12.9	2.9	0.3	40.4	8	Poor		
	Score	1	1	1	2	3				
2003	Value		6.3	2.2	0.7	125.2	10	Fair		
	Score	1	1	1	3	4				
2002	Value		4.8	3.0	0.8	127.2	10	Fair		
	Score	1	1	1	3	4				
2001	Value	10.7	6.7	2.2	0.2	218.1	9	Fair		
	Score	1	1	1	2	4				
2000	Value	10.5	13.4	6.7	0.3	130.8	10	Fair		
	Score	1	1	2	2	4				

nedpsdgl.d00-d15; nedaaggl.d03,d08

Table 24. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in September while nocturnal electrofishing at Grayson Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2016	Total	4.7	0.0	116.4	24.1	38.9	9.7		
2015	Total	4.8	0.0	126.0	16.7	48.7	8.6	169.3	15.1
2014	Total	4.6	0.0	101.8	15.7	31.8	8.3	53.8	14.3
2013	Total	4.3	0.0	81.3	11.2	15.3	3.3	46.9	9.5
2012	Total	4.5	0.0	139.1	23.0	41.8	6.1	65.7	9.1
2011	Total	4.0	0.0	83.6	15.0	11.1	2.6	48.5	12.0
2010	Total	4.8	0.0	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	0.0	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	0.0	87.1	17.9	12.0	2.6	45.9	8.0
2005	Total	4.0	0.0	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	0.0	59.1	6.8	10.4	1.7	158.9	21.7

* No sample collected due to high water

nedbsigl.d16-d13; nedwrsgl.d12 - d03; nedpsdgl.d15-d12, d09 - d04

nedaaggl.d03, d08

Table 25. Length frequency and CPUE (fish/nn) for hybrid striped bass collected at Grayson Lake while gill netting (20 net-nights) 4-7 November.

	Inch class																				Std.
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	error
Hybrid striped bass	4	16	5			5	15	6	2	3	6	4	2	2	4	1	2	1	78	3.9	0.9

nedhybgl.d16

Table 26. Number of fish and relative weight (Wr) for each length group of hybrid striped bass collected at Grayson Lake. se = standard error

	Length group											
	8.0-11.9 in			12.0-14.9 in			≥15.0 in			Total		
Year	No.	Wr	se	No.	Wr	se	No.	Wr	se	No.	Wr	se
2016	21	85	1.5	26	79	1.3	27	81	1.1	74	81	0.8
2014	23	79	1.8	10	76	2.2	43	83	1.0	76	81	0.9

nedhybgl.d16, d14

Table 27. Mean back calculated lengths (in) at each annulus for hybrid striped bass collected from Grayson Lake in October 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age						
Year	No.	1	2	3	4	5	6	7
2016	0							
2015	28	9.0						
2014	13	9.4	15.0					
2013	5	9.3	14.6	17.5				
2012	3	8.9	14.0	17.1	19.1			
2011	1	7.4	13.5	17.5	18.9	20.9		
2010	2	9.6	15.0	18.4	20.6	22.0	22.8	
2009	1	9.8	16.0	18.7	20.9	22.2	23.2	23.7
Mean		9.1	14.8	17.7	19.8	21.8	22.9	23.7
Number		53	25	12	7	4	3	1
Smallest		7.0	11.2	15.0	17.4	20.9	22.5	-
Largest		11.0	16.5	19.4	20.9	22.3	23.2	-
Std. error		0.1	0.2	0.4	0.5	0.3	0.2	-
95% CI (±)		0.5	0.9	1.4	1.9	1.3	0.9	-

nedaaggl.d16

Table 28. Age frequency and CPUE (fish/nn) of hybrid striped bass sampled using gill nets for 17 net-nights at Grayson Lake in October 2016.

	Inch class																					Std.
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	%	CPUE	error
0	4	16	5																25	33	1.3	0.3
1						5	15	6	2										28	37	1.5	0.4
2										3	5	3							11	15	0.6	0.3
3											1			2	2				5	6	0.2	0.1
4												1			2				3	4	0.1	0.1
5																1			1	1	0.1	0.1
6																	2		2	3	0.1	0.1
7																		1	1	1	0.1	0.1
Total	4	16	5			5	15	6	2	3	6	4		2	4	1	2	1	76	100		
%	5	21	7			7	20	8	3	4	8	5		3	5	1	3	1	100			

nedhybgl.d16; nedaaggl.d16

Table 29. Population assessment for hybrid striped bass based on samples collected during the fall at Grayson Lake (scoring based on lake-specific assessment for 250-foot nets; NEFD used 125-foot nets).

Year		CPUE age-1 and older	Mean length age-2	CPUE age-1	CPUE ≥15.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2016	Value	2.6	17.5	1.4	1.4	7	Fair	-0.415	34.00%
	Score	1	3	2	1				
2014	Value	3.2	14.4	2.5	0.7	5	Poor	-0.352	29.70%
	Score	1	1	2	1				
2011	Value	3.6	16.5	1.5	2.2	8	Fair		
	Score	2	2	2	2				

nedhybgl.d16

Table 30. Length frequency and CPUE (fish/hr) of black and white crappie collected in 1.5 hours of diurnal electrofishing (6- 15-minute runs) on Grayson Lake on 26 October.

	Inch class									Std.
Species	5	6	7	8	9	10	11	Total	CPUE	error
White crappie	2	53	123	29	3	1	1	212	141.3	27.6
Black crappie	1	3	10	5	1			20	13.3	2.7

nedcwrgl.d16

Table 31. PSD and RSD_{10} values for crappie collected while electrofishing on Grayson Lake; 95% confidence limits are in parentheses.

Species	No. ≥5.0 in	PSD (± 95%)		RSD_{10} (± 95%)	
White crappie	212	16	(± 5)	1	(± 1)
Black crappie	20	30	(± 21)		

nedcwrgl.d16

Table 32. Number of fish and relative weight (Wr) for each length group of crappie collected at Grayson Lake in 2016. se = standard error

	Length group											
	5.0-7.9 in			8.0-11.9 in			≥10.0 in			Total		
Year	No.	W_r	se	No.	W_r	se	No.	W_r	se	No.	W_r	se
White crappie	177	82	1	32	77	2	2	84	3	211	81	1
Black crappie	14	84	2	6	80	4				20	83	2

nedcwrgl.d16

Table 33. Mean back calculated lengths (in) at each annulus for white crappie collected from Grayson Lake in October 2016, includes 95% confidence interval (CI) for mean length for each age class. (Not enough black crappie were collected for age analysis)

		Age							
Year	No.	1	2	3	4	5	6	7	8
2015	2	4.6							
2014	12	3.9	6.2						
2013	4	4.3	6.4	7.9					
2012	1	3.9	5.3	6.4	7.2				
2011	3	3.8	5.7	6.8	7.9	8.8			
2010	1	3.6	5.9	7.2	7.9	8.4	9.0		
2009	2	4.1	6.4	7.7	8.4	9.1	9.7	10.5	
2008	1	4.0	6.3	8.1	8.7	9.2	9.5	9.7	9.9
Mean		4.0	6.1	7.4	8.0	8.9	9.5	10.3	9.9
Number		26	24	12	8	7	4	2	1
Smallest		3.3	5.1	6.3	7.2	8.3	9.0	9.7	-
Largest		4.8	7.3	9.0	8.7	9.2	9.9	10.6	-
Std. error		0.1	0.1	0.3	0.2	0.1	0.2	0.3	-
95% CI (±)		0.3	0.5	1.0	0.7	0.6	0.6	1.1	-

nedaaggl.d16

Table 34. Age frequency and CPUE of white crappie collected from Grayson Lake in October 2016.

Age	Inch class						Total	%	CPUE	Std. error
	6	7	8	9	10	11				
1	21						21	10	14.1	3.7
2	32	105	17				155	74	103.1	20.0
3			6	2	0		8	4	5.4	0.9
4		18					18	8	11.7	2.3
5			6		1		7	3	4.7	0.7
6					0		0	0	0.2	0.2
7						1	1	0	0.7	0.7
8					0		0	0	0.2	0.2
Total	53	123	29	3	1	1	210	100		
%	25	59	14	1	0	0				

nedcwrgl.d16; nedaaggl.d16

Table 35. Population assessment for white crappie based on samples collected during the fall at Grayson Lake from 2005-2016 (scoring based on lake-specific assessment).

Year		CPUE age-1 and older	Mean length age-2	CPUE age-0	CPUE age-1	CPUE ≥8.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2016	Value	141.3	7.5	0.0	14.1	22.7	13	Good	-0.753	52.90%
	Score	4	4	0	2	3				
2015	Value									
	Score									
2014	Value	54.0	5.2	0.0	0.7	8.7	6	Poor	-0.752	52.80%
	Score	3	1	0	1	1				
2013	Value									
	Score									
2012	Value	125.2		2.0	11.5	27.3	12	Good		
	Score	4	1	1	2	4				
2011	Value									
	Score									
2010	Value	124.0	6.6	0.7	13.5	24.7	12	Good	-0.425	34.60%
	Score	4	1	1	3	3				
2009	Value	69.3	6.4	0.5	16.8	10.3	10	Fair	-0.384	56.60%
	Score	3	1	1	3	2				
2008	Value	104.6	6.4	1.7	27.6	16.0	12	Fair	-0.754	53.00%
	Score	4	1	1	4	2				
2007	Value	21.6	5.6	0.3	1.3	6.0	5	Poor	-0.900	59.30%
	Score	1	1	1	1	1				
2006	Value	228.8	5.6	39.6	83.3	42.4	17	Excellent	-1.185	69.40%
	Score	4	1	4	4	4				
2005	Value	41.3	5.1	1.3	9.9	16.7	8	Fair	-0.233	20.80%
	Score	2	1	1	2	2				

nedcwrgl.d16, d14, d12, d10 - d05; nedaaggl.d05, d06, d08, d10, d16

Table 36. Fishery statistics derived from a daytime creel survey at Grayson Lake during April through October 2016 compared to findings from 2008, 2002, and 1993.

	2016	2008	2002	1993
Fishing trips				
No. of fishing trips (per acre)	7,589 (5.02)	2,558 (1.69)	8,206 (5.43)	9,592 (6.34)
Fishing pressure				
Total man-hours (S.E.)	32,054 (1,050.51)	10,305 (332.11)	47,661 (774)	57,268 (4,865)
Man hours/acre	21.20	6.82	31.52	37.9
Catch/harvest				
No. of fish caught (S.E.)	50,074 (5,564.72)	20,637 (1,943.26)	109,1335 (7,244)	59,771 (5,620)
No. of fish harvested (S.E.)	14,192 (2,090.20)	11,615 (1,206.81)	43,206 (3,799)	30,080 (3,367)
Lbs. of fish harvested		3,083	10,782	7,144
Harvest rate				
Fish/hour	0.41	1.13	0.8	0.12
Fish/acre	9.39	7.68	28.58	19.89
Lbs/acre	3.46	2.04	7.13	4.73
Catch rates				
Fish/hour	1.43	2.03	2.17	1.04
Fish/acre	33.12	13.65	72.18	39.53
Misc. characteristics (%)				
Male	86.58	84.76	85	90.3
Female	13.42	15.24	15	9.7
Resident	90.50	86.0	84	80.48
Non-resident	9.50	14.0	16	19.52
Method (%)				
Still fishing	24.93	43.58	41	36.55
Casting	72.42	55.08	57	61.82
Fly fishing	0	1.34	2	1.34
Trolling	1.19	0	t	0.29
Spider Rigging	1.46	0	0	0
Mode (%)				
Boat	86.39	98.66	94	92.6
Bank	8.22	0.67	6	7.15
Dock	4.84	0.67	t	0.29

(S.E.) = Standard error

t < 0.5%

Table 37. Fish harvest statistics derived from the 2016 creel survey at Grayson Lake.

	Black Crappie	White Crappie	Crappie Group	Largemouth Bass	Spotted Bass	Smallmouth Bass	Black Bass Group	Bluegill	Rock Bass	Longear Sunfish	Warmouth	Green Sunfish	Panfish Group	Channel Catfish	Flathead Catfish	Catfish Group	Hybrid Striped Bass	Carp	Anything
Number caught	5,268	19,486	24,754	17,766	68	9	17,843	6,521	64	20	55	61	6,721	316	85	401	313	42	
(per acre)	3.5	12.9	16.4	11.8	0.0	0.0	11.8	4.3	0.0	0.0	0.0	0.0	4.4	0.2	0.1	0.3	0.2	0.0	
Number harvested	2,650	8,563	11,214	190	8	0	199	2,284	38	0	0	0	2,322	298	77	376	83	0	
(per acre)	1.8	5.7	7.4	0.1	0.0		0.1	1.5	0.0				1.5	0.2	0.1	0.2	0.1		
% of total number harvested	18.7	60.3	79.0	1.3	0.1		1.4	16.1	0.3				16.4	2.1	0.5	2.6	0.6		
Pounds harvested	933.7	2,463.2	3,396.9	446.5	2.8		449.3	306.3	14.0				320.3	599.2	245.8	845.0	223.5		
(per acre)	0.6	1.6	2.2	0.3	0.0		0.3	0.2	0.0				0.2	0.4	0.2	0.6	0.1		
% of total pounds harvested	17.8	47.1	64.9	8.5	0.1		8.6	5.9	0.3				6.1	11.4	11.4	16.1	4.3		
Mean length (in)	8.5	8.6		16.8	9.0			5.7	8.3					17.9	19.5		19.8		
Mean weight (lbs)	0.32	0.28		2.51	0.34			0.12	0.37					1.94	3.02		4.99		
Number fishing trips for that species			1,624.1				3,843.3						326.7			363.4	412.2		1018.9
% of all trips			21.4				50.6						4.3			4.8	5.4		13.4
Hours fished for that species			6,859.9				16,233.8						1,380.0			1,535.0	1,741.1		4,303.9
(per acre)			(4.54)				(10.74)						(0.91)			(1.02)	(1.15)		(2.85)
Number harvested fishing for that species			9,068				167						570			282	73		
Pounds harvested fishing for that species			2,565.8				388.6						82.3			702.3	127.7		
Number harvested per hour fishing for that species			1.2				0.0						0.7			0.1	0.1		
% success fishing for that species			60.6				2.5						30.9			26.8	5.7		24.2

Table 38. Length distribution (length of released fish are estimates) for each species of fish harvested (H) and/or released (R) at Grayson Lake from April through October 2016.

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	24	25	26	27	28	29	30	31	32	33	
Largemouth bass	H														70	70	10	10	20	10														190
	R							2214	3796	2794	2667	2130	1328	1729	380	232	116	95	42		32	11		9										17,575
Spotted bass	H								8																									8
	R								26		9	9	15																					59
Smallmouth bass	H																																	0
	R													9																				9
Hyb Striped bass	H											50							17			8					7							82
	R						12		23		12	12	23	46		12		12	12	23		23		12	8									230
White crappie	H					581	1436	2588	1908	1261	252	340	132	33	32																			8,563
	R	25	272	1074	1148	2394	1999	1395	950	864	197	604																						10,922
Black crappie	H				80	348	361	468	562	482	120	187	42																					2,650
	R		67	554		537	537	218	302	50	252		100																					2,617
Bluegill	H	29	10	48	590	1018	523	66																										2,284
	R	375	80	1162	867	1376	206	107	63																									4,236
Rock bass	H							28	9																									37
	R			9	9				7																									25
Green sunfish	H																																	0
	R					31	30																											61
Warmouth	H																																	0
	R			11	11	11	11	11																										55
Longear sunfish	H																																	0
	R					19																												19
Channel catfish	H					10				10				19	29	29		58	58	19		38	10			18								298
	R										9					8																		17
Flathead catfish	H														8	8	8	8			15	8	22											77
	R																									7								7
Carp	H																																	0
	R																										17				17		7	41

Table 39. Monthly black bass angling success at Grayson Lake during the 2016 creel survey period.

Month	Total no. caught	Total no. harvested	Total no. of trips for	Hours fished for	Catch fishing for	Catch / hour fishing for	No. harvested fishing for	No. harvested / hour fishing for
Apr	6111.9	59.9	893.0	3771.7	5313.0	1.4	60.0	0.0
May	2463.6	60.3	732.2	3092.8	2155.0	0.6	53.0	0.0
Jun	1777.0	-	452.4	1910.8	1617.0	0.8	-	-
Jul	1694.9	-	455.7	1924.8	1361.0	0.7	-	-
Aug	1574.9	8.0	373.2	1576.5	1229.0	1.1	-	-
Sep	1898.1	33.2	384.6	1624.5	1658.0	1.0	17.0	0.0
Oct	2322.7	37.2	552.3	2332.8	2118.0	0.9	37.0	0.0
Total	17843.1	198.5	3843.3	16233.8	15451.0		167.0	
Mean						0.9		0.0

Table 40. Monthly crappie angling success at Grayson Lake during the 2016 creel survey period.

. Month	Total no. caught	Total no. harvested	Total no. of trips for	Hours fished for	Catch fishing for	Catch / hour fishing for	No. harvested fishing for	No. harvested / hour fishing for
Apr	13042.8	4933.5	663.0	2800.2	10327.0	3.2	3336.0	1.0
May	1597.2	1054.8	147.5	623.0	1296.0	2.1	859.0	1.4
Jun	1259.9	780.4	111.6	471.5	940.0	1.9	620.0	1.3
Jul	1284.0	890.3	138.4	584.7	1164.0	1.5	779.0	1.0
Aug	1221.4	433.9	110.8	468.0	1213.0	1.9	426.0	0.7
Sep	2743.5	1160.4	163.2	689.2	2686.0	4.0	1144.0	1.7
Oct	3604.8	1960.3	289.6	1223.3	3344.0	2.8	1904.0	1.6
Total	24753.6	11213.5	1624.1	6859.9	20970.0		9068.0	
Mean						2.6		1.2

Table 41. Monthly hybrid striped bass angling success at Grayson Lake during the 2016 creel survey period.

Month	Total no. caught	Total no. harvested	Total no. of trips for	Hours fished for	Catch fishing for	Catch / hour fishing for	No. harvested fishing for	No. harvested / hour fishing for
Apr	99.9	0.0	297.7	1257.3	20.0	0.02	0.0	0.00
May	7.5	0.0	0.0					
Jun	37.6	0.0	23.5	99.3	19.0	0.29	0.0	0.00
Jul	77.0	17.1	51.9	219.3	60.0	0.34	17.0	0.10
Aug	72.3	56.2	23.3	98.5	64.0	0.76	56.0	0.67
Sep								
Oct	18.6	9.3	0.0					
Total	313.0	82.7	412.2	1741.1	163.0		73.0	
Mean						0.18		0.09

Table 42: Angler attitude survey carried out in conjunction with 2014 creel survey on Grayson Lake.

2. Which species do you fish for at Grayson Lake (check all that apply)? (N=60)

Bass= 56.7%; **Crappie= 33.3% ; Hybrid Striped Bass**= 18.3%; **Catfish= 21.7**%; **Bluegill**= 3.3%

3. Which species do you fish for most at Grayson Lake (check only one)?

Bass= 54.8%; **Crappie= 32.3% ; Catfish= 9.7**%; **Hybrid Striped Bass= 3.2%**

Bass Anglers

4. What level of satisfaction do you have with bass fishing at Grayson Lake? (N=35)

Very Satisfied	11.4%	**Somewhat Satisfied**	40.0%	**Total**	51.4%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	14.3%	**Total**	14.3%
Neutral	31.4%	**No Opinion**	2.9%		

4a. If angler responds with somewhat or very satisfied in question 5: what is the single most important reason for your satisfaction?

Note: These numbers are percentages **ONLY of those who were satisfied (51.4%)*

Number of Fish	57.9%	**Size of Fish**	36.8%
Regulations	5.3%		

4b. 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 (14.3%)*

Size of Fish	83.3%	**Number of Fish**	16.7%

*4c. If angler responds that the are unhappy with the regulations (4b.): What type of regulation would you prefer to see on bass at Grayson Lake? (**No Responses**)*

5. Do you fish bass tournaments on Grayson Lake? (N=33)

Yes = 27.3%   **No** = 72.7%

5a. If angler answers "Yes": About how many bass tournamnets did you fish on Grayson Lake in the last 12 months? (N=8)

1-6 = 37.5%   **7-12** = 62.5%   **≥ 13** = 0%

Crappie Anglers

6. What level of satisfaction do you have with crappie fishing at Grayson Lake? (N=20)

Very Satisfied	45.0%	**Somewhat Satisfied**	50.0%	**Total**	95.0%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	0.0%	**Total**	0.0%
Neutral	5.0%	**No Opinion**	0.0%		

6a. If angler responds with somewhat or very satisfied in question 5: what is the single most important reason for your satisfaction?

Note: These numbers are percentages **ONLY of those who were satisfied (95.0%)*

Number of Fish	63.2%	**Size of Fish**	36.8%

*6b. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction? (**No Responses**)*

Note: These numbers are percentages **ONLY of those who were dissatisfied (0%)*

Hybrid Striped Bass Anglers

7. What level of satisfaction do you have with hybrid striped bass fishing at Grayson Lake? (N=11)

Very Satisfied	54.5%	**Somewhat Satisfied**	27.3%	**Total**	81.8%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	0.0%	**Total**	
Neutral	18.2%	**No Opinion**	0.0%		

7a. If angler responds with somewhat or very satisfied in question 5: what is the single most important reason for your satisfaction?

Note: These numbers are percentages **ONLY of those who were satisfied (27.3%)*

Number of Fish	55.6%
Size of Fish	44.4%

*7b. If angler responds with somewhat or very dissatisfied in question 5: what is the single most important reason for your dissatisfaction? (**No responses**)*

Note: These numbers are percentages **ONLY of those who were dissatisfied (1.2%)*

Table 42: (Con't)

Catfish Anglers

8. What level of satisfaction do you have with catfish fishing at Grayson Lake? (N=13)

Very Satisfied	0.0%	**Somewhat Satisfied**	69.2%	**Total**	69.2%
Very Dissatisfied	0.0%	**Somewhat Dissatisfied**	7.7%	**Total**	7.7%
Neutral	23.1%	**No Opinion**			

8a. If angler responds with somewhat or very satisfied in question 5: what is the single most important reason for your satisfaction?

Note: These numbers are percentages **ONLY of those who were satisfied (69.2%)*

Size of Fish	88.9%
Number of Fish	11.1%

8b. 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 (1.2%)*

Number of Fish	11.1%

9. What method categorizes your most used method of catfish fishing at Grayson Lake? (N=10)

Traditional Hook/Line	100.0%	**Floating Jugs**	0.0%
Handfishing	0.0%	**Limb/Trotline**	0.0%

10. What species of catfish do you primarily targer while fishing at Grayson Lake? (N=12)

Channel Catfish	8.3%	**Flathead Catfish**	8.3%	**Either**	83.30%

All Anglers

11. On average, how many times do you fish Grayson Lake each month? (N=60)

≤ 1=	5.0%	**1 - 4=**	61.7%	**5 - 10=**	21.7%	**≥ 10=**	11.7%

12. Do you support or oppose the current 15" minimum size limit on largemouth bass at Grayson Lake? (N=59)

Support	71.2%	**Oppose**	18.6%	**No Opinion**	10.2%

12a. What largemouth bass size limit do you prefer at Grayson Lake? (N=53)

Keep it as it is	73.6%	**Catch and release**	3.3%
No size limit	3.8%	**13" MSL**	3.8%
14" MSL	3.8%	**13-15" slot limit**	3.8%
12-15" slot limit	1.9%	**12-16" slot limit**	1.9%
12" MSL	1.9%	**Close during spawn**	1.9%

13. Do you support or oppose the re-introduced hybrid striped bass? (N=54)

Support	96.3%	**Oppose**	3.7%

13a. If angler responds with opposed: What is the single most important reason for your opposition? (N=3)

Their impact on Bass	66.7%	**I don't fish for them**	33.3%

14. Have you targeted the recently re-introduced hybrid striped bass? (N=60)

Yes	51.7%	**No**	48.3%

15. How would you rate the existing fish habitat on Grayson Lake (Both natural and Department)? (N=59)

Very Good	1.7%	**Good**	67.8%	**Total**	69.5%
Fair	27.1%	**No Opinion**	1.7%		
Very Poor	0.0%	**Poor**	1.7%	**Total**	1.7%

16. Were you aware the department places fish habitat within the lake? (N=59)

Yes = 62.7% **No** = 37.3%

17. Do you regularly fish the department habitat? (N=43)

Yes = 46.5% **No** = 53.5%

Table 42: (Con't)

18. How did you find these attrators/structures at Grayson? (N=47)

On my Own = 53.3% **Friend/Word of Mouth**= 3.3% **KDFWR Website**= 21.7%

19. Do you feel fishing the department placed habitat has improved your fishing results? (N=40)

Yes = 87.5% **No** = 7.5% **No Opinion**= 5.0%

20. Were you aware that the locations of all department placed fish attractors/structures are availiable on KDFWR website? (N=39)

Yes = 69.2% **No** = 30.8%

Table 43. Length frequency and CPUE (fish/hr) of black bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Greenbo Lake (Greenup Co.) on 21 April 2016.

Species	Inch class																						Total	CPUE	Std. error
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
Largemouth bass	1	4	1	15	40	28	21	49	57	43	38	34	11	4			3	1		3	2	3	358	238.7	15.0

nedpsdgb.d16

Table 44. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Greenbo Lake.

	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.
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
2008	24.0	7.2	27.3	5.8	19.3	2.8	9.3	3.0	2.7	1.3	80.0	15.2
2007	0.0	0.0	39.3	11.8	48.7	13.3	8.7	2.4	1.3	1.3	164.7	21.5
2006	28.0	5.3	66.0	12.2	50.0	7.8	18.7	4.7	7.3	2.4	162.7	19.8

nedpsdgb.d06 - d16

Table 45. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Greenbo Lake; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD	(± 95%)	RSD_{15}	(± 95%)
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)
2008	84	51	(± 11)	17	(± 8)
2007	188	46	(± 7)	7	(± 4)
2006	202	51	(± 7)	14	(± 5)

nedpsdgb.d06 - d16

Malfunctioning electrofishing boat in 2008

Table 46. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Greenbo Lake in September 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age				
Year	No.	1	2	3	4	5
2016	0					
2015	20	4.4				
2014	19	4.4	7.9			
2013	17	4.4	7.9	10.2	11.5	
2012	1	4.8	8.4	10.8	11.6	
Mean	57	4.3	7.9	10.2	11.6	12.3
Number		57	37	18	1	
Smallest		2.8	6.3	8.9	11.5	12.3
Largest		6.8	10.6	11.9	11.6	12.3
Std. error		0.2	0.2	0.2	0.1	
95% CI (±)		0.4	0.6	0.8	0.2	

nedaaggb.d16

Table 47. Population assessment of largemouth bass based on samples collected at Greenbo Lake from 2005-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE age-1	Spring CPUE 12.0-14.9 in	Spring CPUE ≥15.0 in	Spring CPUE ≥20.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
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	Fair	-	-
	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				
2008	Value	10.7	1.0	19.3	9.3	2.7	10	Fair	-0.642	47.40%
	Score	2	1	2	2	3				
2007	Value	10.7	16.0	48.7	8.7	1.3	12	Fair	-0.687	49.70%
	Score	2	2	4	2	2				
2006	Value	11.7	35.6	50.0	18.7	7.3	18	Excellent	-0.521	40.70%
	Score	4	3	4	3	4				

nedpsdgb.d06-d16; nedaaggb.d05 - d10, d12

Table 48. Length frequency and CPUE (fish/hr) of black bass collected in 1.5 hours of nocturnal electrofishing (6-15-minute runs) at Greenbo Lake (Greenup Co.) on 21 September 2016.

	Inch class																	Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE	error
Largemouth bass	38	23	1	0	8	12	4	10	16	18	18	10	7	5	2	172	114.7	18.6

nedwrsgb.d16

Table 49. Number of fish and mean relative weight (W_r) values for length groups of black bass collected in Greenbo Lake by nocturnal electrofishing. Standard error is in parentheses.

Year	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	No.	W_r (se)	No.	W_r (se)	No.	W_r (se)
2016	47	86 (1)	35	104 (21)	7	83 (3)
2010	83	87 (2)	36	85 (1)	7	93 (5)
2009	52	82 (1)	24	108 (24)	10	88 (1)
2008	34	85 (1)	23	84 (2)	8	124 (38)
2007	30	88 (2)	29	88 (1)	5	96 (5)

nedwrsgb.d10 - d07, nedwrsgb.d16

Table 50. Indices of year class strength at age 0 and age 1, and mean lengths (in) of largemouth bass collected in the fall while nocturnal electrofishing (diurnal sampling in 2012) at Greenbo Lake.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2016	2.9	0.1	41.3	16.6	2.9	0.1	14.7	3.8
2015	3.4	0.2	63.3	6.7	9.3	2.5	14.7	3.2
2014	4.2	0.2	51.3	10.8	15.3	4.1	38.7	4.8
2013	3.3	0.1	99.3	9.8	3.3	1.6	21.3	6.3
2012	3.5	0.0	219.3	35.0	13.3	5.9	3.8	1.4
2011	3.5	0.2	44.0	11.9	6.0	1.7	2.0	0.9
2010	3.9	0.1	40.7	9.2	8.7	2.6	9.5	2.8
2009	5.1	0.2	48.0	6.0	26.0	4.8	5.3	0.4
2008	3.5	0.1	82.0	7.6	2.0	1.4	3.2	1.3
2007	3.9	0.1	44.7	11.3	3.3	1.2	1.0	0.9
2006	3.6	0.1	45.3	9.2	2.7	1.7	2.1	1.0

nedbsigb.d13 - d15; nedwrsgb.d06 - d12; nedpsdgb.d06 - 15; nedaaggb.d06 - d10, d12

Table 51. Length frequency and CPUE (fish/hr) of black bass collected in 1.0 hour (4- 15-minute runs) of diurnal electrofishing for largemouth bass in Lake Reba on 14 April.

	Inch class																							Std.
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	error
Largemouth bass	3	31	43	23	8	35	24	19	24	18	15	8	4	3	1	1	2	1			1	264	264.0	19.5

nedpsdlr.d16

Table 52. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Reba from 1995-2016.

	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.
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.d95 - Present

Table 53. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Reba; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD (± 95% CI)		RSD_{15} (± 95% CI)	
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.d16 - d98, d96 - d95

Table 54. Population assessment of largemouth bass based on samples collected at Lake Reba from 1995-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE 12.0-14.9 in	Spring CPUE ≥15.0 in	Spring CPUE ≥20.0 in	Spring CPUE age-1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
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				
2006	Value	11.2	26.0	6.0	0.0	192.0	13	Good	-0.790	55.00%
	Score	3	3	2	1	4				
2005	Value		45.3	13.3	0.7	41.2	13	Good	-0.250	22.00%
	Score	1	4	3	2	3				
2004	Value		51.3	6.7	0.0	23.2	11	Fair	-0.290	25.00%
	Score	1	4	2	1	3				
2003	Value		52.0	8.0	0.7	52.1	12	Fair	-0.500	39.00%
	Score	1	4	2	2	3				
2002	Value		31.0	5.0	0.0	105.8	10	Fair		
	Score	1	3	1	1	4				
2001	Value	10.1	9.3	4.0	0.0	186.9	8	Poor		
	Score	1	1	1	1	4				
2000	Value	8.8	4.6	8.0	0.0	99.7	9	Fair		
	Score	1	1	2	1	4				

nedpsdlr.d14

Table 55. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass while diurnal electrofishing at Lake Reba

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2016	Total	5.1	0.1	490.0	43.9	279.0	8.1		
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	0.0	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	0.0	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.d15, nedbsilr.d16, d14 - d12, nedwrslr.d11 - d03, nedpsdlr.d12-d02

Table 56. Length frequency and CPUE (fish/hr) for largemouth bass collected in 0.94 hours of nocturnal electrofishing (3- 15 and 1- 12.67-minute runs) at Smoky Valley Lake (Carter Co.) on 15 April.

	Inch class															Std.
	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	error
Largemouth bass	22	39	22	2	18	23	32	39	24	13	2	2	2	240	256.0	52.8

nedpsdsv.d16

Table 57. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Smoky Valley Lake from 1990-2016.

	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.
2016	110.6	29.5	125.2	21.1	18.1	4.9	2.0	1.2			256.0	52.8
2015	46.1	14.3	86.4	13.2	13.4	2.2	2.0	1.2			147.9	26.5
2014	71.1	16.6	177.4	28.8	24.4	5.5	1.0	1.0			273.9	42.6
2013	100.9	8.5	109.8	11.5	8.9	1.9	2.0	1.2			221.6	6.5
2012	112.1	21.8	98.9	22.3	12.8	2.0	1.0	1.0			224.7	41.4
2011	150.0	34.0	69.0	8.7	10.0	6.2					229.5	31.8
2010	47.7	9.3	65.9	7.8	3.3	1.1	1.0	1.0			117.9	15.3
2009	97.0	6.6	145.0	23.7	14.0	2.6	1.0	1.0			383.0	153.4
2008	155.0	23.3	199.0	34.4	46.0	7.8					607.0	260.2
2007	119.0	21.8	229.0	32.5	37.0	6.4	2.0	1.2			573.0	223.4
2006	112.0	12.8	256.0	33.8	62.0	8.7	4.0	1.6			633.5	234.4
2005	54.4	10.2	190.4	22.7	63.2	9.1	0.8	0.8			397.6	90.9
2004[a]												
2003[a]												
2002[a]												
2001	117.3	11.6	180.0	14.1	46.7	12.7	2.7	2.7			346.7	11.6
2000	68.0	13.0	218.0	22.1	69.0	13.7	1.0	1.0			356.0	46.8
1999[a]												
1998	135.0	32.2	132.0	25.5	75.0	15.1	3.0	1.0			546.0	264.9
1997	46.0	8.9	63.0	6.0	39.0	4.1	3.0	1.9			151.0	3.8
1996	30.0	5.8	77.0	11.5	50.0	7.8	3.0	1.9			160.0	14.3
1995	41.0	14.4	104.0	21.9	84.0	17.7	2.0	2.0			231.0	43.7
1994	72.0	5.9	104.0	14.5	94.0	10.5	7.0	1.9	1.0	1.0	277.0	13.2
1993	34.7	18.3	58.7	28.6	24.7	13.9	4.0	4.0			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.d16-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

[a] = Sample not collected

Table 58. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Smoky Valley Lake; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD (± 95% CI)		RSD_{15} (± 95% CI)	
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)
2004a					
2003a					
2002a					
2001	172	22	(± 6)	1	(± 2)
2000	288	24	(± 5)	0	(± 1)
1999a					
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.d16-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

a = Sample not collected

Table 59. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Smoky Valley Lake in October 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2015	19	5.0							
2014	10	4.8	7.8						
2013	11	5.2	8.2	9.8					
2012	6	4.7	7.9	9.5	10.7				
2011	3	4.4	7.8	9.8	10.9	11.7			
2010	4	4.9	8.0	9.7	11.2	12.2	12.9		
2009	2	3.9	6.3	7.8	9.2	9.9	10.6	11.2	
2008	1	4.9	8.6	11.0	12.2	13.2	13.7	14.4	14.9
Mean		4.9	7.9	9.6	10.8	11.7	12.4	12.3	14.9
Number		56	38	27	16	10	7	3	1
Smallest		2.7	5.0	7.4	8.9	9.7	10.4	10.9	
Largest		6.8	10.2	11.4	12.2	13.2	13.7	14.4	
Std. error		0.1	0.2	0.2	0.3	0.4	0.5	1.1	
95% CI (±)		0.4	0.6	0.8	1.0	1.6	1.9	4.3	

nedaagsv.d16

Table 60. Population assessment of largemouth bass based on samples collected at Smoky Valley lake from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE 12.0-14.9 in	Spring CPUE ≥15.0 in	Spring CPUE ≥20.0 in	Spring CPUE age-1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
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	7	Poor		
	Score	1	1	0	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	10	Fair	-0.550	22.50%
	Score	1	4	0	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				
2006	Value		62.0	4.0	0.0	70.1	13	Good	-0.579	43.90%
	Score	3	4	1	1	4				
2005	Value	11.0	36.2	8.0	0.0	19.1	11	Fair	-0.353	29.80%
	Score	3	3	2	1	2				
2004[a]	Value									
	Score									
2003[a]	Value									
	Score									
2002[a]	Value									
	Score									
2001	Value	11.0	46.7	2.7	0.0	23.1	12	Fair		
	Score	3	4	1	1	3				
2000	Value		69.0	1.0	0.0	44.0	12	Fair		
	Score	3	4	1	1	3				

nedpsdsv.d14, d09-05, nedsprsv.d10, nedlmbsv.d01-00

[a] = Sample not collected

Table 61. Length frequency and CPUE (fish/hr) for sunfish collected in 0.75 hours of nocturnal electrofishing (3- 15-minute runs) at Smoky Valley Lake (Carter Co.) on 16 May.

	Inch class								Std.
	2	3	4	5	6	7	Total	CPUE	error
Bluegill	22	53	12	5	13	12	117	156.0	40.1
Green sunfish		4	6	9	9	6	34	45.3	11.9
Longear sunfish				1	1		2	2.7	2.7

nedsunlw.d16

Table 62. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Smoky Valley Lake from 1990-2016.

	Length group												
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥6.0 in		≥8.0 in		Total		Total CPUE
Year	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	(excluding <3.0 in)
2016	29.3	11.4	93.3	36.3	33.3	21.5	33.3	21.5	0.0		156.0	40.1	126.7
2015[a]													
2014			164.0	41.6	40.0	18.0	40.0	18.0	0.0		204.0	44.2	204.0
2013[a]													
2012			210.6	53.0	25.6	5.4	26.6	5.8	1.0	1.0	237.1	47.4	237.1
2011	742.0	78.1	105.0	23.7	12.0	5.9	13.0	6.6	1.0	1.0	860.0	60.0	118.0
2010	216.9	69.4	167.0	36.8	28.6	6.0	29.6	5.6	1.0	1.0	384.0	97.4	167.1
2009	203.0	34.5	214.0	44.3	24.0	10.7	25.0	11.7	1.0	1.0	442.0	64.4	239.0
2008			53.0	14.4	31.0	13.7	31.0	13.7			84.0	22.7	84.0
2007			89.1	17.1	10.3	5.2	11.4	5.2	1.1	1.1	67.4	13.3	67.4
2006	464.0	116.5	88.0	15.2	16.0	4.3	16.0	4.3			584.0	125.8	120.0
2005	164.0	41.5	169.0	30.3	38.0	8.9	42.0	8.9	4.0	3.0	307.0	70.1	143.0
2004	24.8	6.8	139.3	22.0	25.6	4.8	26.5	4.8	0.9	0.9	190.6	27.3	165.8
2003	200.0	61.1	102.0	30.3	107.0	34.0	111.0	34.0	4.0	2.1	345.0	106.9	145.0
2002													
2001			152.0	12.9	48.0	12.7	53.3	12.7	5.3	3.5	205.3	11.6	205.3
2000			128.0	44.6	66.0	20.3	67.0	20.3	1.0	1.0	195.0	61.0	195.0
1999													
1998			116.0	4.0	90.0	2.0	90.0	2.0			206.0	6.0	206.0
1997			98.0	46.0	86.0	42.0	90.0	42.0	4.0	4.0	188.0	88.0	188.0
1996													
1995			78.0	2.0	58.0	4.0	60.0	4.0	2.0	2.0	138.0	2.0	138.0
1994			190.0	10.0	52.0	12.0	56.0	12.0	4.0	4.0	246.0	22.0	246.0
1993	97.0	37.0	68.0	16.0	19.0	8.0	20.0	8.0	1.0	1.0	370.0	90.0	273.0
1992	144.0	96.8	105.3	13.5	46.7	17.0	54.7	17.0	8.0	2.3	304.0	76.1	160.0
1991	6.0	2.0	98.0	2.0	46.0	34.0	50.0	34.0	4.0	4.0	154.0	34.0	148.0
1990	76.0	20.0	642.0	154.0	182.0	32.0	184.0	32.0	2.0	2.0	902.0	206.0	826.0

nedsunsv.d16, d14; nedsunsv.d12-d03; nedpsdsv.d01-d00; nedsunsv.d98-d97; d95-d90

[a] = Lake was not sampled

Table 63. Bluegill PSD and RSD_8 values from spring electrofishing at Smoky Valley Lake; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD (± 95% CI)		RSD_8 (± 95% CI)	
2016	95	26	(± 9)	-	-
2015[a]					
2014	153	20	(± 6)	-	-
2013[a]					
2012	231	11	(± 4)	0	(± 1)
2011	118	11	(± 6)	1	(± 2)
2010	185	15	(± 5)	1	(± 1)
2009	239	10	(± 4)	0	(± 1)
2008	84	37	(± 10)		
2007	88	11	(± 7)	1	(± 2)
2006	104	15	(± 7)		
2005	211	20	(± 5)	2	(± 2)
2004	194	16	(± 5)	1	(± 1)
2003	213	52	(± 7)	2	(± 2)
2002					
2001	154	26	(± 7)	3	(± 3)
2000	195	34	(± 7)	1	(± 1)
1999					
1998	103	44	(± 10)		
1997	94	48	(± 10)	2	(± 3)
1996					
1995	69	43	(± 12)	1	(± 3)
1994	123	23	(± 7)	2	(± 2)
1993	88	23	(± 9)	1	(± 2)
1992	120	34	(± 9)	5	(± 4)
1991	74	34	(± 11)	3	(± 4)
1990	413	22	(± 4)	0	(± 0)

nedsunsv.d14; nedsunsv.d12-d03; nedpsdsv.d01-d00; nedsunsv.d98-d97; d95-d90

[a] = Lake was not sampled

- = No fish over 8.0 in captured to determine RSD_8

Table 64. Mean back calculated lengths (in) at each annulus for bluegill collected from Smoky Valley Lake in May 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age					
Year	No.	1	2	3	4	5	6
2015	9	2.3					
2014	14	2.3	3.5				
2013	11	2.5	3.9	5.1			
2012	10	2.4	3.8	4.8	5.6		
2011	7	2.3	3.9	5.4	6.3	7.0	
2010	5	2.7	4.4	5.8	6.5	6.9	7.2
Mean		2.4	3.8	5.2	6.0	7.0	7.2
Number		56	47	33	22	12	5
Smallest		1.8	2.6	3.5	4.1	6.4	6.7
Largest		3.4	6.1	6.9	7.2	7.6	7.8
Std. error		0.0	0.1	0.2	0.2	0.1	0.2
95% CI (±)		0.2	0.4	0.6	0.7	0.4	0.8

nedaagsv.d16

Table 65. Age frequency and CPUE of bluegill sampled in 2016.

	Inch class									
Age	2	3	4	5	6	7	Total	%	CPUE	Std. error
1	20						20	17	26.4	10.3
2	2	48	4				54	46	72.4	30.4
3		5	5	2	3	1	17	14	22.4	4.8
4			2	3	5	1	11	10	15.3	5.7
5					3	5	9	7	11.6	6.6
6					2	4	6	5	8.0	4.1
Total	22	53	12	5	13	12	117	100		
%	19	45	10	4	11	10	100			

nedsunsv.d16; nedaagsv.d16

Table 66. Population assessment of bluegill based on samples collected at Smoky Valley lake from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-2 at capture	Years to 6.0 in	Spring CPUE ≥6.0 in	Spring CPUE ≥8.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2016	Value	3.6	3-3+	33.3	0.0	7	Fair	-0.528	41.00%
	Score	1	3	2	1				
2015	Value								
	Score								
2014	Value			4.0	0.0				
	Score			1	1				
2013	Value								
	Score								
2012	Value	4.1	3-3+	26.6	1.0	8	Fair	-1.277	72.10%
	Score	2	3	1	2				
2011	Value			13.0	1.0				
	Score			1	2				
2010	Value			29.6	1.0				
	Score			2	2				
2009	Value			25.0	1.0				
	Score			1	2				
2008	Value	3.9	4-4+	31.0	0.0	7	Fair	-0.722	51.50%
	Score	2	2	2	1				
2007	Value			11.4	1.1				
	Score			1	2				
2006	Value			16.0	0.0				
	Score			1	1				
2005	Value			42.0	4.0				
	Score			2	3				
2004	Value			26.5	0.9				
	Score			1	2				
2003	Value	3.2	4-4+	111.0	4.0	10	Good	-0.523	40.70%
	Score	1	2	4	3				
2002	Value								
	Score								
2001	Value	4.7	4-4+	53.3	5.3	11	Good		
	Score	3	2	2	4				
2000	Value			67.0	1.0				
	Score			3	2				

nedsunsv.d14; nedsunsv.d12-d03; nedpsdsv.d01-d00

Table 67. Length frequency and CPUE (fish/hr) for largemouth bass collected in 0.72 hours of diurnal electrofishing (2- 15 and 1- 13.22-minute runs) at Smoky Valley Lake (Carter Co.) on 07 October.

	Inch class															Std.
	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	error
Largemouth bass	3	33	59	27	1	19	20	16	24	16	6	3	1	228	326.2	14.6

nedpsdsv.d16

Table 68. Number of fish and relative weights (W_r) for each length group of largemouth bass captured at Smoky Valley Lake

	Length group								
	8.0-11.9 in			12.0-14.9 in			≥15.0 in		
	No.	W_r	se	No.	W_r	se	No.	W_r	se
2016	79	79	0.8	24	73	2.4	1	79	
2015[a]									
2014[a]									
2013[a]									
2012[a]									
2011	117	87	0.6	23	78	3.1	1	81	
2010	90	81	0.8	12	82	1.6			
2009	80	83	0.7	9	86	2.5	1	89	
2008	104	83	0.7	20	81	1.3			
2007	99	85	0.7	10	87	3.5			
2006[a]									
2005[a]									
2004	108	85	0.7	43	84	1.1			
2003									
2002	111	83	0.5	25	83	1.5			
2001	129	83	0.5	27	84	1.1			
2000	70	82	0.6	32	83	1.7	1	88	
1999[a]									
1998	92	91	1.0	37	87	1.2	1	85	
1997[a]									
1996	93	87	0.6	34	81	1.0	5	79	5.1
1995[a]									
1994	57	86	0.9	40	82	0.9	4	84	7.3
1993	81	91	1.9	67	86	0.7	5	93	0.9
1992	83	87	0.8	54	81	1.0	3	72	8.3
1991	85	86	0.9	58	81	0.9	5	76	3.3
1990	150	89	0.5	33	85	1.1	11	92	2.3

nedwrssv.d16, d11-d07, d04, d02-d00, d98, d96, d94-d90

[a] = Sample not collected

Table 69. Length frequency and CPUE (fish/hr) for largemouth bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Lake Wilgreen (Madison Co.) on 18 April.

	Inch class																				Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Largemouth bass	2	18	16	28	8	31	16	48	37	36	43	38	39	59	66	60	34	17	9	1	606	404.0	26.8

nedpsdlw.d16

Table 70. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Wilgreen from 1990-2016.

	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.
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 a												
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 a												
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 a												
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 a												
2001 a												
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 a												
1997 a												
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 a												
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
1990												

nedpsdlw.d14; d12-d05, d03, nedlmblw.d00-d99, d96-d94, d92-d91

a = Lake was not sampled

Table 71. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Wilgreen; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD (± 95% CI)		RSD_{15} (± 95% CI)	
2016	503	73	(± 4)	49	(± 4)
2015[a]					
2014	357	70	(± 5)	49	(± 5)
2013[a]					
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[a]					
2003	1094	14	(± 2)	3	(± 1)
2002[a]					
2001[a]					
2000	338	19	(± 4)	2	(± 1)
1999	286	18	(± 4)	3	(± 2)
1998[a]					
1997[a]					
1996	352	30	(± 5)	4	(± 2)
1995	434	12	(± 3)	2	(± 1)
1994	497	14	(± 3)	5	(± 2)
1993[a]					
1992	137	45	(± 8)	7	(± 4)
1991	203	24	(± 6)	2	(± 2)
1990					

nedpsdlw.d16; d14; d12-d05, d03, nedlmblw.d00-d99, d96-d94, d92-d91

[a] = Lake was not sampled

Table 72. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Lake Wilgreen in October 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2016	0								
2015	31	4.4							
2014	16	4.6	8.1						
2013	8	4.8	8.3	9.9					
2012	8	5.3	7.9	10.0	11.3				
2011	9	5.9	8.9	10.6	12.2	13.6			
2010	10	5.3	8.8	10.5	12.0	13.1	14.0		
2009	1	4.2	8.4	10.4	12.1	13.2	14.5	15.5	
2008	1	4.7	8.8	11.5	12.9	14.3	15.6	16.7	17.5
Mean		4.8	8.4	10.3	11.9	13.4	14.2	16.1	17.5
Number		84	53	37	29	21	12	2	1
Smallest		3.0	6.8	8.1	9.2	10.7	11.2	15.5	
Largest		7.1	11.0	14.2	15.9	17.2	17.8	16.7	
Std. error		0.1	0.1	0.2	0.3	0.4	0.5	0.6	
95% CI (±)		0.4	0.4	0.8	1.2	1.6	2.1	2.5	

nedaaglw.d16

Table 73. Population assessment of largemouth bass based on samples collected at Lake Wilgreen from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE 12.0-14.9 in	Spring CPUE ≥15.0 in	Spring CPUE ≥20.0 in	Spring CPUE age-1	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
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[a]	Value									
	Score									
2014	Value		49.3	117.3	8.7	9.3	18	Excellent		
	Score	4	4	4	4	2				
2013[a]	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				
2005	Value		108.7	6.0	0.0	81.2	15	Good	-0.127	11.90%
	Score	4	4	2	1	4				
2004[a]	Value									
	Score									
2003	Value	10.2	48.0	12.8	0.4	91.5	14	Good		
	Score	2	4	2	2	4				
2002[a]	Value									
	Score									
2001[a]	Value									
	Score									
2000	Value	10.9	58.0	6.0	0.0	54.2	14	Good		
	Score	3	4	2	1	4				

nedpsdlw .d14; d12-d05, d03, nedlmblw .d00

[a] = Lake w as not sampled

Table 74. Length frequency and CPUE (fish/hr) for sunfish collected in 1.25 hours of nocturnal electrofishing (10- 7.5-minute runs) at Lake Wilgreen (Madison Co.) on 18 May.

	Inch class									Std.
	3	4	5	6	7	8	9	Total	CPUE	error
Bluegill	113	231	365	145	13			867	666.9	70.4
Green sunfish	38	56	34	9	2			139	106.9	24.7
Redear sunfish	3	2	3	7	20			35	26.9	15.4
Warmouth		1	2	1	1	3	2	10	7.7	3.4
Longear sunfish	1							1	0.8	0.8

nedsunlw.d16

Table 75. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Lake Wilgreen from 1990-2016.

	Length group												
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥ 6.0 in		≥ 8.0 in		Total		Total CPUE
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	(excluding <3.0 in)
2016			545.4	58.8	121.5	21.9	121.5	21.9	0.0		666.9	70.4	666.9
2015[a]													
2014			662.4	62.9	179.2	34.6	179.2	34.6	0.0		841.6	66.7	841.6
2013[a]													
2012			638.4	57.0	74.4	15.3	74.4	15.3			712.8	57.9	712.8
2011	476.0	58.6	630.4	90.9	92.8	24.7	92.8	24.7			1199.2	158.0	723.2
2010	464.0	14.1	380.8	28.9	57.6	14.9	57.6	14.9			484.8	43.9	20.8
2009	105.0	23.3	287.0	36.2	109.0	27.4	110.0	27.9	1.0	1.0	502.0	55.7	397.0
2008	50.0	17.0	115.0	17.1	45.0	17.3	45.0	17.3			210.0	38.8	160.0
2007			283.2	26.7	88.8	16.7	88.8	16.7			372.0	39.4	372.0
2006	279.2	51.3	409.6	34.5	64.8	20.4	67.2	20.7	2.4	1.2	756.0	79.7	476.8
2005	211.2	67.0	576.8	73.2	40.8	10.8	41.6	11.1	0.8	0.8	829.6	122.7	618.4
2004[a]													
2003[a]													
2002	354.4	91.6	496.8	99.2	177.6	18.6	177.6	18.6			1028.8	196.2	674.4
2001[a]													
2000			298.0	79.6	100.0	14.3	109.0	16.4	9.0	3.0	407.0	83.2	407.0
1999			214.0	50.0	120.0	64.0	140.0	60.0	20.0	4.0	354.0	110.0	354.0
1998[a]													
1997[a]													
1996			128.0	32.0	202.0	86.0	212.0	84.0	10.0	2.0	340.0	116.0	340.0
1995			332.0	148.0	208.0	8.0	216.0	12.0	8.0	4.0	548.0	160.0	548.0
1994	72.0	44.0	458.0	242.0	294.0	74.0	294.0	74.0			824.0	360.0	752.0
1993[a]													
1992	201.3	27.1	892.0	74.8	14.0	12.2	142.7	9.6	2.7	2.7	1236.0	84.3	1034.7
1991	197.3	60.8	126.7	19.2	134.7	19.6	144.0	22.7	9.3	3.5	468.0	86.2	270.7
1990[a]													

nedsunlw.d14; d12-d05; d02; d00-99; d96-94; d91-92

[a] = Lake was not sampled

Table 76. Bluegill PSD and RSD_8 values from spring electrofishing at Lake Wilgreen; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD (± 95% CI)		RSD_8 (± 95% CI)	
2016	867	18	(± 3)	-	-
2015_a					
2014	1052	21	(± 2)	-	-
2013_a					
2012	891	10	(± 2)	-	-
2011	904	13	(± 2)	-	-
2010	548	13	(± 3)	-	-
2009	397	28	(± 4)	0	(± 0)
2008	160	28	(± 7)	-	-
2007	465	24	(± 4)	-	-
2006	596	14	(± 3)	1	(± 1)
2005	773	7	(± 2)	0	(± 0)
2004_a					
2003_a					
2002	843	26	(± 3)	-	-
2001_a					
2000	407	27	(± 4)	2	(± 1)
1999	177	40	(± 7)	6	(± 3)
1998_a					
1997_a					
1996	170	62	(± 7)	3	(± 3)
1995	274	39	(± 6)	1	(± 1)
1994	376	39	(± 5)	-	-
1993_a					
1992	776	14	(± 2)	0	(± 0)
1991	203	53	(± 7)	3	(± 3)
1990_a					

nedsunlw.d14; d12-d05; d02; d00-99; d96-94; d91-92

$_a$ = Lake was not sampled

- = No fish over 8.0 in captured to determine RSD_8

Table 77. Mean back calculated lengths (in) at each annulus for bluegill collected from Lake Wilgreen in May 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age					
Year	No.	1	2	3	4	5	6
2015	7	3.1					
2014	6	2.8	4.3				
2013	7	2.9	4.3	5.2			
2012	8	3.0	4.6	5.5	6.1		
2011	6	2.9	4.7	5.8	6.4	6.8	
2010	2	2.3	4.1	5.3	6.1	6.7	7.2
Mean		2.9	4.4	5.4	6.2	6.8	7.2
Number		36	29	23	16	8	2
Smallest		2.0	3.6	4.5	5.1	5.4	7.1
Largest		3.7	5.2	6.2	6.9	7.3	7.4
Std. error		0.1	0.1	0.1	0.1	0.2	0.1
95% CI (±)		0.3	0.3	0.4	0.6	0.8	0.5

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Table 78. Age frequency and CPUE of bluegill sampled in 2016.

	Inch class								
Age	3	4	5	6	7	Total	%	CPUE	Std. error
1	88					88	10	67.6	11.0
2	25	154				179	21	137.8	17.6
3		77	183	29		289	33	221.9	24.3
4			137	116	2	255	29	195.8	25.6
5			46		8	54	6	41.4	5.1
6					3	3	0	2.5	0.6
Total	113	231	365	145	13	867	100		
%	13	27	42	17	1	100			

nedsunlw.d16; nedaaglw.d16

Table 79. Population assessment of bluegill based on samples collected at Lake Wilgreen from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-2 at capture	Years to 6.0 in	Spring CPUE ≥6.0 in	Spring CPUE ≥8.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2016	Value	4.2	4-4+	121.5	0.0	9	Fair	-0.985	62.70%
	Score	2	2	4	1				
2015[a]	Value								
	Score								
2014	Value			179.2	0.0				
	Score			4	1				
2013[a]	Value								
	Score								
2012	Value			74.4	0.0				
	Score			3	1				
2011	Value			92.8	0.0				
	Score			3	1				
2010	Value			57.6	0.0				
	Score			3	1				
2009	Value			110.0	1.0				
	Score			4	2				
2008	Value			45.0	0.0				
	Score			2	1				
2007	Value	4.8	4	88.8	0.0	10	Good	-0.156	10.90%
	Score	4	2	3	1				
2006	Value			67.2	2.4				
	Score			3	3				
2005	Value			41.6	0.8				
	Score			2	2				
2004[a]	Value								
	Score								
2003[a]	Value								
	Score								
2002	Value	5.5	3	177.6	0.0	12	Good	-0.360	30.20%
	Score	4	3	4	1				
2001[a]	Value								
	Score								
2000	Value	4.4	3	109.0	9.0	14	Excellent		
	Score	3	3	4	4				

nedsunlw.d14; d12-d05; d02; d00

Table 80. Spring electrofishing CPUE (fish/hr) for various length groups of redear sunfish collected at Lake Wilgreen from 1995-2016.

	Length group														
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥ 6.0 in		≥ 8.0 in		≥ 10.0 in		Total		Total CPUE
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	(excluding <3.0 in)
2016			6.2	6.2	20.8	9.5	20.8	9.5	0.0		0.0		26.9	15.4	26.9
2015[a]															
2014			1.6	1.1	24.0	5.5	24.0	5.5	0.0		0.0		25.6	5.7	25.6
2013[a]															
2012			21.6	6.1	19.2	6.3	20.0	6.1	0.8	0.8	0.0		41.6	9.9	41.6
2011	2.4	1.2	12.0	5.5	24.0	8.5	24.8	8.4	0.8	0.8	0.0		39.2	13.7	36.8
2010			12.0	4.3	14.4	3.7	18.4	4.8	4.0	1.8	0.0		30.4	6.6	30.4
2009			11.0	4.8	13.0	5.6	27.0	6.6	14.0	2.5	1.0	1.0	38.0	8.5	38.0
2008	3.0	3.0	6.0	3.3	11.0	7.7	12.0	8.7	1.0	1.0	0.0		33.6	21.8	30.6
2007			0.8	0.8	15.2	4.4	16.8	4.7	1.6	1.1	0.0		22.0	4.5	22.0
2006			20.0	5.1	4.8	2.1	15.2	10.1	10.4	8.8	2.4	1.7	35.2	11.0	35.2
2005			4.0	2.5	7.2	3.7	14.4	5.7	7.2	3.5	0.0		26.3	6.5	26.3
2004[a]															
2003[a]															
2002			20.8	9.9	44.0	11.0	48.8	12.0	4.8	2.4	0.0		77.3	20.0	77.3
2001[a]															
2000					5.0	2.5	18.0	12.8	13.0	10.4	3.0	1.9	18.0	12.8	18.0
1999			2.0	2.0	8.0	8.0	12.0	12.0	4.0	4.0	2.0	2.0	14.0	10.0	14.0
1998[a]															
1997[a]															
1996			6.0	2.0	30.0	10.0	30.0	10.0	0.0		0.0		36.0	12.0	36.0
1995			6.0	6.0	4.0	4.0	4.0	4.0	0.0		0.0		20.0	0.0	20.0

nedsunlw.d12-d05; d02; d00-99; d96-95

[a] = Lake was not sampled

Table 81. Redear sunfish PSD and RSD_{10} values from spring electrofishing at Lake Wilgreen; confidence limits are in parentheses.

Year	No. ≥4.0 in	PSD (± 95% CI)		RSD_{10} (± 95% CI)	
2016	32	63	(± 17)	-	-
2015[a]					
2014	31	61	(± 17)	-	-
2013[a]					
2012	48	13	(± 9)	-	-
2011	37	14	(± 11)	-	-
2010	36	25	(± 14)	-	-
2009	33	67	(± 16)	18	(± 13)
2008	13	31	(± 26)	-	-
2007	22	55	(± 21)	-	-
2006	40	38	(± 15)	20	(± 13)
2005	21	57	(± 22)	5	(± 9)
2004[a]					
2003[a]					
2002	81	23	(± 9)	1	(± 2)
2001[a]					
2000	18	100	(± 0)	33	(± 22)
1999	7	57	(± 40)	14	(± 28)
1998[a]					
1997[a]					
1996	18	22	(± 20)	-	-
1995	5	40	(± 48)	20	(± 39)

nedsunlw.d12-d05; d02; d00-99; d96-95

[a] = Lake was not sampled

- = No fish over 10.0 in captured to determine RSD_{10}

Table 82. Mean back calculated lengths (in) at each annulus for redear sunfish collected from Lake Wilgreen in May 2016, includes 95% confidence interval (CI) for mean length for each age class.

		Age					
Year	No.	1	2	3	4	5	6
2015	3	3.0					
2014	4	3.2	5.1				
2013	4	3.4	5.0	6.1			
2012	11	3.5	5.2	6.1	6.8		
2011	1	3.4	5.3	6.2	6.7	7.0	
2010	4	3.1	5.0	5.9	6.3	6.6	6.8
Mean		3.3	5.1	6.1	6.7	6.7	6.8
Number		27	24	20	16	5	4
Smallest		2.6	4.1	4.9	5.2	5.5	5.7
Largest		4.5	6.4	6.9	7.3	7.1	7.3
Std. error		0.1	0.1	0.1	0.1	0.3	0.4
95% CI (±)		0.4	0.6	0.5	0.5	1.1	1.4

nedaaglw.d16

Table 83. Age frequency and CPUE of redear sampled in 2016.

	Inch class								
Age	3	4	5	6	7	Total	%	CPUE	Std. error
1	3					3	9	2.3	2.3
2		2	1	1		4	11	3.1	3.0
3			1	1	3	5	15	4.1	2.2
4				5	10	15	43	11.5	5.7
5					2	2	5	1.3	0.5
6					6	6	17	4.6	2.0
Total	3	2	3	7	20	35	100		
%	9	6	9	20	57	100			

nedsunlw.d16; nedaaglw.d16

Table 84. Population assessment of redear sunfish based on samples collected at Lake Wilgreen from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Years to 8.0 in	Spring CPUE ≥8.0 in	Spring CPUE ≥10.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2016	Value	6.3	>6	0.0	0.0	4	Poor	-0.071	7.40%
	Score	1	1	1	1				
2015a	Value								
	Score								
2014	Value			0.0	0.0				
	Score			1	1				
2013a	Value								
	Score								
2012	Value			0.8	0.0				
	Score			1	1				
2011	Value			8.0	0.0				
	Score			2	1				
2010	Value			4.0	0.0				
	Score			2	1				
2009	Value			14.0	1.0				
	Score			3	1				
2008	Value			1.0	0.0				
	Score			1	1				
2007	Value	7.8	*	1.6	0.0	8	Fair		
	Score	3	3	1	1				
2006	Value			10.4	2.4				
	Score			3	2				
2005	Value			7.2	0.0				
	Score			2	1				
2004a	Value								
	Score								
2003a	Value								
	Score								
2002	Value			4.8	0.0				
	Score			2	1				
2001a	Value								
	Score								
2000	Value			4.8	0.0				
	Score			2	1				

nedsunlw.d14; d12-d05; d02; d00

SOUTHEASTERN FISHERY DISTRICT

Project A: 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; 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, and in the Faubush Creek, Fishing Creek, and Lily Creek embayments of Lake Cumberland during May 2016 to assess the black bass populations. The length-frequency and catch-per-unit-effort (CPUE) of the three black bass species collected in each area is shown in Table 2. The catch-per-hour (by area and length group) of the three black bass species are shown in Tables 3-6. Catch rates for black bass in Lake Cumberland were consistent with catch rates observed in 2015. Table 7 compares the catch-per-hour by length group of black bass in Lake Cumberland to other SEFD lakes sampled in 2016.

Largemouth bass catch rates met three of the four CPUE management objectives (Table 8). The spotted bass and smallmouth bass populations both met two of the CPUE management objectives (Tables 9 and 10, respectively).

Largemouth bass populations exhibited excellent size structure, with a PSD value of 71 and an RSD_{15} value of 40 (Table 11). Smallmouth bass and spotted bass populations had a good size structure, with a PSD value of 66 and an RSD_{14} value of 47 for smallmouth bass and a PSD value of 58 and an RSD_{14} value of 15 for spotted bass (Table 11). Table 12 compares the size structure of black bass populations in Lake Cumberland to other SEFD lakes sampled in 2016.

Black Bass Sampling (Fall)
Diurnal electrofishing was conducted in the Fishing Creek embayment during October to index the largemouth bass year class strength (Tables 13 and 14). Catch rates of age-0 largemouth bass were higher in 2016 than rates observed the last two years (Table 14). Table 15 compares the CPUE of age-0 largemouth bass in Lake Cumberland to other SEFD lakes sampled in fall 2016. Relative weight (Wr) values for largemouth bass and spotted bass collected during October sampling are shown in Table 16. Table 17 compares Wr values for black bass in Lake Cumberland to other SEFD lakes sampled in fall 2016. Age-growth data from largemouth bass collected in 2016 from Lake Cumberland is shown in Table 18.

Walleye and White Bass Sampling
Gill nets were used in November 2016 to evaluate the walleye and white bass populations in the Jamestown/Bugwood, Conley Bottom, and Waitsboro/Burnside areas of Lake Cumberland. A total of 268 walleye were captured in 30 net-nights for a catch rate of 8.9 fish/nn. Length frequency and CPUE of walleye is shown in Table 19. Walleye ranged from 9.0-23.0 in with the mode being the 16.0-in class (62 fish). Two of the three catch rate management objectives for walleye were met (Table 20). Age-growth data for male and female walleye are shown in Tables 21 and 22, respectively. The age-growth for both sexes combined is shown in Table 23. Seven year-classes were represented in the catch, with the 2015 year class (age-1; 54%) being most abundant (Table 24). Mean length of age-2+ walleye at capture (19.4 in) met the growth objective of 18.0 in (Table 20). The walleye assessment score was 16 (rating=excellent; Table 25). Relative weight (Wr) values for walleye are shown in Table 26.

A total of 11 white bass were captured in 30 net-nights for a catch rate of 0.4 fish/nn. Length frequency and CPUE of white bass is shown in Table 19. White bass ranged from 12.0-14.0 in with the mode being the 13.0-in class (5 fish). Due to the low number of white bass collected, additional analyses were not completed.

Striped Bass Sampling

Gill nets were used in late November 2016 to evaluate the striped bass population in Lake Cumberland. Twenty net-nights captured 112 striped bass for a catch rate of 5.6 fish/nn. Length-frequency and CPUE of striped bass are shown in Table 27. Striped bass ranged from 8.0 to 30.0 in with the mode being the 26.0-in class (15 fish). Three of the four management objectives were met for the striped bass population (Table 28). The age-growth data for striped bass collected during 2016 is shown in Table 29. Ten year-classes were represented in the catch (Table 30). The 2013 (age-3) year class was the most abundant year class collected (23%), which coincided with the increased (pulsed) stocking rate of approximately 14.0 fish/acre in 2013. Mean length of age-2+ fish at capture (2014 year class) was 22.8 in, which met the growth objective (21.0 in) for the striped bass fishery (Table 28). The striped bass assessment score was 12 (rating=good; Table 31). Striped bass collected during walleye and striped bass gill netting were used to evaluate relative weight (Wr) values, which are shown in Table 32.

2016 Daytime Creel Survey

A roving daytime creel survey was conducted on Lake Cumberland (50,250 acres) from 1 March-31 October 2016. The lake was split into two sections (lower and upper) and each stratum was designed as a stand-alone survey. The lower lake (Harmon Creek to Indian Creek; 25,014 acres) contained four areas, and the upper lake (Harmon Creek to the upper reaches of the lake; 25,014 acres) had eight areas. The survey was conducted 16 days per month in each section of the lake, and each day consisted of a morning or afternoon period (6-hour time period). Angler counts were conducted at random times within the 6 hour time period. Creel data will be presented for each section: lower lake and upper lake.

Lower Lake Cumberland Creel Survey

Results from the lower lake creel survey are shown in Tables 33-40. Fishing pressure on the lower lake continues to decline. During the 2016 survey, the total number of fishing trips and fishing pressure was half of the estimated trips and hours observed in 2011. Anglers made an estimated 25,204 fishing trips and expended 132,020 hours (5.28 man-hours/acre) during the survey period on the lower lake in 2016. Striped bass anglers accounted for 49% of all fishing trips to the lower lake, followed by black bass (34%) and crappie (7%) anglers.

Upper Lake Cumberland Creel Survey

Results from the upper lake creel survey are shown in Tables 41-48. Although the number of fishing trips declined slightly in 2016, the total man-hours on the upper lake portion increased from the 2011 survey period. Anglers made an estimated 49,149 fishing trips and expended 273,458 hours (10.93 man-hours/acre) during the survey period on the upper lake in 2016. Black bass anglers accounted for 46% of all fishing trips to the upper lake, followed by anglers fishing for anything (17%), crappie (17%), and morone (11%) anglers.

Lower Lake Cumberland Angler Attitude Survey

An angler attitude survey was conducted in conjunction with the creel survey to gather angler opinions about the various fisheries in lower Lake Cumberland (Figure 1). A total of 173 anglers were interviewed in the lower lake. Anglers were generally satisfied with all fisheries, except walleye anglers who only had a 31% satisfaction level. Angler satisfaction for striped bass, black bass, crappie, and catfish had all increased since the 2011 angler attitude survey. If anglers were dissatisfied, they listed the number of fish as the reason for their dissatisfaction. Ninety-one percent of anglers on the lower lake were satisfied with the current regulations on sport fish in Lake Cumberland. Only fifty percent of the anglers on the lower lake were aware that lake sturgeon had been stocked in Lake Cumberland, and sixty-seven percent of the anglers knew that lake sturgeon needed to be immediately released if caught. No anglers interviewed on the lower lake had caught a lake sturgeon.

Upper Lake Cumberland Angler Attitude Survey

An angler attitude survey was conducted in conjunction with the creel survey to gather angler opinions about the various fisheries in upper Lake Cumberland (Figure 2). A total of 176 anglers were interviewed in the upper lake. With the exception of walleye anglers, anglers were generally satisfied with the fisheries. Only 36% of the walleye anglers were satisfied, which is a marked decline from 100% satisfaction in 2011. The number of fish was the reason listed for walleye angler dissatisfaction.

Ninety-four percent of anglers on the upper lake were satisfied with the current regulations on sport fish in Lake Cumberland. Eighty-five percent of the anglers on the upper lake were aware that lake sturgeon had been stocked in Lake Cumberland, and eighty-five percent of the anglers knew that lake sturgeon needed to be immediately released if caught. Anglers on the upper portion of Lake Cumberland reported catching eight lake sturgeon.

Cumberland Tailwater

Trout Sampling (Fall)
Nocturnal electrofishing sampling was conducted November 6 and 7 2016 to assess the trout population in the Lake Cumberland tailwater. Electrofishing was completed in eight different areas of the tailwater. Table 49 has the length-frequency and CPUE for the three trout species collected in each area. Catch rates of rainbow trout (Table 50) and brown trout (Table 51) larger than 15.0 in remain at or below the 21-year average for the tailwater. Relative weight (Wr) values for each trout species is shown in Table 52.

Laurel River Lake (6,060 acres)

Black Bass Sampling (Spring)
Electrofishing sampling was conducted during April and May 2016 to assess the black bass population in Laurel River Lake. Electrofishing was conducted in four areas of the lake: 1) dam, 2) Spruce Creek, 3) Laurel River arm, and 4) upper Craigs Creek. Length-frequency and CPUE of the three black bass species collected in each area is shown in Table 53. The catch-per-hour (by area and length group) of the three black bass species are shown in Tables 54-57. Table 7 compares the catch-per-hour by length group of black bass in Laurel River Lake to other SEFD lakes sampled in 2016.

The largemouth bass population met three of the four catch rate objectives (Table 58). Spotted bass met one of the four catch rate management objectives (Table 59). The smallmouth bass population met one of the four catch rate management objectives (Table 60).

Largemouth and smallmouth bass exhibited an excellent size structure, with largemouth bass having a PSD value of 72 and an RSD_{15} value of 32, and smallmouth bass having a PSD value of 68 and an RSD_{14} value of 55 (Table 61). The spotted bass population had a good size structure, with a PSD of 46 and an RSD_{14} of 16 (Table 61). Table 12 compares the size structure values of black bass populations in Laurel River Lake to other SEFD lakes sampled in 2016.

Black Bass Sampling (Fall)
Diurnal electrofishing was conducted in the Laurel River arm on 28 September 2016 to index largemouth bass year class strength (Tables 62 and 63). The CPUE of age-0 largemouth bass in 2016 was high, so additional stockings of age-0 bass was not required (Table 63). Relative weight (Wr) values for largemouth and spotted bass collected during September sampling are shown in Table 64.

Cedar Creek Lake (784 acres; Lincoln Co.)

Black Bass Sampling (Spring)
Diurnal electrofishing was conducted on 24 May 2016 to assess the largemouth bass population in Cedar Creek Lake. The length-frequency and CPUE of largemouth bass is shown in Table 65. Size structure of largemouth bass was excellent (PSD=72, RSD_{15}=50; Table 66). The catch-per-hour (by area and length group) of largemouth bass for 2003-2016 is shown in Table 67. All four of the CPUE management objectives for the largemouth bass population were met or exceeded (Table 68).

Black Bass Sampling (Fall)
Diurnal electrofishing was conducted on 5 October 2016 to index the largemouth bass year-class strength (Tables 69 and 70). Catch rates of age-0 bass in 2016 were the highest seen since KDFWR began assessing age-0 year-class strength in 2004 (Table 70). Relative weight (Wr) values for largemouth bass are found in Table 71.

Bluegill/Redear Sunfish Sampling
Diurnal electrofishing was conducted on 6 June 2016 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 72. The catch-per-hour (by length group) of bluegill and redear sunfish is shown in Table 73. PSD and RSD values for bluegill and redear sunfish are shown in Table 74.

Laurel Creek Reservoir (43 acres; McCreary Co.)

Largemouth Bass Sampling (Spring)
Diurnal electrofishing was conducted on 20 April 2016 at Laurel Creek Reservoir to assess the largemouth bass population. Length frequency and CPUE for largemouth bass is shown in Table 75. Catch-per-hour (by length group) for largemouth bass is shown in Table 76. The largemouth bass size structure was marginal, with a PSD value of 60 (RSD_{15}=5; Table 77).

Liberty Lake (81 acres; Casey Co.)

Largemouth Bass Sampling (Spring)
Diurnal electrofishing was conducted on 26 April 2016 at Liberty Lake to assess the black bass population. Length frequency and CPUE for black bass is shown in Table 78. Catch-per-hour (by length group) for largemouth and spotted bass is shown in Table 79. Largemouth and spotted bass both exhibited poor size structure, with largemouth bass having a PSD value of 27 (RSD_{15}=1) and spotted bass having a PSD value of 13 (RSD_{14}=2; Table 80).

Largemouth Bass Sampling (Fall)
Diurnal electrofishing was conducted on 30 September 2016 at Liberty Lake to collect largemouth bass to determine age-growth. Age-growth data from largemouth bass collected in 2016 is shown in Table 81. Relative weight values for largemouth bass are in Table 82.

Wood Creek Lake (625 acres; Laurel Co.)

Black Bass Sampling (Spring)
Diurnal electrofishing was conducted on 20 May 2016 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 83. The size structure for largemouth bass was marginal, having a PSD value of 42 (RSD_{15}=8; Table 84). The spotted bass population also had a poor size structure (PSD=26, RSD_{14}=0; Table 84). Catch-per-hour (by length group) for largemouth and spotted bass are shown in Tables 85 and 86, respectively. A largemouth bass population assessment is shown in Table 87. Two of the four catch rate management objectives were met for the largemouth bass population (Table 87).

Black Bass Sampling (Fall)
Diurnal electrofishing was conducted on 26 September 2016 in the Pump Station and Dock areas of Wood Creek Lake to index largemouth bass year class strength (Tables 88 and 89). Catch rates of age-0 largemouth bass in 2016 were high (Table 89); thus, no additional age-0 bass were stocked in the lake during the fall. Relative weight values for largemouth and spotted bass were not available due to an inoperable scale.

Table 1. Summary of sampling conditions by waterbody, species sampled, and date for the Southeastern Fisheries District in 2016.

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	5/3/2016	1130	shock	mostly cloudy	65	718	72	good	
	Faubush Creek	Black bass	5/11/2016	1000	shock	mix of sun and clouds	69	723	36-48	good	first time sampling area
	Fishing Creek	Black bass	5/18/2016	1140	shock	cloudy, 60s	64	724	24	fair	murky w ater; 1 dipper
	Lily Creek	Black bass	5/18/2016	1200	shock	cloudy, cool, 50s	65	724	36	good	dark green w ater; inexperienced dipper
	Fishing Creek	Black bass	10/3/2016	1230	shock	mostly sunny	74	701	24	good	w ater slightly murky, greenish brow n color
	Jamestow n	Walleye	11/15-11/17		gill net	sunny, 60s and 70s	63	693	-	good	
	Conley Bottom	Walleye	11/15-11/17		gill net	sunny, w arm 60s and 70	64	693	-	good	
	Burnside	Walleye	11/21-11/23		gill net	clear, cool 40s and 50s	59	692	-	good	
	Beaver Creek	Striped bass	11/28-11/30		gill net	sunny, cloudy, 60s, w indy	56	691	-	good	w ater w as slightly murky due to rains
	Lily/Wolf	Striped bass	11/28-11/30		gill net	sunny, w indy, rainy	58	691	-	good	
Cumberland Tailw ater											
	Above Helms	Trout	11/6/2016	1800	shock	60s, clear	-	4570 cfs			
	Below Helms	Trout	11/6/2016	1720	shock	clear, 60s	60	4570 cfs			
	Rainbow Run	Trout	11/6/2016	1800	shock		62	4570 cfs			
	Big Willis	Trout	11/6/2016		shock	60s	59	4570 cfs			
	Crocus Creek	Trout	11/6/2016		shock		61	4570 cfs			
	Hw y 61 Traces	Trout	11/7/2016	1700	shock	mostly clear, 60s	-				
	Cloyds	Trout	11/7/2016		shock		60				
	Biggerstaff Bar	Trout	11/7/2016		shock		60				
Laurel River Lake											
	Dam	Black bass	4/25/2016	1945	shock	mostly clear, slight breeze	66	1014	72-84	good	w ater clearish, green
	Spruce Creek	Black bass	5/6/2016	1230	shock	sunny w ith fluffy clouds, 60s, breezy	65	1018	24-36	fair	murky w ater
	Craig's Creek	Black bass	5/23/2016	1135	shock	sunny, nice 70s	67	1012	72	good	green colored w ater but clear
	312 Bridge	Black bass	5/25/2016	815	shock	intermittent sunshine	72	1013	24	fair	w ater stained brow n and murky
	312 Bridge	Black bass	9/28/2016	915	shock	sunny, clear, 70s	78	1010	30-36	good	
Cedar Creek Lake		LMB	5/24/2016	1015	shock	clear, sunny, w arm, 70s	67	full	18-36	good	w ater stained brow n color
		LMB	10/5/2016	930	shock	partly cloudy, breezy, 60-70s	71	full	24	good	vegetation blankets bottom
		BLG/redear	6/6/2016	845	shock	clear, sunny, w arm, humid	77	full	36	good	some vegetation
Laurel Creek Reservoir		LMB	4/20/2016	1015	shock	sunny, w arm	64	full	72	good	1 dipper
Liberty Lake		Black bass	4/26/2016	830	shock	mostly sunny, some clouds	69	full	60	good	1 dipper
		LMB	9/30/2016	930	shock	overcast	72	dow n	60	good	1 dipper
Wood Creek Lake		Black bass	5/20/2016	750	shock	cloudy	63	full	48	fair	vegetation thick ; one crew ; eliminated low er lake location
		Black bass	9/26/2016	830	shock	clear, upper 60s	78	full	84	fair	vegetation thick ; scale inoperable; no low er lake sample

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours of 15-minute nocturnal electrofishing runs for black bass in Lake Cumberland during May 2016; standard error is in parentheses.

		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
Dam	Largemouth bass		1		1	4	11	9	13	6		2	2	3	10	9	7	6	1	2		87	58.0 (19.1)
	Spotted bass	1	4	1		4	10	7	4	1	1	13	11	11	2	2						72	48.0 (12.0)
	Smallmouth bass	3	14		2	1	3	1	2	1	2				2			1				32	21.3 (7.6)
Faubush Creek	Largemouth bass										1		4	5	5	4		2			1	22	14.7 (3.4)
	Spotted bass				1	1	2	4	6	3	8	6	2	1	1							35	23.3 (4.7)
	Smallmouth bass						1		3		1		2	2	2	1	1					13	8.7 (3.5)
Fishing Creek	Largemouth bass				1	5	5	7	2	3	12	8	11	6	5	3	1	1	3			73	48.7 (9.6)
	Spotted bass						1	5	2	2		1	1									12	8.0 (3.9)
	Smallmouth bass																					0	0.0 (0.0)
Lily Creek	Largemouth bass		1	1					2		1	3	7	8	8		7	1	1			40	26.7 (6.3)
	Spotted bass		1		2		1	3	4	2	6	6	3	4								32	21.3 (4.1)
	Smallmouth bass					1							1		1	1	1	3				8	5.3 (1.3)
Total	Largemouth bass		2	1	2	9	16	16	17	9	14	13	24	22	28	16	15	10	5	2	1	222	37.0 (6.4)
	Spotted bass	1	5	1	3	5	14	19	16	8	15	26	17	16	3	2						151	25.2 (4.5)
	Smallmouth bass	3	14		2	2	4	1	5	1	3		3	2	5	2	2	4				53	8.8 (2.6)

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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 2012-2016.

	Stock					Quality					Preferred				
Species/Area	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Largemouth bass															
Dam	24.0	4.0	18.7	12.0	46.7	14.7	3.3	17.3	11.3	28.0	9.3	2.7	10.0	8.0	23.3
Faubush Creek	-	-	-	-	14.7	-	-	-	-	14.0	-	-	-	-	8.0
Fishing Creek	120.7	45.3	25.3	61.3	41.3	80.7	21.3	19.3	41.3	25.3	25.3	5.3	6.7	11.3	8.7
Lily Creek	59.3	25.3	72.0	44.0	25.3	29.3	18.7	28.7	32.0	23.3	7.3	6.7	14.0	10.0	11.3
Mean	54.3	21.0	30.7	31.5	32.0	33.3	12.8	17.8	22.2	22.7	11.7	4.7	8.2	8.0	12.8
Spotted bass															
Dam	82.7	26.0	44.7	26.0	41.3	26.7	17.3	24.7	16.7	26.7	2.7	3.3	6.7	6.0	10.0
Faubush Creek	-	-	-	-	22.0	-	-	-	-	12.0	-	-	-	-	1.3
Fishing Creek	1.3	2.7	5.3	12.7	8.0	0.0	0.0	1.3	6.0	1.3	0.0	0.0	0.0	0.7	0.0
Lily Creek	36.7	35.3	44.7	42.0	19.3	4.0	17.3	13.3	31.3	12.7	0.0	2.0	2.7	6.7	2.7
Mean	37.3	20.2	25.0	22.0	22.7	9.5	11.3	10.0	13.8	13.2	0.7	1.5	2.3	3.5	3.5
Smallmouth bass															
Dam	11.3	10.7	21.3	2.7	8.0	5.3	3.3	10.7	2.0	3.3	4.7	2.7	6.0	2.0	2.0
Faubush Creek	-	-	-	-	8.7	-	-	-	-	6.0	-	-	-	-	4.0
Fishing Creek	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lily Creek	1.3	1.3	1.3	18.0	4.7	0.0	1.3	0.0	16.0	4.7	0.0	0.7	0.0	12.7	4.0
Mean	5.5	4.5	7.5	7.8	5.3	2.0	2.0	3.7	6.8	3.5	1.7	1.7	2.0	5.2	2.5

Largemouth bass - $\geq$8.0 in = stock, $\geq$12.0 in = quality, $\geq$15.0 in = preferred.

Smallmouth bass and spotted bass - $\geq$7.0 in = stock, $\geq$11.0 in = quality, $\geq$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 2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2011	5.7	2.7	6.5	2.2	5.2	1.7	3.7	1.1	0.2	0.2	21.0	6.3
2010	12.3	3.0	23.3	5.3	13.7	3.3	10.7	2.0	0.5	0.3	60.0	11.7
2009	20.3	6.5	9.7	3.5	8.5	2.8	8.2	2.3	0.5	0.3	46.7	12.5
2008	7.3	2.3	11.0	2.8	20.2	5.7	18.0	4.0	0.2	0.2	56.5	13.2
2007	8.4	3.2	14.1	4.5	20.9	7.1	15.3	4.1	0.5	0.3	58.6	18.1
2006	0.8	0.4	6.2	2.2	8.8	3.1	10.2	2.6	0.5	0.3	26.0	7.6
2005	0.8	0.5	1.6	0.7	9.9	3.6	5.5	1.3	0.0	0.0	17.7	5.2
2004	0.8	0.3	5.2	1.5	6.9	1.4	6.5	1.6	0.0	0.0	19.5	4.0
2003	2.0	0.8	5.7	1.4	6.1	1.9	8.3	1.9	0.1	0.1	22.1	4.3
2002	0.4	0.2	1.9	0.6	7.7	2.5	6.3	1.0	0.1	0.1	16.3	3.3

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Table 5. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Lake Cumberland during May 2016.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2011	8.7	1.7	12.2	2.1	5.7	2.4	0.3	0.2	0.0	0.0	26.8	4.6
2010	28.3	4.0	26.7	5.5	12.2	2.6	0.8	0.4	0.0	0.0	68.0	9.2
2009	22.7	4.3	20.5	5.1	10.0	2.1	1.0	0.4	0.0	0.0	54.2	10.3
2008	34.7	4.5	26.7	3.7	15.3	4.0	5.0	2.1	0.0	0.0	81.7	11.1
2007	27.1	6.8	27.5	5.0	13.6	3.6	7.0	2.7	0.4	0.2	75.1	13.5
2006	12.0	2.5	16.5	2.3	13.8	3.0	8.0	2.1	0.2	0.2	50.3	7.1
2005	16.3	3.6	9.5	1.4	11.2	2.0	3.1	1.2	0.0	0.0	40.0	6.3
2004	15.6	2.7	25.5	3.9	10.5	2.1	1.9	0.7	0.0	0.0	53.5	7.8
2003	32.6	5.5	31.6	3.8	9.1	1.5	2.9	0.8	0.0	0.0	76.1	8.6
2002	8.1	1.8	10.3	1.7	5.2	1.1	1.5	0.5	0.0	0.0	25.1	3.7

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Table 6. Spring electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected at Lake Cumberland during May 2016.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2011	0.5	0.4	0.3	0.2	0.7	0.3	0.2	0.2	0.2	0.2	1.7	0.5
2010	2.8	0.7	2.5	0.8	1.2	0.4	3.7	1.2	2.3	1.0	10.2	1.9
2009	3.5	1.3	1.5	0.6	0.2	0.2	0.7	0.3	0.2	0.2	5.8	1.5
2008	5.2	1.8	2.0	0.8	1.2	0.5	2.7	1.0	0.8	0.4	11.0	2.8
2007	6.8	2.6	7.1	2.4	3.8	1.3	1.4	0.6	0.5	0.4	19.1	5.4
2006	2.5	0.9	1.2	0.4	0.3	0.3	0.3	0.2	0.2	0.2	4.3	1.2
2005	2.3	0.9	0.8	0.6	1.3	0.5	3.9	1.5	1.3	0.7	8.3	2.3
2004	2.9	1.8	1.9	0.9	1.2	0.5	1.3	0.7	0.0	0.0	7.3	3.1
2003	2.1	1.0	3.9	1.1	1.6	0.6	3.4	1.1	1.0	0.4	11.0	2.7
2002	2.9	1.1	3.5	1.3	2.4	0.8	0.9	0.5	0.1	0.1	9.7	2.9

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Table 7. Catch-per-hour of black bass captured during spring electrofishing on lakes in the Southeastern Fishery District during 2016.

Species/Lake	Stock*	Quality*	Preferred*
Largemouth bass			
Lake Cumberland	32.0	22.7	12.8
Laurel River Lake	64.0	45.8	20.7
Cedar Creek Lake	118.0	84.7	58.7
Laurel Creek Reservoir	102.4	61.6	4.8
Liberty Lake	61.1	16.6	0.6
Wood Creek Lake	73.3	30.7	6.0
Spotted bass			
Lake Cumberland	22.7	13.2	3.5
Laurel River Lake	14.8	6.8	2.3
Liberty Lake	74.3	9.7	1.1
Wood Creek Lake	15.3	4.0	0.0
Smallmouth bass			
Lake Cumberland	5.3	3.5	2.5
Laurel River Lake	3.7	2.5	2.0

*Largemouth bass - ≥8.0 in = stock, ≥12.0 in = quality, ≥15.0 in = preferred
*Smallmouth 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 2000-2016 (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		
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
2011	Value		6.8	5.2	3.7	0.2		
	Score	4	1	1	1	2	9	F
2010	Value		11.5	13.7	10.7	0.5		
	Score	4	1	1	2	3	11	F
2009	Value		25.7	8.5	8.2	0.5		
	Score	4	3	1	2	3	13	G
2008	Value		10.0	20.2	18.0	0.2		
	Score	4	1	2	3	2	12	F
2007	Value	13.4	10.3	20.9	15.3	0.5		
	Score	4	1	2	3	3	13	G
2006	Value		1.2	8.8	10.2	0.5		
	Score	4	1	1	2	3	11	F
2005	Value		1.2	9.9	5.5	0.0		
	Score	4	1	1	1	1	8	P
2004	Value		1.1	7.0	6.5	1.0		
	Score	4	1	1	2	3	11	F
2003	Value		3.0	6.1	8.3	0.1		
	Score	4	1	1	2	1	9	F
2002	Value	13.6	0.4	7.6	6.4	0.1		
	Score	4	1	1	2	1	9	F
2001	Value		2.9	7.7	5.2	0.3		
	Score	4	1	1	1	2	9	F
2000	Value		2.8	9.5	5.2	0.3		
	Score	4	1	1	1	2	9	F

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Table 9. Population assessment for spotted bass based on spring electrofishing at Lake Cumberland from 2000-2016 (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	Assessement rating
Management objective		≥9.6 in	≥4.0 fish/hr	≥7.0 fish/hr	≥2.0 fish/hr		
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
2011	Value		3.9	5.7	0.3		
	Score	3	3	2	1	9	F
2010	Value		9.7	12.2	0.8		
	Score	3	4	4	2	13	G
2009	Value		6.8	10.0	1.0		
	Score	3	4	3	2	12	G
2008	Value	11.0	8.8	15.3	5.0		
	Score	3	4	4	4	15	E
2007	Value		1.3	13.6	7.0		
	Score	4	2	4	4	14	E
2006	Value		1.8	13.8	8.0		
	Score	4	2	4	4	14	E
2005	Value		5.1	11.2	3.1		
	Score	4	4	4	4	16	E
2004	Value		6.0	10.5	1.9		
	Score	4	4	4	3	15	E
2003	Value	11.4	16.7	9.1	2.9		
	Score	4	4	3	4	15	E
2002	Value		5.1	5.2	1.5		
	Score	4	4	1	3	12	G
2001	Value		2.1	4.7	1.6		
	Score	4	3	1	3	11	G
2000	Value		1.9	5.6	1.2		
	Score	4	2	2	2	10	G

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Table 10. Population assessment for smallmouth bass based on spring electrofishing at Lake Cumberland from 1990-2016 (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		
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
2011	Value		0.0	0.7	0.2		
	Score	1	1	2	1	5	P
2010	Value	11.3	0.7	1.2	3.7		
	Score	1	2	3	4	10	G
2009	Value		1.8	0.2	0.7		
	Score	2	3	1	2	8	F
2008	Value		2.5	1.2	2.7		
	Score	2	3	3	4	12	G
2007	Value		2.6	3.8	1.4		
	Score	2	3	4	3	12	G
2006	Value		0.0	0.3	0.3		
	Score	2	1	2	2	7	F
2005	Value	12.2	0.8	1.3	3.9		
	Score	2	2	3	4	11	G
2004	Value		1.9	1.2	1.3		
	Score	1	3	3	3	10	G
2003	Value		1.3	1.6	3.4		
	Score	1	2	3	4	10	G
2002	Value		1.7	2.4	0.9		
	Score	1	3	4	3	11	G
2001	Value		0.5	0.4	0.9		
	Score	1	2	2	3	8	F
2000	Value		0.0	1.4	1.1		
	Score	1	1	3	3	8	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 2016; 95% confidence limits are in parentheses.

		Largemouth bass			Spotted bass			Smallmouth bass		
Year	Area	No. ≥ stock size	PSD (+/- 95%)	RSD_{15} (+/- 95%)	No. ≥ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)	No. ≥ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)
2016	Dam	70	60 (± 12)	50 (± 12)	62	65 (± 12)	24 (± 11)	12	42 (± 29)	25 (± 26)
	Faubush Creek	22	95 (± 9)	55 (± 21)	33	55 (± 17)	6 (± 8)	13	69 (± 26)	46 (± 28)
	Fishing Creek	92	61 (± 12)	21 (± 10)	19	17 (± 22)	0 (± 0)	0	0 (± 0)	0 (± 0)
	Lily Creek	38	92 (± 9)	45 (± 16)	29	66 (± 18)	14 (± 13)	7	100 (± 0)	86 (± 28)
	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)
2011	Total	92	58 (± 10)	24 (± 9)	124	29 (± 8)	2 (± 2)	8	63 (± 36)	13 (± 25)
2010	Total	286	51 (± 6)	22 (± 5)	293	27 (± 5)	2 (± 1)	51	57 (± 14)	43 (± 14)
2009	Total	158	63 (± 8)	31 (± 7)	230	29 (± 6)	3 (± 2)	17	29 (± 22)	24 (± 21)
2008	Total	295	78 (± 5)	37 (± 6)	349	35 (± 5)	9 (± 3)	42	55 (± 15)	38 (± 15)
2007	Total	289	72 (± 5)	30 (± 5)	310	38 (± 5)	13 (± 4)	81	37 (± 11)	10 (± 7)
2006	Total	151	75 (± 7)	40 (± 8)	259	51 (± 6)	19 (± 5)	13	31 (± 26)	15 (± 20)
2005	Total	127	91 (± 5)	32 (± 8)	216	50 (± 7)	11 (± 4)	49	80 (± 11)	59 (± 14)
2004	Total	140	88 (± 6)	39 (± 9)	325	42 (± 13)	12 (± 8)	42	36 (± 8)	8 (± 5)

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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, Laurel Creek Reservoir, Liberty Lake, and Wood Creek Lake during 2016; 95% confidence limits are in parentheses.

	Largemouth bass		Smallmouth bass		Spotted bass	
Lake	PSD	RSD_{15}	PSD	RSD_{14}	PSD	RSD_{14}
Lake Cumberland	71 (±6)	40 (±7)	66 (±17)	47 (±18)	58 (±8)	15 (±6)
Laurel River Lake	72 (±5)	32 (±5)	46 (±10)	16 (±8)	68 (±20)	55 (±21)
Cedar Creek Lake	72 (±7)	50 (±7)				
Laurel Creek Reservoir	60 (±9)	5 (±4)				
Liberty Lake	27 (±9)	1 (±2)			13 (±6)	2 (±2)
Wood Creek Lake	42 (±9)	8 (±5)			26 (±18)	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 nocturnal electrofishing runs for black bass in Fishing Creek of Lake Cumberland on 3 October 2016; standard error is in parentheses.

	Inch class																		
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	19	Total	CPUE
Largemouth bass			1	3	9	16	2	5	8	12	10	9	9	4	3	3	1	95	63.3 (14.4)
Spotted bass	5	14	4	2	5	6	3	4	10	5	7	3	1					69	46.0 (17.8)
Smallmouth bass												1						1	0.7 (0.7)

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Table 14. Indices of year class strength at age-0 and age-1 and mean lengths (in) of 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	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
	Lake Cumberland								
2016	Fishing Creek	6.8	0.2	20.0	9.2	19.3	8.7		
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
2012	Fishing Creek	6.1	0.1	96.7	24.6	80.0	19.6	21.8	6.2
2011	Fishing Creek	6.1	0.1	114.7	25.1	102.0	23.2	46.5	7.0
2010	Fishing Creek	5.8	0.1	85.3	9.4	67.3	8.4	16.7	11.5
2009	Fishing Creek	4.8	0.2	42.0	9.5	22.7	6.4	21.3	6.6
2008	Fishing Creek	5.0	0.1	166.0	40.1	80.7	31.3	81.3	13.5
2007	Fishing Creek	5.0	0.3	4.7	3.2	2.7	1.3	24.9	5.5
2006	Fishing Creek	6.3	0.2	22.0	3.1	20.7	2.4	32.0	8.2
2005	Fishing Creek	6.2	0.2	14.0	4.5	13.3	4.1	3.3	1.2
2004	Fishing Creek	6.2	0.1	50.7	8.2	41.3	7.4	4.0	2.1
2003	Fishing Creek	5.8	0.4	6.0	2.7	4.0	2.5	1.3	0.8
2002	Fishing Creek	6.0	0.1	192.7	36.7	160.7	36.3	4.0	1.5

[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 largemouth bass collected in September and October 2016 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	Std. error	CPUE	Std. error	CPUE	Std. error
Lake Cumberland	Fishing Creek	6.8	0.2	20.0	9.2	19.3	8.7
Laurel River Lake	Laurel River Arm	3.4	0.1	24.0	4.8	2.7	1.3
Cedar Creek Lake		4.0	0.1	131.3	45.2	36.7	10.1
Wood Creek Lake		4.0	0.1	74.7	22.6	8.7	1.6

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Table 16. Number of fish and mean relative weight (Wr) for each length group of black bass collected in Fishing Creek of Lake Cumberland on 3 October 2016. Standard error is in parentheses.

Species	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Largemouth bass	No.	Wr	No.	Wr	No.	Wr
	27	90 (1)	28	91 (2)	11	94 (2)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	23	101 (2)	15	94 (2)	1	101 (-)

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Table 17. Number of fish and mean relative weight (Wr) for each length group of black bass collected in Lake Cumberland, Laurel River Lake, Cedar Creek Lake, and Liberty Lake during September and October 2016. Standard error is in parentheses.

		Length group					
Species	Location	No.	Wr	No.	Wr	No.	Wr
Largemouth bass		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	Lake Cumberland (Fishing Creek)	27	90 (1)	28	91 (2)	11	94 (2)
	Laurel River Lake (Laurel River Arm)	17	98 (3)	15	103 (3)	12	98 (5)
	Cedar Creek Lake	15	90 (2)	28	93 (2)	25	92 (2)
	Liberty Lake	33	89 (1)	12	92 (2)	0	0 (0)
Spotted bass		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	Lake Cumberland (Fishing Creek)	23	101 (2)	15	94 (2)	1	101 (-)
	Laurel River Lake (Laurel River Arm)	24	104 (3)	14	99 (3)	2	107 (0)

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Table 18. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Lake Cumberland during 2016, including the 95% confidence interval (CI) for each mean length per age group.

		Age				
Year	No.	1	2	3	4	5
2015	20	8.0				
2014	16	7.3	11.0			
2013	21	8.1	12.0	13.7		
2012	3	6.9	12.4	14.7	15.8	
2011	1	10.0	13.9	16.1	17.8	19.1
Mean		7.8	11.7	13.9	16.3	19.1
Number		61	41	25	4	1
Smallest		4.0	10.0	10.6	14.5	19.1
Largest		10.6	14.3	16.3	17.8	19.1
Std error		0.2	0.2	0.3	0.7	
95% CI ±		0.4	0.4	0.6	1.3	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 19. Length frequency and CPUE (fish/nn) of walleye, white bass, sauger, and 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 2016.

		Inch class																										Std.
Area	Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	32	Total	CPUE	error
Jamestown/Bugwood																												
	Walleye								3	9	23	27	23	12	13	4	2	1								117	11.7	1.7
	White bass							1	1																	2	0.2	0.1
	Sauger																									0	0.0	0.0
	Striped bass	1	5	15	20	4			1	2	1	3	11	5	3	2	5	6	3	6	2	3		1		99	9.9	2.3
Conley Bottom																												
	Walleye			1	2	5	1	1	6	14	30	14	10	8	7	2	2									103	10.3	1.4
	White bass							3	2																	5	0.5	0.2
	Sauger																									0	0.0	0.0
	Striped bass	1		6	9	2						1	1	1			2			1	2	1		1		28	2.8	0.7
Burnside/Waitsboro																												
	Walleye			2	1	6	1			8	9	7	8	5		1										48	4.8	0.1
	White bass						2	1	1																	4	0.4	0.2
	Sauger													1	1											2	0.2	0.1
	Striped bass	1		8	26	18	2						1	2							3		2		1	64	6.4	1.9
Total																												
	Walleye			3	3	11	2	1	9	31	62	48	41	25	20	7	4	1								268	8.9	0.9
	White bass						2	5	4																	11	0.4	0.1
	Sauger													1	1											2	0.1	0.1
	Striped bass	3	5	29	55	24	2		1	2	1	4	13	8	3	2	7	6	3	7	7	4	2	2	1	191	6.4	1.1

sedgncbw.d16

Table 20. Population assessment for walleye based on fall gill netting at Lake Cumberland from 1991-2016.

Year		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		
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
2002	Value	12.1	19.1	2.5	6.4		
	Score	4	4	4	4	16	E
2000	Value	4.3	18.6	1.5	1.6		
	Score	3	3	4	2	12	G
1998	Value	7.9	18.5	2.4	1.9		
	Score	4	3	4	3	14	E
1996	Value	5.3	18.5	0.9	3.6		
	Score	3	3	3	4	13	G
1994	Value	3.5	18.5	0.9	0.7		
	Score	2	3	3	1	9	F
1991	Value	5.1	18.5*	0.2	2.7		
	Score	3	3	2	3	11	G

sedgncbw.d16
sedagcbw.d16

* Data from 1994 used for age-growth

Table 21. Mean back calculated lengths (in) at each annulus for male walleye collected from Lake Cumberland during 2016, including the 95% confidence interval (CI) for each mean length per age group.

		Age						
Year	No.	1	2	3	4	5	6	7
2015	31	10.9						
2014	3	10.5	16.6					
2013	14	10.8	15.3	18.1				
2012	4	10.9	15.4	17.5	18.6			
2011	8	11.5	15.2	17.0	18.2	19.1		
2009	1	10.0	14.6	16.2	17.7	18.9	19.6	20.0
Mean		10.9	15.4	17.6	18.3	19.1	19.6	20.0
Number		61	30	27	13	9	1	1
Smallest		7.3	13.5	15.9	17.2	18.2	19.6	20.0
Largest		13.6	17.9	19.9	20.0	20.2	19.6	20.0
Std error		0.2	0.2	0.2	0.2	0.2		
95% CI ±		0.3	0.4	0.4	0.5	0.5		

Otoliths were used for age-growth determinations; Intercept = 0
sedagcwm.d16

Table 22. Mean back calculated lengths (in) at each annulus for female walleye collected from Lake Cumberland during 2016, including the 95% confidence interval (CI) for each mean length per age group.

		Age				
Year	No.	1	2	3	4	5
2015	5	12.0				
2014	4	11.6	17.4			
2013	11	12.0	16.9	19.9		
2012	2	10.6	16.2	17.9	19.6	
2011	1	12.1	16.9	19.0	20.6	22.2
Mean		11.8	17.0	19.6	19.9	22.2
Number		23	18	14	3	1
Smallest		9.0	14.7	16.8	18.0	22.2
Largest		13.6	18.7	21.0	21.1	22.2
Std error		0.2	0.2	0.3	0.9	
95% CI ±		0.5	0.5	0.6	1.8	

Otoliths were used for age-growth determinations; Intercept = 0
sedagcwf.d16

Table 23. Mean back calculated lengths (in) at each annulus for walleye (both sexes) collected from Lake Cumberland during 2016, including the 95% confidence interval (CI) for each mean length per age group.

Year	No.	Age 1	2	3	4	5	6	7
2015	40	10.9						
2014	7	11.1	17.0					
2013	25	11.3	16.0	18.9				
2012	6	10.8	15.7	17.6	19.0			
2011	9	11.5	15.4	17.2	18.4	19.4		
2009	1	10.0	14.6	16.2	17.7	18.9	19.6	20.0
Mean		11.1	16.0	18.3	18.6	19.4	19.6	20.0
Number		88	48	41	16	10	1	1
Smallest		7.3	13.5	15.9	17.2	18.2	19.6	20.0
Largest		13.6	18.7	21.0	21.1	22.2	19.6	20.0
Std error		0.1	0.2	0.2	0.3	0.4		
95% CI ±		0.3	0.4	0.4	0.6	0.8		

Otoliths were used for age-growth determinations; Intercept = 0
sedagcbw.d16

Table 24. Age-frequency and CPUE (fish/nn) of walleye collected at Lake Cumberland in 30 net-nights during November 2016.

Age	Inch class 9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	%	CPUE	Std error
0	3	3	11	2												19	7.0	0.6	0.2
1					1	9	31	62	40	3						146	54.1	4.9	0.7
2										14	3	3				20	7.4	0.7	0.1
3									8	10	13	8	7	3		49	18.1	1.6	0.2
4										7	5	2		1		15	5.6	0.5	0.1
5										7	5	6			1	19	7.0	0.6	0.1
7												2				2	0.7	0.1	0.0
Total	3	3	11	2	1	9	31	62	48	41	26	21	7	4	1	270	100.0	9.0	
%	1.1	1.1	4.1	0.7	0.4	3.3	11.5	23.0	17.8	15.2	9.6	7.8	2.6	1.5	0.4				

sedgncbw.d16
sedagcbw.d16

Table 25. Walleye population assessment for walleye gill netted at Lake Cumberland in November 2016.

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	8.4	4
Growth rate (Mean length age 2+ at capture)	19.4	4
Size structure (CPUE $\geq$20.0 in)	1.1	4
Recruitment (CPUE age 1)	4.9	4
Instantaneous mortality (Z)	0.663	
Annual mortality (A)	48.5	
Total score		16
Assessment rating		E

sedgncbw.d16
sedagcbw.d16

Table 26. Number of fish and mean relative weight (Wr) for each length group of walleye collected in Lake Cumberland during November 2016. Standard error is in parentheses.

Length group					
10.0-14.9 in		15.0-19.9 in		$\geq$20.0 in	
No.	Wr	No.	Wr	No.	Wr
26	91 (1)	196	92 (0)	30	91 (1)

sedgncbw.d16

Table 27. Length frequency and CPUE (fish/nn) of striped bass collected at Lake Cumberland in 20 net-nights on 28-30 November 2016.

	Inch class																							
Species	8	9	10	11	12	13	14	15	18	19	20	21	22	23	24	25	26	27	28	29	30	Total	CPUE	Std. error
Striped bass	4	3	6	5	1	2	1	3	3	5	4	1	12	9	6	7	15	13	7	4	1	112	5.6	1.1

sedgncbs.d16

Table 28. Population assessment for striped bass based on fall gill netting at Lake Cumberland from 2000-2016.

Year		CPUE ≥age 1	Mean length age-2 at capture	CPUE ≥24.0 in	CPUE age-1	Total score	Assessement rating
Management objective		≥4.0 fish/nn	≥21.0 in	≥1.0 fish/nn	≥2.0 fish/nn		
2016	Value	5.0	22.8	2.7	0.9		
	Score	3	4	4	1	12	G
2015	Value	4.6	22.3	1.5	0.9		
	Score	3	3	4	1	11	G
2014	Value	6.1	21.9	0.6	5.2		
	Score	4	2	1	4	11	G
2013	Value	7.2	22.1	2.8	2.6		
	Score	4	3	4	3	14	E
2012	Value	7.3	20.6	1.9	0.8		
	Score	4	1	4	1	10	G
2011	Value	5.9	20.5	1.2	0.6		
	Score	4	1	3	1	9	F
2009	Value	4.0	21.6	1.2	1.8		
	Score	2	2	3	3	10	G
2008	Value	9.2	22.1	1.5	2.7		
	Score	4	3	4	4	15	E
2007	Value	5.3	23.7	1.2	3.9		
	Score	4	4	3	4	15	E
2006	Value	3.9	22.8	1.6	1.3		
	Score	2	4	4	2	12	G
2005	Value	3.4	23.3	1.5	1.2		
	Score	2	4	4	2	12	G
2004	Value	4.4	23.4	2.1	1.8		
	Score	3	4	4	3	14	E
2003	Value	4.1	21.9	1.2	1.7		
	Score	3	2	3	2	10	G
2002	Value	3.5	22.9	1.3	1.8		
	Score	2	4	3	3	12	G
2001	Value	3.1	21.0	0.1	2.7		
	Score	1	1	1	4	7	F
2000	Value	3.4	23.3	0.7	2.5		
	Score	2	4	1	3	10	G

sedgncbs.d16
sedagcbs.d16

Table 29. Mean back calculated lengths (in) at each annulus for striped bass collected from Lake Cumberland during 2016, including the 95% confidence interval (CI) for each mean length per age group.

		Age								
Year	No.	1	2	3	4	5	6	7	8	9
2015	27	10.7								
2014	14	10.5	19.0							
2013	24	12.8	19.2	22.8						
2012	15	12.5	19.3	22.8	25.1					
2011	2	12.7	19.6	22.8	25.8	27.8				
2010	5	10.6	17.7	21.3	23.1	25.0	26.2			
2009	4	12.8	18.8	21.3	23.2	24.7	26.0	27.1		
2008	3	11.9	18.3	21.3	22.8	24.7	25.6	26.9	28.2	
2007	1	11.8	16.5	19.7	21.5	23.9	24.7	25.3	26.5	27.1
Mean		11.7	19.0	22.4	24.2	25.1	25.9	26.8	27.8	27.1
Number		95	68	54	30	15	13	8	4	1
Smallest		5.7	15.1	18.4	20.9	23.5	24.2	25.1	25.7	27.1
Largest		14.3	22.0	26.8	28.5	29.0	27.4	29.3	31.5	27.1
Std error		0.2	0.2	0.2	0.4	0.4	0.3	0.5	1.3	
95% CI ±		0.5	0.4	0.5	0.7	0.8	0.6	1.0	2.6	

Otoliths were used for age-growth determinations; Intercept = 0
sedagcbs.d16

Table 30. Age-frequency and CPUE (fish/nn) of striped bass gill netted for 20 net-nights at Lake Cumberland in November 2016.

	Inch class																								
Age	8	9	10	11	12	13	14	15	18	19	20	21	22	23	24	25	26	27	28	29	30	Total	%	CPUE	Std error
0	4	3	6	5	1																	19	16.1	1.0	0.4
1+						2	1	3	3	5	3											17	14.4	0.9	0.2
2+											1	1	7	5	2							16	13.6	0.8	0.2
3+													3	5	4	4	6	2	3			27	22.9	1.4	0.3
4+													3			4	3	5		3		18	15.3	0.9	0.2
5+																		2			1	3	2.5	0.2	0.1
6+																	3	2	2			7	5.9	0.4	0.1
7+																	2	2	1	1		6	5.1	0.3	0.1
8+																	2		1			3	2.5	0.2	0.0
9+																		2				2	1.7	0.1	0.0
Total	4	3	6	5	1	2	1	3	3	5	4	1	13	10	6	8	16	15	7	4	1	118	100.0	5.9	
%	3.4	2.5	5.1	4.2	0.8	1.7	0.8	2.5	2.5	4.2	3.4	0.8	11.0	8.5	5.1	6.8	13.6	12.7	5.9	3.4	0.8				

sedgncbs.d16

sedagcbs.d16

Table 31. Population assessment for striped bass gill netted at Lake Cumberland in November 2016.

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	5.0	3
Growth rate (Mean length age 2+ at capture)	22.8	4
Size structure (CPUE ≥24.0 in)	2.7	4
Recruitment (CPUE age 1)	0.9	1
Instantaneous mortality (Z)	0.293	
Annual mortality (A)	25.4	
Total score		12
Assessment rating		G

sedgncbs.d16
sedagcbs.d16

Table 32. Number of fish and mean relative weight (Wr) for each length group of striped bass collected in Lake Cumberland in November 2016. Standard error is in parentheses.

Length group					
12.0-19.9 in		20.0-29.9 in		≥30.0 in	
No.	Wr	No.	Wr	No.	Wr
42	99 (1)	108	90 (1)	2	87 (2)

sedgncbs.d16
sedgncbw.d16

Table 33. Fishery statistics derived from a creel survey on lower Lake

Year	2016	2011[b]	2008[b]	2004	2001
Creel survey period	3/1-10/30	3/12-10/31	4/2-12/24	3/5-10/30	4/2-12/28
Fishing trips					
Number of fishing trips (per acre)	25,204 (1.01)	52,770 (2.11)	92,076 (3.68)	87,304 (3.49)	42,579 (1.70)
Average trip length	5.24	5.14	3.88	5.61	4.2
Fishing pressure					
Total man-hours (S.E.)[a]	132,020 (4,024)	271,269 (6,029)	356,930 (7,849)	490,047 (8,666)	177,437 (2,674)
Man hours/acre	5.28	10.84	14.27	19.59	7.09
Catch/harvest					
Number of fish caught (S.E.)	67,777 (7,157)	254,775 (33,354)	249,209 (31,845)	268,388 (25,294)	69,277 (4,422)
Number of fish harvested (S.E.)	37,693 (4,677)	128,010 (24,693)	122,249 (20,296)	144,097 (18,416)	41,968 (2,882)
Pounds of fish harvested	134,404	146,414	270,224	278,610	205,057
Harvest rates					
Fish/hour	0.27	0.43	0.30	0.29	0.23
Fish/acre	1.51	5.12	4.89	5.76	1.68
Pounds/acre	5.37	5.85	10.80	11.14	8.20
Catch rates					
Fish/hour	0.50	0.88	0.63	0.54	0.39
Fish/acre	2.71	10.19	9.96	10.73	2.77
Miscellaneous characteristics (%)					
Male	91	85	88	88	91
Female	9	15	12	12	9
Resident	83	76	75	71	65
Non-resident	17	24	25	29	35
Method (%)					
Still fishing	12	49	44	27	15
Casting	41	23	23	27	27
Trolling	47	28	33	14	58
Fly	-	<1	-	-	-
Striped bass-Live bait fisherman	-	-	-	31	-
Mode (%)					
Boat	96	88	90	93	97
Bank	3	10	9	7	3
Dock	<1	2	1	0	

[a]S.E. = standard error

[b] Although lake levels were reduced during the 2008 and 2011 creel surveys, historic acreages were used in the creel survey to allow for comparisons to past surveys.

Table 34. Fish harvest statistics derived from a creel survey at lower Lake Cumberland (25,014 acres) from 1 March - 30 October 2016.

	Black bass group	Largemouth bass	Spotted bass	Smallmouth bass	Illegal smallmouth bass	Crappie group	White crappie	Black crappie	Morone group	Striped bass	White bass	Illegal striped bass	Walleye
No. caught	31,431	9,625	13,983	7,822	30	11,725	3,782	7,943	15,189	15,165	24	24	386
(per acre)	1.26	0.38	0.56	0.31	0.00	0.47	0.15	0.32	0.61	0.61	0.00	0.00	0.02
No. harvested	7,187	1,145	5,397	645	30	10,465	3,010	7,455	14,185	14,185	-	24	280
(per acre)	0.29	0.05	0.22	0.03	0.00	0.42	0.12	0.30	0.57	0.57	-	0.00	0.01
% of total no. harvested	19.1	3.0	14.3	1.7	tr	27.8	8.0	19.8	37.6	37.6	-	tr	0.7
Lbs. harvested	10,661	3,165	5,369	2,127	-	9,717	2,554	7,164	107,363	107,363	-	223	817
(per acre)	0.43	0.13	0.21	0.09	-	0.39	0.10	0.29	4.29	4.29	-	0.01	0.03
% of total lbs harvested	7.9	2.4	4.0	1.6	-	7.2	1.9	5.3	79.9	79.9	-	tr	0.6
Mean length (in)		17.8	13.6	19.4	17.0		12.0	11.8		26.9	-	26.0	20.6
Mean w eight (lb)		2.95	1.06	3.49	-		0.85	0.92		7.73	-	9.12	3.03
Number of fishing trips for that species	8,509					1,856			12,417				245
Percent of all trips	33.8					7.4			49.3				1.0
Hours fished for that species	44,569					9,724			65,039				1,284
Hours fished for that species (per acre)	1.78					0.39			2.60				0.05
Number harvested fishing for that species	6,639					10,184			13,978				139
Lb harvested fishing for that species	9,233					9,451			105,249				457
No./hr harvested fishing for that species	0.14					0.85			0.19				0.15
Percent success fishing for that species	21.7					59.5			48.6				30.0

t < 0.005 fish/hr or < 0.5%

Table 34. Continued

	Catfish group	Channel catfish	Blue catfish	Panfish group	Bluegill	Longear sunfish	Redear sunfish	Gar	Freshwater drum	Anything group
No. caught	2,820	2,795	25	6,065	6,005	30	30	25	80	
(per acre)	0.11	0.11	0.00	0.24	0.24	0.00	0.00	0.00	0.00	
No. harvested	2,145	2,145	-	3,344	3,314	30	-	-	30	
(per acre)	0.09	0.09	-	0.13	0.13	0.00	-	-	0.00	
% of total no. harvested	5.7	5.7	-	8.9	8.8	tr	-	-	tr	
Lbs. harvested	5,211	5,211	-	317	312	6	-	-	95	
(per acre)	0.21	0.21	-	0.01	0.01	0.00	-	-	0.00	
% of total lbs harvested	3.9	3.9	-	tr	tr	tr	-	-	tr	
Mean length (in)		19.9	-		5.1	7.0	-	-	20.0	
Mean weight (lb)		2.50	-		0.09	0.19	-	-	3.10	
Number of fishing trips for that species	179			734						1,264
Percent of all trips	0.7			2.9						5.0
Hours fished for that species	938			3,846						6,620
Hours fished for that species (per acre)	0.04			0.15						0.26
Number harvested fishing for that species	420			2,044						
Lb harvested fishing for that species	1,037			200						
No./hr harvested fishing for that species	0.56			0.75						
Percent success fishing for that species	66.7			53.3						20.7

t < 0.005 fish/hr or < 0.5%

Table 35. Length distribution for each species of fish harvested and released at lower Lake Cumberland (25,014 acres) during 1 March - 30 October 2016.

	Inch class																														
	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
Largemouth bass																															
Harvested													147	294	205	176	176	88	59												
Released						170	34	68	136	1187	475	1866	984	1628	848	305	509	170		101											
Spotted bass																															
Harvested								79	238	1825	714	1230	794	278	198	41															
Released				116	77	270	77	1348	1117	2849	809	1040	347	347	154	35															
Smallmouth bass																															
Harvested																430	61	92		31	31										
Released						131		426	262	754	197	885	1114	852	950	721	688	131	66												
Illegal smallmouth bass																															
Harvested															30																
White crappie																															
Harvested								366	854	936	447	325		41	41																
Released						708	64																								
Black crappie																															
Harvested								1103	1521	2739	1141	647	304																		
Released				54	27	81	326																								
Striped bass																															
Harvested																				495	990	2433	742	2680	742	2722	948	1113	577	412	331
Released												34		34	34	101	34	270	338	34	34			34		33					
White bass																															
Released								24																							
Illegal striped bass																															
Harvested																								24							
Walleye																															
Harvested																80	80			40	80										
Released												70			35																
Channel catfish																															
Harvested										38	38	77	153	115		345	153	460	38	306	38	306	38			40					
Released						38	38				38	76	76		38	115		38	38	115				40							
Blue catfish																															
Released																				25											

Table 35 (cont).

	Inch class																														
	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
Bluegill																															
Harvested		85	2252	977																											
Released	785	1532	299	75																											
Longear sunfish																															
Harvested					30																										
Redear sunfish																															
Released				30																											
Gar																															
Released																				25											
Freshwater drum																															
Harvested																		30													
Released																		50													

Table 36. Black bass catch and harvest statistics derived from a daytime creel survey at lower Lake Cumberland (25,014 acres) for each species of black bass caught and released by all anglers from 1 March - 30 October 2016.

	Largemouth bass				Spotted bass				Smallmouth bass			
		C&R				C&R				C&R		
	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total
Total number of bass	1,145	3,528	4,545	9,625	5,397	4,698	883	13,983	645	1,836	4,522	7,822
% of black bass harvested by number	15.9				75.1				9.0			
Total weight of fish (lb)	3,165	6,027	7,766	17,654	5,369	3,462	652	11,697	2,127	2,905	7,161	13,491
% of black bass harvested by weight	29.7				50.4				20.0			
Mean length (in)	17.8				13.6				19.4			
Mean weight (lb)	2.95				1.06				3.49			
Rate (fish/hour)	0.011				0.038				0.006			

Table 37. Monthly black bass angling success at lower Lake Cumberland (25,014 acres) during the 2016 creel survey period; data does not include black bass <8.0 in.

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
Mar	4,053	464	903	4,731	3,711	0.61	390	0.06
Apr	6,795	1,676	2,419	12,668	6,125	0.44	1,615	0.11
May	2,118	403	736	3,854	1,890	0.59	403	0.13
Jun	1,842	440	683	3,575	1,400	0.63	320	0.14
Jul	3,098	152	948	4,967	3,048	0.67	102	0.02
Aug	3,361	853	677	3,548	3,060	0.84	702	0.19
Sep	4,849	1,291	901	4,719	4,848	0.91	1,290	0.24
Oct	5,314	1,907	1,242	6,506	4,905	0.94	1,817	0.35
Total	31,430	7,186	8,509	44,568	28,987		6,639	
Mean						0.63		0.14

Table 38. Monthly crappie angling success at lower Lake Cumberland (25,014 acres) during the 2016 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
Mar	903	659	289	1,514	879	1.01	635	0.73
Apr	1,950	1,036	526	2,754	1,920	1.21	1,006	0.63
May	76	76	315	1,652	76	0.06	76	0.06
Jun	4,965	4,965	420	2,200	4,925	1.01	4,925	1.01
Jul	152	51	28	146	102	2.00	-	-
Oct	3,679	3,679	278	1,458	3,542	1.61	3,542	1.61
Total	11,725	10,466	1,856	9,724	11,444		10,184	
Mean						0.98		0.85

Table 39. Monthly walleye angling success at lower Lake Cumberland (25,014 acres) during the 2016 creel survey period.

Month	Total no. of walleye caught	Total no. of walleye harvested	Number of walleye fishing trips	Hours fished by walleye anglers	Walleye caught by walleye anglers	Walleye caught/hour by walleye anglers	Walleye harvested by walleye anglers	Walleye harvested/hour by walleye anglers
Jun	80	80	79	413	-	-	-	-
Aug	150	100	62	323	150	0.55	100	0.36
Sep	39	39	105	549	39	0.14	39	0.14
Total	269	219	246	1,285	189		139	
Mean						0.20		0.15

Table 40. Monthly striped bass angling success at lower Lake Cumberland (25,014 acres) during the 2016 creel survey period.

Month	Total no. of striped bass caught	Total no. of striped bass harvested	Number of striped bass fishing trips	Hours fished by striped bass anglers	Striped bass caught by striped bass anglers	Striped bass caught/hour by striped bass anglers	Striped bass harvested by striped bass anglers	Striped bass harvested/hour by striped bass anglers
Mar	1,343	1,001	777	4,069	1,099	0.27	855	0.21
Apr	945	823	1,052	5,508	853	0.14	762	0.13
May	151	126	858	4,496	151	0.03	126	0.02
Jun	2,322	2,202	2,336	12,237	2,282	0.20	2,202	0.19
Jul	1,981	1,727	1,590	8,327	1,981	0.21	1,727	0.19
Aug	3,813	3,762	2,196	11,505	3,812	0.33	3,762	0.33
Sep	1,955	1,955	1,488	7,792	1,955	0.25	1,955	0.25
Oct	2,680	2,589	2,120	11,105	2,680	0.25	2,589	0.24
Total	15,190	14,185	12,417	65,039	14,813		13,978	
Mean						0.21		0.19

Table 41. Fishery statistics derived from a creel survey on upper Lake Cumberland (25,014 acres).

Year	2016	2011[b]	2008[b]	2004
Creel survey period	3/4-10/30	3/11-10/31	4/2-12/24	3/5-10/30
Fishing trips				
Number of fishing trips (per acre)	49,149 (1.96)	56,521 (2.26)	47,799 (1.91)	53,601 (2.14)
Average trip length	5.56	4.23	3.99	4.09
Fishing pressure				
Total man-hours (S.E.)[a]	273,458 (7,007)	239,335 (7,525)	190,849 (5,427)	219,130 (7,359)
Man hours/acre	10.93	9.57	7.63	8.76
Catch/harvest				
Number of fish caught (S.E.)	242,864 (23,757)	429,986 (54,213)	181,423 (17,182)	225,589 (21,319)
Number of fish harvested (S.E.)	74,400 (10,574)	148,623 (17,907)	90,402 (11,506)	86,255 (9,243)
Pounds of fish harvested	91,978	138,538	98,573	66,371
Harvest rates				
Fish/hour	0.25	0.61	0.46	0.40
Fish/acre	2.97	5.94	3.61	3.45
Pounds/acre	3.68	5.54	3.94	2.65
Catch rates				
Fish/hour	0.86	1.75	0.98	1.05
Fish/acre	9.71	17.19	7.25	9.02
Miscellaneous characteristics (%)				
Male	90	89	92	88
Female	10	11	8	12
Resident	89	93	93	87
Non-resident	11	7	7	13
Method (%)				
Still fishing	33	27	21	39
Casting	52	41	46	43
Trolling	15	32	33	16
Fly	<1	-	-	0
Spider rig	<1	-	-	2
Mode (%)				
Boat	92	94	97	94
Bank	7	5	1	5
Dock	1	1	2	1

[a]S.E. = standard error

surveys.

Table 42. Fish harvest statistics derived from a creel survey at upper Lake Cumberland (25,014 acres) from 4 March-30 October 2016.

	Black bass group	Largemouth bass	Spotted bass	Smallmouth bass	Illegal bass	Crappie group	White crappie	Black crappie	Illegal black crappie	Morone group	Striped bass	White bass	Walleye	Yellow perch
No. caught	104,194	38,248	38,754	27,191	228	62,404	25,795	36,609	117	6,114	5,509	605	1,593	83
(per acre)	4.17	1.53	1.55	1.09	0.01	2.49	1.03	1.46	0.00	0.24	0.22	0.02	0.06	0.00
No. harvested	8,917	2,056	6,449	412	228	32,469	15,031	17,438	117	4,693	4,247	446	1,190	-
(per acre)	0.36	0.08	0.26	0.02	0.01	1.30	0.60	0.70	0.00	0.19	0.17	0.02	0.05	-
% of total no. harvested	11.99	2.76	8.67	0.55	tr	43.64	20.20	23.44	tr	6.31	5.71	0.60	1.60	-
Lbs. harvested	10,788	4,604	4,931	1,252	252	29,406	12,285	17,121	25	38,324	38,080	244	2,829	-
(per acre)	0.43	0.18	0.20	0.05	0.01	1.18	0.49	0.68	0.00	1.53	1.52	0.01	0.11	-
% of total lbs harvested	11.73	5.01	5.36	1.36	tr	31.97	13.36	18.61	tr	41.67	41.40	tr	3.08	-
Mean length (in)		16.2	11.8	18.6	13.0		12.3	12.0	8.0		27.4	11.0	20.2	-
Mean w eight (lb)		2.22	0.74	3.03	1.11		0.92	0.97	0.21		8.37	0.60	2.89	-
Number of fishing trips for that species	22,792					8,150				5,188			1,387	
Percent of all trips	46.37					16.58				10.56			2.82	
Hours fished for that species	126,811					45,346				28,864			7,719	
Hours fished for that species (per acre)	5.07					1.81				1.15			0.31	
Number harvested fishing for that species	6,396					30,996				4,247			887	
Lb harvested fishing for that species	8,902					28,080				38,078			1,856	
No./hr harvested fishing for that species	0.05					0.61				0.19			0.12	
Percent success fishing for that species	9.1					47.8				30.9			23.8	

tr < 0.005 fish/hr or < 0.5%

Table 42. Continued

	Catfish group	Channel catfish	Flathead catfish	Panfish group	Bluegill	Longear sunfish	Redear sunfish	Rock bass	Carp	Freshwater drum	Gar	Lake sturgeon	Shad	Anything group
No. caught	6,384	6,188	196	58,826	58,444	152	154	76	83	2,502	168	85	83	
(per acre)	0.26	0.25	0.01	2.35	2.34	0.01	0.01	0.00	0.00	0.10	0.01	0.00	0.00	
No. harvested	4,101	3,905	196	22,053	22,053	-	-	-	83	548	-	-	-	
(per acre)	0.16	0.16	0.01	0.88	0.88	-	-	-	0.00	0.02	-	-	-	
% of total no. harvested	5.51	5.25	tr	29.64	29.64	-	-	-	tr	0.74	-	-	-	
Lbs. harvested	7,128	6,417	712	2,591	2,591	-	-	-	230	407	-	-	-	
(per acre)	0.28	0.26	0.03	0.10	0.10	-	-	-	0.01	0.02	-	-	-	
% of total lbs harvested	7.75	6.98	0.77	2.82	2.82	-	-	-	tr	tr	-	-	-	
Mean length (in)		16.7	18.0		5.8	-	-	-	18.0	11.6	-	-	-	
Mean weight (lb)		1.59	4.02		0.12	-	-	-	2.75	0.73	-	-	-	
Number of fishing trips for that species	1,682			1,355										8,594
Percent of all trips	3.42			2.76										17.49
Hours fished for that species	9,360			7,541										47,817
Hours fished for that species (per acre)	0.37			0.30										1.91
Number harvested fishing for that species	2,582			5,319										
Lb harvested fishing for that species	4,651			784										
No./hr harvested fishing for that species	0.25			0.94										
Percent success fishing for that species	40.4			55.8										23.5

t < 0.005 fish/hr or < 0.5%

Table 43. Length distribution for each species of fish harvested and released at upper Lake Cumberland (25,014 acres) during 4 March-30 October 2016.

	Inch class																																	
	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	34	35	36	40	44
Largemouth bass																																		
Harvested													835	193	707	257	64																	
Released						2234	638	4149	1149	8107	3128	5745	3000	4213	2234	1021	64	319		128	64													
Spotted bass																																		
Harvested				55	165	55	276	606	717	1984	1213	772	331	220	55																			
Released		458	286	1375	286	3952	1146	8076	2177	6587	2463	4582	630	57	172		58																	
Smallmouth bass																																		
Harvested																155	257																	
Released	310	186	124	372		930		2046	124	6323	1860	3719	3781	2541	1798	1302	434	372	372	124		61												
Illegal bass																																		
Harvested										76	76	76																						
White crappie																																		
Harvested								2762	2844	4631	3169	1544	81																					
Released				80	239	1355	7894	319	80	478		239			80																			
Black crappie																																		
Harvested								3070	2743	5225	3266	2808	131	131	64																			
Released			821	1466	469	2697	12311	528	528	117		176	58																					
Illegal black crappie																																		
Harvested						117																												
Striped bass																																		
Harvested																				61		425	243	971	121	1092	364	303	303	182	61		61	60
Released				66				133					199		66	66		266	66		199	133				67								
White bass																																		
Harvested								297		149																								
Released															80		79																	
Walleye																																		
Harvested													63	313	125	63	63	125	125	251	62													
Released								58			58	173		58	56																			
Yellow perch																																		
Released					83																													

Table 43 (cont).

	Inch class																																
	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	34	35	36	40	44
Channel catfish																																		
Harvested							60	481	120	300	60	120		421	60	1081	120	421		180	60	300		60		61								
Released				127		380		63	63	444		127	444	317		63		190			65													
Flathead catfish																																		
Harvested										130																	66							
Bluegill																																		
Harvested	239	3526	5678	9861	717	1853	179																											
Released	4413	13964	7798	5320	1511	2720	665																											
Longear sunfish																																		
Released			152																															
Redear sunfish																																		
Released				51	103																													
Rock bass																																		
Released			76																															
Carp																																		
Harvested																83																		
Freshwater drum																																		
Harvested				69			69	137			206							67																
Released				70		209	140	279	70	209	140	70	140		140	279	70			70		67												
Gar																																		
Released																						112										56		
Lake sturgeon																																		
Released																													85					
Shad																																		
Released														83																				

Table 44. Black bass catch and harvest statistics derived from a daytime creel survey at upper Lake Cumberland (25,014 acres) for each species of black bass caught and released by all anglers from 4 March-30 October 2016.

	Largemouth bass				Spotted bass				Smallmouth bass			
		C&R				C&R				C&R		
	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total
Total number of bass	2,056	16,980	11,043	38,248	6,449	13,632	917	38,754	412	11,902	10,785	27,191
% of black bass harvested by number	23.1				72.3				4.6			
Total weight of fish (lb)	4,604	20,364	13,245	48,013	4,931	7,839	525	23,508	1,252	14,357	13,009	33,555
% of black bass harvested by weight	42.7				45.7				11.6			
Mean length (in)	16.2				11.8				18.6			
Mean weight (lb)	2.22				0.74				3.03			
Rate (fish/hour)	0.007				0.026				0.002			

Table 45. Monthly black bass angling success at upper Lake Cumberland (25,014 acres) during the 2016 creel survey period; data does not include black bass <8.0 in.

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
Mar	13,187	501	1,409	7,839	12,602	1.30	334	0.03
Apr	23,211	2,276	3,284	18,272	21,088	1.03	1,442	0.07
May	14,311	767	3,398	18,904	13,202	0.60	170	0.01
Jun	6,987	466	1,612	8,967	5,996	0.65	466	0.05
Jul	5,255	578	1,730	9,626	4,389	0.54	578	0.07
Aug	7,198	641	2,610	14,521	6,058	0.46	642	0.05
Sep	14,832	1,473	3,148	17,515	13,622	0.79	1,052	0.06
Oct	19,213	2,217	5,602	31,166	17,503	0.47	1,712	0.05
Total	104,194	8,919	22,793	126,810	94,460		6,396	
Mean						0.65		0.05

Table 46. Monthly crappie angling success at upper Lake Cumberland (25,014 acres) during the 2016 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
Mar	23,536	13,687	2,505	13,937	23,118	1.63	13,604	0.96
Apr	10,771	7,130	2,523	14,038	10,240	0.80	6,751	0.53
May	3,663	2,555	713	3,967	3,236	0.69	2,555	0.55
Jun	15,487	6,288	708	3,940	15,080	2.83	5,997	1.13
Jul	2,483	1,155	288	1,604	1,328	0.46	924	0.32
Aug	784	285	206	1,146	642	0.82	214	0.27
Sep	2,840	473	350	1,946	2,367	1.05	368	0.16
Oct	2,839	895	857	4,766	1,905	0.47	583	0.14
Total	62,403	32,468	8,150	45,344	57,916		30,996	
Mean						1.20		0.61

Table 47. Monthly walleye angling success at upper Lake Cumberland (25,014 acres) during the 2016 creel survey period.

Month	Total no. of walleye caught	Total no. of walleye harvested	Number of walleye fishing trips	Hours fished by walleye anglers	Walleye caught by walleye anglers	Walleye caught/hour by walleye anglers	Walleye harvested by walleye anglers	Walleye harvested/hour by walleye anglers
Mar	83	83	209	1,161	-	-	-	-
Apr	76	76	40	223	-	-	-	-
May	85	85	42	233	-	-	-	-
Jun	175	58	171	951	58	0.08	-	-
Jul	116	58	262	1,459	58	0.05	58	0.05
Aug	428	356	206	1,146	427	0.43	356	0.36
Sep	631	473	457	2,545	631	0.19	473	0.14
Total	1,594	1,189	1,387	7,718	1,174		887	
Mean						0.17		0.12

Table 48. Monthly striped bass angling success at upper Lake Cumberland (25,014 acres) during the 2016 creel survey period.

Month	Total no. of striped bass caught	Total no. of striped bass harvested	Number of striped bass fishing trips	Hours fished by striped bass anglers	Striped bass caught by striped bass anglers	Striped bass caught/hour by striped bass anglers	Striped bass harvested by striped bass anglers	Striped bass harvested/hour by striped bass anglers
Mar	167	-	470	2,613	83	0.06	-	-
Apr	1,745	1,517	761	4,234	1,290	0.29	1,214	0.28
May	426	85	797	4,434	170	0.05	85	0.02
Jun	1,747	1,397	1,050	5,842	1,572	0.31	1,397	0.28
Jul	1,328	1,097	1,206	6,709	1,097	0.19	1,097	0.19
Aug	285	285	446	2,484	143	0.08	143	0.08
Sep	105	-	-	-	-	-	-	-
Oct	311	311	297	1,650	311	0.35	311	0.35
Total	6,114	4,692	5,027	27,966	4,666		4,247	
Mean						0.21		0.19

Table 49. Species composition, relative abundance, and CPUE (fish/hr) of trout collected during 10.0 hours of 15-minute nocturnal electrofishing runs for trout in Cumberland tailwater during November 2016; standard error is in parentheses.

		Inch class																				
Area	Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	Total	CPUE
Above Helms	Rainbow trout	1	7	36	168	256	135	32	1	1	2					1					640	512.0 (55.0)
	Brown trout				2	15	12	6	3			3	1	2	1		1	3	1		50	40.0 (14.1)
	Brook trout							1													1	0.8 (0.8)
Below Helms	Rainbow trout		2	9	52	77	87	48	15	7		3									300	240.0 (48.6)
	Brown trout				1	4	12	3	1	1	1			2	1		1			1	28	22.4 (4.7)
	Brook trout						1	1	1												3	2.4 (1.0)
Rainbow Run	Rainbow trout	1		1	6	9	13	9	23	10	7	5	2	1							87	69.6 (11.7)
	Brown trout					9	28	21	3	3	5	4	5	6	3	2	2	1			92	73.6 (16.2)
	Brook trout							1	1	1											3	2.4 (1.6)
Big Willis	Rainbow trout				3	7	9	13	13	1	3	2			2	1					54	43.2 (9.9)
	Brown trout					5	8			1	1	4	3		3						25	20.0 (5.2)
	Brook trout						1														1	0.8 (0.8)
Crocus Creek	Rainbow trout			4	28	62	41	20	13	8	6	7	2	2	1		1				195	156.0 (39.4)
	Brown trout				2	17	7	4	4				1		1		2				38	30.4 (11.9)
	Brook trout					1	3	1													5	4.0 (2.2)
Hwy 61 Bridge	Rainbow trout			3	24	21	13	6	1		3	1	1		1						74	59.2 (25.1)
	Brown trout				2	6	5	3	2	2	2	4	4	1	2	1					34	27.2 (9.2)
	Brook trout						1														1	0.8 (0.8)
Cloyd's Landing	Rainbow trout	1			3	8	4	1	2	2			2	1	1						25	20.0 (4.7)
	Brown trout					2	1														3	2.4 (1.0)
	Brook trout			1																	1	0.8 (0.8)
Biggerstaff Bar	Rainbow trout				3	1	1	2	2			1	1	1							12	9.6 (2.0)
	Brown trout						1	3		1			1								6	4.8 (2.3)
	Brook trout																				0	0.0 (0.0)
Total	Rainbow trout	3	9	53	287	441	303	131	70	29	21	19	8	5	5	2	1				1387	138.7 (27.3)
	Brown trout				7	58	74	40	13	8	9	15	15	11	11	3	6	4	1	1	276	27.6 (4.6)
	Brook trout			1		1	6	4	2	1											15	1.5 (0.4)

sedcbtwt.d16

Table 50. Fall electrofishing mean CPUE (fish/hr) of 15.0-17.9 in, 18.0-19.9 in, and ≥20.0 in rainbow trout in the Lake Cumberland tailwater from 1995 to 2016. Data collected from sample sites 1-5 each year. *2011 sampling was conducted in February.

	Length group					
	15.0-17.9 in		18.0-19.9 in		≥20.0 in	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2016	6.2	1.3	1.0	0.4	0.5	0.3
2015	9.0	1.9	1.3	0.6	0.2	0.2
2014	8.6	1.1	3.0	0.7	0.2	0.2
2013	23.2	3.6	0.5	0.3	0.0	
2012	0.5	0.3	0.2	0.2	0.0	
2011	1.1	0.6	0.0		0.2	0.2
2010	1.3	0.5	0.3	0.2	0.0	
2009	5.4	1.6	0.5	0.3	0.0	
2008	18.1	4.3	1.4	0.5	0.0	
2007	25.0	3.5	6.4	1.3	0.6	0.3
2006	29.3	3.0	4.3	1.2	0.3	0.2
2005	9.3	2.4	2.1	0.8	0.0	
2004	2.2	0.8	0.6	0.4	0.0	
2003	2.1	0.7	1.0	0.4	0.2	0.2
2002	10.7	2.4	1.4	0.7	1.0	0.6
2001	21.0	3.7	5.5	1.3	0.7	0.4
2000	9.4	1.3	1.4	0.7	0.5	0.4
1999	1.9	0.5	0.3	0.2	0.3	0.2
1998	0.3	0.2	0.2	0.2	0.2	0.2
1997	1.4	0.5	1.0	0.5	0.3	0.2
1996	1.8	0.6	0.6	0.3	0.5	0.5
1995	0.7	0.5	0.5	0.4	0.5	0.5

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Table 51. Fall electrofishing mean CPUE (fish/hr) of 15.0-17.9 in, 18.0-19.9 in, and ≥20.0 in brown trout in the Lake Cumberland tailwater from 1995 to 2016. Data collected from sample sites 1-5 each year. *2011 sampling was conducted in February.

	Length group					
	15.0-17.9 in		18.0-19.9 in		≥20.0 in	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2016	4.5	1.1	3.0	0.8	2.2	0.8
2015	5.6	1.8	1.9	0.7	1.9	0.7
2014	7.2	2.1	1.4	0.6	1.6	0.8
2013	2.4	0.8	1.1	0.6	4.6	1.5
2012	2.6	0.8	3.2	1.2	2.7	0.9
2011	6.6	1.2	3.4	0.9	4.0	1.2
2010	3.7	0.9	1.3	0.5	0.6	0.4
2009	9.1	2.0	5.3	1.7	2.7	1.1
2008	14.1	2.9	6.4	1.0	2.6	0.7
2007	29.0	6.2	5.8	1.3	3.4	0.7
2006	30.2	10.1	5.6	1.5	5.0	1.5
2005	14.9	3.1	7.0	1.7	9.3	2.4
2004	11.8	3.3	7.7	2.0	3.2	0.9
2003	20.2	5.0	3.8	1.4	1.9	0.7
2002	31.2	6.6	5.6	1.1	2.9	0.9
2001	30.2	8.7	5.8	1.5	5.2	1.3
2000	18.9	4.7	6.6	1.6	9.0	2.5
1999	6.1	1.1	5.1	1.8	2.6	0.7
1998	6.4	1.2	1.1	0.5	1.8	0.7
1997	2.2	0.7	1.8	0.9	3.2	1.4
1996	6.8	2.5	1.0	0.6	2.0	0.9
1995	0.7	0.4	0.4	0.3		

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Table 52. Number of fish and mean relative weight (Wr) for each species of trout collected in the Cumberland tailwater during November 2016. Standard error is in parentheses.

	Species					
	Rainbow trout		Brown trout		Brook trout	
Location	No.	Wr	No.	Wr	No.	Wr
Above Helms	255	82 (0)	50	88 (2)	1	66 (-)
Below Helms	297	88 (0)	28	94 (2)	3	86 (4)
Rainbow Run	86	89 (1)	92	95 (1)	3	84 (5)
Big Willis	54	87 (1)	25	94 (2)	1	72 (-)
Crocus Creek	191	87 (1)	37	95 (2)	4	85 (2)
Hwy 61	74	91 (1)	34	97 (1)	1	99 (-)
Cloyds	24	90 (2)	3	108 (7)	-	-
Biggerstaff Bar	12	93 (2)	6	96 (2)	-	-
Total	993	87 (0)	275	94 (1)	13	84 (3)

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Table 53. 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 April and May 2016; standard error is in parentheses.

		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
Dam	Largemouth bass					5	8	3	8	9	11	14	16	18	13	5	9	3	2				124	82.7 (7.8)
	Spotted bass				2	2		5	2			2	1	3	1								18	12.0 (3.3)
	Smallmouth bass						1		2	2						4		2					11	7.3 (2.4)
Spruce	Largemouth bass						1	1	1	2	1	15	12	8	6	6	10	5	4		1	1	74	49.3 (6.9)
Creek	Spotted bass					1	2	2			2	1		1	4	1							14	9.3 (2.0)
	Smallmouth bass															1		1					2	1.3 (0.8)
Laurel	Largemouth bass		2	2	5	1	2	1	15	17	26	21	18	15	20	12	6	8	2	2		1	176	117.3 (12.4)
River	Spotted bass		1	1	1	2	6	4	6	3	6	7	2	2									41	27.3 (6.2)
Arm	Smallmouth bass					1																	1	0.7 (0.7)
Upper	Largemouth bass		2			3	8	3	5	3	3	7	5	2	2	1	4		1				49	32.7 (7.3)
Craigs	Spotted bass	3	1				2	5	9	2	5		1	1	1								30	20.0 (3.6)
Creek	Smallmouth bass	1							1	1	2	1					2		2				10	6.7 (2.7)
Total	Largemouth bass		4	2	5	9	19	8	29	31	41	57	51	43	41	24	29	16	9	2	1	2	423	70.5 (7.9)
	Spotted bass	3	2	1	3	5	10	16	17	5	13	10	4	7	6	1							103	17.2 (2.4)
	Smallmouth bass	1				1	1		3	3	2	1				5	2	3	2				24	4.0 (1.1)

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Table 54. Comparison of catch-per-hour of black bass (by area) captured during spring electrofishing on Laurel River Lake during the period of 2012-2016.

	Stock					Quality					Preferred				
Species/Area	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Largemouth bass															
Dam	52.7	64.7	26.7	59.3	74.0	31.3	53.3	21.3	45.3	53.3	15.3	12.7	13.3	21.3	21.3
Spruce Creek	32.0	60.0	43.3	54.0	48.7	24.0	49.3	33.3	42.0	45.3	16.0	26.7	17.3	27.3	22.0
Laurel River Arm	102.7	59.3	102.7	87.3	109.3	61.3	42.7	47.3	54.7	70.0	27.3	24.0	24.0	16.0	34.0
Craigs Cr. headwaters	54.7	59.3	60.7	44.0	24.0	32.0	44.7	51.3	36.7	14.7	14.7	21.3	31.3	22.0	5.3
Mean	60.5	60.8	58.3	61.2	64.0	37.2	47.5	38.3	44.7	45.8	18.3	21.2	21.5	21.7	20.7
Spotted bass															
Dam	18.0	6.0	5.3	8.7	9.3	8.7	3.3	2.0	7.3	4.7	2.7	0.7	0.7	2.7	2.7
Spruce Creek	18.7	25.3	14.7	10.7	8.7	12.7	22.7	9.3	7.3	6.0	3.3	6.0	4.7	6.0	4.0
Laurel River Arm	17.3	8.7	18.0	7.3	24.0	2.7	4.7	4.0	4.0	11.3	0.7	0.7	0.0	0.7	1.3
Craigs Cr. headwaters	28.7	36.0	42.0	20.0	17.3	10.0	21.3	25.3	14.0	5.3	0.0	1.3	10.0	4.0	1.3
Mean	20.7	19.0	20.0	11.7	14.8	8.5	13.0	10.2	8.2	6.8	1.7	2.2	3.8	3.3	2.3
Smallmouth bass															
Dam	2.7	2.7	1.3	0.0	7.3	2.7	2.7	1.3	0.0	4.0	2.0	1.3	1.3	0.0	4.0
Spruce Creek	2.7	4.7	4.7	2.0	1.3	2.0	4.7	2.0	2.0	1.3	2.0	2.0	2.0	2.0	1.3
Laurel River Arm	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Craigs Cr. headwaters	0.7	1.3	8.0	6.7	6.0	0.7	0.0	7.3	4.0	4.7	0.0	0.0	5.3	3.3	2.7
Mean	1.5	2.2	3.7	2.2	3.7	1.3	1.8	2.8	1.5	2.5	1.0	0.8	2.3	1.3	2.0

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 55. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Laurel River Lake during April and May 2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2012	6.0	1.2	23.3	3.6	18.8	2.9	18.3	2.0	0.2	0.2	66.5	7.6
2011	11.5	3.7	19.8	4.1	26.7	4.7	20.0	2.9	0.8	0.3	78.0	11.6
2010	15.8	3.0	31.0	4.4	20.7	3.1	21.2	2.4	0.8	0.4	88.7	8.4
2009	13.2	2.4	12.2	2.7	16.8	2.6	20.8	3.2	0.8	0.5	63.0	8.5
2008	37.5	11.5	15.0	2.0	7.8	1.5	17.7	2.7	0.7	0.5	78.0	13.8
2007	2.3	0.8	7.8	1.9	14.5	1.9	21.8	2.6	0.5	0.3	46.5	4.0
2006	20.8	5.7	13.9	2.7	17.1	2.9	19.5	2.8	0.6	0.3	71.4	11.4
2005	6.2	1.2	15.0	2.9	18.5	2.7	22.5	2.9	0.2	0.2	62.2	7.5
2004	3.8	1.5	11.0	1.4	18.5	3.0	14.2	1.9	0.0	0.0	47.5	4.8
2003	9.8	2.9	37.0	5.8	29.3	4.1	13.8	2.0	0.0	0.0	90.0	12.3
2002	21.7	5.0	24.0	3.8	23.3	3.3	8.3	1.4	0.0	0.0	77.3	9.7

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Table 56. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Laurel River Lake during April and May 2016.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2012	6.3	1.6	8.3	1.8	6.8	1.6	1.7	0.5	0.0	0.0	23.2	3.3
2011	7.3	1.4	9.2	1.3	7.5	1.7	2.0	0.5	0.0	0.0	26.0	3.5
2010	25.2	4.2	13.0	2.3	9.0	2.0	4.8	1.2	0.0	0.0	52.0	6.1
2009	6.5	1.5	12.5	2.4	6.8	1.5	2.7	0.8	0.2	0.2	28.5	4.6
2008	20.2	4.2	12.7	2.6	8.5	1.4	2.3	0.6	0.0	0.0	43.7	7.0
2007	12.2	2.3	13.5	2.2	10.7	1.7	2.0	0.6	0.0	0.0	38.3	4.0
2006	15.0	2.4	13.4	1.7	9.1	1.7	2.6	0.7	0.0	0.0	40.2	4.6
2005	4.8	0.8	3.3	0.8	7.7	1.6	3.7	1.1	0.0	0.0	19.5	2.7
2004	3.2	1.0	12.5	2.9	9.8	2.3	2.2	0.7	0.0	0.0	27.7	5.6
2003	23.3	5.3	17.8	3.1	10.2	2.0	0.8	0.5	0.0	0.0	52.2	8.9
2002	13.7	3.2	13.3	1.8	5.5	1.4	0.3	0.2	0.0	0.0	32.8	5.6

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Table 57. Spring electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected at Laurel River Lake during April and May 2016.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2012	0.3	0.2	0.2	0.2	0.3	0.2	1.0	0.4	0.5	0.3	1.8	0.6
2011	1.0	0.4	1.7	0.5	0.5	0.3	0.8	0.4	0.7	0.3	4.0	1.1
2010	10.2	2.2	1.2	0.5	0.7	0.4	2.8	0.7	1.2	0.4	14.8	3.0
2009	1.7	1.2	1.0	0.4	0.7	0.4	3.5	1.5	1.8	0.8	6.8	2.4
2008	1.7	0.7	1.8	0.7	1.3	0.5	3.2	1.2	1.8	0.6	8.0	2.3
2007	2.8	0.8	1.7	0.7	0.3	0.2	1.2	0.5	0.8	0.4	6.0	1.4
2006	0.5	0.3	0.5	0.4	0.2	0.2	1.0	0.6	0.3	0.2	2.1	1.0
2005	0.2	0.2	0.8	0.4	1.5	0.6	5.5	1.5	2.8	1.1	8.0	1.8
2004	2.0	0.6	1.2	0.4	0.7	0.4	1.2	0.5	0.0	0.0	5.0	1.1
2003	8.3	2.2	7.5	1.8	1.8	0.8	2.2	0.8	0.2	0.2	19.8	4.3
2002	8.2	2.5	4.5	1.5	2.2	0.6	0.7	0.3	0.2	0.2	15.5	3.8

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Table 58. Population assessment for largemouth bass based on spring electrofishing at Laurel River Lake from 2000-2016 (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		≥13.0 in	≥10.0 fish/hr	≥20.0 fish/hr	≥10.0 fish/hr	≥0.5 fish/hr		
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
2012	Value		3.3	18.8	18.3	0.2		
	Score	3	1	2	3	2	11	F
2011	Value		9.2	26.7	20.0	0.8		
	Score	3	1	3	4	3	14	G
2010	Value		6.5	20.7	21.2	0.8		
	Score	3	1	2	4	3	13	G
2009	Value		12.2	16.8	20.8	0.8		
	Score	3	2	2	4	3	14	G
2008	Value	13.3	36.3	7.8	17.7	0.7		
	Score	3	3	1	3	3	13	G
2007	Value		2.1	14.5	21.8	0.5		
	Score	4	1	1	4	3	13	G
2006	Value		18.4	17.1	19.5	0.6		
	Score	4	2	2	3	3	14	G
2005	Value		4.6	18.5	22.5	0.2		
	Score	4	1	2	4	2	13	G
2004	Value		2.6	18.5	14.2	0.0		
	Score	4	1	2	3	1	11	F
2003	Value	13.7	7.8	29.3	13.8	0.0		
	Score	4	1	3	3	1	12	F
2002	Value		18.2	23.3	8.8	0.0		
	Score	4	2	3	2	1	12	F
2001	Value		17.8	22.1	2.5	0.3		
	Score	4	2	2	1	2	11	F
2000	Value		2.3	16.3	2.1	0.1		
	Score	4	1	2	1	1	9	F

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Table 59. Population assessment for spotted bass based on spring electrofishing at Laurel River Lake from 2000-2016 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 11.0-13.9 in	CPUE $\geq$14.0 in	Total score	Assessement rating
Management objective		$\geq$11.0 in	$\geq$3.0 fish/hr	$\geq$7.0 fish/hr	$\geq$1.0 fish/hr		
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
2012	Value	10.0	0.5	6.8	1.7		
	Score	1	1	2	3	7	F
2011	Value		0.8	7.5	2.0		
	Score	2	1	2	3	8	F
2010	Value		2.5	9.0	4.8		
	Score	2	3	3	4	12	G
2009	Value		0.3	6.8	2.7		
	Score	2	1	2	4	9	F
2008	Value		4.0	8.5	2.3		
	Score	2	3	3	3	11	G
2007	Value	10.4	0.8	10.7	2.0		
	Score	2	1	4	3	10	G
2006	Value		4.3	9.1	2.6		
	Score	4	3	3	4	14	E
2005	Value		1.5	7.7	3.7		
	Score	4	2	2	4	12	G
2004	Value		0.0	9.8	2.2		
	Score	4	1	3	3	11	G
2003	Value		2.3	10.2	0.8		
	Score	4	3	3	2	12	G
2002	Value	11.5	2.2	5.5	0.3		
	Score	4	3	2	1	10	G
2001	Value		6.0	8.3	0.1		
	Score	4	4	3	1	12	G
2000	Value		2.6	2.3	0.1		
	Score	4	3	1	1	9	F

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Table 60. Population assessment for smallmouth bass based on spring electrofishing at Laurel River Lake from 1990-2016 (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	Assessement rating
Management objective		≥13.0 in	≥3.0 fish/hr	≥1.5 fish/hr	≥1.0 fish/hr		
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
2012	Value		0.0	0.3	1.0		
	Score	4	1	2	3	10	G
2011	Value		0.3	0.5	0.8		
	Score	4	1	2	2	9	F
2010	Value		3.8	0.7	2.8		
	Score	4	4	2	4	14	E
2009	Value		0.3	0.7	3.5		
	Score	4	1	2	4	11	G
2008	Value	13.6	0.8	1.3	3.2		
	Score	4	2	3	4	13	G
2007	Value		1.2	0.3	1.2		
	Score	4	2	2	3	11	G
2006	Value		0.4	0.2	1.0		
	Score	4	2	1	3	10	G
2005	Value		0.1	1.5	5.5		
	Score	4	1	3	4	12	G
2004	Value		0.4	0.7	1.2		
	Score	4	2	2	3	11	G
2003	Value	13.6	4.0	1.8	2.2		
	Score	4	4	3	4	15	E
2002	Value		6.0	2.2	0.7		
	Score	4	4	4	2	14	E
2001	Value		3.4	2.8	1.1		
	Score	4	3	4	3	14	E
2000	Value		0.9	1.3	0.6		
	Score	4	2	3	2	11	G

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Table 61. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Laurel River Lake during April and May 2016; 95% confidence limits are in parentheses.

		Largemouth bass			Spotted bass			Smallmouth bass		
Year	Area	No. $\geq$ stock size	PSD (+/- 95%)	RSD_{15} (+/- 95%)	No. $\geq$ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)	No. $\geq$ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)
2016	Dam	111	72 (± 8)	29 (± 8)	14	50 (± 27)	29 (± 25)	11	55 (± 31)	55 (± 31)
	Spruce Creek	73	93 (± 6)	45 (± 11)	13	69 (± 26)	46 (± 28)	2	100 (± 0)	100 (± 0)
	Laurel River Arm	164	64 (± 7)	31 (± 7)	36	47 (± 17)	6 (± 8)	0	0 (± 0)	0 (± 0)
	Upper Craigs Creek	36	61 (± 16)	22 (± 14)	26	31 (± 18)	8 (± 10)	9	78 (± 29)	44 (± 34)
	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)
2012	Total	363	61 (± 5)	30 (± 5)	124	41 (± 9)	8 (± 5)	9	89 (± 22)	67 (± 33)
2011	Total	399	70 (± 4)	30 (± 5)	132	43 (± 8)	9 (± 5)	21	38 (± 21)	24 (± 19)
2010	Total	437	57 (± 5)	29 (± 4)	211	39 (± 7)	14 (± 5)	41	51 (± 15)	41 (± 15)
2009	Total	299	76 (± 5)	42 (± 6)	145	39 (± 8)	11 (± 5)	36	69 (± 15)	58 (± 16)
2008	Total	243	63 (± 6)	44 (± 6)	193	34 (± 7)	7 (± 4)	38	71 (± 15)	50 (± 16)
2007	Total	265	82 (± 5)	49 (± 6)	192	40 (± 7)	6 (± 3)	27	33 (± 18)	26 (± 17)
2006	Total	316	72 (± 5)	39 (± 5)	193	38 (± 7)	8 (± 4)	10	70 (± 30)	60 (± 32)
2005	Total	336	73 (± 5)	40 (± 5)	98	69 (± 9)	22 (± 8)	47	89 (± 9)	70 (± 13)
2004	Total	262	75 (± 5)	32 (± 6)	158	41 (± 19)	26 (± 17)	27	46 (± 8)	8 (± 4)

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Table 62. 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 28 September 2016; standard error is in parentheses.

		Inch class																			
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Laurel River Arm	Largemouth bass	15	12	5	4	9	10	4	2	3	8	8	6	2	4	3	2	2	1	100	66.7 (7.2)
	Spotted bass	10	1	4	14	4	8	9	3	4	6	3	5	2						73	48.7 (9.3)

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Table 63. Indices of year class strength at age-0 and age-1 and mean lengths (in) of 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	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2016	Laurel River Arm	3.4	0.1	24.0	4.8	2.7	1.3		
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
2012	Laurel River Arm	4.6	0.1	11.3	3.6	3.3	1.9	4.0	2.1
2011 [b]	Laurel River Arm	4.1	0.3	10.7	5.6	3.3	1.9	6.0[c]	0.9
2010 [b]	Laurel River Arm	5.4	0.4	2.7	0.8	2.0	0.9	31.5[d]	7.5
2009	Laurel River Arm	3.8	0.3	6.0	3.2	0.7	0.7	19.3	7.0
2008 [b]	Laurel River Arm	3.2	0.3	1.3	0.8	0.0	0.0	14.0[e]	4.6
2007 [b]	Laurel River Arm	3.5	0.1	5.3	4.6	0.0	0.0	118.9[f]	12.4
2006 [b]	Laurel River Arm	3.7	0.1	12.7	4.9	0.7	0.7	5.4[g]	2.1
2005 [b]	Laurel River Arm	4.4	0.2	14.0	3.5	3.3	1.6	58.3[h]	9.2
2004	Laurel River Arm	4.9	0.2	14.0	5.8	8.0	3.4	8.3	2.4
2003	Laurel River Arm	3.4	0.1	36.7	14.0	0.7	0.7	2.6	1.0
2002	Laurel River Arm	4.5	0.1	30.7	5.8	8.7	3.5	10.3	4.1

[a] Age-1 largemouth bass CPUE based only on Laurel River Arm location
[b] Age-0 largemouth bass stocked in the fall
[c] Includes bass stocked in fall 2011; CPUE of fin-clipped bass=0.0 fish/hr
[d] Includes bass stocked in fall 2010; CPUE of fin-clipped bass=8.0 fish/hr
[e] Includes bass stocked in fall 2008; CPUE of fin-clipped bass=8.0 fish/hr
[f] Includes bass stocked in fall 2007; CPUE of fin-clipped bass=108.0 fish/hr
[g] Includes bass stocked in fall 2006; CPUE of fin-clipped bass=2.0 fish/hr
[h] Includes bass stocked in fall 2005; CPUE of fin-clipped bass=36.0 fish/hr

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Table 64. Number of fish and mean relative weight (Wr) for each length group of black bass collected at 312 Bridge in Laurel River Lake on 28 September 2016. Standard error is in parentheses.

Species	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Largemouth bass	No.	Wr	No.	Wr	No.	Wr
	17	98 (3)	15	103 (3)	12	98 (5)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	24	104 (3)	14	99 (3)	2	107 (0)

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Table 65. 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 24 May 2016.

		Inch class																					
Area	Species	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std. error
Lower	Largemouth bass	2	6	4	6	4	5	8	6	5	6	5	4	9	7	6	5	5	2		95	126.7	10.9
Upper	Largemouth bass		1		5	1	6	8	5	7	9	11	4	14	6	16	8	4	5	1	111	148.0	6.9
Total	Largemouth bass	2	7	4	11	5	11	16	11	12	15	16	8	23	13	22	13	9	7	1	206	137.3	7.5

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Table 66. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in each area of Cedar Creek Lake on 24 May 2016; 95% confidence levels are in parentheses.

	Lower Lake			Upper Lake			Total		
Year	No. ≥ 8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)	No. ≥ 8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)	No. ≥ 8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
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)
2012	406	56 (± 5)	27 (± 4)	409	60 (± 5)	30 (± 4)	815	58 (± 3)	29 (± 3)
2011	283	55 (± 6)	22 (± 5)	172	62 (± 7)	31 (± 7)	455	57 (± 5)	25 (± 4)
2010	386	43 (± 5)	22 (± 4)	310	48 (± 6)	23 (± 5)	696	45 (± 4)	22 (± 3)
2009	260	55 (± 6)	27 (± 5)	208	50 (± 7)	27 (± 6)	468	53 (± 5)	27 (± 4)
2008	249	39 (± 6)	27 (± 6)	177	45 (± 7)	26 (± 6)	426	42 (± 5)	27 (± 4)
2007	322	36 (± 5)	22 (± 5)	145	49 (± 8)	36 (± 8)	467	40 (± 4)	26 (± 4)
2006	238	36 (± 6)	31 (± 6)	99	55 (± 10)	43 (± 10)	337	42 (± 5)	35 (± 5)
2005	228	83 (± 5)	50 (± 7)	95	93 (± 6)	63 (± 10)	323	86 (± 4)	54 (± 6)
2004	277	66 (± 6)	6 (± 3)	178	76 (± 7)	5 (± 3)	455	70 (± 5)	6 (± 3)

[a] diurnal sampling
[b] sampling effort was reduced to 1.5 hours beginning in 2015

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Table 67. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from each section of Cedar Creek Lake from 2003-2016.

		Length group											
		<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
Year	Area	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	Total	Std. err.
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
2012	Total	21.4	7.4	98.6	8.5	67.7	7.1	66.6	7.8	7.4	1.6	254.3	17.4
2011	Total	69.4	13.1	55.4	7.2	41.7	4.4	32.9	5.8	4.3	1.1	199.4	18.6
2010	Total	36.1	8.1	105.3	10.0	45.0	5.8	42.8	6.5	4.1	1.3	229.2	15.8
2009	Total	91.1	26.7	63.4	7.7	34.0	4.3	36.3	6.1	5.1	1.0	224.9	25.3
2008	Total	70.9	13.7	70.9	9.1	18.3	2.5	32.6	5.1	4.3	1.8	192.6	20.6
2007	Total	30.3	8.5	79.7	19.0	18.9	4.2	34.9	2.1	3.4	0.6	163.7	28.2
2006	Total	24.0	6.9	56.3	15.6	6.6	1.5	33.4	3.7	0.3	0.3	120.3	24.5
2005	Total	79.7	21.1	12.9	4.8	30.0	5.1	49.4	7.9	0.0	0.0	172.0	33.4
2004	Total	27.9	6.6	34.5	4.6	74.7	10.2	6.3	2.0	0.0	0.0	143.3	16.1
2003	Total	165.8	23.3	12.5	4.1	17.3	2.4	0.5	0.3	0.0	0.0	196.0	24.7

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Table 68. Population assessment for largemouth bass based on spring electrofishing at Cedar Creek Lake from 2003-2016 (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		
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
2012	Value		16.3	67.7	66.6	7.4		
	Score	4	2	4	4	4	18	E
2011	Value		68.6	41.7	32.9	4.3		
	Score	4	4	3	4	4	19	E
2010	Value	13.5	35.5	45.0	42.8	4.1		
	Score	4	3	4	4	4	19	E
2009	Value		92.6	34.0	36.3	5.1		
	Score	4	4	3	4	4	19	E
2008	Value		72.6	18.3	32.6	4.3		
	Score	4	4	2	4	4	18	E
2007	Value	12.0	26.6	18.9	34.9	3.4		
	Score	4	3	2	4	3	16	G
2006	Value		23.1	6.6	33.4	0.3		
	Score	4	3	1	4	2	14	G
2005	Value	14.0	1.7	30.0	49.4	0.0		
	Score	4	1	3	4	1	13	G
2004	Value		5.4	74.7	6.3	0.0		
	Score	4	1	4	2	1	12	F
2003	Value		6.0	17.3	0.5	0.0		
	Score	4	1	2	1	1	9	F

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Table 69. Length-frequency and CPUE (fish/hr) of largemouth bass collected during 1.5 hours of nocturnal electrofishing (0.75 hours in lower end; 0.75 hours in upper end; 15-minute runs) at Cedar Creek Lake on 5 October 2016; standard error is in parentheses.

	Inch class																				
Area	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower	5	54	33	17	6	8	3	4	1	2	2	3	5	1	1	3	2	1		151	201.3 (85.4)
Upper	34	9	7	16	12	8		2	4	1	7	5	7	3	3	5	2	3	1	129	172.0 (18.9)
Total	39	63	40	33	18	16	3	6	5	3	9	8	12	4	4	8	4	4	1	280	186.7 (39.7)

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Table 70. Indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected in the fall (September and October) in electrofishing samples at Cedar Creek Lake.

	Age-0		Age-0		Age-0 $\geq$5.0 in		Age-1	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2016	4.0	0.1	131.3	45.2	36.7	10.1		
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
2012	4.0	0.2	18.3	7.6	7.1	1.8	4.9	2.1
2011	4.2	0.1	27.1	4.0	6.0	1.1	16.3	6.5
2010	5.0	0.1	59.5	15.8	33.4	6.1	68.6	12.9
2009	4.1	0.1	17.4	4.3	3.7	1.8	35.5	7.9
2008	4.7	0.1	55.7	8.6	24.9	5.4	92.6	26.9
2007	5.4	0.0	32.9	7.8	28.6	6.6	72.6	13.5
2006	4.7	0.1	43.7	11.3	17.7	5.3	26.6	7.4
2005	4.8	0.1	55.7	9.5	28.0	7.7	23.1	6.7
2004	4.8	0.0	17.4	3.1	12.9		1.7	0.9

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Table 71. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected in Cedar Creek Lake on 5 October 2016. Standard error is in parentheses.

		Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Species	Area	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Lower	8	90 (3)	9	94 (2)	8	93 (4)
	Upper	7	91 (4)	19	92 (3)	17	92 (2)
	Total	15	90 (2)	28	93 (2)	25	92 (2)

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Table 72. 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 daytime electrofishing on 6 June 2016.

	Inch class										
Species	1	2	3	4	5	6	7	8	Total	CPUE	Std. error
Bluegill	7	742	367	181	32	7	3		1339	1071.2	164.8
Redear sunfish		7	39	14	26	19	11	3	119	95.2	20.7

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Table 73. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Cedar Creek Lake from 2007-2016.

		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	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
Bluegill													
	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
	2010	411.7	106.5	426.1	48.6	20.3	3.9	0.0	0.0			858.1	145.7
	2009	579.6	92.4	217.2	22.8	20.4	7.8	0.0	0.0			817.2	95.6
	2008	408.8	78.7	370.0	35.6	23.6	5.1	0.0	0.0			802.4	91.7
	2007	234.8	57.1	289.6	25.2	25.6	6.1	0.0	0.0			550.0	63.4
Redear sunfish													
	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
	2010	12.8	4.7	56.0	9.6	26.1	7.0	3.7	1.7	0.0	0.0	98.7	15.2
	2009	27.2	6.5	51.6	7.8	36.4	5.8	2.4	1.7	0.0	0.0	117.6	13.4
	2008	10.4	3.0	66.0	12.1	102.0	25.1	8.0	4.0	0.0	0.0	186.4	32.7
	2007	13.2	3.7	46.0	8.2	159.6	48.8	16.4	6.2	0.0	0.0	235.2	52.0

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Table 74. PSD and RSD values obtained for bluegill and redear sunfish taken in spring electrofishing samples in Cedar Creek Lake on 6 June 2016; 95% confidence levels are in parentheses.

Species	No. $\geq$ stock size	PSD	RSD[a]
Bluegill	590	2 ($\pm$ 1)	0 ($\pm$ 0)
Redear sunfish	73	19 ($\pm$ 9)	0 ($\pm$ 0)

[a] Bluegill = RSD_8, redear sunfish = RSD_9

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Table 75. Length frequency and CPUE (fish/hr) of largemouth bass collected at Laurel Creek Reservoir in 1.25 hours (7.5-min runs) of nocturnal electrofishing on 20 April 2016.

	Inch class																	Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	21	Total	CPUE	error
Largemouth bass	1	4	8	5	10	14	10	14	7	20	31	28	12	5	1	170	136.0	10.2

sedpsdlc.d16

Table 76. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Laurel Creek Reservoir on 20 April 2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		$\geq$15.0 in		$\geq$20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2016	33.6	6.3	40.8	6.0	56.8	8.6	4.8	1.8	0.8	0.8	136.0	10.2
2013	24.8	5.7	108.8	10.2	54.4	6.3	4.0	2.2	0.8	0.8	192.0	12.9
2010	24.0	4.9	146.4	8.1	21.6	3.2	4.8	1.3	1.6	1.1	196.8	10.2
2007	4.0	1.1	105.0	9.6	24.0	3.2	1.0	1.0	1.0	1.0	134.0	11.5

sedpsdlc.d16

Table 77. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in Laurel Creek Reservoir on 20 April 2016; 95% confidence levels are in parentheses.

Year	No. $\geq$8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
2016	128	60 ($\pm$ 9)	5 ($\pm$ 4)
2013	209	35 ($\pm$ 6)	2 ($\pm$ 2)
2010	216	15 ($\pm$ 5)	3 ($\pm$ 2)
2007	260	19 ($\pm$ 5)	1 ($\pm$ 1)

sedpsdlc.d16

Table 78. Length frequency and CPUE (fish/hr) of black bass collected at Liberty Lake in 1.75 hours (15.0-min runs) of electrofishing on 26 April 2016.

	Inch class																Std.
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	18	Total	CPUE	error
Largemouth bass	15	39	56	31	4	1	11	22	44	22	5	1		1	252	144.0	21.7
Spotted bass	17	11	4	25	27	27	42	17	11	4		1	1		187	106.9	16.1

sedpsdlb.d16

Table 79. Spring electrofishing CPUE (fish/hr) for each length group of black bass collected at Liberty Lake on 26 April 2016.

		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	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
Largemouth bass													
	2016	82.9	12.0	44.6	9.7	16.0	2.3	0.6	0.6	0.0	0.0	144.0	21.7
	2013	49.7	5.7	66.3	10.2	4.6	2.5	1.1	0.7	0.6	0.6	121.7	12.7
	2010	32.0	8.9	121.7	10.2	25.1	1.4	5.7	1.9	1.1	0.7	184.6	12.5
	2007	176.6	30.1	75.4	11.4	46.9	6.2	4.6	1.4	1.1	0.7	303.4	31.4
		<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
		CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
Spotted bass													
	2016	48.0	8.7	49.1	9.1	8.6	3.6	1.1	0.7	0.0	0.0	106.9	16.1
	2013	32.6	9.9	24.6	4.6	1.7	1.2	0.0	0.0	0.0	0.0	58.9	12.1
	2010	2.9	1.1	10.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0	13.7	2.9
	2007	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

sedpsdlb.d16

Table 80. PSD and RSD values obtained for black bass taken in spring electrofishing samples in Liberty Lake on 26 April 2016; 95% confidence levels are in parentheses.

Year	Largemouth bass No. $\geq$ stock size	Largemouth bass PSD (+/- 95%)	Largemouth bass RSD_{15} (+/- 95%)	Spotted bass No. $\geq$ stock size	Spotted bass PSD (+/- 95%)	Spotted bass RSD_{14} (+/- 95%)
2016	107	27 ($\pm$ 9)	1 ($\pm$ 2)	130	13 ($\pm$ 6)	2 ($\pm$ 2)
2013	126	8 ($\pm$ 5)	2 ($\pm$ 2)	57	5 ($\pm$ 6)	0 ($\pm$ 0)
2010	267	20 ($\pm$ 5)	4 ($\pm$ 2)	23	0 ($\pm$ 0)	0 ($\pm$ 0)
2007	222	41 ($\pm$ 6)	4 ($\pm$ 2)	0	0 ($\pm$ 0)	0 ($\pm$ 0)

sedpsdlb.d16

Table 81. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Liberty Lake during 2016, including the 95% confidence interval (CI) for each mean length

Year	No.	Age 1	Age 2	Age 3	Age 4	Age 5
2015	29	5.7				
2014	11	5.9	10.5			
2013	10	5.0	8.9	11.3		
2012	2	6.1	9.7	11.1	12.1	
2011	1	5.9	10.3	12.2	12.8	13.8
Mean		5.6	9.7	11.3	12.3	13.8
Number		53	24	13	3	1
Smallest		3.3	7.4	10.2	11.3	13.8
Largest		7.5	11.8	13.3	12.8	13.8
Std error		0.2	0.2	0.2	0.5	
95% CI $\pm$		0.3	0.5	0.5	1.0	

Otoliths were used for age-growth determinations; Intercept = 0
sedaglbl.d16

Table 82. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected at Liberty Lake on 30 September 2016. Standard error is in parentheses.

Species	8.0-11.9 in No.	8.0-11.9 in Wr	12.0-14.9 in No.	12.0-14.9 in Wr	$\geq$15.0 in No.	$\geq$15.0 in Wr
Largemouth bass	33	89 (1)	12	92 (2)	0	0 (0)

sedwrlb.d16

Table 83. 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 Wood Creek Lake on 20 May 2016; standard error is in parentheses.

		Inch class																		
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	22	Total	CPUE
Pump Station	Largemouth bass		1	1		5	3	4	7	5	10	9	1	2	1	1	1	1	52	69.3 (5.3)
	Spotted bass			3	2	3	3	1	10	3	2								27	36.0 (16.2)
Dock	Largemouth bass	2	22	9	11	9	5	12	17	11	7	7	3	2	1				118	157.3 (17.5)
	Spotted bass									1									1	1.3 (1.3)
Total	Largemouth bass	2	23	10	11	14	8	16	24	16	17	16	4	4	2	1	1	1	170	113.3 (21.3)
	Spotted bass			3	2	3	3	1	10	4	2								28	18.7 (10.6)

sedpsdwc.d16

Table 84. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Wood Creek Lake on 20 May 2016; 95% confidence limits are in parentheses.

		Largemouth bass			Spotted bass		
Year	Area	No. $\geq$ stock size	PSD (+/- 95%)	RSD_{15} (+/- 95%)	No. $\geq$ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)
2016*	Pump Station	45	58 ($\pm$ 15)	13 ($\pm$ 10)	22	23 ($\pm$ 18)	0 ($\pm$ 0)
	Dock	65	31 ($\pm$ 11)	5 ($\pm$ 5)	1	100 ($\pm$ 0)	0 ($\pm$ 0)
	Total	110	42 ($\pm$ 9)	8 ($\pm$ 5)	23	26 ($\pm$ 18)	0 ($\pm$ 0)
2015	Total	259	41 ($\pm$ 6)	10 ($\pm$ 4)	37	30 ($\pm$ 15)	0 ($\pm$ 0)
2014	Total	334	34 ($\pm$ 5)	10 ($\pm$ 3)	61	21 ($\pm$ 10)	0 ($\pm$ 0)
2013	Total	256	23 ($\pm$ 5)	9 ($\pm$ 4)	79	14 ($\pm$ 8)	1 ($\pm$ 2)
2012	Total	215	20 ($\pm$ 5)	5 ($\pm$ 3)	60	17 ($\pm$ 10)	0 ($\pm$ 0)
2011	Total	185	39 ($\pm$ 7)	16 ($\pm$ 5)	47	17 ($\pm$ 11)	0 ($\pm$ 0)
2010	Total	181	52 ($\pm$ 7)	15 ($\pm$ 5)	55	20 ($\pm$ 11)	0 ($\pm$ 0)
2009	Total	241	55 ($\pm$ 6)	17 ($\pm$ 5)	69	16 ($\pm$ 9)	1 ($\pm$ 3)
2008	Total	223	40 ($\pm$ 6)	19 ($\pm$ 5)	66	12 ($\pm$ 8)	2 ($\pm$ 3)
2007	Total	223	32 ($\pm$ 6)	24 ($\pm$ 6)	109	23 ($\pm$ 8)	5 ($\pm$ 4)
2006	Total	165	56 ($\pm$ 8)	38 ($\pm$ 7)	93	44 ($\pm$ 10)	11 ($\pm$ 6)
2005	Total	138	74 ($\pm$ 7)	23 ($\pm$ 7)	86	57 ($\pm$ 11)	13 ($\pm$ 7)

* Lower lake area was not sampled
sedpsdwc.d16

Table 85. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Wood Creek Lake during May 2016.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2011	28.3	5.8	37.7	5.9	14.3	3.3	9.7	2.7	1.0	0.5	90.0	12.9
2010	27.5	9.2	43.0	11.3	33.5	5.2	14.0	2.8	2.5	1.1	118.0	26.6
2009	6.7	3.1	36.0	7.5	31.0	2.5	13.3	3.6	2.7	0.9	87.0	14.1
2008	6.7	3.6	44.7	6.8	15.3	2.7	14.3	2.4	2.0	0.8	81.0	12.3
2007	6.7	2.3	50.3	8.5	6.0	1.2	18.0	3.3	1.3	0.6	81.0	12.5
2006	30.3	7.0	24.3	6.2	10.0	2.1	20.7	5.0	2.0	1.0	85.3	17.5
2005	4.0	2.0	14.4	3.6	28.0	4.4	12.8	2.3	3.2	1.7	59.2	9.3

* Lower lake area was not sampled
sedpsdwc.d16

Table 86. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Wood Creek Lake during May 2016.

	Length group											
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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
2011	16.3	4.2	9.0	2.8	2.7	1.2	0.0	0.0	0.0	0.0	28.0	7.3
2010	13.5	5.5	19.0	2.9	5.5	1.3	0.0	0.0	0.0	0.0	38.0	8.0
2009	16.7	4.9	15.7	3.4	3.3	1.0	0.3	0.3	0.0	0.0	36.0	6.5
2008	11.7	3.3	16.7	2.9	2.3	1.2	0.3	0.3	0.0	0.0	31.0	5.4
2007	14.7	3.9	20.7	3.8	6.7	1.6	1.7	1.0	0.0	0.0	43.7	7.5
2006	13.7	2.7	14.0	2.8	10.3	2.2	3.3	1.0	0.0	0.0	41.3	6.0
2005	8.8	2.9	13.6	5.5	15.2	2.8	4.4	1.3	0.0	0.0	42.0	10.2

* Lower lake area was not sampled
sedpsdwc.d16

Table 87. Population assessment for largemouth bass based on spring electrofishing at Wood Creek Lake from 2005-2016 (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		
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
2012	Value		4.3	11.0	3.7	0.3		
	Score	3	1	1	1	2	8	P
2011	Value		24.8	14.3	9.7	1.0		
	Score	3	3	2	2	2	12	F
2010	Value	11.4	15.1	33.5	14.0	2.5		
	Score	3	2	3	3	3	14	G
2009	Value		5.3	31.0	13.3	2.7		
	Score	4	1	3	3	3	14	G
2008	Value		5.7	15.3	14.3	2.0		
	Score	4	1	2	3	3	13	G
2007	Value		5.3	6.0	18.0	1.3		
	Score	4	1	1	3	2	11	F
2006	Value		11.8	10.0	20.7	2.0		
	Score	4	2	1	3	3	13	G
2005	Value	12.3	2.4	28.0	12.8	3.2		
	Score	4	1	3	2	3	13	G

sedpsdw c.d16

Table 88. 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 Wood Creek Lake on 26 September 2016; standard error is in parentheses.

		Inch class																
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	Total	CPUE
Pump station	Largemouth bass		3	11	5	1	6	4	7	2	5	4		1		1	50	66.7 (9.6)
	Spotted bass	3	3	1	2	1	3	1	3	3	3	2					25	33.3 (11.4)
Dock	Largemouth bass	8	38	39	6	5	24	16	13	4	4	13	6	1	1		178	237.3 (38.0)
	Spotted bass																0	0.0 (0.0)
Total	Largemouth bass	8	41	50	11	6	30	20	20	6	9	17	6	2	1	1	228	152.0 (42.0)
	Spotted bass	3	3	1	2	1	3	1	3	3	3	2					25	16.7 (9.0)

sedyoywc.d16

Table 89. Indices of year class strength at age-0 and age-1 and mean lengths (in) of 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	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2016	4.0	0.1	74.7	22.6	8.7	1.6		
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
2012	4.3	0.1	34.7	10.1	8.3	4.2	14.0	4.9
2011 [a]	4.0	0.1	12.3	4.1	0.7	0.7	4.3[b]	1.6
2010	5.0	0.1	36.7	14.9	18.0	6.6	24.8	6.0
2009 [a]	3.7	0.4	2.7	1.7	0.7	0.5	15.1[c]	7.4
2008	3.8	0.1	13.3	3.2	1.0	0.7	5.3	2.7
2007	4.2	0.1	13.3	7.6	2.7	1.2	5.7	3.2
2006 [a]	4.4	0.3	3.7	1.7	0.7	0.5	5.3[d]	2.4
2005	4.0	0.1	23.7	11.9	3.3	1.4	11.8	4.4
2004	4.2	0.1	17.9	4.8	4.3	1.5	2.4	1.2

sedyoywc.d16

[a] Age-0 largemouth bass stocked in the fall

[b] Includes fish stocked in fall 2011; CPUE stocked fish=1.0 fish/hr

[c] Includes fish stocked in fall 2009; CPUE stocked fish=10.0 fish/hr

[d] Includes fish stocked in fall 2006; CPUE stocked fish=0.3 fish/hr

Figure 1. Results of the Lower Lake Cumberland angler attitude survey conducted from March 1-October 30, 2016.

LOWER LAKE CUMBERLAND ANGLER ATTITUDE SURVEY 2016

41. Upper Lake ☐ Lower Lake ☑

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

43. Name ____ Zip code ______________________

44. Have you ever fished at Lake Cumberland before? (N=173) 93% Yes 7% No
If NO, go to question 14.

45. How many times do you fish Lake Cumberland a year? (N=161)
11% 1 to 4 10% 5 to 10 79% More than 10

46. Which species of fish do you fish for at Lake Cumberland (**check all that apply**)? (N=173)
43% Striped bass 61% Black bass 23% Crappie 8% Walleye 6% Catfish 1% Bluegill

47. Which one species do you fish for most at Lake Cumberland (**check only one**)? (N=153)
32% Striped bass 57% Black bass 7% Crappie 2% Walleye 2% Catfish

-Answer the following questions for each species you fish for – (see question 6)

Striped Bass Anglers

48. In general, what level of satisfaction do you have with striped bass fishing at Lake Cumberland? (N=76)
84% Very satisfied 11% Somewhat satisfied 0% Neutral 4% Somewhat dissatisfied 1% 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=4)
100% Number of fish 0% Size of fish 0% Not happy with regulations 0% Too many anglers/boaters

Black Bass Anglers

49. In general, what level of satisfaction do you have with black bass fishing at Lake Cumberland? (N=105)
93% Very satisfied 5% Somewhat satisfied 2% Neutral 0% 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=0)
0% Number of fish 0% Size of fish 0% Not happy with regulations 0% Too many anglers/boaters

Crappie Anglers

50. In general, what level of satisfaction do you have with crappie fishing at Lake Cumberland? (N=38)
90% Very satisfied 3% Somewhat satisfied 3% Neutral 5% 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=2)
100% Number of fish 0% Size of fish 0% Not happy with regulations 0% Too many anglers/boaters

Walleye Anglers

51. In general, what level of satisfaction do you have with walleye fishing at Lake Cumberland? (N=13)
31% Very satisfied 0% Somewhat satisfied 15% Neutral 8% Somewhat dissatisfied 46% 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=7)

100% Number of fish   0% Size of fish   0% Not happy with regulations   0% Too many anglers/boaters

Catfish Anglers

52. In general, what level of satisfaction do you have with catfish fishing at Lake Cumberland? (N=9)

100% Very satisfied   0% Somewhat satisfied   0% Neutral   0% Somewhat dissatisfied   0% Very dissatisfied   0% No opinion

12a. If you responded with somewhat or very dissatisfied in question (12) – what is the single most important reason for your dissatisfaction? (N=0)

0% Number of fish   0% Size of fish   0% Not happy with regulations   0% Too many anglers/boaters

All Anglers

53. Are you satisfied with the current size and creel limits on all sport fish at Lake Cumberland? (N=105)   91% Yes   9% No

If NO:

13a. If not, which species are you dissatisfied with and what size and creel limits would you prefer?

Striped bass size limit (N=2)	Striped bass creel limit (N=2)
50% 18 in	50% 2
50% 22in	50% 5
Smallmouth bass size limit (N=2)	Smallmouth bass creel limit (N=2)
50% 15 in	100% 5
50% 16 in	
Spotted bass size limit (N=4)	Spotted bass creel limit (N=4)
75% 12 in	25% 6
25% want limit	50% 8
	25% want limit
Crappie size limit (N=2)	Crappie creel limit (N=2)
100% 12 in	100% 15

54. Are you aware that lake sturgeon have been stocked in Lake Cumberland? (N=171)   50% Yes   50% No

15. Have you ever caught a lake sturgeon in Lake Cumberland? (N=171)   0% Yes   100% No   If No, please skip to question 16.

15a. What year did you catch the sturgeon ________

15b. Approximately how long was the sturgeon _________ inches

15c. What general area of the lake did you catch the sturgeon? ____________________________

16. Are you aware that anglers must immediately release all lake sturgeon they catch? (N=171)   67% Yes   33% No

Figure 2. Results of the Upper Lake Cumberland angler attitude survey conducted from March 4-October 30, 2016.

UPPER LAKE CUMBERLAND ANGLER ATTITUDE SURVEY 2016

55. Upper Lake ☑ Lower Lake ☐

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

57. Name ____ Zip code ______________________

58. Have you ever fished at Lake Cumberland before? (N=176) 98% Yes 2% No
If NO, go to question 14.

59. How many times do you fish Lake Cumberland a year? (N=168)
3% 1 to 4 35% 5 to 10 63% More than 10

60. Which species of fish do you fish for at Lake Cumberland (**check all that apply**)? (N=179)
26% Striped bass 60% Black bass 44% Crappie 18% Walleye 17% Catfish 1% Bluegill

61. Which one species do you fish for most at Lake Cumberland (**check only one**)? (N=165)
11% Striped bass 48% Black bass 21% Crappie 5% Walleye 7% Catfish 1% Bluegill

-Answer the following questions for each species you fish for – (see question 6)

Striped Bass Anglers

62. In general, what level of satisfaction do you have with striped bass fishing at Lake Cumberland? (N=45)
24% Very satisfied 71% Somewhat satisfied 2% Neutral 0% Somewhat dissatisfied 0% Very dissatisfied 2% 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=0)
0% Number of fish 0% Size of fish 0% Not happy with regulations 0% Too many anglers/boaters

Black Bass Anglers

63. In general, what level of satisfaction do you have with black bass fishing at Lake Cumberland? (N=103)
8% Very satisfied 86% Somewhat satisfied 3% Neutral 2% Somewhat dissatisfied 1% 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=3)
33% Number of fish 33% Size of fish 33% Not happy with regulations 0% Too many anglers/boaters

Crappie Anglers

64. In general, what level of satisfaction do you have with crappie fishing at Lake Cumberland? (N=76)
17% Very satisfied 83% Somewhat satisfied 0% Neutral 0% 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=0)
0% Number of fish 0% Size of fish 0% Not happy with regulations 0% Too many anglers/boaters

Walleye Anglers

65. In general, what level of satisfaction do you have with walleye fishing at Lake Cumberland? (N=31)
0% Very satisfied 36% Somewhat satisfied 48% Neutral 16% Somewhat dissatisfied 0% 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)

100% Number of fish   0% Size of fish   0% Not happy with regulations   0% Too many anglers/boaters

Catfish Anglers

12. In general, what level of satisfaction do you have with catfish fishing at Lake Cumberland? (N=29)

17% Very satisfied   83% Somewhat satisfied   0% Neutral   0% Somewhat dissatisfied   0% Very dissatisfied   0% No opinion

12a. If you responded with somewhat or very dissatisfied in question (12) – what is the single most important reason for your dissatisfaction? (N=0)

0% Number of fish   0% Size of fish   0% Not happy with regulations   0% Too many anglers/boaters

All Anglers

13. Are you satisfied with the current size and creel limits on all sport fish at Lake Cumberland? (N=171)   94% Yes   6% No

If NO:

13a. If not, which species are you dissatisfied with and what size and creel limits would you prefer?

Striped bass size limit (N=1)	Striped bass creel limit (N=2)
100% 22 in	100% 4
Smallmouth bass size limit (N=4)	Smallmouth bass creel limit (N=3)
75% 16 in	67% 0 for 2 years
25% 17 in	33% 2
Spotted bass size limit (N=2)	Spotted bass creel limit (N=2)
100% 15 in	100% 6
Crappie size limit (N=2)	Crappie creel limit (N=1)
50% 9 in	100% 20
50% 11 in	

14. Are you aware that lake sturgeon have been stocked in Lake Cumberland? (N=178)   85% Yes   15% No

15. Have you ever caught a lake sturgeon in Lake Cumberland? (N=178)   4% Yes   96% No   If No, please skip to question 16.

15a. What year did you catch the sturgeon? ________ (N=8)

13% 2013
38% 2014
25% 2015
13% 2016
13% several

15b. Approximately how long was the sturgeon? ___________ inches (N=8)

13% 18 in
38% 24 in
13% 28 in
13% 30 in
13% 32 in
13% 36-48 in

15c. What general area of the lake did you catch the sturgeon? ___________________________ (N=8)

13% Hammonds Camp North Fork

13% Mouth of Laurel

13% Noe's Dock to Cave Creek

13% North Fork

38% South Fork Cumberland River

13% Turkey Creek

16. Are you aware that anglers must immediately release all lake sturgeon they catch? (N=177) 85% Yes 15% No

EASTERN FISHERY DISTRICT

Project A: Lake and Tailwater Fishery Surveys

FINDINGS

Table 1 shows sampling conditions by water body for eastern fishery district lakes in 2016.

Buckhorn Lake

Muskellunge were sampled via boat electrofishing in early March (Tables 2-3). Fish were sampled from 13.2-44.8 in (Table 2). The 44.8-in fish was a female that weighed 27.10 lbs. The assessment rating of this fishery continued to be “Fair” (Table 3). If January or early February sampling can be done, this assessment rating is usually higher. Approximately 420 muskellunge (11.8 in) were stocked in October.

Black bass were sampled only during the fall (Tables 4-5). Recent spring assessment ratings for largemouth bass have been “Good”. However, with spring and winter rapid water elevation changes at this lake the recruitment success of young fish can fail easily. During 2016 fall sampling, the CPUE of age-0 and of age-0 $\geq$ 5.0 in was very high (Table 5). This 2016 year class should produce good fish numbers in future years.

Additional fish stocking occurred throughout the year at the tailwater area below the dam. Approximately 5,000 rainbow trout (8.0-12.0 in) were stocked during the months of April-June and October-November.

Fall and winter fish habitat work was completed at Buckhorn Lake. During fall, 450 lbs of winter wheat was sowed onto exposed mud flats. In late winter, 11 new pallet structures with Christmas trees were completed.

Carr Creek Lake

Electrofishing was used to sample black bass in the spring and fall (Tables 6-11). Recent increases seen in CPUE (Table 7) are related to stocking of supplemental fingerling bass in the spring versus previous stockings occurring in the fall. The recent spring stockings occurred in 2013 and 2014. During 2015 and 2016 there were no largemouth bass stockings. Survival of spring-stocked fish has been very good. Largemouth bass PSD values (Table 8) continue to be good, however, the largemouth bass assessment rating lowered to “Fair” (Table 9). Angler success has been good with tournament numbers increasing on weekends as well as during nighttime during the weekdays.

Spring electrofishing was utilized to sample walleye (Tables 12-13). The CPUE of 20.6 fish/hr in 2016 was higher than values seen in recent years (Table 12). Fish greater than 24.0 in are low in number and have been for several years as observed from sampling data. An angler creel survey will be conducted in 2017 and may show different results from sampling data in regards to number of fish greater than 24.0 in. This lake provides a large portion of the Erie-strain walleye broodfish for hatchery purposes each year. An estimated 35,000 walleye (1.6 in) were stocked in May.

The tailwater was stocked with 1000 rainbow trout/month during the months of 4, 5, 6, 10, and 11.

Fish habitat work consisted of fabrication and placement of 37 pallet structures with Christmas trees and hardwood added to them. During winter 2017, the habitat research section will coordinate a large-scale habitat construction project at the lake. One herbicide application was done near the dam intake tower structure for filamentous algae and hydrilla. There continues to be some good areas of beneficial aquatic plants such as sago pondweed and water celery from previous plantings in 2012 and 2013 and expanding areas of floating leaf pondweed and brittle naiad.

Cranks Creek Lake

Lake conditions only allowed for a fall electrofishing sample of black bass (Tables 14-15). Largemouth and spotted bass are the main black bass species with largemouth bass being dominant. Largemouth bass were sampled from 3.4-22.6 in (Table 14). Fall age-0 CPUE was above average (Table 15). Although age-0 ≥5.0 in CPUE was low (Table 15), no supplemental stocking of fingerling bass occurred in the fall. There continues to be many types of aquatic vegetation due to the clear water at this lake. Brittle naiad has become a nuisance in shallow sections of the upper lake and requires some herbicide application at boat access areas. However, this thick growth of aquatic vegetation has correlated with a trend of increased quality fisheries for largemouth bass, white crappie, and redear sunfish.

Rainbow trout were stocked at a rate of 1,500 fish/mo during January, April, May, and October for a total of 6,000 fish. No fish habitat work was performed in 2016. Harlan County utilized some Reward herbicide for control of naiad at the boat dock and at two boat access points in the upper lake area.

Dewey Lake

Spring and fall black bass sampling was completed during 2016 (Tables 16-21). Largemouth bass in the spring sample displayed good size distribution through the 4.0- to 20.0-in classes (Table 16), and the CPUE of fish ≥15.0 in continues to be higher in recent years (Table 17). This increase in fish ≥15.0 in has continued since the low in 2009 following the die-off of hydrilla in the lake. In addition, angler success with numbers of keeper-size fish continues to improve. The largemouth bass assessment rating continued to be "Good" in 2016 (Table 19). An average number of age-0 fish was observed in the fall with better than average number of age-0 ≥5.0 in (Table 21). No supplemental age-0 fingerling bass were stocked in 2016.

Trap netting was used in the fall to sample black and white crappie. Tables 22-29 contain data for both species. Table 22 lists inch groups and numbers of black and white crappie sampled. A CPUE of 75.4 white crappie/net night and 28.8 black crappie/net night were obtained with 12 net nights of effort (Table 22). Largest age classes were age-2 for white crappie (Table 26) and age-3 for black crappie (Table 27). This provides good numbers for harvest of fish, but mean length of age-2 fish at capture does not meet the desired size of 9.0 in (Tables 28-29). Both species are popular with anglers and attract a lot of fishing effort. The assessment rating for white crappie is "Excellent" (Table 28) and the assessment rating is "Fair" for black crappie (Table 29).

Fish stockings consisted of blue catfish and musky in the lake and rainbow trout in the tailwater. A total of 11,000 blue catfish (4.0-9.0 in) were stocked in April. Muskellunge (7.8 in) were stocked in late July at 550 fish. Rainbow trout were stocked in the tailwater of Dewey Lake in April, May, October, and November (1,000/mo, 8.0-12.0 in).

New and refurbished fish habitat structures were completed. This work consisted of 4 new brushpiles, 8 refurbished brushpiles, 3 new Christmas tree reefs, 6 hinge-cut trees, 2 refurbished stake beds, 5 new stake beds with Christmas trees, and planting of sago pondweed in Stratton Branch. Maintenance was performed at Stratton Branch boat ramp with sediment removal and with mowing of bank access in this area.

Fishtrap Lake

During 2016, only a fall electrofishing sample was conducted for black bass. Spring water pool elevations prevented sampling during this time. However, spring largemouth bass assessment ratings in recent years of have been "Good". Tables 30-31 display fall black bass sampling data. Black bass CPUE in both the lower and upper lake areas were comparable (Table 30). Smallmouth, spotted, and largemouth bass are present in this lake and anglers catch all regularly. The age-0 largemouth bass numbers were below average (Table 31). Age-0 fish to supplement the 2016 year class were held through the fall at the hatchery and will be stocked in March or April 2017.

Several additional fish stockings occurred during the year at Fishtrap Lake. A total of 11,400 blue catfish (8.0-12.0 in) were stocked in the lake during April. During May, 9,057 (2.3 in) native strain walleye were stocked in the

Levisa Fork River upstream of Fishtrap Lake. Hybrid striped bass totaling 25,408 (1.1 in) were stocked in June. Rainbow trout (10,750) were stocked in the tailwater. Extra trout were stocked in June and came from the Martins Fork Lake tailwater site being rerouted due to warm water temperature.

Fish habitat work consisted of one new hardwood brushpile. Approximately 25 christmas trees were collected and a local fish and game club placed them in the upper end of lake. This work occurred during spring and summer.

A daytime creel survey (2 April-29 October) was conducted at Fishtrap Lake during 2016. Each day that was surveyed consisted of 6 hours on the lake. Dates, times (2 periods=morning or afternoon), and order of surveys were randomized. Total angler counts were conducted at the middle of a survey period and the lake was treated as one area. Data obtained is presented in Tables 32–38.

The number of fishing trips and angler hours were slightly greater than the last creel survey in 2006. Both the 2016 (2 April-29 October) and 2006 (8 April-28 October) creels occurred during similar calendar periods. Total fishing trips and angler hours were 5,965 and 28,882, respectively in 2016 (Table 32) and 4,602 and 23,700, respectively in 2006. Angler harvest success rates when fishing for a particular species at Fishtrap Lake during 2016 were 58.9% for white crappie, 51.4% for bluegill/redear, 28.4% for catfish, 22.9% for anything, 0.0% for black bass, and 0.0% for hybrid striped bass (Table 33). During the survey, both black bass and hybrid striped bass anglers ended with total catch and release of all caught fish. This would account for the 0.0% angler harvest success rates of both. There were a few black bass and hybrid striped bass harvested, but this was accounted for by the anything, catfish, crappie, and panfish angler groups. Largemouth bass (14,474 fish) were the most numerous caught fish during 2016 (Table 33) and white crappie during 2006 (17,439 fish) surveys. Harvest and release numbers for all fish by in class during the survey period are listed in Table 34. Monthly black bass (Table 35), white crappie (Table 36), and hybrid striped bass (Table 37) angling success showed most numerous catches in spring and fall for all three groups.

An angler attitude survey was conducted at the lake to obtain additional information concerning angler preferences. Anglers were asked to answer a series of questions regarding the fishery at Fishtrap Lake. Anglers were surveyed throughout the creel during 2016 with anglers only being asked the questions once. A total of 28 surveys were completed during the lake creel. Black bass at 67.9% (N=19) were the most popular species fished for on the lake followed by catfish at 53.6 (N=15), white crappie at 35.7% (N=10), bluegill/redear at 21.4% (N=6), and hybrid striped bass 10.7% (N=3). Level of fishing satisfaction was asked for several fish groups or species. Angler fishing satisfaction of somewhat satisfied to very satisfied was 79.0% for black bass, 86.6% for catfish, 88.9% for white crappie, 100.0% for bluegill/redear, and 75.0% for hybrid striped bass. A total of 28.6% of attitude survey participants fished tournaments at the lake. Of participants in the attitude survey, approximately 0.0% used the KDFWR tournament website registration page and approximately 3.6% utilized this webpage in planning their activity at a particular boat ramp. Additional observations from the attitude survey were that 82.1% were aware of KDFWR placing fish habitat structures in lake, 75.0% thought these structures improved their fishing success, and 20.8% were aware that the positions/GPS coordinates were available on the KDFWR website.

Martins Fork Lake

No spring sampling data was collected due to flooding and weather issues. Fall electrofishing for black bass and walleye data was conducted, but reduced in time due to a storm event. Table 39 lists length frequencies and CPUE collected in this fall sample. Age-0 largemouth bass numbers were above average (Table 40) and no supplemental stocking of fingerling bass was done. No walleye were collected in this sample. However, anglers are catching some of the native strain walleye in the lake now. The native strain walleye have been stocked annually since 2013. During March 2017, some electrofishing will be conducted to observe if any adult walleye are moving into the two major creek arms of lake for spawning. This will provide information on locations for possible walleye broodfish acquisition in 2018.

Native strain walleye, channel catfish, and rainbow trout were stocked in 2016. A total of 10,030 native strain walleye (2.3 in) were stocked in June. Approximately 4,902 channel catfish (6.0-10.0 in) were stocked. Rainbow trout (750/month) were stocked at the tailwater in months 4, 5, 6, 10 and 11.

No herbicides were applied for aquatic vegetation and no new fish habitat structures were placed in the lake. For 2017, Christmas tree brushpile construction is planned for the lake.

Paintsville Lake

Largemouth bass were sampled in the spring and fall (Tables 41-46). Although implemented in 2002, the slot length limit of 12.0-14.9 in has never showed a trend towards increasing fish numbers in the protected slot as expected (Table 42). However, electrofishing catch rates of largemouth bass have been improving for fish $\geq$15.0 in and $\geq$20.0 in (Table 42). Additionally, angler reported catch rates are showing similar results with increasing numbers of larger fish. For these reasons, and with high recruitment rates of young fish, the slot length limit regulation has not been changed. The current largemouth bass assessment rated the largemouth bass population as “Fair” (Table 44). The continuation of above average age-0 largemouth bass numbers (Table 46) has not required any supplemental stocking of fingerling bass in Paintsville Lake.

Walleye (Erie strain) were sampled during March for broodfish acquisition. Fish were sampled from 16.0-26.7 in (Table 47). Two of these fish, both females, were removed for broodfish. The two female fish were 23.7 in with a weight of 7.80 lbs and 26.7 in with a weight of 8.70 pounds. A total of 58,034 walleye (1.6 in) were stocked in May.

The lake received a stocking of 4,500 rainbow trout (8.0-12.0 in) during February. Some holdover trout are observed each year during bass and walleye sampling. The tailwater trout fishery received 20,000 rainbow trout from April to November and 300 brown trout in April. Paintsville tailwater occasionally receives additional rainbow trout stockings during the summer due to poor water conditions at other eastern Kentucky stocking locations.

Fish habitat work consisted primarily of new brushpile construction. A total of 10 new brushpiles were constructed from cedar trees and autumn olive. Although several invasive aquatic plants exist at the lake, no herbicide application was necessary throughout the year for control or for removal from public boat access points.

Pan Bowl Lake

Spring electrofishing was completed for largemouth bass data and population assessment (Tables 48-51). Although PSD and RSD values are low (Table 50), the assessment rating improved from “Fair” to “Good” (Table 51). During 2015, the lake received a supplemental stocking of largemouth bass. This supplemental stocking came from fish removed during the draining of Starfire Lake, Breathit County. A good number of fish stocked were 12.0-20.0 in total length. These fish would have added improvements to several categories of the assessment.

This lake was previously known for its trophy bass fishing. Multiple species of aquatic vegetation have always been present in the lake. However, Eurasian milfoil has become the dominant species filling in open water areas. Some effort has been applied to reducing milfoil with herbicide applications prior to 2013. This was to aid bass predation on sunfish. Additionally, a small number of grass carp were stocked in the lake for management of vegetation during 2014. Improvement of growth rates of young bass is necessary to restore the fishery to prior quality and angler satisfaction.

Management at this 98 acre lake also includes stocking of trout and channel catfish and periodic spring electrofishing for bluegill and redear sunfish. Rainbow trout are stocked annually at 3,000 fish/month in March and October. Approximately 1,865 channel catfish (5.0-12.0 in) are stocked in July of even numbered years.

Yatesville Lake

Electrofishing was utilized to sample black bass during the spring and fall (Tables 52-57). Both sampling efforts were of reduced effort due to water clarity issues and/or rain events. The PSD value typically is at 40 or slightly higher for largemouth bass and the current year had a value of 39 (Table 54). From 2015 to 2016, the spring assessment rating of largemouth bass dropped from “Good” to “Fair” (Table 55). This is presumed to be a factor of compromised sampling in 2016. Tournaments are numerous at this lake, but the fishery remains consistent. Fall sample data observed above average numbers of age-0 largemouth bass and the highest number of age-0 fish ≥5.0 in since 2003 (Table 57). There were no supplemental fingerling largemouth bass stocked in the fall.

White crappie were sampled with trap nets in November. A total of 2,581 fish were collected from 3.4-13.5 in for a CPUE of 135.8 fish/net-night (Table 58). Data for PSD/RSD, age and growth, and age frequency can be found in Tables 59-61. Most fish collected were ages 0-2 (Table 61). The assessment rating was “Good”, but mean length of age-2 fish at capture decreased to 5.4 in (Table 62). A large age-2 year class is presumed to account for this. Current numbers of larger fish could be down some according to trap net data, however anglers are still doing well catching larger fish.

Rainbow trout were stocked in the tailwater of Yatesville Lake at 750 fish/month for months 4, 5, and 11 (2,250 fish total). Fish habitat work consisted of 2 refurbished brushpiles, 1 refurbished Christmas tree reef, 6 new hardwood brushpiles, 3 new Christmas tree reefs, and 14 hinge-cut trees.

Table 1. Summary of 2016 sampling conditions by waterbody, species sampled and date.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water Temp (°F)	Water level (elev ft)	Secchi (in)	Pertinent sampling comments[a,b]
Buckhorn Lake	Musky	3/11	1100	shock	cloudy/rain	55.0	758.80	18	outflow: 454CFS; bp: 30.22; used 2 boats; whole lake
Buckhorn Lake	LMB	9/22	1100	shock	clear	85.0	782.00	68	cond: 200; bp: 30.14; outflow: 158CFS; used 2 boats; whole lake
Carr Creek Lake	Walleye	3/8	1000	shock	sunny	49.5	1017.10		bp: 30.27; outflow: 71CFS; cond: 395; broodfish collection, sample data
Carr Creek Lake	LMB	5/13	1000	shock	cloudy	67.0	1027.90	48	bp: 30.07; outflow: 155CFS; cond: 523; used 1 boat; whole lake; some turbidity
Carr Creek Lake	LMB	9/19	2000	shock	cloudy/fog	80.0	1028.2	81	cond: 326; bp: 30.09; outflow: 5CFS; 1 boat; whole lake
Cranks Creek Lake	LMB	9/26	1000	shock	pt. cloudy	80.0	normal	170	whole lake; 1 boat; clear lower, stained upper
Dewey Lake	LMB	4/26	1000	shock	Cloudy	72.0	648.90		cond: 674; bp 29.94; whole lake; 1 boat; outflow 23CFS
Dewey Lake	LMB	9/15	2000	shock	cloudy/fog	80.0	650.50	24	used two boats; whole lake; outflow: 29CFS; Cond: 318; bp: 30.22
Dewey Lake	Crappie	11/21	1000	trap net	rain/cold	51.0	646.90		upper lake; bp: 30.30; outflow: variable 113-109CFS;
Fishtrap Lake	LMB	9/21	2000	shock	clear	80.0	756.80	62	used two boats; whole lake; outflow: 82.5CFS; Cond: 341; bp: 30.17; lake clear
Fishtrap Lake	Walleye	2/22	1000	shock	cloudy	48.5	736.9		Native walleye broodfish collection; cond: 306; 1 boat; outflow: 1900CFS
Fishtrap Lake	Walleye	3/9	1000	shock	pt. cloudy	54.0	735.00	41	Native walleye broodfish collection; cond: 451; 1 boat; lake clear
Grants Br.		8/26	1100	do-Hach	pt. cloudy	85.0	1348.00		Collected water quality data (D.O. profile, Alk, pH,); whole lake; cond: 96
Levisa Fork River	Walleye	3/4	1000	shock	snow		low		Native walleye broodfish collection; 525CFS;
Martins Fk Lake	LMB	9/26	2000	shock	cloudy	80.0	1308.67	56	cond: 171; bp: 30.01; 1 boat; whole lake
Paintsville Lake	Walleye	3/15	1000	shock	fog, sunny	56.0	709.6	38	cond: 108; bp: 29.88; 2 boats; outflow 70.4CFS
Paintsville Lake	LMB	4/25	1000	shock	pt. cloudy	64.0	709.8	94	whole lake; 1 boat; bp: 29.95; outflow: 20.4CFS; cond: 134; lake clear
Paintsville Lake	LMB	10/20	2000	shock	pt. cloudy	70.0	708.20	154	bp: 29.97; cond; 117; 1 boat, whole lake; outflow: 15.6CFS;
Pan Bowl Lake	LMB	4/19	1000	shock	Clear	62.5	SP	78	whole lake; 1 boat; lake clear; bp: 30.20
Yatesville Lake	LMB	5/24	2000	shock	clear	77.0	630.9	42	cond: 133; bp: 30.11; 1 boat; whole lake; outflow 783.6CFS; upper lake muddy
Yatesville Lake	LMB	10/27	1000	shock	cloudy, rain	66.0	629.70		cond: 172; bp: 30.15; 1 boat, whole lake; outflow 32.3CFS
Yatesville Lake	Crappie	11/14	1000	trap net	sunny	54.0	627.20		upper (middle) lake; bp: 30.01; outflow: variable 225.5-224.1CFS;

[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 1998-2016; numbers in parentheses are standard errors. 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
1998	1	1	2	7	4	1	1				1	4	3	1	1	1						1		1	1			1	1										33	6.6 (2.9)
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)
2000		1	3	2	3	1								4				1	2		7	1		1	1			2	1				1						31	8.2 (0.5)
2001					4	1	1				1			1									1		1	1		1									1		13	3.2 (0.7)
2002							1							2	1						3	1		1			2				1								12	6.0 (0.8)
2003	1		5	2	1	1									2	1	1		1	1	2	1	1				1									1			22	7.1 (1.9)
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)
2005					4	5	2					1		2	2							1			1			2	1	1	3		1				1		27	6.3 (1.7)
2006			1	8	10	6								1	2	3						1	1		1	3	2	1	1	1	1	1	1						45	14.2 (2.2)
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)
2008				2	6	10	6	1						1	1	3				1		1	5	2			1				1			1			1		43	8.3 (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)
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)
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)
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)
2013			3	6	3							1											1	1			1												16	4.3 (0.9)
2014		1	2	1	6	2						1	2	1	4								1		1				1		1		2						26	7.4 (1.9)
2015	no sample																																							
2016				2	2	4						2	1	2			1						1	1		1	1		1	1					1				21	7.0 (3.3)

EFDBLMSS.D98-D10, D12, D14, D16-D17

LFRBHLSP.D11, D13

Table 3. Population assessment for muskellunge from Buckhorn Lake (1,230 acres) captured during spring electrofishing from 2000-2016. Assessment scores for 2002 were derived from fall electrofishing data. Actual values are in parentheses. Scoring based on statewide assessment.

	Year													
Parameter	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2016
CPUE age 1	1	2	3	2	4	1	3	4	3	4	4	2	2	2
	(0.5)	(3.3)	(5.9)	(2.5)	(7.9)	(1.7)	(4.8)	(9.3)	(5.1)	(7.8)	(7.5)	(3.2)	(3.4)	(2.7)
CPUE ≥20.0 in	3	2	4	2	3	4	2	4	4	2	3	1	2	2
	(5.5)	(3.9)	(11.1)	(3.7)	(6.3)	(12.0)	(3.8)	(7.7)	(7.8)	(4.7)	(5.9)	(1.1)	(4.0)	(4.3)
CPUE ≥30.0 in	3	1	4	2	4	4	2	4	3	2	2	1	1	2
	(4.0)	(2.0)	(6.3)	(2.6)	(4.4)	(5.3)	(2.2)	(4.7)	(3.4)	(2.9)	(3.1)	(0.8)	(1.7)	(2.3)
CPUE ≥36.0 in	3	1	4	4	4	4	1	3	3	2	4	1	2	3
	(1.5)	(0.7)	(2.8)	(2.1)	(2.5)	(2.5)	(0.6)	(1.8)	(1.7)	(1.1)	(2.1)	(0.3)	(1.1)	(1.3)
CPUE ≥40.0 in	3	2	2	4	4	4	3	4	2	2	2	1	4	2
	(0.5)	(0.3)	(0.3)	(1.1)	(1.0)	(1.6)	(0.5)	(1.0)	(0.4)	(0.4)	(0.2)	(0.0)	(0.9)	(0.3)
Total score	13	8	17	14	19	17	11	19	15	12	15	6	11	11
Assessment	Good	Poor	Excellent	Good	Excellent	Excellent	Fair	Excellent	Good	Fair	Good	Poor	Fair	Fair

EFDBLMSS.D00-D10, D12, D14, D16-D17
LFRBHLSP.D11, D13

Table 4. Length frequency and CPUE (fish/hr) of black bass collected in approximately 1.75 hours of 15-min nocturnal electrofishing runs at Buckhorn Lake (1,230 acres) on 22 September 2016; numbers in parentheses are standard errors.

Area		Inch class																				
	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower																						
	SMB						1														1	1.0 (1.0)
	LMB	1	28	41	41	12	1	4	13	7	9	7	2	2						1	169	169.0 (25.0)
Upper																						
	SMB																				0	0.0
	LMB		12	65	65	32	3	4	17	6	12	9	5		1					1	232	309.3 (34.7)
Total																						
	SMB						1														1	0.6 (0.6)
	LMB	1	40	106	106	44	4	8	30	13	21	16	7	2	1					2	401	229.1 (47.6)

SMB = smallmouth bass

LMB = largemouth bass

EFDBLLSF.D16

Table 5. Indices of year class strength at age-0 and age-1 and mean lengths (in) of age-0 largemouth bass at Buckhorn Lake (1,230 acres) from electrofishing. CPUE=fish/hr, SE=standard error.

	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002	4.5	0.1	99.3	7.4	38.7	2.6	19.2	3.3
2003	4.7	0.5	106.0	13.8	39.7	4.6	35.5	5.4
2004	3.6	0.0	176.7	34.0	9.3	4.6	16.3	3.5
2005	4.0	0.2	44.7	6.6	10.0	3.5	11.2	2.1
2006	4.2	0.2	17.6	4.1	5.3	1.9	13.0	3.7
2007	4.5	0.2	18.8	6.4	9.6	3.4	11.2	3.8
2008	4.9	0.1	21.4	3.7	9.9	2.3	43.8	3.5
2009			no fall sample				26.1	5.2
2010	4.3	0.1	67.0	5.0	22.5	5.8	no spring sample	
2011	4.5	0.1	126.7	26.7	42.0	10.0	36.1	6.5
2012	5.0	0.2	39.0	9.6	21.0	7.2	no spring sample	
2013	4.1	0.1	68.8	10.8	16.8	4.3	8.7	3.5
2014	4.4	0.1	86.5	24.9	26.5	8.6	56.0	6.0
2015	4.2	0.1	80.0	15.9	17.6	2.0	no spring sample	
2016	5.0	0.0	169.7	44.0	85.7	23.9		

EFDBLLSF.D02-D08, D10-D16
EFDBLLAS.D04, D09
EFDBLLAF.D14
EFDBLLSS.D03-D10, D12, D14-D15

Table 6. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 1.50 hours of 15-minute electrofishing samples at Carr Creek Lake (710 acres) on 13 May 2016; numbers in parentheses are standard errors.

		Inch class																		
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Lower	Smallmouth bass					1				1		1							3	4.0 (4.0)
	Spotted bass			1			1		1	2									5	6.7 (4.8)
	Largemouth bass		1	6	5	3	10	10	6	9	4	4	2	5	6	3	1		75	100.0 (32.6)
Upper	Smallmouth bass																		0	0.0
	Spotted bass			1		1	1				1								4	5.3 (2.7)
	Largemouth bass	1	4	8	13	4	10	9	2	4	3	2	1	4	1	2		1	69	92.0 (18.0)
Total	Smallmouth bass					1				1		1							3	2.0 (2.0)
	Spotted bass			2		1	2		1	2	1								9	6.0 (2.5)
	Largemouth bass	1	5	14	18	7	20	19	8	13	7	6	3	9	7	5	1	1	144	96.0 (16.8)

EFDCLLSS.D16

Table 7. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carr Creek Lake (710 acres) from 2002-2016. SE=standard error.

	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
2002	116.3	14.2	16.9	1.7	12.3	1.6	7.1	1.2	0.0		152.7	13.3
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
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
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
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
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
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
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
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
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
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
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
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
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
2016	30.0	7.6	40.0	11.9	10.7	3.0	15.3	3.6	0.0		96.0	16.8

BBRPSCFL.D02-D05
EFDCLLSS.D06-D10, D12-D16

Table 8. PSD and RSD values for each species of black bass collected in each area of Carr Creek Lake (710 acres) on 13 May 2016. Number of fish (No.) is the number of stock-size or larger fish collected and numbers in parentheses are 95% confidence intervals.

	Largemouth bass			Smallmouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}	No.	PSD_7	RSD_{14}
Lower	60	42	25	3	67	0	4	50	0
		(29-54)	(14-36)		(1-132)			(0-107)	
Upper	39	36	21				3	33	
		(21-51)	(8-33)					(0-99)	
Total	112	39	23	2	67	0	10	43	0
		(30-49)	(15-32)		(1-132)			(0-99)	

EFDCLLSS.D16

Table 9. Population assessment for largemouth bass collected from Carr Creek Lake (710 acres). Actual values are in parentheses. Scoring based on statewide assessment.

Parameter	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Mean length age-3 at capture	4	4	4	4	4	4	4	4	4	4	4	4
	(13.2)	(13.2)	(13.2)	(12.6)	(12.6)	(12.6)	(12.6)	(12.6)	(13.5)	(13.5)	(13.5)	(13.5)
Spring CPUE age-1	2	2	2	1	1	2	2	2	4	4	4	3
	(18.8)	(21.1)	(7.6)	(2.4)	(3.1)	(10.0)	(9.0)	(13.9)	(114.7)	(116.0)	(71.0)	(35.3)
Spring CPUE 12.0-14.9 in	2	3	2	2	2	1	1	1	2	2	2	1
	(24.8)	(27.9)	(18.6)	(24.7)	(17.1)	(10.8)	(5.5)	(9.0)	(16.0)	(25.0)	(15.5)	(10.7)
Spring CPUE $\geq$15.0 in	3	4	3	3	3	2	3	3	3	3	3	3
	(14.0)	(29.9)	(15.7)	(23.7)	(16.0)	(12.6)	(16.0)	(13.5)	(16.7)	(18.5)	(18.5)	(15.3)
Spring CPUE $\geq$20.0 in	2	2	2	2	2	2	2	2	3	2	2	1
	(0.3)	(0.7)	(0.5)	(0.5)	(0.6)	(0.9)	(1.0)	(1.5)	(2.7)	(1.0)	(1.0)	(0.0)
Total score	13	15	13	12	12	11	12	12	16	15	15	12
Assessment rating	Good	Good	Good	Fair	Fair	Fair	Fair	Fair	Good	Good	Good	Fair
Instantaneous mortality (z)	0.47	0.43	0.37	0.41	0.74	0.34	0.27	0.44				
Annual mortality (A)	37.50	35.10	30.90	33.50	52.30	29.10	23.80	35.80				

BBRPSCFL.D04-D05
EFDCLLSS.D06-D16
EFDCLLAS.D08
EFDCLLAF.D13

Table 10. Length frequency and electrofishing CPUE (fish/hr) of black bass collected in approximately 1.25 hours of 15-minute nocturnal electrofishing samples at Carr Creek Lake (710 acres) on 19 September 2016; numbers in parentheses are standard errors.

		Inch class																
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE
Lower	Smallmouth bass																0	0.0
	Spotted bass						1										1	4.0
	Largemouth bass	2	2	1		4	1	1		1	1	1				1	15	64.0 NA
Upper	Smallmouth bass																0	0.0
	Spotted bass					2	1	1									4	4.0 (2.8)
	Largemouth bass	10	13	9	4	6	5	5	4				2	2	1		61	61.0 (18.4)
Total	Smallmouth bass																	0.0
	Spotted bass					2	2	1									5	4.0 (2.2)
	Largemouth bass	12	15	10	4	10	6	6	4	1	1	1	2	2	1	1	76	61.6 (14.2)

EFDCLLSF.D15

NA: no SE, only 1 sample

Table 11. Indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected by electrofishing at Carr Creek Lake (710 acres). CPUE=fish/hr, SE=standard error.

	Age-0		Age-0		Age-0 $\geq$5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2003	4.4	0.1	14.0	5.4	5.8	2.3	133.8*	17.5
2004	5.2	0.0	132.0	17.3	88.2	12.7	18.8	2.6
2005	4.7	0.1	15.8	6.7	5.6	1.7	21.3	6.7
2006	4.2	0.2	11.0	4.1	3.0	1.0	7.6	2.0
2007	3.7	0.5	5.0	2.2	1.0	0.7	2.4	1.2
2008	4.3	0.2	15.2	6.6	3.8	1.7	3.1	0.8
2009	3.6	0.3	12.5	2.8	3.5	1.6	10.0	2.5
2010	4.6	0.2	13.5	4.4	5.0	1.7	9.0	3.1
2011	4.6	0.1	17.6	5.7	7.2	3.0	13.2	2.6
2012	4.3	0.2	34.5	10.9	11.5	4.0	114.7*	51.8
2013	4.4	0.2	14.0	4.6	4.8	1.8	116.0*	23.8
2014	4.4	0.3	13.3	4.2	5.3	1.7	71.0*	23.2
2015	4.7	0.2	45.3	9.6	16.0	6.1	35.3	8.0
2016	4.6	0.1	32.0	7.9	10.4	3.0		

* Includes stocked fish

BBRWRCFL.D03-D05

BBRSCCFL.D03

EFDCLLSF.D06-D16

EFDCLLAS.D08

EFDCLLSS.D06-D16

EFDCLLAF.D13

Table 12. 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
2000							5	28	10	6	8	2	3	3	1		1	6	4	1			78	20.8	4.6
2001							2	4	3	14	8	6	2	2	1				2				44	20.4	4.7
2002													no sample												
2003		2	1			1	1	2			3	7		4	2		1	1	1	1	1		28	26.7	8.5
2004											1	3	13	10	13	13	4	3	1				61	27.1	7.4
2005									1	1	2	10	2	10	6	5	4	3	1	1			46	28.2	5.0
2006											1	4	6	7	9	9	8	3	4	2	2		55	31.3	5.4
2007								1		1	2	4	3	11	15	8	4	4	5	2			60	32.9	7.4
2008									1	2	5	12	16	19	21	19	15	14	7	3	1	1	136	12.8	1.2
2009								1	4	3	9	18	21	17	15	13	10	11	2				124	21.3	1.3
2010								6	8	7	7	10	15	16	14	16	13	8	8	9		1	138	12.7	3.3
2011	1	1				1			2	6	8	8	5	15	7	11	5	5	2	3	1		81	15.4	5.2
2012								1	1	2	1	13	19	22	14	4	4	5	1				87	20.8	2.5
2013									3	2	8	11	13	16	21	9	2	2	1				88	10.7	1.4
2014									1		2	14	9	12	10	6	1		1				56	11.8	2.9
2015								2	3	7	9	13	14	11	12	7	3	1					82	21.6	17.4
2016									3	3	7	16	21	26	18	13	1	4	1				113	20.6	2.3

EFDCLWSS.D00-D16

Table 13. Spring electrofishing catch rate (fish/hr) for each age of walleye collected from Carr Creek Lake (710 acres) from 2007-2016.

Age	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1										
2	1.2	0.6	2.0	2.1	1.3	1.6	1.0	0.9	3.2	1.8
3	8.8	3.4	7.2	3.2	5.0	7.8	4.2	4.5	9.1	8.1
4	7.5	3.2	5.5	2.6	3.6	5.1	2.6	3.6	5.2	5.2
5	5.4	1.7	2.4	1.4	1.6	2.9	1.2	1.3	1.6	2.4
6	1.9	0.6	0.8	0.3	0.4	0.9	0.5	0.4	0.6	0.8
7	0.9	0.7	0.8	0.4	0.4	0.5	0.1	0.1	0.2	0.2
8	3.5	0.9	1.0	0.9	0.7	0.8	0.5	0.5	0.6	0.8
9	2.4	1.1	1.4	0.8	1.0	1.2	0.5	0.5	0.7	1.0
10	0.6	0.2	0.3	0.2	0.3	0.1	0.1	0.2	0.2	0.3

EFDCLWSS.D06-D16
EFDCLWAS.D03, D09

Table 14. 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 26 September 2016; numbers in parentheses are standard errors.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE
SB					2		1	1													4	3.2 (3.2)
LMB	46	39	2	1	5	6	5	3	9	10	1	3				1	1			2	134	107.2 (32.0)

SB = spotted bass
LMB = largemouth bass
EFDCCLSF.D16

Table 15. Indices of year class strength at age-0 and age-1 and mean lengths (in) of age-0 largemouth bass at Cranks Creek Lake (219 acres) from electrofishing. CPUE=fish/hr, SE=standard error.

	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
1999							44.3	10.4
2000							14.3	4.8
2001	5.0	0.1	27.3	5.2	13.3	3.0		
2002	5.1	0.1	34.4	10.6	20.8	7.7		
2003							15.0	4.3
2004							50.4	15.3
2005								
2006								
2007	4.3	0.1	32.0	8.7	7.2	2.9	23.0	7.3
2008								
2009	3.9	0.1	64.0	29.8	7.2	4.8	68.8	26.1
2010	4.3	0.1	93.3	28.5	16.0	6.1	45.6	6.0
2011	5.3	0.1	51.2	5.4	34.4	5.3	28.0	10.7
2012	4.1	0.1	66.4	27.4	10.4	5.3		
2013	3.9	0.2	11.2	5.4	0.8	0.8		
2014	4.0	0.1	104.8	24.5	20.8	5.1	19.2	5.3
2015	4.3	0.2	37.0	14.6	9.0	3.0		
2016	4.1	0.1	70.4	29.7	2.4	1.0		

EFDCCLSF.D01-D02, D07, D09-D16
EFDCCLAS.D08
EFDCCLSS.D00, D01, D04, D05, D08, D10-D15
EFDCCLAF.D13

Table 16. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 2.0 hours of 15-minute nocturnal electrofishing samples by area at Dewey Lake (1,100 acres) on 26 April 2016. Standard errors are in parentheses.

		Inch class																		
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower	Spotted bass			2	4	2		3	2										13	10.4 (4.1)
	Largemouth bass	10	10	1	9	6	11	8	14	18	33	18	9	6	3	7	1	2	166	132.8 (12.0)
Upper	Spotted bass			1	1	1	2												5	6.7 (6.7)
	Largemouth bass	4	5	3	3		4	2	6	8	13	4	5	6	7	1	1		72	96.0 (0.0)
Total	Spotted bass			3	5	3	2	3	2										18	9.0 (3.4)
	Largemouth bass	14	15	4	12	6	15	10	20	26	46	22	14	12	10	8	2	2	238	119.0 (9.9)

EFDDLLSS.D16

Table 17. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Dewey Lake (1,100 acres). SE=standard error.

	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
1987	44.6		38.3		12.0		0.6		0.0		95.4	
1988	84.0		40.7		26.7		2.0		0.0		154.7	
1989	75.0		27.5		10.8		7.0		0.0		120.7	
1990	58.8		68.0		32.0		11.4		0.6		171.4	
1991	73.8		50.6		18.4		3.5		0.2		146.4	
1992	57.4		64.1		17.2		7.4		0.2		146.1	
1993	43.7		71.8		15.6		8.8		0.8		140.0	
1994						no sample						
1995	46.6		59.6		28.5		3.6		0.0		138.3	16.9
1996						no sample						
1997	15.3		53.3		32.3		11.0		1.0		112.0	12.2
1998	20.1		51.4		43.2		7.2		0.6		122.0	8.5
1999	78.9		34.6		39.5		12.8		0.5		165.8	12.7
2000	62.2	4.7	44.0	4.4	23.6	3.5	10.3	1.3	0.1		140.1	9.5
2001	150.1	17.2	57.8	5.7	26.9	2.7	17.8	1.6	0.6		252.6	22.8
2002						no sample						
2003	71.1	10.1	55.6	4.4	23.1	1.8	22.0	2.1	0.7		171.8	14.6
2004	96.2	11.9	34.7	3.8	20.0	3.2	17.5	2.6	1.0		168.3	13.9
2005	39.3	5.0	59.2	6.3	31.0	3.2	24.5	1.9	0.3		153.9	12.8
2006	32.3	5.7	66.4	8.6	24.2	3.6	24.9	3.6	0.7		147.8	10.0
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
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
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
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
2011						no sample						
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
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
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
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
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

EFDDLLSS.D87-D02, D06-D10, D12-D16
BBRPSDEW.D03-D05

Table 18. PSD and RSD values for each species of black bass collected in each area of Dewey Lake (1,100 acres) during spring 2016. Numbers in parentheses are 95% confidence intervals.

	Largemouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}
Lower	136	71 (64-79)	21 (14-27)	11	18 (0-42)	0
Upper	57	79 (68-89)	35 (23-48)	4	0	0
Total	193	74 (67-80)	25 (19-31)	15	13 (0-31)	0

EFDDLLSS.D16

Table 19. Population assessment for largemouth bass collected from Dewey Lake (1,100 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year										
Parameter	2005	2006	2007	2008	2009	2010	2012	2013	2014	2015	2016
Mean length age-3 at capture	1 (10.5)	1 (10.5)	1 (10.5)	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.3)	2 (11.2)	2 (11.2)	2 (11.2)	2 (11.2)
Spring CPUE age-1	3 (24.8)	3 (27.9)	4 (49.0)	4 (49.5)	4 (55.6)	2 (16.4)	2 (19.5)	2 (20.8)	1 (10.8)	2 (17.2)	2 (20.5)
Spring CPUE 12.0-14.9 in	4 (31.0)	3 (24.2)	4 (35.1)	2 (21.6)	2 (18.8)	1 (12.3)	4 (34.9)	4 (54.0)	4 (31.2)	4 (43.2)	4 (47.0)
Spring CPUE ≥15.0 in	4 (24.5)	4 (24.9)	4 (30.2)	3 (16.3)	3 (14.4)	2 (8.3)	2 (10.7)	3 (17.2)	4 (20.0)	4 (24.0)	4 (24.0)
Spring CPUE ≥20.0 in	2 (0.3)	3 (0.7)	4 (1.5)	3 (0.8)	3 (0.5)	1 (0.0)	2 (0.4)	3 (1.2)	3 (1.2)	3 (0.8)	3 (1.0)
Total score	14	14	17	14	14	8	12	14	14	15	15
Assessment rating	Good	Good	Excellent	Good	Good	Poor	Fair	Good	Good	Good	Good
Instantaneous mortality (z)	0.42	0.41	0.39	0.56	0.48	0.77	0.64				
Annual mortality (A)	34.30	33.50	32.10	42.80	38.40	53.90	35.80				

BBRPSDEW.D04-D05
EFDDLLSS.D06-D10, D13-D16
EFDDLLAS.D08
EFDDLLAF.D13

Table 20. Length-frequency distribution of each black bass species captured during 2.0 hours of 15-minute nocturnal electrofishing runs at Dewey Lake (1,100 acres) on 15 September 2016. Standard errors are in parentheses.

		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
Lower	Spotted bass		1	1		2				1												5	6.7 (6.7)
	Largemouth bass	1	7	13	6	4	5	5	5	5	3	1	2	1	2	2	2	1				65	86.7 (3.5)
Upper	Spotted bass		1				1															2	1.6 (1.6)
	Largemouth bass		5	7	17	7	10	7	3	4	8	9	6	8	5	5	3	5	2		1	112	89.6 (7.3)
Total	Spotted bass		2	1		2	1			1												7	3.5 (2.6)
	Largemouth bass	1	12	20	23	11	15	12	8	9	11	10	8	9	7	7	5	6	2		1	177	88.5 (4.6)

EFDDLLSF.D16

Table 21. Indices of year class strength at age-0 and age-1 and mean lengths (in) of age-0 largemouth bass at Dewey Lake (1,100 acres) from electrofishing. CPUE=fish/hr, SE=standard error.

	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002	5.0	0.0	75.6	14.2	37.6	9.4	61.2	9.4
2003	4.9	0.1	38.9	10.6	15.1	3.8	79.7	10.5
2004	5.2	0.1	45.2	7.1	25.4	4.6	24.8	4.1
2005	4.4	0.1	58.7	16.1	16.9	6.6	27.9	5.5
2006	5.1	0.1	39.0	9.9	21.3	5.8	49.0	9.2
2007	4.8	0.1	54.3	12.8	21.2	4.2	49.5	10.0
2008	5.0	0.1	54.9	14.3	30.0	7.4	55.6	12.1
2009	5.3	0.1	45.7	8.8	28.8	5.2	16.4	3.3
2010	5.0	0.1	67.6	14.2	38.4	8.5	no sample	
2011	4.6	0.1	37.2	9.3	14.8	3.6	19.5	4.4
2012	4.4	0.1	26.0	5.3	7.2	1.7	20.8	3.9
2013	3.4	0.2	25.2	6.3	3.2	0.8	10.8	2.8
2014	3.9	0.1	36.8	8.3	10.0	4.3	17.2	3.5
2015	3.7	0.2	38.7	9.9	7.3	3.0	20.5	3.2
2016	4.9	0.1	33.5	5.1	17.0	3.5		

BBRPSDEW.D03-D05
BBRDLLSF.D02
BBRWRDEW.D03-D04
BBRSCDEW.D03
EFDDLLSF.D05-D16
EFDDLLSS.D06-D10, D12-D16
EFDDLLAS.D08

Table 22. Length frequency and CPUE (fish/nn) for white crappie collected at Dewey Lake (1,100 acres) in 12 net-nights from 22 - 23 November 2016. Standard errors are in parentheses.

	Inch class														
Species	2	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	SE
WC	3	18	101	98	320	196	79	28	36	18	6	2	905	75.4	(16.4)
BC	2	8	17	28	144	139	7						345	28.8	(10.3)

WC=white crappie
BC=black crappie
EFDDLCTF.D16

Table 23. PSD and RSD_{10} values calculated for crappie collected in trap nets at Dewey Lake (1,100 acres) during November 2016; 95% confidence intervals are in parentheses.

Species	No. fish ≥ 5.0 in	PSD_5	RSD_{10}
WC	783	22 (19-24)	8 (6-10)
BC	318	2 (1-4)	0

WC = white crappie
BC = black crappie
EFDDLCTF.D16

Table 24. Mean back-calculated length (in) at each annulus for white crappie collected from Dewey Lake (1,100 acres) in November 2016, including 95% confidence intervals.

Year class	No.	Age 1	2	3	4	5	6
2015	24	4.2					
2014	39	4.6	6.9				
2013	21	4.4	6.6	8.3			
2012	22	4.7	6.9	8.2	9.3		
2011	3	4.8	7.0	8.3	9.6	10.9	
2010	2	5.2	7.7	8.7	9.8	11.0	12.4
Mean		4.5	6.9	8.2	9.4	11.0	12.4
Smallest		3.4	4.6	6.2	6.8	10.4	12.3
Largest		5.8	8.8	9.9	10.7	11.4	12.4
STD error		0.0	0.1	0.1	0.2	0.2	0.0
95% CI LO		4.4	6.7	8.0	9.1	10.6	12.3
95% CI HI		4.6	7.0	8.5	9.7	11.3	12.4

Intercept = 0
EFDDLCAF.D16

Table 25. Mean back-calculated length (in) at each annulus for black crappie collected from Dewey Lake (1,100 acres) in November 2016, including 95% confidence intervals.

Year		Age				
class	No.	1	2	3	4	5
2015	13	3.3				
2014	4	2.9	4.9			
2013	10	3.4	5.1	6.2		
2012	13	3.2	5.2	6.3	6.8	
2011	10	3.5	5.6	6.5	7.0	7.4
Mean		3.3	5.2	6.4	6.9	7.4
Smallest		2.8	4.4	5.8	6.1	7.0
Largest		3.9	6.1	7.2	7.8	8.3
STD error		0.0	0.1	0.1	0.1	0.1
95% CI LO		3.2	5.1	6.2	6.8	7.2
95% CI HI		3.4	5.4	6.5	7.1	7.7

Intercept = 0
EFDDLCAF.D16

Table 26. Age frequency and CPUE (fish/nn) of white crappie collected by trap netting for 12 net-nights at Dewey Lake (1,100 acres) in November 2016; numbers in parentheses are standard errors.

	Inch class														
Age	3	4	5	6	7	8	9	10	11	12	13	Total	Age%	CPUE	
0	18	101	13									132	15	11.0	(1.9)
1			78	207	13							298	33	24.9	(5.9)
2			7	94	131	54	18	7				311	34	25.9	(6.6)
3				19	39	25	4	7	10			104	11	8.6	(2.2)
4					13		6	23	7	4		53	6	4.3	(1.2)
5									1	2		3	0	0.3	(0.1)
6											2	2	0	0.2	(0.2)
Total	18	101	98	320	196	79	28	37	18	6	2	903			
%	2	11	11	35	22	9	3	4	2	1	0				

CPUE of $\geq$8.0 in (quality size) = 14.1 fish/nn
CPUE of $\geq$10.0 in (preferred size) = 5.2 fish/nn
EFDDLCAF.D16
EFDDLCTF.D16

Table 27. Age frequency and CPUE (fish/nn) of black crappie collected by trap netting for 12 net-nights at Dewey Lake (1,100 acres) in November 2016; numbers in parentheses are standard errors.

	Inch class										
Age	2	3	4	5	6	7	8	Total	Age%	CPUE	
0	2	8						10	3	0.8	(0.3)
1			17	14				31	9	2.6	(0.9)
2				14				14	4	1.2	(0.5)
3					101	22		123	36	10.2	(3.7)
4					43	66	2	111	32	9.2	(3.6)
5						51	5	56	16	4.7	(1.9)
Total	2	8	17	28	144	139	7	345			
%	1	2	5	8	42	40	2				

CPUE of $\geq$8.0 in (quality size) =0.6 fish/nn
CPUE of $\geq$10.0 in (preferred size) = 0.0 fish/nn
EFDBLCAF.D16
EFDBLCTF.D16

Table 28. Population assessment scores for white crappie collected from Dewey Lake (1,100 acres). Actual assessment values are in parentheses. Scoring based on statewide assessment.

	Year					
Parameter	2002	2008	2010	2012	2014	2016
CPUE (excluding age-0)	4 (48.2)	4 (44.0)	4 (15.6)	4 (26.0)	4 (27.5)	4 (64.4)
CPUE age-1	4 (14.4)	3 (6.6)	4 (7.8)	4 (15.2)	3 (4.8)	4 (24.9)
CPUE age-0	4 (27.5)	3 (2.6)	4 (4.8)	4 (5.1)	3 (2.2)	4 (11.0)
CPUE $\geq$8.0 in	3 (4.8)	4 (15.5)	4 (8.7)	4 (10.1)	4 (11.3)	4 (14.1)
Mean length age-2 at capture	1 (6.3)	1 (7.0)	2 (9.1)	3 (9.6)	1 (8.1)	2 (8.2)
Instantaneous mortality (z)	1.27	0.49	0.50	0.65	1.40	1.11
Annual Mortality (A)	72.00	38.80	39.50	47.60	75.40	67.00
Total score	16	15	18	19	15	18
Assessment rating	Good	Good	Excellent	Excellent	Good	Excellent

EFDDLCTF.D02-D16
EFDDLCAF.D02-D16

Table 29. Population assessment scores for black crappie collected from Dewey Lake (1,100 acres). Actual assessment values are in parentheses. Scoring based on statewide assessment.

	Year					
Parameter	2002	2008	2010	2012	2014	2016
CPUE	3	4	2	4	4	4
(excluding age-0)	(6.1)	(17.4)	(2.0)	(16.0)	(20.5)	(19.9)
CPUE age-1	2	3	1	2	1	3
	(1.3)	(2.9)	(0.1)	(0.7)	(0.5)	(2.6)
CPUE age-0	3	4	3	2	1	2
	(1.6)	(2.4)	(1.0)	(0.3)	(0.2)	(0.8)
CPUE $\geq$8.0 in	1	3	2	4	3	1
	(0.1)	(1.8)	(0.7)	(5.8)	(3.0)	(0.6)
Mean length age-2 at capture	1	1	1	1	1	1
	(5.0)	(6.5)	(6.7)	(6.8)	(6.6)	(5.8)
Instantaneous mortality (z)	1.25	0.35	0.06	0.33	0.45	0.33
Annual Mortality (A)	71.40	29.60	6.20	28.10	36.10	38.40
Total score	10	15	9	13	10	11
Assessment rating	Fair	Good	Fair	Good	Fair	Fair

EFDDLCTF.D02-D16
EFDDLCAF.D02-D16

Table 30. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 2.50 hours of 15-minute electrofishing samples at Fishtrap Lake (1,143 acres) on 21 September 2016; numbers in parentheses are standard errors.

		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
Lower	Smallmouth bass		1										1						1				3	2.4 (1.0)
	Spotted bass			1			2	1	3	3	2												12	9.6 (6.7)
	Largemouth bass		11	78	37	4	2	5	16	20	4	11	5	10	1	2	2	1	1		1	1	212	169.6 (40.9)
Upper	Smallmouth bass		1	2		1																	4	3.2 (1.5)
	Spotted bass	1		1	1																		3	2.4 (1.6)
	Largemouth bass	3	15	76	34	5		4	19	18	5	9	8	6	1	1	1			1	1		207	165.6 (34.7)
Total	Smallmouth bass		2	2		1							1						1				7	2.8 (0.9)
	Spotted bass	1		2	1		2	1	3	3	2												15	6.0 (3.4)
	Largemouth bass	3	26	154	71	9	2	9	35	38	9	20	13	16	2	3	3	1	1	1	2	1	419	167.6 (25.3)

EFDFLLSS.D16

Table 31. Indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected at Fishtrap Lake (1,143 acres).

	Age-0		Age-0		Age-0 $\geq$5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2003	5.1	0.0	106.2	32.9	59.6	15.9	35.4	6.0
2004	5.0	0.0	256.0	51.1	122.7	23.9	61.5	10.2
2005	4.5	0.1	108.0	41.3	24.0	11.1	52.5	8.8
2006	5.0	0.1	72.7	14.1	36.5	8.0	28.3	4.5
2007	5.1	0.1	114.2	23.7	63.5	11.0	38.5	12.1
2008	4.6	0.1	75.3	25.9	26.3	9.5	44.2	10.7
2009	4.8	0.1	83.3	15.1	39.3	5.4	51.6	3.2
2010	5.2	0.1	111.6	16.4	61.6	8.4	no sample	
2011	5.1	0.1	119.4	26.9	69.1	13.3	50.8	8.2
2012	5.1	0.1	72.7	24.3	38.0	12.0	no sample	
2013	4.6	0.1	63.5	16.4	19.5	5.2	24.2	6.2
2014	4.8	0.1	54.0	8.8	21.2	3.6	22.1	3.1
2015	4.9	0.1	139.0	25.2	62.0	16.7	no sample	
2016	4.7	0.0	105.2	25.1	32.0	6.3		

EFDFLLSF.D03-D16
EFDFLLSS.D04-D10, D12, D14-D15
EFDFLLAS.D04, D10

Table 32. Fish harvest statistics derived from a daytime creel survey at Fishtrap Lake (1,143 acres) from 2 April through 29 October 2016. Standard errors are in parentheses.

Fishing trips	
No. of fishing trips	5,965
No. of fishing trips per acre	5.22
Fishing pressure	
Total angler hours	28,882 (862.87)
Man-hours/acre	25.27
Catch/harvest	
No. of fish caught	46,187 (4,516.59)
No. of fish harvested	9,449 (1,309.08)
Lb of fish harvested	5,011
Harvest rates	
Fish/hour	0.32
Fish/acre	8.27
Lb/acre	4.38
Catch rate	
Fish/hour	1.6
Fish/acre	40.41
Miscellaneous characteristics (%)	
Male	89.6
Female	10.4
Resident	97.2
Non-resident	2.8
Method (%)	
Still fishing	27.1
Casting	69.4
Trotline/Jugging	3.0
Trolling	0.4
Crappie-spider rig	0.1
Mode (%)	
Boat	95.2
Bank	4.8
Dock	NA

Table 33. Fish harvest statistics derived from a creel survey at Fishtrap Lake (1,143 acres) from 2 April through 29 October 2016.

	Common carp	Channel catfish	Flathead catfish	Green sunfish	Bluegill	Smallmouth bass	Spotted bass	Largemouth bass	White crappie	Hybrid striped bass	Blue catfish	Red ear sunfish
No. caught	6	1315	100	84	14,014	176	466	14,474	14,084	598	345	40
(per acre)	(0.006)	(1.150)	(0.088)	(0.073)	(12.261)	(0.154)	(0.407)	(12.663)	(12.323)	(0.523)	(0.302)	(0.035)
No. harvested		518	52	71	3,923	6	55	6	4,383	66	153	8
(per acre)		(0.454)	(0.046)	(0.062)	(3.432)	(0.006)	(0.048)	(0.006)	(3.835)	(0.058)	(0.134)	(0.007)
% of total no. harvested	0.00	5.50	0.55	0.75	41.69	0.06	0.58	0.06	46.57	0.70	1.62	0.009
Lb harvested		904.7	402.4	9.8	946.4	27.9	39.7	234.6	1,951.0	234.6	383.8	2
(per acre)		(0..792)	(0.352)	(0.009)	(0.828)	(.024)	(0.035)	(0.205)	(1.707)	(0.205)	(0.336)	(0.002)
% of total lb harvested	0.00	18.06	8.03	0.20	18.89	0.56	0.79	4.68	38.94	4.68	7.66	0.04
Mean length (in)		17.8	25.8	6.4	7.4	21.0	11.5	17.7	10.3	17.7	19.2	7
Mean w eight (lb)		1.79	7.05	0.17	0.25	4.38	0.66	2.56	0.51	3.24	2.72	0.24

	Catfish group	Panfish group	Black bass group	Crappie group	Hybrid striped bass	Anything
No. of fishing trips for that species	341	429.00	3,327	689	38	1,141
% of all trips	5.72	7.20	55.78	11.55	0.64	19.13
Hours fished for that species	1,650.08	2,075.62	16,110.31	3,336.57	184.88	5,524.66
(per acre)	(1.44)	(1.82)	(14.09)	(2.92)	(0.16)	(4.83)
No. harvested fishing for that species	301	2,498		4,068		
Lb harvested fishing for that species	867.4	576.5		1,777.3		
No./hour harvested fishing for that species	0.180	1.200		1.220		
% success fishing for that species	28.40	51.38		58.94		22.86

Table 34. Species composition and length distribution of each species of fish harvested (H) and released (R) from a creel survey on Fishtrap Lake (1,143 acres) from 2 April to 29 October 2016.

		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	28	29	32	36	41
Common carp	H																												
	R																										6		
Channel catfish	H								7		14	27	34	95	136	82	41	20	14	20		14	14						
	R					41	21	76	14	76	62	137	124	96	34	55		41				7	7		5				
Flathead catfish	H													7								7	7	7	20			4	
	R												7			7					7	7			7	7			5
Bluegill	H	62	110	571	1,239	1,404	453																						
	R	945	3,778	3,160	1,118	806	264			20																			
Green sunfish	H		16	47		8																							
	R				6	6																							
Spotted bass	H								21	21	13																		
	R			7		14	34	130	68	116	7	27	7																
Largemouth bass	H																		6										
	R					1401	440	3,275	2,341	3,557	2,115	714	206	110	137	76	27	48	14										
Smallmouth bass	H																		6										
	R			7		14	7	34	34	54		14	5																
White crappie	H						1,791	1,666	567	270	55	21	13																
	R	26	197	1,892	4,066	3,173	66	105	131	33		7		5															
Hybrid striped	H												29	15							7	7		7					
	R			7	48	61	61	75	48	41	68	34	34	20	7	27													
Blue catfish	H										6			12	43	55						31			6				
	R								21		7	21	7	21	36	7	7	14				14	14	23					

Table 35. Monthly black bass angling success at Fishtrap Lake (1,143 acres) during the 2016 creel survey period.

	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	2,884	32	530.26	2,567.49	2,205	0.86	0	0.00
May	2,482	19	582.81	2,821.92	2,016	0.71	0	0.00
Jun	1,807	0	419.21	2,029.78	1,512	0.74	0	0.00
Jul	1,648	0	395.07	1,912.91	1,293	0.66	0	0.00
Aug	661	0	186.49	902.99	436	0.48	0	0.00
Sep	2,981	0	653.70	3165.15	2,739	0.87	0	0.00
Oct	2,652	17	559.71	2710.08	2,321	0.86	0	0.00
Total	15,115	68	3,327.25	16,110.32	12,522		0	
Mean						0.74		0.00

Table 36. Monthly white crappie angling success at Fishtrap Lake (1,143 acres) during the 2016 creel survey period.

	Total no. of white crappie caught	Total no. of white crappie harvested	No. of white crappie fishing trips	Hours fished by crappie anglers	White crappie caught by crappie anglers	White crappie caught/hour by crappie anglers	White crappie harvested by crappie anglers	White crappie harvested/hour by crappie anglers
Apr	6,929	2,006	255.83	1,238.70	6,276	5.07	1,808	1.46
May	3,637	753	126.70	613.46	2,954	4.82	676	1.10
Jun	451	125	32.94	159.48	240	1.50	85	0.53
Jul	216	21	19.95	96.61	76	0.79	0	0.00
Aug	49	0	0.00	0.00	0	0.00	0	0.00
Sep	525	258	65.37	316.51	374	1.18	216	0.68
Oct	2,279	1,220	188.31	911.80	2,000	2.19	1,127	1.24
Total	14,085	4,383	689.10	3,336.56	11,920		3,912	
Mean						2.22		0.72

Table 37. Monthly hybrid striped bass angling success at Fishtrap Lake (1,143 acres) during the 2016 creel survey period.

	Total no. of hybrid striped bass caught	Total no. of hybrid striped bass harvested	No. of hybrid striped bass fishing trips	Hours fished by hybrid striped bass anglers	Hybrid striped bass caught by hybrid striped bass anglers	Hybrid striped bass caught/hour by hybrid striped bass anglers	Hybrid striped bass harvested by hybrid striped bass anglers	Hybrid striped bass harvested/hour by hybrid striped bass anglers
Apr	160	6	0.00	0.00	0	0.00	0	0.00
May	115	6	0.00	0.00	0	0.00	0	0.00
Jun	25	5	0.00	0.00	0	0.00	0	0.00
Jul	90	0	3.99	19.32	14	0.05	0	0.00
Aug	63	14	0.00	0.00	0	0.00	0	0.00
Sep	17	0	0.00	0.00	0	0.00	0	0.00
Oct	127	34	0.00	0.00	0	0.00	0	0.00
Total	598	66	3.99	19.32	14		0	
Mean						0.01		0.00

Table 38. Catch and harvest statistics derived from a creel survey at Fishtrap Lake (1,143 acres) for largemouth bass, white crappie, and hybrid striped bass caught and released by all anglers from 2 April to 29 October 2016.

	Largemouth bass				White crappie				Hybrid striped bass			
		Catch & release				Catch & release				Catch & release		
	Harvest	12.0-14.9 in	≥15.0 in	Total	Harvest	<9.0 in	≥9.0 in	Total	Harvest	<15.0 in	≥15.0 in	Total
Total number	6	6,386	618	14,474	4,383	9,354	347	14,084	66	143	88	598
Total weight (lb)	16.3	4,623.0	448.6	10,491.9	1,951.0	1,401.0	52.7	3,404.7	234.6	337.0	67.4	639.0
Mean length (in)	17.0				10.3				17.7			
Mean weight (lb)	2.56				0.51				3.24			
Rate (fish/hour)	0.002				0.152				0.002			

Table 39. Length frequency and CPUE (fish/hr) of black bass and walleye collected at Martins Fork Lake (330 acres) during 1.0 hour of 15-minute nocturnal electrofishing samples on 26 September 2016; numbers in parentheses are standard errors.

	Inch class														
Species	2	3	4	5	6	7	8	9	10	11	12	19	20	Total	CPUE
LMB		17	35	14	3	2	9	4	1	3	1	1	1	91	91.0 (32.4)
SB	2	2	2	3	3	10	5	10	4	2				43	43.0 (22.4)
SMB			1				1		1		1			4	4.0 (4.0)
Coosa			1											1	1.0 (1.0)
Walleye														0	0.0

LMB = largemouth bass
SB = spotted bass
SMB = smallmouth bass
EFDMLLSF.D16

Table 40. Electrofishing indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected at Martins Fork Lake (330 acres); CPUE = fish/hr, SE = standard error.

	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002	5.5	0.1	34.4	8.6	25.6	7.9	15.3	3.6
2003	no fall sample						77.5	18.5
2004	no fall sample						24.6	5.9
2005	4.4	0.2	32.0	4.3	10.0	2.6	10.0	2.3
2006	4.5	0.1	38.4	14.5	11.2	3.2	10.1	3.4
2007	4.6	0.2	28.7	8.7	10.4	3.0	10.0	5.1
2008	4.4	0.2	31.9	14.3	10.3	2.7	7.2	2.9
2009	4.3	0.2	23.2	8.3	7.2	2.3	4.8	2.0
2010	5.2	0.2	40.0	11.6	26.7	9.3	11.2	3.4
2011	4.7	0.1	20.0	6.8	7.2	1.5	8.8	2.7
2012	4.8	0.2	28.8	4.6	13.6	3.9	no sample	
2013	4.0	0.2	21.0	6.6	6.0	1.2	22.0	5.3
2014	4.9	0.1	39.2	11.8	21.6	8.2	22.4	4.1
2015	4.6	0.1	59.0	24.4	18.0	7.4	no sample	
2016	4.5	0.1	67.0	26.5	15.0	9.0		

EFDMLLSF.D02
EFDMLLSF.D05-D15
EFDMLLSS.D03-D12, D14-D15
EFDMLLAS.D03, D09
EFDMLLAF.D14

Table 41. Length frequency and CPUE (fish/hr) of black bass collected in approximately 2.50 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 25 April 2016; numbers in parentheses are standard errors.

	Inch class																			
Species/Area	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower																				
SMB																			0	0.0
SB					6	1	1	1											9	7.2 (5.4)
LMB		24	35	25	7	23	42	39	18	5	3	4	3	3	1	3	1	2	238	190.4 (4.3)
Upper																				
SMB																			0	0.0
SB	1				1	4	3	3											12	9.6 (4.1)
LMB	4	15	39	14	6	34	22	15	7	2	5	4	4	2	5		1	1	180	144.0 (9.4)
Total																				
SMB																			0	0.0
SB	1				7	5	4	4											21	8.4 (3.2)
LMB	4	39	74	39	13	57	64	54	25	7	8	8	7	5	6	3	2	3	418	167.2 (9.1)

SMB = smallmouth bass

SB = spotted bass

LMB = largemouth bass

EFDPLLSS.D16

Table 42. Spring nocturnal electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Paintsville Lake (1,150 acres). SE = standard error.

	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
1988	6.8		10.6		1.6		0.3		0.0		19.3	
1989	15.4		16.0		3.4		0.9		0.0		36.3	
1990	34.0		31.3		2.7		2.0		0.0		70.0	
1991	26.6		33.1		12.0		0.4		0.4		72.0	
1992	16.4		44.0		21.3		0.7		0.0		82.4	
1993	16.4		26.3		22.5		2.8		0.6		68.0	
1994	34.0		47.4		26.6		3.6		0.3		111.6	15.6
1995						no sample						
1996						no sample						
1997	29.0		40.0		26.3		1.0		0.3		96.3	11.5
1998	25.7		87.7		26.3		0.0		0.0		139.7	17.9
1999	36.3		65.7		36.7		2.3		0.0		141.0	12.1
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

EFDPLLSS.D88-D16

Table 43. 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 25 April 2016; 95% confidence intervals are in parentheses.

	Largemouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}
Lower	147	17 (11-23)	9 (4-13)	9	0	0
Upper	102	24 (15-32)	13 (6-19)	11	0	0
Total	249	20 (15-25)	10 (7-14)	20	0	0

EFDPLLSS.D16

Table 44. Spring nocturnal electrofishing population assessments for largemouth bass collected in Paintsville Lake (1,150 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Mean length age-3 at capture	2	2	2	2	2	2	1	2	2	2	2	2
	(11.4)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(10.6)	(11.2)	(11.2)	(11.2)	(11.2)	(11.2)
Spring CPUE age-1	4	4	4	4	3	4	3	4	4	4	4	4
	(75.6)	(43.5)	(44.0)	(51.5)	(35.6)	(58.1)	(35.6)	(68.8)	(64.9)	(63.7)	(90.7)	(71.2)
Spring CPUE 12.0-14.9 in	4	1	1	1	1	1	1	1	1	3	2	1
	(35.1)	(13.6)	(11.1)	(9.8)	(6.2)	(13.3)	(9.4)	(9.9)	(4.6)	(24.8)	(17.8)	(9.2)
Spring CPUE $\geq$15.0 in	1	1	2	1	1	1	1	1	1	1	2	2
	(6.2)	(2.6)	(6.5)	(4.0)	(2.3)	(5.6)	(3.7)	(2.1)	(4.0)	(4.3)	(10.7)	(10.4)
Spring CPUE $\geq$20.0 in	2	1	1	2	1	4	3	4	2	3	4	3
	(0.4)	(0.0)	(0.0)	(0.4)	(0.0)	(1.9)	(1.1)	(1.3)	(0.3)	(0.8)	(2.7)	(1.2)
Total score	13	9	10	10	8	12	9	10	10	13	14	12
Assessment rating	Good	Fair	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair
Instantaneous mortality (z)	1.10	1.02	1.16	1.17	1.12	1.18	0.57					
Annual mortality (A)	66.60	63.80	68.60	69.10	67.40	69.40	83.70					

EFDPLLSS.D03-D16
EFDPLLAS.D03, D06, D11
EFDPLLAF.D12

Table 45. Length frequency and CPUE (fish/hr) of black bass collected in 1.50 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 20 October 2016; numbers in parentheses are standard errors.

Area/		Inch class																
	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE
Lower																		
	SMB																0	0.0
	SB							1									1	1.3 (1.3)
	LMB	5	14	23	5	3	12	7	6	1	1	1	2			1	81	108.0 (16.7)
Upper																		
	SMB																0	0.0
	SB								1								1	1.3 (1.3)
	LMB	4	31	17	8	3	19	24	5	4	1		1				117	156.0 (4.0)
Total																		
	SMB																0	0.0
	SB							1	1								2	1.3 (1.3)
	LMB	9	45	40	13	6	31	31	11	5	2	1	3			1	198	156.0 (4.0)

SMB = smallmouth bass
SB= spotted bass
LMB = largemouth bass
EFDPLLSF.D16

Table 46. Nocturnal electrofishing indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected at Paintsville Lake (1,150 acres); CPUE = fish/hr.

	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002							95.2	20.1
2003	4.8	0.1	31.3	6.1	14.0	2.2	61.4	10.7
2004	5.1	0.1	65.7	10.8	37.3	8.6	75.6	29.2
2005	4.5	0.1	46.0	9.6	10.7	2.7	43.5	5.9
2006	4.9	0.1	72.4	12.0	33.6	5.1	44.0	8.4
2007	5.1	0.1	52.4	24.0	30.2	15.6	51.5	7.3
2008	4.6	0.1	24.8	8.8	8.1	5.2	35.6	9.7
2009	4.6	0.1	64.6	13.3	23.1	10.7	58.1	17.6
2010	4.6	0.1	86.4	19.5	31.5	6.9	35.6	6.7
2011	5.1	0.1	36.3	7.2	19.7	4.3	68.8	11.1
2012	5.0	0.1	58.1	10.6	32.3	7.3	64.9	5.0
2013	4.9	0.0	111.7	13.8	53.1	5.0	63.7	8.3
2014	4.8	0.1	60.0	11.0	27.0	7.3	90.7	7.4
2015	4.9	0.1	95.1	17.7	42.2	6.7	71.2	5.6
2016	5.0	0.1	70.0	6.3	34.0	8.6		

EFDPLLSF.D03-D16
EFDPLLSS.D02-D16
EFDPLLAS.D03, D06, D11
EFDPLLAF.D12

Table 47. Length frequency and CPUE (fish/hr) of walleye collected at Paintsville Lake (1,150 acres). Sample time was 3.00 hours of daytime spring electrofishing on 15 March 2016; SE = standard error of CPUE.

	Inch class																				
Year	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total	CPUE	SE
2000	1	3	2	1	2												1		10	5.1	0.0
2001				1	1		1		1	3	1				1				9	7.3	0.0
2002									no data												
2003			1					1		1	1		1	4					9	5.1	2.6
2004	2	1	5	2		2		1			2			1					16	6.4	2.3
2005									no data												
2006		1	4	11	6	2	2	1											27	29.0	13.2
2007									no data												
2008		1	2	4	2	6	4	3	2		2	1			3	4			34	7.9	4.1
2009		1	1		1	1	1	1	1	1			1	1		1			11	2.2	1.1
2010			1	1	3	2		1	3	2	3	1	8	5	5	1			36	8.6	2.7
2011			1	1	3	4		2	3				1	1	2				18	5.2	2.2
2012									no data												
2013									no data												
2014		1		1	2	1	2	4	2		1			2		1	2		19	8.4	3.4
2015						1		1	1				1			1		1	6	1.1	0.6
2016				1		4	2			3	1			1					12	4.0	1.7

EFDPLWSS.D00-D16

Table 48. Length frequency and electrofishing CPUE (fish/hr) of largemouth bass collected at Pan Bowl Lake (98 acres) during 0.875 hours of 7.5 minute daytime runs on 19 April 2016; numbers in parentheses are standard errors.

Inch class																					
4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	SE
18	31	2	15	36	50	32	12	6	7	1	1		1	1	1	2		2	218	249.1	23.9

EFDPBLSS.D16

Table 49. Spring daytime electrofishing catch-per-unit-effort (CPUE) for each length group of largemouth bass collected at Pan Bowl Lake (98 acres). Nocturnal electrofishing was used 1992-2000. CPUE = fish/hour, SE = standard error.

	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
1992	19.4		22.3		14.3		25.7		1.1		81.7	
1993	no data											
1994	no data											
1995	no data											
1996	20.0		56.0		9.0		14.0		2.0		99.0	27.4
1997	12.1		39.5		8.1		15.3		0.8		75.0	19.9
1998	26.0		20.0		5.0		10.0		3.0		61.0	20.6
1999	17.3		24.7		30.0		15.3		4.0		87.3	22.7
2000	34.0		52.0		18.0		34.7		8.7		138.7	21.8
2001	no data											
2002	no data											
2003	28.8	10.2	47.2	9.6	12.0	1.3	25.6	4.1	3.2		113.6	20.5
2004	no data											
2005	12.8	4.1	65.8	13.3	9.4	3.6	18.0	4.3	1.8		106.0	18.9
2006	no data											
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
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
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
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
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
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
2013	no data											
2014	81.3	16.2	86.7	15.7	0.0		1.3	1.3	0.0		169.3	24.6
2015	no data											
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

EFDPBLSS.D03-D16

Table 50. PSD and RSD_{15} values for largemouth bass taken in spring electrofishing samples in Pan Bowl Lake (98 acres) on 19 April 2016; 95% confidence intervals are in parentheses.

No.	PSD_8	RSD_{15}
152	14	5
	(9-20)	(2-9)

EFDPBLSS.D16

Table 51. Population assessments for largemouth bass collected during spring at Pan Bowl Lake (98 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year									
Parameter	2003	2005	2007	2008	2009	2010	2011	2012	2014	2016
Mean length age 3 at capture	2	2	2	2	2	2	2	2	2	2
	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)
Spring CPUE age-1	2	1	4	2	3	3	4	2	4	4
	(19.2)	(3.4)	(72.0)	(17.0)	(43.9)	(51.0)	(95.0)	(16.0)	(76.0)	(58.3)
Spring CPUE 12.0-14.9 in	1	1	1	2	1	1	1	1	1	2
	(12.0)	(9.4)	(12.6)	(21.5)	(11.2)	(7.0)	(11.0)	(3.0)	(0.0)	(16.0)
Spring CPUE $\geq$15.0 in	3	3	3	3	2	2	1	1	1	2
	(25.6)	(18.0)	(22.9)	(18.0)	(8.4)	(10.0)	(4.0)	(2.0)	(1.3)	(9.1)
Spring CPUE $\geq$20.0 in	3	3	4	4	3	3	2	2	1	4
	(3.2)	(1.8)	(6.9)	(7.0)	(2.9)	(2.0)	(1.0)	(1.0)	(0.0)	(4.6)
Total score	11	10	14	13	11	11	10	8	9	14
Assessment rating	Fair	Fair	Good	Good	Fair	Fair	Fair	Poor	Fair	Good
Instantaneous mortality (z)	0.36	0.37	0.43	0.42	0.62	0.65	0.54	0.58	0.99	0.69
Annual mortality (A)	30.30	31.20	35.20	34.10	46.10	47.60	41.90	44.30	63.20	49.80

EFDPBLSS.D03-D16
EFDPBLAS.D07

Table 52. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 1.50 hours of 15-minute electrofishing samples at Yatesville Lake (2,280 acres) on 24 May 2016; numbers in parentheses are standard errors.

		Inch class																			
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower	LMB		12	27	21	11	5	22	25	13	3	4	8	7	6	1	2		1	168	134.4 (18.7)
	SB	1	4		2	6	2	1	1	1			1							19	15.2 (10.3)
Upper	LMB		5	6	3	1	4	3	2	2	3	4	2	3	3	1	1			43	172.0 NA
	SB						1													1	4.0 NA
Total	LMB		17	33	24	12	9	25	27	15	6	8	10	10	9	2	3		1	211	140.7 (16.5)
	SB	1	4		2	6	3	1	1	1			1							20	13.3 (8.6)

LMB =largemouth bass

SB = spotted bass

NA: no SE, only 1 sample

EFDYLLSS.D16

Table 53. Spring nocturnal electrofishing CPUE (fish/hr) for each length group of largemouth bass at Yatesville Lake (2,280 acres). SE = standard error.

	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
1993	153.7		82.9		20.1		7.4		0.0		264.0	
1994	no sample											
1995	no sample											
1996	21.5		65.5		7.8		1.5		0.0		96.3	11.5
1997	50.7		23.7		16.7		2.0		0.0		93.0	10.5
1998	10.7		25.7		16.3		5.7		0.0		58.3	7.2
1999	42.7		29.0		16.3		13.7		0.3		101.7	12.2
2000	63.3	8.0	55.7	7.9	9.3	1.1	7.0	1.6	0.0		135.5	13.7
2001	35.0	7.0	58.3	7.5	19.3	3.2	9.7	2.1	0.3		122.3	7.8
2002	54.3	7.8	50.0	4.4	19.3	2.9	16.7	3.2	0.0		140.3	7.4
2003	no sample											
2004	12.7	2.8	40.3	10.5	23.7	5.1	9.0	2.2	0.0		85.7	19.4
2005	43.7	7.8	61.3	6.6	42.0	4.7	21.7	2.1	0.3		168.7	15.4
2006	47.3	7.4	68.0	10.3	20.3	2.2	16.0	4.0	0.7		151.7	17.5
2007	47.7	5.9	62.3	5.7	31.3	4.2	15.8	2.7	0.0		157.1	10.7
2008	47.0	8.4	38.3	3.8	20.4	3.7	16.6	4.9	0.0		122.3	10.3
2009	28.6	5.4	68.3	7.5	30.6	2.8	16.6	3.2	0.0		144.1	9.7
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
2011	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
2013	no sample											
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
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
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

EFDYLLSS.D93, D96-D02, D04-D10, D12, D14-D16

Table 54. PSD and RSD values for black bass species taken in spring electrofishing samples in each area of Yatesville Lake (2,280 acres) on 24 May 2016; 95% confidence intervals are in parentheses.

	Largemouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}
Lower	97	33 (24-42)	18 (10-25)	12	17 (0-39)	8 (0-25)
Upper	28	61 (42-79)	29 (12-46)	1	0	0
Total	125	39 (31-48)	20 (13-27)	13	15 (0-36)	8 (0-23)

EFDYLLSS.D16

Table 55. 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	2005	2006	2007	2008	2009	2010	2012	2014	2015	2016
Mean length age-3 at capture	3	4	4	4	4	4	2	2	1	1
	(13.2)	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(12.4)	(12.4)	(11.1)	(11.1)
Spring CPUE age-1	3	4	4	4	3	4	2	3	4	4
	(42.3)	(45.9)	(47.0)	(45.0)	(28.2)	(42.6)	(19.4)	(37.0)	(54.3)	(56.7)
Spring CPUE 12.0-14.9 in	4	2	4	2	3	2	2	3	3	1
	(42.0)	(20.3)	(31.3)	(20.4)	(30.6)	(19.3)	(21.6)	(23.3)	(23.0)	(16.0)
Spring CPUE $\geq$15.0 in	4	3	3	3	3	2	2	3	4	3
	(21.7)	(16.0)	(15.8)	(16.6)	(16.6)	(11.0)	(8.4)	(16.7)	(23.3)	(16.7)
Spring CPUE $\geq$20.0 in	2	3	1	1	1	3	3	2	3	3
	(0.3)	(0.7)	(0.0)	(0.0)	(0.0)	(0.7)	(0.8)	(0.3)	(0.7)	(0.7)
Total score	16	16	16	14	14	15	11	13	15	12
Assessment rating	Good	Good	Good	Good	Good	Good	Fair	Good	Good	Fair
Instantaneous mortality (z)	0.91	1.23	0.80	0.70	0.91	1.22	0.79	0.77		
Annual mortality (A)	59.80	70.70	55.20	50.20	59.80	70.40	54.60	53.70		

EFDYLLSS.D02-D10, D12, D14-D16
EFDYLLAS.D05, D06, D12
EFDYLLAF.D15

Table 56. Length frequency and nocturnal electrofishing CPUE (fish/hr) of black bass collected at Yatesville Lake (2,280 acres) during 1.50 hours of 15-minute samples on 27 October 2016; numbers in parentheses are standard errors.

Area/	Inch class																	
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE
Lower																		
LMB		4	27	19	1	28	14	6	8	3		2					112	149.3 (3.5)
SB					1					2							3	4.0 (4.0)
Upper																		
LMB	1	4	24	22	9	10	28	11	4	4	7	3	6	2	1	1	137	182.7 (17.3)
SB					1	1	1										3	4.0 (4.0)
Total																		
LMB	1	8	51	41	10	38	42	17	12	7	7	5	6	2	1	1	249	166.0 (10.9)
SB					2	1	1			2							6	4.0 (2.5)

LMB = largemouth bass

SB= spotted bass

EFDYLLSF.16

Table 57. Fall electrofishing indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected during 2003-2016 at Yatesville Lake (2,280 acres); CPUE = fish/hr, SE = standard error.

	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2003	5.3	0.1	46.0	6.3	29.3	4.4	12.7	2.8
2004	4.8	0.1	69.5	13.5	32.5	10.8	42.3	7.1
2005	4.7	0.1	47.0	12.3	20.0	7.1	45.9	7.2
2006	4.9	0.1	29.5	7.8	13.8	3.8	47.0	6.0
2007	5.3	0.1	37.4	10.6	23.2	6.1	45.0	8.1
2008	5.1	0.1	45.9	7.8	28.4	6.0	28.2	5.3
2009	4.9	0.1	32.7	6.5	16.3	4.0	42.6	6.4
2010	5.1	0.1	78.6	11.5	45.1	8.7	no sample	
2011	4.9	0.1	55.3	9.6	28.7	4.9	19.4	2.5
2012	5.0	0.1	82.9	20.0	45.1	10.1	no sample	
2013	5.2	0.1	39.6	5.8	25.6	5.0	37.0	2.9
2014	4.7	0.1	79.3	14.8	29.3	7.8	54.3	7.7
2015	5.0	0.1	92.0	11.3	48.7	9.9	56.7	9.9
2016	5.8	0.1	67.3	7.1	61.3	7.2		

EFDYLLSS.D03-D10, D12, D14-D16
EFDYLLSF.D03-D16
EFDYLLAS.D05, D06, D12
EFDYLLAF.D15

Table 58. Length frequency and CPUE (fish/nn) for white crappie collected at Yatesville Lake (2,280 acres) in 19 net-nights from 15-16 November 2016. Standard errors are in parentheses.

Inch class													
3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	SE
789	836	744	125	35	16	5	10	12	8	1	2581	135.8	(33.0)

EFDYLCTF.D16

Table 59. PSD and RSD_{10} values calculated for white crappie collected in trap nets at Yatesville Lake (2,280 acres) during November 2016; 95% confidence intervals are in parentheses.

No. ≥5.0 in	PSD_5	RSD_{10}
956	5 (4-7)	3 (2-4)

WC = white crappie
EFDYLCTF.D16

Table 60. Mean back-calculated length (in) at each annulus for white crappie collected from Yatesville Lake (2,280 acres) in November 2016, including 95% confidence intervals.

Year		Age								
class	No.	1	2	3	4	5	6	7	8	9
2015	14	3.8								
2014	15	3.5	4.7							
2013	24	4.1	5.4	6.6						
2012	25	4.2	5.5	6.6	7.6					
2011	12	4.2	5.5	6.5	7.4	8.4				
2010	19	4.1	5.3	6.2	7.0	7.9	8.8			
2009	5	4.3	5.3	6.3	7.1	7.8	8.8	9.8		
2008	1	3.5	4.7	5.4	5.7	6.1	6.4	6.6	6.8	
2007	1	3.8	4.7	5.1	5.5	5.8	6.2	6.6	7.2	7.5
Mean		4.0	5.3	6.5	7.3	7.9	8.6	8.8	7.0	7.5
Smallest		3.0	3.9	4.5	4.9	5.2	5.5	6.0	6.8	7.5
Largest		5.1	6.9	8.8	10.3	10.2	12.3	11.6	7.2	7.5
STD error		0.0	0.1	0.1	0.2	0.3	0.4	0.9	0.2	
95% CI LO		3.9	5.2	6.2	7.0	7.4	7.8	7.1	6.6	
95% CI HI		4.1	5.4	6.7	7.6	8.5	9.4	10.6	7.4	

Intercept = 0

EFDYLCAF.D16

Table 61. Age frequency and CPUE (fish/nn) of white crappie collected by trap netting for 19 net-nights at Yatesville Lake (2,280 acres) in November 2016; numbers in parentheses are standard errors.

	Inch class														
Age	3	4	5	6	7	8	9	10	11	12	13	Total	Age%	CPUE	
0	789	60										849	33	44.7	(10.2)
1		657	124									781	30	41.1	(11.1)
2		119	413	19								551	21	29.0	(7.7)
3			41	44	11	9	2	1				108	4	5.7	(1.2)
4			41	38	11	3	2	3	4	2		104	4	5.5	(1.1)
5				6	8		1	2	6			23	1	1.2	(0.2)
6			124	13	3	3		2	1	5	1	152	6	7.9	(2.0)
7				6				1	1	1	1	10	0	0.5	(0.1)
8					3							3	0	0.1	(<0.1)
9						1						1	0	0.1	(<0.1)
Total	789	836	743	126	36	16	5	9	12	8	2	2582	100		
%	31	32	29	5	1	1	0	0	0	0	0	100			

CPUE of $\geq$8 in (quality size) = 2.74

CPUE of $\geq$10 in (preferred size) = 1.63

EFDYLCAF.D16

EFDYLCTF.D16

Table 62. Population assessment scores for white crappie collected from Yatesville Lake (2,280 acres). Actual assessment values are in parentheses. Scoring based on statewide assessment.

	Year						
Parameter	2002	2004	2006	2009	2012	2014	2016
CPUE	4	4	4	4	4	4	4
(excluding age-0)	(19.5)	(28.2)	(58.6)	(26.4)	(39.4)	(67.5)	(91.2)
CPUE age-1	3	3	4	3	3	4	4
	(3.9)	(3.7)	(8.9)	(7.5)	(4.4)	(8.2)	(41.1)
CPUE age-0	2	4	3	4	4	3	4
	(1.5)	(23.9)	(3.6)	(6.0)	(4.8)	(2.2)	(44.7)
CPUE $\geq$8.0 in	2	3	4	2	4	4	2
	(3.0)	(4.8)	(13.6)	(2.2)	(6.9)	(19.9)	(2.7)
Mean length age 2 at capture	1	1	1	1	1	1	1
	(6.1)	(5.6)	(6.0)	(5.5)	(6.8)	(6.6)	(5.4)
Instantaneous mortality (z)	1.08	0.59	0.98	1.01	0.43	0.72	0.73
Annual Mortality (A)	66.0	45.0	62.4	63.6	34.9	51.4	51.7
Total score	12	15	16	14	16	16	15
Assessment rating	Fair	Good	Good	Good	Good	Good	Good

EFDYLCTF.D02, D04, D06, D09, D12, D14
EFDYLCAF.D02, D04, D06, D09, D12, D14

Fishtrap Lake Angler Attitude Survey 2016
Frequency Table (N=28)

3. Which species of fish do you fish for at Fishtrap Lake?

	Frequency	Percent
Bass	19	67.9%
Crappie	10	35.7%
Bluegill/Redear Sunfish	6	21.4%
Catfish	15	53.6%
Hybrid Striped Bass	3	10.7%

4. Which one species do you fish for most at Fishtrap Lake?

	Frequency	Percent
Bass	15	55.6%
Crappie	3	11.1%
Bluegill/Redear Sunfish	0	0.0%
Catfish	8	29.6%
Hybrid Striped Bass	0	0.0%
Anything	1	3.7%
Total	27	
No Response	1	

5. In general, what level of satisfaction do you have with bass fishing at Fishtrap Lake?

	Frequency	Percent
Very satisfied	6	31.6%
Somewhat satisfied	9	47.4%
Neutral	3	15.8%
Somewhat dissatisfied	1	5.3%
Very dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	19	
No Response	9	

5a. If you responded with somewhat or very dissatisfied in question (5) – what is the single most important reason for your dissatisfaction?

	Frequency	Percent
Number of fish	1	100.0%
Size of fish	0	0.0%
Not happy with regulatic	0	0.0%
Too many anglers	0	0.0%
Unfamiliar with lake	0	0.0%
Total	1	
No Response	27	

6. In general, what level of satisfaction do you have with crappie fishing at Fishtrap Lake?

	Frequency	Percent
Very satisfied	5	55.6%
Somewhat satisfied	3	33.3%
Neutral	1	11.1%
Somewhat dissatisfied	0	0.0%
Very dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	9	
No Response	19	

7. In general, what level of satisfaction do you have with bluegill/redear fishing at Fishtrap Lake?

	Frequency	Percent
Very satisfied	6	100.0%
Somewhat satisfied	0	0.0%
Neutral	0	0.0%
Somewhat dissatisfied	0	0.0%
Very dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	6	
No Response	22	

8. In general, what level of satisfaction do you have with catfish fishing at Fishtrap Lake?

	Frequency	Percent
Very satisfied	8	53.3%
Somewhat satisfied	5	33.3%
Neutral	2	13.3%
Somewhat dissatisfied	0	0.0%
Very dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	15	
No Response	13	

9. In general, what level of satisfaction do you have with hybrid striped bass fishing at Fishtrap Lake?

	Frequency	Percent
Very satisfied	3	75.0%
Somewhat satisfied	0	0.0%
Neutral	1	25.0%
Somewhat dissatisfied	0	0.0%
Very dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	4	
No Response	24	

10. On average, how many times do you fish at Fishtrap Lake in a year?

	Frequency	Percent
First Time	0	0.0%
1 to 4	0	0.0%
5 to 10	6	21.4%
More than 10	22	78.6%
Total	28	
No Response	0	

11. Do you fish any tournaments?

	Frequency	Percent
Yes	8	28.6%
No	20	71.4%
Total	28	
No Response	0	

12. Do you use the KDFWR tournament registration website to register tournaments?

	Frequency	Percent
Yes	0	0.0%
No	28	100.0%
Total	28	
No Response	0	

13. Do you use the KDFWR tournament registration website to plan your activity at a particular boat ramp access?

	Frequency	Percent
Yes	1	3.6%
No	27	96.4%
Total	28	
No Response	0	

14. How would you rate the existing fish habitat at Fishtrap Lake (both natural and man-made)?

	Frequency	Percent
Very good	6	21.4%
Good	15	53.6%
Fair	7	25.0%
Poor	0	0.0%
Very Poor	0	0.0%
No Opinion	0	0.0%
Total	28	
No Response	0	

15. Were you aware KDFWR places fish habitat (e.g. fish attractors/structures) within the lake?

	Frequency	Percent
Yes	23	82.1%
No	5	17.9%
Total	28	
No Response	0	

16. Do you regularly fish Dept. placed attractors/structures at Fishtrap Lake?

	Frequency	Percent
Yes	14	58.3%
No	10	41.7%
Total	24	
No Response	4	

17. How did you find these attractors/structures? (check all that apply)

	Frequency	Percent
On my own	22	78.6%
Friend/word of mouth	1	3.6%
KDFWR website	1	3.6%
Other	0	0.0%

18. Do you feel the addition of Dept. placed attractors/structures has improved your fishing results?

	Frequency	Percent
Yes	18	75.0%
No	3	12.5%
No Opinion	3	12.5%
Total	24	
No Response	4	

19. Were you aware that the locations of KDFWR placed attractors/structure are available on KDFWR website?

	Frequency	Percent
Yes	5	20.8%
No	19	79.2%
Total	24	
No Response	4	

WESTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Table 1. Technical guidance given to pond owners in the Western Fishery District during the 2016 project year (April 1, 2016 - March 31, 2017). Approximately 138 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
Calloway			
Harold Hurt	24-May	fishery balanced, Fil.Algae	stock fathead minnow and grass carp
Edward Renfroe	7-Jun	fish kill, low alkalinity	apply ag. lime, discuss aeration, and restocking
Jennifer Garland	7-Jun	clear water, low dissolved oxygen, low alkalinity, lots small bass	apply ag. lime, stock grass carp, no harvest of bass for 3 year
Sammy Cunningham	14-Oct	low alkalinity, vegetation on levee, clear water	apply ag. lime, clean off levee, fertilize in spring
Murray State University - Arboretum	16-Oct	Shallow, Naiad, Fil.Algae and Creeping Water Primrose, green sunfish	Dig out pond, Dept. stock in 2017 and possible vegetation treatment
Dennis Gilbert	2-Dec	Shallow, muddy water, no bass	apply ag. lime, dig out pond, stock bass
Bob Cornelison	24-May	Bass crowded, Fil.Algae, and Creeping Water Primrose	Remove some of smaller bass, apply copper sulfate, and 2-4-D
Christian			
Jay Tucker	23-Sep	crappie, stunted bass	remove crappie as caught
Graves			
Justin Myers	22-May	stunted bass, low dissolved oxygen, vegetation on levee	remove some of bass, stock fathead minnows, clean off levee, add habitat
Matthew Wilson	2-Dec	pond under construction	apply ag. lime, dig out shoreline, stocking, habitat

NORTHWESTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Sixteen on-site pond surveys were provided to six pond owners in 2016 (Table 1). Problems include unbalanced fish populations, excessive amounts of aquatic vegetation, liming and/or fertilization needs and the presence of nuisance fish species. Table 1 contains problems encountered and management recommendations. Many other requests for information and assistance were handled via telephone, e-mail and office visits.

Table 1. On-site technical guidance provided to pond owners in the Northwestern Fishery District in 2016.

County	Pond/Lake Owner	Date	Findings	Recommendations
Breckinridge	KY FFA Camp Lake	7/28/16	Excessive HAB	Determine source of nutrients, proceed accordingly
Breckinridge	KY FFA Camp Lake	8/30/16	Collect data to generate contour map	Drain and dredge, restock
Breckinridge	KY FFA Camp Lake	9/12/16	Meet in Frankfort w/ DOW, DEP, ACOE…	Drain and dredge, restock
Hancock	Vastwood Park	11/7/16	Excessive vegetation, poor access	Work with partners to generate management plan
LaRue	McDougal Lake	10/3/16	Shallow upper end, no structure, fair sportfish	Lower and dredge, remove undesirables, add structure
Hopkins	Mahr Park Lakes	10/5/16	Small lakes, limited fish pops, good access	Stock biggest lake and front lake, leave remainder as natural areas
Muhlenberg	Green River CC #1	6/9/16	Shallow water, undesirables, decent sportfish	Fertilize Spring 2017, spot treat veg as needed
Muhlenberg	Green River CC #2	6/9/16	Good fish pop, lots vegetation & shallow water	Continue current fish management, spot treat veg as needed
Muhlenberg	WHFRTC Pump Lake	10/18/16	Good color, fair sportfish pop, 1350 µs	Add structure
Muhlenberg	WHFRTC TV Lake	10/18/16	Undesirables, good sportfish, 144 µs	Remove undesirables, add structure, new reg 6 LMB 1 over 15
Muhlenberg	WHFRTC Couch Lake	10/19/16	Undesirables, good sportfish, 2355 µs	Remove undesirables, add structure, new reg 6 LMB 1 over 15
Muhlenberg	WHFRTC Lime Lake	10/19/16	Undesirables, fair sportfish, clear water, 627 µs	Add structure
Muhlenberg	WHFRTC Washrack Lake	10/19/16	Good color, good sportfish, 883 µs	New regs 20 sunfish limit, 6 LMB no min size
Muhlenberg	WHFRTC Big Reno Lake	10/19/16	Undesirables, good color, fair sportfish	Remove undesirables, add structure
Muhlenberg	WHFRTC L12 Lake	10/19/16	Clear, shallow, excessive veg, bowfin, 2530 µs	Remove bowfin, add structure
Muhlenberg	WHFRTC Little Reno Lake	10/19/16	Undesirables, good sportfish	Remove undesirables, add structure

SOUTHWESTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Onsite technical guidance given during 2016: Emails and phone calls also taken, but were not enumerated.

Table 1: Onsite technical guidance visits during 2016

County	Date	Landowner	Problem/Situation	Recommendations
Barren	8/12	Steve ??	Crowded bass & crappie	Remove some bass & all crappie
	9/6	Jeff Karthheiser	Low alkalinity & low BG & catfish numbers	Lime. Add adult BG & channel cats
	9/7	Kevin Wallace	Bass crowded , BG/RE excellent	Remove bass
		David Pedigo	fish kill, but lots of small bass & BG for restart	Add catfish if desired
Hart	8/12	Dale Logsdon	Bass crowded	remove 10-15 bass, stock catfish if desired
Logan	9/6	David Fields	Pondweed/naiads	Grass carp
		Susan Strictland	Algae	Grass carp & spot spraying
Marion	8/19	Jason Lyvers	Low alkalinity	Lime
		Steven Miles	Bass crowded	Remove 50 bass, grass carp for pondweed
		Tim Simpson	New pond & veg. issues in older pond	Grass carp for naiads
		Bobby Wilcher	Low alkalinity	Lime
Todd	6/24	Luke Hoover	Hybrid bg = low forage for bass	Add adult bg & redear
Warren	8/12	J. Vibbert	None	Add catfish if desired

CENTRAL FISHERIES DISTRICT

Project B: Stream Fishery Surveys – Warmwater Streams

FINDINGS

Stream sampling conditions for 2016 are summarized in Table 1.

Diurnal electrofishing for black bass and rock bass was conducted during March and April 2016 at various locations on Elkhorn Creek. These studies were conducted to assess the black bass, especially smallmouth bass and rock bass populations. Length distribution and CPUE data of black bass and rock bass from Elkhorn Creek are presented in Table 2. Smallmouth bass comprised 59% of the black bass sampled in the North Fork Elkhorn Creek, whereas, smallmouth bass comprised 92% of the black bass sampled on the main stem Elkhorn Creek. No spotted bass were collected in North Fork Elkhorn Creek and represented 1% of the black bass population in the main stem Elkhorn Creek. Largemouth bass comprised 41% of the black bass sampled in the North Fork Elkhorn Creek and 7% of the black bass sampled in the main stem Elkhorn Creek. The current catch rate of smallmouth bass (162.0 fish/hr) is significantly higher than the historical average of 95.0 fish/hr (Table 3). The current catch rate of rock bass (48.8 fish/hr) was much higher than the historical catch rate (31.5 fish/hr) (Table 4). The assessment rating values were updated for stream assessments. All assessment tables were updated for these new values, which has changed some of the assessment rating for past years. For this year, the smallmouth bass population assessment score for the North Fork Elkhorn Creek was 15 (Table 5), which results in a “Good” rating. The rock bass population assessment score for North Fork Elkhorn Creek was 12 (Table 6), which results in a “Good” rating. The largemouth bass population assessment score for North Fork Elkhorn Creek was 16 (Table 7), which results in an “Excellent” rating. Fish populations on the North Fork Elkhorn Creek are effected by two dams in the vicinity of the Great Crossing areas. For the main stem Elkhorn Creek, the smallmouth bass population assessment score was 20 (Table 8), which results in an “Excellent” rating. The rock bass population assessment score was 12 (Table 9), which results in a “Good” rating. Finally, the largemouth bass population assessment score was 11 (Table 10), which results in a “Good” rating.

In spring of 2016, otoliths were collected from 109 smallmouth bass collected in the mainstem Elkhorn Creek. Smallmouth bass ranged from 1 to 11 years (Tables 11 and 12). In mainstem Elkhorn Creek, it continues to take approximately 5+ years to reach the protective slot 12.0 – 16.0 inches. Smallmouth bass become vulnerable again around 8+, when they grow to the upper end of the slot. No major differences were detected in the growth of smallmouth bass collected in the main stem portion of Elkhorn Creek in 2016 when compared to age and growth surveys completed from 1990 through 2002.

Diurnal electrofishing for black bass and rock bass was conducted during April 2016 at various locations on Floyds Fork. These studies were conducted to assess the black bass, especially smallmouth bass and rock bass populations. Length distribution and CPUE data of black bass and rock bass from Floyds Fork are presented in Table 13. Smallmouth bass comprised 64% of the black bass sampled in Floyds Fork, whereas, largemouth bass comprised 13% of the sampled black bass. Finally, spotted bass represented 33% of the black bass population in Floyd’s Fork. The catch rate of smallmouth bass on Floyds Fork in 2016 (25.7 fish/hr) was higher than the historical average (14.5 fish/hr) (Table 14). However, the catch rate of rock bass (9.3 fish/hr) was significantly lower than the historical average (11.4 fish/hr) (Table 15). The smallmouth bass population assessment score for Floyds Fork was 15 (Table 16), which results in a “Good” rating. The rock bass population assessment score for Floyds Fork was 6 (Table 6), which results in a “Fair” rating. The largemouth bass population assessment score for Floyds Fork was 7 (Table 7), which results in a “Fair” rating. With the updated assessment values, the assessment rating for smallmouth bass (good) was similar to recent year ratings of “good”. The assessment rating for rock bass (fair) was also similar to past years’ “fair” ratings. Finally, the assessment rating for largemouth bass (fair) was very similar to previous years.

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 [c]
Elkhorn Creek (Hatchery)	Black Bass/ Rock Bass	3/22	1000	shock	sunny / breezy	50	3.36 ft Peaks Mill gauge	clear	good	good sample
Elkhorn Creek (Peaks Mill)	Black Bass/ Rock Bass	3/23	1000	shock	cloudy / breezy	52	3.21 ft Peaks Mill gauge	clear	good	good sample
North Fork Elkhorn Creek (Great Crossings)	Black Bass/ Rock Bass	4/1	1030	shock	mostly sunny	58	3.33 ft Peaks Mill gauge	24	good	good sample
Elkhorn Creek (Jackson Hole)	Black Bass/ Rock Bass	4/4	1030	shock	cloudy	57	2.89 ft Peaks Mill gauge	clear	good	good sample
Floyd's Fork (Miles Park)	Black Bass/ Rock Bass	4/5	1030	shock	mostly sunny	51	1.78 ft. at Fisherville Gauge	24	good	good sample
Floyd's Fork (Fisherville Ramp)	Black Bass/ Rock Bass	4/5	1300	shock	mostly sunny	53	1.78 ft. at Fisherville Gauge	28	good	good sample
Floyd's Fork (Bob White House)	Black Bass/ Rock Bass	4/6	1000	shock	mostly sunny / breezy	53	1.66 ft. at Fisherville Gauge	24	good	good sample
Floyd's Fork (Cane Run Access)	Black Bass/ Rock Bass	4/6	1300	shock	mostly sunny / breezy	53	1.64 ft. at Fisherville Gauge	24	good	good sample

Table 2. Length distribution and CPUE (fish/hr) of largemouth bass collected in 8.0 hours of 30-minute electrofishing runs for black bass in Elkhorn Creek in March-April 2016; numbers in parentheses are standard errors.

	Inch class																			
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Below dam at Great Crossings																				
Rock bass	2	8	4	9	10	11	4												48	24.0 (9.3)
Smallmouth bass		1	2	19	13	8	11	28	16	4	10	7	1	1	1				122	61.0 (13.8)
Spotted bass																			0	0.0 (0.0)
Largemouth bass			2	1	4	5	13	3	10	15	9	5	2	6	3	4	1	1	84	42.0 (10.9)
Jackson Hole																				
Rock bass			7	12	13	48	44	4											128	64.0 (8.9)
Smallmouth bass	1	33	40	66	77	54	47	34	34	27	18	10	11	5	4	1	1		463	231.5 (28.5)
Spotted bass											1								1	0.5 (0.5)
Largemouth bass		1				2	3		1		1								8	4.0 (1.5)
Peaks Mill																				
Rock bass	1	1	3	6	13	39	24	1											88	44.0 (10.8)
Smallmouth bass	1	3	9	24	35	20	44	17	28	21	18	4	8	5	5				242	121.0 (18.1)
Spotted bass				1	1			1	1		1								5	2.5 (1.5)
Largemouth bass			2	1		5	14	7	10	2		3	2	1	1				48	24.0 (8.0)
Hatchery																				
Rock bass		2	3	11	14	36	10	1											77	38.5 (6.6)
Smallmouth bass	2	6	6	35	35	25	29	36	32	13	16	7	12	6	2	6			267	133.5 (14.1)
Spotted bass				1	2														3	1.5 (1.1)
Largemouth bass				2			2	2	1	2	3	1	1						14	7.0 (5.5)
Total																				
Rock bass	3	11	17	88	50	134	82	6											341	42.6 (5.0)
Smallmouth bass	4	43	57	144	160	107	131	115	110	65	62	28	32	17	12	6	1		1094	136.8 (14.4)
Spotted bass				2	6			1	1		2								9	1.1 (0.5)
Largemouth bass		1	4	4	4	12	32	12	22	19	13	9	5	7	4	4	1	1	154	19.3 (4.4)

Dataset = cfdpsehc.d16

Table 3. Electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected from main stem Elkhorn Creek (Forks of Elkhorn to Confluence with Kentucky River) from 1984-2016; numbers in parentheses are standard errors. Number of samples and locations varies between years.

	Length group					
Year	<4.0 in	4.0-8.9 in	>9.0 in	>12.0 in	>14.0 in	Total
1982	0.0 (0.0)	34.9 (10.6)	24.7 (4.9)	4.7 (1.4)	1.6 (1.1)	59.6 (13.7)
1983			No Sample			
1984			No Sample			
1985			No Sample			
1986			No Sample			
1987			No Sample			
1988	1.9 (1.0)	42.8 (13.4)	40.8 (12.4)	2.0 (0.7)	0.0 (0.0)	85.5 (26.1)
1989	1.6 (0.6)	22.4 (5.9)	41.0 (8.8)	9.2 (2.1)	2.0 (0.6)	64.9 (14.1)
1990	0.2 (0.1)	41.0 (9.3)	62.1 (7.7)	18.2 (2.7)	2.7 (0.3)	103.2 (12.1)
1991	4.4 (1.0)	59.3 (6.5)	65.2 (5.5)	14.6 (1.5)	2.4 (0.4)	128.9 (10.9)
1992	1.0 (0.4)	81.4 (9.0)	56.6 (6.9)	6.9 (1.5)	0.7 (0.3)	138.9 (12.8)
1993	0.8 (0.3)	46.6 (10.2)	80.2 (7.2)	23.0 (3.2)	3.6 (0.9)	127.6 (12.5)
1994	4.4 (1.1)	51.2 (9.0)	81.1 (8.8)	42.2 (6.0)	8.7 (2.2)	136.8 (13.1)
1995	10.3 (3.5)	51.5 (10.0)	75.2 (8.6)	43.8 (6.0)	15.8 (2.7)	137.0 (14.0)
1996	3.7 (1.0)	40.7 (8.4)	57.8 (6.3)	36.7 (5.0)	15.1 (2.5)	102.2 (9.0)
1997	4.0 (1.1)	62.6 (10.1)	43.1 (4.7)	20.6 (2.5)	9.3 (1.4)	109.7 (13.2)
1998	9.6 (1.9)	48.9 (6.0)	46.3 (3.0)	18.3 (1.9)	7.5 (1.1)	104.7 (8.4)
1999	1.0 (0.3)	42.1 (7.6)	41.7 (3.1)	12.9 (2.1)	4.8 (0.9)	84.8 (8.2)
2000	11.3 (2.0)	48.1 (6.2)	67.0 (5.1)	29.5 (3.0)	10.3 (1.4)	126.4 (8.8)
2001	8.0 (1.7)	29.9 (4.0)	48.5 (3.1)	26.9 (2.1)	10.3 (1.1)	86.4 (7.0)
2002	2.5 (1.2)	56.1 (6.3)	49.9 (4.2)	24.2 (2.6)	12.0 (1.5)	108.5 (8.4)
2003	5.5 (1.5)	27.4 (3.1)	44.4 (4.0)	15.5 (1.5)	6.7 (1.0)	77.3 (6.5)
2004	4.9 (2.2)	29.0 (2.8)	52.6 (4.8)	16.8 (1.9)	6.9 (0.9)	86.5 (6.4)
2005	1.5 (0.4)	37.3 (6.2)	47.0 (4.1)	21.8 (2.2)	7.0 (0.9)	85.8 (8.5)
2006	11.4 (4.6)	18.2 (4.1)	77.4 (8.6)	42.6 (6.3)	16.1 (2.4)	107.0 (11.1)
2007			No Sample			
2008	0.7 (0.3)	20.3 (4.8)	22.3 (3.9)	11.8 (3.2)	5.7 (2.1)	43.3 (7.1)
2009	2.8 (0.8)	29.0 (9.3)	35.0 (6.6)	13.3 (3.6)	8.3 (2.3)	66.8 (13.2)
2010	0.2 (0.2)	31.7 (8.7)	36.7 (5.2)	13.0 (3.1)	5.5 (1.7)	68.5 (12.7)
2011	1.7 (0.7)	20.7 (4.6)	36.8 (3.6)	10.7 (1.9)	4.5 (1.6)	59.2 (6.2)
2012	9.4 (1.9)	27.6 (4.6)	18.0 (2.7)	5.9 (1.0)	2.1 (0.8)	55.0 (7.8)
2013	1.6 (0.5)	18.9 (3.1)	37.5 (5.9)	20.9 (3.8)	10.2 (2.6)	58.0 (7.2)
2014	1.3 (0.7)	40.8 (7.5)	44.7 (5.2)	23.7 (3.5)	12.0 (2.7)	86.8 (8.7)
2015			No Sample			
2016	7.7 (2.7)	91.0 (13.0)	63.3 (5.3)	23.0 (2.8)	10.8 (2.0)	162.0 (15.6)

Dataset = cfdpsehc.d16 – .d08 and bbrpselk.d82, .d88 – .d06

Table 4. Electrofishing CPUE (fish/hr) for each length group of rock bass collected from main stem Elkhorn Creek (Forks of Elkhorn to Confluence with Kentucky River) from 1984-2016; numbers in parentheses are standard errors. Number of samples and location varies between years.

	Length group				
Year	<4.0 in	4.0-5.9 in	>6.0 in	>8.0 in	Total
1982	0.1 (0.1)	1.2 (0.6)	10.5 (3.1)	1.9 (1.2)	11.8 (3.5)
1983			No Sample		
1984			No Sample		
1985			No Sample		
1986			No Sample		
1987			No Sample		
1988	0.7 (0.56)	7.1 (2.2)	22.4 (6.5)	1.3 (0.9)	30.2 (8.7)
1989	0.0 (0.0)	4.1 (0.9)	19.6 (4.2)	4.7 (1.3)	23.6 (4.9)
1990	0.6 (0.2)	5.9 (1.5)	17.9 (2.6)	3.3 (0.8)	24.4 (3.9)
1991	1.4 (0.5)	16.2 (2.7)	32.8 (3.3)	4.1 (0.6)	50.4 (5.6)
1992	0.7 (0.2)	9.8 (3.0)	37.1 (4.9)	2.2 (0.4)	47.5 (7.3)
1993	0.1 (0.1)	5.7 (1.8)	34.4 (4.8)	8.8 (1.4)	40.2 (6.1)
1994	0.0 (0.0)	3.6 (1.0)	28.8 (3.8)	11.2 (1.4)	32.3 (4.5)
1995	2.0 (0.7)	6.3 (1.2)	22.9 (3.2)	10.6 (1.6)	31.3 (4.6)
1996	3.0 (0.9)	6.7 (2.1)	16.3 (2.2)	6.2 (1.1)	25.9 (4.2)
1997	0.9 (0.4)	12.0 (2.4)	19.4 (3.0)	4.0 (0.8)	32.3 (4.9)
1998	1.5 (0.5)	8.0 (1.7)	28.2 (3.7)	3.5 (0.7)	37.7 (5.5)
1999	4.0 (1.1)	9.1 (1.5)	27.3 (2.9)	3.7 (0.7)	40.4 (4.8)
2000			No Sample		
2001			No Sample		
2002			No Sample		
2003			No Sample		
2004			No Sample		
2005	0.8 (0.4)	1.7 (0.6)	18.6 (3.6)	5.8 (0.8)	21.0 (4.3)
2006			No Sample		
2007			No Sample		
2008	0.3 (0.2)	4.3 (1.1)	22.0 (5.4)	4.2 (1.0)	26.7 (6.5)
2009	0.0 (0.0)	4.8 (1.2)	13.5 (3.2)	3.8 (1.1)	18.3 (4.1)
2010	0.8 (0.6)	10.2 (2.1)	23.7 (3.1)	4.5 (0.9)	34.7 (3.8)
2011	0.2 (0.2)	7.8 (2.3)	19.5 (4.8)	3.0 (0.7)	27.5 (6.8)
2012	2.9 (0.7)	4.4 (0.9)	18.5 (4.1)	1.6 (0.6)	25.8 (5.0)
2013	0.2 (0.2)	4.7 (1.4)	17.6 (4.7)	4.6 (1.1)	22.6 (5.3)
2014	0.0 (0.0)	8.3 (2.6)	31.0 (4.3)	5.5 (1.1)	39.3 (6.5)
2015			No Sample		
2016	0.7 (0.4)	7.0 (1.4)	41.2 (4.6)	14.0 (2.1)	48.8 (5.5)

Dataset = cfdpsehc.d16 – .d08 and bbrpselk.d82, .d88 – d.99, .d05

Table 5. Population assessment for smallmouth bass collected by boat electrofishing gear in the North Fork Elkhorn Creek from 2008-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -8.9 in	CPUE ≥9.0 in	CPUE ≥12.0 in	CPUE ≥14.0 in	Total score	Assessment rating
2016	Value	0.5	26.5	34.0	10.0	1.5		
	Score	1	4	4	4	2	15	Good
2015	Value				No Sample			
	Score							
2014	Value	0.0	4.0	11.0	4.0	1.5		
	Score	0	2	3	2	2	9	Fair
2013	Value	0.5	10.5	16.5	9.0	1.5		
	Score	1	3	4	4	2	14	Good
2012	Value	2.0	22.5	15.5	5.5	1.5		
	Score	3	4	4	3	2	16	Excellent
2011	Value	1.0	16.0	11.0	3.0	2.5		
	Score	2	4	3	2	3	14	Good
2010	Value	0.0	15.5	14.5	5.0	1.5		
	Score	0	4	3	3	2	12	Good
2009	Value	1.0	22.8	20.3	5.0	1.8		
	Score	2	4	4	3	2	15	Good
2008	Value	0.0	1.0	10.0	5.5	1.5		
	Score	0	1	3	3	2	9	Fair

Table 6. Population assessment for rock bass collected by boat electrofishing gear in the North Fork Elkhorn Creek from 2008-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -5.9 in	CPUE ≥6.0 in	CPUE ≥8.0 in	Total score	Assessment rating
2016	Value	5.0	6.5	12.5	2.0		
	Score	4	3	3	2	12	Good
2015	Value			No Sample			
	Score						
2014	Value	0.5	4.0	2.5	0.5		
	Score	1	2	1	1	5	Fair
2013	Value	0.5	2.5	3.0	1.0		
	Score	1	2	1	1	5	Fair
2012	Value	2.0	1.0	1.0	0.0		
	Score	3	1	1	0	5	Fair
2011	Value	0.0	6.0	5.5	0.0		
	Score	0	3	2	0	5	Fair
2010	Value	0.5	3.5	7.5	0.0		
	Score	1	2	2	0	5	Fair
2009	Value	2.8	9.3	20.3	2.5		
	Score	4	3	3	2	12	Good
2008	Value	0.5	2.0	0.5	0.0		
	Score	1	1	1	0	3	Poor

Table 7. Population assessment for largemouth bass collected by boat electrofishing gear in the North Fork Elkhorn Creek from 2008-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -8.9 in	CPUE ≥9.0 in	CPUE ≥12.0 in	CPUE ≥15.0 in	Total score	Assessment rating
2016	Value	0.0	12.5	29.5	15.5	7.5		
	Score	0	4	4	4	4	16	Excellent
2015	Value				No Sample			
	Score							
2014	Value	0.0	7.0	16.0	13.0	5.0		
	Score	0	4	4	4	4	16	Excellent
2013	Value	1.5	12.5	21.5	11.0	2.5		
	Score	3	4	4	4	4	19	Excellent
2012	Value	0.0	14.5	19.0	10.5	5.0		
	Score	0	4	4	4	4	16	Excellent
2011	Value	0.0	4.5	26.5	13.5	4.5		
	Score	0	3	4	4	4	15	Good
2010	Value	0.0	15.0	39.5	18.5	4.5		
	Score	0	4	4	4	4	16	Excellent
2009	Value	0.3	6.3	41.8	23.8	6.3		
	Score	1	4	4	4	4	17	Excellent
2008	Value	0.0	3.5	16.5	9.0	3.5		
	Score	0	3	4	4	4	15	Good

Table 8. Population assessment for smallmouth bass collected by boat electrofishing gear in the main stem Elkhorn Creek from 2000-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -8.9 in	CPUE ≥9.0 in	CPUE ≥12.0 in	CPUE ≥14.0 in	Total score	Assessment rating
2016	Value	7.7	91.0	63.3	23.0	10.8		
	Score	4	4	4	4	4	20	Excellent
2015	Value				No Sample			
	Score							
2014	Value	1.3	40.8	44.7	23.7	12.0		
	Score	2	4	4	4	4	18	Excellent
2013	Value	1.6	18.9	37.5	20.9	10.2		
	Score	2	4	4	4	4	18	Excellent
2012	Value	9.4	27.6	18.0	5.9	2.1		
	Score	4	4	4	3	3	18	Excellent
2011	Value	1.7	20.7	36.8	10.7	4.5		
	Score	3	4	4	4	4	19	Excellent
2010	Value	0.2	31.7	36.7	13.0	5.5		
	Score	1	4	4	4	4	17	Excellent
2009	Value	2.8	29.0	35.0	13.3	8.3		
	Score	3	4	4	4	4	19	Excellent
2008	Value	0.7	20.3	22.3	11.8	5.7		
	Score	1	4	4	4	4	17	Excellent
2007	Value				No Sample			
	Score							
2006	Value	11.4	18.2	77.4	42.6	16.1		
	Score	4	4	4	4	4	20	Excellent
2005	Value	1.5	37.3	47.0	21.8	7.0		
	Score	2	4	4	4	4	18	Excellent
2004	Value	4.9	29.0	52.6	16.8	6.9		
	Score	4	4	4	4	4	20	Excellent
2003	Value	5.5	27.4	44.4	15.5	6.7		
	Score	4	4	4	4	4	20	Excellent
2002	Value	2.5	56.1	49.9	24.2	11.9		
	Score	3	4	4	4	4	19	Excellent
2001	Value	8.0	29.9	48.5	26.9	10.3		
	Score	4	4	4	4	4	20	Excellent
2000	Value	11.3	48.1	67.0	29.5	10.3		
	Score	4	4	4	4	4	20	Excellent

Table 9. Population assessment for rock bass collected by boat electrofishing gear in the main stem Elkhorn Creek from 2008-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -5.9 in	CPUE ≥6.0 in	CPUE ≥8.0 in	Total score	Assessment rating
2016	Value	0.7	7.0	41.2	14.0		
	Score	1	3	4	4	12	Good
2015	Value			No Sample			
	Score						
2014	Value	0.0	8.3	31.0	5.5		
	Score	0	3	4	3	10	Good
2013	Value	0.2	4.7	17.6	4.6		
	Score	1	3	3	3	10	Good
2012	Value	2.9	4.4	18.5	1.6		
	Score	4	3	3	2	12	Good
2011	Value	0.2	7.8	19.5	3.0		
	Score	1	3	3	2	9	Good
2010	Value	0.8	10.2	23.7	4.5		
	Score	2	4	3	3	12	Good
2009	Value	0.0	4.8	13.5	3.8		
	Score	0	3	3	2	8	Fair
2008	Value	0.3	4.3	22.0	4.2		
	Score	1	3	3	3	10	Good

Table 10. Population assessment for largemouth bass collected by boat electrofishing gear in the main stem Elkhorn Creek from 2008-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -8.9 in	CPUE ≥9.0 in	CPUE ≥12.0 in	CPUE ≥15.0 in	Total score	Assessment rating
2016	Value	0.2	5.2	6.3	2.2	0.3		
	Score	1	3	3	3	1	11	Good
2015	Value				No Sample			
	Score							
2014	Value	0.0	2.3	5.8	2.5	1.2		
	Score	0	2	3	3	2	10	Fair
2013	Value	0.0	2.0	8.9	4.2	1.3		
	Score	0	3	4	4	2	13	Good
2012	Value	0.0	6.5	3.5	1.0	0.7		
	Score	0	4	2	1	1	8	Fair
2011	Value	0.0	2.5	4.7	1.3	0.7		
	Score	0	2	3	1	1	7	Fair
2010	Value	0.2	3.0	3.2	2.8	0.8		
	Score	1	3	2	3	2	11	Good
2009	Value	0.0	1.0	5.3	3.0	1.0		
	Score	0	1	3	3	2	9	Fair
2008	Value	0.0	3.3	5.7	2.8	0.5		
	Score	0	3	3	3	1	10	Fair

Table 11. Mean back calculated lengths (in.) at each annulus for otoliths from smallmouth bass collected from the main stem Elkhorn Creek in the spring of 2016.

		Age										
Year	No.	1	2	3	4	5	6	7	8	9	10	11
2015	11	3.9										
2014	21	3.9	5.9									
2013	21	4.0	6.7	8.2								
2012	22	4.6	7.3	9.6	11.0							
2011	14	4.7	7.4	9.4	10.9	12.0						
2010	6	4.3	7.3	9.6	11.2	12.6	13.6					
2009	6	4.7	7.2	9.5	11.0	12.2	13.0	13.7				
2008	5	5.1	7.7	9.9	11.4	13.0	14.3	15.2	16.2			
2007	2	4.8	8.0	10.3	11.6	12.8	14.3	15.2	15.7	17.0		
2005	1	3.5	6.1	7.5	10.4	11.5	13.2	14.0	14.8	15.7	16.1	16.7
Mean	109	4.3	6.9	9.2	11.1	12.3	13.6	14.5	15.9	16.5	16.1	16.7
Smallest		2.9	4.5	6.7	8.7	9.9	11.4	12.1	14.7	15.7	16.1	16.7
Largest		6.5	9.7	12.3	13.5	14.5	15.6	16.7	17.9	17.1	16.1	16.7
Std error		0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4		
95% ConLo		4.2	6.7	8.9	10.7	11.9	13.2	13.8	15.1	15.7		
95% ConHi		4.4	7.1	9.5	11.4	12.7	14.1	16.2	16.6	17.4		

Intercept value = 0.00
Dataset = cfdagehc.d16

Table 12. Age frequency and CPUE (fish/hr) per inch class of smallmouth bass electrofished in 6.0 hours on the main stem Elkhorn Creek in 2016.

	Inch class																				Std
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	%	CPUE	err
1	4	42	41															87	9	14.5	4.5
2			14	125	131	25												294	30	49.0	8.5
3					16	74	120	35	10									256	26	42.6	4.0
4								44	63	37	13	6						162	17	27.0	2.2
5								9	21	24	20	6	4					84	9	14.0	1.2
6											7	6	9					22	2	3.6	0.5
7											13	2	13					28	3	4.7	0.6
8													4	16	4	3		27	3	4.5	0.9
9															4	3		7	1	1.1	0.3
10																		0	0	0.0	0.0
11															4		1	5	0	0.8	0.3
Total	4	42	55	125	147	99	120	87	94	61	52	21	31	16	11	6	1	972	100	162.0	15.6
%	0	4	6	13	15	10	12	9	10	6	5	2	3	2	1	1	0	100			

Dataset = cfdagehc.d16 and cfdpsehc.d16

Table 13. Length distribution and CPUE (fish/hr) of black bass and rock bass collected in 3.0 hours of 15-minute electrofishing runs for black bass in April 2016 in the Floyd's Fork; numbers in parentheses are standard errors.

	Inch class																		
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE
Miles Park Canoe Access																			
Rock bass		1		1	1			1										4	4.0 (2.8)
Smallmouth bass		1			2	1				1								3	3.0 (1.9)
Spotted bass	2	16	1	2	3	1		1		1	1	1						29	29.0 (9.2)
Largemouth bass	1	3	2		1	2	1	1										11	11.0 (4.3)
Bob White																			
Rock bass				2	2	3	5											12	24.0 (8.0)
Smallmouth bass		3	5		3	6	2	5	4	1		1		1	2		1	34	68.0 (24.0)
Spotted bass		1	2		2		1		1		2							9	18.0 (6.0)
Largemouth bass			1					1		1								3	6.0 (2.0)
Fisherville Canoe Access																			
Rock bass						1	2	2										3	6.7 (3.5)
Smallmouth bass	1	3	5						4	2	1		3	1	1		1	22	29.3 (1.3)
Spotted bass				1														1	1.3 (1.3)
Largemouth bass					1													1	1.3 (1.3)
Cane Run Canoe Access																			
Rock bass			1	2		2	2											7	9.3 (3.5)
Smallmouth bass		4	1	1	4		1	2	1	2	1		1					18	24.0 (10.1)
Spotted bass		5	1		1													7	9.3 (4.8)
Largemouth bass								1				1						2	2.7 (2.7)
Total																			
Rock bass		1	1	5	3	6	9	3										28	9.3 (2.7)
Smallmouth bass	1	11	11	1	9	6	3	7	9	5	2	1	4	2	3		2	77	25.7 (7.5)
Spotted bass	2	22	4	3	6	1	1	1	1	1	3	1						46	15.3 (4.5)
Largemouth bass		1	2	2		3	1	2	3	1	2		1					18	5.7 (1.9)

Dataset = cfdpsflf.d16

Table 14. Electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected from Floyd's Fork from 2007-2016; numbers in parentheses are standard errors. Number of samples and locations varies between years.

Year	Length group <4.0 in	4.0-8.9 in	≥9.0 in	≥12.0 in	≥14.0 in	Total
2007	0.0 (0.0)	7.0 (4.7)	2.0 (1.2)	1.0 (1.0)	0.0 (0.0)	9.0 (5.3)
2008			NS			
2009			NS			
2010			NS			
2011			NS			
2012	1.0 (0.5)	7.0 (2.7)	7.5 (2.0)	2.8 (1.1)	1.8 (0.7)	15.5 (4.4)
2013	0.3 (0.4)	7.8 (3.8)	8.0 (2.3)	2.7 (1.1)	0.5 (0.3)	16.0 (4.6)
2014	0.0	2.3 (1.5)	5.5 (1.9)	2.3 (0.8)	1.7 (0.6)	7.8 (2.7)
2015	1.1 (0.8)	2.9 (1.0)	8.7 (2.5)	4.7 (1.9)	1.8 (0.8)	12.7 (3.3)
2016	4.0 (1.1)	10.0 (4.3)	11.7 (3.4)	4.7 (1.7)	3.7 (1.6)	25.7 (7.5)

Dataset = cfdpsflf.d16–.d07

Table 15. Electrofishing CPUE (fish/hr) for each length group of rock bass collected from Floyd's Fork from 2007-2016; numbers in parentheses are standard errors. Number of samples and location varies between years.

Year	Length group <4.0 in	4.0-5.9 in	≥6.0 in	≥8.0 in	Total
2007	2.0 (1.2)	10.0 (10.0)	5.0 (3.8)	1.0 (1.0)	17.0 (14.4)
2008			NS		
2009			NS		
2010			NS		
2011			NS		
2012	0.6 (0.3)	1.2 (0.53)	11.0 (3.3)	1.7 (0.7)	12.8 (3.6)
2013	0.0	1.3 (0.75)	10.7 (3.5)	2.2 (1.5)	11.9 (3.7)
2014	0.0	1.7 (0.93)	10.1 (3.4)	3.0 (1.3)	11.8 (4.0)
2015	0.0	0.0	5.5 (1.1)	3.3 (0.7)	5.5 (1.1)
2016	0.3 (0.3)	2.0 (0.6)	7.0 (2.4)	4.0 (1.3)	9.3 (2.7)

Dataset = cfdpsflf.d16–.d07

Table 16. Population assessment for smallmouth bass collected by boat electrofishing gear in Floyd's Fork from 2012-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -8.9 in	CPUE ≥9.0 in	CPUE ≥12.0 in	CPUE ≥14.0 in	Total score	Assessment rating
2016	Value	4.0	10.0	11.7	4.7	3.7		
	Score	3	3	3	3	3	15	Good
2015	Value	1.1	2.9	8.7	4.7	1.8		
	Score	2	2	3	3	2	12	Good
2014	Value	0.0	2.3	5.5	2.3	1.7		
	Score	0	1	2	2	2	7	Fair
2013	Value	0.3	7.8	8.0	2.7	0.5		
	Score	1	3	2	2	1	9	Fair
2012	Value	1.0	7.0	7.5	2.8	1.8		
	Score	2	3	2	2	2	11	Good

Table 17. Population assessment for rock bass collected by boat electrofishing gear in Floyd's Fork from 2012-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -5.9 in	CPUE ≥6.0 in	CPUE ≥8.0 in	Total score	Assessment rating
2016	Value	0.3	2.0	7.0	4.0		
	Score	1	1	2	2	6	Fair
2015	Value	0.0	0.0	5.5	3.3		
	Score	0	0	2	2	4	Poor
2014	Value	0.0	1.7	10.1	3.0		
	Score	0	1	2	2	5	Fair
2013	Value	0.0	1.3	10.7	2.2		
	Score	0	1	2	2	5	Fair
2012	Value	0.6	1.2	11.0	1.7		
	Score	1	1	2	2	6	Fair

Table 18. Population assessment largemouth bass collected by boat electrofishing gear in Floyd's Fork 2012-2016 (scoring based on statewide assessment).

Year		CPUE ≤4.0 in	CPUE 4.0 -8.9 in	CPUE ≥9.0 in	CPUE ≥12.0 in	CPUE ≥15.0 in	Total score	Assessment rating
2016	Value	1.3	2.7	1.7	0.3	0.0		
	Score	3	2	1	1	0	7	Fair
2015	Value	0.4	2.9	3.3	1.1	0.0		
	Score	1	3	2	1	0	7	Fair
2014	Value	0.0	4.6	2.7	0.8	0.0		
	Score	0	3	2	1	0	6	Fair
2013	Value	0.3	4.5	1.5	0.0	0.0		
	Score	1	3	1	0	0	5	Poor
2012	Value	1.8	2.0	2.2	1.4	0.2		
	Score	3	2	2	2	1	10	Fair

CENTRAL FISHERIES DISTRICT

Project B: Trout Stream Fishery Surveys

FINDINGS

Dix River (Herrington Lake tailwater)

The Dix River (Herrington Lake tailwater) was electrofished for trout on November 11, 2016. Results from the electrofishing are presented in Table 1. The CPUE for rainbow trout was 1.3 fish/hr compared to the historic average of 38.7 fish/hr. CPUE for brown trout was 0.0 fish/hr compared to the historical average of 26.5 fish/hr. Historical catch rates of rainbow trout and brown trout are presented in Tables 2 and 3. Annual weather data and tailwater flow parameters for Herrington Lake tailwater are summarized in Table 4. Data is collected from the USGS 03286200 gauge and rainfall data is collected from the USGS 03285000 gauge or National Weather Service ID (DNK2). Tailwater observations appear to have a significant relationship to how the trout perform in Dix River Tailwater. During years of high flow and rainfall, there appears to be lower than average survival of trout from year to year and in some cases a reduction in the overall trout population. During years of low flow or rainfall the trout appear to flourish and high numbers of trout will survive to the next year. Overall, this Dix River tailwater trout fishery is strongly influenced by these yearly variations of weather and water conditions.

A time-lapse camera was installed below the Dix River Dam on June 2, 2016 in an effort to capture angling pressure in response to stocking events. Data was recorded from each of the stocking events occurring during June, July, August, November 2016 and March 2017. Unfortunately, a camera malfunction occurred during January 2017 resulting in no data being collected for that stocking event. Furthermore, the time-lapse camera will remain active until June 1, 2017 in order to collect a full year of angling pressure in the Dix River. Images were collected every 10 minutes during daylight hours, all images collected were analyzed recording total number of anglers, total number of non-anglers, water conditions and fishing mode each day.

Thoughout this period (June 2016-March 2017) at total of 1,000 brown trout and 3,000 rainbow trout were stocked into the Dix River. For the five stocking months with data there was an average of 17.8 anglers/month compared to 19.0 non-anglers/month. Stocking during the summer months (June, July and August) averaged 26.3 anglers/month compared to 5.0 anglers/month during the fall/winter months (November and March). Overall, in the months that were not stocked (September, October and February) there was an average of 8.7 anglers/month.

Data was collected from 245 days between June 2016- March 2017. Of those days, there was 165 days (67.3%) that the water levels were good for fishing all day. Forty-three days (17.6%) were impacted by pulsed water releases that resulted in fishable conditions for only a portion of the day and 37 days (15.1%) were unfishable due to elevated water levels for all or majority of the day. Kayaking (45.5%) was the most popular fishing mode observed in the Dix River, followed by wade/bank (29.9%), canoe (13.6%), motorize boat (9.8%), stand-up paddle board (0.8%) and float pontoon (0.4%).

Royal Springs

A time-lapse camera was installed at the Georgetown Municipal Water and Sewer Service property adjacent to Royal Springs Park in 2016. The camera was installed in March in an effort to capture angling pressure following each of the stocking events, which occurred in June, July, August and October 2016. The time-lapse camera recorded a picture of the entire fishing area every 15-minutes during daylight hours. Unfortunately, a camera malfunction occurred and no data was recorded during August (stocking month) and September (non-stocking month). The camera was removed in December. Images were analyzed by recording pressure counts at the top of each hour during daylight hours.

A total of 1,600 (400 fish/stocking) rainbow trout were stocked into Royal Springs during 2016. During the three stocking months with data, an average of 52.6 anglers/month was recorded compared to an average of 3.4 anglers/month during non-stocking months. During the first week following a stocking event, an average of 33.7

anglers (64%) were recorded, dropping to an average of 11.3 (21.5%) anglers during the second week and averaged 5.5 (10.5%) anglers during the third week. Average trip length was not calculated, however it does appear that most anglers on average fish less than 30 minutes. Overall, it does appear that the rainbow trout stocked are being utilized and providing a summer-time put and take fishery.

Table 1. Relative abundance and CPUE (fish/hr) of trout collected during 0.75 hours of diurnal electrofishing on the Dix River (Herrington Lake tailwater) on 11 November 2016.

	Inch class								Std
Species	8	9	10	11	12	13	Total	CPUE	err
Rainbow trout			1				1	1.3	1.3
Brown trout							0	0.0	0.0

Dataset = cfdlfdix.d16

Table 2. Total CPUE (fish/hr) of rainbow trout collected during diurnal electrofishing on the Dix River (Herrington Lake tailwater) from 1996-2016.

Year	Total	CPUE	Std Err
1996	5	5.0	3.0
1997	26	11.6	6.2
1998	27	9.9	5.0
1999	40	26.7	10.5
2000	100	50.0	19.9
2001	160	80.0	38.2
2002	36	18.0	14.9
2003	5	2.5	2.5
2004		No Sample (NS)	
2005	86	43.0	19.5
2006	41	32.2	27.0
2007	113	60.0	22.7
2008	95	85.0	37.5
2009	83	83.0	26.1
2010	39	39.0	21.0
2011	9	9.0	9.0
2012	39	47.8	33.2
2013	NS	NS	NS
2014	70	93.3	31.9
2015	1	1.3	1.3
2016	1	1.3	1.3

Dataset = cfdlfdix.d96-d16

Table 3. Total CPUE (fish/hr) of brown trout collected during diurnal electrofishing on the Dix River (Herrington Lake tailwater) from 1996-2016.

Year	Total	CPUE	Std err
1996		None collected	
1997	2	0.9	0.9
1998	1	0.1	0.1
1999	29	19.3	10.1
2000	24	12.0	8.8
2001	35	17.5	10.4
2002	9	4.5	3.9
2003	3	1.5	1.5
2004		No Sample	
2005	36	18.0	8.4
2006	38	30.3	28.9
2007	108	57.1	33.2
2008	125	108.0	45.0
2009	52	52.0	29.4
2010	58	58.0	34.5
2011	0	0.0	0.0
2012	7	9.3	9.3
2013	NS	NS	NS
2014	47	62.7	44.7
2015	0	0.0	0.0
2016	0	0.0	0.0

Dataset = cfdlfdix.d96-d16

Table 4. Annual weather data and tailwater parameters for Herrington Lake tailwater. Tailwater data is collected from USGS 03286200 gauge and rainfall data is collected from USGS 03285000 gauge or National Weather Service ID (DNK2).

Year	Annual Average Gauge Height	Annual Average Discharge	Days over 10 feet gauge height	Annual Rainfall for Danville, KY
2016	--	491.7	--	33.57
2015	5.9[c]	639.0[c]	85[c]	42.89
2014	[b]	586.9[b]	[b]	43.82
2013	7.1	669.2	53	64.13
2012	5.7	376.6	11	41.18
2011	7.3	527.4	52	61.43
2010	6.0	342.6	40[a]	45.34
2009				50.79
2008				44.86
2007				38.90
2006				46.61

Gauge height above 10 feet have probable backwater from Kentucky River.

[a] In 2010, gauging stations was down for 29.6 days due to extremely high water conditions in the tailwater – 29 days are included.

[b] In 2014, average gauge height was not recorded until August, therefore, the number of days the gauge exceeded 10 was not calculated. Additionally, gauging station was down for about 20 days during high water events.

[c] In 2015, the gauging station was down for 41 days during high water events.

CENTRAL FISHERIES DISTRICT

Project B: Technical Guidance

FINDINGS

A total of 45 pond owners and 55 ponds were visited in 2016. Most common problems were unbalanced fish populations, excessive aquatic plant growth, lack of fish cover, and the presence of undesirable fish species (Table 1). During our 2016 technical guidance sampling, six landowners requested a Fisheries Special Management Permit (FMP) for their ponds. Finally, a total of 335 phone calls, 255 e-mails, and 4 walk-in office visits concerning farm pond problems were handled this year.

Table 1. Technical guidance in the Central Fishery District in 2016.

County	Name of lake / pond owner	Date sampled	Findings	Recommendations
Anderson (1)	Fred Wright	8/8/16	Good fish populations	Stock grass carp or aquatic herbicides for aquatic vegetation control.
Bullitt (2)	Lake of Dogwoods Subdivision	8/25/16	Undesirable fish species; good bass population	Stock CCF; add cover
	Robin Noe	9/2/16	Unbalanced fish populations	Protect LMB, add cover
Campbell (3)	Campbell County Game and Fish	8/1/16	3 ponds; crowded bass populations	FMP on 2 ponds for LMB removal;
	Taylor Eaton	8/26/16	Good fish populations	Stock CCF; Lime pond
	Chance Eisenman	8/26/16	Inaccessible due to aquatic vegetation	Fluridone for vegetation control
Fayette (5)	Stephen Scher	7/5/16	Good fish populations	Add habit
	Masten Childers	7/5/16	2 ponds; good fish populations	Add cover; herbicides for vegetation control
	Kevin Smith	8/10/16	2 ponds; large pond inaccessible due to duckweed/watermeal 2) quality LMB/crowded BG	1) Fluridone for vegetation control; 2) Add cover/ maintain dam
	Charles Rush	8/10/16	Only vegetation check- coontail, primrose, duckweed, willows	Herbicides for vegetation control
	Mt Brilliant Farm	8/22/16	Crowded LMB population	Harvest LMB; add cover
Garrard (1)	Eastern Kentucky University	9/26/16	Good fish populations	EKU – collected the data
Henry (4)	Lloyd Schwing	6/24/16	Good fish populations	Add cover
	Toby Nutt	6/24/16	Good fish populations	Add cover
	Robert Polk	6/28/16	Quality LMB / crowded BG	Add cover
	George Cox, Jr.	8/2/16	Unbalanced fish populations	Stock BG; fertilize and lime
Jefferson (6)	South Park Country Club	6/20/16	Good fish populations	FMP to control bass population; add cover
	Lester Wurzel	6/20/16	Unbalanced fish populations	Stock BG
	The Harbor at Harrods Creek	7/13/16	Unbalanced fish populations	FMP to control bass population
	Matthew Shewmaker	8/9/16	Inaccessible due to aquatic vegetation	Fluridone for vegetation control
	Mike Pifer	8/9/16	Unbalanced fish populations	Stock LMB
	Ron Woods	9/6/16	Small / shallow pond	Renovate and restock
Jessamine (1)	Tim Twehues	9/1/16	2 ponds; 1) Good fish populations; 2) Unbalanced fish populations;	1) Add cover 2) Renovate and restock

County	Name of lake / pond owner	Date sampled	Findings	Recommendations
Kenton (2)	Ryland Lakes Country Club	6/21/16	5 ponds; 1) Crowded LMB 2) Crowded LMB 3) Crowded LMB 4) Undesirable fish species 5) Kid's fishing pond	1, 2, 3) FMP to harvest crowded LMB populations 4) No recommendations 5) Stock CCF
	Amy Zimmerman	7/11/16	Good fish populations;	Herbicides for vegetation control
Mercer (2)	Norman Sipe	6/23/16	Crowded LMB population	FMP to harvest crowded LMB population
	Mercer County Fish and Game	6/23/16	Good fish populations	Harvest crappie; open areas to improve bank fishing areas
Nelson (5)	Hurricane Hills	6/22/16	Infertile lake with crowded LMB population	Lime and fertilize; FMP to harvest crowded LMB population
	Jimmy McGee	6/22/16	Unbalanced fish population	Stock BG
	Scott Spaulding	7/26/16	Good fish population	None
	Donnie Smith	7/26/16	Small limited pond	None
	Bradley Hill	8/24/16	2 ponds; Crowded LMB populations in both ponds	Stock BG, harvest LMB in both lakes. FMP to remove crowded LMB
Owen (3)	Elk Lake Property Owners Assn.	6/26/16	Good fish populations	Harvest crappie; continue FMP slot limit; add cover
	Greg Heideman	6/28/16	Inaccessible due to shallow water	Renovate and restock
	Jerry Zembrodt	8/3/16	Quality BG pond	No recommendations
Scott (5)	Victoria Estates Homeowner Association	5/25/16	Good fish populations	Herbicides for vegetation control; add cover
	Deer Lake Homeowners Association	6/30/16	2 lakes; Both with good fish populations	1) FMP to control crowded LMB in upper lake; 2) no recommendations
	William Stevens	8/3/16	2 ponds; 1) Good fish populations 2) Unbalanced fish populations	1) Add cover; 2) Protect LMB
	Victor Perkins	8/4/16	Inaccessible due to steep sides	Stock LMB and CCF
	Dennis Frommeyer	8/4/16	Inaccessible due to aquatic vegetation	Herbicides for vegetation control;
Shelby (3)	Edward Conn	7/25/16	Inaccessible due to aquatic vegetation; very small pond	Renovate and restock
	Wendell Dennison	7/25/16	Unbalance fish populations	Stock LMB; add cover
	Thomas Hughes	8/2/16	Good fish populations	Add cover
Spencer (1)	Joseph Ansert	8/8/16	Unbalanced fish populations	Remove white bass and CCF
Washington (1)	Kathy Fresard	8/24/16	Unbalanced fish populations	Stock LMB; remove CCF

NORTHEASTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Table 1 provides a list of ponds visited (16) in 2016 and our findings and recommendations. In addition to on-site inspections, consultations were rendered via telephone (75-100) and/or written correspondence (4). 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. Technical guidance was provided to individuals from all counties in the NEFD. 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.

Table 1. On-site technical guidance provided by the Northeastern Fishery District during 2016.

County	Name	Date	Findings	Recommendations
Bath	A. Brewer	1-Sep	Vegetation problem	Apply CuSO4 to algae and Rodeo to shoreline undesirables
Clark	Winchester Reservoir	9-May	Good overall catches on bg, re and lmb	Harvest a few lmb over 12"
Fleming	City of Flemingsburg	6-May	P1- Balanced (New)	P1- No change needed
			P-2 Few fish observed; (old) good location	P-2 Recommended as FINS lake
	Park Lake	25-Apr	Unbalanced; many small lmb	Impose reg change for harvest of small lmb and limit bg to 15 fish creel
Lewis	J. Redmond	8-Sep	Unbalanced; low bg	Restrict bg harvest for 2 years and harvest 30- 50 lmb
Madison	R. Minerich	25-Oct	Unbalanced	Harvest 50 lmb and stock 75 bg per acre
Menifee	R. Coffey	23-Aug	Undesirable species, low conductivity	Remove undesirables caught, do soil test
Morgan	J. Collett	2016	P-1 Unbalanced	P-1 stock 200 bg and perform soil test
			P-2 Balanced (owner wanted re)	P-2 stock 75 re
	C. Fredrick	23-Aug	P-1 Unbalanced; low bg	P-1 limit bg harvest; soil test
			p-2 Balanced	P-2 soil test
			p-3 Balanced	P-3 soil test
Powell	Officer Rice	24-Aug	Low numbers collected, no legal sized LMB	Install 15" on lmb with 15 fish creel on bg, stock if fish are available
Rowan	C. Jones	24-Oct	Unbalanced	Stock 25 4-6" lmb and do a soil test
	Eagle Lake	13-Apr	Low number of fish collected	Stock forage and impose 15 fish creel on bg, investigate if stock trout

SOUTHEASTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Details of the technical guidance provided during 2016 are shown in Table 1. Technical guidance was provided through seven on-site visits. Additional technical guidance requests were handled over the telephone, or by written correspondence. Topics encountered and responded to included: fish population balance, water quality problems, fish disease, fish stocking, and aquatic vegetation problems.

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.

Table 1. Technical guidance provided in the Southeastern Fishery District during 2016.

County	Name of pond or pond owner	Date	Findings	Recommendations
Bell	Appalachian Wildlife Center	11/10	Pond 1 (Visitor Center): mostly balanced fish population, maybe some crowding of the bass; chara and pondweed present	Pond 1: Add woody cover; add lime; add gravel
			Pond 2: Balanced fish population	Pond 2: Add cover; add lime; continue current fish management
Casey	Bradley Clark	6/3	Bass slightly overcrowded; cattails present	Remove skinny bass; add lime; consider adding fertilizer in the spring; add woody cover; treat cattails with glyphosate
Knox	Pat Bacon	8/17	American pond weed and chara present	Stock 25-30 grass carp or spot treat vegetation with Clipper & copper sulfate
Laurel	Corey Henson	8/30	Bass slightly crowded; pondweed and blue green algae present	Remove skinny bass; add lime; add cover; consider aeration
Pulaski	Donna Hall	8/4	Muddy water	Add hay, lime, gypsum, or alum
	Betty Wooten	8/16	Watershield present	Treat watershield with Glyphomate 41
Whitley	Danny Parks	7/27	Slightly overcrowded bass population	Remove 8-12 skinny bass; stock 15-20 4-6 inch bluegill; add lime; add woody cover

EASTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Details of the technical guidance provided during 2016 are shown in Table 1. Technical guidance (33) was provided by on-site visits (2), over the telephone, or by written correspondence. Topics encountered and responded to included: fish population balance, water quality problems, fish disease, fish stocking, and aquatic vegetation problems.

Several other requests for information about area fisheries and miscellaneous information about fish management in lakes and ponds were handled over the telephone.

Table 1. Pond technical guidance in the Eastern Fishery District during 2016.

Date	County	Owner	Problem	Recommendations
3/28	Floyd	Lenard Hall	fish stocking	Private Delers List
3/28	Martin	Ted McGinnis	grass carp	Remove
4/5	Martin	N/A	pond balance, lilly pads	fish balance is okay, herbicide
4/6	Knott	Blake Smith	red spotted newts	UK extension office
4/11	Harlan	Eric Creech	pond stocking	NRCS, KDFWR pond book, private dealer list
4/14	Lawrence	Roland Gray Jr.	pond color	mix pond water with other pond
4/19	Harlan	C.V. Bennett	pond stocking	private dealer list, KDFWR pond book
4/18	Martin	Danny Mooney	fish dying from bacteria	salt, copper sulfate
4/25	Magoffin	Tim L Carty	pond stocking	private dealer list
5/3	Martin	E.J. Horn	beaver problems	KDFWR pond website link
5/17	Lawrence	Kim LeMaster	watershield & fish stocking	ShoreKlear & private dealer list
5/20	Pike	Ravenrock Golf Course	vegetation	grass carp
5/20	Floyd	Stone Crest	pond balance, stocking	grass carp
5/26	Boyd	Josh Preston	fish dying	reduce stocking rate, no aquashade, add lime
5/31	Magoffin	Don Lykins	pond re-stocking	check pond balance via fishing, KDFWR pond book
6/8	Martin	Steve Cox	watershield	ShoreKlear-Plus
6/13	Magoffin	Donnie Patrick	vegetation	lime, herbicide, Cutrine-Plus & Reward
6/13	Floyd	Eugene	vegetation	Cutrine-Plus
6/14	Johnson	Diana+Dean Howard	filamentous algae	Cutrine-Plus
7/12	Pike	Travis Hall	fish dying	harvest fish , aerate, copper sulfate
*7/15	Pike	Travis Hall	fish dying	stop use of copper sulfate
7/18	Leslie	Vicki Wooton	stocking	private dealer list
7/19	Perry	Alice Ritchie	paylake carp removal	stop releasing carp into Lotts Crk, alternative removal
7/20	Knott	Dexter Conley	stocking	private dealer list
7/25	Pike	Jordan Thacker	pond stocking	KDFWR website link, private dealer list
7/26	Floyd*	Don Lowe	duckweed, naiad	Reward with surfactant
8/18	Martin*	Anita Preece	watermill, dead fish	Cutrine-Plus, Weedtrine, lime, private dealer list
8/25	Lawrence	Evan Young	pond balance	do not harvest bass 13-19", lime
8/8	Lawrence	Denzil Hall	stocking	private dealer list
11/6	Knott	McClain Drive	brazilian elodea	grass carp
11/28	Letcher	Ellis Keyes	pond stocking	private dealer list, KDFWR pond book
*11/04	Letcher	Chad Morgan	pond bal, stocking	Stock RE sunfish, harvest small bass, add habitat
12/12	Knott	Bob Stewart	new pond stocking	private dealer list, KDFWR pond book

*on-site visit

Project B: Fish Habitat Improvement - Public Lakes Fertilization

Lake		County	Size (acres)
Southwestern Fishery District	Subtotal		204
Marion County Lake		Marion	25
Spurlington Lake		Taylor	25
Briggs Lake		Logan	18
Shanty Hollow Lake		Warren	136
Eastern Fishery District	Subtotal		37.5
Fishpond Lake		Knott	30.3
High Splint Lake		Harlan	6.9
Elkhorn Park Lake		Floyd	0.3

Project B: Fish Habitat Improvement - Fish Attractors

District / Lake	Fish Attractor Sites
<u>Western Fishery District</u>	
Barkley Lake	35 Christmas tree units were used to create new fish attractor sites; 6 Christmas tree units were used to refurbish existing deepwater fish attractors
Kentucky Lake	42 hardwood units (1 tree=1 unit) were used to create new deep water fish attractor sites; 172 hardwood units were used to refurbish existing deepwater sites; 106 Christmas tree units (2 trees = 1 unit) were used to create new attractor sites; 118 Christmas tree units were refurbished on old sites; 16 new shallow water Christmas tree units were created; 268 hardwood stake beds were refurbished and 6 new sites were created
<u>Northwestern Fishery District</u>	
Peabody WMA Lakes	
Musky Lake	3 cluster palm gas line attractors
Nolin River Lake	
Moutardier area	44 mature flood killed cedar trees
Wax area	52 “spider block square” gas line attractors
Dog Creek	52 gas line attractors (“cattails” and “snags”)
Rough River Lake	
Little Clifty Creek area	19 gas line attractors (various designs)
Cave Creek area	245 gas line attractors (“cattails” and “snags”)
Peter Cave Creek area	163 “snag” gas line attractors
Kingfisher lakes	
New Kingfisher	5 spider block and 5 cluster palm gas line attractors
<u>Southwestern Fishery District</u>	
Barren River Lake	2 new brush sites, 11 refurbished brush sites, 1 new stake bed
Green River Lake	5 new brush sites, 1 refurbished brush site, 2 new pallet trees sites
Briggs Lake	2 refurbished brush sites, 4 brush piles
Shanty Hollow Lake	4 new brush piles, 2 refurbished brush piles
Mill Creek Lake	1 new brush site, 1 new pallet tree site
Metcalfe County Lake	1 new stake bed, 1 refurbished brush pile
Three Springs Lake	2 refurbished brush sites, 1 new brush sites

Project B: Fish Habitat Improvement - Fish Attractors cont.

District / Lake	Fish Attractor Sites
<u>Central Fishery District</u>	
Elmer Davis Lake	101 PVC structures (spider ball); 80 brush piles (633 trees); 106 pallet structures (3 pallets per unit + 2 trees per pallet (200 trees); 3 stake beds; 2 hinge cut (fallen trees)
Taylorsville Lake	18 hinge cut (fallen trees); 8 brush piles (575 total trees)
<u>Northeastern Fishery District</u>	
Cave Run Lake	
Annual habitat work	2 refurbished brush sites (Christmas tree sites – 100+ trees)
Large-scale habitat project work	Ramey's Creek and Warix Run sites: In total, 10 new sites were created. Over 1,000 units of structure added to the lake including: Christmas tree bundles, larger cedar trees, pallet structures, stake buckets, plastic pallet structures, concrete culverts, hardwood tree stumps and wooden spool structures
Grayson Lake	4 refurbished brush sites (Christmas tree sites – 150+ trees)
<u>Southeastern Fishery District</u>	
Laurel River Lake	10 brush sites refurbished (30 Christmas trees per site)
<u>Eastern Fishery District</u>	
Buckhorn Lake	11 new pallet structures with christmas trees; 450lbs of winter wheat sowed
Carr Creek Lake	37 new pallet structures with christmas trees and hardwood
Dewey Lake	4 new brushpiles; 8 refurbished brushpiles; 3 new christmas tree reefs; 6 hinge-cut trees; 2 refurbished stake beds; 5 new stake beds with christmas trees; sago pondweed planted
Fishtrap Lake	1 new big brush pile christmas trees hardwood drift
Martin County Lake (Milo)	8 new brushpiles christmas trees with hardwood drift stakes
Paintsville Lake	10 new brushpiles
Yatesville Lake	2 refurbished brushpiles; 1 refurbished christmas tree reef; 14 hinge-cut trees; 6 new brush piles; 3 new chritmas tree reefs (approximately 300 trees)

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Muskellunge	**Minor Clark**	705	9	705	7.8	Barren River
		180	9	180	7.8	Green River Pool 5
Ohio River (94,500) - Eggs		350	9	350	7.8	South Fork Kentucky River
Licking River (444,190) - Fry		375	9	691	7.8	North Fork Kentucky River
		400	9	400	7.8	Licking River
*Left pelvic fin clip		200	9	200	7.8	Little Sandy River
		110	9	110	7.8	Tygarts Creek
		145	9	145	7.8	Drakes Creek
		720	9	720	7.8	Green River Pool 6
		250	9	250	7.8	Green River Pool 4
		50	9	51	7.8	Kinniconick Creek
		85	9	84	7.8	Red River
		30	9	30	7.8	West Fork Drakes Creek
		15	9	14	7.8	Sexton Creek
		30	9	30	7.8	Goose Creek Lake
		40	9	39	7.8	Redbird River
		15	9	15	7.8	Station Camp Creek
		10	9	10	7.8	Sturgeon Creek
		30	9	30	7.8	Triplett Creek
		20	9	20	7.8	North Fork Triplett Creek
		50	9	50	7.8	Kentucky River Pool 2*
		99	9	99	7.8	Kentucky River Pool 3*
		0	0	550	7.8	Dewey Lake
		0	0	765	7.7	Levisa Fork
		0	0	1,541	7.9	Green River Pool 3
		0	0	735	7.9	KY River Pool 7
		0	0	564	7.9	KY River Pool 8
		0	0	604	7.9	KY River Pool 9
		0	0	786	7.9	KY River Pool 10
		0	0	636	7.9	KY River Pool 11
		0	0	608	7.9	KY River Pool 12
		0	0	232	7.9	KY River Pool 13
		0	0	4,000	7.7	Tennessee DNR
	Total	3,909	9	15,244	7.8	
* Right check wire tag		2,700	13	2,800	11.8	Cave Run Lake*
		2,700	13	2,800	12	Green River Lake*
** Right check wire tag		400	13	420	11.8	Buckhorn Lake*
and left pelvic fin clip		375	13	350	11.8	Dewey Lake*
		0	0	3	11.8	Hatchery Oxbow
		50	13	50	12	Kentucky River Pool 2**
		99	13	98	12	Kentucky River Pool 3**
	Total	6,324	13	6,521	11.9	
	Grand Total	10,233		560,455		

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Walleye (Erie)	**Minor Clark**	0		216,050	fry	Licking River
		0		629,984	fry	West Virginia
	Total			846,034		
		500,000	1.5	595,305	1.5	Lake Cumberland
		40,000	1.5	40,124	1.6	Dale Hollow Lake (KY)
		260,000	1.5	261,091	1.5	Laurel River Lake
		35,000	1.5	35,045	1.6	Carr Creek Lake
		57,000	1.5	58,034	1.6	Paintsville Lake
		200,000	1.5	250,253	1.6	Nolin River Lake
		200,000	1.5	353,462	1.6	Green River Lake
		15,000	1.5	15,235	1.6	Russell Fork
		0	0	20,273	1.5	Cumberland River
	Total			1,628,822	1.6	
	Grand Total			2,474,856		
Walleye (Native)	**Minor Clark**			28,840	fry	Tennessee
		20,000	2.5	20,068	2.4	Upper KY River
		3,000	2.5	3,019	2.3	Upper Levisa Fork
		6,400	2.5	26,961	1.7	Rockcastle River
		19,800	2.5	23,147	2.3	Wood Creek Lake
		16,000	2.5	16,008	2.2	Lower Barren
		10,000	2.5	22,817	2.1	Martins Fork Lake
		27,200	2.5	27,221	2.3	Upper Cumberland River
	Total	102,400		168,081		
Striped Bass	**Minor Clark**	350,000	1.5	735,063	1.3	Lake Cumberland
		50,000	1.5	50,069	1.2	Kentucky Lake tailwater
		50,000	1.5	50,099	1.2	Barkley Lake tailwater
						Ohio River
		49,000	1.5	49,145	1.3	Markland Pool
		38,000	1.5	38,016	1.4	McAlpine Pool
		46,000	1.5	46,075	1.3	Cannelton Pool
		33,000	1.5	33,089	1.3	Newburg Pool
		40,000	1.5	40,021	1.2	Uniontown Pool
		55,000	1.5	55,110	1.1	Smithland Pool
	Total	711,000	1.5	1,096,687	1.3	

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Hybrid Striped Bass	**Minor Clark**	200,000	1.5	365,764	1.4	Barren River Lake
		2,600	1.5	2,620	1.9	Sympson Lake**
		15,000	1.5	15,169	1.8	Grayson Lake***
* OTC marked originals		51,000	1.5	53,400	1.8	Rough River Lake*
**Unmarked Originals		51,000	1.5	52,350	1.2	Rough River Lake
***Mixed		30,000	1.5	32,400	1.8	Taylorsville Lake*
originals/recips		30,000	1.5	31,350	1.2	Taylorsville Lake
		25,000	1.5	27,399	1.8	Herrington Lake*
****Stocked by Indiana		25,000	1.5	26,349	1.2	Herrington Lake
		23,000	1.5	25,408	1.1	Fishtrap Lake
		7,200	1.5	8,469	1.1	Lake Linville
		19,000	1.5	19,761	1.1	Guist Creek Lake
		3,333	1.5	3,670	1.1	KY River Pool 4
		3,333	1.5	3,670	1.1	KY River Pool 5
		3,333	1.5	3,670	1.1	KY River Pool 6
		3,333	1.5	3,670	1.1	KY River Pool 7
		3,334	1.5	3,670	1.1	KY River Pool 8
		3,334	1.5	3,670	1.1	KY River Pool 9
						Ohio River
		54,500	1.5	****		Markland Pool
		41,500	1.5	41,609	1	McAlpine Pool
		50,000	1.5	62,106	1	Cannelton Pool
		36,000	1.5	42,310	1	Newburg Pool
		43,700	1.5	50,453	1	Uniontown Pool
		60,500	1.5	68,928	1	Smithland Pool
Total Recips		106,000		823,665		
Total Originals		679,000		124,200		
Grand Total		785,000		947,865		
Smallmouth Bass	**Minor Clark**			2,030	1.8	Russell Creek
				16,002	1.7	Barren River
	Total			18,032	1.7	
Largemouth Bass	**Minor Clark**			334,520	fry	Licking River
		Ohio River				McAlpine, Markland, Meldahl and Greenup Pools
		30,000	0.8	26,183	0.75	Farm Pond program
		1,650	2	1,652	2.5	Little Kentucky River
		7,050	2	7,093	1.6	Harrod's Creek
		38,200	2	38,271	1.5	Craig's Creek
		2,474	2	2,478	2.6	Big Sugar Creek
		2,535	2	2,536	2.6	Little Sugar Creek
		16,064	2	16,029	1.5	Big Bone Creek
		10,309	2	10,296	1.5	Gunpowder Creek
		3,580	2	3,613	2.4	Woolper Creek
		3,853	2	3,885	1.5	Big Snag Creek
		8,416	2	8,421	1.5	Big Locust Creek
		2,705	2	2,765	1.4	Big Turtle Creek
		7,943	2	7,923	1.4	Bracken Creek
		2,265	2	2,263	1.4	Lawrence Creek
		15,100	2	15,115	1.4	Little Sandy (Greenup Rp)
		15,100	2	15,115	1.4	Little Sandy (Raccoon Rp)
		0	0	29,756	1.5	Kentucky River
		0	0	4,028	1.8	Elkhorn Creek
		0	0	3,007	1.9	Licking River
	Total	137,244		200,429		

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location	
Largemouth Bass	**Minor Clark**	100,000	5.0			Priority 1 lakes at 15/acre	
				29,361	4.7	Herrington Lake	
				11,043	4.4	Dewey Lake	
				1,100	4.5	Lake Carnico	
				1,000	4.5	Eagle Creek Lake	
				1,002	4.5	Stoner Creek	
				1,016	4.5	Lake Shelby	
				14,950	4	Spring Stocking	
				47,274	4.2	Indiana	
	Total	100,000		106,746			
	Grand Total	267,244		641,695			
Grass Carp	**Minor Clark**			48	15	Greenbo Lake	
Saugeye	**Minor Clark**			570,000	eggs	Pfeiffer to grow out	
Nonsport Forage Species	**Minor Clark**						
Fathead Minnows		**Pounds**				**Location/Use**	
		3,312				Muskellunge Ponds	
		100				LMB Pond	
		50				Display Pool	
		110				Walleye Broodstock	
	Total Lbs FHM	3,572					
Goldfish		3,998				Muskellunge Ponds	
		6,207				Walleye Broodstock	
		4,599				Overwinter Display Pool	
		6,287				LMB Pond	
		150				Display Pool	
		20				Furture Broodstock	
	Total Lbs GOF	21,261					
Sauger	**Pfeiffer**			350,000	fry	NY DEC	Surplus fry
				50,000	fry	Elkhorn Creek	Surplus fry
	Total			400,000			
		10,000	1.5	10,140	1.66	Kentucky River Pool 3	
		10,000	1.5	10,150	1.66	Kentucky River Pool 4	
		10,000	1.5	10,545	1.73	Kentucky River Pool 5	
		10,000	1.5			Kentucky River Pool 6	
		15,000	1.5			Kentucky River Pool 8	
		10,000	1.5			Kentucky River Pool 9	
		10,000	1.5			Kentucky River Pool 10	
		10,000	1.5			Kentucky River Pool 11	
		10,000	1.5			Kentucky River Pool 12	
		0		1,500	1.71	Elkhorn Creek	
	Total	95,000		32,335			

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location	
Saugeye	**Pfeiffer**	25,360	1.5	26,570	1.8	Guist Creek Lake	
		6,900	1.5	7,200	1.8	Boltz Lake	
		14,000	1.5	14,398	1.8	A.J. Jolly Lake	
				8,161	1.7	Taylorsville Lake	
	Total	46,260		56,329			
Channel Catfish	**Pfeiffer**			270,000	fry	WV DNR	Surplus fry
				840,000	fry	KY River	Surplus fry
	Total			1,110,000			
		0		32,796	4	KY River Pool 4	Spring surplus fingerlings
		69,622	9	69,422	9	Public Fishing Lakes	
		91,250	15	51,575		FINS Program	
		750	15	750		HighSplint Lake	
	Total	161,622		154,543			
Blue Catfish	**Pfeiffer**			38,000	fry	OH DNR	Surplus fry
	Total			38,000			
		40,000	6	53,045	6	Barren River Lake	
		4,800	6	11,400	6	Dewey Lake	
		5,200	6	11,000	6	Fishtrap Lake	
		13,090	6	13,100	6	Every 3rd Year Stocking Lakes	
		23,500	10	23,500	10.5	Taylorsville Lake	
		86,590		112,045			
Hybrid Catfish	**Pfeiffer**			15,000	fry	Kentucky State University	Surplus fry
				66,800	fry	Jacobson Park Lake	Surplus fry
				81,800			
		38,405		57,744	.7	FINs Program	Hybrids used in place of CCF
	Total	38,405		57,744			
Redear Sunfish	**Pfeiffer**	31,600	1.5	31,600	1.5	Beaver Lake	
		18,400	1.5	18,400	1.5	Boltz Lake	
		75,000	1.5	42,800	1.5	Lake Cumberland	
	Total	125,000		92,800			
Hybrid Sunfish	**Pfeiffer**	30,000	7	40,850	7.5	FINS program	
		30,000		40,850			
				5,890	3.5	Kleber WMA	
				5,890			
Alligator Gar	**Pfeiffer**	8,000	10	7,685		Western Kentucky	
	Total	8,000		7,685			
Lake Sturgeon	**Pfeiffer**	6,000	8	7,968	7.5	Upper Cumberland River	
	Total	6,000		7,968			
Largemouth Bass	**Pfeiffer**			1,305	4	Trophy LMB Program	
	Total			1,305			
Reciprocal Hybrid Striped Bass		2,000,000	fry	2,225,000	fry	Minor Clark for growout	
	Pfeiffer		fry	1,450,000	fry	WV DNR	Surplus fry
			fry	2,000,000	fry	Iowa DNR	Surplus fry
			fry	800,000	fry	IN Div. of Fish & Wildlife	Surplus fry
			fry	1,890,000	fry	Kentucky River Pool 3	Surplus fry

Project C- Fish Propagation and Transportation

		Planned		Actual			
Species	Hatchery	No.	Size	No.	Size	Location	
Reciprocal Hybrid Striped Bass							
	Pfeiffer		fry	1,739,000	fry	Kentucky River Pool 4	Surplus fry
	Total	2,000,000		10,104,000			
White Bass	**Pfeiffer**			300,000	fry	NC WRC	Surplus fry
		3,000,000		1,250,000	fry	Kentucky River Pool 3	
		3,000,000		1,250,000	fry	Kentucky River Pool 4	
	Total	6,000,000		2,800,000			
Striped Bass	**Pfeiffer**			19	24	Lake Cumberland	retired broodstock
				19			
Rock Bass	**Pfeiffer**			3,640	1.5	Russell Creek	
	Total			3,640	1.5		
Bluegill	**Pfeiffer**			20,000	2	Russell Creek	
	Total			20,000			
	Grand Total			15,109,097			

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Rainbow Trout	**Wolf Creek**			6,250	8-12	Alexandria Community Park Lake
		1,500	9.0	1,500	8-12	Anderson Co. Community Park Lake
		3,750	9.0	3,750	8-12	Bark Camp Creek - Whitley County
		1,500	9.0	1,500	8-12	Beaver Creek
		1,200	9.0	1,200	8-12	Beaver Creek - Left Fork
		1,200	9.0	1,200	8-12	Beaver Creek - Right Fork
		4,000	9.0	4,000	8-12	Beulah Lake - Jackson County
				1,200	8-12	Big Bone Lick Sate Park
		4,000	9.0	2,500	8-12	Big Caney Creek - Elliott County
		1,500	9.0	1,500	8-12	Bloomfield Park - Nelson County
		6,250	9.0	6,250	8-15	Bob Noble Park - McCracken County
				2,000	8-12	Boone Tract 6 acre Lake
				800	8-12	Boulder Lake
		6,250	9.0	3,750	8-12	Brickyard Pond - Knox County
				1,000	8-12	Buckhorn Lake
		5,000	9.0	5,000	8-12	Buckhorn Lake Tailwater
		500	9.0	500	8-12	Buffalo Creek (Right Fork) - Owsley County
		6,250	9.0	6,250	8-12	Camp Ernst Lake - Boone County
		3,750	9.0	3,750	8-12	Cane Creek - Laurel County
		6,000	9.0	6,000	8-12	Cannon Creek Lake - Bell County
		5,000	9.0	5,000	8-12	Carr Creek Lake tailwater - Knott County
		8,000	9.0	8,000	8-12	Casey Creek - Trigg County
		6,800	9.0	6,800	8-20	Cave Run Lake TW (Licking River) - Rowan County
		21,000	9.0	20,825	8-12	Cedar Creek Lake - Lincoln County
		3,750	9.0	3,750	8-12	Cherokee Park Lake - Jefferson County
		1,200	9.0	1,200	8-12	Clear Creek - Bell County
		1,000	9.0	1,000	8-12	Craney Creek - Rowan County
		5,000	9.0	5,000	8-12	Cranks Creek Lake - Harlan County
		4,000	9.0	4,000	8-12	Dewey TW (Johns Creek) - Floyd County
		1,500	9.0	1,500	8-12	Dickerson Lake - Meade County
		4,500	9.0	4,525	8-12	East Fork Indian Creek - Menifee County
		1,500	9.0	1,500	8-12	Easy Walker Park - Montgomery County
		1,600	9.0	1,600	8-12	Elk Spring Creek - Wayne County
		2,000	9.0	2,000	8-12	Fagan Branch - Marion County
		3,000	9.0	3,000	8-12	Fisherman's Park Lakes #3 & #4 - Jefferson County
		5,000	9.0	5,000	8-12	Fishpond Lake - Letcher County
		10,000	9.0	10,417	8-12	Fishtrap Lake Tailwater (Levisa Fork) - Pike County
		5,250	9.0	2,400	8-12	Ft. Campbell - Christian County
		3,600	9.0	3,600	8-12	Floyds Fork (2 sites) - Jefferson County
		1,500	9.0	1,000	8-12	Goose Creek - Casey County
		1,500	9.0	2,000	8-12	Grants Branch Lake - Pike County
		5,000	9.0	4,000	8-12	Grayson Lake TW (Little Sandy River) - Carter County
		1,200	9.0	400	8-12	Greasy Creek - Leslie County
		11,000	9.0	11,000	8-12	Greenbo Lake - Greenup County
			9.0	32,075	8-12	Hatchery Creek - Russell County
		4,500	9.0	4,000	8-12	Herrington Lake tailwater - Garrard/Mercer Co.
			9.0	500	8-12	Higginson & Henry WMA
		2,750	9.0	1,750	8-12	Highsplint Lake - Pike County
		12,000	9.0	12,000	8-12	Jacobson Park Lake - Fayette County
		1,500	9.0	1,500	8-12	James Beville Park Lake
		7,000	9.0	7,500	8-12	Jennings Creek - Warren County
			9.0	3,750	8-12	Kentucky Horse Park Lake
		3,750	9.0	3,750	8-12	Kingdom Come State Park Lake
			9.0	2,000	8-12	Kingfisher Lake - new/old
		161,000	9.0	119,471	7-12	Lake Cumberland TW (Cumberland River) -
			9.0			Russell/Clinton/Cumberland/Monroe counties
		45,000	9.0	45,299	8-12	Laurel River Lake - Laurel County
		250	9.0	400	8-15	Laurel River Lake tailwater - Laurel/Whitley counties

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Rainbow Trout	**Wolf Creek**	3,000	9.0	2,750	8-12	Laurel Creek - Elliott County
			9.0	400	8-12	Little Double Creek
		800	9.0	400	8-12	Little Sandy River (East Fork) - Boyd County
		1,500	9.0	1,500	8-12	Looney Creek - Harlan County
		1,500	9.0	1,500	8-12	Lower Sportsman's Lake - Franklin County
		1,500	9.0	1,500	8-12	Lusby Park Lake- Scott County
		2,500	9.0	2,500	8-12	Lynn Camp Creek - Hart County
		6,250	9.0	6,249	8-12	Madisonville City Park Lake North - Hopkins County
			9.0	3,750	8-12	Martin County Lake
		6,250	9.0	2,505	8-12	Martin Co. Reservoir
		3,750	9.0	3,000	8-12	Martins Fork Lake tailwater - Harlan County
			9.0	3,750	8-12	Mason Co. Rec Lake
		500	9.0	500	8-12	Metcalfe County Park Lake - Metcalfe County
		3,000	9.0	3,000	8-12	Middle Fork Red River - Powell County
			9.0	400	8-12	Middlesboro Canal
		3,000	9.0	3,000	8-12	Middleton Mills Park Lakes (2) - Kenton County
		3,750	9.0	3,750	8-12	Mike Miller Park Lake - Marshall County
		5,250	9.0	5,250	8-12	Miles Park Lakes #3 & #4 - Jefferson County
		6,000	9.0	6,000	8-12	Mill Creek Lake - Powell & Wolfe County
		1,500	9.0	1,500	8-12	Millenium Park Lake - Boyle County
		1,500	9.0	1,500	8-12	Mingo Lake - Jessamine County
		14,000	9.0	7,500	8-12	Nolin River Lake tailwater - Edmonson
		7,500	9.0	11,498	8-12	Otter Creek - Meade County
			9.0	600	8-12	Paint Creek - Johnson county
		3,250	9.0	4,500	8-12	Paintsville Lake - Johnson/Morgan Counties
		20,000	9.0	19,400	8-12	Paintsville Lake tailwater - Johnson County
		6,000	9.0	6,000	8-12	Panbowl Lake - (Breathitt County)
		3,750	9.0	3,750	8-12	Panther Creek Park Lake - Daviess County
		5,250	9.0	5,250	8-12	Peabody WMA (3 lakes)
		3,750	9.0	2,250	8-12	Pollywog Lake - Grant County
		3,750	9.0	3,750	8-12	Prisoner's Lake - Kenton County
		800	9.0	400	9-11	Raven Creek - Harrison County
		15,600	9.0	13,325	8-12	Rock Creek (S.F. Cumberland River) - McCreary
		2,800	9.0	3,150	8-12	Roundstone Creek - Hart County
		1,600	9.0	1,200	8-12	Royal Springs - Scott County
		2,250	9.0	2,250	8-12	Russell Fork - Pike County
		1,000	9.0	1,000	8-11	Sandy Lee Watkins Park Lake - Henderson County
		1,500	9.0	1,500	8-12	Scott County Park Lake - Scott County
		1,200	9.0	1,200	8-12	Sinking Creek - Breckinridge County
		1,500	9.0	1,500	8-12	Southgate Lake - Boone County
		1,000	9.0	500	8-12	Station Camp Creek - Estill County
		800	9.0	400	8-12	Sturgeon Creek - Lee County
		2,500	9.0	3,000	8-12	Sulphur Spring Creek - Simpson County
		1,000	9.0	1,000	8-12	Swift Camp Creek - Wolfe County
		3,000	9.0	3,999	8-20	Taylorsville Lake tailwater - Spencer County
		6,250	9.0	6,250	8-12	Three Springs Park Lake - Warren County
		6,250	9.0	6,250	8-12	Tom Wallace Lake - Jefferson County
		8,750	9.0	9,450	8-12	Trammel Creek - Allen County
		1,600	9.0	2,250	8-12	Triplett Creek - Rowan County
		6,250	9.0	6,249	8-12	Upper Sportsman's Lake - Franklin County
		2,500	9.0	3,300	8-12	War Fork - Jackson County
		6,250	9.0	6,250	8-12	Waverly Park Lake - Jefferson County
		6,250	9.0	6,250	8-12	Waymond Morris Park Lake - Daviess County
			9.0	1,500	8-12	West Hickman Creek - Scott County
		6,250	9.0	5,000	8-12	Whitehall Pond - Madison County
		8,000	9.0	8,000	9-11	Wood Creek Lake - Laurel County
		2,250	9.0	2,250	8-12	Yatesville Lake tailwater
		1,500	9.0	1,500	8-12	Yellow Creek Park Lake - Daviess County

		Project C- Fish Propagation and Transportation				
		Planned		Actual		
Species	Hatchery	No.	Size	No.	Size	Location
Triploid Rainbow Trout						
	Wolf Creek					
			9.0	500	8-12	Herrington Lake Tailwater
			9.0	48,022	7-12	Lake Cumberland Tailwater
			9.0	400	8-12	Royal Springs

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Brown Trout	**Wolf Creek**	500	8.0	500	8-10	Bark Camp Creek - Whitley County
		250	8.0	250	8-10	Big Caney Creek
		450	4.0	450	4-8	Chimney Top Creek
				3,250	4-12	Ft. Campbell
		1,000	8.0	1,000	6-8	Herrington Lake tailwater - Garrard/Mercer Co.
				400	4-12	Indian Creek - East Fork
		500	8.0	500	4-10	Jennings Creek - Warren County
		38,000	8.0	38,025	4-12	Lake Cumberland tailwater
		250	8.0	250	4-8	Laurel Creek
		250	8.0	250	4-10	Laurel River Lake Tailwater
		700	8.0	700	6-8	Looney Creek
		500	8.0	500	6-10	Otter Creek
		300	8.0	300	6-9	Paint Creek
		200	8.0	200	6-10	Roundstone Creek
		200	8.0	200	4-10	Sulphur Springs Creek
		600	8.0	600	4-10	Trammel Creek
Brook Trout	**Wolf Creek**	40,000	8.0	7,376	4-12	Lake Cumberland tailwater
				400	4-8	Parched Corn Creek