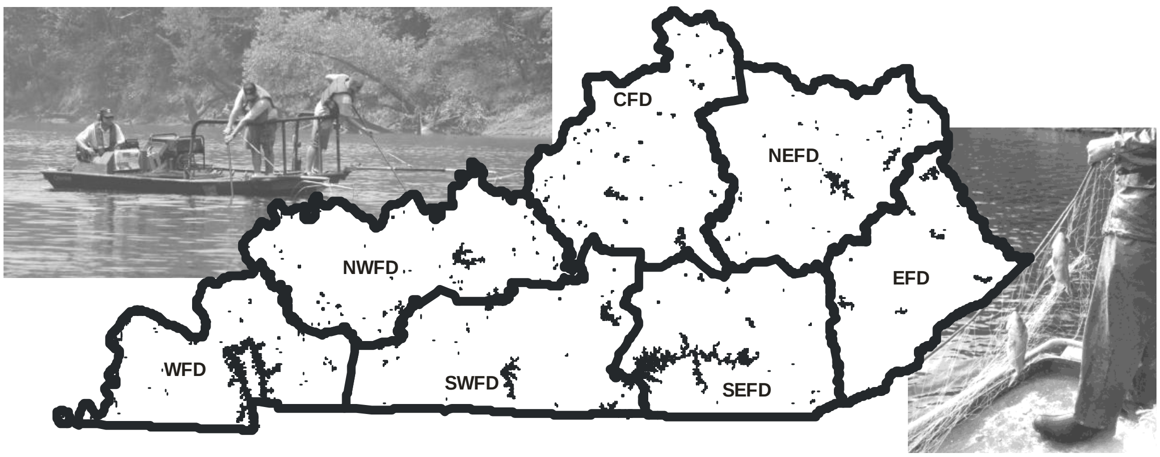
Commonwealth of Kentucky — Date: June 30, 2016

Sport Fish Restoration Grant F-50, Segment 38 — Period: 01 April 2015 through 31 March 2016

ANNUAL PERFORMANCE REPORT

District Fisheries Management

Projects A - C



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Department of Fish and Wildlife Resources
Fisheries Division

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STATE: Kentucky

GRANT NO.: F-50-38

FBMS NO.: F15AF00292

GRANT TITLE: District Fisheries Management

PERIOD COVERED: April 1, 2015 – March 31, 2016

PROJECT: Project A – Statewide Public Sport Fisheries Management

Project Objective: To annually manage and conserve and sport fisheries and habitats throughout 221,680 acres of freshwater lakes, tailwaters, and small impoundments within the Commonwealth of Kentucky in order to provide recreational fishing opportunities to the public.

A. ACTIVITY

Sport fish species were sampled throughout Kentucky using electrofishing, gill netting, trap netting, and other gear to gather biological data in order to best manage the sport fish resources of the Commonwealth. In total, over 65 lakes/reservoirs (encompassing approximately 217,498 acres), in addition to eight major tailwaters were sampled and managed. Otoliths were removed to calculate age/growth from various sport fish species of interest. Other measures were monitored including catch rates, mortality, recruitment, length/weight, water temperature, dissolved oxygen, and other physical limnological data. Creel surveys were conducted on four fisheries of interest and included: (1) Cedar Creek Lake; (2) Nolin River Lake; (3) Kentucky Lake and (4) Yatesville Lake. Data from creel surveys was used to compare with standardized sampling data and obtain measurements concerning the public's catch rates, harvest rates, species of interest, and size of catch. Field staff also attended public meetings, as well as organized fishing group meetings to display catch and abundance data. Results of data obtained during the grant period were analyzed and summarized into the Fisheries Division 2015 Annual Reports. This information is available to the public at their request.

Kentucky Department of Fish and Wildlife Resources' fisheries biologists and technicians utilized a variety of methods to manage public water bodies including fertilizing 7 lakes, enhancing 2 lakes with aquatic plants and adding a variety of fish habitat attracting structures throughout the state. These structures include:

285 new stake beds
282 stake beds maintained/improved
1212 new shallow water brush piles
62 shallow water brush piles maintained
1718 deep water brush piles
234 deep water brush piles maintained
51 rock pile formations

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date: March 31, 2016
Work accomplished: March 31, 2016

C. SIGNIFICANT DEVIATIONS

None.

D. REMARKS

None.

E. RECOMMENDATIONS

Close this segment of F-50 and continue project into new segment (#39) of F-50.

F. COST

$1,702,804.17

PROJECT: Project B – Private and Public Pond/Lake Technical Guidance

Project Objective: To provide technical guidance and planning assistance to individuals, groups, corporations, and government agencies for the development and improvement of sport fish populations and their habitats on lands they own or control.

A. ACTIVITY

Kentucky Department of Fish and Wildlife Resources' biologists and technicians provided 131 on-site technical guidance visits during the grant period. On-site technical guidance problems were varied, but mostly focused around poor sport fish populations, aquatic vegetation, nuisance species (i.e. turtles), fish kills, and sport fish stocking questions. Department staff provided verbal and written recommendations to pond owners such as stocking recommendations, ideal species, aquatic vegetation identification and treatment, liming, pH monitoring, fish kill prevention, aeration, and special fish management permits that allow pond owners the ability to harvest fish outside of statewide fisheries regulations. Additionally, staff also conducted on-site visits to landowners developing new ponds.

An additional 1012 technical guidance requests were handled by staff over the phone, through email, letters, and from walk-ins at department regional offices/fish hatcheries. As demand for technical guidance increases, the Department has begun providing more information for private pond owners on the Department website.

Program income was generated as a result of application fees for pond owners enrolling in the farm pond stocking program. The stocking program provides largemouth bass, bluegill, and channel catfish fingerlings to new or recently renovated ponds. The fee structure for this program is $75 (0-1.4 acre ponds); $200 (1.5-3.0 acre ponds); or $200 plus $150 per additional acre (for ponds exceeding 3.0 acres in size). As approved in the grant, this program income is added onto the grant via the "Additive Method" - 2 CFR 200 307(2).

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date: March 31, 2016
Work accomplished: March 31, 2016

C. SIGNIFICANT DEVIATIONS

None.

D. REMARKS

None.

E. RECOMMENDATIONS

Close this segment of F-50 and continue project into new segment (#39) of F-50.

F. COST

$64,322.23

PROJECT: Project C – Fish Propagation and Transportation

Project Objective: To produce, rear, and stock various sport fish throughout the Commonwealth of Kentucky in order to establish, improve, or maintain recreational fishing opportunities in lakes, rivers, and reservoirs.

A. ACTIVITY

A total of 13 different sport fish species were produced and reared at both of the Pfeiffer and Minor Clark Fish Hatcheries during the grant period. An additional three sport fish species (rainbow, brown, and brook trout) were also raised at Wolf Creek National Fish Hatchery and stocked by the Kentucky Department of Fish and Wildlife Resources. In total, 6,439,734fingerling or larger sport fish (14,381,838) fish if you include all fry stockings) were produced and most were stocked throughout the waters of Kentucky during the grant period. These fish ranged in size from fry to 20+ inches. Below is a list of the species and numbers stocked during the grant period. See attached spreadsheet for a detailed description of total production and species information.

Blue Catfish – 58,097 (7-24" fish)
Bluegill Sunfish – 88,890(fry);
Brook Trout – 62,798 (4-12" fish)
Brown Trout – 51,700 (4-12" fish)
Channel Catfish – 11,100 (3" fish); 310,702 (3-24" fish)
Hybrid Bluegill Sunfish – 29,950 (5-8" fish)
Hybrid Channel Catfish – 32,216 (10-18" fish)
Hybrid Striped Bass – 1,140,601 (1.5" fish); 4,790,000 (fry)
Largemouth Bass –538,100 (1-2" fish); 423,660 (fry)
Muskellunge – 3,106 (9-13" fish) 362,350 (fry)
Rainbow Trout – 669,610 (7-12" fish)
Redear Sunfish – 164,780 (1.5" fish)
Sauger – 275,000(fry); 161,680 (1.4" fish)
Saugeye – 112,710 (1.75" fish)
Striped Bass – 529,644 (1.5" fish)
Walleye – 2,248,104 (fry); 996,944 (1.5-2" fish)
Walleye (native strain)- 29,100 (fry); 165,996 (1.4-3" fish)
White Bass – 1,400,000 (1" fish)

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date: March 31, 2016
Work accomplished: March 31, 2016

C. SIGNIFICANT DEVIATIONS

Some deviations occurred from the planned production compared to the actual numbers/location of sport fish stocked during the grant. These minor deviations occur annually and are the result of changes that benefit the anglers and the resource. For example, trout may be redirected from one trout stream to another, particularly during the summer if some streams become too warm to stock trout. Additionally, if target numbers of fish are not met, the Division may adjust numbers to best meet the stocking needs of individual water bodies. See the attached fish production report for a comparison of target stockings vs actual stockings.

D. REMARKS

None.

E. RECOMMENDATIONS

Close this segment of F-50 and continue project into new segment (#39) of F-50.

F. COST

$2,260,487.52

PROJECT: Project D – Operation and Maintenance of District Fisheries Office and Hatcheries

Project Objective: To operate and maintain seven district fisheries offices and associated facilities in order to provide for optimal and diverse fish populations for the benefit of the public.

A. ACTIVITY

A total of seven district fisheries offices and two fish hatcheries were operated and maintained during the grant period. Additional associated facilities were also maintained within each fisheries district area (i.e. public restroom facilities at boat ramps and bank fishing areas; maintenance/replacement of fishing access signs). Additional facilities include 65 bank fishing areas and piers.

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date: March 31, 2016
Work accomplished: March 31, 2016

C. SIGNIFICANT DEVIATIONS

None.

D. REMARKS

None.

E. RECOMMENDATIONS

Close this segment of F-50 and continue project into new segment (#38) of F-50.

F. COST

$461,689.41

Total Grant Cost for F-50-37 (F15AF00292**)**	**$4,543,255.32**	
Federal Share -	**$3,418,255.32**	**75% (includes $43,255.32 in FED PI)**
State Share -	**$1,125,000.00**	**25%**

WESTERN FISHERY DISTRICT

Project A: Lake and Tailwater Sampling

FINDINGS

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

Kentucky Lake

During the spring, 1,021 black bass were collected by diurnal electrofishing (120 PPS, DC current). During this sampling period, 966 largemouth bass (60.4 fish/hr) were collected from Blood River, Jonathan Creek, Big Bear, Sugar Bay, Ledbetter Bay and Sledd Creek (Table 2). The catch rates for largemouth bass between embayments varied (44.7 to 79.3 fish/hr). This variation could be due to the fluctuating water levels and changing weather conditions during the sampling period. The catch rate of largemouth bass ($\leq$8.0 in) from Sugar Bay (LBL) was 13.0 fish/hr, as compared to 3.3 fish/hr at Blood River. The average catch rate for these small bass in the six embayments was 6.0 fish/hr. The samples from all six embayments had catch rates for largemouth bass $\geq$15.0 in that ranged from 7.5 fish/hr at Sledd Creek to 18.7 fish/hr at Big Bear embayment. The average catch rate for all six sites for these larger largemouth bass was 14.1 fish/hr.

The spring bass data were used to complete the lake specific assessment (Table 3). The lake specific assessment suggests that the largemouth bass population rates as “good”. The growth rate parameter was calculated from the 2012 age data, which rated “excellent”. A new assessment of growth will be determined from otoliths collected during 2016 spring sampling. The catch of harvestable size ($\geq$15.0 in) largemouth bass continues to rate as “fair”. However, angler satisfaction with the fishery is still good, and bass tournaments are reporting record winning weights in excess of 20 pounds, on a five fish stringer. A questionnaire used during the creel survey suggested that 71% of bass anglers were satisfied with the black bass fishery at Kentucky Lake. The CPUE of age-1 largemouth bass declined to a “poor” rating. This is even despite spring 2014 water levels being normal, and without any large fluctuations during the perceived bass spawning period. This possible poor year class will be monitored to see how it contributes to the bass fishery in the next few years.

The spring data were used to assess the fishery in regards to the Kentucky Lake Fish Management Plan (KLFMP). These values for the assessment can be found in Table 4. The catch of age-1 largemouth bass was below the KLFMP recommendation of 30.0 fish/hr. However, the average for the past few years still exceeds the objective. The catch of preferred size (>15.0 in) and trophy size ($\geq$20.0 in) were both below the KLFMP recommendation of 18.0 and 2.0 fish per hour, respectively. In addition, the ten year averages for these parameters are below the plan recommendations. The catch of intermediate size bass (12.0 – 14.9 in) was above the plan recommendation as is the ten year average. The growth parameter continues to exceed the plan recommendations, but this is based on 2012 age data. Age and growth data will be collected in 2016 to be able to update this part of the assessment. It may be found that growth has slowed down as several good year classes have been produced in the last 10 years. This might explain the higher number of intermediate-sized fish, and fewer harvestable-sized bass.

Proportional Stock Density (PSD) values were calculated for the bass collected from each embayment sampled (Table 5). The average PSD and RSD_{15} value for largemouth bass was 59 and 30, respectively. Using only data collected from Blood River, Jonathan Creek, Big Bear and Sugar Bay, the average PSD value increases to 65, while the RSD_{15} value decreases to 25. These four embayments are the ones that have been sampled historically; therefore the average values from them will be used in the KLFMP assessment. These PSD and RSD_{15} values fall inside the targeted range (PSD of 55-75) and (RSD_{15} of 20-40), respectively.

During October, 654 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 84% (64.8 fish/hr) of this sample (Table 6). The catch rates of the largemouth bass for each embayment varied from 25.5 to 128.0 fish/hr. The lowest catch was at Sugar Bay, and was expected to be low due to high winds on the day the sample was collected.

Length and weight data were recorded from all bass collected to calculate relative weight values. The mean relative weight for harvestable size largemouth bass was 103 (Table 7), with the historical average being 97. The relative weight of largemouth bass is one parameter that is being watched in perspective to 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	Log_{10} (weight) = -3.58216 + 3.27705 x Log_{10} (length)
Smallmouth bass	Log_{10} (weight) = -3.50452 + 3.15080 x Log_{10} (length)
Spotted bass	Log_{10} (weight) = -3.57427 + 3.26196 x Log_{10} (length)

Otoliths were collected from largemouth bass $\leq$10.0 in during fall sampling. Otoliths were used to age these smaller bass so that age-0 CPUE and growth could be evaluated. The CPUE of age-0 largemouth bass during the fall sample was 32.6 fish/hr (Table 8). The growth of the age-0 largemouth bass this year was considered to only be fair, reaching a mean of 4.6 in. Ideally, largemouth bass which reach 5.0 in by the fall will have a better chance of survival during their first winter. The low catch of age-1 largemouth bass from the spring 2015 data could have been anticipated from the low catch of age-0 bass during the fall of 2014.

Trap nets were fished for crappie in Blood River and Jonathan Creek embayments for 80 net-nights (nn) (40 nn per site) during October and November. In addition, Pisgah Bay was sampled for 40 nn. This is the first time Pisgah Bay has ever been sampled for crappie. The combined sampling effort yielded 2,279 crappie (19.0 fish/nn), of which 6.9 fish/nn (36%) were white crappie and 12.1 fish/nn (64%) were black crappie (Table 9). The Blood River and Jonathan Creek data is listed as “sub-total” on this table. The catch rate was much lower in Pisgah Bay. This is probably related to the steep shoreline and clear water, which are not ideal conditions to sample with trap nets.

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 22.7 fish/nn (Table 10). This catch rate is up from last year’s sample (10.3 fish/nn). The above average year classes of 2013 and 2014 are the reason for the overall better catch. The poor year classes of 2011 and 2012 likely caused the low catch of harvestable size ($\geq$10.0 in) crappie.

The number of crappie ≥8.0 in and ≥10.0 in collected in trap nets was 9.3 and 1.7 fish/nn, respectively (Table 10). The KLFMP objective for crappie is to maintain a catch rate of at least 14.0 fish/nn for crappie ≥8.0 in, and 5.0 fish/nn for crappie ≥10.0 in. Neither objective was met. The issue is poor recruitment, which is a reflection of spring time water conditions and possibly density-dependent factors.

Crappie at Kentucky Lake continue to have fair growth rates, though it has declined in the past few years. 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 9.2 in (Table 10).

Another management objective in the KLFMP is to maintain a catch of age-1 crappie of at least 11.0 fish/nn (Table 10). The catch rate for this age group of crappie was 9.9 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 this year due to a 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 "good" this year (Table 11). Better catch rates from the 2013 and 2014 year classes have helped increase this rating.

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 12. Length-weight equations for white and black crappie are listed below.

White crappie	Log_{10} (weight) = -3.62968 + 3.29731 x Log_{10} (length)
Black crappie	Log_{10} (weight) = -3.58794 + 3.31355 x Log_{10} (length)

Tables 13 and 14 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 15 and 16, respectively. Age-1 white crappie made up 42% of the sample compared to 44% last year. This would suggest that 2013 and 2014 year classes were good. These two year classes of black crappie made up 86% of the sample.

During the spring of 2015, icthyoplankton sampling was conducted using a neuston net towed in the Jonathan Creek embayment of Kentucky Lake. The primary goal of this study was to determine the temporal variation of larval crappie density. The knowledge of how many crappie hatched on a weekly basis could be used to help define the potential effects of changing water levels and environmental conditions on the success or failure of the spawn. Additionally, an annual survey of this type could serve as an early indicator of the strength of the crappie spawn.

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 with the main lake site and then progressed farther into the embayment (Appendix C). Samples were preserved immediately in 10% formalin 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). Larval crappies were not identified to species due to overlapping myomere counts between both species and their hybrids (Spier and Ackerson, 2004). 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. In some samples the abundance of shad was so high that the total number was estimated using a folsum sample splitter.

The geometric mean and median of the 5 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 17). The total density of crappie larvae peaked during our May 12 sample. Previous researchers have used the peak geometric mean density of larval crappie to predict the year class strength of crappie (St. John and Black, 2004). This information isn’t as useful for Kentucky Lake as it would be for smaller impoundments since supplemental stocking isn’t an effective option, but it could be used to ground truth trap netting and trawling data. In 2015 the peak weekly density of crappie occurred on May 12th and was 70.5 crappie/1000m^3. The high standard error on May 19th is partially attributable to the exclusion of the sample from Site 4 (Table 17, Appendix C). An extremely low catch at Site 4 suggested that the net did not deploy properly on that date. Although originally we would have preferred to begin sampling a little earlier in the season and continue sampling a little later, we feel that we captured the majority of the crappie spawn during the sampling timeframe.

The total density of crappie each week gave us a general idea of when the crappie spawn occurred. However, in order to determine the hatch date of crappies more precisely, all crappie that were 8 – 11 mm in total length were assumed to represent a one week cohort (Table 18). Crappie in the 8-11 mm range appeared to be fully recruited to our gear and were well represented in the sample. It is possible that crappie shorter than 8 mm were not located in our pelagic sample sites yet, and that crappie over 11 mm were more able to avoid capture. This length range was also chosen because an 8 mm crappie would grow to 11.5 mm in one week (our sample interval), based on an estimated growth rate of 0.5 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), and was also the estimated growth rate in Chickamauga Reservoir (McDonough and Buchanan, 1991).

In addition to weekly cohorts, we also estimated daily cohorts of hatched crappie. All crappie that were captured outside of the 8-11mm 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 19). A hatch date was then back-calculated for each individual fish using the assumed growth rate (0.5 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 lasted <u>at least</u> 30 days and ended on May 5th (Table 19). Because of our limited larval sampling window we cannot be sure that crappie did not spawn before April 6th or after May 5th, but most crappie spawns in the literature have been reported to be relatively short, (1-2 months) (Mitzner 1991;Travnichek, et. al.1996). The highest peak hatch was on April 28th, with a smaller peak on April 21d. Based on an estimated incubation period, the fish hatched on April 28th were fertilized on April 25th. The highest peak in spawning activity on the 25th is particularly interesting because it coincides with falling water elevation and the high daily discharge values through Kentucky Dam and the Barkley Canal (Table 19). We would have expected the highest peak spawning dates to correlate with the highest water elevation due to the increase in spawning habitat. Instead, we observed a potential suppression of spawning activity during the rising water (Table 19). There are several potential mechanisms to explain this. Firstly, it is possible that different cohorts of Kentucky Lake crappie experience slower or faster growth which would result in skewing of the hatch date estimations. However, if our estimates are correct, it is also possible that falling water and high discharge cues spawning activity in adults and/or increases survival of offspring.

Hatch date dependent mortality may also explain the negative relationship with elevation. It is possible that spawning activities were disrupted by high water through nest abandonment, excessive predation, or excessive turbidity. Crappie may very well have spawned during the high water, but their larvae may not have survived long enough to reach 8 mm. Alternatively, high discharge and falling water elevation may have artificially increased our catch rates by pulling more larval fish out into pelagic habitats where they were more likely to be captured by our tow net.

Throughout the survey we found much higher densities of larval crappie farther into the embayment, (Table 17, Appendix C). In the future, if crappies are the intended targets, more samples should be taken farther into the embayment. Although moving sample sites would preclude comparing this year's peak density with other years, it would likely reduce the variance for future surveys, and still allow an evaluation of hatching dates.

In late July 2015 an effort was made to capture YOY black and white crappie using a benthic otter trawl. Fish were subsampled and otoliths were collected from approximately 200 crappie for daily ring count analysis. Although we typically conduct crappie trawling in the fall to assess year class strength, 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. Six trawl sites were chosen to correspond loosely with the larval sampling sites. To evaluate whether hatching periods differed by embayment, trawling was also conducted at 5 sites in 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. Unfortunately, these fish were in the 85-110 day old range which made accurate counting very difficult. Our agreement between readers was low, but the difference was usually less than ten days. This lack of precision prevented us from using this method to estimate hatch dates directly. However, it did allow us to estimate an average daily growth rate for crappies by using the equation [(total length mm-4mm)/#days old]. Only otoliths with a reader disagreement of less than 5 days were used to calculate the growth rate which left us with a sample size of 40 fish from Jonathan Creek. Because of the advanced age and lengths of these fish, even a disagreement of 5 days only changes the daily growth rate by .025-.030 mm. 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. Because of the lack of precision of the daily ring counts, the hatch dates derived directly from the otoliths should be viewed with caution (Table 19). However, the hatch dates from both methods did roughly correspond with each other. Due to the imprecise nature of the daily ring counts, otoliths from blood river crappie were not evaluated.

Twelve species were collected in the trawl although catfish, largemouth bass, and longear sunfish were caught in very low numbers (Table 20). A total of 308 white crappie and 90 black crappie were collected from the two embayments. YOY crappie in Jonathan Creek were most concentrated in the shallow mud flats in the backs of the bays, however, this trend was less apparent in Blood River. Yellow bass 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. Although yellow bass were not aged, the bimodal length frequency suggests two year classes were collected with lengths around 2 inches and 4 inches, respectively (Table 20).

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 208 catfish were collected during the 58 electrofishing runs made (Table 21). Each run lasted 300 seconds, for a total sample time of 4.8 hours over a three day period. Of the samples, blue catfish had the highest catch rate at 36.8 fish/hr, and made up 86% of the catfish collected. Relative weight values are listed in Table 22.

Otoliths had been collected during the 2014 sampling. 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 23. The high catch rate of four year old (2010 year class) blue catfish in last year's sample was not obvious in this year's catch of age-5 blue catfish. Almost half of the sample in 2014 consisted of blue catfish from the 2010 year class. In the most recent sample, age-5 blue catfish only made up 9% of the sample.

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Kentucky Lake Creel Survey

A random, non-uniform probability, roving creel survey was conducted on the Kentucky portion (51,000 a) of Kentucky Lake from 16 February to 15 November 2015. This area of the lake was divided into ten creel areas (Appendix A). The survey was conducted five days per week, six hours per day. The overall temporal sampling scheme was twenty days per month, consisting of six weekend days and fourteen weekdays. One hour each day was randomly chosen to conduct an angler count. Varying time period probabilities were assigned to each month's six-hour time period. Higher geographic probabilities, resulting in more frequent interviews, were assigned to the Blood River, Jonathan Creek and Sledd Creek/Kentucky Dam areas from March through May, and October through November, than were assigned to the other seven areas. Equal probabilities were assigned to all areas from June to

September. A sixteen-question, angler attitude survey concerning fishing in Kentucky Lake was conducted by the creel clerk (Appendix B).

During the 2015 creel, the typical angler was a male (87%) resident (59%) who was casting (53%) or still fishing (45%) from a boat (90%) (Table 24). Of the crappie anglers, 64% used a spider rig (defined as using 3 or more poles at the same time) for crappie fishing. The average fishing trip was 4.6 hr compared to 3.8 hr in the 2007 creel. There was a decline in the number of trips of almost 33% from the most recent survey (188,601) as compared to the 2007 survey (285,078). Anglers made 25% fewer trips (285,078 vs. 376,210) in 2007 than 2004. The number of fish caught and harvested was down by almost half, as compared to the 2007 survey. Length frequencies of all harvested or released fish are given in Table 25.

Table 26 includes fish harvest statistics for the 2015 creel survey. Crappie anglers accounted for about 33% of fishing trips to Kentucky Lake (42% in 2003, 32% in 2004 and 37% in 2007). Estimated catch and harvest rates for crappie were down 45% and 52%, between the 2015 and 2007 surveys. The poor year classes of 2011 and 2012 along with poor fishing conditions due to weather likely contributed to these declines. As is typical, about 50% of the crappie were caught in March and April (Table 27). It is estimated that 44% of the crappie caught were sub-legal in length, while about 3% of the harvestable size crappie were released (Table 28). The high percentage of sub-legal crappie is likely due to the good year classes of 2013 and 2014.

Black bass anglers accounted for about 41% of all fishing trips to Kentucky Lake during 2015 (Table 26). There were 76,318 black bass fishing trips in the 2015 creel. This was a 17% decline from the number of trips reported in the 2007 survey. During the most recent survey, bass kept by tournament anglers was reported as harvested, even though they were likely released following the tournament weigh-in. The harvest rate was estimated to be 0.06 bass per hour for anglers actually targeting bass (Table 29).   With the tournament anglers recorded harvest, approximately 29% of the legal size bass were assumed harvested. However, it is likely the tournament anglers did not harvest their bass, which suggest the legal size bass harvested by other anglers to be about 10%. Largemouth bass accounted for 97% of the harvested black bass and 98% of the harvested weight of black bass (Table 30).

About 10% of all trips were taken to catch panfish during 2015 (Table 26). This value is down from 15% recorded during the 2007 survey. Likewise, catch and harvest rates were also down. Almost 75% of the panfish were harvested during May (Table 31). Bluegill and redear sunfish accounted for 97% and 3% of the panfish harvested, respectively (Table 32). In the 2007 survey, redear sunfish accounted for 10% of the panfish harvested. Though total number harvested was down, the quality of redear sunfish harvested remained similar. In both survey years, the average weight of redear sunfish harvested was 0.6 pounds.

Catfish anglers accounted for 6% of all fishing trips on Kentucky Lake in 2015 (Table 26). This is similar to the 2007 survey results. Higher numbers of catfish caught were reported in May and June (Table 33). These were likely anglers targeting channel catfish in the embayments.   However, these months yielded some of the lower catch rates for catfish. The higher catch rates reported in July and August were likely from anglers targeting blue catfish on the river channel.

Only about 1% of the anglers fishing Kentucky Lake during 2015 sought *Morones* (Table 26). 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. Three percent of all trips were for *Morones* in 2007. The estimated catch for this group of fish was down almost 100,000 as compared to the catch during the 2007 survey. In April, no anglers reported targeting Morones (Table 34). The high catch during this month was likely crappie anglers incidentally catching yellow bass. Sixty-five percent of the *Morones* reported being harvested during 2015 were yellow bass (Table 35).

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 955 black bass were collected at a rate of 83.1 fish/hr (Table 36).

Spotted and smallmouth bass accounted for about 4% of the total black bass sampled. The largemouth bass catch rate was 79.6 fish/hr which falls below the ten year average of 108.5 fish/hr (Table 37). Nickel Creek, Willow Bay, and Eddy Creek exhibited the highest catch rates, while Donaldson Creek continued to exhibit poor catch rates (Table 36). The spring catch of small ($\leq$8.0 in) largemouth bass was low compared to previous years (Table 37). The catch rate of larger ($\geq$15.0 in) largemouth bass was higher than the last 5 years, and was near the 10 year average (Table 37).

The overall PSD and RSD_{15} values for largemouth bass at Lake Barkley, along with values for individual embayments are listed in Table 38. The PSD value (79) 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} (37) met the objective goal of 20-40, but only barely. Again, the higher the value the more the population is skewed toward larger fish.

The lake specific assessment score for Lake Barkley was "fair" (Table 39). 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-sized ($\geq$20.0 in) largemouth bass and age-1 fish collected continues to negatively impact these ratings. The annual mortality of largemouth bass older than a year was 38% in 2015 as determined using catch-curve regression of fall caught largemouth (Table 39).

During 2015 largemouth bass age and growth data were 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 2015 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.

A total of 200 largemouth bass were sub-sampled for age and growth analysis with a goal of 20 largemouth/in-class. Catch rates for spring caught fish by age-class are shown in Table 40. Ages ranged from 0-11 and the dominant age-class was age-3. The low catch rate of age-1 bass will likely lead to a decrease in harvestable-sized fish in 4 years and should be closely monitored in future samples. On average, largemouth bass reached harvestable size by age 5 (Table 41). The mean length at age-3 (13.4 in) exceeds the management objective (12.0 in).

Largemouth bass were sampled in October to collect length-weight data for condition factors, age and growth data, and to determine the strength of the 2015 year-class. A total of 781 bass were collected, with 86% being largemouth bass (Table 42). Largemouth bass had a catch rate of 84.1 fish/hr. Relative weights were determined for all bass, but very few spotted and smallmouth bass were collected (Table 43). The relative weight for harvestable size ($\geq$15.0 in) largemouth bass was 104. The length-weight equation for largemouth bass at Lake Barkley is:

$$\text{Log}_{10}\,(\text{weight}) = -3.58623 + 3.28612 \times \text{Log}_{10}\,(\text{length})$$

Mean length of the age-0 cohort of largemouth bass was 4.7 in (Table 44). Ideally, the age-0 bass should average at least 5.0 in by the fall. It has been suggested that bass which reach 5.0 in by the fall will have a better chance of survival during their first winter. Previous years have shown strong numbers of age-0 largemouth bass with the exception of 2011 and 2014. The low numbers of age-0 largemouth, (24.8 fish/hr), observed in 2014 were echoed in 2015 where a low spring time catch rate of 10.3 fish/hr was observed for age-1 largemouth bass (Table 44). This year's catch rate of age-0 largemouth bass (46.4 fish/hr) is above average. However, only 35% of these fish were greater than 5.0 in which could mean that many of these age-0 fish will not survive the winter and fully recruit to the fishery. Strong year classes in 2010, 2012, 2013, and potentially 2015 should continue to sustain the fishery as these bass reach harvestable size.

Trap nets were fished for crappie in Little River and Donaldson Creek embayments for 79 net-nights (nn) (40 nn at Little River and 39 nn at Donaldson Creek) during October and November. A total of 1,539 crappie were collected at a rate of 19.3 fish/nn (Table 45). Additionally, for the second consecutive year, Crooked Creek (LBL) and Eddy

Creek were sampled for another 80 net nights (40 nn at each site). Both Crooked Creek and Eddy Creek provided a good sample (14.9 fish/nn), and will be sampled again in the future if possible.

White crappie accounted for 79% of the total catch, and were collected at a rate of 13.6 fish/nn. Black crappie were collected at a rate of 3.6 fish/nn. Donaldson Creek and Little River both contained higher proportions of black crappie than Crooked Creek and Eddy Creek (Table 45). For historical comparisons, only data from Little River and Donaldson Creek were used in the standardized population parameters of Lake Barkley crappie in Table 46. The CPUE of harvestable-size ($\geq$10.0 in) crappie was slightly higher than the ten year average at 1.8 fish/nn. The CPUE of quality-size ($\geq$8.0 in) crappie was 5.1 fish/nn, which is 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 (28) and RSD_{10} (8) of white crappie were very low when compared to the last thirty years (Table 47). The 30-year averages PSD and RSD_{10} values of white crappie are 57 and 28, respectively. This skewed distribution towards smaller fish is very easily observed in the length frequency as well (Table 45). The PSD (62) and RSD_{10} (28) values of black crappie are near the 30 year averages of 57 and 21, respectively. These values suggest a more balanced size distribution of black crappie.

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

White crappie	Log_{10} (weight) = -3.74062 + 3.41459 x Log_{10} (length)
Black crappie	Log_{10} (weight) = -3.58728 + 3.33472 x Log_{10} (length)

Otoliths from 351 crappie were used for age and growth analysis with a collection goal of 10 fish from each in-class for each species in Donaldson Creek and Little River, and 5 fish from each in-class at Crooked Creek for each species. Ages ranged from 0-6 years for white crappie and 0-4 years for black crappie (Tables 48 and 49). 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 11.6 in (Table 48), while black crappie was 9.9 in (Table 49). Age frequencies were estimated by combining catch data with age data. The catch of white crappie was dominated by age-0 and age-1 fish suggesting a very strong year class from 2014 and to a lesser degree 2015 (Table 50). Very few white crappie older than age-1 were collected which is reflective of the very weak year classes observed prior to 2014. Black crappie ages were better distributed; suggesting only average year classes have been produced in recent years (Table 51). Although overall catch rates were higher in Little River and Donaldson Creek than in Crooked Creek and Eddy Creek, similar trends in age frequencies were observed. The similarities in age and length frequencies between embayments lend credence to the theory that the population of crappie in Lake Barkley fluctuates at a lake-wide scale rather than an embayment-wide scale.

Assessment of the crappie population yielded a rating of “good” at Lake Barkley in 2015 (Table 52). The catch of age-0 and age-1 crappie along with growth rates ranked well. 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 550 catfish were collected during the 57 electrofishing runs made (Table 53). Each run lasted 300 seconds, for a total sample time of 4.75 hours over a three day period. Of the sample, blue catfish had the highest catch rate at 105.0 fish/hr, and made up 87% 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 54.

Age data from catfish collected in 2014 was used to calculate an age frequency for catfish collected during 2015. Age frequency data is presented in Tables 55 and 56 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 three and four year old fish. This was an expected and encouraging indicator of our sample precision and power because in 2014 almost 75% of the sample consisted of two and three year old fish.

On 10 November 2015, yellow bass were sampled in Donaldson Creek using trap nets for 10 net-nights. Eighty-three yellow bass were captured for a catch rate of 8.3 fish/net night (Table 57). This catch rate was lower than expected based on our observations during crappie trap netting in Donaldson Creek, when catches of yellow bass were as high as 250 individuals in one net. Although frequently observed, yellow bass catch rates in trap nets have not been reported since 1992. However, the catch rate between the years 1987-1992 never exceeded 5.0 fish/net night.

The length-weight equation of yellow bass from Lake Barkley was:

Yellow bass $\qquad \mathrm{Log}_{10}\,(\mathrm{weight}) = -3.35607 + 3.02482 \times \mathrm{Log}_{10}\,(\mathrm{length})$

The Von-Bertalanffy growth function for yellow bass was:

Yellow bass $\qquad L_{t\,=}\,307.4\,(1\text{-}e^{-0.19[t-.729]})+\sum$

The average length of yellow bass at age-4 was 8.1 in (Table 58). However, the average length of yellow bass at age-6 was only one inch longer at 9.1 in. Higher numbers of age-1 and age-3 fish were observed in the age frequency, which may indicate stronger recruitment during those years (Table 59). The annual mortality of yellow bass was 39.7 %. This mortality is less than crappie 49.3 % (Table 52), and roughly equivalent to largemouth bass mortality 38% (Table 39). Although we do not know exactly what percentage of that mortality is attributable to harvest, the most recent creel survey in 2012 indicated that only 12% of the yellow bass caught were harvested by anglers in Lake Barkley. Based on this information and the information from the 2015 creel survey of Kentucky Lake, we will be recommending a removal of the 30 fish daily creel limit on yellow bass in Lake Barkley and Kentucky Lake to allow unrestricted harvest.

Lake Beshear

Largemouth bass were collected by diurnal electrofishing (120 PPS, DC current) during April at Lake Beshear. Two hundred and twenty-nine largemouth bass were collected at a rate of 91.6 fish/hr (Table 60). The catch rate of harvestable-size (≥12.0 in) largemouth bass was 78.4 fish/hr (Table 61). One objective in the Lake Beshear Fish Management Plan (LBFMP) is to maintain a catch rate of 45.0 fish/hr for harvestable-sized largemouth bass. Good year classes in 2011 and 2012 have helped exceed this objective. However, the catch of age-1 fish in the last two years has been low, and has not met the plan objective of 10.0 fish/hr. Other objectives are to maintain high catch rates of bass ≥15.0 and ≥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, again due to good year classes in 2011 and 2012 along with excellent growth rates. Lake Beshear continues to have a quality bass fishery with high numbers of bass ≥15.0 in. The fishery rated "excellent" in 2015 following a "good" rating last year (Table 62). The increase in the rating was due to the slightly better catch rate of age-1 bass, and increase in catch rate of largemouth bass ≥15.0 in.

Largemouth bass were collected by diurnal electrofishing (120 PPS, DC current) in October (Table 60). The catch rate (94.0 fish/hr) was higher than reported during similar sampling in 2014 and 2013 (90.6 and 69.0 fish/hr, respectively). Relative weight data suggests that the larger bass (≥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:

$$\mathrm{Log}_{10}\,(\mathrm{weight}) = -3.56821 + 3.21462 \times \mathrm{Log}_{10}\,(\mathrm{length})$$

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 34.5 fish/hr (Table 63). The average length of the age-0 bass was 3.9 in.

Channel and blue catfish were sampled using trotlines baited with cheese bait sponges and tandem hoopnets baited with zote soap bars during June 2015. No blue catfish were caught in the hoop nets. The catch rate of channel catfish in the hoop nets was 94.3 fish/nn (Table 64). The trotlines yielded catch rates of 5.9 and 6.4 fish per line night for channel and blue catfish, respectively. The relative weights were within the normal range for 16.0-24.0 in channel catfish, but were below average for 11.0-16.0 in channel catfish and all sizes of blue catfish (Table 65).

To understand the age distribution and evaluate the success of prior stockings, a subsample of blue and channel catfish were aged using otoliths. Blue catfish typically reach 12.0 in by age 4 (Table 66). Based on back calculations, a trend of increasing growth occurred between the 2005 to 2008 year classes. The age frequency showed 4 year classes of blue catfish which corresponded to stocking years (Table 67). The trend of increasing growth rates was also observed for channel catfish (Table 68). Channel catfish growth was much higher during 2014 than in previous years. This was also the first year of sampling that revealed some limited natural reproduction of channel catfish in Lake Beshear (Table 69). Channel catfish had not been stocked since July of 2008. Therefore, roughly 36% of the channel catfish collected were from year classes where stockings did not occur. Stocking of channel catfish will resume in 2016 at a rate of 10 fish/acre. These stockings will occur every other year. If growth rates begin to decline, then it might be recommended to reduce the stocking rate or stagger the stockings further apart.

Lake Pennyrile

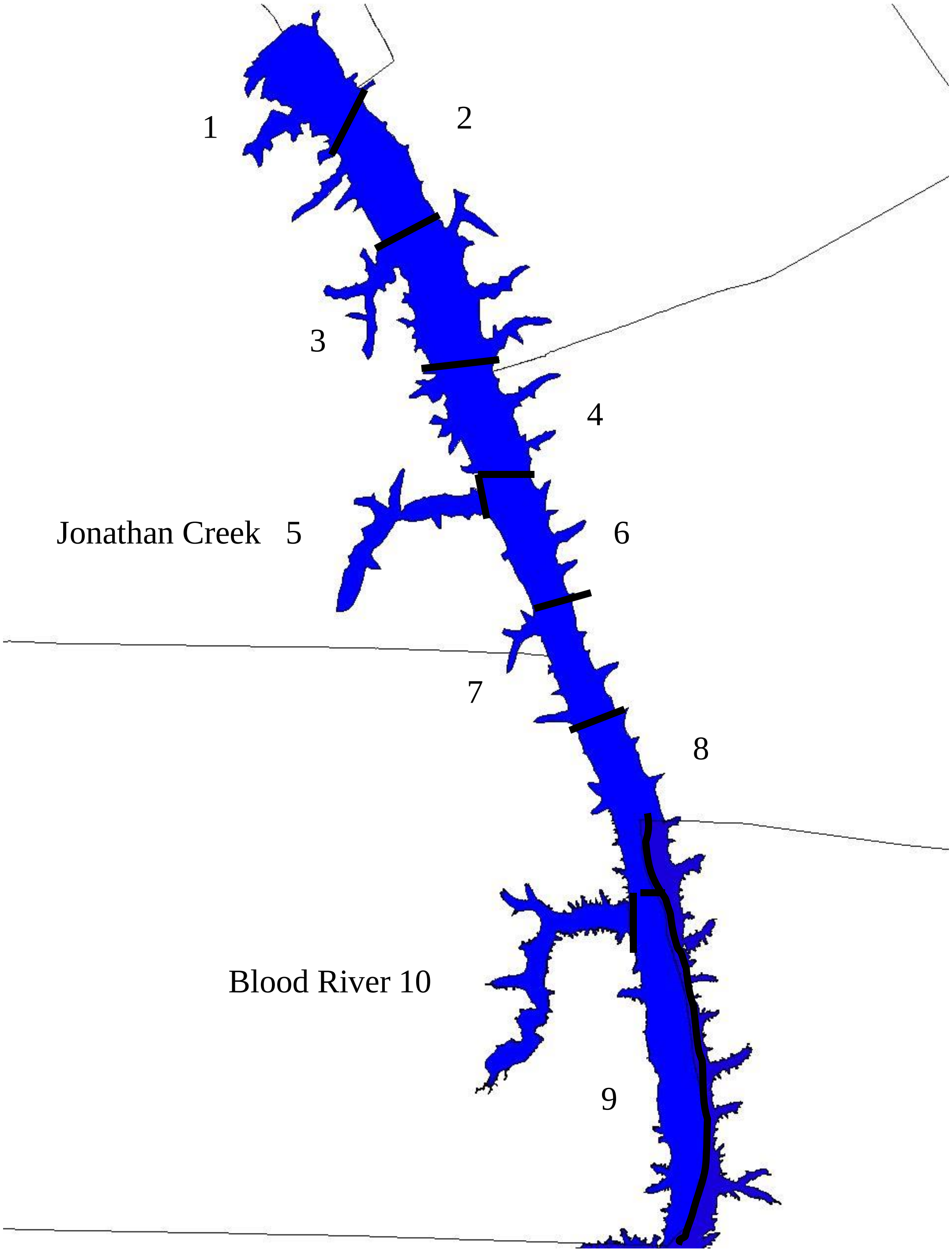
Electrofishing for all species of sportfish in Lake Pennyrile was conducted on 28 April 2015. One-hundred and fifty-six largemouth bass were captured at a rate of 124.8 fish/hr (Table 70). This catch rate is slightly below the 10 year average of 126.6 fish/hr. The majority of largemouth bass are still below 15.0 in. Only four fish over 15.0 in were captured in this year's sample. The catch rate of fish $\geq$15.0 in (3.2 fish/hr) is below the ten year average, but better than the more recent years of sampling (Table 71).

The catch rate of bluegill >8.0 in was 32.0 fish/hr (Table 72). This catch rate is almost three times higher than any previous year's catch rate. 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 (>8.0 in bluegill) in the system. This is probably the most desirable situation since Pennyrile Lake is unlikely to develop into a trophy bass fishery. Catch rates for the 6.0-7.9 in, 3.0-5.9 in, and the <3.0 in length groups of bluegill were also above their ten year averages (Table 72). These catch rates are certainly suggestive of good bluegill recruitment. However, the bluegill population should be closely monitored to ensure that future bluegill recruitment does not suffer from excessive largemouth predation. The catch rate for large size (>8.0 in) redear was above average (Table 72). However, the catch rates for small (3.0-5.9 in) and intermediate (6.0-7.9 in) length groups of redear sunfish were below average. The high numbers of largemouth bass within the lake are likely limiting the recruitment of redear sunfish which is allowing good growth for the survivors. Though good for the short term, this dynamic should be closely monitored in the future to ensure that recruitment is not too suppressed to allow good numbers of adult redear to be caught by anglers.

PSD and RSD values for largemouth bass, bluegill and redear sunfish are listed in Table 73. 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.

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 74). In more recent years, assessments have been completed using the age data from 2011. However, due to low sample numbers and a small age data set, these assessment values likely do not represent the fishery. For example, the fishery in 2015 was rated as "good"; however, this rating was heavily influenced by one 21.0 in largemouth bass which elevated the score by almost two categories. Age data collection will be attempted in 2016.

Appendix A. Map of creel survey areas of Kentucky Lake



Appendix B.

KENTUCKY LAKE ANGLER ATTITUDE SURVEY 2015

1. Have you been surveyed this year? Yes - stop survey No – continue **(N = 107)**

2. Name ______________________________ (**Optional**) and Zip Code ______________

3. How many times do you fish Kentucky Lake each year? **(N = 107)**

   First time here **8%** 1 to 4 **17%** 5-10 **18%** More than 10 **58%**

4. Which species of fish do you fish for at Kentucky Lake (**check all that applies**)? **(N = 107)**
   Redear **31%** Black Bass **56%** Crappie **49%** Catfish **38%** White bass **14%** Other = Bluegill **9%** Yellow bass **1%** Anything **4%**

5. Which one species do you fish for most at Kentucky Lake (**check only one**)? **(N = 104)**

   Redear **5%** Black Bass **42%** Crappie **28%** Catfish **21%** White bass **3%** Other = Bluegill **1%**

-Answer the following questions for each species you fish for – (see question 3)

Redear Anglers

6. In general, what level of satisfaction or dissatisfaction do you have with redear fishing at Kentucky Lake? **(N = 48)**
   Very satisfied **21%** Somewhat satisfied **27%** Neutral **10%** Somewhat dissatisfied **15%** Very dissatisfied **8%** No opinion **19%**

6a. If you responded with somewhat or very dissatisfied in question (7)–what is the single most important reason for your dissatisfaction? **(N = 10)**
   Number of fish 80% **Size of fish 0%** **Not happy with regulations 1%**
   Too many anglers 0%
   Don't know how to catch them 1% ______________________________

Crappie Anglers

7. In general, what level of satisfaction or dissatisfaction do you have with crappie fishing at Kentucky Lake? **(N = 57)**
   Very satisfied **23%** Somewhat satisfied **26%** Neutral **11%** Somewhat dissatisfied **23%** Very dissatisfied **9%** No opinion **9%**

7a. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction? **(N = 22)**
   Number of fish 73% **Size of fish 5%** **Not happy with regulations 9%**
   Too many anglers 5%
   Fluctuating water levels 9% **Other_____**

Black Bass Anglers

8. In general, what level of satisfaction or dissatisfaction do you have with the black bass fishing at Kentucky Lake? **(N = 62)**
   Very satisfied **29%** Somewhat satisfied **42%** Neutral **13%** Somewhat dissatisfied **11%**

   Very dissatisfied **0%** No opinion **5%**

8a. If you responded with somewhat or very dissatisfied in question (9) – what is the single most important reason for your dissatisfaction?
(N = 10)
Number of fish 40% Size of fish 10% Not happy with regulations 0%
Too many anglers 20%
Other = aquatic vegetation is gone 5%, Asian carp 5%, to many tournaments 15%, too hard to find structure 5%

Catfish Anglers

9. In general, what level of satisfaction or dissatisfaction do you have with the catfish fishing at Kentucky Lake?

(N = 42)

Very satisfied **43%** Somewhat satisfied **29%** Neutral **2%** Somewhat dissatisfied **14%** Very dissatisfied **2%** No opinion **10%**

9a. If you responded with somewhat or very dissatisfied in question (10) – what is the single most important reason for your dissatisfaction? **(N = 7)**
Number of fish 57% Size of fish 14% Not happy with regulations 14%
Too many anglers 0%
Too much commercial fishing 14% ____

All Anglers

10. Are you satisfied with the current size and creel limits on all sport fish at Kentucky Lake? **(N = 106)** Yes **93%**

No **7%**

If NO:

10a. If not, which species are you dissatisfied with and what size and creel limits would you prefer? **(N = 6)**

Bass limit = 3 **17%,** crappie limit = 15 **32%,** limit bluegill **17%,** pole limit = 4 **17%,** reduce redear limit **17%**

11. Would you be support of oppose removing the 30 fish creel limit on yellow bass in Kentucky Lake and Lake Barkley, to allow unrestricted harvest of yellow bass? **(N = 104)** Support **42%** Oppose **12%** No opinion **46%**

11a. If opposed, why would you oppose removing the creel limit? **(N = 10)**

prevent overharvest **60%,** 30 is enough **10%,** don't fish for them **10%,** leave it alone **10%,** need more fish **10%**

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 Kentucky Lake? **(N = 105)**

Yes **88%** No **12%**

12a. If you answered no to question 12, continue to14. When you fish Kentucky Lake, how regularly do you fish around our fish attractors? **(N = 65)**
Always **6%** Frequently **17%** Occasionally **26%** Rarely **32%** Never **19%**

12b. If you answered "Rarely" or "Never", what is the single most important reason you don't fish around our fish attractors? **(N = 27)**

didn't know **4%**, no boat **15%**, fish from shoreline **15%**, have own attractors **15%**, only fish for bass **4%**, fish ledges **4%**, to much pressure **7%**, attractor need to be put on drop-offs **4%**, poor success **19%**, attractors only good for crappie **4%**, they are out of the way **4%**, not in good spots **4%**, too shallow **4%**

13. Are you aware that an interactive map which shows the locations of our fish attractors and a habitat description is available on our website? **(N = 97)**
    Yes **57%** No **43%**

14. Currently, the vast majority of the department's fish attractors are marked. In addition to maintaining our current marked attractor locations, would you support or oppose the department creating more **UNMARKED** deepwater attractors if the locations and gps coordinates were available through an interactive map on our website or by contacting our local office? **(N = 102)**
    Strongly support **49%** Moderately support **18%** Neutral **19%** Moderately oppose **5%** Strongly oppose **1%** No opinion **9%**

14a. If opposed, why? **(N = 6)**

Don't own GPS **50%** Harder to find **0%** Too many brushpiles already **50%** Unfair to anglers who don't use GPS **0%**

Too prone to snagging hooks **0%** Other _____

15. Do you own a GPS device (handheld unit, depthfinder, smartphone, etc.) that you use for fishing? **(N = 105)**

    Yes **74%** No **26%**

16. Would you support or oppose a 12 inch minimum size limit on channel catfish in all public lakes and reservoirs, except Kentucky and Barkley Lakes? **(N = 105)**
    Yes **56%** No **11%** No opinion **33%**

Appendix C. 2015 Larval fish sample sites in Jonathan Creek embayment, Kentucky Lake

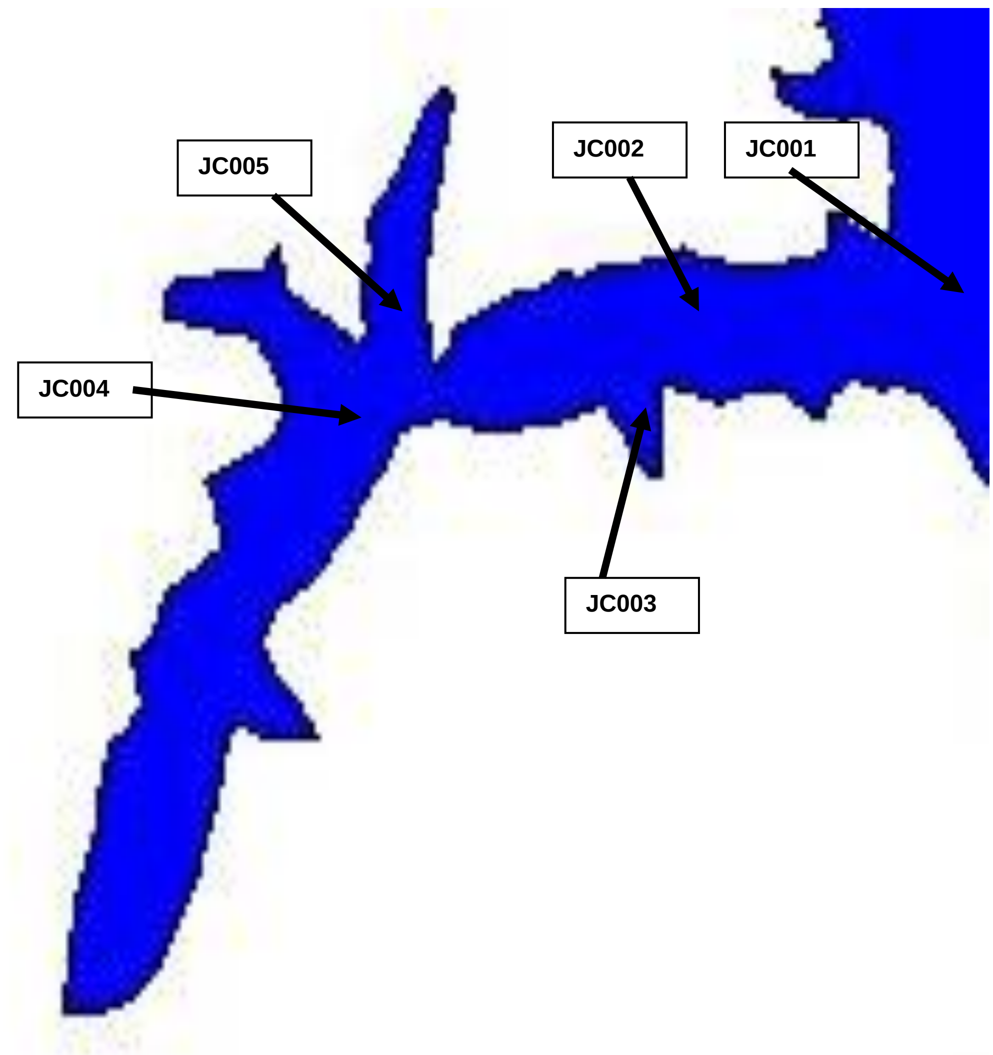


Table 1. 2015 yearly summary of sampling conditions by waterbody, species sampled, and date.

Water body	Location	Species	Date	Effort	Gear	Weather	Water temp. °F	Water level	Secchi (in)	Water Conditions	Pertinent sampling comments
Barkley	Nickel	black bass	4/21/2015	2.5 hr	electrofisher	sunny	60.0	360.9	19	calm	fair sample
Barkley	Little River	black bass	4/30/2015	2.5 hr	electrofisher	sunny	63.0	359.1	33	calm	water dropped a few days before, poor sample
Barkley	Eddy Creek	black bass	5/5/2015	3.0 hr	electrofisher	sunny/light wind	65.0	359.7	37	calm	good sample
Barkley	Donaldson	black bass	5/7/2015	3.0 hr	electrofisher	sunny/calm	68.6	359.3	54	calm/stable	good sample
Barkley	Crooked Creek	black bass	5/12/2015	2.0 hr	electrofisher	sunny/breezy	68.0	359.0		calm/breezy	spawn likely over due to early flood, poor sample, excluded
Barkley	Devils elbow	catfish	6/16/2015	1.6 hr	low pulse	sunny/calm	82.0	359.0	35	calm	good sample
Barkley	Nickel	catfish	6/22/2015	1.3 hr	low pulse	sunny/breezy	82.0	358.5	37	slight chop	good sample
Barkley	Cravens Bay	catfish	6/24/2015	1.6 hr	low pulse	sunny/breezy	83.0	358.5	30	calm	good sample
Barkley	Little River	black bass	10/7/2015	2.0 hr	electrofisher	calm/sunny	69.5	355.0	22	calm	good sample
Barkley	Eddy Creek	black bass	10/8/2015	2.0 hr	electrofisher	cloudy/calm	68.0	354.7	30	calm	good sample
Barkley	Nickel	black bass	10/12/2015	2.0 hr	electrofisher	cloudy/windy	67.5	355.0	37	choppy	good sample
Barkley	Donaldson	black bass	10/19 - 10/23	2.0 hr	electrofisher	sunny	67.5	355.0	21	calm	good sample
Barkley	Eddy Creek	crappie	10/19 - 10/23	40 nn	trapnet	sunny	61.0	355.0	26	calm/stable	SWFD sampled, good sample
Barkley	Crooked Creek	crappie	10/19 - 10/23	40 nn	trapnet	sunny	62.0	355.0	19	calm/stable	good sample
Barkley	Donaldson	crappie	10/26 - 10/30	39 nn	trapnet	rainy/choppy	61.0	355.2	26	choppy	rainy, water rising throughout week, fair sample
Barkley	Little River	crappie	11/2 - 11/6	40 nn	trapnet	sunny	62.0	354.5	26	calm/stable	fair sample
Cumberland River	Barkley TW	all species	9/17/2015	4.0 hr	electrofisher	sunny/calm	76.0			calm	good sample
Cumberland River	Tiline	all species	9/22/2015	2.0 hr	electrofisher	sunny/calm	74.0		36	calm	good sample
Kentucky	Jonathan	crappie	4/22/2015	5 tows	neustonic tow net	after dusk	65.5	361.2		calm/stable	good sample
Kentucky	Jonathan	black bass	4/22/2015	2.5 hr	electrofishing	sunny/breezy	64.6	361.6	32	choppy	poor sample, high water
Kentucky	Jonathan	crappie	4/28/2015	5 tows	neustonic tow net	after dusk	64.0	359.6		calm/stable	good sample
Kentucky	Big Bear	black bass	5/1/2015	1.5 hr	electrofishing	sunny/breezy	64.0	359.4		choppy	fair sample, inexperienced dipper
Kentucky	Blood River	black bass	5/4/2015	2.5 hr	electrofishing	overcast/breezy	66.0	359.5	55	choppy	good sample
Kentucky	Jonathan	crappie	5/5/2015	5 tows	neustonic tow net	after dusk	71.5	359.6		calm/stable	good sample
Kentucky	Big Bear	black bass	5/6/2015	1.5 hr	electrofishing	sunny	72.0	359.4	36	calm	fair sample
Kentucky	Jonathan	black bass	5/6/2015	1.5 hr	electrofishing	sunny	69.0	359.4	41	calm	fair sample
Kentucky	Sledd Creek	black bass	5/8/2015	4.0 hr	electrofishing	sunny/breezy	72.0	359.3	58	choppy	fair sample
Kentucky	Jonathan	crappie	5/12/2015	5 tows	neustonic tow net	after dusk	71.0	359.0		calm/stable	good sample
Kentucky	Jonathan	crappie	5/19/2015	5 tows	neustonic tow net	after dusk	74.5	359.6		calm/stable	good sample
Kentucky	Jonathan	crappie	5/26/2015	5 tows	neustonic tow net	after dusk	75.0	360.1		calm/stable	good sample
Kentucky	Patterson Landing	catfish	6/15/2015	2.8 hr	15 PPS electrofishing	sunny/clear	80.6	359.1	53	calm	good sample
Kentucky	Fenton	catfish	6/17/2015	1.5 hr	15 PPS electrofishing	sunny/clear	81.6	359.1	50	calm	good sample
Kentucky	Little Bear	catfish	6/23/2015	1.7 hr	15 PPS electrofishing	sunny/breeze	83.5	358.4	60	choppy	good sample
Kentucky	Jonathan	crappie	7/27/2015	6 tows	benthic otter trawl	cloudy/calm	86.4	358.5		calm/stable	good sample
Kentucky	Blood River	crappie	7/28/2015	5 tows	benthic otter trawl	sunny/hot	85.3	358.3		calm/stable	good sample
Kentucky		black bass	10/05 - 10/14	8.5 hrs	electrofishing	sunny	66.0	355.0	19-48 in	light breeze	good sample
Kentucky	Pisgah	crappie	10/19 - 10/23	40 nn	trapnet	overcast	64.0	355.0	39	variable	choppy water conditions most of week, poor sample due to shoreline topography
Kentucky	Jonathan	crappie	10/26 - 10/30	40 nn	trapnet	variable	60.5	354.9	30	variable	rainy first two days, calmer later week, good sample
Kentucky	Blood River	crappie	11/2 - 11/6	40 nn	trapnet	sunny	67.7	354.4	33	variable	calm most of week, last two days rough water due to wind
Lake Beshear		black bass	4/27/2015	2.5 hr	electrofishing	sunny	63.0	high	48	calm	good sample
Lake Beshear		black bass	10/13/2015	2.0 hr	electrofishing	sunny	67.0	normal	42	calm	good sample
Lake Beshear		catfish	06/01 - 06/04		trotline, t. hoop nets	overcast	72.0	normal	60	slight chop	3 100-hook trotlines with cheese bait, and 4 tandem series of hoop nets (fish 3 nights)
Mississippi River	Wickliff	all species	9/18/2015	2.0 hr	electrofishing	sunny	76.0	16.5'	10	choppy	fair sample, muddy water
Mississippi River	Columbus Belmont	all species	9/25/2015	2.0 hr	electrofishing	sunny/breezy	78.0	12'	20	choppy	fair sample
Ohio River	Smithland	all species	9/16/2015	2.0 hr	electrofisher	sunny/breezy	79.0	12.5	23		poor catch, but fair conditions
Ohio River	Birdsville	all species	9/24/2015	2.0 hr	electrofisher	sunny/calm	75.6	30.0	33	calm	water lower than normal, poor sample
Pennyrile		all species	4/28/2015	1.25 hr	electrofisher	sunny/breezy	65.9	normal	36	calm	good sample
Tennessee River	Tailwater	all species	9/14/2015	2.0 hr	electrofishing	sunny/breezy	78.0	30.4'		choppy	good sample
Tennessee River	Haddox Ferry	all species	9/21/2015	2.0 hr	electrofishing	sunny	75.0	25.3'	60	choppy	good sample

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 16.0 hours (32- 30-minute runs) of diurnal electrofishing at Kentucky Lake during May 2015.

	Inch class																				
Area	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			2		2	1	1		2		3	3	2							16	5.3	3.0
Spotted bass						1	1					1								3	1.0	1.0
Largemouth bass	1		2	1	3	3	8	8	26	17	27	10	4	6	5	7	5		1	134	44.7	8.5
Jonathan Creek																						
Smallmouth bass									1											1	0.3	0.3
Spotted bass				1		1	1													3	0.8	0.5
Largemouth bass		1	3	3	3	6	23	23	25	29	26	15	10	14	19	15	8	5	2	230	57.5	10.2
Big Bear																						
Smallmouth bass		1	3	1				1	1											7	2.3	1.2
Spotted bass							1		1											2	0.7	0.7
Largemouth bass	1		3	2	2	9	13	17	26	23	27	25	15	11	9	11	5	2	3	204	68.0	11.0
Sugar Bay																						
Smallmouth bass				1	1	4	1	1	1	1	2									12	4.0	2.5
Largemouth bass	1	1	8	11	7	11	24	19	23	29	32	26	13	11	10	5	4	3		238	79.3	5.4
Ledbetter Bay																						
Smallmouth bass			3	1		1				1	2									8	8.0	6.0
Largemouth bass			3	2	2	1	3	5	11	8	8	3	2	2		3		1		54	54.0	10.0
Sledd Creek																						
Smallmouth bass							1					1	1							3	1.5	1.0
Largemouth bass				1	2	3	5	10	16	28	21	5	2	3	5	5				106	53.0	7.3
Total																						
Largemouth bass		1	8	3	3	6	3	2	5	2	8	4	2							47	2.9	0.9
Spotted bass				1		2	3		1			1								8	0.5	0.3
Largemouth bass	3	2	19	20	19	33	76	82	127	134	141	84	46	47	48	46	22	11	6	966	60.4	4.2

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Table 3. Lake specific assessment for largemouth bass collected at Kentucky Lake from 2006 - 2015. 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	>15.0 in CPUE	>20.0 in CPUE	Total score	Assessment rating	Z	A
2015[B]	13.9[A]	10.2	22.0	15.6	1.2			0.408	33.5
Score	4	1	3	2	2	12	G		
2014	13.9[A]	32.6	15.0	15.7	0.9			0.452	36.3
Score	4	2	1	2	1	10	F		
2013*	13.9[A]	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	13.8[A]	27.9	24.3	13.5	1.4			0.429	34.9
Score	4	2	2	1	1	10	F		
2008	13.8[A]	73.1	19.1	24.2	1.9			0.575	43.7
Score	4	4	2	3	2	15	G		
2007	13.8[A]	22.2	28.8	26.1	1.3			0.560	32.2
Score	4	1	2	4	1	12	G		
2006	13.8[A]	31.8	23.6	20.9	0.6			0.666	48.6
Score	4	2	2	3	1	12	G		
Average	13.5	31.5	24.6	17.0	1.1	11.1		0.515	38.7

Data from 1985 to 2005 is listed in previous annual reports.

[A] age and growth data was not collected. 2012 data used for age estimates.

[B] Assessment quartiles were updated.

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 2006 - 2015.

Year	Mean length age-3 at capture (in)	Age-1 CPUE	Age-1 Std Err	<8.0 in CPUE	<8.0 in Std Err	12.0 - 14.9 in CPUE	12.0 - 14.9 in Std Err	>15.0 in CPUE	>15.0 in Std Err	>18.0 in CPUE	>18.0 in Std Err	>20.0 in CPUE	>20.0 in Std Err	Total CPUE	Total Std Err	PSD	RSD_{15}
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
2006	13.8	31.8	7.0	28.3	6.3	23.6	2.4	20.9	2.3	3.3	0.6	0.6	0.2	85.4	5.5	78	37
Average	13.7	31.5		24.5		24.8		16.4		4.3		1.1		91.8		61.9	25.1
KLFMP	≥ 12 in	≥ 30				≥ 21		≥ 18				≥ 2				55 - 75	20 - 40

(Kentucky Bass Database.xls)

Data for 1985 - 2005 is listed in previous annual reports; KLFMP - Kentucky Lake Fish Management Plan objective goal.

Table 5. PSD and RSD_{15} values calculated for black bass species collected during diurnal electrofishing at Kentucky Lake during May 2015; 95% confidence limits are shown in parentheses.

Area	Species	No. $\geq$8.0 in	PSD	RSD[a]
Blood River	Largemouth bass	127	65 (+/-8)	22 (+/-7)
Jonathan Creek	Largemouth bass	220	65 (+/-6)	33 (+/-6)
Big Bear	Largemouth bass	196	69 (+/-6)	29 (+/-6)
Sugar Bay	Largemouth bass	210	63 (+/-7)	22 (+/-6)
Sub Total	Largemouth bass	753	65 (+/-3)	27 (+/-3)
Sledd Creek	Largemouth bass	103	67 (+/-9)	15 (+/-7)
Ledbetter Bay	Largemouth bass	47	57 (+/-14)	17 (+/-11)
Total	Largemouth bass	903	59 (+/-4)	30 (+/-4)

[a]Largemouth bass = RSD_{15}

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Table 6. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 5.0 hours (10- 30-minute runs) of diurnal electrofishing at Kentucky Lake during October 2015.

	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	2	11	8	3		1	3	5	2	1	1	2	2	1							42	16.8	5.1
Spotted bass	1	3																			4	1.6	1.6
Largemouth bass	3	15	11	10	3		3	2	3	4	9	17	22	5	5				2		114	45.6	14.1
Jonathan Creek																							
Smallmouth bass			3					1					1			1					6	3.0	2.5
Spotted bass		2	5	1	1		1		1	1		2									14	7.0	3.0
Largemouth bass		45	72	12	3	2	2	5	4	8	28	25	17	12	8	5	4	2	2		256	128.0	21.0
Sugar Bay																							
Smallmouth bass	1	1	3	1			2			5	3	1									17	8.5	5.1
Largemouth bass	1	2	5	4	5	5	2	3	4	5	1	5	7		2						51	25.5	14.1
Big Bear																							
Smallmouth bass		1	6	4	1		2		1		1				2						18	9.0	2.5
Spotted bass											1		1								2	1.0	3.0
Largemouth bass	9	28	9	4	8	10	4	2		1	4	6	20	9	9	1	3	1	1	1	130	65.0	21.0
TOTAL																							
Smallmouth bass	3	13	20	8	1	1	7	6	3	6	5	3	3	1	2	1					83	9.8	2.9
Spotted bass	1	5	5	1	1		1		1	1	1	2	1								20	2.4	1.6
Largemouth bass	13	90	97	30	19	17	11	12	11	18	42	53	66	26	24	6	7	3	5	1	551	64.8	12.6

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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 2015. Standard errors are shown in parentheses.

		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	12	97	(2)	47	100	(2)	12	105	(4)	71	100	(1)
	Big Bear	7	99	(3)	30	104	(1)	25	105	(2)	62	104	(1)
	Jonathan Creek	19	97	(4)	70	104	(1)	33	102	(2)	122	102	(1)
	Sugar Bay	14	102	(2)	13	97	(2)	2	86	(17)	29	99	(2)
	Total	52	98	(2)	160	102	(1)	72	103	(1)	284	102	(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	2	99	(11)	4	103	(5)	1	104		7	102	(4)
Smallmouth bass	Total	17	89	(2)	14	86	(2)	7	89	(3)	38	88	(1)

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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 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2015	4.6	0.1	32.6	8.6	9.1	1.5		
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
2006	4.8	0.1	19.0	3.8	8.8	1.7	22.2	4.0
Average	5.5		45.3		32.1		33.2	

[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 2005 is listed in previous year reports.

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Table 9. Species composition, relative abundance, and CPUE (fish/nn) of crappie collected by trap nets fished during 40 net-nights at three embayments of Kentucky Lake during October - November 2015. The Sub-Total is used for historical comparison and excludes those data for embayments which historically had not been sampled.

		Inch class																
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	16	Total	CPUE	Std err
Blood River	White crappie	3	55	18	5	59	36	29	23	14	7	3	2	1		255	6.4	6.4
	Black crappie	4	48	9	86	68	146	59	19	3	5	2				449	11.2	11.2
Jonathan Cr.	White crappie	6	84	7	38	84	49	106	96	40	15	13	1			539	13.5	13.5
	Black crappie	11	87	12	127	129	249	254	23	15	10	3			1	921	23.0	23.0
Sub-Total	White crappie	9	139	25	43	143	85	135	119	54	22	16	3	1		794	9.9	0.9
	Black crappie	15	135	21	213	197	395	313	42	18	15	5			1	1,370	17.1	2.6
Pisgah Bay	White crappie		5	1		5	4	14	5							34	0.9	0.9
	Black crappie	1	42		3	5	12	4	1	9	3	1				81	2.0	2.0
TOTAL	White crappie	9	144	26	43	148	89	149	124	54	22	16	3	1		828	6.9	6.9
	Black crappie	16	177	21	216	202	407	317	43	27	18	6			1	1,451	12.1	12.1

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Table 10. 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
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
2006[A]	2.6	16.1	18.7	1.2	1.2	2.4	10.8	9.2	9.7	1.6	11.9	13.5	1.7	6.6	8.3	1.1	2.8	3.9
Average	3.4	12.2	15.5	2.2	1.9	4.1	10.8	9.6	10.1	2.2	8.1	10.4	2.1	5.2	7.3	1.1	4.1	5.2
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 2005 is listed in previous annual reports.

KLFMP - Kentucky Lake Fish Management Plan objective goal.

Kentucky Lake Crappie Database

Table 11. Lake specific assessment for crappie collected at Kentucky Lake (Blood River and Jonathan Creek) from 2006-2015. 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
2015[B]	22.7	9.9	4.3	9.3	9.2			0.925	60.3
Score	4	3	3	3	2	15	G		
2014	10.5	6.7	2.9	3.9	9.7			0.910	59.7
Score	1	1	1	1	3	7	P		
2013	9.9	2.3	5.5	8.7	9.4			0.657	48.2
Score	1	1	1	2	2	7	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	2	2	1	3	3	11	F		
2010	18.7	13.0	12.8	8.4	10.6			0.556	42.6
Score	2	2	1	2	4	11	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	2	1	1	3	4	11	F		
2006	18.7	8.3	2.4	13.5	9.7			0.729	51.7
Score	2	1	1	4	3	11	F		
Average	15.9	7.4	3.9	10.7	10.1	10.6		0.779	53.36

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

[B] Assessment Quartiles updated
Kentucky Lake Crappie Database

Table 12. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected with trap nets (40 net-nights each site) at Kentucky Lake (Blood River, Jonathan Creek and Sugar Bay) during October and November 2015. 95% confidence interval is shown in parentheses.

Location	Species	N	PSD	RSD_{10}
Blood River	White crappie	179	44 (± 7)	15 (± 5)
	Black crappie	388	23 (± 4)	3 (± 2)
Jonathan Creek	White crappie	442	61 (± 5)	15 (± 3)
	Black crappie	811	37 (± 3)	4 (± 1)
Sub Total	White crappie	621	56 (± 4)	15 (± 3)
	Black crappie	1,199	33 (± 3)	3 (± 1)
Pisgah Bay	White crappie	28	68 (± 17)	
	Black crappie	38	47 (± 16)	34 (± 15)
Total	White crappie	649	57 (± 4)	15 (± 3)
	Black crappie	1,237	33 (± 3)	4 (± 1)

wfdtpntk.d15

Table 13. 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 Pisgah Bay) in fall 2015.

		Age						
Year class	N	1	2	3	4	5	6	7
2014	70	3.8						
2013	63	3.7	7.3					
2012	9	3.8	6.8	9.5				
2011	4	3.3	6.8	8.7	10.5			
2010	11	3.8	6.3	8.5	10.1	11.3		
2009	4	3.2	6.3	8.6	10.1	10.9	11.5	
2008	2	3.2	7.3	9.4	10.7	11.7	12.5	13.1
Mean	163	3.7	7.1	8.9	10.2	11.3	11.9	13.1
Smallest		2.4	5.2	7.2	8.9	10.1	10.8	12.0
Largest		7.6	9.0	11.5	11.7	12.8	13.6	14.2
Std err		0.0	0.1	0.2	0.2	0.2	0.4	1.1
Low 95% CI		3.6	6.9	8.5	9.9	10.9	11.1	10.9
High 95% CI		3.8	7.2	9.2	10.6	11.6	12.6	15.2

* Intercept = 0.

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Table 14. 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 Pisgah Bay) in fall 2015.

		Age					
Year class	N	1	2	3	4	5	6
2014	51	3.6					
2013	82	3.7	6.7				
2012	6	3.8	6.5	8.8			
2011	8	3.7	7.0	9.2	10.4		
2010	4	3.7	6.1	7.6	9.1	9.8	
2009	6	3.8	6.9	8.9	10.2	11.2	11.9
Mean	157	3.7	6.7	8.7	10.0	10.7	11.9
Smallest		2.3	4.7	5.8	8.5	9.4	10.1
Largest		6.2	9.4	11.2	12.8	14.1	14.8
Std err		0.1	0.1	0.2	0.2	0.4	0.6
Low 95% CI		3.5	6.5	8.4	9.6	9.8	10.6
High 95% CI		3.8	6.9	9.1	10.5	11.5	13.1

* Intercept = 0.

wfdtnagk.d15

Table 15. Age frequency and CPUE (fish/nn) of white crappie collected in trap nets fished for 80 net-nights in Kentucky Lake (Blood River and Jonathan Creek) during October and November 2015.

	Inch class																
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	Std err
0	9	139	25	4										177	22	2.2	0.4
1				39	143	85	29	35						331	42	4.1	0.5
2							106	79	47	12				244	31	3.1	0.4
3									5	4	3	1		13	2	0.2	0.0
4								5		1	1	1		8	1	0.1	0.0
5									2	4	7	1		14	2	0.2	0.0
6										1	4			5	1	0.1	0.0
7											1		1	2	0	0.0	0.0
Total	9	139	25	43	143	85	135	119	54	22	16	3	1	794		9.93	
%	1	18	3	5	18	11	17	15	7	3	2	0	0				

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Table 16. Age frequency and CPUE (fish/nn) of black crappie collected in trap nets fished for 80 net-nights in Kentucky Lake (Blood River and Jonathan Creek) during October and November 2015.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	16	Total	%	CPUE	Std err
0	15	135	19										169	12	2.1	0.3
1			2	213	167	61	12	9					464	34	5.8	1.1
2					30	334	301	24	11	5	1		706	52	8.8	1.5
3								7		2			9	1	0.1	0.0
4									2	5	1		8	1	0.1	0.0
5								2	3	1			6	0	0.1	0.0
6									2	2	3	1	8	1	0.1	0.0
Total	15	135	21	213	197	395	313	42	18	15	5	1	1,370		17.1	
%	1	10	2	16	14	29	23	3	1	1	0	0				

wfdtpntk.d15, wfdtnagk.d15

Table 17. 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 (29 tows) at 5 sample sites in the Jonathan Creek embayment of Kentucky Lake from 22 April-26 May 2015. 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
4/22/2015	JC001		11	11										21	12.2	5.99 (5.5)
	JC002													0		
	JC003		9	18										27		
	JC004		6	6										11		
	JC005													0		
4/28/2015	JC001				6									6	6.7	6.64 (8.27)
	JC002													0		
	JC003				6									6		
	JC004				6	34	6							45		
	JC005					5								5		
5/5/2015	JC001													0	35.3	27.16 (41.69)
	JC002				10	5								15		
	JC003					27		7						34		
	JC004		14	28	84	56	21	14	7					224		
	JC005		5	16	37	27	21	5	5					118		
5/12/2015	JC001	6							6					12	100.1	70.45 (29.78)
	JC002		9		26	17	9							61		
	JC003			18	54	9	9	9						99		
	JC004		9	43	17	17	9	17						113		
	JC005			8	58	50	33	17		8	17			192		
5/19/2015	JC001								7					7	132.5	69.35 (112.02)
	JC002						24							24		
	JC003				9	26	85	77	9	9	9	9	9	238		
	JC004*													0		
	JC005			10	14	39	11	149	96	43	24		10	395		
5/26/2015	JC001													0	7.2	3.96 (7.08)
	JC002													0		
	JC003						6							6		
	JC004						6	6	6	11	6			33		
	JC005							14		5			9	27		

Table 18. Geometric mean catch rates for pelagic larval fish captured in neuston tow nets from 22 April - 26 May 2015 (five 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	Moronidae		
Year	8.0-11.0mm	Total Catch	Total Catch	Total Catch	Total Catch	Temp	Elevation
4/22/2015	0.0	5.99 (5.5)	19.15 (14)	0.0	0.0	65.5	361.2
4/28/2015	6.6	6.64 (8.27)	86.89 (43)	0.0	2.83 (4.8)	64.0	359.6
5/5/2015	24.6	27.16 (41.69)	1524.4 (1544)	0.0	19.82 (21.84)	71.5	359.6
5/12/2015	33.6	70.45 (29.78)	597.4 (127)	0.0	18.35 (20.12)	71.0	359.0
5/19/2015	35.1	69.35 (112.02)	5392.62 (2092)	18.94 (49.18)	26.82 (33.71)	74.5	359.6
5/26/2015	4.2	3.96 (7.07)	470.90 (1180)	392.16 (512.56)	1.71 (2.73)	75.0	360.1

2015 larval summary.xlsx

Table 19. Estimated hatch dates of crappies in the Jonathan Creek Embayment of Kentucky Lake during April and May 2015 obtained with daily ring counts on otoliths or larval fish lengths back calculated using a growth rate derived from daily ring counts of juveniles. Elevation and discharge at Kentucky Dam also provided. "# hatch" represents the time when crappie actually hatched on the nest. "#spawned" represents the time when crappie eggs were fertilized. Environmental variables were provided by TVA and Murray State University.

	Back calculated	Back calculated estimate	Daily ring count	Daily ring count	Environmental variables		
	# hatch/1000m³	# spawned/1000m³	# hatch	#spawned	Elevation	Discharge	Temperature
1-Apr	0.0	0.0			355.3	60,492	57.92
2-Apr	0.0	0.0			355.7	62,075	58.35
3-Apr	0.0	0.0			356.1	62,814	58.93
4-Apr	0.0	0.0			356.4	62,883	59.00
5-Apr	0.0	0.0			356.5	63,591	58.82
6-Apr	0.0	2.8		1	356.9	64,417	59.50
7-Apr	0.0	2.8		1	356.8	56,073	60.82
8-Apr	0.0	6.5		1	356.9	60,433	61.81
9-Apr	2.8	6.5	1	1	356.8	61,091	61.99
10-Apr	2.8	2.9	1	1	357.0	57,912	62.73
11-Apr	6.5	6.9	1	3	357.0	57,804	63.12
12-Apr	6.5	4.0	1		357.2	57,176	63.82
13-Apr	2.9	10.6	1		357.3	69,030	64.09
14-Apr	6.9	10.6	3	1	357.7	88,752	64.33
15-Apr	4.0	10.6		2	358.1	91,361	64.35
16-Apr	10.6	10.6			358.7	93,729	65.23
17-Apr	10.6	15.7	1	5	359.2	95,592	65.62
18-Apr	10.6	22.5	2		359.2	94,235	66.52
19-Apr	10.6	6.9			359.4	92,271	66.56
20-Apr	15.7	6.1	5		360.2	93,976	66.13
21-Apr	22.5	6.1			360.8	99,226	65.91
22-Apr	6.9	9.6		2	361.6	102,844	65.62
23-Apr	6.1	9.6			361.6	108,418	65.28
24-Apr	6.1	17.3		1	361.5	112,079	
25-Apr	9.6	70.7	2	3	361.2	128,449	
26-Apr	9.6	53.4			360.6	144,807	
27-Apr	17.3	29.7	1		359.9	141,108	
28-Apr	70.7	29.7	3	2	359.5	119,122	*64
29-Apr	53.4	15.7			359.2	97,554	
30-Apr	29.7	15.7		1	359.2	73,344	
1-May	29.7	5.5	2	3	359.3	45,286	
2-May	15.7	9.9			359.5	44,910	
3-May	15.7	4.4	1		359.6	42,529	
4-May	5.5	2.9	3	2	359.7	39,423	
5-May	9.9	2.9			359.5	38,076	*71
6-May	4.4	0.0		2	359.4	37,623	
7-May	2.9	0.0	2		359.3	37,179	
8-May	2.9	0.0		1	359.3	24,633	
9-May	0.0	0.0	2	1	359.3	25,399	
10-May	0.0	0.0		2	359.2	25,612	
11-May	0.0	0.0	1		359.1	27,032	
12-May	0.0	0.0	1		359.0	17113	*71
13-May	0.0	0.0	2		359.0	15005	

* represents temperature readings taken during the larval sampling events

Table 20. Length frequency, CPUE (fish/5-min sample), and standard error of each inch class of fish captured in benthic otter trawl samples on 27 July and 28 July in Blood River (5 samples), and Jonathan Creek (6 samples), in Kentucky Lake.

Area		Inch class														
Blood River	Species	1	2	3	4	5	6	7	8	9	11	13	26	Total	CPUE	Std err
	Gizzard Shad	31	4											35	7.0	4.7
	Blue Catfish	3	1											4	0.8	0.8
	Channel Catfish			1				1				1	1	5	1.0	0.5
	White Bass			1										3	0.6	0.6
	Yellow Bass	4	267		111	54	1	1						438	87.6	35.4
	Bluegill	168	60		1	4	1							234	46.8	27.2
	Largemouth Bass			1										1	0.2	0.2
	White Crappie	2	115	2		7	3	2	5			1		137	27.4	10.5
	Black Crappie	1	48	1	3	1								54	10.8	5.3
	Freshwater Drum		2	4		1	1	4	7	3	1	1		24	4.8	2.5
		Inch class														
Jonathan Creek		1	2	3	4	5	6	7	8	9	11	13	26	Total	CPUE	Std err
	SkipJack Herring	1												1	0.2	0.3
	Gizzard Shad	30												30	5.0	4.6
	Channel Catfish		1	1	1		1							4	0.7	0.6
	Yellow Bass		219		21	2								243	40.5	34.2
	Bluegill	381				1								382	63.7	77.2
	Largemouth Bass		1	1										2	0.3	0.5
	White Crappie	14	134	4	4	13		1				1		171	28.5	28.0
	Black Crappie	2	33				1							36	6.0	5.1
	Freshwater Drum		1	1		3	5	3	2	1				16	2.7	3.7

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Table 21. Length frequency and CPUE (fish/hr) of channel, blue, and flathead catfish collected from Kentucky Lake in June 2015 from low pulse (15 PPS) electrofishing along the main river channel. A chase boat was used. A total of 4.8 hours of sampling consisting of 58- 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	32	33	34	42	Total	CPUE	Std Err
Blue catfish				4	23	21	13	4	12	10	8	8	12	16	14	3	5	8	5	6	2	1	2	1						178	36.8	7.0
Channel catfish	2	2		1	2	1		1	1		1	1																		12	2.5	0.8
Flathead catfish				1		1		1	3	2	1	2		1		1			1							1	1	1	1	18	3.7	1.0

wfdkcat.d15

Table 22. Relative weight (W_r) of each length group of blue, channel, and flathead catfish collected from Kentucky Lake during June 2015. 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
	81	102	1	32	100	2	1	108	4	114	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
	3	113	10	1	103					4	110	4
	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
	10	84	2	2	85	2	4	99	4	16	88	2

wfdkcat.d15

Table 23. Age frequency and CPUE (fish/hr) of blue catfish collected from low pulse (15 PPS) electrofishing at Kentucky Lake in June 2015.

	Inch class																				
Age	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	%	CPUE	Std Err
2	21	13																34	23	6.5	2.1
3			4	10	2	2												18	12	3.4	0.9
4				2	8	6	8	12	16									52	35	9.9	2.3
5										8	1	3		1				13	9	2.5	0.8
6										6	2	3		4				15	10	2.9	1.0
7													8		6			14	9	2.7	1.1
8																2		2	1	0.4	0.3
10																	1	1	1	0.2	0.2
Total	21	13	4	12	10	8	8	12	16	14	3	6	8	5	6	2	1	149			
%	14	9	3	8	7	5	5	8	11	9	2	4	5	3	4	1	1				

wfdkcat.d15 and wfdkcag.d14

Table 24. Fishery statistics derived from a creel survey at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

Fishing Trips			
	No. of fishing trips (per acre)	188,601	(3.7)
Fishing Pressure			
	Total angler-hours (S.E.)	841,143	(30,337)
	Angler-hours/acre	16.5	
Catch / Harvest			
	No. of fish caught (S.E.)	880,684	(86,649)
	No. of fish harvested (S.E.)	299,924	(39,408)
	Lb of fish harvested	263,624	
Harvest Rates			
	Fish/hour	0.34	
	Fish/acre	5.88	
	Pounds/acre	5.17	
Catch Rates			
	Fish/hour	1.09	
	Fish/acre	17.27	
Miscellaneous Characteristics (%)			
	Male	87.09	
	Female	12.91	
	Resident	58.57	
	Non-resident	41.43	
Method (%)			
	Still fishing	45.33	
	Casting	53.90	
	Trolling	0.50	
	Trotline/Jugging	0.50	
	Crappie Anglers Only		
	Casting	6.59	
	Still fishing (1-2 poles)	29.30	
	Spider Rig (3 Poles)	37.63	
	Spider Rig (4-5 Poles)	11.69	
	Spider Rig (>5 Poles)	14.78	
Mode (%)			
	Boat	90.48	
	Bank	6.86	
	Dock	2.66	

Table 25. Length distribution for each species of fish harvested or released (lengths of released fish are estimated) at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

		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								108	9,844	19,689	26,504	12,549	7,789	4,544	1,407										
	R		1,427	2,457	8,244	13,158	11,811	15,615	14,585	951	1,030	1,030	634	396	477											
Black crappie	H								98	4,513	9,320	7,554	2,551	1,962	883	491	98									
	R		141	2,119	3,603	4,804	5,510	5,934	706	283	353	212	141	141												
Largemouth bass	H													134	6,413	6,311	4,072	3,766	3,054	1,629	407	204		102		
	R							1,776	1,308	12,429	8,410	42,799	43,173	52,798	19,811	17,381	11,027	7,009	2,243	3,831	280	280	280		93	95
Smallmouth bass	H														349	70	70	279								
	R							592	666	1,333	518	3,332	2,296	1,259	518	444	741	444	148	76						
Spotted bass	R			115	115	230	115			115		115	230		114											
Bluegill	H			203	6,794	14,601	38,430	31,028	5,983	1,216																
	R	1388	14,317	30,197	41,217	29,503	7,376	2,690	520																	
Redear sunfish	H					113	676	225	113	676	676	564														
	R		267	178		891	178																			
Longear sunfish	H			254	253																					
	H																									
Warmouth	R			81	161	242			81		81															
Green sunfish	R			225	112																					
Channel catfish	H					293					293	2,834	1,270	1,759	2,639	3,127	2,443	3,714	586	4,007	195	195	293	684	195	101
	R					98	392	392	294	1,371	294	2,644	783	1,175	1,567	783	685	1,763	392	2,252	196	294	98	588	588	
Blue catfish	H									51	51	1,887	918	1,122	1,887	1,632	1,122	1,632	612	1,122	102	102	102	459	153	153
	R					348	271	735	232	658	426	580	310	310	232	155		116		39				39		
Flathead catfish	H									69		137			69	69		137		68						
	R											88												176		
White bass	H							103	207	723	516	723	310	3,511	102											
	R			121	121	181	603	965	784	422		1,025	663	301												
Striped bass	H											66		66						198						
	R										78		79													
Hybrid striped bass	H								57						458		115	172								
	R					109																				
Yellow bass	H				2,323	2,528	2,187	3,553	1,913	888	342	68														
	R		1,456	3,602	9,120	18,699	12,798	13,488	4,138	3,678	690	307	153	76												
Sauger	H														86	86	85									
	R						90	180		90		90	270		270	180		90								
Yellow perch	H					116		116	233	116		351														
	R		116		116	231	116	347	116	231		115														
Pickerel	R																									
Drum	H														119											
	R			237	237		158	868	316	1,184	395	1,342	474	789	1,184	1,105	552	1,578	316	1,894	79	316	79	631	395	
Shad	R			91		91																				
Skipjack herring	R							162			162						81									
Bighead Carp	R																									
Silver Carp	R													43												
Grass Carp	H									74																
	R																									
Gar	R											82						82		82			82			

Table 25 (cont). Length distribution for each species of fish harvested or released (lengths of released fish are estimated) at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

		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	50	Total
White crappie	H																								82,434
	R																								71,815
Black crappie	H																								27,470
	R																								23,947
Largemouth bass	H																								26,092
	R																								225,023
Smallmouth bass	H																								768
	R																								12,367
Spotted bass	R																								1,149
Bluegill	H																								98,255
	R																								127,208
Redear sunfish	H																								3,043
	R																								1,514
Longear sunfish	H																								507
Warmouth	R																								646
Green sunfish	R																								337
Channel catfish	H																								24,628
	R	98		98	585																				17,430
Blue catfish	H	102	102	102	204						49														13,666
	R										39		39		75										4,604
Flathead catfish	H																								549
	R		88		88																				440
White bass	H																								6,195
	R																								5,186
Striped bass	H																								330
	R																								157
Hybrid striped bass	H																								802
	R																								109
Yellow bass	H																								13,802
	R																								68,205
Sauger	H																								257
	R																								1,260
Yellow perch	H																								932
	R																								1,388
Pickerel	R				124																				124
Drum	H																								119
	R	79			474					79	76														14,837
Shad	R																								182
Skipjack herring	R																								405
Bighead Carp	R				119																				119
Silver Carp	R																								43
Grass Carp	H																								74
	R														48										48
Gar	R																								328

Table 26. Fish harvest statistics derived from a creel survey at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

	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	**265,386**	250,981	13,135	1,149	**205,666**	154,249	51,417	**61,440**	42,058	989	18,270	124	**233,061**	225,464	4,557	2,057	646	337
(per acre)	**(5.20)**	(4.92)	(0.26)	(0.02)	**(4.03)**	(3.02)	(1.01)	**(1.20)**	(0.82)	(0.02)	(0.36)	T	**(4.57)**	(4.42)	(0.09)	(0.04)	(0.01)	(0.01)
No. harvested	**26,799**	25,958	768		**109,904**	82,434	27,470	**38,843**	24,628	549	13,666		**101,806**	98,255	3,043	507		
(per acre)	**(0.53)**	(0.51)	(0.02)		**(2.15)**	(1.62)	(0.54)	**(0.76)**	(0.48)	(0.01)	(0.27)		**(2.00)**	(1.93)	(0.06)	(0.01)		
% of total no. harvested	**8.94**	8.65	0.26		**36.64**	27.48	9.16	**12.95**	8.21	0.18	4.56		**33.94**					
Lb. harvested	**68,312**	66,679	1,633		**98,709**	73,339	25,370	**60,334**	36,474	780	23,080		**24,722**	22,867	1,824	32		
(per acre)	**(1.34)**	(1.31)	(0.03)		**(1.94)**	(1.44)	(0.50)	**(1.18)**	(0.72)	(0.02)	(0.45)		**(0.48)**	(0.45)	(0.04)	(0.00)		
% of total lb. harvested	**25.91**	25.29	0.62		**37.44**	27.82	9.62	**22.89**	13.84	0.30	8.76		**9.38**	8.67	0.69	0.01		
Mean length (in)		16.7	16.0			12.0	11.6		16.1	15.1	16.6			6.9	9.3	4.5		
Mean weight (lb)		2.44	1.97			0.84	0.88		1.37	1.46	1.61			0.21	0.57	0.06		
No. of fishing trips for that species	**76,318**				**61,894**			**11,886**					**17,840**					
% of all trips	**40.5**				**32.8**			**6.3**					**9.5**					
Hours fished for that species	**340,368**				**276,039**			**53,009**					**79,563**					
(per acre)	**(6.67)**				**(5.41)**			**(1.04)**					**(1.56)**					
No. harvested fishing for that species	**25,753**				**104,846**			**22,504**					**84,018**					
Lb harvested fishing for that species	**66,150**				**93,716**			**35,419**					**20,730**					
No./hour harvested fishing for that species	**0.06**				**0.39**			**0.61**					**1.29**					
% success fishing for that species	**11.7**				**44.7**			**50.7**					**57.5**					

t = < .005

Table 26 (cont.). Fish harvest statistics derived from a creel survey at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

	Sauger	Yellow perch	**Morone Group**	White bass	Striped bass	Yellow bass	Hybrid striped bass	Drum	Skipjack herring	Gar	Buffalo	Silver carp	Bighead carp	Grass carp	Pickerel	Shad	Illegal bass	**Anything**
No. caught	1,517	2,319	**94,785**	11,381	487	82,007	910	14,957	405	328	218	43	119	122	124	182	134	
(per acre)	(0.03)	(0.05)	**(1.86)**	(0.22)	(0.01)	(1.61)	(0.02)	(0.29)	(0.01)	(0.01)	T	T	T	T	T	T	T	
No. harvested	257	932	**21,129**	6,195	330	13,802	802	119						74			134	
(per acre)	(0.01)	(0.02)	**(0.41)**	(0.12)	(0.01)	(0.27)	(0.02)	(0.00)						T			T	
% of total no. harvested	0.09	0.31	**7.04**	2.07	0.11	4.60	0.27	0.04						0.02			0.04	
Lb. harvested	341	445	**10,404**	5,538	828	2,371	1,668	171									187.3	
(per acre)	(0.01)	(0.01)	**(0.20)**	(0.11)	(0.02)	(0.05)	(0.03)	T									T	
% of total lb. harvested	0.13	0.17	**3.95**	2.10	0.31	0.90	0.63	0.06									0.07	
Mean length (in)	16.3	9.4		11.7	16.0	7.7	16.0	15.0						10.0			13.9	
Mean weight (lb)	1.35	0.41		0.72	1.81	0.19	2.13	1.43										
No. of fishing trips for that species			**1,588**															**19,077**
% of all trips			**0.8**															**10.1**
Hours fished for that species			**7,081**															**85,083**
(per acre)			**(0.14)**															**(1.67)**
No. harvested fishing for that species			**9,723**															
Lb harvested fishing for that species			**5,170**															
No./hour harvested fishing for that species			**1.61**															
% success fishing for that species			**37.5**															**18.4**

T = < 0.005

Table 27. Monthly crappie angling success at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

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	2,884	1,049	523	2,333	2,883	1.22	1,048	0.44
Mar	33,054	20,179	14,602	65,124	32,806	0.54	20,055	0.33
Apr	78,557	54,654	32,562	145,221	77,348	0.53	54,251	0.37
May	8,276	6,642	3,739	16,677	5,879	0.36	4,682	0.29
Jun	11,927	5,725	1,506	6,719	10,258	1.49	4,175	0.60
Jul	3,836	1,343	783	3,491	3,740	0.90	1,343	0.32
Aug	4,663	856	654	2,916	4,406	1.69	770	0.30
Sept	8,219	1,696	1,002	4,468	7,984	1.66	1,579	0.33
Oct	14,074	4,072	1,988	8,868	12,936	1.45	3,773	0.42
Nov	40,176	13,688	4,534	20,222	38,844	1.79	13,170	0.61
Total	205,666	109,904	61,894	276,039	197,084		104,846	
Mean						0.86		0.39

Table 28. Crappies catch and harvest statistics derived at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

	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	82,434	67,297	4,518	154,249	27,470	22,111	1,836	51,417
% of crappie harvested by number	75.0				25.0			
Total weight of crappie (lb)	84,772	10,713	720	73,339	30,677	4,900	407	25,370
% of crappie harvested by weight	74.3				25.7			
Mean length (in)	12.0				11.6			
Mean weight (lb)	0.84				0.88			
Rate (f/h)	0.083				0.031			

Table 29. Monthly black bass angling success at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

Month	Total no. of bass caught	Total no. of bass harvested	No. of black bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/ hour by bass anglers	Bass harvested by bass anglers	Bass harvested/ hour by bass anglers
Feb	1,311		523	2,333	1,311	0.57		
Mar	40,234	4,209	14,602	65,124	38,253	0.54	4,209	0.06
Apr	37,600	3,357	8,817	39,321	30,885	0.67	2,954	0.06
May	99,528	11,869	21,671	96,652	94,302	0.80	11,543	0.10
Jun	43,534	4,294	12,721	56,736	41,744	0.66	4,293	0.07
Jul	19,565	815	6,440	28,720	19,325	0.58	719	0.02
Aug	4,835	513	2,506	11,178	4,449	0.34	471	0.04
Sept	7,897	322	2,957	13,187	7,691	0.54	292	0.02
Oct	8,145	1,198	4,267	19,029	7,905	0.37	1,198	0.06
Nov	2,738	222	1,814	8,089	2,220	0.26	74	0.01
Total	265,386	26,799	76,318	340,368	248,085		25,753	
Mean						0.60		0.06

Table 30. Black bass catch and harvest statistics derived at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

	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	25,958	138,770	62,330	250,981	768	6,887	2,371	13,135		345	114	1,149
% of bass harvested by number	96.9				2.9							
Total weight of bass (lb)	66,679	178,612	80,225	356,307	1,633	6,990	2,407	14,186		174	59.6	582
% of bass harvested by weight	97.6				2.4							
Mean length (in)	16.7				16.0							
Mean weight (lb)	2.44				1.97							
Rate (f/h)	0.028				0.001							

Table 31. Monthly panfish angling success at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

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								
Mar	867	124						
Apr	11,951	6,446	401	1,787	1,343	0.71	1,343	0.71
May	174,338	84,937	14,193	63,298	148,530	2.78	75,136	1.41
Jun	19,083	4,890	2,009	8,958	14,194	2.16	3,579	0.54
Jul	4,412	1,391	534	2,380	3,885	1.95	1,343	0.67
Aug	6,888	984	272	1,215	2,781	3.27	856	1.01
Sept	8,687	1,696	195	872	6,872	12.57	1,462	2.67
Oct	2,396	599	41	185	299	1.25	299	1.25
Nov	4,439	740						
Total	233,061	101,806	17,840	79,563	177,904		84,018	
Mean						2.91		1.29

Table 32. Panfish catch and harvest statistics derived from Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

	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	98,256	36,879	3,210	225,464	3,043	1,069		4,557
% of panfish harvested by number	96.5				3.0			
Total weight of panfish (lb)	22,867	3,037	366	33,345	1,824	140		2,022
% of panfish harvested by weight	92.5				7.4			
Mean length (in)	6.9				9.3			
Mean weight (lb)	0.21				0.57			
Rate (f/h)	0.106				0.003			

Table 33. Monthly catfish angling success at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

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								
Mar	990	371	584	2,605	124	0.04	124	0.04
Apr	8,863	6,177	1,503	6,703	1,074	0.50	1,074	0.50
May	16,007	10,454	2,125	9,476	3,594	0.51	3,376	0.48
Jun	15,147	8,110	4,017	17,916	8,468	0.55	6,083	0.39
Jul	3,932	3,021	854	3,808	2,926	1.09	2,638	0.99
Aug	7,188	4,706	1,253	5,589	6,375	1.02	4,407	0.70
Sept	4,592	2,428	806	3,597	3,304	0.96	2,047	0.59
Oct	3,833	3,354	290	1,293	3,054	1.63	2,755	1.47
Nov	888	222						
Total	61,440	38,843	11,886	53,009	28,919		22,504	
Mean						0.81		0.61

Table 34. Monthly *Morone* angling success at Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

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	262							
Mar	8,294	371						
Apr	23,768	3,089						
May	3,376	653						
Jun	11,689	6,679	670	2,986	8,946	2.23	6,680	1.67
Jul	3,069	1,199	463	2,063	288	0.34	48	0.06
Aug	9,198	3,294	218	972	3,551	4.44	2,995	3.74
Sept	5,206	526						
Oct	7,726	359	124	554	480	4.71		
Nov	22,197	4,957	113	506				
Total	94,785	21,129	1,588	7,081	13,265		9,723	
Mean						2.18		1.61

Table 35. Morone catch and harvest statistics derived from Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

	White bass				Yellow bass			
	Harvest	Release		Total	Harvest	Release		Total
		8.0-14.9 in	≥15.0 in			8.0-14.9 in	≥15.0 in	
Total no. of Morone	6,195	1,989		11,381	13,802	536		82,007
% of Morone harvested by number	29.3				65.3			
Total weight of Morone (lb)	5,538	883		7,838	2,371	65		10,591
% of Morone harvested by weight	53.2				22.8			
Mean length (in)	11.7				7.7			
Mean weight (lb)	0.72				0.19			
Rate (f/hr)	0.006				0.022			

Table 35 (cont). Morone catch and harvest statistics derived from Kentucky Lake (51,000 a) from 16 February through 15 November 2015.

	Striped bass				Hybrid Striped Bass			
	Harvest	Release		Total	Harvest	Release		Total
		8.0-14.9 in	≥15.0 in			8.0-14.9 in	≥15.0 in	
Total no. of Morone	330	79		487	801	536		910
% of Morone harvested by number	1.6				3.8			
Total weight of Morone (lb)	828	73		974	1,668			1,679
% of Morone harvested by weight	8.0				16.0			
Mean length (in)	16.0				16.0			
Mean weight (lb)	1.81				2.13			
Rate (f/hr)	0.001				0.002			

Table 36. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 11.5 hours (23- 30-minute runs) of diurnal electrofishing at Lake Barkley from 21 April to 12 May 2015.

		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											1	1									2	1.3	1.3
	Spotted Bass						1	1	1			1	1									5	3.3	3.3
	Largemouth Bass	2	1	2	4	4	1	5	1	7	5	7	13	17	6	7	3	2		1		88	58.7	19.0
Fords	Smallmouth bass		1										1	2	1							5	3.3	1.8
	Largemouth Bass	1	5	1	8	6	3	5	2	2	5	3	23	28	10	11	5	3				121	80.7	7.7
Middle																								
Little River	Smallmouth Bass								1				1									2	0.7	0.7
	Spotted Bass									1												1	0.3	0.3
	Largemouth Bass	5	2	9	5	8	1	4	15	15	15	24	16	14	19	14	17	4	5	1		193	64.3	14.6
Eddy Cr.	Smallmouth Bass		1	1	1	1		2	1		1	2	1	2				1				14	4.7	2.5
	Spotted Bass											2										2	0.7	0.4
	Largemouth Bass	1	1	6	6		1	6	23	23	38	51	46	27	15	12	10	4	7	1	1	279	93.0	18.6
Upper																								
Nickell Cr.	Smallmouth Bass		1	2	1					1			1									6	6.0	4.0
	Spotted Bass								2													2	2.0	2.0
	Largemouth Bass			1	4		2	5	11	15	17	14	10	6	3	3	6	4	1			102	102.0	22.0
Demumbers	Smallmouth Bass					1																1	1.0	1.0
	Largemouth Bass		1	1	7	5			7	6	15	12	6	7	7	3	1	4	1			83	83.0	9.0
Willow	Largemouth Bass				1	1	2	2	4	6	5	11	5	4	3	3			2			49	98.0	0.0
Total	Smallmouth Bass		3	3	2	2		2	2	1	1	3	5	4	1			1				30	2.6	0.8
	Spotted Bass						1	1	3	1		3	1									10	0.9	0.5
	Largemouth Bass	9	10	20	35	24	10	27	63	74	100	122	119	103	63	53	42	21	16	3	1	915	79.6	7.1

wfdpsdb.d15

Table 37. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Lake Barkley during late April/early May since 2006.

	Mean length			Length group												
	age-3 at	Age-1		<8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥15.0 in		≥20.0 in		Total	
Year	capture	CPUE	Std err	CPUE	Std err		Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
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
2006	13.4	18.4	2.4	15.6	2.2	26.7	2.2	51.8	3.9	30.8	2.4	2.1	0.6	124.2	7.4
Average	13.1	23.8		19.7		23.2		36.2		29.5		1.9		108.5	

(Revised_Barkley_Bass_Database.xlsx)
Data is available since 1985 in previous annual reports
* backcalculated fall age data used in 2015

Table 38. PSD and RSD_{15} values calculated for largemouth bass collected during 11.5 hours (23- 30-minutes runs) of spring diurnal electrofishing at each area of Lake Barkley from 21 May to 12 May 2015. 95% confidence intervals are shown in parentheses.

Area	No. $\geq$8.0 in	PSD	RSD_{15}
Donaldson	75	81 (+/-9)	48 (+/-12)
Fords	100	88 (+/-7)	57 (+/-10)
Little River	164	79 (+/-6)	45 (+/-8)
Eddy Creek	265	80 (+/-5)	29 (+/-6)
Nickell	97	66 (+/-10)	24 (+/-8)
Demumbers	69	81 (+/-9)	33 (+/-10)
Willow	47	70(+/-13)	26 (+/-13)
Total	568	79 (+/-3)	37 (+/-4)

wfdpsdb.d15

Table 39. Lake specific assessment for largemouth bass collected at Lake Barkley from 2005 - 2015. 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 rate (Z) and the annual mortality (A).

	Mean length		Length group						
	age-3 at	CPUE	12.0 - 14.9 in	≥15.0 in	≥20.0 in	Total	Assessment		
Year	capture	age-1	CPUE	CPUE	CPUE	score	rating	Z	A
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		
2006	13.4	18.4	51.8	30.8	2.0			0.431	40.0
Score	4	1	3	3	2	13	G		
Average	13.0	23.8	36.2	29.5	1.9	10.6		0.4	34.3

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 growth data was 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 40. Age frequency and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Lake Barkley in May 2015. 2015 back calculated fall age and growth data was used for 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	9	10	20	35	24	10													108	11	9.4	1.3
2							27	63	67	40									197	22	17.1	2.3
3									7	50	98	65							220	24	19.1	2.6
4										10	24	32	29	24					119	13	10.3	1.1
5												22	44	32	9				107	12	9.3	1.1
6													15	8		21			44	5	3.8	0.6
7													15		35	21	11	8	90	10	7.8	1.0
8																	5		5	1	0.4	0.1
9																		8	8	1	0.7	0.2
11															9		5		14	2	1.2	0.2
Total	9	10	20	35	24	10	27	63	74	100	122	119	103	64	53	42	21	16	912	100		
%	1	1	2	4	3	1	3	7	8	11	13	13	11	7	6	5	2	2	100			

wfdpsdb.d15, wfdagmod.d15

Table 41. 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 Lake Barkley in fall, 2015.

		Age										
Year-class	N	1	2	3	4	5	6	7	8	9	10	11
2014	35	7.1										
2013	24	7.3	11.1									
2012	20	8.2	11.8	13.4								
2011	13	7.1	11.6	13.8	15.1							
2010	13	8.5	11.6	13.7	14.9	15.8						
2009	4	7.9	12.0	13.5	14.7	15.6	16.5					
2008	10	7.9	11.1	13.2	14.7	15.8	17.1	17.9				
2007	1	6.7	12.6	14.4	16.2	18.0	18.9	19.3	19.8			
2006	1	6.1	12.6	14.3	15.9	16.7	17.5	18.4	19.2	20.0		
2004	2	4.8	6.9	8.5	10.1	11.6	12.8	14.2	15.1	16.4	17.3	18.1
Mean		7.5	11.4	13.4	14.7	15.6	16.6	17.5	17.3	17.6	17.3	18.1
Smallest		4.5	6.7	8.5	10.1	11.5	12.3	13.5	14.5	15.6	16.5	17.2
Largest		10.4	13.4	15.2	17.2	18.5	19.3	20.1	19.8	20.1	18.1	19.0
Std. Error		0.1	0.1	0.2	0.3	0.3	0.5	0.5	1.3	1.3	0.8	0.9
Low 95% CI		7.3	11.1	13.1	14.2	15.0	15.7	16.5	14.8	15.1	15.7	16.3
High 95% CI		7.7	11.7	13.8	15.2	16.2	17.5	18.6	19.8	20.1	18.9	19.9

Otoliths were used to make age determinations. Intercept = 0.
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Table 42. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 8.0 hours of diurnal electrofishing (16- 30-minute runs) for black bass in each area of Lake Barkley from 7 - 15 October 2015.

	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
Donaldson																						
Smallmouth bass		4			1	2		3	2					1	1					14	14.0	10.0
Spotted bass	1	2	1								1									5	5.0	5.0
Largemouth bass	14	21	6		2				1	2			7	9	4	1				67	67.0	5.0
Fords																						
Smallmouth bass		11	11	2			1		1											26	26.0	4.0
Spotted bass		2																		2	2.0	2.0
Largemouth bass	15	52	8	2	3	1	2	3	3	1		3	2	7	8	1				111	111.0	41.0
Little River																						
Smallmouth bass			1	1	1	1			2	1			3				1			11	5.5	1.3
Largemouth bass	1	30	26	14	12	4	2		2	6	7	8	18	14	9	6	3	3	1	166	82.5	25.2
Eddy Creek																						
Smallmouth bass				1				2	1				1	2						7	3.5	2.4
Largemouth bass		24	6	8	12	14	3	7	3	11	13	19	38	20	12	7	1	2	3	203	101.5	10.1
Nickel																						
Smallmouth bass		2	12	4	3				1											22	22.0	10.0
Largemouth bass	1	4	4	6	2	7	6			2	5	5	5	2	3					52	52.0	2.0
Demumbers																						
Smallmouth bass		2	11	6	1			1												21	21.0	5.7
Largemouth bass	1	14	11	13	6	7	6			2	6	4	3	1	1					75	75.0	16.9
Total																						
Smallmouth bass		19	35	14	6	3	1	6	7	1			4	3	1		1			101	12.6	2.7
Spotted bass	1	4	1								1									7	0.9	0.7
Largemouth bass	32	145	61	43	37	33	19	10	9	24	31	39	73	53	37	15	4	4	4	673	84.1	8.6

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Table 43. Number of fish and the relative weight (W_r) values for each length group of largemouth collected at Lake Barkley during 8.0 hours (16- 30-minute runs) of diurnal electrofishing from 7 - 15 October 2015. Standard error is shown in parentheses.

		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	Donaldson	3	104	(2)	7	99	(4)	14	102	(2)
	Fords	9	112	(3)	5	101	(2)	16	105	(2)
	Little River	10	105	(3)	33	99	(1)	35	104	(1)
	Eddy Creek	24	102	(1)	70	101	(1)	45	103	(1)
	Nickel	8	105	(4)	15	112	(2)	5	112	(4)
	Demumbers	8	107	(2)	13	106	(2)	2	98	(19)
	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	Donaldson	7	99	(2)				2	94	(9)
	Fords	2	100	(12)						
	Little River	3	93	(1)	1	90	(0)	4	93	(3)
	Eddy Creek	3	91	(5)				3	96	(1)
	Nickel	1	94	(0)						
	Demumbers	1	94	(0)						
	Total	17	96	(2)	1	90	(0)	9	94	(2)

wfdwrb.d15

Table 44. 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	Mean	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2015	4.7	0.1	46.4	6.5	16.6	6.5		
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
2006	4.8	0.2	9.3	1.7	4.0	1.3	6.7	0.7
Average	5.7		40.3		30.5		23.3	

[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.
[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 45. Length frequency and CPUE (fish/nn) of each inch class of white and black crappie collected by trap nets (159 net-nights) at Lake Barkley from 20 October-3 November 2015. 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	6	136	26	3	181	223	85	41	27	4	8	3	1	744	18.6	2.3
	Black crappie	8	45	13	6	16	11	7		4	2	1			113	2.8	0.4
Donaldson Creek	White crappie	1	30	7	10	124	102	32	21	8	10	5	5	2	357	9.2	1.5
	Black crappie	3	117	9	2	32	25	22	54	48	12	1			325	8.3	1.2
Sub-Total	White crappie	7	166	33	13	305	325	117	62	35	14	13	8	3	1,101	13.8	1.5
	Black crappie	11	162	22	8	48	36	29	54	52	14	2			438	5.5	0.7
Crooked Creek	White crappie	101	52	10	100	72	24	41	10	4	2	1			417	10.4	1.4
	Black crappie		14	12		12	14	5	2	11	2	2			74	1.9	0.3
Eddy Creek	White crappie	2	346	99	2	32	63	43	44	16	3			1	651	16.3	2.0
	Black crappie		13	8	2	4	13	10	1	1	3				55	1.4	0.3
TOTAL	White crappie	110	564	142	115	409	412	201	116	55	19	14	8	4	2,169	13.6	1.0
	Black crappie	11	189	42	10	64	63	44	57	64	19	4			567	3.6	0.4

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Table 46. Crappie population parameters used to manage the population at Lake Barkley for 2006-2015, with values determined from fall trap netting. To allow for historical comparisons, only data from Little River and Donaldson Creeks are presented here.

	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
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
2006	2.7	4.9	7.6	0.1	0.1	0.2	10.7	10.5	10.6	2.7	1.0	3.6	3.8	2.2	6.0	1.0	0.4	1.3
Average	3.5	2.3	5.9	5.0	1.4	6.4	11.3	10.5	10.9	2.5	1.3	3.7	2.7	1.4	4.2	1.2	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 2005 is listed in previous annual reports.

Revised_Barkley_Crappie_Database

Table 47. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected by trap-nets (159 net-nights) at Lake Barkley during weeks of 20 October and 3 November 2015. 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	547	29 (+/-4)	7 (+/-2)
	Black crappie	47	30 (+/-14)	15 (+/-11)
Donaldson	White crappie	319	26 (+/-5)	9 (+/-3)
	Black crappie	193	70 (+/-7)	31 (+/-7)
Sub-Total	White crappie	893	28 (+/-3)	8 (+/-2)
	Black crappie	240	62 (+/-6)	28 (+/-5)
Crooked Creek	White crappie	264	31 (+/-6)	6 (+/-3)
	Black crappie	48	46 (+/-15)	31 (+/-13)
Eddy Creek	White crappie	203	52 (+/-6)	10 (+/-4)
	Black crappie	34	44 (+/-17)	12 (+/-10)
Total	White crappie	230	77 (+/-5)	43 (+/-6)
	Black crappie	282	41 (+/-6)	6 (+/-3)

wfdtpntb.d15 wfdpntb1.d15

Table 48. 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 weeks of 20 October and 3 November 2015.

		Age					
Year class	N	1	2	3	4	5	6
2014	154	4.9					
2013	23	5.4	9.6				
2012	4	5.0	9.1	11.4			
2011	3	5.1	9.7	11.4	12.8		
2010	9	4.9	7.7	10.7	11.9	12.9	
2009	2	4.2	6.8	9.0	11.1	12.1	12.9
Mean		4.9	9.0	10.8	12.0	12.7	12.9
Smallest		3.0	6.2	8.8	11.0	12.1	12.7
Largest		8.2	11.5	12.1	13.1	13.8	13.1
Std err		0.1	0.2	0.2	0.2	0.2	0.2
Low 95% CI		4.8	8.6	10.4	11.6	12.4	12.5
High 95% CI		5.0	9.4	11.2	12.3	13.0	13.3

* Intercept = 0.
wfdtnagb.d15

Table 49. 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 weeks of 20 October and 3 November 2015.

		Age			
Year class	N	1	2	3	4
2014	74	4.5			
2013	48	4.5	8.0		
2012	3	4.5	8.4	10.5	
2011	2	4.5	8.5	10.8	12.0
Mean	127	4.5	8.1	10.6	12.0
Smallest		3.4	6.0	8.7	11.9
Largest		8.4	10.2	11.6	12.1
Std err		0.1	0.1	0.5	0.1
Low 95% CI		4.4	7.8	9.6	11.9
High 95% CI		4.6	8.3	11.6	12.2

* Intercept = 0.
wfdtnagb.d15

Table 50. Age frequency and CPUE (fish/nn) of white crappie collected during 159 net-nights at Lake Barkley (Little River, Donaldson Creek, Crooked Creek, and Eddy Bay) during weeks of 20 October and 3 November 2015. Little River and Donaldson Creek also shown separately for historical comparison.

Little River and Donaldson Creek

	Inch class															
Age	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	Std err
0	166	30	1										197	18	2.5	0.5
1		3	12	305	325	113	60	35	2				855	78	10.8	1.1
2						4	2		12	9			27	2	0.3	0.1
3										3			3	0	0.0	0.0
4											2		2	0	0.0	0.0
5										1	5	2	8	1	0.1	0.0
6											1	2	3	0	0.0	0.0
Total	166	33	13	305	325	117	62	35	14	13	8	4	1,095		13.9	
%	15	3	1	28	30	11	6	3	1	1	1	0				

Lake Barkley Total

	Inch class															
Age	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	Std err
0	613	167	2										782	36.2	9.9	1.3
1		17	23	437	460	177	142	61	3				1,320	61.1	16.7	0.6
2						7	5		18	9		1	40	1.9	0.5	0.0
3										3		1	4	0.2	0.1	1.0
4											2		2	0.1	0.0	2.0
5										1	5	4	10	0.5	0.1	0.0
6											1	3	4	0.2	0.1	0.0
Total	613	184	25	437	460	184	147	61	21	13	8	9	2,162		13.6	1.0
%	56	17	2	40	42	17	13	6	2	1	1	1				

wfdtpntb.d15 and wfdtnagb.d15

Table 51. Age frequency and CPUE (fish/nn) of black crappie collected during 79 net-nights at Lake Barkley (Little River, Donaldson Creek, Crooked Creek, and Eddy Bay) during weeks of 20 October & 3 November 2015. 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	162	22									195	44	2.5	0.4
1				8	48	33	17		3	4		113	26	1.4	0.2
2						3	12	54	47	11		127	29	1.6	0.4
3									3		1	4	1	0.1	0.0
4											1	1	0	0.0	0.0
Total		162	22	8	48	36	29	54	53	15	2	440		5.5	
%		37	5	2	11	8	7	12	12	3	0				

Lake Barkley Total

	Inch class														
Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	Std err
0		189	42									231	40	2.9	0.1
1				22	64	58	26		4	6		180	31	2.3	0.1
2						5	18	57	58	15		153	27	1.9	0.1
3									4		2	6	1	0.1	0.0
4											2	2	0	0.0	0.0
Total		189	42	22	64	63	44	57	66	21	4	572		3.6	0.4
%		43	10	5	15	14	10	13	15	5	1				

wfdtpntb.d15 and wfdtnagb.d15

Table 52. Lake specific assessment for crappie collected at Lake Barkley (Little River and Donaldson Creek) from 2006 - 2015. 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
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		
2006	7.6	6.0	0.2	3.6	10.6			1.357	74.3
Score	3	3	1	2	3	12	F		
Average	5.9	4.2	6.3	3.7	10.9	13.1		1.0	61.0

Rating

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

(Revised_Barkley_Crappie_Database.xlsx)

Table 53. Length frequency and CPUE (fish/hr) of channel, blue, and flathead catfish collected from Lake Barkley in June 2015 from low pulse (15 PPS) electrofishing along the main lake river channel. A chase boat was used. A total of 4.75 hours of sampling consisting of 57- 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	24	30	32	38	41	Total	CPUE	Std Err
Channel catfish	4	15	7	5	3	2	4	5	6	2	3	2					1								59	12.9	2.3
Blue catfish		6	10	2	8	23	20	45	99	67	85	55	27	11	7	6	1	1	1	1	1	1	1	1	479	105.0	14.3
Flathead catfish						1		1		3	1	1	2	1					1			1			12	2.6	0.9

wfdcatb.d15

Table 54. Relative weight (W_r) of each length group of blue, channel, and flathead catfish collected from Lake Barkley during June 2015. 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
	357	96	0.4	4	99	2.8	4	106	8.4	365	96	0.4

	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
	18	96	2.5	1	93		0			19	96	2.4

	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
	8	90	1.8	1	109		1	114		10	88	4.7

wfdcatb.d15

Table 55. 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 2015. Age and growth data from 2014 was used to calculate the appropriate values.

	Inch class																		
Age	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	*Total	%	*CPUE	Std Err
1	10	2	3													15	3	3.2	0.6
2			5	23	20	34										82	18	18.0	6.5
3						11	99	67								177	38	38.9	7.2
4									85	55						140	30	30.7	3.2
5											18		2			20	4	4.4	0.8
6											9	11	5	2		27	6	5.9	1.0
7														4		4	1	0.9	0.4
9															1	1	0	0.2	0.3
Total	10	2	8	23	20	45	99	67	85	55	27	11	7	6	1	466			
%	2	0	2	5	4	10	21	14	18	12	6	2	2	1	0				

wfdcatb.d15 and wfdbcatg.d14

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

Table 56. 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 2015. 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	15	7	5						27	57	5.9	1.7
2				2	2	1	2		7	15	1.4	0.4
3					2	4	3		9	19	2.0	0.5
4							2	2	4	9	0.8	0.4
Total		7	5	2	4	5	7	2	47			
%		15	11	4	9	11	15	4				

wfdcatb.d15 and wfdcatag.d14

* fish >13.0 in TL were excluded, as these fish were not represented in the 2014 age data set.

Table 57. Length frequency and CPUE (fish/nn) of each inch class of white and yellow bass collected by trap nets (10 net-nights) at Lake Barkley on 10 November 2015.

		Inch class									
Area	Species	3	5	6	7	8	9	14	Total	CPUE	Std err
Donaldson Creek	White bass				1			1	2	0.2	1.5
	Yellow bass	8	9	9	28	21	8		83	8.3	1.2

wfdtnybb.d15

Table 58. Mean back-calculated length (in) at each annulus of yellow bass including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley (Donaldson Creek) on 10 November 2015.

		Age					
Year class	N	1	2	3	4	5	6
2014	16	4.0					
2013	5	4.1	6.3				
2012	19	4.0	6.0	7.4			
2011	4	4.1	6.2	7.7	8.6		
2010	5	3.5	5.4	6.9	7.9	8.5	
2009	2	4.0	5.9	6.7	7.8	8.4	9.1
Mean	51	4.0	6.0	7.3	8.1	8.5	9.1
Smallest		3.3	5.1	6.3	7.1	7.9	9.1
Largest		4.6	6.8	8.4	9.0	9.0	9.1
Std err		0.0	0.1	0.1	0.2	0.1	0.0
Low 95% CI		3.9	5.8	7.1	7.8	8.2	9.1
High 95% CI		4.0	6.1	7.5	8.4	8.8	9.1

* Intercept = 0.
wfdtnagb.d15

Table 59. Age frequency and CPUE (fish/nn) of yellow bass collected during 10 net-nights at Lake Barkley (Donaldson Creek) on 10 November 2015.

	Inch class									
Age	3	5	6	7	8	9	Total	%	CPUE	Std err
0	8						8	10	0.8	0.5
1		9	8	2			19	23	1.9	1.1
2			1	7			8	10	0.8	0.4
3				19	17	1	37	44	3.7	1.5
4					2	2	4	5	0.4	0.2
5					3	3	6	7	0.6	0.3
6						2	2	2	0.2	0.1
Total	8	9	9	28	22	8	84		1.1	
%	10	11	11	33	26	10				

wfdtnybb.d15 and wfdybagb.d15

Table 60. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Lake Beshear during 2015.

	Inch class																						
Season	2	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		3	3	3		2	10	5	2	5	17	17	10	16	30	36	23	27	12	5	3	229	91.6	3.9
Fall	4	34	24	7	7	16	20	7	6	6	12	3	4	9	10	9	4	3	3			188	94.0	13.9

wfdpsdlb.d15 and wfdwrlb.d15

Table 61. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Lake Beshear during April or May of 2006 to 2015.

				Length group															
	Mean length age-3 at	Age-1		<8.0 in		≥12.0 in		12.0 - 14.9 in		≥15.0 in		≥18.0 in		≥20.0 in		Total			
Year	capture	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}
2015	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	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	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	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	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	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	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	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
2006	13.8	24.8	7.8	27.6	8.2	41.2	5.6	7.2	2.9	34.0	3.0	18.0	1.9	4.8	1.5	84.0	13.3	73	60
Average	13.6	14.7		14.3		54.2		13.6		40.6		18.9		5.0		86.4		75.3	56.3
LBFMP	≥ 12.0 in	≥ 10				≥ 45		≥ 15		≥ 30				≥ 3				55 - 75	20 - 40

(Lake Beshear Bass Database.xls)

Data for 1985 - 2005 is listed in previous year reports.

LBFMP - Lake Beshear Fish Management Plan objective goal.

Table 62. Lake specific assessment for largemouth bass collected at Lake Beshear from 2006 - 2015. 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	≥15.0 in CPUE	≥20.0 in CPUE	Total score	Assessment rating	Z	A
2015[BC]	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	3	4	3	14	G		
2013[A]	13.3	33.8	18.0	45.0	6.0			0.355	29.9
Score	3	4	3	4	3	17	E		
2012[A]	13.3	27.6	8.8	38.0	4.4			0.291	25.2
Score	3	4	1	3	3	14	G		
2011	13.3	11.7	17.5	47.5	5.5			0.194	17.6
Score	3	2	3	4	3	15	G		
2010[A]	13.8	22.3	11.3	39.7	3.7			0.297	25.7
Score	4	3	2	3	2	14	G		
2009[A]	13.8	5.2	6.0	29.6	4.4			0.142	13.2
Score	4	1	1	3	3	12	G		
2008[A]	13.8	10.4	11.2	20.8	3.6			0.316	27.1
Score	4	2	2	2	2	12	G		
2007[A]	13.8	25.0	15.0	35.3	4.7			0.344	29.1
Score	4	3	2	3	3	15	G		
2006	13.8	24.8	7.2	34.0	4.8			0.262	23.0
Score	4	3	1	3	3	14	G		
Average	13.6	16.7	13.1	39.4	4.9	14.4		0.280	23.5

Data from 1985 to 2005 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.

[C] Assessment Quartiles were updated.

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

Lake Beshear Bass Data Base

Table 63. 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.

	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
2015	3.9	0.1	34.5	7.0	3.5	1.5		
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
2006	4.2	0.1	23.0	7.5	3.0	1.9	25.0	4.2
Average	4.6		29.6		11.4		15.7	

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

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

WFDWRLB.Dxx, WFDWRAGB.Dxx, WFDPSDLB.Dxx

Table 64. Relative abundance of catfish collected at Lake Beshear using multiple sampling methods during June of 2015. Four 100-hook trot lines were fished for three nights. Three sets of trandem hoop nets were fished for three nights.

		Inch class																
Method	Species	12	13	14	15	16	17	18	19	20	21	22	23	26	29	Total	CPUE	Std Err
Hoop nets																		
	Channel catfish	2	3	8	13	19	28	17	10	1	4	1				106	94.3	13.9
Trot lines																		
	Channel catfish		2	4	7	6	10	11	11	1		1				53	5.9	1.2
	Blue catfish					1	10	21	15	4	2	2	1	1	1	58	6.4	0.9
Total																		
	Channel catfish	2	5	12	20	25	38	28	21	2	4	2	0		0	159		
	Blue catfish	2	3	8	13	20	38	38	25	5	6	3	1	1	1	58		

wfdcatlb.d15

Table 65. Number of catfish and relative weight (Wr) for each length group of catfish collected at Lake Beshear during June 2015. Standard errors are in parentheses.

	Length group								
	11.0-16.0 in			16.0-24.0 in			All sizes		
Species	No.	Wr		No.	Wr		No.	Wr	
Channel catfish	39	90	(1)	119	99	(1)	158	97	(1)

	Length group								
	12.0-20.0 in			20.0-30.0 in			All sizes		
Species	No.	Wr		No.	Wr		No.	Wr	
Blue catfish	45	87	(1)	11	91	(2)	56	88	(1)

wfdhcatlb.d15

Table 66. Mean back-calculated length (in) at each annulus for blue catfish collected from Lake Beshear. Otoliths were collected from Lake Beshear during June 2015. Back-calculated length estimates should be used with caution.

		Age									
Year class	N	1	2	3	4	5	6	7	8	9	10
2008	9	4.2	8.4	10.7	12.7	15.1	16.4	18.3			
2007	4	4.2	7.9	10.3	12.2	14.0	15.4	17.1	18.3		
2006	9	4.0	8.3	10.4	12.1	14.0	15.6	17.1	18.7	19.8	
2005	9	4.1	7.7	9.9	11.8	13.6	15.3	17.1	18.6	20.1	21.3
Mean		4.1	8.1	10.3	12.2	14.2	15.7	17.4	18.6	19.9	21.3
Smallest		3.3	6.3	8.2	10.2	11.6	13.0	14.4	15.7	16.6	17.4
Largest		5.5	10.4	13.3	15.9	19.1	21.1	23.5	25.6	27.4	28.7
Std Err		0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.7	1.3
Low 95% CI		3.9	7.7	9.9	11.7	13.6	15.1	16.7	17.6	18.6	18.8
High 95% CI		4.3	8.5	10.7	12.7	14.8	16.3	18.1	19.6	21.2	23.8

* Intercept = 0.

wfdlbcag.d15

Table 67. Age frequency of blue catfish collected at Lake Beshear from June 2015 using multiple sampling methods. No CPUE was calculated since multiple sample methods were used.

	Inch class												
Age	16	17	18	19	20	21	22	23	24	25	26	Total	Percent
7	1	6		3	1	1						12	21
8		1	6	3								10	19
9			11	8	1		2	1				23	39
10		3	4	3	1	1					1	13	21
Total	1	10	21	17	3	2	2	1			1	58	100
%	2	18	37	26	7	4	4	2			2		

wfdcatlb.d15 and wfdlbcag.d15

Table 68. Mean back-calculated length (in) at each annulus for channel catfish collected from Lake Beshear. Otoliths were collected from Lake Beshear during June 2015.

		Age													
Year class	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2013	1	6.5	11.6												
2012	15	5.6	10.1	14.0											
2011	1	4.3	9.7	12.9	15.1										
2010	1	3.4	5.6	10.1	12.4	14.4									
2008	5	3.9	7.6	10.1	12.1	14.0	15.7	17.4							
2007	13	4.5	7.3	9.6	11.7	13.5	15.3	16.9	18.1						
2006	11	4.1	7.0	9.2	11.0	12.8	14.5	16.1	17.5	18.6					
2005	2	3.8	7.5	9.5	11.1	13.0	14.6	16.0	17.4	18.7	19.4				
2003	2	4.0	6.4	7.8	9.3	10.6	12.2	13.8	15.2	16.3	17.8	18.9	19.7		
2002	1	4.4	6.2	7.8	9.0	10.3	11.1	11.8	12.5	13.2	13.9	14.6	15.3		
2001	1	3.2	6.7	8.4	9.9	11.1	12.3	13.5	15.0	15.9	17.2	18.3	19.4	20.7	21.5
Mean		4.6	8.1	10.8	11.4	13.0	14.7	16.2	17.3	17.9	17.6	17.7	18.5	20.7	21.5
Smallest		2.4	5.3	7.3	8.7	9.9	11.1	11.8	12.5	13.2	13.9	14.6	15.3	20.7	21.5
Largest		6.9	11.6	15.6	15.1	16.8	19.1	20.4	22.0	21.5	21.0	20.1	21.0	20.7	21.5
Std Err		0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.6	1.0	1.1	1.2		
Low 95% CI		4.3	7.6	10.1	10.9	12.5	14.1	15.6	16.6	16.7	15.7	15.4	16.2		
High 95% CI		4.9	8.6	11.4	11.9	13.6	15.3	16.9	18.1	19.0	19.5	19.9	20.9		

* Intercept = 0.

wfdlbcag.d15

Table 69. Age frequency of channel catfish collected at Lake Beshear from June 2015 using multiple sampling methods.

	Inch class												
Age	12	13	14	15	16	17	18	19	20	21	22	Total	Percent
2	1											1	1
3	1	5	10	7	4							27	17
4				3								3	2
5			2									2	1
7				3		13	4	4				24	15
8				3	11	6	14	14			2	50	31
9					11	19		3	2	2		37	23
10							5					5	3
12							5			1		6	4
13				3								3	2
14										1		1	1
Total	2	5	12	19	26	38	28	21	2	4	2	159	
%	1	3	8	12	16	24	18	13	1	3	1		

wfdcatlb.d15 and wfdlbcag.d15

Table 70. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass, bluegill and redear sunfish collected during 1.25 hour (5- 900s-runs) of diurnal electrofishing at Lake Pennyrile on 28 April, 2015.

	Inch class																							Std
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	20	21	22	23	Total	CPUE	err
Largemouth bass			8	16	25	4	2	9	21	42	14	5		6	1	1	1		1			156	124.8	10.6
Bluegill	17	21	21	44	40	21	60	40														264	211.2	14.1
Redear sunfish		1	1	5	9	1	5	23	17	1												63	50.4	18.1
White crappie									2	3	3	1										9	7.2	2.7
Longear sunfish		9	16	24	18	5																72	57.6	9.5
Warmouth		2	1	1		4	8															16	12.8	3.2
Channel catfish																1		2	1	1	1	6	4.8	3.9

wfdpsdp.d15

Table 71. Spring, diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Pennyrile Lake from 2006-2015.

	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
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
2006	81.0	21.6	105.0	11.8	26.0	5.0	6.0	2.6	1.0	1.0	218.0	30.3
Mean	45.7		64.3		13.1		3.2		1.2		126.6	

wfdpsdp.dxx

Data from 1990 to 2005 is listed in previous year reports.

*Did not sample

Table 72. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Lake Pennyrile during May from 2005-2015.

		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											
	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
	2005	51.7	20.0	262.6	64.0	45.1	13.4	1.1	1.1	360.4	72.3
	Mean	18.6		83.3		43.0		9.6		149.8	

		Length group									
		< 3.0 in		3.0 - 5.9 in		6.0 - 7.9 in		≥ 8.0 in		Total	
Redear sunfish											
	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
	2005	1.1	1.1	37.4	12.8	27.5	10.7	23.1	5.3	89.0	28.7
	Mean	1.6		14.6		14.3		21.7		51.4	

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

Table 73. PSD and RSD values obtained for largemouth bass, bluegill and redear sunfish collected during 1.25 hours of diurnal electrofishing (5- 900s-runs) at Lake Pennyrile on 28 April 2015. 95% confidence intervals are in parentheses.

Species	N	PSD	RSD*
Largemouth bass	101	15 (+/-7)	4 (+/-4)
Bluegill	226	54 (+/-6)	18 (+/-5)
Redear sunfish	61	75 (+/-10)	30 (+/-12)

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

wfdpsdp.d15

Table 74. Lake specific assessment for largemouth bass collected at Pennyrile Lake from 2006 - 2015. 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
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		
2006	68.3	26.0	6.0						
Score	3	2	2		1	8	F		
Average	32.9	13.0	3.2	1.0	11.7				

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

Stream Fishery Surveys – Warmwater Streams

FINDINGS

Lower Tennessee River

Diurnal electrofishing (120 PPS DC current) was conducted on September 14 and 21 of 2015 in the lower Tennessee River (TRM 22.4) below Kentucky Lake Dam downstream to river mile 17. The tailwater elevation was 301.4 FASL, while discharge was around 27,800 CFS. During each thirty minute sampling run, non-sportfish species were dipped only during the first 900 seconds, and all sport fish were dipped the full sample. A total of 4.0 hours of sampling yielded 750 sportfish including catfish, comprising 15 species (Table 1). The catch rate was 187.5 fish/hr. This is slightly higher than the 184.8 fish/hr collected during the 2013 study. Of the sportfish collected in the most recent study, channel catfish had the highest catch rate at 45.3 fish/hr. The catch rate (40.3 fish/hr) for largemouth bass was down from the 85.3 fish/hr collected in 2011, but similar to 47.3 fish/hr collected in 2013. It is speculated that in 2011, flooding and high discharge rates from the lake might have moved fish from the reservoir into the lower river. The catch rate for all catfish was 54.3 fish/hr in the most recent study, as compared to approximately 18.0 fish/hr collected in 2013. Low pulse (15 PPS) DC current was used to help collect catfish in some of the sampling locations. The catch rates of catfish in all of these surveys should always be used with caution because the amount of time dedicated to low pulse (15pps DC current) shocking was at the discretion of the driver and was typically based on an anticipation of higher catch rates due to habitat differences such as greater depth and the presence of woody debris. Of the 4.0 hours sampling, 2.0 hours were exerted to collect non-sportfish species. This effort resulted in a catch rate of 220.0 fish/hr, which included 18 different species. The catch rate of the non-sportfish species was higher than that observed during the 2013 study (157.9 fish/hr).

Lower Cumberland River

The lower Cumberland River was sampled using diurnal electrofishing on 17 and 22 September 2015 below Lake Barkley Dam (CRM 30.6) and near Dycusburg, KY (CRM 20.0). A total of 4.0 hours of electrofishing yielded 783 sportfish, comprised of 14 species (Table 2). The catch rate for sportfish was 195.8 fish/hr as compared to 166.0 fish/hr collected during a similar study in 2013. As seen in previous years, largemouth bass and bluegill accounted for the highest catch rates of all sportfish species (43.3 fish/hr and 45.8 fish/hr, respectively). Additionally, largemouth bass greater than 15.0 in had a catch rate of 4.5 fish/hr. Of the 4.0 hours of sample time, 2.0 hours were exerted for rough fish as well. The catch rate of silver carp was 18.0 fish/hr, as compared to 38.2 fish/hr collected during the 2013 study. However, those catch rates for silver carps and longnose gars should be used cautiously because their size prevented us from netting roughly 80% of the fish we observed.

Ohio River

The Ohio River was sampled using diurnal electrofishing on 16 and 23 September 2015. Sampling areas included Smithland Tailwater (ORM 918.5-920.1) and the area between Dam #52 and Shawnee Steam Plant (ORM 938.9-946.4). A total of 281(70.3 fish/hr) sportfish, comprised of 13 species were collected (Table 3). In a similar study in 2013, the catch rate of sport fish was 64.0 fish/hr. The catch rate for largemouth bass (5.0 fish/hr) was lower than what was reported in 2011 (16.0 fish/hr), but was higher than 2013 (2.0 fish/hr). Blue catfish had the highest catch rate (12.5 fish/hr). This was up from a catch rate of 5.0 fish/hr observed in 2013. Low pulse (15 PPS) DC current was used to help collect catfish in some of the sampling locations. Two hours were expended to collect rough fish. This was dominated by smallmouth buffalo and common carp. As was the case in the Cumberland, numerous silver carp and large gar were seen, but not always collected.

Mississippi River

The Mississippi River was sampled at two locations on September 18 and 25 of 2015 by diurnal electrofishing. The first site was near Wickliffe, KY. The second site was near Columbus Belmont, KY. The river stage was +12 feet at Columbus Belmont and +17 at Wickliffe. The 4.0 hours of sampling effort yielded 271 (67.8 fish/hr) sportfish comprised of 8 different species, including catfish (Table 4). In 2013, 10 species of sportfish were collected at a rate of 55.1 fish/hr. Similar to 2013, white bass and catfish species made up the majority of sportfish collected. White bass were collected at a rate of 8.3 fish/hr, down from 14.0 fish/hr collected in 2013. The catch rate for all catfish was 56.0 fish/hr, which was up from the 34.9 fish/hr collected in 2013. Low pulse (15 PPS) DC current was selectively used to collect catfish species in both studies. The 2.0 hours of effort for non-sportfish yielded 125 fish, made up of 12 different species. As was the case in other systems this year, numerous silver carp and large gar were seen, but not always collected.

Table 1 . Relative species abundance and size distribution of species collected during diurnal electrofishing (PPS 120) on the Lower Tennessee River on 14 and 21 September 2015. Sample sites were in the area of river mile 22 and 17. Total effort for sportfish was 4.0 hours and 2.0 hours for rough fish. The first 900 seconds of each 1,800 second sampling run was directed at all fish species. The remaining time was directed at sportfish only, which included catfish and bluegill. Low pulse (15 PPS) was used for short periods of time in some areas.

	Inch class																																				
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	34	38	40	Total	CPUE	Std err
Channel Catfish		14	48	3	2	4	5		1			2	3	4	8	16	17	13	10	9	5	7	3	4	1	2									181	45.3	17.7
Blue Catfish																	1																		1	0.3	0.3
Flathead Catfish			3	2		1	2	2	5	5	2	3	1	2	3	1		2										1							35	8.8	3.2
White Bass	11	11	9	14	11	11	3																												70	17.5	6.3
Striped Bass		1		1																															2	0.5	0.3
Hybrid Striped Bass			3	7	8	7	3																												28	7.0	2.5
Yellow Bass	30	56	6	13	3																														108	27.0	8.2
Bluegill	59	12	14	9	8	3	1																												106	26.5	12.5
Redear Sunfish					2			1																											3	0.8	0.4
Spotted Bass				1	3			1																											5	1.3	0.8
Largemouth Bass			3	21	52	43	10	1	2	1	2	2	7	4	2	7	2	1		1															161	40.3	11.3
Smallmouth Bass			1	12	7	5			1	1	1			1		1	1																		31	7.8	2.1
White Crappie			3		1																														4	1.0	0.5
Black Crappie			2	1		1	1	2																											7	1.8	1.0
Sauger					1	2	5																												8	2.0	0.6
Longear Sunfish	37	8	24	17	3																														89	44.5	15.4
Green Sunfish	9	5	3	4				1																											22	11.0	4.5
Warmouth Sunfish	1			2																															3	1.5	0.7
River Carpsucker															1																				1	0.5	0.4
Spotted Sucker															1																				1	0.5	0.4
Smallmouth Buffalo			3		1	1						1	1	2	1																				10	5.0	2.2
Bigmouth Buffalo													1	3																					4	2.0	1.0
Black Buffalo											1	1	1	3				1				1													8	4.0	2.3
Freshw ater Drum		108	48	6	5	2	2	2	1	1					1			1						1											178	89.0	55.4
Common Carp		1			1														1		2	2	1	1	1										10	5.0	2.2
Silver Carp				1	3	2	1	1									1			4	3	3		2	1				1						23	11.5	7.4
Grass Carp				2	1	2	1	2	1	1	3	1	1											1											16	8.0	3.8
Longnose Gar									2	1	6	3	4	9	4	2	1	1	1									2	1	1	1	1	1	1	42	21.0	4.9
Shortnose Gar									1			4			1						1	1													8	4.0	1.6
Spotted Gar								1																											1	0.5	0.4
Quillback		3	5																																8	4.0	2.3
Greater Redhorse			2	5				1				1	1																						10	5.0	1.9
Bow fin																		1		2				1	1		1								6	3.0	2.2

wfdtrsp.d15 and wfdtrrf.d15

Table 2 . Relative species abundance and size distribution of species collected during diurnal electrofishing (120 PPS) on the Lower Cumberland River on 17 and 22 September 2015. Sample sites were in the area of river mile 30 and 20. Total effort for sportfish was 4.0 hours and 2.0 hours for rough fish. The first 900 seconds of each 1,800 second sampling run was directed at all fish species excluding shad and small cyprinids. The last 900 seconds of each run was directed at sportfish only. Low pulse (15 PPS) was used for approximately 0.75 hours of the total sample time.

	Inch class																																			
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	33	35	40	48	Total	CPUE	Std err
Blue Catfish	2		6																																8	2.0	1.0
Channel Catfish		4	10	1	1	3	1				1	1		1	2	6			1		1														33	8.3	1.8
Flathead Catfish		4	5	3	3	9	8	14	6	5	6	5	4	1	2	3					1			1											80	20.0	2.0
White Bass		3	10	5	7	6	5			2	1		1																						40	10.0	1.9
Hybrid Striped Bass				2	1	1	3			1																									8	2.0	2.2
Yellow Bass	38	62	5	13	1	1	1	1	1	1																									124	31.0	0.3
Bluegill	46	32	28	38	20	16	3																												183	45.8	11.4
Redear Sunfish		2	7	4	3	3				1																									20	5.0	0.9
Spotted Bass		5	18	13					1	3	2																								42	10.5	3.8
Largemouth Bass	1		3	9	29	46	18	7	8	2	4	13	15	5	3	4	2	3	1																173	43.3	15.5
Smallmouth Bass			4	21	20	6		1	2			1																							55	13.8	1.1
Black Crappie				1		4	1	2	1	2	1																								12	3.0	1.2
White Crappie						2							1																						3	0.8	0.3
Sauger					2																														2	0.5	0.3
Spotted Gar																										1									1	0.5	0.5
Longnose Gar											1	1	2		1	1	2	3	2	1		2	1	1	1	4		1				2		1	27	13.5	4.9
Grass Carp				2																				1		1	1			1			1		7	3.5	1.6
Common Carp				1																		2	1	1	1										6	3.0	2.5
Silver Carp																				2	3	2	4	5	5	2	5	1	3	3	1				36	18.0	6.5
River Carpsucker												1	1		1			1																	4	2.0	1.1
Smallmouth Buffalo		4	9											1	6	4	2	1	1	1	2														31	15.5	7.7
Bigmouth Buffalo																				1															1	0.5	0.5
Black Buffalo													2	3																					5	2.5	1.5
Golden Redhorse			1													1																			2	1.0	0.7
Green Sunfish		3	1	3	5	2																													14	7.0	4.1
Warmouth	1		2																																3	1.5	1.1
Longear Sunfish	65	41	94	73	7																														280	140.0	29.6
Freshwater Drum		2	5		8	1	4	4	3	1	2	1		1	2	1	1	2	1	1															40	20.0	4.5

wfdcr.d15

wfdcrr.d15

Table 3 . Relative species abundance and size distribution of species collected during diurnal electrofishing (120 PPS) on the Ohio River on 16 and 24 September 2015. Sample sites were in the area of river mile 944 and 920. Total effort for sportfish was 4.0 hours and 2.0 hours for rough fish. The first 900 seconds of each 1,800 second sampling run was directed at all fish species excluding shad and small cyprinids. The last 900 seconds of each run was directed at sportfish only. Low pulse (15 PPS) was used for approximately 0.75 hours of the total sample time.

	Inch class																																	
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	23	24	25	27	28	30	31	33	34	35	Total	CPUE	Std err
Blue Catfish		4	13	5	1		6	5	5				1		1	2	2	2	1			1	1									50	12.5	3.5
Channel Catfish		1	4	4	2	2			1			2			1		11	2	4	2												36	9.0	1.1
Flathead Catfish				1			3	5	2	1	4				1	3	2	1	1		2	1	1			1						29	7.3	3.1
White Bass				5	8	4	6																									23	5.8	2.3
Hybrid Striped Bass					2	2	1							1			1															7	1.8	0.9
Yellow Bass		10	26	1																												37	9.3	8.7
Bluegill		2	6	3	3	2	1																									17	4.3	1.7
Redear Sunfish		1	1	1	5	5	1	2	4	1																						21	5.3	2.9
Spotted Bass			3	6	16	4	1	2				1	1	2	1																	37	9.3	2.3
Largemouth Bass				2	5	5	3	1	1	1			1	1																		20	5.0	2.5
Black Crappie									1																							1	0.3	0.3
Sauger												1						1														2	0.5	0.3
Walleye						1																										1	0.3	0.3
Spotted Gar									1														1									2	1.0	0.7
Longnose Gar				1					3	1		2		1						1				2	1	2	1	1				16	8.0	2.3
Grass Carp					1																											1	0.5	0.5
Common Carp				1	2	2	5	3	1			1						1	1	3			1									21	10.5	4.8
Silver Carp				1			1													1	1					1			1	2	1	9	4.5	3.4
Highfin Carpsucker														1																		1	0.5	0.5
Smallmouth Buffalo			4	10	2										2	2																20	10.0	3.8
Bigmouth Buffalo																			1		3	1		1								6	3.0	2.5
Black Buffalo															2	1	3	2	1		1											10	5.0	3.4
Spotted Sucker				1																												1	0.5	0.5
Longear Sunfish	1	2	7	5	2	1																										18	9.0	4.8
Freshwater Drum			1	1		1				1		1			1	1	1	2					1									11	5.5	1.8

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Table 4 . Relative species abundance and size distribution of species collected during diurnal electrofishing (120 PPS) on the Mississippi River on 18 and 25 September 2015. Sample sites were in the area of river mile 950 and 936. Total effort for sportfish was 4.0 hours and 2.0 hours for rough fish. The first 900 seconds of each 1,800 second sampling run was directed at all fish species. The remaining time was directed at sportfish only, which included catfish and bluegill. Low pulse (15 PPS) was used for a short periods during the total sample time.

	Inch class																																			
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	36	Total	CPUE	Std err
Blue Catfish	8	13	2	1		1	3	2	4						1	2	1	3	1	1	1	3	3	3	7	4	3			2				69	17.3	5.3
Channel Catfish	1	5	2				3								1	1	1	2																16	4.0	1.4
Flathead Catfish		7	6	9	13	24	12	10	7	8	8	5	4	1	4	2	1	1		3	3		2	3	1	1			1	1	1	1		139	34.8	11.6
White Bass			3	6	4	7	1		1		4	2	2		1		1					1												33	8.3	4.1
Hybrid Striped Bass					2														2															4	1.0	0.5
Yellow Bass	1	1					1																											3	0.8	0.4
Bluegill	1	5																																6	1.5	1.5
Largemouth Bass							1																											1	0.3	0.3
American Eel																											1							1	0.5	0.5
River Carpsucker												1																						1	0.5	0.5
Blue Sucker																1		2					3	2	3	1	1					1		14	7.0	3.8
Smallmouth Buffalo												1				5	4	1	1			3						1						16	8.0	4.4
Bigmouth Buffalo																				1		2												3	1.5	1.5
Black Buffalo																				2														2	1.0	0.7
Freshw ater Drum		1	2	2					2	2	1	3	2		2	2	1	1	1															22	11.0	3.1
Common Carp																			1	1	1	3	1	1	1						1			10	5.0	2.4
Bighead Carp																																	1	1	0.5	0.5
Silver Carp																			3	4	2	3	3	8	3	5					1			32	16.0	2.9
Longnose Gar									2		1		2	3	1	4			1		2						1	1	1		1			20	10.0	3.5
Shortnose Gar						1							1								1													3	1.5	1.1

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NORTHWESTERN FISHERY DISTRICT

Project A: Lake and Tailwater Sampling

FINDINGS

Table 1 presents a summary of conditions encountered while sampling at state-owned or managed lakes and ACOE reservoirs during the 2015 field season.

Nolin River Lake

White Bass Sampling

Gill netting to monitor Nolin's white bass population was conducted in November (Tables 2-6). Catch rates in 2015 decreased when compared to the last survey conducted in 2013, but catch rates in 2013 where above average. Catch rates in 2015 are similar to catch rates calculated over the last several years. Mean length at age and relative weight parameters are good and consistent with previous collections as well. Age-1 catch rate data indicate recruitment is highly variable with strong and weak year classes occurring approximately every 2 years. The white bass population assessment rating for 2015 is excellent as it has been for several years. Nolin's white bass population is a very stable, high quality fishery.

Walleye Sampling

Gill netting to assess the walleye population was conducted during November simultaneous with white bass sampling (Tables 7-11). As with white bass, catch rates for walleye were also lower in 2015, but are consistent with catch rates observed during past surveys. Growth rate is fair and similar to previous collections. Nolin supports a mediocre walleye population as it has for years. Habitat modeling suggests walleye habitat in Nolin is marginal. Few fish greater than age-3 or 20.0 inches in length are observed or collected at Nolin.

Channel Catfish Sampling

Length distribution, catch rate, and relative weight data were recorded for channel catfish captured while gill netting for white bass and walleye in November (Tables 12-13). Catch rate and size distribution data are nearly identical to those data collected in 2009, 2011 and 2013. Weight data are good and also similar to those collected previously.

Creel Survey

A random, stratified, roving, creel survey was conducted 20 days per month at Nolin from April 01 to October 31, 2015 to estimate angler pressure and angler catch/harvest statistics (Tables 14-22).

For survey purposes the lake was divided into an upper and lower section with one section being surveyed per day (6-hour time period) during either a morning or afternoon time period. Each section (upper and lower) was further divided into 3 equal subsections which were randomly and progressively counted and interviewed spending an equal amount of time (2-hours) in each.

Estimated angler pressure and angler catch and harvest data increased in 2015 when compared to the last creel survey conducted in 2008. In 2015, anglers expended an estimated 152,950 hours fishing at Nolin Lake. This is an increase of 30,407 hours from the 2008 survey. In 2015, anglers caught an estimated 155,584 fish, an increase of 29,830 from the 2008 survey, and harvested an estimated 64,205 fish, more than doubling the estimated 29,048 fish harvested in 2008.

When ranked by preference, anglers expended an estimated 74,300 man-hours pursuing black bass, 34,647 hours for crappie, 18,812 hours for "anything", 9,593 hours for catfish, 8,856 hours for panfish 3,574 for walleye, and 3,268 hours for white bass in 2015. This compares to an estimated 57,714 man-hours pursuing black bass, 30,287 hours for crappie, 13,392 hours for panfish, 10,916 hours for "anything", 5,389 for walleye, 3,373 for white bass, and 1,468 hours for catfish in 2008.

With few exceptions, survey estimates of pressure, catch, and harvest data declined with each of the subsequent creel surveys conducted in 1991, 1995, 2004, and 2008. The 2015 survey is the first survey where these statistics increased compared to the previous survey. Although most survey data increased in 2015, these data are still a decline from 2004 data. Many variables influence creel survey statistics during any given year, with one of the influences being the weather trends. One reason for what seems are often drastic increases in the 2015 estimates are the exceptionally low estimates for the 2008 survey. Unusually abundant spring rainfall in 2008 led to above normal lake and upper river levels which negatively impacted the pressure, catch, and harvest of several species, especially crappie, walleye, and white bass. Much of the effort directed toward these species is expended during the spring, and high, muddy lake and river levels preclude successful angling for them.

An angler attitude survey was also conducted during the creel survey to determine angler opinions regarding regulations and their satisfaction with angling at Nolin Lake. Results of that survey are presented in Figure 1.

Figure 1. Results of Nolin River Lake angler attitude survey conducted April 01-October 31, 2015.

NOLIN RIVER LAKE ANGLER ATTITUDE SURVEY 2015
(N = 293)

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

2. Name ____________________ and Phone number ____________ (**Optional**)

   Email Address ____________________ (**Optional)**

3. Which species of fish do you fish for at Nolin River Lake (**check all that apply**)?

   Bass **69.6%** Crappie **45.1%** Walleye **7.5%** White Bass **6.8%** Channel Catfish **6.8%** Flathead Catfish 1.7**%**

4. Which one species do you fish for most at Nolin River Lake (**check <u>only one</u>**)? **N = 291**

   Bass **62.2%** Crappie **30.6%** Walleye **2.1%** White Bass **0.3%** Channel Catfish **4.1%** Flathead Catfish **0.7%**

-Answer the following questions for each species you fish for – (see question 3)

Bass Anglers

5. In general, what level of satisfaction or dissatisfaction do you have with bass fishing at Nolin River Lake? **N = 202**

   Very satisfied **34.2%** Somewhat satisfied **53.5%** Neutral **5.4%** Somewhat dissatisfied **5.9%** Very dissatisfied 1.0**%**

   No opinion **0%**

5a. If you responded with very or somewhat satisfied in question (5) – What is the single most important reason for your <u>Satisfaction</u>? **N = 178**

   Number of fish **78.7%** Size of fish **18.5%** Size limit **1.7%** Creel limit **0%** Low angler pressure **1.1%**

5b. If you responded with somewhat or very dissatisfied in question (5) - What is the single most important reason for your <u>Dissatisfaction</u>? **N = 14**

   Number of fish **14.3%** Size of fish **57.1%** Not happy with regulations **7.1%** Too many anglers **21.4%**

Crappie Anglers

6. In general, what level of satisfaction or dissatisfaction do you have with the crappie fishing at Nolin River Lake? **N = 128**

   Very satisfied **27.9%** Somewhat satisfied **53.9%** Neutral **10.9%** Somewhat dissatisfied **4.7%** Very dissatisfied **0%**

   No opinion **0.8%**

6a. If you responded with very or somewhat satisfied in question (6) – What is the single most important reason for your Satisfaction? **N = 107**

Number of fish **61.7%** Size of fish **35.5%** Size limit **1.9%** Creel limit **0.9%** Low angler pressure **0%**

6b. 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 **16.7%** Size of fish **50.0%** Not happy with regulations **33.3%** Too many anglers **0%**

Walleye Anglers

7. In general, what level of satisfaction do you have with walleye fishing at Nolin River Lake? **N = 20**

Very satisfied **10.0%** Somewhat satisfied **25.0%** Neutral **5.0%** Somewhat dissatisfied **40.0%** Very dissatisfied **20.0%** No opinion **0%**

7a. If you responded with very or somewhat satisfied in question (7) - What is the single most important reason for your Satisfaction? **N = 7**

Number of fish **42.9%** Size of fish **14.3%** Size limit **28.6%** Creel limit **0%** Low angler pressure **14.3%**

7b. If you responded with somewhat or very dissatisfied in question (7) - What is the single most important reason for your Dissatisfaction? **N = 12**

Number of fish **83.3%** Size of fish **16.7%** Not happy with regulations **0%** Too many anglers **0%**

White Bass Anglers

8. In general, what level of satisfaction do you have with white bass fishing at Nolin River Lake? **N = 17**

Very satisfied **76.5%** Somewhat satisfied **11.8%** Neutral **11.8%** Somewhat dissatisfied **0%** Very dissatisfied **0%** No opinion **0%**

8a. If you responded with very or somewhat satisfied in question (8) - What is the single most important reason for your Satisfaction? **N = 15**

Number of fish **6.7%** Size of fish **93.3%** Size limit **0%** Creel limit **0%** Low angler pressure **0%**

8b. If you responded with somewhat or very dissatisfied in question (8) - What is the single most important reason for your Dissatisfaction? **N = 0**

Number of fish Size of fish Not happy with regulations Too many anglers

All Anglers

9. On average how many times do you fish Nolin River Lake in a year? **N = 289**

First time **2.8%** 1 to 4 **18.7%** 5 to 10 **18.7%** More than 10 **59.9%**

10. Do you fish in any bass tournaments? **N = 287** Yes **31.7%** No **68.3%**

11. How would you rate the existing fish habitat at Nolin River Lake (both natural and Dept placed)? **N = 287**

Very good **21.6%** Good **62.7%** Fair **14.3%** Poor **0.7%** Very poor **0**% No opinion **0.7%**

12. Were you aware KDFWR places fish habitat (e.g. fish attractors/structures) within the lake? **N = 283** Yes **57.6%** No **42.45**
(If no, skip to # 17)

13. Do you regularly fish Dept placed attractors/structures at Nolin? **N = 167** Yes **38.9%** No **61.1%**

14. How did you find these attractors/structures? (check all that apply)
    On my own **41.0%** Friend/word of mouth **22.2%** KDFWR website **14.3%** Map **12.3%** GPS **2.0%** Employee 0**.3%**
    Guide **0.3%** KY Afield Magazine **0.3%** Other **0.3%**

15. Do you feel the addition of Dept placed attractors/structures has improved your fishing results? **N = 160**
    Yes **90.6%** No **4.4%** No opinion **5.0%**

16. Were you aware that the locations of all Dept placed attractors/structure are available on KDFWR website? **N = 162**
    Yes **53.7%** No **46.3%**

17. Would you support or oppose a 12 inch minimum size limit on channel catfish in all public lakes and reservoirs, except Kentucky and Barkley Lakes? **N = 288**
    Support **91.3%** Oppose **1.7%** No Opinion **6.9%**

When compared to attitude surveys conducted during the 2004 and 2008 creel surveys, the percentages of anglers indicating they fished for black bass and crappie in 2015 were similar to the earlier surveys. The percentage of anglers indicating they fished for walleye, white bass, and catfish steadily decreased during this same period. This same trend held true when anglers were asked to indicate for what species they primarily fished. Black bass and crappie remained consistent while walleye, white bass and catfish all decreased. It is especially interesting to note that in the 2015 attitude survey, the percentage of anglers indicating they fished for catfish was at its lowest while the number of angler hours, number catfish caught and number catfish harvested increased dramatically. When asked to indicate their level of satisfaction, most bass, crappie and white bass anglers chose very satisfied or somewhat satisfied during all three surveys. The satisfaction level of walleye anglers was lower in all three surveys with anglers indicating they were somewhat satisfied, neutral, or somewhat dissatisfied. With the marginal walleye habitat and population at Nolin this reduced level of satisfaction is not unexpected.

Dissolved Oxygen – Termperature Profiles

Dissolved oxygen and temperature profiles were conducted in July and August 2015 (Tables 23-24). 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 oxygen dropping below 3.0 ppm around 16 to 22 feet deep depending on month and area of the lake.

Rough River Lake

Crappie Sampling

Trap netting to evaluate Rough River Lake's crappie population was conducted during November (Tables 25-29). The catch rate for crappie (excluding age-0 fish) doubled from 2013 to 2015, to the highest catch rate recorded in the last 15 years. This increase is the result of an increase in age-1 fish CPUE, the second highest recorded in the last 15 years. Since 2008, Rough River Lake has been plagued with multiple prolific year classes, the latest one in 2014. These prolific year classes have depressed growth rates and many of these fish are not reaching a legally harvestable size. Mean length at age did improve somewhat in 2015, but age data indicate these prolific year classes have negatively impacted growth for several years. Age frequency data show most inch classes are represented by multiple age groups. Or, looking at it conversely, most year classes contain a wide range of inch groups and what appears are two distinct segments of the population. There are fish with normal growth rates and fish with depressed growth rates in each age group. A significant portion of the age 3-5 fish have not reached the legal harvest size limit of 9.0 in. Historically the mean length of age-2+ fish captured at Rough River Lake has been 10.5 in. The mean length of age-2+ fish at capture in 2015 is 9.3 in. This is an improvement over the 8.3 in collected in 2013, but until non-harvest mortality removes these fish from the population, growth rates will most likely remain depressed.

Dissoved Oxygen – Temperature Profiles

Dissolved oxygen and temperature profiles were conducted in June, July, and September in 2015 (Tables 30-32). 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. 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.

Lake Malone

Largemouth Bass Sampling

Electrofishing to assess the largemouth bass population at Malone was conducted during April (Tables 33-38). Catch rates for all length groups of bass increased from catch rates calculated in 2014. However, catch rates in 2014 were unusually low due to an elevated lake level and lack of shoreline water-willow to concentrate fish. Catch rates for length groups under 20.0 inches in 2015 were similar to catch collected the last several years. The catch rate of bass ≥ 20.0 in has slowly increased over the last few years and is at a level not observed since 2002-2005. Otoliths were collected in October and mean length at age was determined. Largemouth growth rate at Malone is mediocre. Mean length at age data is similar to those data collected during prior surveys over the last 15 years. Malone has historically been plagued by an abundance of bass < 12.0 in. A variety of size and creel limits have been tried with little success to reduce this abundance. Even when these fish are not protected, as in the current 12.0-15.0 in protective slot limit, angler harvest is not sufficient to adequately control their numbers.

Mauzy Lake

Largemouth Bass Sampling

Electrofishing to assess the largemouth bass population at Mauzy was conducted in April (Tables 35, 39-43). Total catch rate for largemouth bass at Mauzy remains comparable to previous samples. However, the catch rate of fish 8.0-11.9 in increased and the catch rate for fish ≥15.0 in decreased from 2014. The catch rate for bass 8.0-11.9 in is the highest recorded over the past six years. The catch rate for bass ≥ 20.0 in was down this year but remains highly variable due mainly to timing of sampling and larger fish typically associating more with habitat located off shore.

Electrofishing to catch largemouth bass for condition and age-growth analysis was conducted in October 2015. Relative weight data is similar to previous samples and in-line with other district lakes but has been showing a downward trend in the last decade. Length at age data is dramatically lower than the last age-growth sample in 2012. While there are still fish in the population ages 1-5, the mean length at each age is lower, and the amount of difference increases with age. The mean length of age-5 fish is 2.7 in less than age-5 fish from the 2012 sample. Growth appears to have slowed significantly and will need to be monitored. Active vegetation management and periodic fall/winter drawdowns should curb milfoil growth, reduce bass recruitment, and allow more efficient foraging for bass 8.0-15.0 in.

Eurasian water milfoil is a concern at Mauzy. It became especially abundant and was treated in 2014, but treatment was not conducted in 2015. It will be monitored and treated with either 2, 4-D or "black death" (Curtine/Reward 1:1 mix) as necessary in 2016. Additionally, the lake was drawn down beginning in November in anticipation of conducting a shad eradication treatment with 0.2 ppm rotenone. Due to warm weather and water and intense rainfall the shad eradication was then postponed until February 2016 and then ultimately cancelled until winter of 2016 due to more unseasonably warm weather. Despite cancelling the shad eradication the lake was maintained three to five feet lower through March 15, 2016 to control vegetation.

Bluegill Redear Sunfish Sampling

Electrofishing to assess the bluegill and redear sunfish populations was conducted in May (Tables 44-50). Bluegill catch rates have been highly variable in recent years and that trend continued in 2015. Catch rates for bluegill < 3.0

in increased slightly from 2014 but catch rates for bluegill 3.0-5.9 in and 6.0-7.9 in both decreased significantly in 2015. Overall bluegill CPUE was the lowest recorded since the lake was renovated in 2003.

Bluegill were collected for age-growth analysis in October 2015. No bluegill ≥ 8.0 in were collected in either the spring or fall sample in 2015. Fish collected ranged from age-1 to age-5 (2012 sample ages 1-8). Mean length at age was lower for each age class collected this year compared to the 2012 age-growth sample. Mean length at age-2 at capture is the second lowest on record since renovation and years to 6.0 in is the worst recorded to date.

The dramatic reduction in bluegill may be attributed to the rapid increase in the redear sunfish population. Redear sunfish were stocked in Lake Mauzy in 2004 and 2005, but few redear sunfish were collected prior to 2010. The total CPUE was significantly greater for redear sunfish than bluegill in 2015 and the highest to date. We continue to collect very few redear sunfish < 3.0 in during spring samples which may be due to sample timing and lake conditions. Catch rate for redear sunfish ≥8.0 in is slightly reduced from 2014 and unexpected given recent data collections and the abundance of submerged aquatic vegetation. CPUE of fish ≥ 8.0 and ≥10.0 in is expected to increase in 2016.

Redear sunfish were collected for age-growth data analysis concurrently with bluegill in October 2015. Length at age data suggest growth has slowed at each age. In 2015, fish were collected ages one through eight. In general, fewer larger fish were collected in 2015. This could be the result of sample timing or angler harvest. Overall, growth has slowed and fish seem to have plateaued in the 8.0-9.0 in range. We are hopeful that a successful shad eradication project in winter 2016-2017 will elicit better growth.

Carpenter Lake

Largemouth Bass

Largemouth bass were sampled at Carpenter Lake in April (Tables 35, 51-55). Total CPUE was significantly lower than previous years' collection and the lowest recorded since diurnal sampling began in 2002. Catch rate for fish < 8.0 in was slightly higher than in 2014 but lower than all samples beginning in 2002. Catch rate for bass ≥ 20.0 in is highly variable and usually based on the capture of very few fish. No bass ≥ 20.0 in were captured in the spring 2015 sample. Two fish ≥ 20.0 in were documented in the October sample to collect fish for age-growth and condition analysis. Relative weight for each length group of bass is greater than previous samples and fish appear to be feeding adequately. Mean length at age has increased at all ages encountered from the last age-growth sample taken in 2010.

Bluegill Redear Sunfish Sampling

Electrofishing to assess the bluegill/redear sunfish populations was conducted in May (Tables 46, 56-59). Catch rates in 2015 for bluegill were down from 2014 but remained within the range of previous samples. Despite having a high CPUE for fish ≥ 6.0 in we rarely capture fish ≥ 8.0 in. During the spring sample the fish were holding deeper within the water lilies and were difficult to see and catch. This had a negative effect on capture efficiency during some sampling runs.

Bluegill were collected for age-growth data analysis in October 2015. Mean length at age for fish age-3 and older was lower than the previous age-growth sample in 2010. Additionally, the 2010 mean length at age data for fish ages 2 and 3 had declined approximately one inch from the 2003 sample. It now takes an estimated 4-4+ years for a bluegill to reach 6.0 in, decreasing from 3-3+ in 2007-2010 and 2-2+ in the early 2000s. The population assessment rating for Carpenter bluegill is Fair (9). In general bluegill growth rates have been in decline for the past decade, yet overall abundance remains within the expected range. Fertility is not an issue and abundance of water lily remains consistent. The shad eradication effort conducted in February 2016 will hopefully reduce competition and improve bluegill growth.

During spring sampling a total of 40 redear sunfish were collected. The CPUE was within the expected range established by previous samples. Due to the abundance of water lily during the spring sample it was difficult to capture both bluegill and redear sunfish during some electrofishing runs and likely resulted in an underestimate of abundance.

Other

A shad eradication project was completed in March 2015. Shad were collected in the lake in April so a second attempt at shad eradication was undertaken in February of 2016. The original aeration lines were completely removed from the lake and one half of the lines were replaced in October 2015. The second half of the lines will be replaced early spring 2016. New air stations will be installed on each airline. Water lily will be chemically controlled/reduced around shoreline access points.

Old and New Kingfisher Lakes

Old and New Kingfisher had been drawn down since December 2012 in order for renovation work to be completed. As water levels increased in both lakes, channel catfish, bluegill and advanced fingerling largemouth bass were stocked in 2015. Additional artificial habitat will be placed around bank fishing areas in 2016 as time allows. Standardized sampling to assess fish populations will be suspended for the next few years but some electrofishing will be conducted to document growth and supplemental stockings by the public.

Washburn Lake

Largemouth Bass

Largemouth bass were sampled at Washburn Lake in April (Tables 35, 60-62). The population continues to be dominated by 8.0-10.0 in fish. CPUE of fish ≥ 15.0 in and ≥ 20.0 in is based on the capture of only three fish. CPUE of fish < 8.0 in decreased in 2015 but overall catch rates are in line with previous samples.

Bluegill Redear Sunfish Sampling

Sampling to assess Washburn Lake's bluegill and redear sunfish populations was conducted in May (Tables 46, 63-65). Bluegill catch rates in 2015 were again within the range of what is typically collected. Eight bluegill > 8.0 in were captured in 2015 compared to only three in 2014.

Total CPUE of redear sunfish increased again in 2015. CPUE of fish < 6.0 in increased, while CPUE of 6.0-7.9 in fish decreased and CPUE of fish ≥ 8.0 in remained approximately the same. If fertility can be augmented and stabilized, the redear sunfish will continue to grow well and reach quality sizes. Washburn was not fertilized in 2015 but is planned to be fertilized again in 2016.

Ken Lake (Peabody WMA)

Low pulse electrofishing was conducted in June of 2015 to sample the blue catfish population in Ken Lake (Table 66). Seventy blue catfish were collected in 1.17 hrs of sampling for a CPUE of 59.8 fish/hr. Fish ranged in size from 17.0 to 37.0 in. Additionally, one channel catfish (18.0 in) and two flathead catfish were captured (39.0 and 41.0 in). Low pulse electrofishing will be conducted again in 2016 and otoliths removed from a sub-sample of blue catfish 17.0-22.0 in for age/growth analysis.

Table 1. Annual summary of sampling conditions by waterbody, species sampled and date for Northwestern Fishery District lakes during 2015.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Nolin River Lake	WB/WE	7/30	1100	Temp/DO	Sunny, hot, 90s	88	515		Good	
Nolin River Lake	WB/WE	9/16	1000	Temp/DO	Sunny, 70s	79	515		Good	
Nolin River Lake	WB/WE	11/2-11-6		Gill net	Mostly sunny 60s to cloudy w ti drizzle	64-66	509-504		Good	
Rough River Lake	HSB	6/24	1030	Temp/DO	Sunny, 88	84	495		Good	
Rough River Lake	HSB	7/28	830	Temp/DO	Sunny, hot, 90s	87	498.4		Good	
Rough River Lake	HSB	9/18	900	Temp/DO	Sunny, w arm	78	495		Good	
Rough River Lake	Crappie	11/10-11/13		Trap net	Mostly sunny, breezy to w indy, 50-65	57-60	489-488	12-20	Good	
Rough River Lake	Crappie	11/17-1119		Trap net	Sunny to rain and w indy	54-55	485-490	< 12	Fair	Big rain brought lake up 5 ft overnight, trashy
Lake Malone	LMB	5/4-5/5	930	Shock	Overcast to mostly sunny, 70s	68-70	Pool	34-42	Good	
Lake Malone	LMB	10/19	930	Shock	Mostly sunny, 60s		Pool		Good	Collect fish for A&G
Mauzy	LMB	4/15	930	Shock	Cloudy, 60s	63.5	Pool + 2'	24	Fair	
Mauzy	BG/RE	5/8	900	Shock	Mostly sunny, 70	75	Pool + 1'	48	Good	
Mauzy	ALL	10/12	900	Shock	Wunny, w indy, 75	69	Pool	50	Fair	Collect LMB/BG/RE for A&G
Carpenter Lake	LMB	4/16	900	Shock	Rain early, partly cloudy	65	Pool + 0.25'	22	Good	
Carpenter Lake	BG/RE	5/7	1130	Shock	Sunny 80	74	Pool	25	Fair	Water murky, fish deep in lily pads
Carpenter Lake	ALL	10/13	1000	Shock	Sunny, breezy, 65	68	Pool	32	Good	Collect LMB/BG for A&G
Washburn	LMB	4/16	1200	Shock	Cloudy	67	Pool + 0.5'	28	Good	
Washburn	BG/RE	5/7	930	Shock	Sunny, 70s	75	Pool	25	Fair	Water murky, hard to see fish, cap 24" bow fin
Ken Lake (PWMA)	BCF	6/9	1000	Shock	Sunny	79	Pool	48	Good	Conductivity 2465 µs

Table 2. Length frequency and CPUE (fish/nn) for white bass collected in 11 net-nights of sampling at Nolin River Lake during November 2015.

	Inch class											
Species	6	7	8	9	10	11	12	13	14	15	Total	CPUE	Std. error
White bass	2	49	15	3	24	79	48	63	67	8	358	32.6	5.5

nwd1gn.d15

Table 3. Mean back calculated lengths (in) at each annulus for white bass collected at Nolin River Lake in November 2015.

Year		Age						
class	No.	1	2	3	4	5	6	7
2014	26	7.7						
2013	23	7.9	11.7					
2012	14	8.7	12.0	13.3				
2011	8	8.1	11.9	13.4	14.1			
2010	4	9.2	12.2	13.4	14.0	14.4		
2009	1	8.9	12.5	14.0	14.5	14.9	15.1	
2008	2	7.4	11.9	13.2	13.7	14.3	14.7	15.0
Mean		8.0	11.9	13.4	14.0	14.4	14.8	15.0
No.		78	52	29	15	7	3	2
Smallest		5.4	10.4	12.4	13.2	13.9	14.3	14.5
Largest		9.9	13.1	14.2	15.0	14.9	15.1	15.5
Std error		0.1	0.1	0.1	0.1	0.2	0.3	0.5
95% CI (±)		0.2	0.1	0.1	0.2	0.3	0.5	1.0

nwd1wba.d15

Table 4. Age-frequency and CPUE (fish/nn) per inch class of white bass gill netted for 11 net-nights at Nolin River Lake in November 2015.

	Inch class													
Age	6	7	8	9	10	11	12	13	14	15	Total	Age %	CPUE	Std. error
0	2	49	15								66	18.5	6.0	
1				3	24	73	8				108	30.2	9.8	2.5
2						6	40	25	8		79	22.1	7.2	1.1
3								34	25		59	16.5	5.3	0.8
4								4	21	3	28	7.8	2.5	0.4
5									8	3	11	3.1	1.0	0.2
6										1	1	0.3	0.1	0.0
7									4	1	5	1.4	0.5	0.1
Total	2	49	15	3	24	79	48	63	66	8	357			
(%)	0.6	13.7	4.2	0.8	6.7	22.1	13.4	17.6	18.5	2.2				

nwd1wba.d15, nwd1gn.d15

Table 5. Number of fish and the relative weight (Wr) for each length group of white bass collected at Nolin River Lake during November 2015. Standard errors are in parentheses.

Length group					
6.0-8.9 in		9.0-11.9 in		≥12.0 in	
No.	Wr	No.	Wr	No.	Wr
46	100 (7)	49	90 (1)	116	89 (1)

nwd1gn.d15

Table 6. Population assessment for white bass based on fall gill netting at Nolin River Lake from 1996-2015 (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 (A)%	Total score	Assessment Rating
2015	26.5 (4)	13.0 (4)	16.9 (4)	6.0 (3)			15	Excellent
2013	38.1 (4)	13.0 (4)	25.8 (4)	14.0 (4)			16	Excellent
2011	21.6 (4)	13.1 (4)	17.5 (4)	7.5 (3)	0.504	39.6	15	Excellent
2009	33.2 (4)	13.2 (4)	19.4 (4)	15.6 (4)	0.629	46.7	16	Excellent
2007	37.9 (4)	13.9 (4)	26.6 (4)	16.0 (4)	0.717	51.2	16	Excellent
2006	7.9 (2)	13.3 (4)	4.3 (2)	5.4 (3)	1.134	67.8	11	Good
2003	18.7 (3)	13.4 (4)	6.2 (3)	15.3 (4)	1.387	75.1	14	Excellent
2002	10.2 (3)	13.3 (4)	5.3 (3)	5.2 (3)			13	Good
2001	2.5 (1)	13.6 (4)	1.6 (1)	1.1 (1)			7	Fair
2000	3.9 (1)	13.8 (4)	2.8 (2)	1.1 (1)			8	Fair
1998	27.4 (4)	12.0 (3)	22.0 (4)	7.5 (3)			14	Excellent
1996	26.1 (4)	13.3 (4)	14.8 (4)	15.1 (4)			16	Excellent

Table 7. Length frequency and CPUE (fish/nn) for walleye collected in 11 net-nights of gill netting at Nolin River Lake during November 2015.

	Inch class												
Species	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std. error
Walleye	3	1		2	12	8	3	3		1	33	3.0	0.6

nwd1gn.d15

Table 8. Mean back calculated lengths (in) at each annulus for walleye collected at Nolin River Lake in November 2015.

Year		Age		
class	No.	1	2	3
2014	15	10.7		
2013	9	9.7	13.6	
2012	6	9.8	13.4	15.6
Mean		10.2	13.5	15.6
No.		30	15	6
Smallest		7.8	12.1	14.4
Largest		12.1	14.6	17.7
Std error		0.2	0.2	0.5
95% CI (±)		0.3	0.4	1.0

nwd1wea.d15

Table 9. Age-frequency and CPUE (fish/nn) per inch class of walleye gill netted for 11 net-nights at Nolin River Lake in November 2015.

	Inch class													
Age	10	11	12	13	14	15	16	17	18	19	No.	CPUE	Std. error	Age %
0	3										3	0.3		9.1
1		1		2	10	2					15	1.4	0.3	45.4
2					2	4	2	1			9	0.8	0.2	27.3
3						2	1	2		1	6	0.6	0.2	18.2
Total	3	1		2	12	8	3	3		1	33			
(%)	9.1	3.1		6.1	36.2	24.2	9.1	9.1		3.1				

nwd1gn.d15, nwd1wea.d15

Table 10. Number of fish and the relative weight (Wr) for each length group of walleye collected at Nolin River Lake during November 2015. Standard errors are in parentheses.

Length group					
10.0-14.9 in		15.0-19.9 in		≥20.0 in	
No.	Wr	No.	Wr	No.	Wr
18	87 (1)	15	85 (1)	0	

nwd1gn.d15

Table 11. Population assessment for walleye based on fall gill netting at Nolin River Lake from 1991-2015 (scoring based on statewide assessment).

Year	CPUE (excluding age-0)	Mean length age-2+ at capture	CPUE ≥ 20.0 in	CPUE age-1	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2015	2.5 (2)	15.6 (1)	0.0 (0)	1.4 (2)			5	Poor
2013	5.0 (3)	16.0 (2)	0.3 (1)	2.5 (3)			9	Fair
2011	3.8 (2)	16.3 (2)	0.1 (1)	1.5 (2)	0.543	41.9	7	Fair
2009	7.6 (4)	16.6 (2)	0.5 (2)	3.7 (4)	0.599	45.1	12	Good
2007	2.0 (1)	15.9 (1)	0.2 (1)	1.0 (2)	0.532	41.3	5	Poor
2006	6.3 (4)	16.6 (2)	0.0 (0)	1.7 (2)	1.152	68.4	8	Fair
2003	1.9 (1)	16.9 (2)	0.6 (2)	0.4 (1)			6	Fair
2002	2.6 (2)	17.5 (3)	0.4 (1)	0.3 (1)			7	Fair
2001	1.0 (1)	17.8 (3)	0.3 (1)	0.0 (0)			5	Poor
2000	1.3 (1)	16.2 (2)	0.1 (1)	0.8 (1)			5	Poor
1998	6.3 (4)	15.5 (1)	0.0 (0)	1.7 (2)			7	Fair
1996	3.0 (2)	15.0 (1)	0.0 (0)	2.1 (3)			6	Fair
1991	5.7 (3)	15.8 (1)	0.5 (2)	2.2 (3)			9	Fair

Table 12. Length frequency and CPUE (fish/nn) for channel catfish collected in 11 net-nights of gill netting at Nolin River Lake during November 2015.

	Inch class																				
Species	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	CPUE	Std. error
Channel catfish	5	3	1	4	3	8	4	5	11	9	6	4		1		1			1	66	6.0	1.0

nwd1gn.d15

Table 13. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Nolin River Lake during November 2015. 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
19	85 (2)	40	90 (1)	2	94 (1)

nwd1gn.d15

Table 14. Fishery statistics derived from a creel survey at Nolin River Lake (5,800 acres) from 01 April through October 30 2015.

Fishing trips		
No. of fishing trips (per acre)	25,177	4.35
Fishing pressure		
Total man-hours (S.E.)[a]	152,950	4,248.75
Man-hours/acre	26.42	
Catch/harvest		
No. of fish caught (S.E.)	155,584	14,843.21
No. of fish harvested (S.E.)	64,205	7,835.48
Lb of fish harvested	43,829	
Harvest rates		
Fish/hour	0.40	
Fish/acre	11.09	
Lb/acre	7.57	
Catch rates		
Fish/hour	1.00	
Fish/acre	26.87	
Miscellaneous characteristics (%)		
Male	88.5%	
Female	11.5%	
Resident	94.2%	
Non-resident	5.8%	
Method (%)		
Still fishing	28.7%	
Casting	60.4%	
Fly fishing	0.55%	
Trolling	.	
Spider Rig	2.3%	
Jug Fishing	2.4%	
Noodling	0.3%	
Trotline	0.5%	
Mode (%)		
Boat	96.5%	
Bank	2.7%	
Dock	0.8%	

t < 0.5%

[a]S.E. = standard error

Table 15. Fish harvest statistics derived from a creel survey at Nolin River Lake (5,800 acres) during 01 April through 30 October 20015.

	Black bass group	Largemouth bass	Spotted Bass	Crappie group	White crappie	Black crappie	Panfish group	Bluegill	Longear sunfish	Catfish group	Channel catfish	Flathead catfish	Walleye	WhiteBass
No. caught	79,601	66,118	13,483	42,515	41,397	1,118	21,827	21,372	76	4,490	4,027	462	1457	5370
(per acre)	13.75	11.41	2.33	7.34	7.15	0.19	3.77	3.69	0.01	0.78	0.70	0.08	0.25	0.93
No. harvested	6,221	4,499	1,722	33,375	32,257	1,118	16,065	15,907	-	3,882	3,420	462.00	615	3724
(per acre)	1.07	0.78	0.30	5.76	5.57	0.19	2.77	2.75	-	0.67	0.59	0.08	0.11	0.64
% of total no. harvested	9.69	7.01	2.68	51.98	50.24	1.74	25.02	24.78	-	6.05	5.33	0.72	0.96	5.80
Lb harvested	9,256	8,047	1,209	16,804	16,221	583	3,615	3,552	-	10,049	7,042	3007	1056	2824
(per acre)	1.60	1.39	0.21	2.90	2.80	0.10	0.62	0.61	-	1.74	1.22	0.52	0.18	0.49
% of total lb harvested	21.12	18.36	2.76	38.34	37.01	1.33	8.25	8.11	-	22.93	16.07	6.86	2.41	6.44
Mean length (in)	-	15.05	11.84	-	10.27	9.93	-	6.94	-	-	17.43	25.64	17.60	12.02
Mean weight (lb)	-	1.76	0.72	-	0.50	0.52	-	0.22	-	-	1.73	7.38	1.78	0.75
No. of fishing trips for that species	12,230	-	-	5,703	-	-	1,458	-	-	1,563	-	-	588	538
% of all trips	48.58	-	-	22.65	-	-	5.79	-	-	6.21	-	-	2.34	2.14
Hours fished for that species	74,300	-	-	34,647	-	-	8,856	-	-	9,493	-	-	3574	3268
(per acre)	12.83	-	-	5.98	-	-	1.53	-	-	1.64	-	-	0.62	0.56
No. harvested fishing for that species	3,937	-	-	31,916	-	-	9,946	-	-	3,022	-	-	343	2146
Lb harvested fishing for that species	6,502	-	-	16,012	-	-	2,215	-	-	8,550	-	-	525	1745
No./hour harvested fishing for that species	0.06	-	-	0.91	-	-	1.11	-	-	0.22	-	-	0.11	0.56
% success fishing for that species	12.90	-	-	68.20	-	-	80.77	-	-	54.39	-	-	23.81	55.56

Table 16. Length distribution for each species of fish harvested or released at Nolin River Lake (5,800 a) during 01 April - 30 October

	Inch class																										
Species	3	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	32	35
Largemouth bass																											
Harvested							105	35	35	314	697	1604	1011	279	279	70		35	35								
Released					1570	256	7921	986	18252	12776	12,010	2,993	2482	1132	621	365	110	110		35							
Spotted Bass																											
Harvested							203	236	1047	236																	
Released			39		862	39	4,391	1451	3724	862	353		40														
White crappie																											
Harvested						6,758	15402	5343	3300	982	354	118															
Released			136	1222	3,801	2,624	90	181	317	498	226	45															
Black Crappie																											
Harvested						186	776	156																			
Released																											
White Bass																											
Harvested						162	324	702	1,295	648	378	162	53														
Released					53	106	637		478	53	212	53	54														
Walleye																											
Harvested												36	217	253	36	36								37			
Released							105	105	281	281	35	36															
Channel catfish																											
Harvested						25					432	79	825	157	904	79	79	39	197	39	197	197	118	78			
Released							114		114	114	114	76	38		38												
Flathead Catfish																											
Harvested											46						92	46			46	92			46	46	48
Released																											
Bluegill																											
Harvested		199	1,745	9,325	4,538	100																					
Released	395		3,292	1,053	724																						
Longear sunfish																											
Harvested			76																								
Released																											
Rock Bass																											
Harvested					79	78																					
Released					111	74	37																				
Drum																											
Harvested																											
Released												27															

Table 16 continued.

Species	Inch class 3	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	32	35
Illegal Walleye																											
Harvested																											
Harvest							44																				
Illegal Wh Crappie																											
Harvested					157																						
Illegal Bass																											
Harvested											96																

Table 17. Monthly black bass angling success at Nolin River Lake (5,800 a) from 01 April - 30 Oct. 2015 creel survey period; data does not include bass < 8.0 in that were caught and released.

Month	Total no. of bass caught	Total no. of bass harvested	No. of black bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/hour by bass anglers
Apr	10,254	577	1,212	7,365	9,766	1.16	355	0.04
May	17,611	893	2,540	15,432	15,826	0.98	343	0.02
Jun	9,244	611	1,314	7,984	7,334	0.74	76	0.01
Jul	10,892	787	2,297	13,953	9,798	0.84	394	0.03
Aug	10,478	848	1,987	12,070	8,653	0.80	424	0.04
Sep	12,652	1,707	1,446	8,782	12,272	1.25	1,598	0.16
Oct	8,470	797	1,434	8,714	8,121	1.00	747	0.09
Total	79,601	6,220	12,230	74,300	71,770	0.99	3,937	0.06
Mean						0.97		0.06

Table 18. Black bass catch and harvest statistics derived from a creel survey at Nolin River Lake (5,800 a) from 01 April - October 30, 2015.

	Largemouth Bass						Spotted Bass			
	Harvest			Catch and Release			Harvest	Catch and Release		
	<15.0 in	≥15.0 in	Total	<15.0 in	≥15.0 in	Total	Total	8.0-14.9 in	≥15.0 in	Total
Total no. of bass	1,186	3,313	4,499	53,771	7,848	61,619	1,721	11,721	40	4,979
% of black bass harvested by no.			72.32							27.68
Total weight of fish (lb)			8,047	45,303	8,261	72,907	1209	2853	21	8,001
% of bass harvested by weight			86.94							13.06
Mean length			15.05							11.84
Mean weight			1.76							0.72
Rate (f/hr)			0.03							0.01

Table 19. Monthly walleye angling success at Nolin River Lake (5,800 a) from 01 April - 30 Oct. 2015 creel survey period.

Month	Total no. of walleye caught	Total no. of Walleye harvested	No. 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
April	44	44	0	0	0	0.00	0	0.00
May	1,167	412	162	985	892	0.71	343	0.27
June	0	0	0	0	0	0.00	0	0.00
July	219	131	0	0	0	0.00	0	0.00
Aug	0	0	207	1,257	0	0.00	0	0.00
Sept	27	27	103	627	0	0.00	0	0.00
Oct	0	0	0	0	0	0.00	0	0.00
Total	1,457	614	588	3,573	892	0.29	343	0.11
Mean						0.10		0.04

Table 20. Monthly white bass angling success at Nolin River Lake (5,800 a) from 01 April - 30 Oct. 2015 creel survey period.

Month	Total no. of white bass caught	Total no. of white bass harvested	No. of white bass fishing trips	Hours fished by white bass anglers	White Bass caught by white bass anglers	White Bass caught/hour by white bass anglers	White Bass harvested by white bass anglers	White Bass harvested/hour by white bass anglers
April	222	222	0	0	0	0.00	0	0.00
May	584	172	0	0	0	0.00	0	0.00
June	3,209	2,216	254	1,545	1,528	1.17	1,528	1.17
July	700	569	193	1,174	481	0.53	394	0.44
Aug	382	297	0	0	0	0.00	0	0.00
Sept	0	0	62	376	0	0.00	0	0.00
Oct	274	249	28	173	224	0.51	224	0.51
Total	5,370	3,724	538	3,268	2,233	0.58	2,146	0.56
Mean						0.32		0.30

Table 21. Monthly crappie angling success at Nolin River Lake (5,800 a) from 01 April - 30 Oct. 2015 creel survey period.

Month	Total no. of crappie caught	Total no. of crappie harvested	No. 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
April	7,591	5,549	1,212	7,365	7,058	0.92	5,016	0.65
May	2,540	2,060	378	2,298	1,853	0.80	1,819	0.78
June	8,557	5,424	932	5,665	8,556	1.25	5,424	0.80
July	9,667	7,961	751	4,564	9,099	1.87	7,524	1.55
Aug	4,836	4,326	786	4,778	4,709	1.05	4,327	0.97
Sept	2,249	1,950	619	3,764	2,249	0.93	1,951	0.81
Oct	7,075	6,104	1,022	6,212	6,652	1.01	5,855	0.89
Total	42,515	33,375	5,703	34,647	40,176	1.10	31,916	0.91
Mean						1.12		0.92

Table 22. Comparison of selected creel survey statistics estimated during the last 5 creel surveys at Nolin River Lake.

	1991*	1995*	2004*	2008**	2015**
Total angler hours	320,331	292,425	146,796	122,543	152,950
Total catch	329,660	367,635	245,073	125,754	155,584
Total harvest	170,148	144,118	103,235	29,048	64,205
Black bass					
angler hours	158,155	94,705	46,945	57,714	74,300
catch	123,869	102,390	43,199	49,198	79,601
(no. spotted bass)	*45,130*	*33,466*	*8,676*	*5,715*	*13,483*
harvest	29,590	22,692	4,477	1,290	6,221
(no. spotted bass)		*8,440*	*1,561*	*226*	*1,722*
Crappie					
angler hours	64,616	59,557	36,372	30,288	34,647
catch	35,312	122,973	94,223	32,852	42,515
harvest	27,617	52,177	53,387	24,465	33,375
Anything					
angler hours			43,462	10,916	18,812
Panfish					
angler hours	42,070	39,830	10,627	13,393	8,856
catch	137,341	96,024	87,521	37,145	21,827
harvest	88,566	43,935	36,034	2,243	16,065
Catfish					
angler hours	6,947	13,590	4,574	1,469	9,493
catch	6,042	10,878	4,280	1,256	4,490
harvest	4,423	8,988	2,429	148	3,882
Walleye					
angler hours	1,406	21,536	2,316	5,390	3,574
catch	2,560	9,531	1,632	2,132	1,457
harvest	1,244	3,320	206	597	615
White bass					
angler hours	4,892	11,074	2,499	3,374	3,268
catch	21,824	22,684	13,505	3,065	5,370
harvest	17,767	11,767	6,201	303	3,724

* Creel survey period 1991, 1995, 2004 = March 1 - Oct. 31

**Creel survey period 2008 and 2015 = April 1 - Oct. 31

Table 23. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Nolin River Lake on 30 July 2015.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	31.0	8.9	31.2	9.7	32.2	10.8
2	30.9	9.0	31.2	10.0	32.2	19.8
4	30.9	8.7	31.0	10.0	31.4	10.9
6	30.9	8.7	30.7	9.9	31.2	10.3
8	30.8	8.6	30.4	9.8	30.8	9.5
10	30.8	8.5	29.6	8.2	29.7	7.3
12	28.6	7.0	28.9	4.8	28.9	5.2
14	27.9	5.1	27.9	1.2	27.7	4.1
16	27.5	3.7	26.4	0.3	26.9	3.9
18	26.2	0.5	25.7	0.3	25.0	3.9
20	25.0	0.3	24.9	0.3	24.2	3.7
22					23.0	3.7
24					22.7	3.5
25	23.9	0.3	24.0	0.3		
26					22.4	3.3
28					21.9	2.3
30	23.2	0.2	23.3	0.2	21.9	1.2
32						
34						
35						
36						
38						
40						
45						
50	35-70' deep		50' deep		32' deep	

NRL_TEMP_DO

Table 24. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Nolin River Lake on 16 August 2015.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	25.9	7.0	26.1	6.0	26.3	7.9
2	25.8	6.8	25.8	6.0	26.3	7.9
4	25.6	6.7	25.5	6.0	25.7	8.9
6	25.6	6.5	25.5	5.8	25.4	7.5
8	25.6	6.5	25.4	5.8	25.3	6.8
10	25.5	6.5	25.4	5.8	25.2	6.4
12	25.5	6.5	25.4	5.8	25.2	5.9
14	25.5	6.3	25.4	5.2	25.1	6.1
16	25.5	6.1	25.3	4.3	25.1	5.5
18	25.4	5.6	25.2	2.8	23.9	3.5
20	25.4	5.0	25.2	2.3	23.1	2.3
22	25.3	4.3	25.0	2.0	21.9	2.0
24	24.9	1.3	24.9	0.5	21.7	2.2
25	24.7	0.3	24.8	0.4	21.6	2.1
26						
28						
30	24.0	0.2	24.3	0.4	21.7	1.5
32						
34						
35	23.2	0.2	23.6	0.3		
36						
38						
40						
45						
50	35-70' deep		50' deep		30' deep	

NRL_TEMP_DO

Table 25. Length frequency and CPUE (fish/nn) for each species of crappie collected in 71 net-nights of sampling at Rough River Lake during November 2015.

	Inch class														
Species	2	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	Std. error
White crappie	1	97	222	846	859	324	128	204	118	44	12	1	2,856	40.2	6.0
Black crappie		37	10	45	14	8	3	2					119	1.7	0.4

nwd2tn.d15

Table 26. PSD and RSD_{10} values calculated for crappie collected in trap nets from Rough River Lake during November 2015; 95% confidence limits are in parentheses.

Lake/Species	No.	PSD	RSD_{10}
Rough River Lake			
White crappie	2,536	20 (+/-2)	7 (+/-2)
Black crappie	72	7 (+/-6)	0

nwd2tn.d15

Table 27. Mean back calculated lengths (in) at each annulus for white crappie collected at Rough River Lake in November 2015.

Year class	No.	Age 1	2	3	4	5	6
2014	39	4.6					
2013	42	5.1	7.6				
2012	10	5.2	7.7	9.4			
2011	30	4.3	6.5	8.0	9.2		
2010	11	4.6	6.3	7.5	8.5	9.3	
2009	3	4.8	6.2	8.0	9.0	10.2	11.3
Mean		4.7	7.1	8.2	9.0	9.5	11.3
No.		135	96	54	44	13	3
Smallest		2.4	4.1	5.8	6.6	6.9	10.1
Largest		6.8	9.8	10.8	11.5	11.5	12.4
Std error		0.1	0.1	0.2	0.2	0.4	0.7
95% CI (±)		0.1	0.2	0.3	0.4	0.7	1.2

nwd2wca.d15

Table 28. Age-frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 71 net-nights at Rough River Lake in November 2015.

Age	Inch class 2	3	4	5	6	7	8	9	10	11	12	13	No.	CPUE	Std. error	Age %
0	1	97											98	1.4		3.4
1			222	781	654	133	20						1811	25.5	4.4	63.4
2				65	164	19	61	191	52	9	1		561	7.9	1.1	19.6
3						19	7		22	9	1		58	0.8	0.1	2.0
4					41	95	34	13	30	18	7		236	3.3	0.6	8.2
5						57	7		15	7	2		87	1.2	0.2	3.0
6										2	1	1	4	0.1	0.0	0.1
Total	1	97	222	846	859	324	128	204	119	45	12	1	2,858			
(%)		3.4	7.8	29.6	30.1	11.3	4.5	7.1	4.2	1.6	0.4					

nwd2tn.d15, nwd2wca.d15

Table 29. Population assessment for white crappie based on fall trapnetting at Rough River Lake from 2000-2015 (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
2015	38.9 (4)	25.5 (4)	1.4 (1)	7.2 (3)	9.3 (3)			15	Good
2013	18.6 (3)	3.8 (2)	6.0 (2)	9.0 (3)	8.3 (1)			11	Fair
2012*									
2011	15.6 (3)	10.3 (3)	1.0 (1)	4.9 (2)	9.2 (3)	1.230	70.9	12	Fair
2010	10.2 (2)	5.8 (2)	1.9 (1)	3.4 (2)					
2009	28.1 (4)	26.1 (4)	12.4 (4)	7.8 (3)	10.8 (4)	2.040	87.1	19	Excellent
2008	4.6 (2)	3.1 (2)	20.0 (4)	4.3 (2)	10.7 (4)	1.030	64.3	14	Good
2006	8.2 (2)	7.5 (3)	2.3 (1)	4.0 (2)	10.7 (4)	2.180	88.7	12	Fair
2005	4.6 (2)	3.5 (2)	4.6 (2)	3.3 (2)	10.4 (4)	0.869	58.1	12	Fair
2004	8.2 (2)	5.5 (2)	1.8 (1)	7.1 (3)	10.4 (4)	0.734	52.0	12	Fair
2003	13.1 (3)	10.8 (3)	18.9 (4)	9.9 (3)	10.6 (4)	1.066	65.5	17	Good
2002	8.4 (3)	4.5 (2)	4.5 (2)	7.3 (3)	10.3 (4)	0.871	58.5	14	Good
2000	4.0 (1)	1.4 (1)	2.1 (1)	3.1 (2)	9.2 (3)	1.160	68.7	8	Fair

* No drawdown few fish collected

Table 30. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 24 June 2015.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	28.9	7.6	30.1	7.8	29.9	9.1
2	28.7	7.1	30.0	7.7	30.1	9.1
4	28.4	7.0	29.8	7.6	29.6	8.7
6	28.4	6.8	29.3	7.3	29.2	8.5
8	28.2	6.7	29.1	7.2	27.8	3.9
10	28.1	6.4	28.9	6.6	26.2	2.1
12	27.2	4.7	27.0	3.1	23.8	2.0
14	25.0	1.1	25.6	1.1	23.0	1.7
16	23.2	0.3	24.3	0.4	22.7	1.4
18						
20	21.0	0.2	21.5	0.3	22.4	0.3
22						
	52' deep		30' deep		23' deep	

RRL_Temp_DO

Table 31. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 28 July 2015.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	30.4	7.6	30.6	8.3	31.0	8.8
2	30.4	7.3	30.6	7.8	30.5	9.0
4	30.3	7.1	30.5	7.8	30.1	8.3
6	30.3	6.9	30.2	7.3	29.9	8.1
8	30.1	6.8	29.9	6.2	29.3	6.7
10	29.6	5.7	29.3	4.1	27.8	4.7
12	28.8	3.6	28.4	2.0	25.4	2.2
14	27.7	2.0	27.6	1.1	23.5	1.6
16	26.9	0.6	26.3	0.5	22.3	1.2
18						
20	25.2	0.3	24.8	0.4	21.8	1.0
22						
24						
25	23.5	0.3	23.1	0.2	21.7	0.8
26						
28						
30	22.5	0.2	22.4	0.2		
	48' deep		32' deep		28' deep	

RRL_Temp_DO

Table 32. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 09 September 2015.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	25.7	6.7	25.8	7.5	25.5	9.7
2	25.7	6.4	25.7	6.6	24.8	9.9
4	25.6	6.4	25.6	6.6	24.6	9.3
6	25.6	6.4	25.4	5.1	24.4	8.5
8	25.5	6.1	25.3	4.4	24.2	6.1
10	25.4	4.1	25.3	3.8	24.1	6.5
12	25.3	3.5	25.3	3.5	22.8	5.2
14	25.3	3.2	25.2	3.4	21.9	3.1
16	25.2	2.7	25.2	3.6	20.9	1.2
18	25.2	2.1	25.0	3.5	20.6	0.5
20	25.1	1.0	24.9	2.6	20.5	0.4
22			24.5	1.5	20.5	0.3
24					20.5	0.3
25	24.8	0.4	23.4	0.4		
26						
28						
30	24.2	0.3	23.1	0.3		
32						
	44' deep		30' deep		24' deep	

RRL_Temp_DO

Table 33. Length frequency and CPUE (fish/hr) of largemouth bass collected during 2.5 hours of 30-minute diurnal electrofishing at Lake Malone in April 2015.

	Inch class																							
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	Std. error
Largemouth bass	5	9	7	8	18	54	33	41	76	60	58	34	28	9	15	20	14	12	6	2	1	510	204.0	17.2

nwd3psd.d15

Table 34. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Lake Malone 1999-2015.

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

[a] Nocturnal sample

nw d3psd.d15

Table 35. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples at Lake Malone, Carpenter Lake, Kingfisher Lake, Mauzy Lake and Washburn Lake during April 2015; 95% confidence intervals are in parentheses.

Lake	Species	No. >8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
Malone	Largemouth	463	56 (+/-4)	23 (+/-4)
Mauzy	Largemouth	168	21 (+/-6)	9 (+/-4)
Carpenter	Largemouth	87	25 (+/-9)	15 (+/-7)
Washburn	Largemouth	102	7 (+/-4)	4 (+/-4)

nw d3psd.d15
nw d4psd.d15
nw d5psd.d15
nw d8psd.d15

Table 36. Mean back calculated lengths (in) at each annulus for largemouth bass collected at Lake Malone in October 2015.

Year class	No.	Age 1	2	3	4	5	6	7	8
2014	27	5.2							
2013	8	5.2	8.9						
2012	15	6.1	9.1	11.2					
2011	9	5.4	8.4	10.2	11.2				
2010	13	5.7	9.0	10.6	12.1	13.1			
2009	2	4.5	8.9	11.3	12.9	14.0	14.8		
2008	3	5.8	9.6	11.6	13.1	14.5	15.2	15.8	
2007	2	5.2	8	9.8	11.5	12.4	13.5	14.3	14.8
Mean		5.5	8.9	10.8	11.9	13.3	14.6	15.2	14.8
No.		79	52	44	29	20	7	5	2
Smallest		3.1	5.1	6.4	7.4	8.2	9.0	9.9	10.5
Largest		9.7	11.5	13.2	15.6	16.6	18.0	18.7	19.2
Std error		0.1	0.1	0.2	0.3	0.4	1.2	1.5	6.3
95% CI (±)		0.1	0.3	0.4	0.6	0.9	2.3	3.0	8.5

nwd3lmba.d15

Table 37. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Lake Malone during October 2015. Standard errors are in parentheses.

Length group 8.0-11.9 in		12.0-14.9 in		>15.0 in	
No.	Wr	No.	Wr	No.	Wr
65	85 (1)	35	85 (1)	19	86 (2)

nwd3lmb.d15

Table 38. Population assessment for largemouth bass based on spring electrofishing at Lake Malone from 2001-2015 (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
2015	10.8 (3)*		60.8 (4)	42.8 (4)	8.4 (4)				
2014		7.8 (1)	23.2 (2)	29.8 (3)	5.0 (4)			≥10	
2012		31.2 (2)	48.8 (3)	48.8 (4)	2.8 (3)			≥12	
2011		41.2 (2)	35.2 (3)	34.4 (4)	4.0 (4)			≥13	
2010	10.4 (2)	15.1 (1)	49.6 (3)	62.0 (4)	3.6 (3)	0.397	32.7	13	Good
2009	10.3 (2)	8.8 (1)	51.2 (4)	37.2 (4)	5.6 (4)	0.293	25.4	15	Good
2008	10.3 (2)	16.4 (2)	77.2 (4)	43.6 (4)	6.4 (4)	0.357	30.0	16	Good
2007	10.3 (2)	29.2 (2)	30.8 (2)	37.6 (4)	3.6 (3)	0.330	28.1	13	Good
2006	11.5 (4)	20.2(2)	22.4 (2)	28.0 (3)	5.2 (4)	0.526	40.9	15	Good
2005	11.5 (4)	19.0 (2)	32.0 (2)	53.6 (4)	8.4 (4)	0.387	32.0	16	Good
2004	11.5 (4)	19.0 (2)	26.4 (2)	53.2 (4)	6.0 (4)	0.365	31.1	16	Good
2003	11.5 (4)	35.0 (2)	35.0 (3)	48.0 (4)	8.5 (4)	0.416	34.1	17	Excellent
2002	11.5 (4)	6.0 (1)	43.4 (3)	41.7 (4)	8.0 (4)			16	Good
2001	12.9 (4)	14.0 (1)	50.0 (4)	31.3 (4)	0.7 (1)			14	Good

*Back calculated from age table

Table 39. Length frequency and CPUE (fish/hr) of largemouth bass collected during 1.0 hour of diurnal electrofishing at Mauzy Lake in April 2015.

	Inch class																				
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std. error
Largemouth bas	5	7	1	27	39	45	33	16	12	7	1	2			4	4	1	3	1	208	208.0	37.1

nwd4psd.d15

Table 40. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Mauzy Lake during spring 1999-2015.

	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.
2015	40.0	12.1	133.0	21.8	20.0	7.8	15.0	1.9	5.0	3.8	208.0	37.1
2014	65.0	7.2	110.0	3.5	21.0	3.4	35.0	5.7	13.0	6.8	231.0	8.4
2013	80.0	24.3	98.7	19.6	13.3	4.8	34.7	4.8	4.0	2.3	226.7	25.3
2012	96.0	16.5	42.0	2.6	20.0	4.9	40.0	9.1	15.0	3.4	198.0	12.8
2011	48.0	11.6	21.3	3.5	58.7	2.7	40.0	4.6	10.7	3.5	168.0	8.0
2010	26.7	3.5	78.7	13.1	21.3	2.7	44.0	10.1	17.3	8.1	170.7	26.7
2009[a]												
2008	104.0	31.4	147.0	16.3	21.0	5.0	83.0	9.3	7.0	1.9	355.0	48.2
2007	46.0	5.3	49.0	12.3	40.0	2.8	64.0	17.5	0.0		199.0	31.0
2006	68.0	14.1	40.0	4.0	24.0	4.0	60.0	4.6	0.0		192.0	21.2
2005	52.0	8.6	25.0	6.6	147.0	11.5	21.0	7.9	4.0	1.6	245.0	22.3
2004	20.0	9.2	132.0	2.3	5.3	1.3	6.7	1.3	0.0		164.0	10.6
2003[b]	98.6	18.7	163.2	31.9	73.6	6.1	20.8	6.4	2.8	2.8	356.3	58.7
2002[c]	36.0	14.1	169.3	40.6	9.3	1.3	6.7	2.7	1.3	1.3	221.3	45.4
2001[c]	12.0	2.3	246.7	53.5	26.7	10.7	4.0	2.3	0.0		289.3	64.2
2000[c]	37.3	5.8	224.0	20.5	2.7	1.3	5.3	3.5	0.0		269.3	25.3
1999[c]	n/d		165.3	8.7	17.3	5.4	4.0	2.3	1.3	1.3	186.7	14.1

[a] Lake drawn down for repairs in 2009

[b] Lake renovated in 2003

[c] Nocturnal sample

nwd4psd.d15

Table 41. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Mauzy Lake during October 2015. Standard errors are in parentheses.

Length group					
8.0-11.9 in		12-14.9 in		≥15.0 in	
No.	Wr	No.	Wr	No.	Wr
37	84 (1)	11	83 (2)	1	92

nwd4lmb.d15

Table 42. Mean back calculated lengths (in) at each annulus for largemouth bass collected at Mauzy Lake in October 2015.

Year		Age				
class	No.	1	2	3	4	5
2014	9	5.2				
2013	12	4.8	7.9			
2012	18	5.7	8.6	10.1		
2011	7	5.1	8.6	10.5	11.6	
2010	1	4.1	7.2	9.9	11.4	11.8
Mean		5.3	8.3	10.2	11.6	11.8
No.		47	38	26	8	1
Smallest		3.8	6.7	9.0	10.7	11.8
Largest		7.7	10.2	12.4	12.7	11.8
Std error		0.1	0.1	0.2	0.2	
95% CI (±)		0.2	0.2	0.3	1.0	

nwd4lmba.d15

Table 43. Population assessment for largemouth bass based on spring electrofishing at Mauzy Lake from 2001-2015 (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
2015	10.2 (2)*		20.0 (2)	15.0 (2)	5.0 (4)			≥10	
2014		40.0 (2)	21.0 (2)	35.0 (4)	13.0 (4)			≥12	
2013		63.1 (3)	13.3 (1)	34.7 (4)	4.0 (4)			≥12	
2012	13.6 (4)[a]	74.0 (3)	20.0 (2)	40.0 (4)	15.0 (4)	0.965	61.9	17	Excellent
2011		61.3 (3)	56.7 (4)	40.0 (4)	10.7 (4)			≥15	
2010			21.3 (2)	44.0 (4)	17.3 (4)			≥10	
2009[b]									
2008	12.2 (4)	99.0 (4)	21.0 (2)	83.0 (4)	7.0 (4)	0.466	37.3	18	Excellent
2007	12.2 (4)	21.0 (2)	40.0 (3)	64.0 (4)	0.0 (0)	0.374	31.2	13	Good
2006	10.3 (2)	24.0 (2)	24.0 (2)	60.0 (4)	0.0 (0)	0.755	53.0	10	Fair
2005	10.3 (2)	34.0 (2)	147.0 (4)	21.0 (3)	4.0 (4)			15	Good
2004	10.3 (2)	2.7 (1)	5.3 (1)	6.7 (2)	0.0 (0)	0.884	58.7	6	Poor
2003[c]	10.3 (2)	86.8 (4)	73.6 (4)	20.8 (3)	2.8 (3)			16	Good
2002	10.3 (2)	25.3 (2)	9.3 (1)	6.7 (2)	1.3 (2)			9	Fair
2001	10.3 (2)	5.3 (1)	26.7 (2)	4.0 (2)	0.0 (0)			7	Poor

[a] Only one age-3 fish

[b] Lake drawn down for repairs in 2009

[c] Lake renovated in 2003

* Back calculated age table

Table 44. Length frequency and CPUE (fish/hr) for bluegill and redear sunfish collected during 0.75 hour of electrofishing at Mauzy Lake in May 2015.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	Total	CPUE	Std. error
Bluegill	2	11	15	59	50	33				170	226.7	31.2
Redear sunfish			1	16	88	113	78	14		310	413.3	59.5

nw d4bg.d15

Table 45. Spring electrofishing CPUE (fish/hr) for each length group of bluegill (2000-2015) and redear sunfish (2007-2015) collected at Mauzy Lake during spring samples.

Bluegill	Length group											
	< 3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2015	17.3	12.1	165.3	27.1	44.0	7.1	0.0		0.0		226.7	31.2
2014	10.3	2.3	253.7	55.6	104.0	21.0	0.0		0.0		368.0	69.1
2013	91.2	21.1	417.6	54.0	73.6	11.1	0.0		0.0		582.4	60.9
2012	23.0	7.8	553.0	108.5	55.0	14.3	0.0		0.0		631.0	126.7
2011	182.4	72.9	726.4	144.1	216.0	51.4	121.6	43.3	0.0		1246.4	195.0
2010	238.4	76.5	280.0	41.0	97.6	34.0	0.0		0.0		616.0	74.4
2009[a]												
2008[a]												
2007	101.3	11.1	621.3	39.6	38.7	8.9	0.0		0.0		761.3	44.5
2006	96.0	27.9	614.0	137.7	10.0	7.6	0.0		0.0		720.0	163.4
2005	289.7	45.5	596.2	101.3	14.1	5.8	0.0		0.0		900.0	86.6
2004	101.1	18.0	84.6	17.5	64.8	12.0	1.1	1.1	0.0		251.7	36.1
2003[b]												
2002	9.3	3.5	94.7	19.6	125.3	29.2	1.3	1.3	0.0		230.7	48.0
2001	5.3	3.5	65.3	16.2	137.3	27.9	1.3	1.3	0.0		209.3	40.7
2000	1.3	1.3	52.0	4.0	73.3	5.3	4.0	2.3	0.0		130.7	10.9

nw d4bg.d15

Redear	Length group											
	< 3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2015	0.0		140.0	17.4	254.7	53.9	18.7	7.4	0.0		413.3	59.5
2014	1.1	1.1	112.0	19.7	208.0	26.1	27.4	6.0	0.0		348.6	33.1
2013	0.0		72.0	11.0	161.6	26.0	65.6	15.5	0.0		299.2	40.8
2012	0.0		107.0	13.7	39.0	7.6	33.0	8.6	0.0		179.0	21.9
2011	3.2	2.0	8.0	6.2	32.0	32.0	35.2	26.4	0.0		78.4	65.3
2010	0.0		16.0	10.1	240.0	48.3		7.3	0.0		270.4	61.0
2009[a]												
2008[a]												
2007	2.7	1.7	41.3	13.1	14.7	3.8	6.7	5.2	0.0		65.3	12.6

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

[b] Lake renovated in 2003

nw d4bg.d15

Table 46. PSD and RSD[a] values obtained for bluegill and redear sunfish collected in spring electrofishing samples at NWFD state-owned lakes during May 2015; 95% confidence intervals are in parentheses.

Lake	Species	No.	PSD (+/- 95%)	RSD[a] (+/- 95%)
Mauzy	Bluegill	157	21 (+/-7)	0
	Redear sunfish	309	30 (+/-5)	0
Carpenter	Bluegill	259	64 (+-6)	0
	Redear sunfish	40	82 (+/-12)	45 (+/-15)
Washburn	Bluegill	141	46 (+/-8)	3 (+/-3)
	Redear sunfish	106	71 (+/-8)	6 (+/-5)

[a] Bluegill = RSD_8, redear = RSD_9

nw d4bg.d15

nw d5bg.d15

nw d8bg.d15

Table 47. Mean back calculated lengths (in) at each annulus for bluegill collected at Mauzy Lake in October 2015.

Year		Age				
class	No.	1	2	3	4	5
2014	9	2.1				
2013	3	1.8	2.8			
2012	9	2.0	3.4	4.4		
2011	4	1.9	3.6	4.7	5.2	
2010	2	2.4	3.5	4.4	5.1	5.4
Mean		2.0	3.4	4.5	5.1	5.4
No.		27	18	15	6	2
Smallest		1.4	2.6	3.4	4.8	5.1
Largest		2.7	4.5	5.3	5.5	5.8
Std error		0.1	0.1	0.1	0.1	0.3
95% CI (±)		0.1	0.2	0.2	0.2	0.6

nwd4bga.d15

Table 48. Population assessment for bluegill based on spring electrofishing at Mauzy Lake from 2001-2015 (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
2015	3.4 (1)	≥5 (1)	44.0 (2)	0.0 (0)			4	Poor
2014			104.0 (4)	0.0 (0)			≥4	
2013			73.6 (3)	0.0 (0)			≥3	
2012	4.0 (2)	4-4+ (2)	55.0 (3)	0.0 (0)	0.884	58.7	7	Fair
2011			337.6 (4)	121.6 (4)			≥8	
2010			97.6 (4)	0.0 (0)			≥4	
2009[a]								
2008[a]								
2007	3.3 (1)	4-4+ (2)	38.7 (2)	0.0 (0)	0.642	35.8	5	Poor
2006	3.7 (2)	4-4+ (2)	10.0 (1)	0.0 (0)	0.755	53.0	5	Poor
2005	4.3 (2)	2-2+ (4)	14.1 (1)	0.0 (0)			7	Fair
2004	4.3 (2)	2-2+ (4)	65.9 (3)	1.1 (2)			11	Good
2003[b]								
2002	4.3 (2)	2-2+ (4)	126.7 (4)	1.3 (2)			12	Good
2001	4.3 (2)	2-2+ (4)	138.7 (4)	1.3 (2)			12	Good

[a] Lake drawn down for repairs in 2009

[b] Lake renovated in 2003

Table 49. Mean back calculated lengths (in) at each annulus for redear sunfish collected at Mauzy Lake in October 2015.

Year class	No.	Age 1	2	3	4	5	6	7	8
2014	4	2.8							
2013	15	2.6	4.3						
2012	8	2.8	4.9	5.9					
2011	2	3.0	4.8	6.1	6.5				
2010	3	2.6	4.5	5.6	6.5	6.8			
2009	1	2.6	5.3	6.1	6.9	7.6	8.0		
2007	1	2.6	4.5	5.6	6.8	7.1	7.7	8.0	8.3
Mean		2.7	4.6	5.9	6.6	7.0	7.8	8.0	8.3
No.		34	30	15	7	5	2	1	1
Smallest		1.9	3.5	5.4	6.1	6.7	7.7	8.0	8.3
Largest		3.6	5.9	6.8	6.9	7.6	8.0	8.0	8.3
Std error		0.1	0.1	0.1	0.1	0.2	0.2	-	-
95% CI (±)		0.1	0.2	0.2	0.2	0.3	0.3	-	-

nwd4rea.d15

Table 50. Population assessment for redear sunfish based on spring electrofishing at Mauzy Lake from 2007-2015 (scoring based on statewide assessment).

Year	Mean length age-3 at capture	Years to 8.0 in	CPUE ≥ 8.0 in	CPUE ≥ 10.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2015	5.9 (2)	≥ 6 (1)	18.7 (4)	0.0 (0)			7	Fair
2014			27.4 (4)	0.0 (0)			≥4	
2013			65.6 (4)	0.0 (0)			≥4	
2012	7.6 (4)	4-4+ (3)	33.0 (4)	0.0 (0)			11	Good
2011			35.2 (4)	0.0 (0)			≥4	
2010			14.4 (3)	0.0 (0)			≥3	
2009[a]								
2008[a]								
2007	8.2 (4)	3-3+ (4)	6.7 (2)	0.0 (0)	0.790	54.6	10	Fair

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

Table 51. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.75 hour of 15-minute diurnal electrofishing at Carpenter Lake in April 2015.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std. error
Largemouth bass	1	5	5	3	2	13	10	21	21	6	2	1	2	1	2	3	5	103	137.3	4.8

nwd5psd.d15

Table 52. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carpenter Lake 1999-2015.

	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.
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.d15

Table 53. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Carpenter Lake during October 2015. Standard errors are in parentheses.

Length group					
8-11.9 in		12.0-14.9 in		≥15.0 in	
No.	Wr	No.	Wr	No.	Wr
43	88 (1)	14	93 (3)	13	104 (2)

nwd5lmb.d15

Table 54. Mean back calculated lengths (in) at each annulus for largemouth bass collected at Carpenter Lake in October 2015.

Year		Age					
class	No.	1	2	3	4	5	6
2014	19	5.7					
2013	15	6.0	8.8				
2012	4	6.3	9.1	10.4			
2011	4	5.9	9.4	10.6	11.6		
2010	5	6.8	9.0	10.5	12.0	13.0	
2009	1	5.5	10.5	12.2	13.3	14.8	16.8
Mean		6.0	9.0	10.6	12.0	13.3	16.8
No.		48	29	14	10	6	1
Smallest		3.9	7.9	9.5	10.1	11.7	16.8
Largest		7.6	10.5	12.2	13.3	15.1	16.8
Std error		0.1	0.1	0.2	0.3	0.6	
95% CI (±)		0.2	0.2	0.4	0.5	0.9	

nwd5lmba.d15

Table 55. Population assessment for largemouth bass based on spring electrofishing at Carpenter Lake from 2001-2015 (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
2015	10.6 (2)*		12.0 (1)	17.3 (3)	0.0 (0)				
2014		16.0 (2)	48.0 (3)	30.4 (4)	12.8 (4)			≥13	
2013		69.3 (3)	20.0 (2)	22.7 (3)	5.3 (4)			≥12	
2012		12.0 (1)	46.7 (3)	22.7 (3)	1.3 (2)			≥9	
2011		182.7 (4)	73.3 (4)	9.3 (2)	4.0 (4)			≥14	
2010	10.1 (2)	72.0 (4)	10.7 (1)	12.0 (2)	2.7 (3)	0.438	35.5	12	Good
2009	10.3 (2)	97.9 (4)	18.7 (1)	8.0 (2)	0.0 (0)			9	Fair
2008	10.3 (2)	120.3 (4)	9.0 (1)	11.0 (2)	1.0 (2)	0.561	42.9	11	Good
2007	10.3 (2)	39.9 (2)	12.0 (1)	10.7 (2)	1.3 (2)	0.560	42.9	9	Fair
2006	11.6 (4)	78.7 (4)	24.0 (2)	9.3 (2)	0.0 (0)	1.160	68.7	12	Good
2005	11.6 (4)	132.0 (4)	30.7 (2)	2.7 (1)	0.0 (0)			11	Fair
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 (1)	12.0 (1)	21.3 (3)	0.0 (0)			9	Fair
2001	11.6 (4)	8.0 (1)	90.7 (4)	66.7 (4)	1.3 (2)			15	Good

* Back calculated age table

Table 56. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected during 0.75 hour of electrofishing at Carpenter Lake in May 2015.

	Inch class											
Species	2	3	4	5	6	7	8	9	10	Total	CPUE	Std. error
Bluegill	2	14	36	44	96	69				261	348.0	65.5
Redear sunfish				2	5	3	12	17	1	40	53.3	11.4

nw d5bg.d15

Table 57. Spring electrofishing CPUE (fish/hr) for each length group of bluegill (1999-2015) and redear sunfish (2010-2015) collected at Carpenter Lake during spring samples.

Bluegill	Length group											
	< 3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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.d15

Redear	Length group											
	< 3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
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.d15

Table 58. Mean back calculated lengths (in) at each annulus for bluegill collected at Carpenter Lake in October 2015.

Year class	No.	Age 1	2	3	4	5	6
2014	15	2.6					
2013	6	3.0	5.0				
2012	3	2.5	4.8	6.1			
2011	2	2.0	4.7	5.7	6.0		
2010	8	3.0	4.7	5.7	6.2	6.5	
2009	3	3.2	5.5	6.2	6.6	6.9	7.0
Mean		2.8	4.9	5.9	6.2	6.6	7.0
No.		37	22	16	13	11	3
Smallest		1.6	3.6	4.2	4.6	5.1	6.9
Largest		4.5	6.0	6.5	6.8	7.1	7.1
Std error		0.1	0.1	0.1	0.2	0.2	0.1
95% CI (±)		0.2	0.2	0.2	0.3	0.3	0.1

nwd5bga.d15

Table 59. Population assessment for bluegill based on spring electrofishing at Carpenter Lake from 2001-2015 (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
2015	4.9 (3)	4-4+ (2)	220.0 (4)	0.0 (0)			9	Fair
2014			333.3 (4)	1.3 (2)			≥6	
2013			312.0 (4)	0.0 (0)			≥4	
2012			147.2 (4)	0.0 (0)			≥4	
2011			180.8 (4)	0.0 (0)			≥4	
2010	4.9 (3)	3-3+ (3)	101.3 (4)	0.0 (0)	0.615	45.9	10	Fair
2009	4.6 (3)	3-3+ (3)	140.0 (4)	0.0 (0)			10	Fair
2008	4.6 (3)	3-3+ (3)	150.0 (4)	0.0 (0)	0.571	43.9	10	Fair
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 (4)	0.0 (0)	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 (3)	4.0 (2)	1.427	76.0	13	Good
2002	5.6 (4)	2-2+ (4)	18.4 (1)	1.2 (1)			10	Fair
2001			145.7 (4)	41.3 (4)			≥8	

Table 60. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.375 hour of 7.5-minute diurnal electrofishing at Washburn Lake in April 2015.

	Inch class																			
Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std. error
Largemouth bass	10	12	3	16	46	26	7	2	1						1	1	1	127	338.7	44.9

nwd8psd.d15

Table 61. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Washburn Lake* during spring samples 2001-2015.

	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.
2015	66.7	22.8	253.3	61.5	8.0	4.6	10.7	2.7	8.0	4.6	338.7	44.9
2014	90.7	7.1	333.3	30.8	8.0	4.6	10.7	2.7	5.3	2.7	442.7	23.3
2012	213.3	39.8	218.7	46.3	16.0	0.0	8.0	0.0	5.3	2.7	456.0	77.7
2011	205.3	44.9	133.3	35.3	2.7	2.7	5.3	2.7	0.0		346.7	78.6
2010	96.0	28.1	80.0	16.7	5.3	5.3	2.7	2.7	2.7	2.7	184.0	45.5
2009	104.0	60.0	82.7	39.8	0.0		10.7	5.3	0.0		197.3	104.3
2008	170.7	42.9	61.3	21.8	16.0	0.0	13.3	9.6	0.0		261.3	59.6
2007	133.3	35.3	80.0	4.6	16.0	4.6	21.3	9.6	0.0		250.7	30.8
2006	96.0	9.2	98.7	39.3	64.0	0.0	18.7	5.3	2.7	2.7	277.3	25.4
2005	43.6	11.2	146.2	16.0	28.2	5.1	2.6	2.6	2.6	2.6	220.5	25.3
2004	46.2	4.4	353.9	49.5	0.0		0.0		0.0		400.0	51.2
2003	123.1	33.5	438.5	49.5	0.0		0.0		0.0		561.5	52.4
2002	50.0		321.4		0.0		0.0		0.0		371.4	0.0
2001	260.0		8.0		0.0		0.0		0.0		268.0	0.0

* Washburn Lake renovated summer 1999 and restocked spring 2000

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Table 62. Population assessment for largemouth bass based on spring electrofishing at Washburn Lake 2003-2015 (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
2015			8.0 (1)	10.7 (2)	8.0 (4)				
2014		90.7 (4)	8.0 (1)	10.7 (2)	5.3 (4)			≥11	
2012			16.0 (1)	8.0 (2)	5.3 (4)			≥7	
2011			2.7 (1)	5.3 (2)	0.0 (0)			≥3	
2010	10.7 (2)	96.0 (4)	5.3 (1)	0.0 (0)	0.0 (0)	0.819	55.9	7	Poor
2009	13.1 (4)	99.7 (4)	0.0 (0)	10.7 (2)	0.0 (0)			10	Fair
2008	13.1 (4)	165.9 (4)	16.0 (1)	13.3 (2)	0.0 (0)	1.117	67.3	11	Fair
2007	13.1 (4)	131.2 (4)	16.0 (1)	21.3 (3)	0.0 (0)	0.944	61.1	12	Good
2006	11.2 (3)	94.7 (4)	64.0 (4)	18.7 (3)	2.7 (3)	0.669	48.8	17	Excellent
2005	11.2 (3)	41.0 (3)	28.2 (2)	2.6 (1)	2.6 (3)			12	Good
2004	11.2 (3)	48.3 (3)	0.0 (0)	0.0 (0)	0.0 (0)			6	Poor
2003	11.2 (3)	131.6 (4)	0.0 (0)	0.0 (0)	0.0 (0)			7	Poor

Table 63. Length frequency and CPUE (fish/hr) for bluegill and redear sunfish collected in 0.5 hour of electrofishing at Washburn Lake in May 2015.

	Inch class										
Species	2	3	4	5	6	7	8	9	Total	CPUE	Std. error
Bluegill	13	35	28	13	21	40	8		154	308.0	20.8
Redear			7	15	9	28	41	6	106	212.0	55.1

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Table 64. Spring electrofishing CPUE (fish/hr) for each length group of bluegill (2001-2015) and redear sunfish (2012-2015) collected at Washburn 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		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2015	26.0	13.6	152.0	18.2	122.0	17.4	8.0	4.6	0.0		308.0	20.8
2014	0.0		181.3	64.1	133.3	9.6	8.0	4.6	0.0		322.7	55.9
2013	10.7	7.1	101.3	16.2	109.3	58.5	2.7	2.7	0.0		224.0	46.2
2012	30.0	11.9	158.0	27.6	64.0	23.3	22.0	6.8	0.0		274.0	49.1
2011	24.0	10.7	93.3	16.5	33.3	10.4	5.3	2.7	0.0		156.0	19.6
2010	53.3	16.2	152.0	57.9	32.0	0.0	0.0		0.0		237.3	41.7
2009	60.0	15.1	80.0	19.0	138.0	10.0	0.0		0.0		278.0	20.8
2008	2.7	2.7	152.0	37.8	168.0	48.7	0.0		0.0		322.7	69.5
2007	58.7	14.1	245.3	37.1	40.0	12.2	0.0		0.0		344.0	54.5
2006	58.7	50.7	138.7	39.3	32.0	16.0	0.0		0.0		229.3	81.6
2005	161.5	31.9	155.8	18.9	9.6	3.7	0.0		0.0		326.9	39.3
2004	80.8	7.4	48.1	3.7	11.5	5.0	21.2	10.6	0.0		161.5	13.0
2003	7.7	3.1	71.2	12.7	113.5	39.9	0.0		0.0		192.3	39.9
2002			46.5		102.3		0.0		0.0		148.8	0.0
2001			28.0		64.0		4.0		0.0		96.0	0.0

* Washburn Lake renovated summer 1999 and restocked spring 2000
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Redear	Length group											
	< 3.0 in		3.0-5.9 in		6.0-7.9 in		>8.0 in		>10.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2015	0.0		44.0	12.4	74.0	23.0	94.0	29.5	0.0		212.0	55.1
2014	0.0		5.3	2.7	85.3	14.9	98.7	30.8	0.0		189.3	39.8
2013	0.0		96.0	20.1	85.3	2.7	0.0		0.0		181.3	22.8
2012	0.0		28.0	12.4	2.0	2.0	0.0		0.0		30.0	11.0

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Table 65. Population assessment for bluegill based on spring electrofishing at Washburn Lake 2003-2015 (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
2015			130.0 (4)	8.0 (2)			≥6	
2014			141.3 (4)	8.0 (2)			≥6	
2013			112.0 (4)	2.7 (1)			≥5	
2012			86.0 (4)	22.0 (4)			≥8	
2011			38.7 (2)	5.3 (2)			≥4	
2010			32.0 (2)	0.0 (0)			≥2	
2009	4.7 (3)	3-3+ (3)	138.0 (4)	0.0 (0)	0.599	45.1	10	Fair
2008	5.3 (4)	2-2+ (4)	168.0 (4)	0.0 (0)	2.046	87.1	12	Good
2007	5.3 (4)	2-2+ (4)	40.0 (2)	0.0 (0)	1.050	65.0	10	Good
2006	5.3 (4)	2-2+ (4)	32.0 (2)	0.0 (0)			10	Good
2005	5.4 (4)	2-2+ (4)	9.6 (1)	0.0 (0)			9	Fair
2004	5.4 (4)	2-2+ (4)	32.7 (2)	22.0 (4)			14	Excellent
2003	5.4 (4)	2-2+ (4)	118.0 (4)	0.0 (0)			12	Good

Table 66. Length frequency and CPUE (fish/hr) of catfish collected during 1.17 hr of diurnal low-pulse electrofishing (5.0 minute samples) at Ken Lake (PWMA) during June 2015.

Species	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	37	39	41	Total	CPUE
Blue catfish	5	19	18	9	7	4	1				1	2	1				1	1	1			70	59.8
Flathead catfish																				1	1	2	1.7
Channel catfish		1																				1	0.9

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SOUTHWESTERN FISHERY DISTRICT

Project A: Lake and Tailwater Sampling

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 mid-May from both lake arms (Tables 2-5). The overall catch rate for largemouth (119.7 fish/hr) dipped from previous years (Table 3) due to lower catch rates of 15.0-in plus and age-1 size groups. A delayed sampling date due to prolonged elevated water levels (mid-April to early-May) may explain the dip in larger fish sampled. Though the 2014 year class appears weak (age-1 CPUE = 19.2 fish/hr; Table 4), the bass population assessment rated "Good". The good year class of 2013 is still evident in the above average CPUE of the 8.0-11.9 in length group (44.3 fish/hr; Table 3). Spotted bass catch rates remain low (6.8 fish/hr) as distribution remains tied to the lower 1/3 of the reservoir.

Largemouth bass size structure indices (PSD=59 and RSD_{15}=23; Table 5) were slightly lower than previous year averages. Spotted bass size structure remains high quality as well (PSD=48 and RSD_{14}=23). The smallmouth bass population remains poorly represented in samples (Tables 2 and 6), but larger fish are reported and seen regularly by anglers.

Fall young of year sampling (Tables 6 and 7) suggested 2015 will be another weaker year class. Age-0 largemouth bass mean length (3.8 in) was low compared to most years, as was age-0 CPUE $\geq$5.0 in (18.7 fish/hr). Fluctuating water levels during mid-spring (mid-April to mid-May) likely negatively impacted nesting success. The good year classes of 2009, 2010, 2011 and 2013 still give the largemouth bass population a solid foundation to continue as a very good fishery.

Crappie

Trap netting for crappie yielded 1,222 total crappie (562 black crappie and 660 white crappie) in 56 net-nights (Table 8). Age-0 catch rates of both species represented 54% of total crappie catch (40% of white crappie and 70% of black crappie catch rates). The crappie population appears to remain an even mix of both species (55% white and 45% black). Seemingly good year classes (2010 and 2011) identified from previous sampling were virtually nonexistent in 2015 sampling (Tables 10 and 11). The good year class of 2013 for both species appears to be carrying the fishery. White crappie reached harvestable size (9.0 in) in 2.3 years and 10.0 inches in 3.1 years (calculated from Von Bertalanffy equation; FAST 3.0 software). Lack of larger sizes of black crappie did not allow for growth curve analysis. The assessment rating dropped to "Poor" for black crappie due to slow growth and low representation of larger fish. White crappie dipped to a "Fair" assessment; however, the overall crappie assessment remained "Good" due to a high CPUE of age-0 fish (Tables 11-14). The length-weight equations for black crappie (n=170) and white crappie (n=398) are:

$$\text{Black crappie } \text{Log}_{10}\text{ (weight)} = -3.56333+3.26195* \text{Log}_{10}\text{ (Length)}$$
$$\text{White crappie } \text{Log}_{10}\text{ (weight)} = -3.83315+3.50920* \text{Log}_{10}\text{ (Length)}$$

Line slopes for both species were notably depressed compared to previous years.

Hybrid Striped Bass

Gillnet sampling for hybrids in mid-November yielded a moderate catch rate (10.1 fish/nn) overall, with all sizes represented (Table 15). The assessment rating for the fishery was "Good", but lower than expected as catch rates of larger-sized (15.0-in plus; Table 15) and age-1 fish (Table 18) caused the rating to slide from the previous sample in

2012 (Table 16). Larger-sized fish were in poorer condition (Wr=78) than previous years (Table 17), similar to the crappie population. The length-weight equation for hybrid striped bass (n=75) was:

$$\text{Log}_{10}\text{ (weight)} = -3.50897+3.10007^{*}\ \text{Log}_{10}\text{ (Length)}$$

This was significantly different (20%) than 2013. Growth rates and age composition (by length) were in line with historic values. A later sampling date may have dampened fish numbers due to fish scattering after lake destratfication as numerous smaller-sized hybrids were noted in fall bass sampling in mid-October. The population will be reevaluated in 2016 prior to destratification; similar to the historic sampling time frame (early October).

Briggs Lake (18 acres)

Sunfish

The sunfish population was sampled by nocturnal electrofishing on May 7 (Table 19). Overall CPUE of bluegill was two-fold higher than most other years, carried by above average CPUE of the smallest and largest length groups (Table 20). Redear CPUE (214.0 fish/hr) eclipsed the previous year's high bolstered by the catch rate of the $\geq$8.0-in length group (108.0 fish/hr, Table 21). Size structure indices for bluegill (PSD = 71) and redear (PSD = 65) continued to reflect high quality fisheries (Table 22). The bluegill population assessment rebounded to "Excellent" and the redear assessment was again "Excellent"; similar to previous years (Tables 23 and 24). Sampling of smaller-sized redear remains enigmatic and a poor predictor of year class strength.

Fagan Branch Reservoir (140 acres)

Channel Catfish

Channel catfish were sampled with tandem set hoop nets in late-October with moderate success (23.3 fish/set-night) with all sizes represented up to 21.0 inches in length (Table 25). Condition of channel catfish (Wr = 92-93) was good for all length groups sampled (Table 26) and greatly improved from the previous sample in 2010 (Wr = 79-81). A reduction in stocking rate and frequency were likely contributing factors to improved condition indices as the lake is highly oligotrophic (secchi depths range from 12-25 feet).

Green River Lake (8,210 Acres)

Muskie

Diurnal muskellunge sampling continues to be problematic as multiple attempts were made with mixed results that were not reflective of the current population or previous years' sampling norms. As a result, no data is presented for this year. Trapnet sampling will be used in the spring of 2017 to hopefully help in the population assessment.

Black Bass

Nocturnal bass electrofishing was conducted on the upper and lower ends of each lake arm (Green River and Robinson Creek) during early-mid May (Table 27). Largemouth bass catch rates were similar across all sites, except the upper site in the Green River arm (Holmes Bend) which doubled all other sites. Overall largemouth CPUE (107.8 fish/hr) dipped below the high marks of the previous couple of years; however, catch rate of largemouth $\geq$15.0 in (51.7 fish/hr) remained high (Table 28).

Largemouth bass size structure indices were similar to previous year's values (PSD = 76 and RSD = 52; Table 29). The population assessment for largemouth bass fell back to "Good" which is similar to most years (Table 30). Largemouth condition indices were good for all length groups (Table 32). Curiously, bass mean length at age-3 (13.1 in) lagged behind previous years (Table 30),

Spotted bass catch rate (28.0 fish/hr) dropped from the previous year's highs (40.8 fish/hr in 2013 and 67.7 fish/hr in 2012). The spotted bass population characteristics (size structure, growth rates and visible condition) remain exceptional. Prior to alewife introduction in 2004, few spotted bass achieved 12.0 inches in length.

Fall YOY sampling (Tables 31-34) suggests a good largemouth bass year class for 2015. Mean age-0 largemouth bass length (5.7 in) and age-0 CPUE $\geq$5.0 in (44.7fish/hr) were both well above average. Similar to Barren River Lake, the 2014 year class appears weaker (Table 33).

Walleye/White bass

Experimental gill net sampling for white bass and walleye was conducted during late-November (Table 35). White bass CPUE (26.6 fish/nn) exploded, dominated by the 2014 year class (88% of white bass collected; Table 36). Efficacy of OTC marks clouds determination of these fishes origin (stocked or natural). Condition indices (Wr = 94 – 100; Table 37) and growth (mean length age-1+ = 13.2 in; Table 38) for these fish has been excellent. Presence of age-0 fish indicates natural reproduction has occurred as the last year of white bass stocking was 2014. The length-weight equation for white bass (n=178) was:

$$\text{Log}_{10}\,(\text{weight}) = -3.50772+3.18060*\ \text{Log}_{10}\,(\text{Length})$$

The overall walleye CPUE (2.5 fish/nn) increased slightly from the previous year with low numbers of multiple year classes (age-0 through age-6) represented (Table 39). Growth rate (19.5 in by age-2+; Table 40) and condition (Wr = 90-99; Table 41) remain excellent. The walleye population assessment increased to “Fair”. The length-weight equation for walleye (n=19) was:

$$\text{Log}_{10}\,(\text{weight}) = -3.85324+3.33533*\ \text{Log}_{10}\,(\text{Length})$$

Marion County Lake (25 acres)

Channel catfish

Channel catfish were sampled with tandem set hoop nets in late-October with poor results (3.7 fish/set-night; Table 42); similar to the previous sampling effort in 2011 (5.2 fish/set-night). The lake was not stocked in 2015 and the lack of stocked fish was noticeable as length frequency was truncated, with no fish captured less than 15.0 inches in length. Removal of stock-size (age-1) fish from 2011 data yields a similar catch rate (3.0 fish/set-night) as the lake was stocked in July (12 fish/acre). Condition, by length group, of channel catfish was fair (Wr = 79 and 89) but dissimilar to values from 2011 (Wr=97 and 86 for the same size groups). Removal of age-1 fish (likely stockers), however, makes indices similar across years. Further examination of the influence of stocking rate on channel catfish density in small impoundments may be appropriate.

Shanty Hollow Lake (136 acres)

Black Bass

Nocturnal bass sampling on April 30 yielded an overall CPUE of largemouth bass of 264.0 fish/hr; similar to historic values (Tables 44 and 45). Size structure index (PSD = 28; Table 46) was similar to previous years and indicative of the persisting poor recruitment to larger length classes (15.0-in plus). The population assessment remained “Good” despite a dip in mean length at age-3 (11.1 in; Table 47). Removal of smaller size groups of bass plus resumption of fertilization in 2016 should aid bass growth and bluegill numbers. Chronic low water levels (6-12 foot reductions) from late-summer through fall still plague the lake in drier years and likely serves to confound bass and sunfish interactions. Mid-fall condition indices (Wr = 85-87; Table 48) were similar to previous years.

Sunfish

Early-May sunfish (bluegill and redear) electrofishing catch rates (Tables 49-51) plummeted for all smaller length groups while larger length groups remained steady. Discontinuation of the fertilization program from 2013-2015 seems a likely cause of these declines in small fish production. Bluegill size structure was good (PSD = 58) and the bluegill population assessment remained “Fair” (Tables 52-53).

The redear sunfish population density remains low (CPUE = 25.3 fish/hr) and enigmatic, but with good size structure (PSD = 79 and RSD = 32). The population assessment rated “Fair”, similar to previous years (Table 54).

West Fork Drakes (88 acres)

Black Bass

Results of diurnal bass electrofishing in late-April (Tables 55-57) seemed to indicate a lower-density largemouth population (145.0 fish/hr) with a fair, but deceptive size structure (PSD 64). Similar to previous years, the largemouth bass length frequency was truncated after 12.0-13.0 in. Lack of larger fish seems to suggest moderate harvest and/or fishing pressure. The lake is in an urban setting, located just outside of Franklin, KY and seems to have the right recipe for higher pressure and maybe harvest. The lake is a shallow river-run system with good productivity (secchi depths in 2-3 foot range) and immense shallow cover or nursery areas. The largemouth bass population assessment remained “Good”, similar to previous years (Table 58).

Sunfish

Electrofishing results from late-April were similar to previous years for bluegill (Tables 59-61). Likewise, redear catch rates differed little from previous years, except for the slight increase in 8.0-in plus fish (28.0 fish/hr). This bump in larger fish improved size structure (PSD = 72) and the population assessment rating increased to “Fair” (Tables 62-64). Bluegill size structure (PSD = 34) and population assessment remained “Fair”, hamstrung by the lack of 8.0-in plus fish.

Table 1. Lake sampling conditions in the Southwestern Fisheries District in 2015.

Lake	Date	Species	Weather	Water temp. surface (F)	Conductivity (umhos)	Secchi (in.)	Comments
Barren River	5/11	Bass	clear	71-72	160	25	dingy, w ater 4-ft above summer pool & falling just under 1-ft/day w / 3900 CFS
	5/12	Bass	w indy	76	160	18-20	dingy, w ater 4-ft above summer pool & falling just under 1-ft/day w / 3900 CFS
	5/13	Bass	w indy	74-76	155	20	dingy, w ater 3-ft above summer pool & falling just under 1-ft/day w / 3900 CFS
	10/14	YOY bass		69-71		34	stable w ater conditions
	10/15	YOY bass		68-71		36-48	stable w ater conditions
	10/16	YOY bass		70-71		42	stable w ater conditions
	Nov. 3-6	Crappie		56-60		24-48	7-10 ft below summer pool & falling 1-ft/day
	Nov. 11 -13	Hybrids		52-55		42-46	15-17 ft. below summer pool & falling 1-ft/day
Green River	3/31	muskie		50-55	90	18	1-ft below summer pool & falling w / 2000 CFS outflow .
	4/6	muskie		54-56	90	22-36	3-ft above summer pool, poor sample only saw 5 fish.
	5/12	Bass	w indy	71-74	110	30	stable w ater conditions
	5/14	Bass	calm	74-76	120	20	stable w ater conditions
	Nov. 16-17	YOY bass & age data		56-58	110	24-36	4-ft below summer pool
	Nov. 19-20	YOY bass & age data		59-60	110		3-ft below pool
	Nov. 23-24	White bass/w alleye		54-56			Lake on fall (dropped out 2' during sampling period
Briggs	5/7	Bluegill & redear	clear	71-72			Normal
Fagan Branch	10/26	Channel Catfish		68			Normal
Marion Co.	10/23 & 29	Channel Catfish		67-69			Normal
Shanty Hollow	4/30	Bass		64-66	85		Normal
	5/5	BG/RE	clear	68-70	90	47	Normal
	10/13	Bass/BG/RE age data					Normal
W. Fk. Drakes	4/29	Bass/BG/RE	clear	61-64		29	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 from mid-May 2015.

		Inch class																					
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Peninsula	Smallmouth bass							1													1	0.7	0.7
	Spotted bass			1	2	1	3	2	7	7	3										26	17.3	4.7
	Largemouth bass			2	5	5	7	22	36	37	28	38	24	10	15	8	1	3			241	160.7	10.9
Beaver Creek	Smallmouth bass																				0		
	Spotted bass						1														1	0.7	0.7
	Largemouth bass	1		3	7	7	6	14	35	13	21	16	8	5	3		3				142	94.7	12.9
Peter Creek	Smallmouth bass										1										1	0.7	0.7
	Spotted bass					1		2	2	2		1									8	5.3	1.8
	Largemouth bass		3	3	1	2	5	11	12	14	15	10	12	9	12	7	4	1	1		122	81.3	8.7
Walnut Creek	Smallmouth bass																				0		
	Spotted bass				1			2	1			1	1								6	4.0	3.1
	Largemouth bass	3	2	4	29	26	6	20	52	18	13	18	8	5	3	2	2	1	1		213	142.0	27.8
TOTAL	Smallmouth bass							1			1										2	0.3	0.2
	Spotted bass			1	3	2	4	6	10	9	3	2	1								41	6.8	2.3
	Largemouth bass	4	5	12	42	40	24	67	135	82	77	82	52	29	33	17	10	5	1	1	718	119.7	12.2

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Table 3. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Barren River Lake during April, May, and late-March 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	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

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Table 4. Population assessment of largemouth bass based on spring sampling at Barren River Lake from 2005-2015 (scoring based on statewide assessment).

	Year																	
	2005		2006		2007		2008		2009		2010		2012		2014*		2015	
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	14.1	4	14.4	4	14.4	4	14.4	4	14.4	4	14.6	4	14.6	4
Spring CPUE age-1	11.2	1	17.5	1	18.0	1	13.8	1	18.9	2	35.7	3	43.8	3	44.5	3	19.2	1
Spring CPUE 12.0-14.9 in	31.5	3	57..17	4	37.7	4	30.3	3	18.8	2	36.7	4	65.2	4	48.7	4	40.2	4
Spring CPUE $\geq$15.0 in	36.8	4	44.0	4	37.2	4	38.3	4	23.2	4	28.8	4	54.7	4	44.0	4	24.7	4
Spring CPUE $\geq$20.0 in	2.0	2	1.3	2	1.0	2	1.5	2	1.3	2	0.7	2	2.7	3	2.0	3	1.2	2
Instantaneous Mortality (z)							-0.62								-0.5584			
Annual Mortality (A)%							46.2								44.2			
Total Score		14		15		15		14		14		17		18		18		15
Assessment Rating		Good		Good		Good		Good		Good		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 mid-May 2015. 95% confidence intervals are in parentheses.

Area	Species	No. ≥stock size	PSD	RSD[A]
Peninsula	Largemouth bass	234	70 (6)	26 (6)
	Spotted bass	25	68 (19)	*
Beaver Creek	Largemouth bass	131	53 (9)	15 (7)
	Spotted bass	1	*	*
Peter Creek	Largemouth bass	115	74 (8)	40 (9)
	Spotted bass	8	63 (36)	98 (85)
Walnut Creek	Largemouth bass	175	41 (8)	13 (5)
	Spotted bass	6	50 (44)	33 (41)
Total	Largemouth bass	655	59 (3)	23 (4)
	Spotted bass	40	63 (16)	8 (8)

[A] Largemouth bass = RSD_{15}, spotted bass and smallmouth 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 mid-October 2015.

		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
Peninsula	Smallmouth bass					1														1	2	1.3	0.7
	Spotted bass	1	53	9	5	5	2	3		1	3	3	6	4	1	1					97	64.7	12.1
	Largemouth bass	28	225	61	6	1	5	3	3	1	4	4	10	5	8	3	2	2	1		372	248.0	70.0
Beaver Creek	Smallmouth bass																				0		
	Spotted bass												1								1	0.7	0.7
	Largemouth bass	3	114	17	9	23	8	7	2	11	17	16	18	9	6	2	1				263	175.3	19.5
Peter Creek	Smallmouth bass																				0		
	Spotted bass		6	7	2	2	1		1				1	1			1				22	14.7	5.9
	Largemouth bass	11	205	35	10	4	6	2	6	11	7	7	6	7	6	2	3	1			329	219.3	53.8
Walnut Creek	Smallmouth bass																				0		
	Spotted bass		1	2																	3	2.0	1.2
	Largemouth bass	8	136	51	9	16	15	1		8	13	9	6	2	2						276	184.0	49.2
TOTAL	Smallmouth bass					1														1	2	0.3	0.2
	Spotted bass	1	60	18	7	7	3	3	1	1	3	3	8	5	1	1	1				123	20.5	8.4
	Largemouth bass	50	680	164	34	44	34	13	11	31	41	36	40	23	22	7	6	3	1		1240	206.7	21.9

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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.

	Age-0[A]		Age-0[A]		Age-0 ≥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		

[A] Data collected by fall (September-November) diurnal electrofishing. Mean lengths were determined by analysis of otolith, 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 - D15
swdbrlag. D02 - D14
swdbrlyy. D02 - D15

Table 8. Length frequency and CPUE (fish/nn) of each inch class of white and black crappie collected by trap net (56 net-nights) at Barren River Lake from early-November 2015.

Location	Species	Inch class												Total	CPUE	Std. error
		2	3	4	5	6	7	8	9	10	11	12	13			
Beaver Creek																
	White crappie		34	189	8	72	26	22	25	65	24	1		466	17.3	4.6
	Black crappie	3	303	15	42	33	23	5	1	1	1			427	15.8	6.8
Walnut Creek																
	White crappie	1	37	1	2	62	28	13	12	23	14		1	194	6.7	3.2
	Black crappie	2	64	4	21	13	15	8	6	2				135	4.7	2.1
Total																
	White crappie	1	71	190	10	134	54	35	37	88	38	1	1	660	11.8	2.8
	Black crappie	5	367	19	63	46	38	13	7	3	1			562	10.0	3.5

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Table 9. Age frequency and CPUE (fish/nn) of black crappie collected during 56 net-nights at Barren River Lake from early-November 2015.

Age	Inch class										Total	Percent	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11				
0	5	367	19								391	70	7.0	3.0
1				56	18		1	1			76	13	1.4	0.4
2				7	26	36	12	3			84	15	1.5	0.3
3					2	2		1	1		6	1	0.1	0.0
4														
5									2	1	3	1	0.1	0.0
6														
7								2			2	0	0.0	0.0
Total	5	367	19	63	46	38	13	7	3	1	562	100		
%	1	65	3	11	8	7	2	1	1	0	100			

swdbrltn.d15; swdbrlag.d15

Table 10. Age frequency and CPUE (fish/nn) of white crappie collected during 56 net-nights at Barren River Lake from early-November 2015.

	Inch class															Std.
Age	2	3	4	5	6	7	8	9	10	11	12	13	Total	Percent	CPUE	error
0	1	71	190	4									266	40	4.8	1.7
1				6	134	48	18						206	31	3.7	1.0
2						6	18	35	88	38			185	28	3.3	0.7
3																
4								2					2	0	0.0	0.0
5											1	1	2	0	0.0	0.0
Total	1	71	190	10	134	54	36	37	88	38	1	1	661	100		
%	0	11	29	2	20	8	5	6	13	6	0	0	100			

swdbrltn.d15; swdbrlag.d15

Table 11. Black crappie assessment from trap netting at Barren River Lake from 1985-2015 (scoring based on statewide assessment).

	CPUE excluding age-0		CPUE age-1		CPUE age-0		CPUE ≥8.0 in		Mean length age 2+ at capture			
Year	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Total score	Rating
1985	3.5	1	0.7	1	0.3	1	0.8	1	7.4	1	5	P
1986	10.7	2	6.9	3	3.8	2	2.8	2	8.7	2	11	F
1987	3.3	1	1.9	1	2.8	1	1.3	1	9.6	4	8	F
1988	6.2	2	5.7	2	0.1	1	0.4	1	9.3	3	9	F
1989	9.2	2	1.5	1	7.5	3	5.9	3	8.2	1	10	F
1990	29.1	4	26.1	4	0.1	1	1.9	1	8.8	2	12	F
1991	3.5	1	1.0	1	0.9	1	3.6	2	7.6	1	6	F
1992	9.2	2	3.5	2	0.1	1	4.2	2	7.7	1	8	F
1993	12.6	2	1.1	1	0.3	1	9.1	3	8.1	1	8	F
1994	0.7	1	0.1	1	0.8	1	0.7	1	8.8	2	6	P
1995	7.4	2	6.5	2	1.3	1	0.5	1	8.9	2	8	F
1996	9.0	2	0.8	1	0.5	1	4.2	2	7.8	1	7	P
1997	9.1	2	1.5	1	0.9	1	6.0	3	7.6	1	8	F
1998	1.7	1	0.1	1	1.8	1	1.6	1	8.2	1	5	P
1999	4.7	1	3.8	2	0.3	1	0.9	1	8.6	2	7	P
2000	1.8	1	0.2	1	0.2	1	0.7	1	7.8	1	5	P
2001	5.7	2	0.3	1	0.4	1	4.5	2	7.6	1	7	P
2002	4.6	1	1.0	1	3.1	2	3.3	2	8.7	2	8	F
2003	2.4	1	1.2	1	5.4	2	0.9	1	9.7	4	9	F
2004	6.9	2	4.4	2	0.7	1	2.2	2	9.2	3	10	F
2005*	6.4	2	2.3	1	2.0	1	4.4	2	9.1	3	9	F
2006*	2.7	1	1.4	1	0.6	1	1.3	1	8.9	3	7	P
2007	6.6	2	3.2	2	0.2	1	1.3	1	8.5	2	8	F
2008*	1.8	1	0.2	1	1.4	1	1.6	1	9.7	4	8	F
2009*	5.9	2	4.3	2	0.4	1	0.6	1	8.0	1	7	P
2010	5.7	2	1.4	1	0.8	1	3.6	2	8.7	2	8	F
2011	5.3	2	2.3	1	0.2	1	3.1	2	9.0	3	9	F
2012	5.2	2	1.0	1	0.1	1	3.3	2	8.3	2	8	F
2013	9.7	2	0.7	1	12.3	4	8.5	3	8.7	2	12	F
2015	3.1	1	1.4	1	7.0	3	0.4	1	7.8	1	7	P

* Age assessment data extrapolated from previous age data

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Table 12. White crappie assessment from trap netting at Barren River Lake from 1985 - 2015 (scoring based on statewide assessment).

	CPUE excluding age-0		CPUE age-1		CPUE age-0		CPUE ≥8.0 in		Mean length age 2+ at capture			
Year	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Total score	Rating
1986	13.6	3	3.6	2	1.9	1	8.9	3	9.0	2	11	F
1987	4.0	1	1.3	1	0.4	1	2.5	2	10.8	4	9	F
1988	3.1	1	2.5	1	0.2	1	2.5	2	11.1	4	9	F
1989	4.2	1	1.7	1	3.3	2	2.6	2	11.0	4	10	F
1990	22.8	4	20.8	4	0.5	1	13.4	4	10.8	4	17	G
1991	31.0	4	0.5	1	1.0	1	8.9	3	9.8	4	13	G
1992	6.8	2	5.1	2	0.1	1	4.0	2	11.5	4	11	F
1993	5.8	2	0.6	1	0.0	1	5.2	3	10.0	4	11	F
1994	0.7	1	0.1	1	0.7	1	0.4	1	10.6	4	8	F
1995	8.0	2	7.7	3	0.6	1	5.5	3	11.5	4	13	G
1996	6.3	2	0.8	1	1.4	1	5.6	3	9.7	4	11	F
1997	6.7	2	5.1	2	1.0	1	5.2	3	10.2	4	12	F
1998	1.2	1	0.7	1	2.0	1	0.9	1	10.9	4	8	F
1999	6.5	2	5.9	2	0.5	1	2.9	2	10.9	4	11	F
2000	2.5	1	0.3	1	0.0	1	2.4	2	9.3	3	8	F
2001	1.6	1	0.5	1	0.2	1	1.3	1	10.5	4	8	F
2002	1.4	1	0.3	1	1.2	1	0.8	1	10.7	4	8	F
2003	1.4	1	1.0	1	0.4	1	1.1	1	11.5	4	8	F
2004	1.6	1	0.9	1	0.2	1	1.3	1	11.1	4	8	F
2005*	0.7	1	0.6	1	0.0	1	0.7	1	11.0	4	8	F
2006*	0.3	1	0.2	1	0.0	0	0.2	1	10.6	4	7	P
2007	0.4	1	0.3	1	0.8	1	0.3	1	11.2	4	8	F
2008	0.0	1	0.0	1	0.2	1	0.0	1	10.8	4	8	F
2009*	4.4	1	4.0	2	0.0	1	4.0	2	10.2	4	10	F
2010	0.7	1	0.3	1	0.6	1	0.7	1	10.9	4	8	F
2011	4.7	1	4.5	2	0.2	1	2.8	2	10.9	4	10	F
2012	7.5	2	2.5	1	0.1	1	6.5	3	9.9	4	11	F
2013	5.6	2	0.2	1	11.9	4	5.6	3	10.1	4	14	G
2015	7.0	2	3.7	2	4.8	2	3.6	2	10.2	4	12	F

* Age assessment data extrapolated from previous age data

sw dbrltn.D85 - D15

Table 13. Population assessment for all crappie from Barren River trap net data collected from 2007-2015 (scoring based on statewide assessment).

	Year															
	2007		2008		2009		2010		2011		2012		2013		2015	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Population Density (CPUE age-1 and older)	7.0	2	1.8	1	10.3	2	6.4	2	10.0	2	12.7	2	15.4	3	10.1	2
Recruitment (CPUE age-1)	3.6	2	0.2	1	8.3	3	1.7	1	6.8	2	3.5	2	0.9	1	5.0	2
Recruitment (CPUE age-0)	1.0	1	1.6	1	0.4	1	1.4	1	0.5	1	0.2	1	24.2	4	11.7	4
Size Structure (CPUE $\geq$8.0 in)	1.6	1	1.6	1	4.6	2	4.3	2	5.8	3	9.8	3	14.1	4	4.0	2
Growth (Mean length age-2 at capture)	8.6	2	9.8	4	9.1	3	8.9	2	9.0	2	9.3	3	9.5	3	9.1	3
Instantaneous mortality (Z)	-1.59		NA		ND		NA		NA		NA		NA			
Annual mortality (A)%	79.9															
Total score:		8		8		11		8		10		11		15		13
Assessment rating:		Fair		Fair		Fair		Fair		Fair		Fair		Good		Good

swdbrltn.D06 - D15

Table 14. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected by trap nets (56 net-nights) at Barren River lake from early-November 2015. Numbers in parentheses represent 95% confidence intervals.

Location	Species	Number $\geq$5.0 in	PSD	RSD_{10}
Barren River Lake				
	White crappie	398	50 (5)	32 (4)
	Black crappie	171	14 (5)	2 (3)

swdbrltn.D15

Table 15. Length frequency and CPUE (fish/nn) for white bass and hybrid striped bass collected by experimental gillnets (8 net-nights) from mid-November at Barren River Lake, KY 2015.

	Inch class																	Std.
Species	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	error
Hybrid striped bass	1	7	5	2	2	2	10	20	11	8	5	2	2	2	2	81	10.1	5.6

swdbrlgn.d15

Table 16. Hybrid striped bass population assessment from experimental gillnetting at Barren River Lake 2012 and 2015 (scoring based on statewide assessment).

	Year			
	2012		2015	
Parameter	Value	Score	Value	Score
Mean length age-2+ at capture	18.4	4	18.5	4
CPUE age-1 and older	18.0	3	10.1	3
CPUE ≥15.0 in	12.2	4	8.0	3
CPUE age-1	7.0	3	2.4	1
Instantaneous Mortality (z)	-0.308		NA	
Annual Mortality (A)%	26.5			
Total Score		14		11
Assessment Rating		Excellent		Good

swdbrlag.d12, 15
swdbrlgn.d12, 15

Table 17. Relative weight (Wr) for each length group of hybrid striped bass collected by gill nets (8 net-nights) at Barren River Lake from mid-November, 2015. Standard errors are in parentheses.

	Length group		
	8.0-11.9 in	12.0-14.9 in	≥15.0 in
Wr	76 (2)	89 (14)	78 (1)
N	8	9	58

swdbrlgn.D15

Table 18. Age frequency and CPUE (fish/nn) of hybrid striped bass collected from experimental gillnets mid-November at Barren River Lake, 2015.

	Inch class																		
Age	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	Percent	CPUE	Std. error
0																0	0	0.0	
1	1	7	5	2	2	2										19	23	2.4	1.4
2							10	19	11	8						48	59	6.0	4.1
3								1			5	2	2			10	13	1.3	0.5
4																			
5																			
6														2	1	3	4	0.4	0.2
7																			
8															1	1	1	0.1	0.1
Total	1	7	5	2	2	2	10	20	11	8	5	2	2	2	2	81	100	10.1	5.6
%	1	9	6	2	2	2	12	25	14	10	6	2	2	2	2	100			

swdbrlgn.D15, swdbrlag.D15

Table 19. Length frequency and CPUE (fish/hr) of bluegill, redear sunfish and warmouth collected by 0.5 hours (4- 450-sec runs) of nocturnal electrofishing at Briggs Lake on 07 May 2015.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	Std. error
Bluegill	27	60	18	17	21	22	63	52	2		282	564.0	104.4
Redear sunfish			2	3	12	22	14	31	17	6	107	214.0	20.8
Warmouth		2	1	4	3	13	8	1			32	64.0	17.0

swdbrgbg.d15

Table 20. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Briggs Lake from early-mid May 2005-2015. 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
2005	14.0	80.0	84.0	18.0	196.0
	(14.0)	(16.3)	(14.8)	(8.3)	(12.4)
2006	4.0	86.0	100.0	52.0	242.0
	(2.3)	(33.5)	(42.9)	(14.0)	(72.1)
2007	8.0	83.2	84.8	25.6	201.6
	(4.4)	(9.9)	(26.1)	(9.9)	(33.7)
2008	288.0	106.0	70.0	16.0	384.0
	(175.0)	(31.2)	(18.9)	(5.7)	(96.2)
2009	19.2	137.6	17.6	19.2	193.6
	(10.3)	(19.5)	(6.9)	(6.5)	(21.5)
2010	20.8	94.4	153.6	52.8	321.6
	(14.2)	(38.0)	(81.0)	(41.9)	(159.3)
2011	66.0	94.0	60.0	24.0	244.0
	(15.1)	(39.2)	(19.7)	(3.3)	(60.7)
2012	56.0	158.0	62.0	16.0	292.0
	(32.2)	(32.7)	(21.3)	(7.3)	(53.7)
2013	4.8	40.0	81.6	19.2	145.6
	(2.0)	(13.6)	(26.5)	(4.1)	(43.1)
2014	3.2	27.2	128.0	9.6	168.0
	(2.0)	(10.3)	(25.7)	(4.7)	(32.4)
2015*	174.0	112.0	170.0	108.0	564.0
	(59.5)	(23.8)	(26.6)	(25.4)	(104.4)

swdbrgbg.D05 - D15

* nocturnal electrofishing used due to high water clarity

Table 21. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Briggs Lake during early-mid May 2005-2015. 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	≥10.0 in	
2005	na	14.0	2.0	4.0	na	20.0
		(8.9)	(2.0)	(4.0)		(6.9)
2006	4.0	2.0	70.0	22.0	2.0	98.0
	(2.3)	(2.0)	(8.3)	(6.0)	(2.0)	(10.5)
2007	na	8.0	62.4	12.8	1.6	83.2
		(3.6)	(13.0)	(6.5)	(1.6)	(16.9)
2008	1.6	3.2	na	4.0	na	8.0
	(1.6)	(2.0)		(2.3)		(3.6)
2009	1.6	8.0	54.4	17.6	4.8	81.6
	(1.6)	(6.2)	(14.8)	(12.0)	(3.2)	(25.1)
2010	na	9.6	16.0	17.6	1.6	43.2
		(3.9)	(7.2)	(9.6)	(1.6)	(19.9)
2011	na	4.0	14.0	28.0	12.0	46.0
		(4.0)	(2.0)	(10.6)	(4.0)	(14.4)
2012	4.0	58.0	94.0	6.0	2.0	162.0
	(2.3)	(19.2)	(33.1)	(3.8)	(2.0)	(49.9)
2013	1.6	41.6	48.0	56.0	6.4	147.2
	(1.6)	(16.7)	(18.8)	(11.9)	(3.9)	(37.6)
2014	1.6	8.0	96.0	67.2	8.0	178.2
	(1.6)	(3.6)	(12.9)	(13.1)	(4.4)	(24.0)
2015*	na	34.0	72.0	108.0	12.0	214.0
		(15.5)	(5.7)	(21.0)	(5.2)	(20.8)

swdbrgbg.D05 - D15

* nocturnal electrofishing used due to high water clarity

Table 22. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear sunfish collected by diurnal electrofishing at Briggs Lake on 07 May 2015. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD[a]
Bluegill	195	71 (6)	28 (7)
Redear sunfish	105	65 (9)	22 (8)

[a] Bluegill=RSD_8; redear sunfish=RSD_9

swdbrgbg.d15

Table 23. Bluegill population assessment for Briggs Lake 2008 - 2015 (scoring based on statewide assessment).

Parameter	2008 Value	2008 Score	2009 Value	2009 Score	2010 Value	2010 Score	2011 Value	2011 Score	2012 Value	2012 Score	2013 Value	2013 Score	2014 Value	2014 Score	2015 Value	2015 Score
Growth Mean length age-2 at capture	4.9*	3	4.9*	3	4.9*	3	4.9*	3	4.7	3	4.7*	3	4.7*	3	4.7*	3
Growth Years to 6.0 in	2.6*	4	2.6*	4	2.6*	4	2.6*	4	2.6*	4	2.6*	4	2.6*	4	2.6*	4
Size structure CPUE ≥6.0 in	86.0	4	36.8	2	206.4	4	84.0	4	78.0	4	100.8	4	137.6	4	278.0	4
Size structure CPUE ≥8.0 in	16.0	4	19.2	4	52.8	4	24.0	4	16.0	4	19.2	4	9.6	2	108.0	4
Instantaneous mortality (z) Annual mortality (A)%																
Total score:		15		13		15		15		15		15		13		15
Assessment rating:		Excellent		Good		Excellent		Excellent		Excellent		Excellent		Good		Excellent

*No age data collected; values carried over from 2007
swdbrgbg.D06 - D15

Table 24. Redear population assessment for Briggs Lake 2008 - 2015 (scoring based on statewide assessment).

	Year															
	2008		2009		2010		2011		2012		2013		2014		2015	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Growth Mean length age-3 at capture	8.6*	4	8.6*	4	8.6*	4	8.6*	4	8.6*	4	8.6*	4	8.6*	4	8.6*	4
Growth Years to 8.0 in	2.7*	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4
Size structure CPUE ≥8.0 in	4.0	1	17.6	4	17.6	4	28.0	4	6.0	2	62.4	4	67.2	4	108.0	4
Size structure CPUE ≥10.0 in	0.0	1	4.8	3	1.6	2	12.0	4	2.0	2	6.4	4	8.0	4	12.0	4
Instantaneous mortality (z) Annual mortality (A)%																
Total score:		10		15		14		16		12		16		16		16
Assessment rating:		Fair		Excellent		Excellent		Excellent		Good		Excellent		Excellent		Excellent

*No age data collected, values carried over from 2007

sw dbrgbg.D06 - D15

Table 25. Length frequency and CPUE (fish/set) of channel catfish collected using tandem hoop net sampling (set=3 nets in tandem set for 2 nights; 3 sets total) at Fagan Branch Reservoir from 23-26 October 2015.

	Inch class																		
Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Channel catfish				1	1	2	4	2	1	6	16	20	9	5	2	1	70	23.3	22.3
Redear sunfish	2	4	4														10	3.3	3.3

swdlclcc.d15

Table 26. Relative weight (Wr) for each length group of channel catfish collected by tandem set hoopnets (set=3 nets in tandem set for 2 nights; 3 sets total) at Fagan Branch Reservoir from 23-26 October 2015. Standard errors are in parentheses.

	Length group		
	11.0-15.9 in	16.0-23.9 in	≥24.0 in
Wr	92 (2)	93 (1)	
N	15	53	0

swdlclcc.D15

Table 27. 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 on mid-May 2015.

		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
Green River Arm																								
Holmes Bend	Smallmouth bass			1		1	1	1	3	1	3			1	1							13	8.7	2.9
	Spotted bass		1	5		1	5	4	11	1	4	2		1		2						37	24.7	2.4
	Largemouth bass			1	1	2	10	12	13	18	37	25	17	20	18	33	29	20	11	8		275	183.3	25.8
Ramp 1	Smallmouth bass		3	1	7	4		7	2	3	1	1		1								30	20.0	10.0
	Spotted bass		5	1	2	3	11	7	4	1	2	2	4	1								43	28.7	4.4
	Largemouth bass	1		1	3	5	11	6	2		11	11	7	7	9	14	29	13	5	2	1	138	92.0	8.7
Robinson Creek Arm																								
Smith Ridge	Smallmouth bass						1															1	0.7	0.7
	Spotted bass						1	3	2	3	1		1	1								12	8.0	4.0
	Largemouth bass				1	3	3	6	8	6	13	6	11	14	8	14	16	12	6	1	1	129	86.0	7.0
Lone Valley	Smallmouth bass		2		1	1	3	1	1					1	2			1				13	8.7	1.3
	Spotted bass		2		3	11	9	5	6	5	5	8	8	3	4	3	3	1				76	50.7	12.0
	Largemouth bass		2		2	4	5	2	1	2	3	6	10	8	10	21	14	7	5	1	2	105	70.0	14.1
TOTAL	Smallmouth bass		5	2	8	6	5	9	6	4	4	1		3	3			1				57	9.5	3.1
	Spotted bass		8	6	5	15	26	19	23	10	12	12	13	6	4	5	3	1				168	28.0	5.4
	Largemouth bass	1	2	2	7	14	29	26	24	26	64	48	45	49	45	82	88	52	27	12	4	647	107.8	15.0

sw dgrlbb.d15

Table 28. Spring diurnal electrofishing CPUE (fish/hr) of largemouth bass by length group collected at Green River Lake during early-mid May since 1997.

	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. 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

swdgrlbb.D97-D15

Table 29. 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 during mid-May 2015. 95% confidence intervals are in parentheses.

Area	Species	No. $\geq$ stock size	PSD	RSD[A]
Green River Arm				
Holmes Bend	Largemouth bass	261	69 (5)	46 (6)
	Spotted bass	30	30 (17)	10 (11)
	Smallmouth bass	11	45 (30)	18 (24)
Ramp 1	Largemouth bass	117	84 (7)	62 (8)
	Spotted bass	32	28 (16)	3 (6)
	Smallmouth bass	15	20 (21)	7 (13)
Robinson Creek Arm				
Smith Ridge	Largemouth bass	122	73 (8)	48 (9)
	Spotted bass	12	25 (26)	8 (17)
	Smallmouth bass	1	*	*
Lone Valley	Largemouth bass	92	91 (5)	65 (10)
	Spotted bass	60	58 (12)	23 (10)
	Smallmouth bass	9	44 (34)	44 (34)
Total	Largemouth bass	592	76 (3)	52 (4)
	Spotted bass	134	42 (9)	14 (6)
	Smallmouth bass	36	33 (15)	19 (13)

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

swdgrlbb.d15

Table 30. Population assessment of largemouth bass based on nocturnal spring sampling at Green River Lake from 2004-2015 (scoring based on statewide assessment).

	Year																	
	2004		2005		2006		2007		2008		2009		2012		2013		2015	
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	14.4	4	14.6	4	14.6	4	14.6	4	13.1	4
Spring CPUE age-1	11.9	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
Spring CPUE 12.0-14.9 in	11.6	1	11.7	1	23.1	2	33.7	3	27.8	2	13.0	1	35.3	4	44.0	4	23.7	2
Spring CPUE $\geq$15.0 in	15.6	3	16.8	2	18.9	3	22.2	4	30.2	4	42.8	4	39.3	4	52.8	4	51.7	4
Spring CPUE $\geq$20.0 in	0.9	2	1.5	2	0.3	1	0.5	2	0.8	2	1.7	3	1.3	2	3.3	4	2.7	3
Instantaneous mortality (z)											-0.610						-0.473	
Annual mortality (A)%											45.7						37.71	
Total score		11		13		11		14		14		13		15		17		14
Assessment rating		Good		Good		Fair		Good		Good		Good		Good		Excellent		Good

sw dgrlag.D03, D09, 15
sw dgrlbb.D02-D15

Table 31. 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-November 2015.

		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
Green River Arm																								
Holmes Bend	Smallmouth bass											1		1								2	1.3	1.3
	Spotted bass				1			1	4	2	1	2	1									12	8.0	2.0
	Largemouth bass		9	25	28	29	18	3	10	3	9	3	10	2	4	4	2	3	2	1		165	110.0	23.7
Ramp 1	Smallmouth bass		2	1	2		1	2	1	1	1								1			12	8.0	1.2
	Spotted bass				1				1													2	1.3	0.7
	Largemouth bass	3	1		1	2	1	3	4	2	1	5	3	5	4	1	3	3	6			48	32.0	6.4
Robinson Creek Arm																								
Smith Ridge	Smallmouth bass																					0		
	Spotted bass		1	4	1	1	2	4	2	3	1	1	3		2	1						26	17.3	3.3
	Largemouth bass		23	61	59	72	46	10	10	10	11	6	10	6	3	2	4	3	4	1		341	227.3	31.7
Lone Valley	Smallmouth bass		2			5	5	2	2	3		1	1		1	1	1	1				25	16.7	6.4
	Spotted bass	2			1	2	4	1		2	3	2	3	2		1						23	15.3	5.5
	Largemouth bass						1			1	3	4	5	8	3	3	4	4	3	2	2	43	28.7	11.6
TOTAL	Smallmouth bass		4	1	2	5	6	4	3	4	1	2	1	1	1	1	1	1	1			39	6.5	2.4
	Spotted bass	2	1	4	4	3	6	6	7	7	5	5	7	2	2	2						63	10.5	2.4
	Largemouth bass	3	33	86	88	103	66	16	24	16	24	18	28	21	14	10	13	13	15	4	2	597	99.5	25.9

swdgrlyy.d15

Table 32. Relative weight (Wr) for each length group of black bass collected by diurnal electrofishing from each area sampled at Green River Lake in mid-November 2015. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Holmes Bend	25	90 (2)	15	94 (3)	16	99 (3)
	Ramp 1	10	83 (6)	13	92 (2)	17	99 (3)
	Lone Valley	4	93 (2)	17	91 (2)	21	103 (2)
	Smiths Ridge	41	91 (1)	22	96 (2)	17	100 (2)
	Total	80	90 (1)	67	94 (1)	71	100 (1)
		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
		No.	Wr	No.	Wr	No.	Wr
Spotted bass	Holmes Bend	7	94 (3)	4	87 (5)	0	
	Ramp 1	1	88	0		0	
	Lone Valley	7	94 (3)	8	93 (1)	3	101 (5)
	Smiths Ridge	11	95 (3)	5	92(10)	3	105 (3)
	Total	26	94 (1)	17	91 (3)	6	104 (3)

swdgrlyy.D15

Table 33. Age frequency and CPUE (fish/hr) of largemouth bass collected during fall diurnal electrofishing at Green River Lake during mid-November 2015.

	Inch class																					Std.
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	Percent	CPUE	error
0	3	33	86	88	103	66	12												391	66.0	65.2	22.6
1							4	24	14	14	6								62	11.0	10.4	2.9
2									2	10	12	23	11	2					60	10.0	9.7	1.4
3												5	8	11	4	6	2		36	6.0	5.9	0.8
4													3		4	4	3	4	18	3.0	3.0	0.5
5														2	1	2	3	2	10	2.0	1.7	0.2
6																2	3		5	1.0	0.9	0.2
7																	2	2	4	1.0	0.6	0.1
8																		2	2	0.0	0.4	0.1
9																			0	0.0	0.0	0.0
10																		2	2	0.0	0.4	0.1
11																		2	2	0.0	0.4	0.1
Total	3	33	86	88	103	66	16	24	16	24	18	28	22	15	9	14	13	14	592	100	99.0	25.9
%	1	6	15	15	17	11	3	4	3	4	3	5	4	2	2	2	2	3				

swdgrlyy.d15; swdgrlag.d15

Table 34. Largemouth bass mean length (in) at age-0 and catch rates at age-0 and age-1 at Green River Lake since 2002.

	Age-0[A]		Age-0[A]		Age-0 $\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		

[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 sample.

[B] Data collected during the following spring (May) nocturnal electrofishing.
swdgrlbb.D02 - D15
swdgrlag. D02 - D15
swdgrlyy. D02 - D13, 15

Table 35. Length frequency and CPUE (fish/nn) for white bass and walleye collected by experimental gillnets (8 net-nights) at Green River Lake on November 24, 2015.

	Inch class																					Std.
Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	error
White bass	1		8	3	3	8	42	91	51		3	2	1							213	26.6	7.0
Walleye					2	1			1	2	3		1	1		2	5	1	1	20	2.5	0.7

swdgrlgn.d15

Table 36. Age frequency and CPUE (fish/nn) of white bass collected from experimental gillnets (8 net-nights) at Green River Lake on November 24, 2015.

	Inch class																Std.
Age	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	Percent	CPUE	error
0	1		8	3	3									15	7	1.9	0.7
1						8	42	91	51					192	88	24.0	6.5
2														0			
3														0			
4											2			2	1	0.3	0.1
5											2	2	1	5	2	0.6	0.3
Total	1		8	3	3	8	42	91	51		4	2	1	214	100		
%	0		4	1	1	4	20	43	24		1	1	0	100			

swdgrlgn.D15, swdgrlag.D15

Table 37. Relative weight (Wr) for each length group of white bass collected by gill nets (8 net-nights) at Green River Lake on November 24, 2015. Standard errors are in parentheses.

	Length group		
	6.0-8.9 in	9.0-11.9 in	≥12.0 in
Wr	95 (2)	94 (4)	100 (1)
N	8	11	159

swdgrlgn.D15

Table 38. White bass population assessment from experimental gillnetting at Green River Lake 1991-2015 (scoring based on statewide assessment.

	CPUE age-1 and older		Mean length age-2+ at capture		CPUE ≥12.0 in		CPUE age-1					
Year	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	Instantaneous mortality (z)	Annual mortality (A)	Assessment	Rating
1991	22.2	4	14.0	4	10.7	4	14.6	4	1.204	70.0	16	E
1992	33.8	4	13.4	4	16.8	4	10.1	4	1.542	78.6	16	E
1993	32.3	4	13.7	4	16.3	4	15.0	4	0.964	61.9	16	E
1994	22.6	4	13.4	4	15.6	4	4.5	2	0.347	29.4	14	E
1995	17.6	3	13.5	4	11.9	4	9.1	3	NA		14	E
1996	33.1	4	13.6	4	18.9	4	18.4	4	1.012	63.7	16	E
1997	17.1	3	12.9	3	10.9	4	3.8	2	0.680	49.3	12	G
1998	19.1	3	12.9	3	6.3	3	6.4	3	1.187	69.5	12	G
1999	26.6	4	13.3	4	13.4	4	16.2	4	1.117	67.3	16	E
2000	11.5	3	13.6	4	9.4	3	2.8	2	0.619	46.2	12	G
2001	8.0	2	14.0	4	4.9	2	0.1	1	0.646	47.6	9	F
2002	10.2	3	13.8	4	4.4	2	5.4	3	0.735	52	12	G
2003	18.9	3	12.5	3	1.3	1	2.3	1	0.660	48.3	8	F
2004	5.8	2	12.8	3	0.5	1	3.5	2	1.320	73.3	8	F
2005	7.4	2	12.4	3	3.5	2	5.8	3	NA		10	G
2006	5.8	2	13.8	4	4.1	2	2.1	1	0.341	28.9	9	F
2007	3.2	1	14.0	4	2.6	2	1.1	1	0.575	43.7	8	F
2015	24.8	4	NA		23.8	4	24.0	4	NA		16	E

NA - data available or not amenable for use

sw dgrlgn. d91-d08, 15

sw dgrlag.d91-08, 15

Table 39. Age frequency and CPUE (fish/nn) of walleye collected from experimental gillnets at Green River Lake on November 24, 2015.

	Inch class																		Std.
Age	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	Percent	CPUE	error
0	2	1														3	15	0.4	0.3
1					1	2	3									6	30	0.8	0.3
2									1	1		1				3	15	0.4	0.2
3													1	1		2	11	0.3	0.2
4													1		1	2	11	0.3	0.2
5												1	1			2	11	0.3	0.2
6													1			1	6	0.2	0.1
Total	2	1			1	2	3		1	1		2	4	1	1	19	100.0		
%	10	5			5	10	15		5	5		10	25	5	5	100			

swdgrlgn.D15, swdgrlag.D15

Table 40. Walleye population assessment from experimental gillnetting at Green River Lake 1996-2015 (scoring based on statewide assessment).

	CPUE excluding age-0		Mean length age-2+ at capture		CPUE ≥20.0 in		CPUE age-1		Mortality			
Year	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	Instantaneous mortality (z)	Annual mortality (A)	Assessment	Rating
1996	1.8	1	18.5	4	0.1	1	1.4	2	NA		8	F
1997	0.8	1	17.3	3	0.2	1	0.4	1	NA		6	F
1998	0.5	1	17.6	3	0.1	1	0.3	1	NA		6	F
1999	3.2	2	17.3	3	0.1	1	1.7	2	NA		8	F
2000	5.0	3	18.1	4	0.2	1	4.1	4	-0.684	49.6	12	G
2001	5.8	3	17.8	3	0.0	1	5.0	4	NA		11	G
2002	2.6	2	17.8	3	0.4	1	0.7	1	-0.778	54.1	7	F
2003	2.1	2	18.3	4	0.5	2	1.6	2	NA		10	G
2004	1.1	1	16.4	2	0.0	1	0.8	1	NA		5	P
2005	0.6	1	17.8	3	0.1	1	0.5	1	NA		6	F
2006	2.3	2	17.9	3	0.1	1	1.6	2	-0.489	38.7	8	F
2007	6.8	4	18.6	4	0.8	2	3.9	4	-0.689	49.8	14	E
2008	3.7	2	19.6	4	0.9	2	1.1	2	-0.357	30.0	10	G
2009	4.1	3	19.6	4	1.1	3	2.3	3	-0.657	48.2	13	G
2010	3.6	2	18.8	4	1.0	3	1.7	3	-0.566	43.2	12	G
2011	1.8	1	19.3	4	0.8	2	0.4	1	-0.409	33.5	8	F
2012	3.1	2	19.2	4	0.9	2	1.3	2	-0.479	38.1	10	G
2013	2.8	2	19.2	4	0.9	2	1.1	2	NA		10	G
2014	1.0	1	20.1	4	0.7	2	0.1	1	NA		8	F
2015	2.1	2	19.5	4	1.1	3	0.8	1	NA		10	G

NA - catch data not amenable to mortality estimates

sw dgrlgn.d96-15

sw dgrlag.d96-15

Table 41. Relative weight (Wr) for each length group of walleye collected by gill nets (8 net-nights) at Green River Lake from November 24, 2015. Standard errors are in parentheses.

	Length group		
	10.0-14.9 in	15.0-19.9 in	≥20.0 in
Wr	90 (3)	97 (2)	99 (3)
N	4	7	8

swdgrlgn.D15

Table 42. Length frequency and CPUE (fish/set) of channel catfish collected using tandem hoop net sampling (set=3 nets in tandem set for 3 nights; 6 sets total) at Marion County Lake from 20-23 and 26-29 October 2015.

	Inch class																	
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Channel catfish								5	4	2	5	3	1	1	1	22	3.7	1.5
Redear sunfish	18	29	1													48	8.0	6.5

swdmclcc.d15

Table 43. Relative weight (Wr) for each length group of channel catfish collected by tandem set hoopnets (set=3 nets in tandem set for 3 nights; 6 sets total) at Marion County Lake from 20-23 and 26-29 October 2015. Standard errors are in parentheses.

	Length group		
	11.0-15.9 in	16.0-23.9 in	≥24.0 in
Wr	79 (1)	89 (3)	
N	5	17	0

swdmclcc.D15

Table 44. Largemouth bass length frequency and CPUE (fish/hr) collected during 2.0 hours (8- 900-sec runs) of nocturnal electrofishing at Shanty Hollow Lake on 30 April 2015.

	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	5	22	31	47	31	14	36	55	176	71	20	4	2		1	2	2	3	4	2	528	264.0	11.3

swdshlbb.D15

Table 45. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Shanty Hollow Lake during mid-late April / May, 2001-2015. Missing years are non-sampling years.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	Total CPUE	Std. error
2001	17.1	3.4	49.1	7.3	45.1	8.6	21.7	3.6	1.7	0.8	133.1	6.5
2002	20.0	4.1	52.0	8.0	69.7	6.2	16.0	2.6	1.1	0.7	157.7	11.1
2003	17.7	4.0	125.1	12.5	76.6	6.7	32.0	5.0	8.0	2.0	251.4	18.0
2004	19.4	3.6	133.7	9.7	36.6	5.0	24.0	2.8	3.4	0.6	213.7	17.0
2005	76.7	10.8	174.0	18.2	44.7	3.8	16.0	3.6	1.3	1.3	311.3	28.0
2006	86.0	15.8	214.7	11.4	30.0	3.1	11.3	3.8	5.3	2.0	342.0	26.7
2007	8.0	2.4	124.5	16.8	13.0	3.1	8.5	1.4	4.0	1.1	154.0	21.0
2008	30.0	6.9	204.5	13.5	57.5	4.7	5.5	1.5	1.0	0.7	297.5	12.3
2009	21.1	4.0	140.6	8.7	88.0	5.7	12.0	3.9	2.9	1.7	261.7	11.4
2010	26.0	5.2	165.0	12.4	74.5	4.7	11.5	2.7	1.5	0.7	277.0	15.3
2011	77.0	8.5	128.5	9.1	66.5	5.1	11.0	2.4	1.0	0.7	283.0	5.2
2012	81.0	11.4	210.0	11.4	56.5	4.8	14.5	2.4	1.0	0.7	362.0	13.8
2015	68.0	7.3	140.5	9.8	47.5	7.1	8.0	1.7	4.5	1.2	264.0	11.3

swdshlbb.D00 - D15

Table 46. Proportional stock density (PSD) and relative stock density (RSD_{15}) values from spring nocturnal electrofishing at Shanty Hollow Lake on 30 April 2015. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_{15}
Largemouth bass	392	28 (4)	4 (2)

swdshlbb.D15

Table 47. Population assessment of largemouth bass based on nocturrnal spring sampling at Shanty Hollow Lake from 2002-2015 (scoring based on statewide criteria). Missing years are non-sampling years.

	Year																	
	2005		2006		2007		2008		2009		2010		2011		2012		2015	
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	11.4*	3	11.4*	3	11.4*	3	11.4*	3	12.1	4	12.1*	4	12.1*	4	12.1*	4	11.1	3
Spring CPUE age-1	76.7**	4	86.0**	4	8.0**	1	25.0**	2	20.0	2	14.0**	1	77.5**	4	79.0**	4	71.5**	4
Spring CPUE 12.0-14.9 in	44.7	3	30.0	2	13.0	1	57.5	4	88.0	4	74.5	4	66.5	4	56.5	4	47.5	3
Spring CPUE $\geq$15.0 in	16.0	2	11.3	2	8.5	2	5.5	2	12.0	2	11.5	2	11.0	2	14.5	2	8.0	2
Spring CPUE $\geq$20.0 in	1.3	2	5.3	4	4.0	4	1.0	2	2.9	3	1.5	2	1.0	2	1.0	2	4.5	4
Instantaneous Mortality (z)									-0.682									
Annual Mortality (A)%									49.4									
Total Score		14		15		11		13		15		13		16		16		16
Assessment Rating		Good		Good		Fair		Good		Good		Good		Good		Good		Good

*No age data collected; value carried over from years w ith age data

**No spring age data; value calculated using age data from previous fall

sw dshlag.d04, 09, 15

sw dshlbb.D02-D15

Table 48. Relative weight (Wr) for each length group of largemouth bass collected by diurnal electrofishing at Shanty Hollow Lake on 13 October 2015. Standard errors are in parentheses.

	Length group		
	8.0-11.9 in	12.0-14.9 in	≥15.0 in
Wr	86 (1)	85 (1)	87 (2)
N	99	42	3

swdshlwr.D15

Table 49. Length frequency and CPUE (fish/hr) of each inch class of bluegill and redear collected by 1.5 hours (12- 450-sec runs) of diurnal electrofishing at Shanty Hollow Lake on 05 May 2015 .

	Inch class												Std.
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	15	43	30	26	21	43	58	5			241	160.7	26.7
Redear				3	2	3	6	12	11	1	38	25.3	4.2

swdshlbg.d15

Table 50. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Shanty Hollow Lake from 2001 - 2015. Standard errors are in parentheses. Missing years had no data collected.

Year	Length group				Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	
2001	99.9	224.7	239.4	4.4	573.3
	(28.2)	(57.5)	(67.8)	(3.5)	(153.3)
2002	78.0	391.3	121.3	10.7	601.3
	(15.2)	(55.2)	(15.0)	(2.8)	(67.1)
2003	43.3	346.7	106.0	5.3	501.3
	(10.4)	(34.6)	(17.0)	(2.8)	(47.6)
2004	85.7	285.2	157.1	*	590.8
	(26.7)	(53.0)	(27.6)		(100.1)
2005	76.3	194.5	124.3	1.2	396.3
	(16.5)	(23.2)	(15.3)	(0.8)	(43.3)
2006	134.0	78.7	98.7	12.7	324.0
	(45.3)	(8.9)	(13.9)	(4.7)	(50.2)
2007	197.1	321.5	94.6	0.7	613.8
	(33.0)	(38.2)	(18.2)	(0.7)	(64.2)
2008	115.1	142.8	108.9	*	366.8
	(23.9)	(11.5)	(18.4)		(31.5)
2009	16.0	184.0	28.7	*	228.7
	(8.1)	(41.7)	(8.0)		(51.2)
2010	66.0	181.3	29.3	0.7	277.3
	(11.2)	(24.6)	(5.8)	(0.7)	(27.5)
2012	192.8	452.0	59.2	0.8	704.8
	(25.9)	(70.1)	(11.5)	(0.8)	(82.6)
2015	38.7	51.3	67.3	3.3	160.7
	(14.6)	(9.6)	(10.5)	(1.2)	(26.7)

swdshlbg.D01 - D15

Table 51. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Shanty Hollow Lake from 2001 - 2015. Standard errors are in parentheses. Missing years had no data collected.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
2001	*	0.8	13.8	42.1	*	60.0
		(0.8)	(5.3)	(8.7)		(8.3)
2002	*	3.3	6.7	6.7	*	16.7
		(1.2)	(2.2)	(3.1)		(5.1)
2003	*	2.7	1.3	10.7	*	14.7
		(1.1)	(0.9)	(6.0)		(5.9)
2004	1.2	8.0	8.0	9.9	*	27.1
	(0.8)	(2.6)	(2.2)	(3.2)		(4.8)
2005	1.2	3.7	9.2	3.7	*	17.9
	(1.2)	(1.5)	(2.7)	(1.5)		(3.8)
2006	0.0	8.0	6.0	8.7	*	22.7
		(3.3)	(2.2)	(2.9)		(5.6)
2007	1.5	9.5	34.2	2.9	*	48.0
	(1.0)	(2.8)	(6.4)	(1.2)		(7.3)
2008	1.2	3.1	9.2	11.7	*	25.2
	(0.8)	(1.9)	(3.0)	(6.2)		(9.2)
2009	3.3	16.0	6.0	6.0	*	31.3
	(2.1)	(3.6)	(4.0)	(3.7)		(9.2)
2010	0.0	12.7	8.7	2.0	*	23.3
		(3.4)	(2.3)	(1.4)		(4.1)
2012	4.0	20.8	5.6	9.6	*	40.0
	(2.2)	(5.6)	(2.4)	(3.1)		(8.2)
2015	*	3.3	6.0	16.0	0.7	25.3
		(1.5)	(2.2)	(3.6)	(0.7)	(4.2)

swdshlbg.D01 - D15

Table 52. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear collected by diurnal electrofishing at Shanty Hollow Lake on 05 May 2015. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD[a]
Bluegill	183	58 (7)	3 (2)
Redear	38	79 (13)	32 (15)

[a] Bluegill=RSD_8; redear sunfish=RSD_9

swdshlbg.D12

Table 53. Bluegill population assessments from 2005 - 2015 at Shanty Hollow Lake (scoring based on statewide assessment).

	Year																		
	2005		2006		2007		2008		2009		2010		2011	2012		2013	2014	2015	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score		Value	Score			Value	Score
Mean length age-2 at capture	4.8*	3	4.8*	3	4.8*	3	3.7	4	3.7*	2	3.7*	2	ND	3.7*	2	ND	ND	3.4	2
Years to 6.0 in	2.6*	4	2.6*	4	2.6*	4	2.7	4	2.7*	4	2.7*	4	ND	2.7*	4	ND	ND	3.0	3
CPUE $\geq$6.0 in	125.5	4	111.3	4	95.3	4	108.9	4	28.7	2	30.0	2	ND	60.0	3	ND	ND	70.7	3
CPUE $\geq$8.0 in	1.2	2	12.7	3	0.7	2	0.0	0	0.0	0	0.7	1	ND	0.8	1	ND	ND	3.3	2
Instantaneous mortality (z)								-0.75											
Annual mortality (A)								52.9											
Total Score:		13		14		13		12		8		9			10				10
Assessment rating:		Good		Excellent		Good		Good		Fair		Fair			Fair				Fair

*No age data collected, value carried over from years with age data

ND - data collected

swdshlag.d02, 08, 15

swdshlbg.D02 - D15

Table 54. Redear population assessments from 2005 - 2015 at Shanty Hollow Lake (scoring based on statewide assessment).

	Year																		
	2005		2006		2007		2008		2009		2010		2011	2012		2013	2014	2015	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score		Value	Score			Value	Score
Mean length age-3 at capture	7.2	4	7.2	4	7.2	4	7.8	4	7.8	4	7.8	4	ND	7.8	4	ND	ND	7.5	4
Years to 8.0 in	3.9	4	3.9	4	3.9	4	3.7	4	3.7	4	3.7	4	ND	3.7	4	ND	ND	3.7	4
CPUE $\geq$8.0 in	3.7	1	8.7	2	2.9	1	11.7	3	6.0	2	2.0	2	ND	9.6	2	ND	ND	16.0	4
CPUE $\geq$10.0 in	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	ND	0.0	0	ND	ND	0.7	1
Instantaneous mortality (z)																			
Annual mortality (A)																			
Total Score:		9		10		9		11		10		10			10				13
Assessment rating:		Fair		Fair		Fair		Good		Fair		Fair			Fair				Excellent

ND - data collected
swdshlag.d02, 08, 15
swdshlbg.D02 - D15

Table 55. Largemouth bass length frequency and CPUE (fish/hr) collected during 1.0 hour (4- 900-sec runs) of diurnal electrofishing at West Fork Drakes Reservoir 29 April 2015.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Largemouth bass	2	4	9	9	4	1	2	14	25	38	21	8			3	1	2	1	1	145	145.0	10.0

swdwfdbb.d15

Table 56. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at West Fork Drakes Reservoir from 2007 - 2015. Missing years are non-sampling years.

	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
2007	27.0	15.3	31.9	5.7	29.9	5.8	6.0	2.7	2.0	1.3	95.0	23.7
2009	42.0	11.0	47.0	5.7	16.0	2.3	9.0	2.5	1.0	1.0	114.0	11.5
2012	45.0	8.4	104.0	16.3	31.0	3.0	12.0	1.6	5.0	1.0	192.0	25.8
2015	28.0	7.3	42.0	7.4	67.0	10.5	8.0	2.3	2.0	1.2	145.0	10.0

swdwfdbb.D07, 09, 12, 15

Table 57. Proportional stock density (PSD) and relative stock density (RSD_{15}) for largemouth bass collected by spring diurnal electrofishing at West Fork Drakes Reservoir on 29 April 2015. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_{15}
Largemouth bass	117	64 (9)	7 (5)

swdwfdbb.d15

Table 58. Population assessment of largemouth bass based on diurnal spring sampling at West Fork Drakes Reservoir from 2007-2015 (scoring based on statewide assessment). Missing years are non-sampling years.

	Year							
	2007		2009		2012		2015	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture	11.3	3	11.3	3	11.3	3	11.3*	3
Spring CPUE age-1	19.0	2	34.0	2	21.0	2	28.0	2
Spring CPUE 12.0-14.9 in	29.9	2	16.0	1	31.0	2	67.0	4
Spring CPUE ≥15.0 in	6.0	2	9.0	2	12.0	2	8.0	2
Spring CPUE ≥20.0 in	2.0	3	1.0	2	5.0	4	2.0	3
Instantaneous Mortality (z)					-0.451			
Annual Mortality (A)%					36.3			
Total Score		12		10		13		14
Assessment Rating		Good		Fair		Good		Good

*No age data collected, value carried over from 2012
swdwfdag.d12
swdwfdbb.D07, 09, 12, 15

Table 59. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected by 0.5 hours (4- 450-sec runs) of diurnal electrofishing at West Fork Drakes Reservoir on 29 April 2015.

	Inch class										Std.
Species	1	2	3	4	5	6	7	8	Total	CPUE	error
Bluegill	2	10	30	54	104	80	17		297	594.0	33.5
Redear		5		3	12	12	54	14	100	200.0	37.4

swdwfdbg.d15

Table 60. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at West Fork Drakes Reservoir from 2007 - 2015. 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
2007	10.0	392.0	156.0	*	558.0
	(7.6)	(68.4)	(25.0)		(88.3)
2008			No data		
2009	38.0	390.0	180.0	*	608.0
	(13.6)	(68.7)	(51.7)		(115.5)
2010			No data		
2011			No data		
2012	8.0	264.0	90.0	*	362.0
	(4.6)	(72.3)	(29.1)		(73.0)
2013			No data		
2014			No data		
2015	24.0	376.0	194.0	*	594.0
	(3.3)	(28.5)	(6.0)		(33.5)

swdwfdbg.D07 - D15

Table 61. Spring electrofishing CPUE (fish/hr) for each length group of redear collected at West Fork Drakes Reservoir from 2007 - 2015. 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
2007	*	38.0 (22.2)	32.0 (12.7)	18.0 (8.3)	*	88.0 (36.5)
2008	No data					
2009	2.0 (2.0)	112.0 (50.3)	198.0 (32.9)	8.0 (4.6)	*	320.0 (80.5)
2010	No data					
2011	No data					
2012	*	92.0 (29.3)	104.0 (37.2)	*	*	196.0 (59.0)
2013	No data					
2014	No data					
2015	10.0 (3.8)	30.0 (11.9)	132.0 (20.8)	28.0 (10.1)	*	200.0 (37.4)

swdwfdbg.D07 - D15

Table 62. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear sunfish collected by diurnal electrofishing at West Fork Drakes Reservoir on 29 April 2015. Numbers in parentheses represent 95% confidence intervals

Species	N	PSD	RSD[a]
Bluegill	285	34 (5)	0
Redear	95	72 (10)	0

[a] Bluegill=RSD_8; redear sunfish=RSD_9

swdwfdbg.d15

Table 63. Bluegill population assessments from 2007 - 2015 at West Fork Drakes Reservoir (scoring based on statewide assessment).

Parameter	2007 Value	2007 Score	2008	2009 Value	2009 Score	2010	2011	2012 Value	2012 Score	2013	2014	2015 Value	2015 Score
Mean length age-2 at capture	4.2	2	ND	4.2	2	ND	ND	4.2*	2	ND	ND	4.2*	2
Years to 6.0 in	3.4	3	ND	3.4	3	ND	ND	3.4*	3	ND	ND	3.4*	3
CPUE ≥6.0 in	156.0	4	ND	180.0	4	ND	ND	88.0	4	ND	ND	194.0	4
CPUE ≥8.0 in	0.0	0	ND	0.0	0	ND	ND	0.0	0	ND	ND	0.0	0
Instantaneous mortality (z)				-1.0317									
Annual mortality (A)				64.4									
Total Score:		9			9				9				9
Assessment rating:		Fair			Fair				Fair				Fair

*No age data collected; values carried over from 2009
ND - no age data collected
swdwfdag.d09
swdwfdbg.D07 - D15

Table 64. Redear population assessments from 2007 - 2015 at West Fork Drakes Reservoir (scoring based on statewide assessment).

	Year													
	2007		2008	2009		2010	2011	2012		2013	2014	2015	
Parameter	Value	Score		Value	Score			Value	Score			Value	Score
Mean length age-3 at capture	6.6	4	ND	6.6	4	ND	ND	6.6*	4	ND	ND	6.6*	4
Years to 8.0 in	5	2	ND	5	2	ND	ND	5*	2	ND	ND	5*	2
CPUE ≥8.0 in	18.0	4	ND	8.0	2	ND	ND	0.0	0	ND	ND	28.0	4
CPUE ≥10.0 in	0.0	0	ND	0.0	0	ND	ND	0.0	0	ND	ND	0.0	0
Instantaneous mortality (z)				-0.642									
Annual mortality (A)				47.4									
Total Score:		10			8				6				10
Assessment rating		Fair			Fair				Poor				Fair

*No age data collected; values carried over from 2009
ND - data collected
swdwfdag.d09
swdwfdbg.D07 - D15

CENTRAL FISHERIES DISTRICT

Project A: Lake and Tailwater Sampling

FINDINGS

Lake sampling conditions for 2015 are summarized in Table 1.

Taylorsville Lake (3,050 acres)

Spring diurnal electrofishing was completed in May 2015 to assess the black bass population. Three sections (Big Beech Creek, Ashes/Jacks Creek, and Van Buren areas) 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 number of bass collected in 2015 (109.9 fish/hr) was slightly lower than the lake's historic average of 111.2 fish/hr. Catch rate for keeper bass (≥15.0 in) was 19.3 fish/hr; higher than the lake average (16.7 fish/hr) for these harvestable-sized fish. Ashes Creek continues to be the area with the highest catch rate for largemouth bass. The PSD for largemouth bass was 57 which was above the lake's average of 55 (Table 4). Additionally, the RSD_{15} value was 21; slightly lower than the lake's average of 22. The largemouth bass population assessment score, based on spring electrofishing data, was 13 ("Good"), which is consistent with 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 2015 (W_r =95), but was slightly lower than the historical average (W_r =96) (Table 7). Catch rate of age-0 largemouth bass in the fall of 2015 (14.4 fish/hr) was much lower than the lake's historic average of 41.4 fish/hr. The year class strength model indicated below average recruitment for young-of-the-year largemouth bass in 2015. Fingerling (4.2-7.7 in) largemouth bass were stocked in October at a rate of 10.0 fish/acre, totaling 30,528 (no clip). Largemouth bass fingerlings have been stocked almost annually since 2000 at rates ranging from 5 fish/acre to 10 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 815 white crappie and 311 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 completed using otoliths are shown in Tables 11 through 15. Age studies indicated both black and white crappie reached 9.0 in between 2 to 3 years. The crappie population assessment scores (Tables 13 and 16) rated "Good" for white crappie and "Fair" for black crappie. 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. These stocked crappie made up 3.5% of the age-1 and older white crappie sampled in the fall of 2015, a decrease in the percentage of marked fish from the fall of 2014. This reduction in percentage of marked fish is due to the increase in numbers of age-1 and older fish due to a good spawn which occurred in the spring of 2013. The 2013 spawn was the first significant spawn since 1996. Body conditions of white and black crappie in the fall of 2015 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 2015 (Tables 18–26). A total of 47 hybrid striped bass were collected in 2015 compared to 90 in 2014, 132 in 2013, 47 in 2012, 94 in 2011 and 51in 2010. Hybrid striped bass were captured in 8 net-nights (4 nets for 2 nights) for a CPUE of 5.8 (± 2.7) 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 related to 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 growth is good growth for hybrid striped bass at Taylorsville Lake.

The relative weight (W_r) index for hybrid striped bass (83) continues to show below average body condition at Taylorsville Lake. The average W_r for Taylorsville Lake is 86. The population assessment for hybrid striped bass was rated at “Fair”, a decrease from the “Good” rating in 2014, but an average rating for hybrid striped bass at Taylorsville Lake. 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 60,290 (19.8 fish/acre; 1.6 in) hybrid striped bass in June 2015. The 2015 hybrid striped bass stocking in Taylorsville Lake included both crosses of hybrid striped bass (30,080 reciprocal cross hybrids (no OTC mark) and 30,210 original cross hybrid striped bass (OTC marked)). Data for white bass collected during fall 2015 gillnetting studies are presented in Tables 18 and 23-26. White bass comprised about 27% of the *Morones* sampled, compared to 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 3. Relative weight values revealed acceptable body condition for all sizes of white bass (Table 25). The white bass population assessment rated “Fair”, an average rating for white bass at Taylorsville Lake (Table 26).

Summer diurnal low-pulse electrofishing was completed in July 2015 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 3.25 hours (15-minute runs). One hundred ninety-eight blue catfish were collected in the lower section compared to 78 blue catfish collected in the upper section off the lake (Table 27). The number of blue catfish collected in 2015 (84.9 fish/hr) was lower than the lake’s historic average of 114.3 fish/hr (Table 28). Relative weight values revealed acceptable body condition for all sizes of blue catfish (Table 29). 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 2016, 5-in mesh gill nets were set in both the upper and lower sections of Taylorsville Lake in an effort to collect information on fish ≥ 30.0 in. A total for 91 blue catfish were collected in 12 net-nights (Table 30). The catch rate of ≥30.0 in blue catfish was 5.5 fish/nn, which was lower than the catch rate of ≥30.0 in blue catfish in 2015 (8.3 fish/nn). Relative weight values indicated blue catfish during the winter months are in excellent conditions as the overall W_r was 127 compared to 121 in 2015 (Table 31). A total of 23,500 (7.7 fish/acre) blue catfish (8.0 – 12.0 in) were stocked in Taylorsville Lake in 2015.

Taylorsville Lake was stocked with 65,500 (21.5 fish/acre; 1.78 in) saugeye in 2015. This was the first stocking of saugeye into Taylorsville Lake. Taylorsville Lake will only receive stockings of saugeye when there is a surplus of saugeye at the hatchery.

Dissolved oxygen and temperature profiles were completed from May through December at Taylorsville Lake. Three sites were sampled during 2015, including Big Beech Creek near Settlers Marina (no wake buoy line (Table 32)), the mouth of Ashes and Jack’s Creek (no ski buoy line (Table 33)), and VanBuren / Chowning Lane Area (no ski buoy line (Table 34)). The thermocline was present in May and became well established during the months of June, July, and August. Dissolved oxygen levels suitable for fish (≥ 4 mg/l) could generally be found from 0-12 ft deep during the summer months. There was a decline in oxygen throughout the lower portions of Taylorsville Lake during late September into October; however, it was not as severe of a decline as it was in October 2013. These late season declines in oxygen may be a result of decomposition from significant blooms of bluegreen algae that occurred during the summer months at Taylorsville Lake. Lake temperatures peaked during the month of August in the mid 80-degree range.

Herrington Lake (2,410 acres)

Spring diurnal electrofishing studies were completed in May 2015 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 35. Largemouth bass dominated the black bass fishery, with spotted bass comprising 8.7% of the bass sampled. No smallmouth bass were collected in 2015. Numbers of bass collected in 2015 (88.3 fish/hr) were lower than the lake’s historic average of 114.0 fish/hr. Changes to 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 2015 spring electrofishing sample was slightly higher than last year, which may have led to a slight decrease in the catch rate for largemouth bass. Catch rate for keeper bass (≥12.0 in) was 39.0 fish/hr, below the lake’s average (47.4 fish/hr) for catch rates of harvestable-sized fish. The middle section of Herrington Lake (Gwinn Island area) continues to have the highest catch rates for largemouth bass. The PSD for largemouth bass was 70 which was much higher than the lake’s average of 57 (Table 37). Additionally, the RSD_{15} value was 32 which was higher than the lake average of 24. The largemouth bass population assessment score, based on spring electrofishing data, was 14 (“Good”), which is an average rating for Herrington Lake (Table 38).

Length frequency, relative weights, age and growth, 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 39-42. The growth rates of largemouth bass at Herrington Lake are very good. Largemouth bass growth rates indicated bass are reaching harvestable size (12.0 in) during their third growing season (Table 40). Largemouth bass condition in 2015 (W_r =92) was equal to the lake’s historical average (W_r =92) (Table 41). The year class strength model for Herrington Lake indicated an average recruitment year for young-of-year largemouth bass in 2015 based on age-1 cpue (Table 42). Age-0 CPUE (67.8 fish/hr) was almost double the lake average (37.8 fish/hr). Therefore, largemouth bass were not stocked into Herrington Lake in 2015.

Gill netting for hybrid striped bass and white bass was completed in October 2015. During the 12 net-night sampling period, 123 hybrid striped bass and 80 white bass were collected (Table 43). Otoliths were taken from both species for age and growth determinations. Results of these studies indicated excellent growth rates for both hybrids (Tables 44-45) and white bass (Tables 48-49). Hybrid striped bass continue to reach 15.0 in between age 1 and 2 (Table 44), as they have historically. Of the hybrid striped bass sampled, only 28% were age-1+ or older (Table 45). Condition of hybrid striped bass in 2015 (W_r =96) was higher than the lake’s historical average (W_r =93) (Table 46). The population assessment for hybrid striped bass indicated a “Fair” population (Table 47). White bass age and growth determinations showed they reached 12.0 in between age-1 and age-2 (Table 48). Of the white bass sampled, 85% were age-1+ and older (Table 49). The white bass population assessment indicated a “Good” population, an increase from the past two years of “Fair” rating (Table 51). The white bass population appears to be recovering from the major die-off of white bass which occurred in June of 2013. Body condition of white bass in 2015 (W_r=101) was higher than the lake’s historical average (W_r=97) (Table 50). Herrington Lake was stocked with 50,520 (21.0 fish/acre; 1.5 in) hybrid striped bass in June 2015. The hybrid striped bass stocking was divided into 25,344 reciprocal cross hybrids (no mark) and 25,176 original cross hybrids (OTC marked).

Dissolved oxygen and temperature profiles were completed from May through December at Herrington Lake. Three sites were sampled at Herrington Lake during 2015, including the mouth of Cane Run (no wake buoy line (Table 52)), near Gwynn Island Marina (no wake buoy line (Table 53)), and near King’s Mill Marina (no wake buoy line (Table 54)). The thermocline appeared in May and became established during the months of June, July, August, and beginning of September at Herrington Lake. However, near the dam at the Cane Run sample site a layer of dissolved oxygen > 4.0 ppm was observed below a layer of insufficient oxygen (<4 ppm) during May and June. Dissolved oxygen levels suitable for fish (≥ 4 mg/l) could generally be found from 0-16 ft deep during the summer months. Lake temperatures peaked during the month of August in the mid 80-degree range.

Guist Creek Lake (317 acres)

Spring nocturnal electrofishing studies were completed for length frequency, CPUE and population assessment for largemouth bass in April 2015 (Table 55). Total largemouth bass catch rate (225.3 fish/hr) was higher than the lake average of 163.2 fish/hr (Table 56). The PSD for largemouth bass was 56 compared to the lake average of 66 (Table 57). The RSD_{15} was 32 compared to the lake average of 41. The population assessment gave a rating of “Good”, the average rating observed at Guist Creek Lake (Table 58). Fall largemouth bass sampling was conducted for relative weights, age and growth, and index of year class strength at age-0 and age-1 (Tables 59-61). Relative weights indicated good body condition for bass, especially for bass over 15.0 in (Table 60). Mean length of age-0 largemouth bass (5.0 in) was significantly larger than in recent years and catch rate of age-0 largemouth bass (49.3 fish/hr) was higher than the average recruitment (avg. = 45.0 fish/hr; Table 61). Therefore, largemouth bass were not stocked into Guist Creek Lake in 2015.

Guist Creek Lake was stocked with 25,910 (81.7 fish/acre; 2.1 in) saugeye in 2015. This was the third year of stocking of saugeye into Guist Creek Lake. The lake was sampled for saugeye on October 7, 2015 with a boat mounted electrofishing unit for a total of 3.0 hours (Table 62). Sampling yielded 81 saugeye (54.0 fish/hr) ranging in size from 4.4 in to 21.0 in. and averaging 12.5 in.

Guist Creek Lake was stocked with 19,045 (60.0 fish/acre; 1.6 in) hybrid striped bass in June 2015.

Guist Creek Lake was stocked with 3,168 (10.0 fish/acre; 6.0-10.0 in) channel catfish in July 2015.

A.J. Jolly Lake (175 acres)

Spring diurnal electrofishing was completed in April 2015 to assess the black bass population (Table 63). Results indicated largemouth bass catch rates (95.6 fish/hr) were lower than the lake's historical average (82.6 fish/hr) (Table 64). The PSD for largemouth bass was 53 and the RSD_{15} was 29 (Table 65). The population assessment indicated a "Fair" bass population (Table 66). Fall diurnal electrofishing was conducted for relative weights, age and growth, and the index of age 0 year class strength of largemouth bass in October (Tables 67-70). The growth rates of largemouth bass at AJ Jolly Lake are very good. Largemouth bass growth rates indicated bass are reaching harvestable size (12.0 in) during their third growing seasons (Table 68). Relative weights indicated acceptable body condition (W_r = 89) (Table 69). Fall sampling indicated average age-0 bass numbers, (21.5 fish/hr; average= 21.3 fish/hr) and the fall average size of age 0 bass in 2015 (4.3 in) was slightly lower than the lake's average of 4.5 in (Table 70). Fingerling (5.3 in) largemouth bass were stocked in the spring of 2015 (March) at a rate of 9.7 fish/acre, totaling 1,692 (no clip).

A.J. Jolly Lake was stocked with 14,350 (82.0 fish/acre; 2.1 in) saugeye in 2015. This was the third year of stocking of saugeye into A.J. Jolly Lake. Saugeye were collected during the spring largemouth bass sampling (Table 63). Sampling yielded 36 saugeye (14.4 fish/hr) ranging in size from 7.0 in to 14.7 in and averaging 8.8 in. Additionally, saugeye were collected during the fall largemouth bass sampling (Table 67). Sampling yielded 63 saugeye (31.5 fish/hr) ranging in size from 5.7 to 20.1 in and averaging 10.0 in.

A.J. Jolly Lake was stocked with 875 (5.0 fish/acre; 6.0 – 8.0 in) channel catfish in July 2015.

Beaver Lake (158 acres)

A spring diurnal electrofishing sample was completed in April 2015 to assess the black bass population (Table 71). The CPUE for all sizes was 226.5 fish/hr, lower than the lake average of 239.8 fish/hr (Table 72). 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 22 and 8, compared to the current lake average of 29 and 4 (Table 73). The population assessment score indicated a "Good" bass population (Table 74), which is the most common assessment rating for Beaver Lake largemouth bass. Fall diurnal electrofishing was conducted for relative weights and the index of age-0 year class strength of largemouth bass at Beaver Lake (Tables 75 – 77). The relative weight index continues to reflect below expected average weights for most length groups of largemouth bass at Beaver Lake in 2015 (W_r = 85); however, it is equal to the lake average of 85 (Table 76). Fall sampling indicated above average numbers of age-0 bass, (184.5 fish/hr; average = 109.7 fish/hr) and the average size of largemouth bass (4.2 in) in the fall of 2015 at Beaver Lake was slightly higher than the lake's average of 4.1 in (Table 77).

A spring diurnal electrofishing sample was completed in May 2015 to assess the panfish populations (Tables 78-85). Length frequency results showed the majority of bluegill was in the 4.0 in and 6.0-7.0 in range (Table 78). The PSD for bluegill was 57 compared to the lake average of 27. The RSD_8 was 0 which is below the lake average of 1. Redear sunfish PSD and RSD_9 were 63 and 13, respectively (Table 79). CPUE for all length groups of bluegill were lower compared to last year (Table 80). The total CPUE of bluegill in 2015 (372.8 fish/hr) was significantly higher than the lake average of 235.8 fish/hr. The population assessment for bluegill indicated a "Fair" population rating, which is average for Beaver Lake, but lower than the ratings from the past two years (Table 81). The catch rate of redear sunfish ≥8.0 in was 1.6 fish/hr and was significantly lower than the lake average of 21.1 fish/hr (Table 82). 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 83). Age and growth studies revealed that on average bluegill reached 6.0 in at age 3+ and redear sunfish reach 8.0 in between at age 3 and age 4 (Tables 84 and 85). Relative weights for bluegill and redear sunfish were collected during the fall diurnal electrofishing sample. Relative weight data for redear sunfish was extremely good for all length groups. Additionally, body condition of bluegill at Beaver Lake in 2015 was better than in previous years (Table 86).

Diurnal electrofishing studies to evaluate the crappie population were completed at Beaver Lake in October 2015. A total of 36 crappie (30 black crappie and 6 white crappie) were collected in 1.5 hr of electrofishing (Table 87). The white crappie collected during age and growth studies were only age-0+ and age-1+ (Table 88). Age and growth studies of black crappie indicated they reach 9.0 in between age 2 and age 3 (Table 89).

Channel catfish were sampled in October using tandem hoop nets at Beaver Lake in 2015. Length frequency results for channel catfish showed a size distribution between 13.1 and 25.2 in (Table 90). The PSD and RSD_{24} for channel catfish were 68 and 6, respectively (Table 91). Relative weights indicated a body condition below desired levels for channel catfish (W_r = 86), which was slightly below the average for the lake (W_r = 88) (Table 92). Beaver Lake was not stocked with channel catfish in 2015.

No applications of aquatic herbicides were completed at Beaver Lake in 2015. No liquid fertilizer applications have been made since 2001. Finally, no shad were observed at Beaver Lake in 2015.

<u>Benjy Kinman Lake (88 acres)</u>

A spring nocturnal electrofishing sample was completed in April 2015 to assess the black bass population (Table 94). The CPUE for all sizes was 126.6 fish/hr, which was the first spring sample completed for Benjy Kinman Lake (Table 95). The PSD and RSD_{15} for largemouth bass respectively, were 26 and 11 (Table 96). The population assessment score indicated a “Fair” bass population (Table 97). 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 2015 (Tables 98-100). Relative weights indicated below average body condition for bass (W_r = 81) with larger fish exhibiting better condition compared to smaller length groups (Table 99). 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 a second time at Benjy Kinman Lake (Table 100).

A population estimate of largemouth bass ≥8.0 in was conducted on Benjy Kinman Lake in April 2015. During routine spring sampling, a total of 226 largemouth bass were marked with a clip to the right pectoral fin. Two weeks later, district personnel resampled the lake to check for marked fish. Of the 263 largemouth bass that were caught, a total of 41 were marked. Using the Peterson mark-recapture estimator with the Chapman modification equation, Benjy Kinman Lake was calculated to have 1,427 largemouth bass (16.2 bass/acre; 90% CI 328).

Channel catfish were sampled in October using tandem hoop nets at Benjy Kinman Lake in 2016. This was the first sampling of channel catfish at Benjy Kinman. Length frequency results for channel catfish showed a size distribution between 8.9 and 14.8 in (Table 101). Channel catfish have only been stocked into Benjy Kinman Lake in fall of 2014 and summer of 2015. Relative weights indicated an acceptable body condition for channel catfish (W_r = 88) (Table 103). Benjy Kinman Lake was stocked with 880 (10.0 fish/acre; 6.0 – 10.0 in) channel catfish in July 2015.

On July 15, July 17, and August 21, a total of 407 bigmouth buffalo, smallmouth buffalo, and common carp were removed from Benjy Kinman Lake. The average weight of removed rough fish was 6.3 lbs. Therefore, it was estimated that 2,575 lbs of rough fish were removed from Benjy Kinman Lake in 2015. Therefore, the two year totals for rough fish removed from Benjy Kinman Lake is 835 fish at an estimated weight of 4,913 lbs (5.9 lbs average weight per fish).

<u>Kentucky River WMA (Boone Tract) Ponds</u>

Length frequency, relative abundance, and CPUE of fishes collected by electrofishing at the 15-acre lake on the Boone Tract of the Kentucky River WMA are shown in Table 105. Studies show largemouth bass from 1.0 to 20.0 inches in good numbers. Bluegill up to 8.8 in were collected, as well as black crappie up to 8.4 in.

Length frequency, relative abundance, and CPUE of fishes collected by electrofishing at the 6-acre lake on the Boone Tract of the Kentucky River WMA are shown in Table 106. Studies show largemouth bass from 6.5 to 18.2 inches in good numbers. Bluegill up to 8.4 in were collected, as well as black crappie up to 9.0 in.

Length frequency, relative abundance, and CPUE of fishes collected by electrofishing at the 4-acre lake on the Boone Tract of the Kentucky River WMA are shown in Table 107. Studies show largemouth bass from 3.6 to 19.1 inches in good numbers. Bluegill up to 7.6 in were collected as well as redear sunfish up to 8.6 in.

Boltz Lake (92 acres)

Spring nocturnal electrofishing was completed in April 2015 to assess the black bass population (Table 108). Results indicated largemouth bass catch rates (170.5 fish/hr) were lower than the lake's historical average (190.9 fish/hr; Table 109). The PSD for largemouth bass was 35 compared to the lake average of 44 (Table 110). The RSD_{15} was equal to the lake average of 17. The population assessment indicated a "Good" bass population, improving from a "Fair" rating seen for the past 4 years (Table 111). Fall diurnal electrofishing was conducted for relative weights, index of age-0 year class strength and age and growth in September (Tables 112-115). Age and growth studies indicate that largemouth bass reach 12.0 in by age 3 and 15.0 in at age 4+ (Table 113). Relative weights indicated acceptable body condition (W_r = 92), higher than the lake's average relative weight of 90 (Table 114). Fall sampling indicated about average numbers of age-0 bass, (47.3 fish/hr; average= 51.9 fish/hr) and the average size (4.1 in) was comparable to the lake's average size of 4.2 in (Table 115). Boltz Lake was stocked with 2,766 (30.1 fish/acre; 4.6-5.3 in) largemouth bass in March and October 2015. Currently, Boltz Lake does not have a population of gizzard shad.

Fall diurnal electrofishing for bluegill was conducted in September 2015 to assess body condition. The relative weight index reflected above-average condition for bluegill at Boltz Lake. Relative weight (W_r = 102) was significantly above the lake average (W_r = 90; Table 116).

One hour of low pulse diurnal electrofishing for blue catfish was conducted in July 2015. Blue catfish were collected at 27.0 fish/hr from the 15.0-27.0 in class (Table 117). Several clipped blue catfish were collected with fish stocked in 2007 averaging 18.2 in and fish stocked in 2008 averaging 19.5 in. Overall, relative weight values were good (W_r=92; Table 118). Blue catfish were not stocked in 2015.

Diurnal fall crappie electrofishing was completed in October 2015 for length frequency, CPUE, age/growth and relative weight. A total of 159 white crappie were collected in 1.5 hrs of electrofishing (Table 119). Age and growth studies indicate that white crappie on average reach 9.1 in at age 4 and 11.1 in at age 6 (Table 120).

Channel catfish were not sampled at Boltz Lake in 2015. Boltz Lake was stocked with 2,158 (23.5 fish/acre; 6.0-10.0 in) channel catfish in 2015.

Redear sunfish (20,775 fish; 225.8 fish/acre) were stocked in September 2015 that averaged 1.0-2.0 in.

Saugeye were stocked into Boltz Lake for the first time during 2015. A total of 6,900 saugeye (75.0 fish/acre) were stocked that average 2.0 in.

A total of 51 common carp were removed from Boltz Lake in June 2015. In total, 557 common carp (estimated 4,500 lbs) have been removed from Boltz Lake since 2008.

Corinth Lake (96 acres)

Spring nocturnal electrofishing was completed in May 2015 to assess the black bass population (Table 121). The total catch rate of largemouth bass in 2015 (288.0 fish/hr) was higher than the lake's average catch rate of 235.3 fish/hr (Table 122). The PSD for largemouth bass was 28, an increase from last year's value (17) and higher than the lake average of 21 (Table 123). The RSD_{15} for largemouth bass was 8, slightly higher than the lake average of 7. The population assessment for largemouth bass was rated "Good"; an increase from last year's rating of "Fair" (Table 124). Fall diurnal electrofishing for largemouth bass was conducted to determine year class strength, age/growth and relative weight (Tables 125-128). Age and growth studies show that largemouth bass reach 12.0 in at age 3+ and 15.0 in at age 5+ (Table 126). Relative weights of largemouth bass continue to be below average, except for largemouth bass ≥ 15.0 in. The overall relative weight in 2015 (W_r = 82) was almost equal to the average relative weight observed at Corinth Lake (W_r = 84; Table 127). The year class strength model indicated that 2015 was a below average recruitment year for young-of-year largemouth bass (Table 128). Age-0 CPUE (35.3 fish/hr) in 2015 remained below the lake average (94.5 fish/hr); however, largemouth bass were not stocked into Corinth Lake in 2015.

Spring diurnal electrofishing for bluegill and redear sunfish was completed in May 2015 to obtain length frequency, CPUE and population assessment data (Table 129). Bluegill PSD (53) was significantly higher than the lake average of 28 (Table 130). Bluegill catch rates (230.4 fish/hr) increased in 2015 and were similar the lake average (240.1 fish/hr; Table 131). The population assessment indicated a “Good” population, an increase from the past ten years of “Fair” ratings (Table 132). The redear sunfish catch rate (118.4 fish/hr) significantly increased in 2015 and was higher than the lake’s average (64.2 fish/hr; Table 133). Redear sunfish PSD was 49, similar to the lake average of 54 (Table 130) Catch rate for redear sunfish ≥8.0 in increased from 33.6 fish/hr in 2014 to 42.4 fish/hr in 2015 (Table 133). The population assessment for redear sunfish continued to be rated as “Good” (Table 134). Relative weights for bluegill and redear sunfish were collected during the fall diurnal electrofishing survey. Relative weights indicated fair condition for bluegill (86) and good condition for redear sunfish (93; Table 135).

Channel catfish were sampled during October at Corinth Lake using three sets of tandem hoop nets. No channel catfish were collected during this effort. Corinth Lake was stocked with 1,945 (20.3 fish/acre; 6.0 – 10.0 in) channel catfish in July 2015.

Elmer Davis Lake (149 acres)

Spring dirunal electrofishing studies were conducted in April 2015 for PSD, length frequency and CPUE for largemouth bass (Table 136). The total catch rate in 2015 (251.5 fish/hr) was lower than the historical lake average of 306.0 fish/hr (Table 137). Largemouth bass PSD and RSD_{15} were 45 (average = 26) and 9 (average = 7), respectively in 2015 (Table 138). The population assessment indicated a “Good” bass population, the average rating for the last ten years at Elmer Davis Lake (Table 139). Fall electrofishing evaluated largemouth bass relative weight and index of year class strength (Tables 140-142). Relative weights for largemouth bass in 2015 (W_r =87) was equal to the historical lake average (W_r =87; Table 141). The year class strength model for Elmer Davis Lake indicated that 2015 was a below average recruitment year for young-of-year largemouth bass. Age-0 CPUE (77.3 fish/hr) in 2015 remained below the lake average (126.2 fish/hr) (Table 142). However, no largemouth bass were stocked in anticipation of a gizzard shad removal project to be completed during the winter of 2016.

Diurnal spring electrofishing for length frequency, CPUE, and population assessment was conducted for bluegill and redear sunfish in May 2015 (Table 143). The total bluegill catch rate in 2015 (46.4 fish/hr) was significantly lower than the lake average of 259.0 fish/hr (Table 145). The PSD value for bluegill was 40 and continues to be lower than the lake average of 34 (Table 144). Likewise, the RSD_8 (0) remains lower than the lake average of 2. The population assessment for bluegill was “Poor”, a decrease from the lake average rating of “Good” (Table 146). The total catch rate of redear sunfish in 2015 (86.4 fish/hr) was higher than the lake average of 72.5 fish/hr (Table 147), however it was a significant decrease from catch rates collected in 2013 and 2014. The PSD for redear sunfish was 49 compared to the lake average of 52. The RSD_9 was 3 compared to the lake average of 17 (Table 144). The redear sunfish population assessment indicated a “Good” population, which is equal to the average lake rating (Table 148). Age and growth studies revealed that on average bluegill reached 6.0 in at age 4 and redear sunfish reach 8.0 in between age 4 and age 5 (Tables 149 and 150). Relative weight index reflects average condition for both for bluegill (W_r = 90) and redear sunfish (W_r = 97) at Elmer Davis Lake in 2015; however both species are below the lake averages of 96 and 103, respectively (Table 151).

Gizzard shad removal efforts were completed at both Upper and Lower Thomas Lakes during December 2014. Multiple electrofishing surveys were conducted during April and May to verify the success of this eradication. No gizzard shad were sampled or observed during these surveys. This removal will be evaluated again during 2016 in anticipation of removing gizzard shad from Elmer Davis Lake during the winter of 2016.

Diurnal fall crappie electrofishing was completed in October 2015 for length frequency, CPUE, age/growth and relative weight. A total of 41 white crappie and 21 black crappie were collected in 1.25 hrs of electrofishing (Table 152). Age and growth studies indicate that both white and black crappie on average reach 9.0 in between age 3 and age 4 (Table 153 and 154).

Channel catfish were sampled in October using tandem hoop nets at Elmer Davis Lake. Channel catfish collected were distributed from the 8.0 – 27.0 in size classes (Table 155). Channel catfish were collected at 66.7 fish/set in 2015 which is lower than the lake average of 88.8 fish/set (Table 156). The PSD and RSD_{24} for channel catfish were 28 and 1, respectively (Table 157). Relative weights of channel catfish were acceptable (W_r = 88) (Table 159). Age and growth studies show that channel catfish reach 24.0 in between age 6 and age 8 (Table 158). Elmer Davis Lake was stocked with 3,290 (22.1 fish/acre) channel catfish that ranged from 6.0-10.0 in during July 2015.

Kincaid Lake (183 acres)

Diurnal spring electrofishing for length frequency and CPUE was completed in April 2015. Overall, catch rates were 195.0 fish/hr for largemouth bass and 1.0 fish/hr for spotted bass (Table 160). Catch rates for largemouth bass were less than the lake average of 215.9 fish/hr (Table 161). Largemouth bass PSD and RSD_{15} were 71 (average = 68) and 44 (average = 44), respectively (Table 162). The population assessment indicated a "Good" bass population, which has been the average rating since 2000 (Table 163). No fall electrofishing was conducted on Kincaid Lake in 2015 to assess the black bass population.

Diurnal fall crappie electrofishing was completed in October 2015 for length frequency, CPUE, age/growth and relative weight. A total of 170 white crappie were collected in 1.25 hrs of electrofishing (136.0 fish/hr; Table 164). Age and growth studies indicate that white crappie on average reach 9.0 in between age 5 and age 6 (Table 165).

Channel catfish were sampled in October using tandem hoop nets at Kincaid Lake. Channel catfish collected were distributed from the 8.0 – 22.0 in size classes (Table 166). Channel catfish were collected at 16.7 fish/set in 2015 which is lower than the lake average of 60.4 fish/set (Table 169). The PSD and RSD_{24} for channel catfish were 38 and 0, respectively (Table 167). Relative weights of channel catfish were acceptable (W_r = 92) (Table 168). Kincaid Lake was stocked with 2,427 (13.3 fish/acre) channel catfish that ranged from 6.0-10.0 in during July 2015.

McNeely Lake (51 acres)

Spring diurnal electrofishing studies were conducted in April 2015 for PSD, length frequency and CPUE for largemouth bass (Table 170). Total catch rate in 2015 (354.0 fish/hr) was higher than the lake average of 222.9 fish/hr (Table 171). Largemouth bass PSD and RSD_{15} were 19 (average = 34) and 5 (average = 11), respectively in 2015 (Table 172). The population assessment indicated a "Good" bass population, equal to the lake average of "Good" (Table 173). Diurnal fall electrofishing for largemouth bass in September 2015 was completed to collect relative weight values and to index the year class strength at age-0 (Table 174). Relative weights were at acceptable levels in 2015 (W_r = 89), equal to the lake average (W_r = 89; Table 175). CPUE for age-0 bass (126.4 fish/hr) increased from 2013 (Table 176), and was comparable to the lake average (121.4 fish/hr) over the last sixteen years. Therefore, largemouth bass were not stocked into McNeely Lake in 2015. Currently, McNeely Lake does not contain a population of gizzard shad.

Bluegill and redear sunfish were sampled in May 2015 for length frequency, CPUE and population assessment (Table 177). Catch rates for bluegill (225.6 fish/hr) in 2015 was lower than the lake average catch rate of 339.6 fish/hr (Table 178). The bluegill PSD was 56 compared the lake average of 39 (Table 179). RSD_8 was 4 in 2015, compared to the lake average of 0.5. The population assessment for bluegill improved to "Excellent" (Table 180). The total catch rate for redear sunfish in 2015 (33.6 fish/hr) was lower than the lake average (55.6 fish/hr) (Table 181). The PSD for redear sunfish was 85 compared to the lake average of 45 and the RSD_9 was 32 compared to the lake average of 7 (Table 179). The redear sunfish fishery was rated "Good", which has been the average rating since 2004 (Table 182). Relative weights and age and growth for bluegill and redear sunfish were collected during the fall diurnal electrofishing sample. Age and growth studies showed that bluegill continue to reach 6.0 in between age 2 and 3 (Table 183). Age and growth studies indicated good growth rates of redear sunfish with fish reaching 6.0 in between age 1 and 2, and 8.0 in by age 3 (Table 184). Good body condition was observed for both bluegill (94) and redear sunfish (102) during the fall of 2015 (Table 185).

Channel catfish were not sampled at McNeely Lake in 2014. McNeely Lake was stocked with 1,275 (25.0 fish/acre; 6.0 -10.0 in) channel catfish in July 2015.

Conservancy Park Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at the Boone County Conservancy Park Lake (Old Quarry Pond) in May 2015 are shown in Table 186. Largemouth bass were collected from the 10.0-18.0 in size classes and bluegill from the 1.0-6.0 in size classes. Other species collected include rock bass, hybrid sunfish and channel catfish.

Doe Run Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at Doe Run Lake (Kenton Co.) in May 2015 are shown in Table 187. Largemouth bass were collected from the 8.0-22.0 in size classes and bluegill from the 4.0-6.0 in size classes.

Henry County Park Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at Henry County Park Lake in May 2015 are shown in Table 188. Largemouth bass were collected from the 4.0-16.0 in size classes and bluegill from the 2.0-8.0 in size classes. Low number of 8.0-9.0 in black crappie were also collected.

Latonia Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at the Kenton County Latonia Park Lake in May 2015 are shown in Table 189. Largemouth bass were collected from the 3.0-20.0 in size classes and bluegill from the 4.0-7.0 in size classes. Low numbers of 8.0-9.0 in white crappie were also collected.

Lincoln Homestead Park Lake

Length frequency, relative abundance, and CPUE of black bass and sunfish collected by electrofishing at Lincoln Homestead Park Lake in April 2015 are shown in Table 190. Studies show largemouth bass from 4.5 to 21.9 inches in fair numbers. Bluegill up to 8.6 in were collected as well as redear sunfish up to 10.2 in.

Long Run Park Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at the Long Run Park Lake in May 2015 are shown in Table 191. Good numbers of largemouth bass were collected from the 3.0-19.0 in size classes, with bluegill and redear sunfish collected up to the 8.0 in and 10.0 in size classes, respectively. Other species collected include longear sunfish, hybrid sunfish, black crappie and bullhead catfish.

Lower Thomas Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Lower Thomas Lake in April 2015 are shown in Table 192. Studies show good numbers of largemouth bass from the 3.0-20.0 in size class. Bluegill up to 7.0 in were collected as well as redear sunfish up to 9.0 in. No shad were observed during 2015 following the shad removal completed in December 2014.

Sympson Lake

Relative abundance and CPUE of largemouth bass collected in May 2015 are shown in Table 193. All sizes of largemouth bass were represented with good numbers of bass above the 15.0-in size limit. Largemouth bass up to 21.0 in were collected.

Thurman Hutchins Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Thurman Hutchins Lake in May 2015 are shown in Table 194. Studies show good numbers of largemouth bass from the 7.0-18.0 in size class. Bluegill up to the 6.0 in size class were collected as well as redear sunfish up to the 9.0 in size class.

Upper Thomas Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Upper Thomas Lake in May 2015 are shown in Table 195. Studies show poor numbers of largemouth bass from the 9.0-21.0 in size class. Bluegill were collected up to the 7.0 in size class. No shad were observed during 2015 following the shad removal completed in December 2014.

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
Benjy Kinman	LMB	4/13	2000	shock	clear / pleasant	60	full - overflowing	28	good	good sample
Lincoln Homestead	LMB	4/15	1100	shock	overcast / cool	60	full - overflowing	15	good	good sample
Beaver	LMB	4/16	1300	shock	most cloudy / breezy	63	full - overflowing	26	fair	fair sample
Boltz	LMB	4/16	2000	shock	clear/ cool	60	full - overflowing	40	good	good sample
Beaver	LMB	4/21	1000	shock	partly cloudy / very windy	62	full - overflowing	46	good	good sample
Corinth	LMB	4/21	2000	shock	clear	60	full - overflowing	66	good	good sample
Lower Thomas	LMB/BG/RESF	4/22	1100	shock	partly cloudy / cool	60	full - overflowing	24	good	good sample
McNeely	LMB	4/23	1130	shock	most sunny	61	full - overflowing	55	good	good sample
Kincaid	LMB	4/27	1100	shock	clear / breezy	60	full - overflowing	12	good	good sample
Elmer Davis	LMB	4/28	1030	shock	mostly sunny / breezy	60	full - overflowing	15	good	good sample
Benjy Kinman	LMB	4/28	2030	shock	clear / pleasant	63	full - overflowing	46	good	good sample
Guist Creek	LMB	4/30	2030	shock	clear / cool	62	full - overflowing	26	good	good sample
Thurman Hutchins	LMB/BG/RESF	5/4	1000	shock	sunny	70	normal	54	good	good sample
Long Run Park	LMB/BG/RESF	5/4	1200	shock	sunny	70	normal	84	good	good sample
Herrington	LMB	5/4	1030	shock	mostly sunny	68	740.0	46	good	good sample – Cane Run
		5/5	1100	shock	clear / sunny / warm	68	739.0	36	good	good sample – Gwinn Island
		5/6	1100	shock	mostly sunny / warm	73	738.2	36	good	good sample – Kings Mill
Sympson	LMB	5/7	1100	shock	clear / sunny	73	Normal	36	good	good sample
Taylorsville	LMB	5/11	1030	shock	partly cloudy	76	548.7	18	fair B/A	fair samples – significant spring rains – over a monthly to bring lake to summer pool
		5/12	1030	shock	clear / cool	75	547.5	18	fair B/V	V = Van Buren Area; B = Big Beech and A = Ashes Creeks
Doe Run	LMB	5/14	1100	shock	sunny	72	winter pool	24	good	good sample
Upper Thomas	LMB/BG/RESF	5/14	1330	shock	sunny	72	normal	60	good	good sample
Elmer Davis	BG/RESF	5/18	1015	shock	cloudy - prefrontal conditions	74	normal		good	good sample
Beaver	BG/RESF	5/20	1045	shock	sunny / clear / breezy	72	normal	40	good	good sample
Latonia	LMB/BG/RESF	5/21	1130	shock	cloudy	75	normal		good	good sample
Conservancy Park	LMB/BG/RESF	5/21	1400	shock	cloudy	75	normal		good	good sample
KY River WMA ponds	LMB/BG/RESF	5/22	1100	shock	mostly sunny	70	normal		good	good sample
Corinth	BG/RESF	5/26	1000	shock	mostly cloudy / breezy	72	normal	88	good	good sample
McNeely	BG/RESF	5/27	1020	shock	mostly cloudy / light breeze	75	normal	84	good	good sample
Henry County Park	LMB/BG	6/18	1000	shock	sunny	83	3-4 ft. low	24	good	good sample
Taylorsville	BCF	7/6	1000	shock		81		15	good	good sample
Boltz	BCF	7/14	1030	shock		79	normal		good	good sample

Table 1 (cont).

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Benjy Kinman	LMB	9/14	1000	shock	clear blue skies; calm	74	normal	33	good	good sample
Beaver	LMB/BG/RESF	9/15	1000	shock	clear blue skies; light breeze	74	normal	23	good	good sample
Boltz	LMB/BG	9/16	1000	shock	clear blue skies	74	normal	47	good	good sample
Corinth	LMB/BG/RESF	9/17	1030	shock	clear blue skies; light breeze	73	normal	144	fair	fair sample; lake extremely clear; fish were avoiding the shocking boat
Elmer Davis	LMB/BG/RESF	9/18	1000	shock	mostly sunny	73	@ 2 ft. below normal	27	good	good sample
McNeely	LMB/BG/RESF	9/21	1000	shock	mostly sunny	69	normal	31	good	good sample
Taylorsville	LMB	9/22 9/23	1030 1015 1000	shock shock shock	mostly sunny	74 B 74 V 75 A	545.5 545.5	39 31	good good	good sample V = Van Buren Area; B = Big Beech and A = Ashes Creeks
Herrington	LMB	9/24 9/25 9/25	1030 1015 1015	shock shock shock	mostly sunny mostly sunny mostly sunny	75 74	738.8 738.6	84	good	good samples 9/24 – mid section; 9/25 – lower section; 9/25 – upper section
Guist Creek	LMB	9/28	1000	shock		72			good	good sample
Kincaid	crappie	10/5	1000	shock	mostly sunny / warm	68	normal	24	good	good sample
Guist Creek	saugeye	10/7	1000	shock	sunny / clear	72	normal	34	good	good sample
Kincaid	channel catfish	10/5 to 10/8	1300	hoop net	mostly sunny	67	normal		good	good sample
Benjy Kinman	channel catfish	10/9 to 10/12	1000	hoop net			1 ft below normal		good	good sample
Elmer Davis	crappie	10/12	1300	shock			@ 2 ft. below normal		good	good sample
Beaver	crappie	10/13	1000	shock			normal		good	good sample
Boltz	crappie	10/14	1000	shock	mostly sunny – breezy	65	normal	40	good	good sample
Elmer Davis	channel catfish	10/12 to 10/15	1000	hoop net	mostly sunny – breezy	65	@ 2 ft. below normal		good	good sample
Beaver	channel catfish	10/13 to 10/16	1000	hoop net			normal		good	good sample
Herrington	Morones	10/20 10/21 10/22 10/23	1000 1000 1000 1000	gillnet	mostly sunny mostly sunny mostly sunny mostly sunny	66 67 67 67	734.6 733.8 732.8 732.1		good	good sample
Taylorsville	Morones/ crappie	10/27 10/28 10/29	1000 1000 1000	gillnet trapnet	rain rain mostly sunny	64 64 64	545.2 545.9 546.6		good	good sample
Taylorsville	BCF	2/1 2/2 2/3	1000 1000 1000	gillnet	partly cloudy mostly sunny sunny	37 38 40	545.3 545.5 548.8		good	good sample

Table 2. Length distribution and CPUE (fish/hr) of largemouth bass collected in 7.5 hours of 30-minute electrofishing runs for black bass in Taylorsville Lake in May 2015; 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	21	Total	CPUE
Van Buren																				
Largemouth bass	2	11	12	10	2	4	23	19	20	30	28	26	14	9	4	2			216	86.4 (21.5)
Ashes Creek																				
Largemouth bass	8	29	34	11	13	46	41	35	29	37	24	22	14	11	3	3	1		361	144.4 (7.6)
Big Beech Creek																				
Largemouth bass	2	8	8	4	6	16	42	48	21	39	17	18	8	5	2	2		1	247	98.8 (20.9)
Total																				
Largemouth bass	12	48	54	25	21	66	106	102	070	106	69	66	36	25	9	7	1	1	824	109.9 (11.7)

Dataset = cfdpstvl.d15

Table 3. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Taylorsville Lake from 1984-2015; 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)

Dataset = cfdpstvl.d15– .d84

Table 4. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in each area of Taylorsville Lake in 2015; confidence intervals are in parentheses.

Area	Species	No. >8.0 in	PSD	RSD_{15}
Big Beech	Largemouth bass	225	50 (± 7)	16 (± 5)
Ashes Creek	Largemouth bass	279	52 (± 6)	19 (± 5)
Van Buren	Largemouth bass	181	73 (± 6)	30 (± 7)
Total	Largemouth bass	685	57 (± 4)	21 (± 3)

Dataset = cfdpstvl.d15

Table 5. Population assessment for largemouth bass collected during spring electrofishing at Taylorsville Lake from 2000-2015 (scoring based on statewide assessments).

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
2015	Value	12.9*	16.8	32.7	19.3	0.3				
	Score	4	1	3	3	2			13	Good
2014	Value	12.9	23.6	35.1	21.3	0.5				
	Score	4	2	4	4	2			16	Good
2013	Value	13.1*	17.2	42.0	22.1	0.4				
	Score	4	1	4	4	2			15	Good
2012	Value	13.1*	28.1	39.9	14.5	0.3				
	Score	4	2	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	4	3	4	3	2			16	Good
2009	Value	12.9*	14.6	22.3	13.6	0.1				
	Score	4	1	2	3	1			11	Fair
2008	Value	12.9*	12.2	33.6	22.5	0.0				
	Score	4	1	3	4	0			12	Good
2007	Value	12.9*	10.3	33.7	14.4	0.3				
	Score	4	1	3	3	2			13	Good
2006	Value	12.9	17.5	20.3	16.5	0.3	0.824	56.1		
	Score	4	1	2	3	2			12	Good
2005	Value	12.6*	38.3	40.3	34.3	0.5				
	Score	4	3	4	4	2			17	Excellent
2004	Value	12.6*	14.9	42.9	13.2	0.3				
	Score	4	1	4	3	2			14	Good
2003	Value	12.6*	21.2	24.9	15.2	0.8				
	Score	4	2	2	3	2			13	Good
2002	Value	12.6	34.8	12.8	9.6	0.5	0.495	39.0		
	Score	4	2	1	2	2			11	Fair
2001	Value	10.8	20.5	27.6	15.5	0.3	0.539	41.7		
	Score	4	2	3	3	2			11	Fair
2000	Value	10.1	14.1	16.1	10.5	0.5	0.455	36.6		
	Score	4	1	2	2	2			8	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 2015; 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	21	Total	CPUE
Van Buren																				
Largemouth bass	3	7	18	5		16	21	11	19	19	7	10	2	1					139	92.7 (19.3)
Ashes Creek																				
Largemouth bass	4	10	9	4	9	40	27	39	26	21	22	12	7	1	3		1		235	156.7 (17.8)
Big Beech Creek																				
Largemouth bass	1	1	7		7	12	22	24	29	18	9	23	13	1	2			1	170	113.3 (12.8)
Total																				
Largemouth bass	8	18	34	9	16	68	70	74	74	58	38	45	22	3	5		1	1	544	120.9 (11.2)

Dataset = cfdwrtvl.d15

Table 7. Numbers of fish and the relative weight (W_r) for each length group of largemouth bass collected at Taylorsville Lake on 22 and 23 September 2015; 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	Van Buren	17	99 (3)	14	95 (2)	5	97 (4)	36	97 (1)
	Ashes	40	95 (3)	29	97 (2)	22	98 (2)	91	97 (2)
	Big Beech	64	95 (1)	54	95 (1)	40	93 (2)	158	94 (1)
	Total	121	96 (1)	97	96 (1)	67	95 (1)	285	95 (1)

Dataset = cfdwrtvl.d15

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.

		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	4.6	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		

Dataset = cfdwrtvl.d15

Table 9. Length distribution and CPUE (fish/nn) of each species of crappie collected at Taylorsville Lake in 36 net-nights during October 2015.

	Inch class																Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	error
White crappie																	
natural	4	111	438	103	4	28	45	45	20	5	4			1	808	22.4	3.9
2013								2	2	1					5	0.1	0.1
2012										1	1				2	0.1	0.1
Total	4	111	438	103	4	28	45	47	22	7	5			1	815	22.6	3.9
Black crappie	1	13	16	11	31	166	46	17	3	3	4				311	8.6	2.1

Dataset = cfdtntvl.d15

Table 10. PSD and RSD_{10} values calculated for crappie collected at Taylorsville Lake in 48 net-nights during October 2015.

Species	No. ≥ 5.0 in	PSD	RSD_{10}
White crappie	262	48 (± 6)	13 (± 4)
Black crappie	281	26 (± 5)	4 (± 2)

Dataset = cfdtntvl.d15

Table 11. Mean back calculated lengths (in) at each annulus for otoliths from white crappie trap netted and gill netted at Taylorsville Lake in 2015.

		Age			
Year class	No.	1	2	3	4
2014	75	5.6			
2013	35	5.4	9.0		
2012	6	5.7	8.3	9.8	
2011	2	5.8	10.0	11.7	12.7
Mean	118	5.6	8.9	10.3	12.7
Smallest		2.7	7.0	8.5	11.4
Largest		8.4	11.2	12.9	14.1
Std Error		0.1	0.2	0.5	1.4
95% ConLo		5.4	8.6	9.3	10.0
95% ConHi		5.7	9.2	11.2	15.5

Intercept value = 0.00
Dataset = cfdagtvl.d15

Table 12. Age frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 48 net-nights at Taylorsville Lake in 2015.

	Inch class																	Std
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	%	CPUE	err
0+	4	111	394	103	1										614	75	17.0	3.4
1+			44		3	28	41	36	8						158	19	4.4	1.0
2+							5	9	12	6	3				36	4	1.0	0.2
3+								2	2	1	1				6	1	0.2	0.0
4+											1			1	2	0	0.1	0.0
Total	4	111	438	103	4	28	45	47	22	7	5			1	815	100	22.6	3.9
(%)	0	14	54	13	0	3	6	6	3	1	1			0	100			

Dataset = cfdtntvl.d15 and cfdagtvl.d15
CPUE of ≥8.0 in white crappie = 3.5 ± 0.6 fish/nn; ≥10.0 in = 1.0 ± 0.2 fish/nn

Table 13. Population assessment for white crappie collected during fall trap netting at Taylorsville Lake from 2000-2015 (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
2015	Value	5.6	10.5	3.5	4.4	16.9		
	Score	2	4	2	2	4	14	Good
2014	Value	2.9	10.9	2.2	2.5	0.4		
	Score	1	4	2	1	1	9	Fair
2013	Value	1.7	10.2	1.4	1.3	6.7		
	Score	1	4	1	1	1	8	Fair
2012	Value	0.7	10.1	0.6	0.5	1.1		
	Score	1	4	1	1	1	8	Fair
2011	Value	0.7	11.0	0.6	0.6	1.0		
	Score	1	4	1	1	1	8	Fair
2010	Value	0.4	9.5	0.3	0.4	1.0		
	Score	1	3	1	1	1	7	Poor
2009	Value	0.02	9.6*	0.02	0.02	0.2		
	Score	1	4	1	1	1	8	Fair
2008	Value	0.1	9.6*	0.1	0.1	0.1		
	Score	1	4	1	1	1	8	Fair
2007	Value	0.3	9.6*	0.3	0.0	0.04		
	Score	1	4	1	0	1	7	Poor
2006	Value	0.9	9.6	0.9	0.0	0.04		
	Score	1	4	1	0	1	7	Poor
2005	Value	3.2	9.6	1.5	2.7	0.0		
	Score	1	4	1	1	0	7	Poor
2004	Value	1.7	10.3	1.0	1.4	1.4		
	Score	1	4	1	1	1	8	Fair
2003	Value	1.8	10.1*	1.7	1.	0.5		
	Score	1	4	1	1	1	8	Fair
2002	Value	1.6	10.1	1.5	0.6	0.7		
	Score	1	4	1	1	1	8	Fair
2001	Value	4.5	9.4	4.3	2.6	0.1		
	Score	1	3	2	1	1	8	Fair
2000	Value	6.5	8.6	6.3	0.5	0.5		
	Score	2	2	3	1	1	9	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 2015.

		Age			
Year class	No.	1	2	3	4
2014	33	4.4			
2013	17	4.4	7.9		
2012	1	5.1	8.7	10.5	
2011	5	4.8	8.1	9.9	11.0
Mean	56	4.5	8.0	10.0	11.0
Smallest		3.2	7.0	8.9	9.5
Largest		6.9	9.9	10.9	11.9
Std Error		0.1	0.1	0.3	0.4
95% ConLo		4.3	7.7	9.4	10.2
95% ConHi		4.6	8.3	10.5	11.8

Intercept value = 0.00
Dataset = cfdagtvl.d15

Table 15. Age frequency and CPUE (fish/nn) per inch class of black crappie trap netted for 48 net-nights at Taylorsville Lake in 2015.

	Inch class														Std
Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	Err
0+	1	13	16	11	3							44	14	1.2	0.3
1+					28	166	17	2	2			215	69	6.0	1.6
2+							29	14	1	2		45	15	1.3	0.5
3+										2		2	0	0.0	0.0
4+								2			4	6	2	0.2	0.1
Total	1	13	16	11	31	166	46	17	3	3	4	311	100	8.6	2.1
%	0	4	5	4	10	53	15	5	1	1	1	100			

Dataset = cfdtntvl.d15 and cfdagtvl.d15
CPUE of ≥8.0 in black crappie = 2.0 ± 0.7 fish/nn; ≥10.0 in = 0.3 ± 0.1 fish/nn

Table 16. Population assessment for black crappie collected during fall trap netting at Taylorsville Lake from 2000-2015 (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
2015	Value	8.6	9.2	2.0	6.0	1.2		
	Score	2	3	2	2	1	10	Fair
2014	Value	6.3	9.3	2.4	5.2	0.9		
	Score	2	3	2	2	1	10	Fair
2013	Value	4.5	9.1	4.1	0.9	2.2		
	Score	1	3	2	1	1	8	Fair
2012	Value	9.8	9.6	1.7	9.3	0..9		
	Score	2	4	1	3	1	11	Fair
2011	Value	0.8	9.8	0.5	0.5	2.5		
	Score	1	4	1	1	1	8	Fair
2010	Value	3.2	8.4	1.3	3.1	0.5		
	Score	1	1	1	2	1	6	Poor
2009	Value	0.2	9.8*	0.1	0.2	0.4		
	Score	1	4	1	1	1	8	Fair
2008	Value	0.6	9.8	0.5	0.2	0.4		
	Score	1	4	1	1	1	8	Fair
2007	Value	1.7	9.2	1.0	1.4	0.02		
	Score	1	3	1	1	1	7	Poor
2006	Value	3.3	9.5	3.3	0.1	0.5		
	Score	1	3	2	1	1	8	Fair
2005	Value	5.8	9.0	4.5	1.3	0.04		
	Score	2	2	2	1	1	8	Fair
2004	Value	12.0	9.3	1.2	11.7	1.2		
	Score	2	3	1	3	1	10	Fair
2003	Value	1.3	10.3	1.1	1.0	1.3		
	Score	1	4	1	1	1	8	Fair
2002	Value	2.2	10.2	1.6	1.8	0.1		
	Score	1	4	1	1	1	8	Fair
2001	Value	1.8	10.1	1.5	1.5	0.1		
	Score	1	4	1	1	1	8	Fair
2000	Value	0.8	9.6	0.7	0.5	0.2		
	Score	1	4	1	1	1	8	Fair

* 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 2015.

		Length group							
Species	Area	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	65	91 (1)	57	88 (1)	35	92 (1)	157	90 (1)
Black crappie	Total	80	87 (1)	46	88 (1)	10	88 (3)	136	87 (1)

Dataset = cfdtntvl.d15

Table 18. Length distribution and CPUE (fish/nn) of white bass and hybrid striped bass collected during 8 net-nights of gill netting in Taylorsville Lake in October 2015: 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	Total	CPUE(fish/h)
White bass	1			6	4	4	2										17	2.1 (0.8)
Hybrid striped bass	1	4	1	2	5	6	1		1	1	10	7	3	3	1	1	47	5.8 (2.7)
Reciprocal	1	3	1	2	5	6	1		1	1	9	7	3	2		1	43	5.4 (2.4)
Original		1									1			1	1		4	0.5 (0.3)

Dataset = cfdgntvl.d15

Table 19. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Taylorsville Lake in 2015.

		Age			
Year class	No.	1	2	3	4
2014	14	6.9			
2013	21	11.0	15.3		
2012	5	8.3	15.3	17.5	
2011	1	7.1	14.9	18.7	20.2
Mean	41	9.2	15.2	17.7	20.2
Smallest		5.6	13.1	15.2	20.2
Largest		12.5	16.9	19.3	20.2
Std Error		0.4	0.2	0.6	
95% ConLo		8.4	14.9	16.6	
95% ConHi		9.9	15.6	18.9	

Intercept Value = 0.00
Dataset = cfdagtvl.d15

Table 20. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 8 net-nights at Taylorsville Lake in 2015.

	Inch class																			Std
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	%	CPUE	Err
0+	1	4	1														6	13	0.8	0.5
1+				2	5	6	1										14	30	1.8	1.0
2+									1	1	8	7	3	1			21	45	2.6	1.7
3+											2			2	1		5	11	0.6	0.4
4+																1	1	2	0.1	0.1
Total	1	4	1	2	5	6	1		1	1	10	7	3	3	1	1	47	100	5.8	2.7
%	2	9	2	4	11	13	2		2	2	21	15	6	6	2	2	100			

Dataset = cfdagtvl.d15 and cfdgntvl.d15

Table 21. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Taylorsville Lake in October 2015.

		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	12	83 (2)	7	78 (1)	27	85 (1)	46	83 (1)

Dataset = cfdgntvl.d15

Table 22. Population assessment for hybrid striped bass collected during fall gill netting at Taylorsville Lake from 2000-2015 (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
2015	Value	5.1	18.0	3.4	1.8	-	-		
	Score	2	4	2	1			9	Fair
2014	Value	10.9	17.5	3.0	8.4	-	-		
	Score	3	3	2	3			11	Good
2013	Value	3.5	18.3	1.5	2.0	-	-		
	Score	1	4	1	1			7	Fair
2012	Value	2.2	17.0	0.8	1.3	-	-		
	Score	1	3	1	1			6	Fair
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	1	2	1	2			6	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	3	1	1			6	Fair
2007	Value	16.8	16.2	10.8	6.0	0.798	55.0%		
	Score	3	2	4	3			12	Good
2006	Value	8.5	16.8	0.8	8.0	1.262	71.7%		
	Score	2	2	1	3			8	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	1	2	1	2			6	Fair
2003	Value	9.4	16.6	6.6	2.6	1.522	78.2%		
	Score	2	2	3	2			9	Fair
2002	Value	22.8	15.8	10.1	12.4	0.658	48.2%		
	Score	4	1	4	4			13	Good
2001	Value	13.3	16.0	2.0	11.1	1.437	76.2%		
	Score	3	2	1	4			10	Good
2000	Value	9.9	15.9	5.9	3.1	1.263	71.1%		
	Score	2	1	3	2			8	Fair

Table 23. Mean back calculated lengths (in) at each annulus for otoliths from white bass gill netted at Taylorsville Lake in 2015.

		Age	
Year class	No.	1	2
2014	10	7.5	
2013	6	8.2	11.2
Mean	16	7.7	11.2
Smallest		5.8	10.8
Largest		9.1	11.8
Std Error		0.3	0.2
95% ConLo		7.2	10.9
95% ConHi		8.3	11.5

Intercept Value = 0.00
Dataset = cfdagtvl.d15

Table 24. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 8 net-nights at Taylorsville Lake in 2015.

	Inch class										
Age	7	8	9	10	11	12	13	Total	%	CPUE	Std Err
0+	1							1	6	0.1	0.1
1+				6	4			10	59	1.3	0.7
2+						4	2	6	35	0.8	0.3
Total	1			6	4	4	2	17	100	2.1	0.8
%	6			35	24	24	12	100			

Dataset = cfdagtvl.d15 and cfdgntvl.d15

Table 25. Number of fish and the relative weight (W_r) for each length group of white bass collected at Taylorsville Lake in October 2015.

		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	1	96	10	87 (2)	6	89 (2)	17	88 (1)

Dataset = cfdgntvl.d15

Table 26. Population assessment for white bass collected during fall gill netting at Taylorsville Lake from 2000-2015 (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
2015	Value	3.2	12.5	0.8	1.3				
	Score	1	3	1	1			6	Fair
2014	Value	4.5	11.3*	0.5	4.5				
	Score	1	2	1	2			6	Fair
2013	Value	1.4	11.3*	0.0	1.4	-	-		
	Score	1	2	0	1			4	Poor
2012	Value	3.3	11.3	0.5	2.2	1.037	64.5		
	Score	1	2	1	1			5	Poor
2011	Value	18.4	11.9	5.0	8.9	1.506	77.8		
	Score	3	2	3	3			11	Good
2010	Value	11.0	12.1	1.8	7.8	1.920	85.3		
	Score	3	3	1	3			10	Good
2009	Value	1.3	NS	0.1	1.1	1.030	64.3		
	Score	1	0	1	1			3	Poor
2008	Value	2.0	12.1	0.3	1.6	1.157	68.6		
	Score	1	3	1	1			6	Fair
2007	Value	6.4	11.7	0.8	4.6	1.102	66.8		
	Score	2	2	1	2			7	Fair
2006	Value	4.3	11.7	0.8	3.0	1.040	64.6		
	Score	1	2	1	2			6	Fair
2005	Value	5.0	11.6	1.2	1.8	1.054	65.2		
	Score	2	2	1	1			6	Fair
2004	Value	8.6	11.4	0.1	7.3	2.030	86.9		
	Score	2	2	1	3			8	Fair
2003	Value	6.9	11.7	2.0	3.5	0.944	61.1		
	Score	2	2	1	2			7	Fair
2002	Value	5.9	11.8	1.3	2.6	1.113	67.1		
	Score	2	2	1	2			7	Fair
2001	Value	23.5	12.1	6.8	14.9	0.971	62.1		
	Score	4	3	3	4			14	Excellent
2000	Value	20.8	12.2	8.1	7.4	0.766	53.5		
	Score	4	3	3	3			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 3.25 hours of 15-minute electrofishing runs for blue catfish in Taylorsville Lake in July 2015; numbers in parentheses are standard errors.

	Inch class																															
Area	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	Total	CPUE
Upper			1	7	6	7	7	4	7	8	15	10	3			1		1		1												78	44.6 (24.5)
Lower	1	4	14	22	28	12	10	9	13	17	18	11	13	8	3	2	1		1		1	2	1	1	1	1	1	1			2	198	132.0 (38.3)
Total	1	4	15	29	34	19	17	13	20	25	33	21	16	8	3	3	1	1	1	1	1	2	1	1	1	1	1	1			2	276	84.9 (24.6)

Dataset = cfdpstvl.d15

Table 28. Electrofishing CPUE (fish/hr) for each length group of blue catfish collected from Taylorsville Lake from 2007-2015; 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	>20.0 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)

Dataset = cfdpstvl.d15

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 2015; 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	54	94 (3)	3	93 (5)	0		57	94(3)
	Lower	99	93 (1)	12	97 (3)	6	124 (2)	117	95(1)
	Total	153	93 (1)	15	96 (3)	6	124 (2)	174	95 (1)

Dataset = cfdpstvl.d15

Table 30. Length distribution and CPUE (fish/nn) of blue catfish collected during 12 net-nights of gill netting in Taylorsville Lake in February 2016: numbers in parentheses are standard errors.

	Inch class																											
Area	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	Total	CPUE
Lower	1			1										2		1	1	2		1							9	1.5 (0.7)
Upper			1				3	2	2		1	2	2	8	10	8	15	9	5	8	2		2	1		1	82	13.7 (3.6)
Total	1		1	1			3	2	2		1	2	2	10	10	9	16	11	5	9	2		2	1		1	91	7.6 (2.5)

Dataset = cfdgntvl.d15

Table 31. Numbers of fish and the relative weight (W_r) for each length group of blue catfish collected at Taylorsville Lake on 2 and 3 February 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	1	84	20	127 (6)	61	126 (2)	82	126 (3)
	Lower	2	206 (102)	2	97 (3)	5	124 (2)	9	138 (22)
	Total	3	166 (72)	22	127 (6)	66	124 (2)	91	127 (3)

Dataset = cfdgntvl.d15

Table 32. Dissolved oxygen and temperatures collected from Big Beech Creek, near Settler's Marina, at Taylorsville Lake during 2015.

	May 28		June 29		August 3		August 31		September 22		October 26		December 2	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	11.93	75.6	9.67	81.8	9.61	85.7	9.43	81.9	3.43	75.5	4.11	65.7	6.00	54.3
2	12.07	75.2	9.98	81.2	9.16	85.2	9.32	81.4	3.55	75.4	4.04	65.7	5.99	54.3
4	10.59	74.1	9.33	80.4	9.35	84.7	8.67	80.8	3.20	75.3	4.00	65.7	5.98	54.2
6	9.71	73.9	8.89	80.1	8.82	84.4	8.04	80.6	3.16	75.3	3.97	65.7	5.98	54.2
8	9.31	73.8	8.13	80.0	8.08	84.0	8.06	80.5	3.16	75.3	3.95	65.7	5.94	54.2
10	9.21	73.8	7.59	79.9	6.95	83.6	8.07	80.4	3.18	75.3	3.93	65.7	5.89	54.1
12	9.10	73.6	7.42	79.9	9.73	83.5	7.94	80.3	3.20	75.3	3.91	65.8	5.85	54.1
14	8.47	73.2	6.61	79.7	6.15	83.4	6.83	80.2	3.21	75.3	3.89	65.8	5.81	54.1
16	7.15	72.3	1.90	78.8	0.72	81.9	5.16	80.0	3.20	75.3	3.89	65.8	5.79	54.1
18	2.60	68.1	0.24	77.5	0.35	78.5	1.10	78.8	3.18	75.3	3.88	65.8	5.72	54.1
20	1.55	65.2	0.18	77.5	0.26	76.9	0.25	78.2	3.16	75.3	3.84	65.7	5.71	54.1
22	1.58	64.1	0.15	73.3	0.23	76.4	0.16	77.4	2.46	75.3	2.24	65.7	5.71	54.0
24	2.05	62.3	0.14	71.9	0.21	75.8	0.14	76.3	1.38	75.2	2.09	65.7	5.71	54.0
26	2.14	61.6	0.12	70.4	0.21	75.5	0.13	75.5	0.36	75.1	2.09	65.7	5.15	53.9
28	1.86	60.8	0.10	67.7	0.20	74.7	0.12	74.4	0.16	75.0	1.86	65.6	5.14	53.9
30	1.80	60.6	0.10	66.1	0.20	73.9	0.11	73.9	0.12	74.4	1.43	65.5	5.23	53.8
35	1.18	60.1	0.07	61.5	0.17	73.2	0.10	72.4	0.10	72.5	0.34	65.4	5.26	53.7
40	0.23	59.3	0.06	59.8	0.16	72.4	0.09	71.4	0.08	70.9	0.16	65.3	5.45	53.3
45			0.05	58.2	0.15	71.8							5.86	52.9

Table 33. Dissolved oxygen and temperatures collected from the mouth of Ashes and Jack's Creek at Taylorsville Lake during 2015.

	May 28		June 29		August 3		August 31		September 22		October 26		December 2	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	11.85	75.5	10.62	80.9	10.50	85.0	8.13	81.3	7.38	77.6	1.48	65.4	6.15	54.3
2	11.88	74.9	10.63	80.7	10.48	84.7	8.11	80.5	7.36	77.5	1.46	65.4	6.08	54.3
4	10.35	73.8	10.53	80.6	10.49	84.9	7.95	80.8	7.24	77.1	1.45	65.4	6.07	54.3
6	9.69	73.3	9.61	80.2	9.26	84.3	7.81	80.2	7.10	76.5	1.44	65.4	5.85	54.2
8	9.21	73.1	9.23	80.1	7.24	83.8	7.07	80.0	6.07	75.9	1.43	65.4	5.69	54.2
10	8.99	72.9	6.69	79.2	5.55	83.3	6.94	79.8	5.76	75.9	1.42	65.5	5.43	54.1
12	8.41	72.8	4.27	78.5	6.50	82.0	4.13	79.5	5.58	75.8	1.56	65.5	5.30	54.1
14	6.35	72.0	0.28	76.9	0.35	80.8	2.71	79.4	5.45	75.7	1.54	65.5	5.27	54.1
16	3.94	70.8	0.20	75.7	0.29	79.8	1.91	79.2	5.39	75.7	1.67	65.5	5.27	54.1
18	2.37	69.1	0.18	74.4	0.25	78.4	1.05	79.1	5.34	75.6	1.75	65.4	5.27	54.1
20	1.55	67.8	0.16	73.5	0.23	77.3	0.39	78.8	5.57	75.6	1.75	65.4	5.26	54.1
22	1.16	65.5	0.14	71.9	0.21	76.3	0.23	78.4	5.55	75.6	1.75	65.4	5.25	54.1
24	1.48	63.0	0.14	70.4	0.20	75.7	0.18	77.8	5.47	75.6	1.83	65.5	5.23	54.1
26	1.85	61.6	0.13	68.6	0.19	74.8	0.16	76.8	5.47	75.5	1.83	65.5	5.27	54.1
28	1.88	61.0	0.12	66.3	0.17	74.3	0.14	75.2	4.85	75.3	1.84	65.4	5.81	54.0
30	1.18	60.5	0.09	63.7	0.16	73.8	0.13	74.3	2.04	74.1	1.87	65.4	7.06	53.9
35	0.76	59.0	0.07	60.7	0.15	72.8	0.12	72.5	0.28	72.1	1.88	65.4	6.15	53.6
40	0.24	59.5	0.06	59.5	0.15	72.0	0.11	71.2	0.16	70.8	1.95	65.4	4.64	53.4
45	0.08	58.4	0.05	58.5	0.14	71.5	0.09	69.9	0.14	69.9	1.86	65.4	4.45	53.2
50	0.07	57.7	0.05	57.5	0.14	70.7	0.09	68.4	0.11	68.5	1.18	65.3	4.15	52.9
55	0.06	57.0	0.04	56.9	0.13	69.1			0.29	66.2	0.09	64.9	4.10	52.5
60					0.12	66.8					0.07	63.7	4.11	52.0

Table 34. Dissolved oxygen and temperatures collected from the VanBuren/Chowning Lane Area at Taylorsville Lake during 2015.

	May 28		June 29		August 3		August 31		September 22		October 26		December 2	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	10.65	76.5	12.61	81.2	11.86	86.8	11.51	82.4	11.30	77.3	8.09	64.6	9.86	53.1
2	10.41	75.3	12.71	81.2	12.10	86.5	8.70	81.3	11.35	77.1	7.99	64.7	9.84	53.1
4	8.86	74.6	12.44	80.9	12.35	86.1	5.28	80.0	10.31	75.7	7.92	64.7	9.83	53.1
6	6.03	73.9	11.18	80.7	8.97	84.1	5.74	79.6	7.42	75.0	7.90	64.7	9.81	53.1
8	3.51	73.2	10.12	80.2	8.61	83.7	2.55	79.4	6.83	74.6	7.62	64.7	9.80	53.0
10	2.50	72.6	9.30	79.9	5.30	83.3	1.51	79.2	6.83	74.4	7.16	64.6	9.78	53.0
12	1.59	72.1	7.57	79.3	0.97	82.3	1.30	79.1	6.76	74.3	7.09	64.6	9.75	52.9
14	0.45	71.4	6.85	78.7	0.53	80.9	0.60	79.0	6.28	74.2	6.88	64.5	9.66	52.8
16	0.22	70.2	4.88	77.2	0.31	79.2	0.36	78.8	3.55	73.8	6.55	64.4	9.49	52.6
18	0.18	69.5	4.36	76.5	0.26	77.6	0.26	78.8	2.96	73.3	6.20	64.4	9.45	52.6
20	0.15	68.3	3.62	75.4	0.24	76.6	0.21	78.5	2.82	72.8			9.40	52.6
22	0.13	67.1	0.97	74.1	0.22	75.7			2.41	72.4			9.15	52.2
24	0.12	64.5	0.24	70.0	0.20	75.4							8.68	51.6
26			0.17	68.9	0.19	74.8							8.41	51.1
28														
30														
35														
40														
45														

Table 35. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 7.5 hours of 15-minute electrofishing runs in Herrington Lake, May 2015; 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	21	Total	CPUE
Upper																						
Largemouth bass	4	12	5	7	17	12		1	8	15	15	15	21	9	7	9	3	2		1	163	65.2 (6.5)
Spotted bass											1										1	0.4 (0.4)
Middle																						
Largemouth bass	6	7	5	16	20	25	16	6	25	27	20	22	31	22	13	10	11	7	3		292	116.8 (11.5)
Spotted bass	2	2				4	5	5	12	13	12	2		1							58	23.2 (8.8)
Lower																						
Largemouth bass	2	1	16	67	20	5	2	8	9	9	11	9	13	11	10	8	3	1	2		207	82.8 (5.6)
Spotted bass								1	3												4	1.6 (0.7)
Total																						
Largemouth bass	12	20	26	90	57	42	18	15	42	51	46	46	65	42	30	27	17	10	5	1	662	88.3 (6.1)
Spotted bass	2	2				4	5	6	15	13	13	2		1							63	8.4 (3.4)

Dataset = cfdpsher.d15

Table 36. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Herrington Lake from 1994-2015; 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)

Dataset = cfdpsher.d15- .d94

Table 37. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in each area of Herrington Lake in 2015; confidence intervals are in parentheses.

Area	Species	No. ≥8.0 in	PSD	RSD_{15}
Lower	Largemouth bass	96	70 (± 9)	36 (± 10)
Middle	Largemouth bass	213	65 (± 6)	31 (± 6)
Upper	Largemouth bass	106	77 (± 8)	29 (± 9)
Total	Largemouth bass	415	70 (± 4)	32 (± 4)

Dataset = cfdpsher.d15

Table 38. Population assessment for largemouth bass collected during spring electrofishing at Herrington Lake from 2000-2015 (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
2015	Value	13.4	36.8	20.9	17.6	0.8				
	Score	4	3	2	3	2			14	Good
2014	Value	13.8*	33.9	28.5	18.0	1.3				
	Score	4	2	3	3	2			14	Good
2013	Value	13.8*	15.1	18.5	12.9	1.5				
	Score	4	1	2	3	2			12	Good
2012	Value	13.8*	111.7	40.9	14.8	1.1				
	Score	4	4	4	3	2			17	Excellent
2011	Value	13.8	18.7	10.9	10.8	0.3	0.539	41.7%		
	Score	4	1	1	2	2			10	Fair
2010	Value	13.7*	49.6^	28.7	25.1	0.9				
	Score	4	3	3	4	2			16	Good
2009	Value	13.7*	6.2^	15.3	10.8	0.4				
	Score	4	1	2	2	2			11	Fair
2008	Value	13.7*	34.6^	29.5	22.1	1.5				
	Score	4	2	3	4	2			15	Good
2007	Value	13.7	96.5	20.0	17.3	0.5	0.485	38.4%		
	Score	4	4	2	3	2			15	Good
2006	Value	13.7*	25.1^	38.4	19.3	0.4				
	Score	4	2	4	3	2			15	Good
2005	Value	13.7*	72.1^	23.5	22.3	0.8				
	Score	4	4	2	4	2			16	Good
2004	Value	13.7*	33.5^	38.7	29.7	1.5				
	Score	4	2	4	4	2			16	Good
2003	Value	13.7	20.9	30.1	17.9	1.2	0.498	39.2%		
	Score	4	2	3	3	2			14	Good
2002	Value	11.7*	16.7^	25.5	24.0	1.6				
	Score	3	1	3	4	3			14	Good
2001	Value	11.7	28.2	34.1	12.5	0.5	0.455	36.6%		
	Score	3	2	3	3	2			13	Good
2000	Value	11.0	13.1	26.9	12.3	0.3	0.620	46.2%		
	Score	1	1	3	3	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 39. Length distribution and CPUE (fish/hr) of black bass collected in 4.75 hours of 15-minute electrofishing runs in Herrington Lake in September 2015; 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
Lower																						
Largemouth bass	11	7	8	20	19	5	4	1	2	1			1	3	1			1			84	56.0 (17.9)
Spotted bass					1																1	0.7 (0.7)
Middle																						
Largemouth bass	26	26	6	32	41	15	10	9	3	7	5	3	3	2	1					1	190	108.6 (25.1)
Spotted bass	2	5				2	1		2	4	3	2									21	12.0 (3.9)
Upper																						
Largemouth bass	3	9	13	33	37	11	4	4	13	6	4	3	2	5	2	1					150	100.0 (17.9)
Spotted bass																					0	0.0 (0.0)
Total																						
Largemouth bass	40	42	27	85	97	31	18	14	18	14	9	6	6	10	4	1		1		1	484	89.3 (12.8)
Spotted bass	2	5			1	2	1		2	4	3	2									22	4.6 (1.9)

Dataset = cfdwrher.d15

Table 40. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected in the fall from Herrington Lake in 2015.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	41	6.4							
2013	12	7.6	11.7						
2012	8	6.2	10.9	13.4					
2011	11	7.7	11.7	13.6	14.9				
2010	1	6.9	9.6	12.7	14.2	15.4			
2007	1	6.6	11.9	14.1	15.7	17.2	18.8	20.4	20.7
Mean	75	6.8	11.4	13.5	14.9	16.0	18.8	20.4	20.7
Smallest		3.3	8.1	10.5	11.8	14.8	18.8	20.4	20.7
Largest		10.4	14.4	17.2	18.8	17.2	18.8	20.4	20.7
Std Error		0.2	0.2	0.3	0.3	0.7			
95% ConLo		6.3	10.9	12.9	14.0	14.6			
95% ConHi		7.2	11.9	14.0	15.7	17.3			

Intercept value = 0.00
Dataset = cfdagher.d15

Table 41. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Herrington Lake on 24 and 25 September 2015. 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	8	90 (3)	1	98 (-)	5	96 (4)	14	93 (2)
	Middle	29	92 (1)	11	92 (2)	4	92 (4)	44	92 (1)
	Upper	26	93 (2)	9	87 (5)	8	92 (4)	43	92 (2)
	Total	63	92 (1)	21	90 (3)	17	93 (2)	101	92 (1)

Dataset = cfdwrher.d15

Table 42. 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.

Year class	Area	Age-0		Age-0		Age-0 ≥5.0 in		Age-1 (Natural)	
		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		

Table 43. Length distribution and CPUE (fish/nn) of white bass and hybrid striped bass collected during 12 net-nights of gill netting in Herrington Lake in October 2015; 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	24	25	26	Total	CPUE
White bass	1	4	8		9	37	16	1	2	1	1										80	6.7 (1.7)
Hybrid striped bass		3	16	59	11	1	6	4		1	1			6	10	1	3			1	123	10.3 (2.4)
Reciprocal		1	13	45	7	1	6	4		1	1			2	6	1	3			1	92	7.7 (1.6)
Original		1	3	14	4									4	4						30	2.5 (0.8)

Dataset = cfdgnher.d15

Table 44. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Herrington Lake in 2015.

		Age				
Year class	No.	1	2	3	4	5
2014	12	6.9				
2013	15	13.4	18.8			
2012	4	13.9	18.2	20.2		
2010	2	13.7	18.7	21.3	22.9	24.3
Mean	33	11.1	18.7	20.6	22.9	24.3
Smallest		5.3	16.8	18.4	21.6	22.7
Largest		15.4	20.1	22.1	24.3	25.8
Std Error		0.6	0.2	0.7	1.3	1.5
95% ConLo		9.9	18.3	19.3	20.3	21.2
95% ConHi		12.3	19.0	21.9	25.6	27.3

Intercept Value = 0.00
Dataset = cfdagher.d15

Table 45. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 12 net-nights at Herrington Lake in 2015.

	Inch class																						Std
Age	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	%	CPUE	err
0+	3	16	58	10																87	72	7.3	2.0
1+					1	6	4		1	1										13	11	1.1	0.4
2+													4	10	1					15	12	1.3	0.6
3+													2			2				4	3	0.3	0.2
4+																				0	0	0.0	0.0
5+																1			1	2	2	0.2	0.1
Total	3	16	58	10	1	6	4		1	1			6	10	1	3			1	121	100	10.3	2.4
%	2	13	48	8	1	5	3		1	1			5	8	1	2			1	100			

Dataset = cfdagher.d15 and cfdgnher.d15

Table 46. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Herrington Lake in October 2015.

		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	89	96 (1)	11	99 (2)	23	93 (1)	123	96 (1)

Dataset = cfdgnher.d15

Table 47. Population assessment for hybrid striped bass collected during fall gill netting at Herrington Lake from 2000-2015 (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
2015	Value	2.8	21.2	1.9	1.1				
	Score	1	4	1	1			7	Fair
2014	Value	2.8	20.9	2.8	1.6				
	Score	1	4	2	1			8	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	2			11	Good
2010	Value	5.3	20.0	4.7	4.9	1.211	70.2		
	Score	2	4	2	2			10	Good
2009	Value	2.7	19.3	2.7	2.1	1.109	66.3		
	Score	1	4	2	1			8	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	2	3			11	Good
2006	Value	1.3	21.4	1.3	4.0	0.633	46.9		
	Score	1	4	1	2			8	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	1	1			7	Fair
2003	Value	3.1	19.8	2.9	1.1	0.601	45.2		
	Score	1	4	2	1			8	Fair
2002	Value	8.2	20.8	7.0	3.6	0.770	53.7		
	Score	2	4	3	2			11	Good
2001	Value	4.7	20.1	4.7	0.8	NA	NA		
	Score	1	4	2	1			8	Fair
2000	Value	8.9	18.9	8.9	5.5	1.282	72.3		
	Score	2	4	3	3			12	Good

Table 48. Mean back calculated lengths (in.) at each annulus for otoliths from white bass gill netted at Herrington Lake in 2015.

		Age			
Year class	No.	1	2	3	4
2014	64	8.2			
2013	2	9.0	11.4		
2012	2	9.3	13.2	14.7	
2011	1	12.3	14.8	15.6	16.2
Mean	69	8.3	12.8	15.0	16.2
Smallest		4.0	9.4	14.1	16.2
Largest		12.3	14.8	15.6	16.2
Std Error		0.1	0.9	0.5	
95% ConLo		8.0	10.9	14.1	
95% ConHi		8.6	14.6	15.9	

Intercept Value = 0.00
Dataset = cfdagher.d15

Table 49. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 12 net-nights at Herrington Lake in 2015.

	Inch class														
Age	7	8	9	10	11	12	13	14	15	16	17	Total	%	CPUE	Std err
0+	1	3	8									12	15	1.0	0.4
1+		1			9	36	16	1				63	79	5.2	1.4
2+						1			1			2	3	0.2	0.1
3+									1	1		2	3	0.2	0.1
4+											1	1	1	0.1	0.1
Total	1	4	8		9	37	16	1	2	1	1	80	100		
%	1	5	10		11	46	20	1	3	1	1	100			

Dataset = cfdagher.d15 and cfdgnher.d15

Table 50. Number of fish and the relative weight (Wr) for each length group of white bass collected at Herrington Lake in October 2015.

		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	5	94 (1)	17	101 (1)	58	101 (1)	80	101 (1)

Dataset = cfdgnher.d15

Table 51. Population assessment for white bass collected during fall gill netting at Herrington Lake from 2000-2015 (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
2015	Value	5.7	13.9	4.8	5.3				
	Score	2	4	2	3			11	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	1	1			7	Fair
2012	Value	9.8	13.7	5.9	5.4	0.975	62.3		
	Score	2	4	3	3			12	Good
2011	Value	10.8	13.7	9.2	4.4	0.877	58.4		
	Score	3	4	3	2			12	Good
2010	Value	7.9	13.6	4.0	6.2	1.351	74.1		
	Score	2	4	2	3			11	Good
2009	Value	3.4	13.1	2.3	2.7	0.900	59.3		
	Score	1	4	1	2			8	Fair
2008	Value	6.7	13.3	5.8	2.1	0.717	51.2		
	Score	2	4	3	1			10	Good
2007	Value	5.6	13.6	3.8	2.9	0.722	51.4		
	Score	2	4	2	2			10	Good
2006	Value	1.9	13.9	1.3	0.9	*	*		
	Score	1	4	1	1			7	Fair
2005	Value	2.1	13.5	2.0	0.2	0.371	31.0		
	Score	1	4	1	1			7	Fair
2004	Value	10.1	13.9	6.7	9.2	0.726	51.6		
	Score	3	4	3	3			13	Good
2003	Value	2.5	14.1	1.9	0.6	0.381	31.7		
	Score	1	4	1	1			7	Fair
2002	Value	2.9	14.1	2.4	2.0	0.841	56.9		
	Score	1	4	1	1			7	Fair
2001	Value	1.9	14.0	1.8	1.1	0.418	34.2		
	Score	1	4	1	1			7	Fair
2000	Value	3.5	13.9	2.8	2.0	0.741	52.4		
	Score	1	4	2	1			8	Fair

Table 52. Dissolved oxygen and temperatures collected at the mouth of Cane Run at Herrington Lake during 2015.

	May 29		June 30		August 3		September 1		September 30		October 21		December 3	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	15.03	78.0	9.32	79.6	9.19	83.6	9.57	80.3	7.03	74.3	5.03	68.5	4.20	60.0
2	15.27	77.4	9.29	79.9	9.18	83.6	9.49	80.4	7.02	74.3	5.00	68.7	4.11	60.1
4	15.66	77.4	9.28	80.0	9.19	83.6	9.49	80.4	7.00	74.4	4.98	68.7	4.02	60.2
6	16.26	77.0	9.10	80.0	9.20	83.6	9.49	80.4	6.99	74.5	4.92	68.5	3.98	60.1
8	14.96	76.3	8.78	79.9	9.23	83.7	9.51	80.4	6.98	74.5	4.88	68.5	3.94	60.2
10	12.19	74.4	8.76	79.9	9.30	83.6	9.53	80.4	6.99	74.4	4.84	68.4	3.92	60.2
12	10.37	73.9	8.72	79.9	9.33	83.6	8.88	80.2	6.99	74.5	4.81	68.4	3.91	60.2
14	7.39	71.2	8.38	79.8	4.24	82.7	8.92	80.1	6.99	74.5	4.79	68.4	3.90	60.2
16	3.49	66.9	8.11	79.6	1.54	80.9	7.63	79.6	7.02	74.5	4.78	68.4	3.89	60.2
18	2.81	64.8	2.80	77.6	0.58	79.8	6.24	79.2	7.08	74.5	4.78	68.4	3.88	60.3
20	3.07	62.2	1.27	73.1	0.26	78.0	3.65	78.6	7.12	74.6	4.78	68.4	3.88	60.3
22	3.05	60.9	0.69	70.3	0.39	76.9	1.59	78.0	7.17	74.6	4.78	68.4	3.87	60.3
24	3.16	60.2	0.15	66.6	0.53	76.2	0.29	77.3	7.23	74.6	4.79	68.4	3.87	60.3
26	3.51	59.9	0.13	64.4	0.77	75.4	0.20	76.5	7.26	74.6	4.78	68.4	3.87	60.3
28	3.69	59.9	0.11	62.6	0.38	74.6	0.17	75.7	7.28	74.6	4.78	68.4	3.87	60.3
30	3.71	59.6	0.10	61.2	0.22	74.1	0.16	76.1	7.30	74.6	4.78	68.4	3.86	60.3
35	3.68	59.4	0.35	60.3	0.14	73.0	0.14	74.0	6.76	74.5	4.79	68.4	3.86	60.3
40	3.61	59.0	1.21	59.4	0.12	72.2	0.13	72.9	0.40	73.0	4.80	68.4	3.86	60.3
45	3.70	58.7	1.49	59.1	0.11	71.7	0.13	72.1	0.27	72.0	4.82	68.3	3.86	60.3
50	3.67	58.6	1.77	58.5	0.22	71.1	0.12	71.5	0.22	71.5	4.82	68.3	3.85	60.3
55	3.85	58.5	2.10	58.6	0.15	70.8	0.11	71.1	0.20	71.0	4.82	68.3	3.85	60.3
60	3.91	58.3	2.39	58.6	0.11	70.5	0.11	70.7	0.19	70.6	4.82	68.3	3.84	60.3
65	4.09	58.2	2.53	58.4	0.10	70.1	0.11	70.3	0.18	70.1	4.84	68.3	3.84	60.3
70	4.24	58.0	2.74	58.1	0.64	69.1	0.10	69.7	0.17	69.5	4.85	68.3	3.83	60.3
75	4.53	57.8	3.06	58.0	0.13	66.4	0.10	68.7	0.16	68.1	4.83	68.3	3.83	60.3
80	4.75	57.6	3.18	57.8	0.08	63.3	0.09	65.8	0.14	66.1	4.79	68.2	3.83	60.3
85	4.77	57.4	3.29	57.6	0.07	61.3	0.08	64.1	0.13	64.2	2.75	67.4	3.84	60.3
90	4.85	57.2	3.47	57.3	0.06	60.5	0.07	62.1	0.12	61.8	1.09	66.6	3.86	60.3
95	4.81	56.9	3.58	57.1	0.05	60.0	0.06	60.9	0.11	60.8	0.28	65.0	3.90	60.3
100	4.86	56.7	3.61	56.8	0.05	59.5	0.05	59.9	0.10	59.8	0.14	63.8	3.92	60.3
110	5.19	56.1	3.88	56.3	0.27	59.0	0.05	59.3	0.10	59.2	0.08	61.1	4.49	60.1
120	5.37	55.2	4.12	55.4	0.68	58.6	0.06	58.8	0.09	58.7	0.06	60.2	5.48	59.1
130	5.69	54.1	4.53	54.3	1.26	58.2	0.05	58.4	0.09	58.4	0.06	59.2	2.33	58.3
140	5.94	52.9	4.71	53.2	0.41	58.1	0.11	58.2	0.08	58.1	0.05	58.8	0.61	56.6
150	5.63	51.7	4.53	51.9	0.44	57.8	0.06	58.0	0.08	57.8	0.05	58.4	3.30	55.5
160	4.61	50.0	4.31	50.3	0.12	57.4	0.04	57.6	0.08	57.5	0.04	57.8	4.06	54.5

Table 53. Dissolved oxygen and temperatures collected near Gwinn Island Marina at Herrington Lake during 2015.

	May 29		June 30		August 3		September 1		September 30		October 21		December 3	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	16.05	76.2	8.91	80.7	11.56	84.0	10.78	81.0	4.89	74.2	3.28	69.1	6.01	58.7
2	16.11	76.1	8.76	80.3	11.61	84.0	10.99	80.7	4.95	74.2	3.11	68.9	5.91	58.9
4	16.17	75.9	8.66	80.2	11.66	84.0	11.41	80.2	4.95	74.3	2.84	68.4	5.87	58.9
6	16.11	75.7	8.25	80.0	11.46	83.8	11.11	80.0	4.94	74.3	2.70	68.3	5.69	58.6
8	11.88	74.7	8.30	80.0	11.26	83.8	10.44	79.9	4.90	74.3	2.68	68.2	5.61	58.6
10	9.36	73.8	7.74	79.8	11.11	83.8	9.06	79.7	4.84	74.4	2.65	68.2	5.54	58.6
12	2.00	70.3	4.80	78.9	10.53	83.7	7.25	79.4	4.79	74.4	2.60	68.2	5.51	58.6
14	0.47	68.5	0.61	77.6	1.30	81.4	4.20	79.1	4.79	74.4	2.58	68.2	5.49	58.6
16	0.28	66.8	0.23	76.2	0.38	80.0	3.20	79.0	4.79	74.4	2.56	68.2	5.48	58.6
18	0.21	65.1	0.20	73.6	0.28	78.5	1.96	78.7	4.79	74.4	2.56	68.2	5.47	58.6
20	0.38	63.4	0.16	70.2	0.23	77.2	1.21	78.5	4.78	74.4	2.58	68.1	5.47	58.6
22	1.91	61.5	0.15	68.1	0.22	76.6	0.31	78.3	4.67	74.4	2.58	68.1	5.47	58.6
24	2.53	60.8	0.15	65.7	0.20	75.7	0.22	77.6	4.53	74.4	2.58	68.1	5.46	58.6
26	2.69	60.5	0.12	63.6	0.19	75.1	0.20	76.5	4.32	74.4	2.58	68.1	5.45	58.6
28	3.00	60.0	0.12	62.1	0.18	74.3	0.19	75.7	4.12	74.4	2.59	68.1	5.45	58.6
30	3.00	59.9	0.10	61.1	0.17	73.9	0.18	75.2	3.78	74.3	2.59	68.1	5.45	58.6
35	2.99	59.6	0.68	59.9	0.57	72.6	0.15	73.8	0.24	73.8	2.59	68.1	5.47	58.6
40	3.26	59.2	1.02	59.2	1.16	71.8	0.15	73.0	0.19	72.8	2.57	68.1	5.62	58.2
45	3.53	58.9	1.26	59.0	1.21	71.3	0.14	72.3	0.16	72.6	2.55	68.1	6.08	56.8
50	3.79	58.6	1.70	58.6	1.18	71.0	0.14	71.5	0.16	71.4	2.53	68.1	6.19	56.2
55	3.83	58.5	1.96	58.4	1.05	70.6	0.14	71.0	0.15	70.8	2.51	68.1	6.24	55.9
60	3.77	58.4	1.98	58.3	0.46	70.2	0.13	70.6	0.14	70.3	2.37	68.0	6.24	55.5
65	3.74	58.4	1.25	58.3	0.18	69.8	0.13	70.2	0.13	70.0	2.04	67.9	6.18	55.4
70	3.42	58.4	0.75	58.2	0.13	69.1	0.12	69.6	0.12	69.8	1.07	67.7		
75	2.84	58.3	0.41	58.2	0.12	67.9	0.12	68.4	0.13	69.8				
80	2.74	58.3	0.18	58.1	0.10	65.2	0.11	66.5	0.14	69.9				
85	2.74	58.3	0.14	58.1	0.08	62.8	0.10	65.7	0.14	69.9				
90	2.71	58.3	0.12	58.2	0.07	62.7	0.11	65.6	0.14	69.9				
95	2.71	58.3	0.11	58.2	0.07	62.6	0.12	65.5	0.14	69.8				
100	2.70	58.3	0.10	58.2			0.12	65.4	0.14	69.8				
110	2.70	58.3	0.09	58.1			0.13	65.3	0.14	69.8				
120	2.69	58.3	0.09	58.1			0.13	65.1	0.14	69.8				
130	2.68	58.3	0.09	58.1			0.13	65.0						
140	2.67	58.3	0.08	58.1			0.14	65.0						
150	2.66	58.3	0.08	58.1			0.13	65.0						
160	2.58	58.3	0.08	58.1			0.14	64.9						

Table 54. Dissolved oxygen and temperatures collected near Kings Mill Marina at Herrington Lake during 2015.

	May 29		June 30		August 3		September 1		September 30		October 21		December 3	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	14.50	75.9	11.80	81.8	11.39	84.0	11.19	81.1	4.67	73.8	4.85	68.2	10.27	52.3
2	14.49	75.8	12.04	81.7	11.49	84.1	11.33	81.0	4.69	73.8	4.81	68.1	10.24	52.3
4	14.49	75.6	10.23	80.7	11.34	83.9	10.54	80.4	4.66	73.9	4.74	67.8	10.18	52.3
6	12.78	75.1	8.89	80.4	10.32	83.6	9.70	80.0	4.63	74.0	4.10	67.2	10.16	52.3
8	8.21	74.1	8.44	80.3	9.00	83.4	4.38	79.4	4.61	74.0	3.86	67.0	10.15	52.3
10	5.01	72.9	4.67	79.0	3.57	82.3	2.81	79.2	4.62	74.0	3.56	66.9	10.14	52.3
12	1.92	70.6	2.35	77.4	2.59	81.6	1.50	78.9	4.63	74.0	3.32	66.8	10.13	52.3
14	0.56	68.7	0.79	75.4	1.80	80.9	0.94	78.7	4.63	74.0	3.32	66.8	10.12	52.3
16	0.24	67.6	0.25	73.7	1.54	80.2	0.47	78.5	4.62	74.0	3.51	66.6	10.11	52.3
18	0.18	66.2	0.20	71.7	0.90	78.7	0.45	78.4	4.54	74.0	3.57	66.5	10.11	52.3
20	0.15	65.1	0.16	67.4	0.38	77.6	0.28	78.2	4.53	74.0	4.08	66.0	10.11	52.3
22	0.13	63.7	0.14	64.0	0.24	76.8	0.24	77.9	4.54	74.0	4.48	65.4	10.10	52.3
24	0.11	63.2	0.13	63.0	0.21	76.0	0.21	77.5	4.59	74.0	4.87	64.2		
26	0.11	62.6	0.12	62.5	0.18	75.3	0.21	77.1	3.98	74.0	4.80	63.7		
28	0.10	62.0	0.11	61.9	0.18	74.9	0.13	76.5	3.36	73.8	4.68	63.6		
30	0.08	61.6	0.10	61.6	0.17	74.3	0.16	75.9	1.46	72.6				
35			0.09	61.2	0.16	74.0	0.14	74.5						

Table 55. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 3.0 hours of 15-minute nocturnal electrofishing runs in Guist Creek Lake, April 2015; 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	3	18	12	5	42	75	60	52	71	71	35	35	53	45	45	21	17	6	4	676	225.3(22.2)
Saugeye					2	2	2	1		1	2	1								11	3.7 (1.0)

Dataset = cfdpsgcl.d15

Table 56. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Guist Creek Lake from 1992-2015; numbers in parentheses are standard errors.

Year	Length group					Total
	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	
1992	12.0 (2.1)	16.8 (2.7)	38.4 (5.2)	41.2 (4.7)	3.2 (1.0)	108.4 (7.2)
1993	22.7 (2.6)	25.5 (2.7)	23.8 (2.7)	51.6 (5.0)	5.5 (1.1)	123.6 (9.1)
1994	19.2 (2.7)	29.8 (3.7)	19.6 (2.6)	40.2 (3.9)	2.0 (0.5)	108.8 (8.6)
1995	18.2 (3.0)	40.6 (3.8)	23.2 (2.4)	47.2 (5.5)	5.0 (1.3)	129.2 (9.2)
1996	32.6 (5.5)	28.8 (3.6)	44.8 (2.8)	58.2 (5.2)	5.8 (1.1)	164.4 (10.6)
1997			NS			
1998	20.3 (3.1)	45.3 (4.9)	18.7 (3.5)	72.7 (12.3)	5.0 (1.3)	157.0 (14.5)
1999	53.5 (6.9)	56.8 (10.2)	41.7 (6.3)	51.3 (3.4)	8.0 (1.3)	203.3 (19.4)
2000	26.7 (6.1)	19.3 (2.4)	23.0 (2.9)	41.3 (5.4)	3.0 (1.0)	110.3 (7.6)
2001	39.0 (5.3)	42.0 (3.6)	17.3 (2.7)	46.3 (5.2)	1.7 (0.6)	144.7 (10.1)
2002	43.3 (9.9)	32.3 (7.7)	23.3 (3.1)	41.3 (7.8)	2.0 (1.4)	134.3 (18.6)
2003	27.7 (6.7)	96.7 (9.9)	31.0 (4.6)	49.7 (4.0)	2.7 (0.9)	205.0 (19.7)
2004	30.7 (6.0)	62.7 (6.5)	58.0 (7.0)	54.3 (5.9)	3.7 (1.0)	205.7 (17.0)
2005	84.3 (12.2)	67.0 (6.3)	63.0 (5.6)	70.3 (7.5)	4.7 (1.4)	284.7 (25.6)
2006	30.0 (6.6)	69.3 (8.2)	30.3 (3.3)	68.7 (6.4)	3.3 (1.5)	198.3 (19.0)
2007	23.3 (3.0)	59.3 (6.3)	42.0 (4.3)	58.0 (5.5)	3.7 (1.2)	182.7 (11.6)
2008	24.0 (3.6)	19.7 (2.3)	41.3 (5.6)	73.0 (10.3)	4.7 (1.5)	158.0 (12.9)
2009	12.0 (2.7)	23.3 (4.7)	19.3 (3.7)	35.7 (6.0)	4.3 (1.0)	90.3 (11.3)
2010	46.8 (4.1)	25.3 (2.6)	26.3 (2.9)	47.3 (4.6)	3.0 (0.8)	145.8 (8.4)
2011	34.3 (2.6)	67.7 (7.0)	35.0 (3.9)	50.3 (4.7)	5.3 (1.6)	187.3 (9.7)
2012	19.7 (5.2)	81.7 (7.5)	30.0 (4.1)	36.7 (3.8)	4.7 (1.2)	168.0 (7.2)
2013	21.3 (7.0)	44.0 (5.1)	51.0 (5.4)	63.0 (7.4)	5.7 (2.0)	179.3 (11.6)
2014	13.3 (2.4)	43.3 (5.4)	32.7 (4.6)	49.3 (6.8)	4.3 (1.3)	138.7 (15.8)
2015	28.7 (8.4)	86.0 (6.5)	47.0 (4.9)	63.7 (10.2)	3.3 (1.2)	225.3 (22.2)

Dataset = cfdpsgcl.d15– d92

Table 57. PSD and RSD_{15} values obtained for largemouth bass from spring nocturnal electrofishing samples in Guist Creek Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	590	56 (± 4)	32 (± 4)

Dataset = cfdpsgcl.d15

Table 58. Population assessment for largemouth bass collected during spring electrofishing at Guist Creek Lake from 2000-2015 (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
2015	Value	12.2*	13.0	47.0	63.7	3.3				
	Score	4	1	3	4	3			15	Good
2014	Value	12.2*	3.7	32.7	49.3	4.3				
	Score	4	1	2	4	4			15	Good
2013	Value	12.2	17.0	51.0	63.0	5.7				
	Score	4	2	4	4	4			18	Excellent
2012	Value	11.0*	13.3	30.0	36.7	4.7				
	Score	3	1	2	4	4			14	Good
2011	Value	11.0*	16.4	34.7	50.7	5.7				
	Score	3	2	2	4	4			15	Good
2010	Value	11.0*	31.5^	26.3	47.3	3.0				
	Score	3	2	2	4	3			14	Good
2009	Value	11.0	6.7	19.3	35.7	4.3	0.341	28.9		
	Score	3	1	1	4	4			13	Good
2008	Value	11.5*	8.1^	41.3	73.0	4.7				
	Score	4	1	3	4	4			16	Good
2007	Value	11.5*	15.5^	42.0	58.0	3.7				
	Score	4	1	3	4	3			15	Good
2006	Value	11.5*	15.2^	30.3	68.7	3.3				
	Score	4	1	2	4	3			14	Good
2005	Value	11.5	21.4	63.0	70.3	4.7	0.510	40.0		
	Score	4	2	4	4	4			18	Excellent
2004	Value	10.2*	22.1^	58.0	54.3	3.7				
	Score	2	2	4	4	3			15	Good
2003	Value	10.2*	16.3^	31.0	49.7	2.7				
	Score	2	2	2	4	3			13	Good
2002	Value	10.2*	23.8^	23.3	41.3	2.0				
	Score	2	2	2	4	3			13	Good
2001	Value	10.2	25.7	17.3	46.3	1.7	0.289	25.1		
	Score	2	2	1	4	2			11	Fair
2000	Value	10.0	16.8	23.0	41.3	3.0	0.161	14.9		
	Score	1	2	2	4	3			10	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 59. 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 2015; 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	27	35	8	27	31	21	32	29	21	14	17	17	19	18	12	9	1	3	346	230.7 (11.8)

Dataset = cfdwrgcl.d15

Table 60. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Guist Creek Lake on 28 September 2015. 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	113	93 (1)	52	95 (1)	79	100 (1)	244	95 (1)

Dataset = cfdwrgcl.d15

Table 61. 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.

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	3.6	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		

Table 62. Length distribution and CPUE (fish/hr) of saugeye collected in 1.5 hours of 15-minute electrofishing runs in Guist Creek Lake in October 2015; numbers in parentheses are standard errors.

	Inch class															
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Saugeye	9	10	8	1	1	4	9	14	9	7	3	3	2	1	81	54.0 (12.9)

Dataset = cfdwrgcl.d15

Table 63. 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 2015; 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	33	61	3	10	23	27	3	9	10	12	9	5	9	10	6	6	2	239	95.6 (7.4)
Saugeye					18	10		1	4		1	2							36	14.4 (4.1)

Dataset = cfdpsajj.d15

Table 64. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from A.J. Jolly Lake from 1996-2015; 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)

Dataset = cfdpsajj.d96 – d015
*No spring sample was done in 2004

Table 65. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in A.J. Jolly Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	131	53 (± 9)	29 (± 8)

Dataset = cfdpsajj.d15

Table 66. Population assessment for largemouth bass collected during spring electrofishing at A.J. Jolly Lake in 2015 (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
2015	Value	12.3	38.8	12.4	15.2	0.8				
	Score	4	2	1	2	1			10	Fair
2014	Value	11.9*	8.0	16.0	24.0	2.0				
	Score	4	1	1	3	3			12	Good
2013	Value	11.9*	10.4	24.0	17.2	1.6				
	Score	4	1	2	3	2			12	Good
2012	Value	11.9*	27.2	19.6	20.0	0.4				
	Score	4	2	1	3	1			11	Fair
2011	Value	11.9	26.0	12.4	20.4	0.8				
	Score	4	2	1	3	1			11	Fair
2010	Value	11.8*	4.0	20.8	21.2	1.6				
	Score	4	1	2	3	2			12	Good

* Age data not collected

Table 67. 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 2015; 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	14	18	11	8	40	15	9	15	14	12	4	4	6	9	8	4	1	1	193	96.5 (14.3)
Saugeye			4	16	7	5	7	4	3	6	1	1	1	2	1	1	3	1	63	31.5 (5.7)

Dataset = cfdwrajj.d15

Table 68. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected in the fall from A.J. Jolly Lake in 2015.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	28	5.1							
2013	32	5.9	9.0						
2012	16	6.6	10.2	12.3					
2011	8	6.6	10.8	13.7	15.1				
2010	6	7.0	10.9	14.0	15.7	17.0			
2008	1	8.4	11.8	13.6	15.1	16.6	18.1	18.7	
2007	1	7.3	11.0	13.3	15.2	16.4	17.7	18.9	19.6
Mean	92	5.9	9.8	13.0	15.3	16.9	17.9	18.8	19.6
Smallest		3.2	7.6	10.2	13.3	16.0	17.7	18.7	19.6
Largest		8.8	12.3	15.3	16.9	17.6	18.1	18.9	19.6
Std Error		0.1	0.1	0.2	0.2	0.2	0.2	0.1	
95% ConLo		5.7	9.5	12.6	14.9	16.5	17.5	18.6	
95% ConHi		6.2	10.1	13.5	15.8	17.3	18.3	19.1	

Intercept value = 0.00
Dataset = cfdagajj.d15

Table 69. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at A.J. Jolly Lake on 7 October 2015; 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	53	85 (1)	20	85 (1)	29	97 (2)	102	89 (1)

Dataset = cfdwrajj.d15

Table 70. 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.

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
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		

Table 71. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 4.0 hours of 15-minute electrofishing runs in Beaver Lake, April 2015; 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	33	56	78	25	67	159	109	130	108	52	28	11	10	8	6	5	10	8	2	1	906	226.5 (31.3)

Dataset = cfdpsbvr.d15

Table 72. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Beaver Lake from 1992-2015; 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)

Dataset = cfdpsbvr.d15 - .d92

Table 73. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Beaver Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	647	22 (± 3)	8 (± 2)

Dataset = cfdpsbvr.d15

Table 74. Population assessment for largemouth bass collected during spring electrofishing at Beaver Lake from 2000-2015 (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
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	2	3			13	Good
2013	Value	10.7*	50.0	48.7	16.7	1.3				
	Score	2	3	3	2	2			12	Good
2012	Value	10.7*	94.5	73.5	14.0	2.5				
	Score	2	4	4	2	3			15	Good
2011	Value	10.7*	23.4	70.5	6.5	0.0				
	Score	2	2	4	2	0			10	Fair
2010	Value	10.7	76.7	58.9	2.9	0.2	0.293	25.4		
	Score	2	4	4	1	1			12	Good
2009	Value	10.3*	3.0^	84.5	3.5	0.5				
	Score	2	1	4	1	1			9	Fair
2008	Value	10.3*	23.0^	61.0	8.5	2.0				
	Score	2	2	4	2	3			13	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	2	3	2	4			13	Good
2004	Value	10.7*	97.6^	48.0	17.0	2.0				
	Score	2	4	3	3	3			15	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	2	1	4	3			14	Good
2001	Value	11.7	47.8	25.5	39.0	4.0				
	Score	4	3	2	4	4			17	Excellent
2000	Value	10.7*	31.5^	30.0	24.5	3.0				
	Score	2	2	2	3	3			12	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 75. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Beaver Lake in September 2015; 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	161	149	50	9	16	51	52	79	66	18	10	8	3	2	5		3	1	1	686	343.0 (28.5)

Dataset = cfdwrbvr.d15

Table 76. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Beaver Lake on 15 September 2015; 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	138	84 (1)	36	85 (1)	15	92 (3)	189	85 (1)

Dataset = cfdwrbvr.d15

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 Beaver 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	3.7	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	0.03	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	0.05	142.0	23.9	18.0	4.1	94.5	11.1
2012	Total	4.3	0.04	124.6	24.6	17.7	4.0	50.0	7.1
2013	Total	3.8	0.06	78.7	6.2	3.3	2.2	47.3	7.4
2014	Total	4.1	0.06	94.7	15.0	14.0	3.5	46.3	7.6
2015	Total	4.2	0.04	184.5	23.6	28.5	4.4		

Table 78. 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 2015; numbers in parentheses are standard errors.

Species	Inch class							Total	CPUE
	3	4	5	6	7	8	9		
Bluegill	10	117	74	148	117			466	372.8 (44.9)
Redear sunfish		2		1	3	1	1	8	6.4 (1.6)

Dataset = cfdpsbvr.d15

Table 79. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Beaver Lake during May 2015. Fish were collected in 7.5-minute runs.

Species	No. $\geq$stock size	PSD	RSD[a]
Bluegill	466	57 ($\pm$ 5)	0 ($\pm$ 0)
Redear sunfish	8	63 ($\pm$36)	13 ($\pm$ 13)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpsbvr.d15

Table 80. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Beaver Lake from 1992-2015; numbers in parentheses are standard errors.

Year	Length group				Total
	<3.0 in	3.0–5.9 in	6.0-7.9 in	$\geq$8.0 in	
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)

Dataset = cfdpsbvr.d15 - .d92

Table 81. Population assessment for bluegill collected during spring electrofishing at Beaver Lake from 2001-2015 (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
2015	Value	4.7	3-3+	212.0	0.0	-	-		
	Score	3	3	4	0			10	Fair
2014	Value	4.7*	2-2+	252.8	0.0	-	-		
	Score	3	4	4	0			11	Good
2013	Value	4.7	2-2+	79.2	1.6	-	-		
	Score	3	4	4	1			12	Good
2012	Value	4.8	2-2+	59.2	0.0	-	-		
	Score	3	4	3	0			10	Fair
2011	Value	4.7	2-2+	56.8	5.2	0.834	55.6		
	Score	3	4	3	2			12	Good
2010	Value	4.5	3-3+	28.8	4.4	0.594	44.8		
	Score	3	3	2	1			9	Fair
2009	Value	4.8	3-3+	42.0	1.6	0.723	51.5		
	Score	3	3	2	1			9	Fair
2008	Value	4.2	3-3+	42.0	4.0	0.497	39.2		
	Score	2	3	2	1			8	Fair
2007	Value	3.7	3-3+	56.0	2.4	0.666	48.6		
	Score	2	3	3	1			9	Fair
2006	Value	3.4	3-3+	64.1	8.3	*	*		
	Score	1	3	3	2			9	Fair
2005	Value	4.0	3-3+	101.6	4.0	0.340	28.8		
	Score	2	3	4	1			10	Fair
2004	Value	3.9	3-3+	143.2	0.0	*	*		
	Score	2	3	4	0			9	Fair
2003	Value	3.9	3-3+	128.8	0.0	*	*		
	Score	2	3	4	0			9	Fair
2002	Value	3.9	2-2+	152.8	0.0	*	*		
	Score	2	4	4	0			10	Fair
2001	Value	4.5	2-2+	122.0	0.0	*	*		
	Score	3	4	4	0			11	Good

* Age data not collected

Table 82. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Beaver Lake from 1992-2015; 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)

Dataset = cfdpsbvr.d15 – .d92

Table 83. Population assessment for redear sunfish collected during spring electrofishing at Beaver Lake from 2001-2015 (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
2015	Value	7.0	3-3+	1.6	0.0				
	Score	4	4	1	0			9	Fair
2014	Value	8.8*	2-2+	12.8	4.8				
	Score	4	4	3	3			14	Excellent
2013	Value	8.8	2-2+	12.0	2.4				
	Score	4	4	3	2			13	Good
2012	Value	7.5	3-3+	68.0	9.6	0.342	29.0		
	Score	4	4	4	4			16	Excellent
2011	Value	7.6	3-3+	23.2	1.6	0.398	32.8		
	Score	4	4	4	1			13	Good
2010	Value	7.5	4-4+	33.6	1.2	0.435	35.3		
	Score	4	3	4	1			12	Good
2009	Value	6.7	4-4+	29.6	0.0	0.413	33.9		
	Score	4	3	4	0			11	Good
2008	Value	6.3	4-4+	90.4	0.0	0.243	21.6		
	Score	3	3	4	0			10	Fair
2007	Value	6.4	4-4+	32.4	0.0	0.898	59.3		
	Score	3	3	4	0			10	Fair
2006	Value	5.7	4-4+	35.7	0.0	0.410	33.6		
	Score	2	3	4	0			9	Fair
2005	Value	6.4	4-4+	62.4	0.0	0.373	31.1		
	Score	3	3	4	0			10	Fair
2004	Value	6.6*	4-4+*	26.4	0.0				
	Score	4	3	4	0			11	Good
2003	Value	6.6	4-4+	7.2	0.0				
	Score	4	3	2	0			9	Fair
2002	Value	6.4*	3-3+*	7.2	0.8				
	Score	3	4	2	1			10	Fair
2001	Value	6.4	3-3+	8.5	0.5				
	Score	3	4	2	1			10	Fair

* Age data not collected

Table 84. Mean back calculated lengths (in) at each annulus for otoliths from bluegill collected in the fall from Beaver Lake in 2015.

		Age						
Year	No.	1	2	3	4	5	6	7
2014	17	3.3						
2013	6	2.7	4.7					
2012	9	2.2	4.6	6.0				
2011	6	2.1	4.4	5.9	6.7			
2010	2	2.6	4.6	5.8	6.6	7.1		
2009	1	2.5	4.9	5.8	6.2	6.8	7.3	
2008	1	2.7	4.4	5.5	5.9	6.2	6.5	6.8
Mean	42	2.8	4.6	5.9	6.5	6.8	6.9	6.8
Smallest		1.5	3.8	5.2	5.9	6.2	6.5	6.8
Largest		4.7	5.5	6.5	7.2	7.1	7.3	6.8
Std Error		0.1	0.1	0.1	0.1	0.2	0.4	
95% ConLo		2.5	4.4	5.8	6.3	6.4	6.1	
95% ConHi		3.0	4.8	6.1	6.8	7.2	7.7	

Intercept value = 0.00
Dataset = cfdagbvr.d15

Table 85. Mean back calculated lengths (in) at each annulus for otoliths from redear sunfish collected in the fall from Beaver Lake in 2015.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	7	4.3							
2013	10	3.6	6.7						
2012	2	3.7	5.8	7.0					
2011	1	4.2	7.4	8.9	9.8				
2010	1	4.1	6.0	7.8	8.9	10.0			
2009	2	2.9	6.0	7.8	8.9	9.6	10.2		
2007	2	2.2	3.8	6.1	7.2	8.0	8.7	9.5	10.1
Mean	25	3.7	6.2	7.3	8.5	9.1	9.5	9.5	10.1
Smallest		2.0	3.0	5.5	6.4	7.2	8.0	8.7	9.4
Largest		5.4	7.7	8.9	9.8	10.0	10.5	10.3	10.8
Std Error		0.2	0.3	0.4	0.5	0.5	0.5	0.8	0.7
95% ConLo		3.4	5.6	6.6	7.5	8.1	8.4	7.9	8.8
95% ConHi		4.0	6.8	8.0	9.4	10.1	10.6	11.1	11.4

Intercept value = 0.00
Dataset = cfdagbvr.d15

Table 86. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Beaver Lake on 15 September 2015; standard errors are in parentheses.

Species	Length group									
	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	66	100 (4)	50	82 (1)	2	70 (2)			118	92 (2)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	1	121	5	115 (6)	14	106 (2)	10	99 (2)	30	106 (2)

Dataset = cfdwrbvr.d15

Table 87. Length distribution and CPUE (fish/hr) of white and black crappie collected in 1.5 hour of 15-minute electrofishing runs for crappie in Beaver Lake in October 2015; numbers in parentheses are standard errors.

	Inch class								
Species	5	6	7	8	9	10	11	Total	CPUE
White crappie	3				3			6	4.0 (1.5)
Black crappie	1			10	14	4	1	30	20.0 (9.9)

Dataset = cfdwrbvr.d15

Table 88. Mean back calculated lengths (in) at each annulus for otoliths from white crappie sampled at Beaver Lake in fall 2015.

		Age
Year class	No.	1
2014	3	6.6
Mean	3	6.6
Smallest		6.4
Largest		6.8
Std Error		0.1
95% ConLo		6.4
95% ConHi		6.8

Intercept Value = 0.00
Dataset = cfdagbvr.d15

Table 89. Mean back calculated lengths (in) at each annulus for otoliths from black crappie sampled at Beaver Lake in fall 2015.

		Age		
Year class	No.	1	2	3
2014	19	5.8		
2013	4	5.6	8.6	
2012	2	6.2	8.4	9.9
Mean	25	5.8	8.6	9.9
Smallest		4.8	8.3	9.4
Largest		7.0	8.8	10.4
Std Error		0.1	0.1	0.5
95% ConLo		5.6	8.4	9.0
95% ConHi		6.0	8.7	10.8

Intercept Value = 0.00
Dataset = cfdagbvr.d15

Table 90. Length composition, relative abundance, and CPUE (fish/set) of channel catfish at Beaver Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 13 October 2015. Nets were pulled three days after setting them, and 3 sets of tandem nets were used for the sampling event.

	Inch class														
Species	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	Average per set
Channel catfish	1	4	10	10	7	7	4	1		1		2	1	48	16.0 (3.5)

Dataset = cfdhnbvr.d15

Table 91. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Beaver Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	48	68 (± 13)	6 (± 7)

Dataset = cfdhnbvr.d15

Table 92. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Beaver Lake in October 2015; 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	15	84 (1)	30	87 (1)	3	96 (8)	48	86 (1)

Dataset = cfdhnbol.d14

Table 93. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Beaver Lake from 2007-2015; numbers in parentheses are standard errors.

	Length group			
Year	≥12.0 in	≥15.0 in	≥20.0 in	Total
2007	35.8 (12.6)	6.2 (2.8)	0.4 (0.2)	36.4 (12.8)
2008	14.0 (4.1)	5.4 (2.0)	0.8 (0.6)	28.2 (8.8)
2009	71.4 (17.2)	21.6 (5.1)	1.6 (0.9)	94.8 (29.1)
2010	40.0 (8.2)	25.6 (5.4)	0.6 (0.2)	41.8 (8.8)
2011	44.8 (14.0)	28.0 (8.7)	1.0 (0.6)	72.8 (24.5)
2012	No Sample			
2013	No Sample			
2014	No Sample			
2015	16.0 (3.5)	14.3 (3.3)	1.7 (0.3)	16.0 (3.5)

Dataset = cfdhnbvr.d15 - .d07

Table 94. Length distribution and CPUE (fish/hr) of black bass collected in 4.25 hours of electrofishing in Benjy Kinman Lake on May 2015.

	Inch class																					CPUE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	(fish/hr)
Largemouth bass	4	28	14	1	4	46	79	137	96	51	17	6	3	5	9	12	7	13	6	1	538	126.6 (7.8)

Dataset = cfdpsbkl.d15

Table 95. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Benjy Kinman Lake in 2015; 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
2015	12.0 (2.4)	84.2 (5.1)	17.4 (1.7)	12.9 (1.8)	4.7 (1.0)	126.6 (7.8)

Dataset = cfdpsbkl.d15

Table 96. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Benjy Kinman Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	487	26 (± 4)	11 (± 3)

Dataset = cfdpsbkl.d15

Table 97. Population assessment for largemouth bass collected during spring electrofishing at Benjy Kinman Lake for 2015 (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
2015	Value	10.1*	11.1	17.4	12.9	4.7				
	Score	2	1	1	2	4			10	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 98. 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 2015; 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	2	66	36	13		8	26	9	18	23	4	6		1	1	3		2	218	145.3 (22.9)

Dataset = cfdwrbkl.d15

Table 99. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Benjy Kinman Lake on 14 September 2015. Standard errors are in parentheses.

Species	Area	Length group 8.0–11.9 in		Length group 12.0–14.9 in		Length group ≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	76	80 (1)	10	81 (3)	7	93 (2)	93	81 (1)

Dataset = cfdwrbkl.d15

Table 100. 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		

Table 101. Length composition, relative abundance, and CPUE (fish/set) of channel catfish at Benjy Kinman Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 9 October 2015. Nets were pulled three days after setting them, and 3 sets of tandem nets were used for the sampling event.

	Inch class								
Species	8	9	10	11	12	13	14	Total	Average per set
Channel catfish	2	2	4	4	2	4	4	22	7.3 (3.7)

Dataset = cfdhnbkl.d15

Table 102. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Benjy Kinman Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	14	0 (± 0)	0 (± 0)

Dataset = cfdhnbkl.d15

Table 103. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Benjy Kinman Lake in October 2015; 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	14	88 (1)					14	88 (1)

Dataset = cfdhnbkl.d15

Table 104. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Benjy Kinman Lake from 2015; numbers in parentheses are standard errors.

Year	Length group			Total
	≥12.0 in	≥15.0 in	≥20.0 in	
2015	3.3 (2.0)	0.0	0.0	7.3 (3.7)

Dataset = cfdhnbkl.d15

Table 105. Length distribution and CPUE (fish/hr) of fish species collected in 0.50 hours of electrofishing in the 15-acre pond on the Kentucky River WMA (Boone Tract) on May 22, 2015.

	Inch class																
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	20	Total	CPUE
Largemouth bass	1		2				4	12	9	9	16	9	14	6	1	83	166.0
Bluegill	5	16	31	45	19	10	17	19								162	324.0
Black crappie			1	4	1		20	5								31	62.0

Dataset = cfdpsbon.d15

Table 106. Length distribution and CPUE (fish/hr) of fish species collected in 0.33 hours of electrofishing in the 6-acre pond on the Kentucky River WMA (Boone Tract) on May 22, 2015.

	Inch class																	CPUE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	(fish/hr)
Largemouth bass				1		3	2	8	14	7	3					1	39	118.2
Bluegill	1	13	9	15	20	6											64	193.9
Warmouth			4														4	12.1
Black crappie		1	1				1										3	9.1

Dataset = cfdpsbon.d15

Table 107. Length distribution and CPUE (fish/hr) of fish species collected in 0.41 hours of electrofishing in the 4-acre pond on the Kentucky River WMA (Boone Tract) on May 22, 2015.

	Inch class																			CPUE
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	(fish/hr)
Largemouth bass		3	2	7	2	1		5	9	14	15	15	5	2				1	81	197.6
Bluegill	2	5	14	4	9	3													37	90.2
Redear sunfish			2	10	7	11	14												44	107.3

Dataset = cfdpsbon.d15

Table 108. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute nocturnal electrofishing runs in Boltz Lake, April 2015; 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																					
Natural	4	15	33	7	20	31	24	26	35	17	17	9	14	10	3	7	4	2	1	280	140.0 (12.6)
2013					16	22	6													44	22.0 (4.6)
2012							2	8	5	1										16	8.0 (1.9)
2008																	1			1	0.5 (0.5)
Total																					
Largemouth bass	4	15	33	7	36	53	32	34	40	18	17	9	14	10	3	7	5	3	1	341	170.5 (14.1)

Dataset = cfdpsbol.d15

Table 109. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Boltz Lake from 1991-2015; 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
1991		43.6 (4.9)	10.8 (2.0)	6.5 (1.2)	0.0 (0.0)	60.8 (6.6)
1993	25.2 (6.4)	70.0 (4.8)	12.0 (2.3)	7.3 (2.2)	0.7 (0.7)	114.8 (8.9)
1994	48.4 (9.5)	45.0 (5.7)	32.4 (6.5)	3.6 (1.4)	1.0 (0.7)	129.6 (9.6)
1995	155.2 (10.8)	50.0 (3.3)	31.5 (3.9)	6.0 (1.7)	1.5 (1.1)	242.4 (10.4)
1997	34.8 (8.6)	183.6 (29.4)	36.8 (4.6)	14.4 (2.2)	1.8 (1.0)	268.8 (38.6)
1998	43.2 (6.0)	172.0 (18.8)	22.4 (3.3)	9.6 (2.2)	2.5 (0.7)	247.2 (24.8)
1999	87.2 (16.6)	369.6 (42.4)	90.4 (16.0)	12.8 (6.8)	4.8 (2.3)	560.0 (31.2)
2000	92.0 (30.4)	148.0 (7.7)	226.4 (18.4)	8.8 (2.9)	0.8 (0.8)	475.2 (16.8)
2001	24.0 (5.2)	212.8 (15.8)	133.6 (13.0)	9.6 (3.5)	0.0 (0.0)	380.0 (26.3)
2002	5.6 (2.7)	101.6 (20.1)	67.2 (11.4)	45.6 (9.2)	0.8 (0.8)	220.0 (27.3)
2003	10.7 (2.9)	39.3 (10.4)	61.3 (12.9)	40.0 (5.0)	0.0 (0.0)	151.3 (25.1)
2004	64.0 (12.9)	38.5 (4.9)	19.5 (4.4)	25.5 (5.9)	2.0 (0.8)	147.5 (22.9)
2005	69.0 (10.1)	39.5 (4.0)	21.0 (2.4)	20.0 (6.2)	0.0 (0.0)	149.5 (8.4)
2006	11.5 (1.4)	48.0 (4.7)	17.0 (3.7)	18.0 (2.9)	1.0 (0.7)	94.5 (9.9)
2007	28.5 (3.8)	37.0 (2.4)	17.0 (3.9)	20.0 (3.9)	1.0 (0.7)	102.5 (11.8)
2008	19.0 (2.2)	43.5 (7.3)	18.5 (2.1)	17.5 (3.0)	4.0 (1.5)	98.5 (7.1)
2009	10.0 (2.5)	39.5 (3.2)	22.0 (3.9)	29.5 (5.1)	4.0 (1.5)	101.0 (8.1)
2010	50.5 (5.6)	51.0 (4.9)	32.5 (4.4)	24.5 (2.4)	4.0 (1.3)	148.5 (10.7)
2011	13.0 (3.8)	55.5 (4.6)	33.0 (5.7)	19.0 (4.2)	3.5 (1.2)	120.5 (7.4)
2012	4.5 (1.2)	35.0 (4.0)	15.5 (2.8)	11.0 (2.5)	2.5 (1.5)	66.0 (4.9)
2013	66.5 (14.6)	67.5 (6.7)	17.5 (2.0)	13.5 (2.6)	2.5 (1.1)	165.0 (13.6)
2014	68.5 (10.5)	73.0 (6.5)	18.5 (3.5)	16.0 (3.6)	2.5 (0.7)	176.0 (17.2)
2015	47.5 (6.9)	79.5 (8.4)	22.0 (4.3)	21.5 (3.5)	2.0 (1.1)	170.5 (14.1)

Dataset = cfdpsbol.d15 - .d91

Table 110. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Boltz Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	246	35 (± 6)	17 (± 5)

Dataset = cfdpsbol.d15

Table 111. Population assessment for largemouth bass collected during spring electrofishing at Boltz Lake from 2000-2015 (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
2015	Value	11.4	29.5	22.0	21.5	2.0				
	Score	3	2	2	3	3			13	Good
2014	Value	10.7*	57.0	18.5	16.0	2.5				
	Score	2	3	1	2	3			11	Fair
2013	Value	10.7*	21.5	17.5	13.5	2.5				
	Score	2	2	1	2	3			10	Fair
2012	Value	10.7*	3.5	15.5	11.0	2.5				
	Score	2	1	1	2	3			9	Fair
2011	Value	10.7	8.6	33.0	19.0	3.5	0.378	31.5		
	Score	2	1	2	3	3			11	Fair
2010	Value	10.3	16.7	32.5	24.5	4.0	0.290	25.2		
	Score	2	2	2	3	4			13	Good
2009	Value	10.3*	3.5^	22.0	29.5	4.0				
	Score	2	1	2	3	4			12	Good
2008	Value	10.3*	4.0^	18.5	17.5	4.0				
	Score	2	1	1	3	4			11	Fair
2007	Value	10.3*	20.5^	17.0	20.0	1.0				
	Score	2	2	1	3	2			10	Fair
2006	Value	10.3	7.0	17.0	18.0	1.0	0.358	30.1		
	Score	2	1	1	3	2			9	Fair
2005	Value	10.6*	15.5^	21.0	20.0	0.0				
	Score	2	1	2	3	0			8	Fair
2004	Value	10.6*	51.0^	19.5	25.5	2.0				
	Score	2	3	1	3	3			12	Good
2003	Value	10.6	0.0	61.3	40.0	0.0	0.377	31.4		
	Score	2	0	4	4	0			10	Fair
2002	Value	10.7	0.8	67.2	45.6	0.8	0.334	28.4		
	Score	2	1	4	4	1			12	Good
2001	Value	9.0	0.8	133.6	9.6	0.0	0.349	29.5		
	Score	1	1	4	2	0			8	Fair
2000	Value	10.4	55.0	226.4	8.8	0.8	0.550	42.3		
	Score	2	3	4	2	1			12	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 112. 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 2015; 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	Total	CPUE
Largemouth bass	1	28	33	9	6	31	30	20	16	23	24	14	7	7	6	5	2		1	263	175.3 (8.1)

Dataset = cfdwrbol.d15

Table 113. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected in the fall from Boltz Lake in 2015.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	30	5.2							
2013	22	6.4	9.0						
2012	24	6.3	9.6	11.4					
2011	8	6.9	10.8	12.7	13.9				
2010	8	6.2	10.2	12.4	13.9	14.9			
2009	4	6.8	11.4	14.0	15.5	16.5	17.6		
2007	1	6.0	10.9	13.0	15.1	16.9	17.9	19.2	20.3
Mean	97	6.1	9.8	12.1	14.3	15.5	17.7	19.2	20.3
Smallest		3.4	6.7	8.2	11.5	13.4	16.9	19.2	20.3
Largest		9.2	12.4	14.9	16.6	17.1	18.3	19.2	20.3
Std Error		0.1	0.1	0.2	0.3	0.3	0.3		
95% ConLo		5.8	9.5	11.7	13.7	14.9	17.1		
95% ConHi		6.3	10.3	12.5	14.9	16.2	18.2		

Intercept value = 0.00
Dataset = cfdagher.d15

Table 114. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Boltz Lake on 16 September 2015. 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	81	90 (1)	45	93 (1)	21	100 (2)	147	92 (1)

Dataset = cfdwrbol.d15

Table 115. 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		

*Only includes wild largemouth bass CPUE for age-1 year class, stocked largemouth bass were marked by fin clip and removed from dataset.

Table 116. Number of fish and the relative weight (Wr) for each length group of bluegill collected at Boltz Lake on 16 September 2015 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	77	108 (3)	28	88 (2)	0				105	102 (2)

Dataset = cfdwrbol.d15

Table 117. Length distribution and CPUE (fish/hr) of blue catfish collected in 1.0 hour of 15-minute electrofishing runs for crappie in Boltz Lake in July 2015; numbers in parentheses are standard errors.

	Inch class														
Species	15	16	17	18	19	20	21	22	23	24	25	26	27	Total	CPUE
Blue catfish	2	10	5	3	2		2		1			1	1	27	27.0 (9.0)

Dataset = cfdpsbol.d15

Table 118. Numbers of fish and the relative weight (W_r) for each length group of blue catfish collected at Boltz Lake on 14 July 2015; 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	Total	22	91 (1)	5	95 (4)	0		27	92 (1)

Dataset = cfdpsbol.d15

Table 119. Length distribution and CPUE (fish/hr) of white and black crappie collected in 1.5 hours of 15-minute electrofishing runs for crappie in Boltz Lake in October 2015; numbers in parentheses are standard errors.

	Inch class									
Species	6	7	8	9	10	11	12	13	Total	CPUE
White crappie	1	44	39	63	8	3		1	159	106.0 (55.4)

Dataset = cfdwrbol.d15

Table 120. Mean back calculated lengths (in) at each annulus for otoliths from white crappie sampled at Boltz Lake in the fall of 2015.

		Age					
Year class	No.	1	2	3	4	5	6
2014	13	4.5					
2013	5	5.0	7.6				
2012	5	4.3	7.2	8.5			
2011	12	4.5	7.0	8.2	9.0		
2010	5	5.7	7.1	8.4	9.1	9.7	
2009	2	5.1	7.3	8.4	9.7	10.6	11.1
Mean	42	4.7	7.2	8.3	9.1	9.9	11.1
Smallest		3.6	6.1	7.2	8.1	8.8	9.0
Largest		8.9	8.3	9.5	11.1	12.4	13.3
Std Error		0.1	0.1	0.1	0.2	0.4	2.1
95% ConLo		4.5	7.0	8.0	8.7	9.1	7.0
95% ConHi		4.9	7.4	8.6	9.4	10.8	15.3

Intercept Value = 0.00
Dataset = cfdagbol.d15

Table 121. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute nocturnal electrofishing runs in Corinth Lake, May 2015; 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	13	16	5	40	112	82	50	74	76	48	19	9	2	3	10	4	6	4	2	1	576	288.0 (9.0)

Dataset = cfdpscor.d15

Table 122. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Corinth Lake from 1992-2015; numbers in parentheses are standard errors.

Year	Length group					Total
	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	
1992	31.0 (9.3)	22.5 (5.3)	5.0 (2.6)	0.0 (0.0)	0.0 (0.0)	58.5 (9.8)
1993	34.0 (8.2)	111.3 (11.5)	7.3 (2.4)	2.0 (1.4)	0.0 (0.0)	154.7 (13.5)
1996	53.5 (10.1)	174.5 (16.7)	14.5 (2.0)	4.5 (1.6)	0.0 (0.0)	247.0 (18.1)
1998	15.5 (3.2)	111.5 (9.8)	19.0 (3.0)	4.0 (1.7)	0.5 (0.5)	150.0 (14.4)
1999	137.0 (14.2)	56.5 (5.2)	24.5 (4.3)	3.5 (1.2)	1.0 (0.7)	221.5 (16.4)
2000	312.8 (47.0)	136.0 (18.2)	22.4 (6.5)	4.8 (2.3)	1.6 (1.0)	476.0 (63.7)
2001	127.2 (16.6)	231.2 (8.0)	20.8 (5.1)	9.6 (3.2)	0.0 (0.0)	388.8 (13.5)
2002	40.7 (8.1)	153.3 (21.7)	13.3 (2.9)	16.7 (2.8)	1.3 (1.3)	224.0 (28.7)
2003	58.0 (13.6)	146.0 (16.4)	23.3 (3.8)	6.0 (2.0)	0.7 (0.7)	233.3 (28.2)
2004	23.0 (4.8)	77.5 (5.0)	40.0 (4.3)	5.0 (1.5)	1.0 (1.0)	145.5 (8.0)
2005	45.5 (3.9)	115.0 (9.3)	72.0 (10.0)	20.5 (3.0)	2.5 (1.3)	253.0 (16.0)
2006	15.0 (2.7)	74.5 (6.8)	29.0 (1.3)	34.5 (4.7)	1.5 (0.7)	153.0 (8.8)
2007	88.5 (14.8)	106.0 (7.0)	21.5 (3.4)	22.5 (3.5)	5.5 (2.4)	238.5 (17.6)
2008	52.0 (9.7)	199.0 (17.0)	69.5 (4.8)	37.5 (3.9)	7.5 (1.9)	358.0 (25.2)
2009	30.0 (8.0)	82.5 (11.2)	17.5 (4.5)	27.5 (4.4)	6.0 (2.1)	157.5 (23.4)
2010	77.5 (7.0)	60.0 (8.3)	8.5 (1.6)	21.0 (4.9)	4.0 (1.3)	167.0 (13.6)
2011	90.0 (9.8)	177.0 (11.2)	37.0 (5.2)	33.0 (3.9)	8.5 (2.1)	337.0 (19.3)
2012	32.5 (6.1)	175.0 (15.3)	37.0 (4.9)	23.5 (4.0)	8.5 (2.3)	268.0 (21.2)
2013	24.5 (4.5)	161.0 (15.3)	22.5 (5.4)	24.5 (6.6)	4.5 (1.9)	232.5 (17.3)
2014	33.0 (5.5)	152.5 (9.7)	17.0 (3.8)	15.0 (2.6)	3.0 (1.5)	189.5 (14.0)
2015	93.0 (4.5)	141.0 (3.8)	38.0 (4.1)	16.0 (3.1)	3.5 (1.2)	288.0 (9.0)

Dataset = cfdpscor.d15 – .d92

Table 123. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Corinth Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	390	28 (± 4)	8 (± 3)

Dataset = cfdpscor.d15

Table 124. Population assessment for largemouth bass collected during spring electrofishing at Corinth Lake from 2000-2015 (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
2015	Value	10.8	29.9	38.0	16.0	3.5				
	Score	3	2	3	2	3			13	Good
2014	Value	11.1*	29.0	17.0	15.0	3.0				
	Score	3	2	1	2	3			11	Fair
2013	Value	11.1*	13.0	22.5	24.5	4.5				
	Score	3	1	2	3	4			13	Good
2012	Value	11.1*	24.5	37.0	23.5	8.5				
	Score	3	2	3	3	4			15	Good
2011	Value	11.1	90.2	37.0	33.0	8.5	0.515	40.2		
	Score	3	4	3	4	4			18	Excellent
2010	Value	11.1*	46.2^	8.5	21.0	4.0				
	Score	3	3	1	3	4			14	Good
2009	Value	11.1*	21.8^	17.5	27.5	6.0				
	Score	3	2	1	3	4			13	Good
2008	Value	11.1*	47.7^	69.5	37.5	7.5				
	Score	3	3	4	4	4			18	Excellent
2007	Value	11.1	86.7	21.5	22.5	5.5	0.498	39.3		
	Score	3	4	2	3	4			16	Good
2006	Value	10.1*	11.1^	29.0	34.5	1.5				
	Score	2	1	2	4	2			11	Fair
2005	Value	10.1*	32.4^	72.0	20.5	2.5				
	Score	2	2	4	3	3			14	Good
2004	Value	10.1*	21.1^	40.0	5.0	1.0				
	Score	2	2	3	2	2			11	Fair
2003	Value	10.1*	54.3^	23.3	6.0	0.7				
	Score	2	3	2	2	1			10	Fair
2002	Value	10.1	35.3	13.3	16.7	1.3	0.688	49.7		
	Score	2	2	1	2	2			9	Fair
2001	Value	8.7	63.4	20.8	9.6	0.0	0.805	55.3		
	Score	1	3	2	2	0			8	Fair
2000	Value	9.1	293.2	22.4	4.8	1.6	0.566	43.2		
	Score	1	4	2	2	2			11	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 125. 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 17 September 2015; 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	5	45	5	4	28	24	26	10	21	13	8	1			1	1	2	194	129.3 (8.9)

Dataset = cfdwrcor.d15

Table 126. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected in the fall from Corinth Lake in 2015.

Year	No.	Age 1	2	3	4	5	6	7	8	9	10	11
2014	23	4.7										
2013	22	5.2	7.9									
2012	16	6.3	9.3	10.8								
2011	11	6.5	9.4	10.9	12.1							
2010	2	5.6	8.5	10.3	11.5	12.6						
2009	2	6.1	9.8	12.2	13.2	14.2	15.2					
2008	1	6.7	10.9	12.6	14.0	15.4	16.5	17.0				
2006	1	8.2	12.1	13.6	14.4	15.2	16.1	16.9	17.8	18.6		
2004	1	6.1	10.7	12.7	13.6	14.5	15.3	16.2	17.1	19.4	18.5	18.8
Mean	79	5.6	8.9	11.1	12.5	14.1	15.6	16.7	17.4	19.0	18.5	18.8
Smallest		3.2	6.2	9.2	10.4	11.3	12.2	16.2	17.1	18.6	18.5	18.8
Largest		8.2	12.1	14.9	16.0	17.1	18.2	17.0	17.8	19.4	18.5	18.8
Std Error		0.1	0.2	0.2	0.4	0.8	1.00	0.3	0.4	0.4		
95% ConLo		5.3	8.5	10.7	11.8	12.6	13.7	16.2	16.7	18.3		
95% ConHi		5.8	9.2	11.5	13.2	15.6	17.6	17.2	18.1	19.9		

Intercept value = 0.00
Dataset = cfdagcor.d15

Table 127. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Corinth Lake on 17 September 2015; 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	Total	80	82 (1)	22	82 (1)	4	93 (4)	106	82 (1)

Dataset = cfdwrcor.d15

Table 128. 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		Age-0		Age-0 ≥5.0 in		Age-1	
		Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	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		

Table 129. 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 2015; numbers in parentheses are standard errors.

Species	Inch class										Total	CPUE
	1	2	3	4	5	6	7	8	9	10		
Bluegill	2	3	60	54	19	36	108	6			288	230.4 (16.5)
Redear sunfish			3		25	48	19	32	19	2	148	118.4 (20.0)

Dataset = cfdpscor.d15

Table 130. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Corinth Lake during May 2015. Fish were collected in 7.5-minute runs.

Species	No. $\geq$stock size	PSD	RSD[a]
Bluegill	283	53 ($\pm$ 6)	2 ($\pm$ 2)
Redear sunfish	145	49 ($\pm$ 8)	14 ($\pm$ 6)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpscor.d15

Table 131. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Corinth Lake from 1992-2015; 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)

Dataset = cfdpscor.d15

Table 132. Population assessment for bluegill collected during spring electrofishing at Corinth Lake from 2000-2015 (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
2015	Value	5.5*	3-3+*	120.0	4.8		
	Score	4	3	4	1	12	Good
2014	Value	5.5	3-3+	68.8	4.0		
	Score	4	3	3	1	11	Good
2013	Value	4.7*	3-3*	106.4	0.0		
	Score	3	3	4	0	10	Fair
2012	Value	4.7	3-3+	56.8	0.0		
	Score	3	3	3	0	9	Fair
2011	Value	4.4	3-3+	60.0	0.0		
	Score	2	3	3	0	8	Fair
2010	Value	4.0	3-3+	55.1	0.0		
	Score	2	3	3	0	8	Fair
2009	Value	4.8	3-3+	166.8	0.0		
	Score	3	3	4	0	10	Fair
2008	Value	4.3	3-3+	105.6	0.4		
	Score	2	3	4	1	10	Fair
2007	Value	4.6	3-3+	98.0	0.0		
	Score	3	3	4	0	10	Fair
2006	Value	4.1	3-3+	32.8	0.0		
	Score	2	3	2	0	7	Fair
2005	Value	4.0	3-3+	82.4	0.0		
	Score	2	3	4	0	9	Fair
2004	Value	4.1	2-2+	61.6	0.0		
	Score	2	4	3	0	9	Fair
2003	Value	4.3	2-2+	92.4	0.9		
	Score	2	4	4	1	11	Good
2002	Value	4.2	2-2+	56.8	0.0		
	Score	2	4	3	0	9	Fair
2001	Value	4.3	2-2+	145.6	5.6		
	Score	2	4	4	2	12	Good
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 133. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Corinth Lake from 1992-2015; numbers in parentheses are standard errors.

Year	Length group					Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	
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)

Dataset = cfdpscor.d15

Table 134. Population assessment for redear sunfish collected during spring electrofishing at Corinth Lake from 2002-2015 (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
2015	Value	8.1*	3-3+*	42.4	1.6		
	Score	4	4	4	1	13	Good
2014	Value	8.1	3-3+	33.6	0.8		
	Score	4	4	4	1	13	Good
2013	Value	7.8*	3-3+*	29.6	0.8		
	Score	4	4	4	1	13	Good
2012	Value	7.8	3-3+	24.0	0.0		
	Score	4	4	4	0	12	Good
2011	Value	7.8	3-3+	20.0	0.0		
	Score	4	4	4	0	12	Good
2010	Value	7.1	3-3+	12.0	0.0		
	Score	4	4	3	0	11	Good
2009	Value	7.7	3-3+	38.0	0.4		
	Score	4	4	4	1	13	Good
2008	Value	8.0	3-3+	27.6	0.0		
	Score	4	4	4	0	12	Good
2007	Value	7.6	3-3+	21.2	0.0		
	Score	4	4	4	0	12	Good
2006	Value	7.3	3-3+*	7.6	0.4		
	Score	4	4	2	1	11	Good
2005	Value	7.6	3-3+	31.2	3.2		
	Score	4	4	4	2	14	Excellent
2004	Value	9.1*	2-2+*	19.2	14.4		
	Score	4	4	4	4	16	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 135. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Corinth Lake on 17 September 2015; standard errors are in parentheses.

Species	Length group									
	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	64	89 (2)	33	80 (2)	0				97	86 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	0		32	92 (2)	10	95 (2)	0		42	93 (2)

Dataset = cfdwrcor.d15

Table 136. 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 2015; 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	3	22	13	15	6	10	22	61	89	66	72	64	21	13	3	6	5	4	4	3	1	503	251.5 (18.3)

Dataset = cfdpselm.d15

Table 137. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Elmer Davis Lake from 1996-2015; 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)

Dataset = cfdpselm.d15 – .d96

Table 138. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Elmer Davis Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	434	45 (± 5)	9 (± 3)

Dataset = cfdpselm.d15

Table 139. Population assessment for largemouth bass collected during spring electrofishing at Elmer Davis Lake from 2000-2015 (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
2015	Value	10.5*	28.0	78.5	19.5	4.0				
	Score	2	2	4	3	4			15	Good
2014	Value	10.5*	8.0	75.0	23.5	4.5				
	Score	2	1	4	3	4			14	Good
2013						No Sample				
2012	Value	10.5	78.0	85.5	27.5	4.5	0.392	32.5		
	Score	2	4	4	3	4			17	Excellent
2011	Value	9.8*	32.4	69.5	23.0	3.5				
	Score	1	2	4	3	3			13	Good
2010	Value	9.8*	29.0^	71.5	24.0	3.0				
	Score	1	2	4	3	3			13	Good
2009	Value	9.8*	18.5^	76.0	28.0	6.5				
	Score	1	2	4	3	4			14	Good
2008	Value	9.8	127.5	45.0	14.5	2.0	0.489	38.6		
	Score	1	4	3	2	3			13	Good
2007	Value	10.5*	26.9^	41.5	8.0	1.0				
	Score	2	2	3	2	2			11	Fair
2006	Value	10.5*	68.1^	40.5	6.5	1.0				
	Score	2	3	3	2	2			12	Good
2005	Value	10.5*	78.1^	60.0	15.0	3.5				
	Score	2	4	4	2	3			15	Good
2004	Value	10.5	94.4	22.0	15.0	3.5	0.481	38.2		
	Score	2	4	2	2	3			13	Good
2003	Value	10.3*	57.5^	14.5	15.0	3.5				
	Score	2	3	1	2	3			11	Fair
2002	Value	10.3*	80.6^	4.0	10.0	0.5				
	Score	2	4	1	2	1			10	Fair
2001	Value	10.3	52.8	18.5	21.0	0.5	0.516	40..3		
	Score	2	3	1	3	1			10	Fair
2000	Value	10.7	73.8	31.5	29.0	2.0	0.618	46.1		
	Score	2	3	2	3	3			13	Good

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 140. 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 September 2015; 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	9	57	33	17		20	24	12	24	57	49	26	17	7	6	1	4	2	2	1	368	245.3 (12.2)

Dataset = cfdwrelm.d15

Table 141. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Elmer Davis Lake on 18 September 2015; 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	86	87 (1)	67	85 (1)	23	95 (3)	176	87 (1)

Dataset = cfdwrelm.d15

Table 142. 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 Mean length	Std. error	Age-0 CPUE	Std. Error	Age-0 ≥5.0 in CPUE	Std. error	Age-1 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)		

Table 143. 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 Elmer Davis Lake, May 2015; numbers in parentheses are standard errors.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE
Bluegill		1	17	10	7	16	7				58	46.4 (9.6)
Redear sunfish				2	12	41	36	14	3		108	86.4 (13.1)

Dataset = cfdpselm.d15

Table 144. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Elmer Davis Lake during May 2015. Fish were collected in 7.5-minute runs.

Species	No. $\geq$stock size	PSD	RSD[a]
Bluegill	57	40 ($\pm$ 13)	
Redear sunfish	108	49 ($\pm$ 9)	3 ($\pm$ 3)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpselm.d15

Table 145. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Elmer Davis Lake from 1994-2015; 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
1994	1.0 (0.7)	12.0 (3.0)	29.0 (5.7)	1.5 (1.1)	43.5 (6.0)
1995			NS		
1996	42.0 (7.9)	75.0 (9.7)	55.0 (11.2)	20.0 (5.4)	192.0 (22.5)
1997	0.5 (0.5)	79.5 (12.5)	59.0 (16.3)	5.5 (2.1)	144.5 (28.6)
1998	2.7 (1.1)	17.1 (4.5)	7.7 (1.6)	2.9 (1.1)	30.4 (5.8)
1999	579.5 (74.5)	502.0 (65.4)	23.0 (7.6)	5.0 (3.4)	1,109.5 (130.9)
2000			NS		
2001	1.5 (0.8)	109.5 (28.0)	157.0 (23.5)	0.5 (0.5)	268.5 (49.6)
2002	33.6 (11.8)	78.4 (19.3)	272.8 (55.3)	0.8 (0.8)	385.6 (78.2)
2003	17.6 (4.7)	89.6 (12.9)	151.2 (30.1)	2.4 (1.7)	260.8 (37.1)
2004	40.0 (8.7)	100.8 (13.7)	119.2 (29.8)	8.8 (3.9)	268.8 (44.7)
2005	38.4 (11.4)	92.8 (16.1)	59.2 (9.8)	8.8 (3.0)	199.2 (23.9)
2006	162.4 (35.9)	115.2 (20.1)	42.4 (8.5)	16.0 (4.5)	336.0 (43.8)
2007	7.6 (1.8)	81.2 (7.4)	42.8 (9.7)	9.2 (2.4)	140.8 (14.9)
2008	34.4 (5.7)	133.2 (24.7)	58.8 (9.3)	6.8 (2.3)	233.2 (33.0)
2009	8.8 (1.8)	58.1 (6.5)	33.9 (3.7)	1.1 (0.5)	101.9 (7.3)
2010	51.6 (12.8)	126.8 (16.2)	26.8 (4.1)	0.0 (0.0)	205.2 (23.4)
2011	112.4 (19.6)	226.0 (18.9)	50.0 (7.3)	5.6 (2.5)	394.0 (36.2)
2012	42.4 (7.3)	254.4 (39.6)	68.8 (15.0)	0.8 (0.8)	366.4 (57.9)
2013	49.6 (18.2)	179.2 (28.4)	54.4 (14.8)	0.8 (0.8)	284.0 (56.5)
2014	17.6 (7.4)	117.6 (25.5)	33.6 (10.2)	0.0 (0.0)	168.8 (26.5)
2015	0.8 (0.8)	27.2 (5.0)	18.4 (7.4)	0.0 (0.0)	46.4 (9.6)

Dataset = cfdpselm.d15

Table 146. Population assessment for bluegill collected during spring electrofishing at Elmer Davis Lake from 2001-2015 (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
2015	Value	3.8	4-4+	18.4	0.0	-	-		
	Score	2	2	1	0			5	Poor
2014	Value	4.1*	3-3+*	33.6	0.0	-	-		
	Score	2	3	3	0			8	Fair
2013	Value	4.1	3-3+	55.2	0.8	-	-		
	Score	2	3	3	1			9	Fair
2012	Value	4.2	2-2+	69.6	0.8	1.305	72.9		
	Score	2	4	3	1			10	Fair
2011	Value	4.4	2-2+	55.6	5.6	*	*		
	Score	2	4	3	2			11	Good
2010	Value	4.3	2-2+	26.8	0.0	1.471	77.0		
	Score	2	4	2	0			8	Fair
2009	Value	4.4	2-2+	34.9	1.1	*	*		
	Score	2	4	2	1			9	Fair
2008	Value	4.1	2-2+	65.6	6.8	0.748	52.7		
	Score	2	4	3	2			11	Good
2007	Value	4.1	2-2+	52.0	9.2	0.718	51.2		
	Score	2	4	3	2			11	Good
2006	Value	5.1	2-2+	58.4	16.0	0.464	37.1		
	Score	4	4	3	4			15	Excellent
2005	Value	4.2	2-2+	68.0	8.8	0.729	51.7		
	Score	2	4	3	2			11	Good
2004	Value	4.3	2-2+	128.0	8.8	*	*		
	Score	2	4	4	2			12	Good
2003	Value	4.5	2-2+	153.6	2.4	*	*		
	Score	3	4	4	1			12	Good
2002	Value	4.5	2-2+	273.6	0.8	*	*		
	Score	3	4	4	1			12	Good
2001	Value	4.2	2-2+	157.5	0.5	*	*		
	Score	2	4	4	1			11	Good

* Age data not collected

Table 147. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Elmer Davis Lake from 1994-2015; numbers in parentheses are standard errors.

Year	Length group					Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	
1994	0.0	0.5 (0.5)	0.5 (0.5)	2.5 (2.0)	1.5 (1.5)	3.5 (1.9)
1995			NS			
1996		7.5 (1.6)	23.5 (3.3)	4.0 (1.1)	1.0 (0.7)	35.0 (4.6)
1997	0.0	1.0 (1.0)	0.5 (0.5)	13.0 (3.8)	0.5 (0.5)	14.5 (4.6)
1998	0.0	0.3 (0.3)	0.0	0.0	0.0	0.3 (0.3)
1999	0.0	19.0 (4.4)	13.0 (2.2)	20.5 (5.3)	0.0	52.5 (7.5)
2000			NS			
2001	0.0	3.5 (2.1)	21.0 (5.1)	3.5 (1.6)	1.0 (0.7)	28.0 (4.8)
2002	0.8 (0.8)	4.0 (1.8)	8.8 (4.7)	15.2 (4.2)	0.8 (0.8)	28.8 (6.1)
2003	1.6 (1.1)	7.2 (5.5)	31.2 (7.4)	19.2 (6.2)	0.8 (0.8)	59.2 (13.5)
2004	4.0 (2.7)	8.0 (3.4)	66.4 (18.4)	24.8 (9.7)	3.2 (2.4)	103.2 (29.1)
2005	0.0	11.2 (2.4)	54.4 (16.7)	63.2 (18.6)	4.8 (1.8)	128.8 (26.9)
2006	0.0	12.8 (4.0)	4.8 (1.8)	30.4 (6.5)	4.0 (1.3)	51.2 (10.0)
2007	0.4 (0.4)	1.6 (0.7)	18.0 (3.5)	15.6 (3.4)	2.0 (1.1)	35.6 (5.6)
2008	1.2 (0.7)	13.2 (2.7)	40.8 (9.2)	17.6 (5.3)	2.8 (1.5)	72.8 (14.7)
2009	0.8 (0.6)	5.6 (1.3)	18.7 (3.2)	6.4 (1.8)	1.9 (0.7)	31.5 (4.3)
2010	1.2 (0.9)	3.2 (1.4)	23.6 (2.7)	13.2 (2.9)	0.8 (0.6)	41.2 (4.7)
2011	4.8 (1.7)	22.4 (4.5)	6.8 (2.0)	58.0 (8.5)	2.4 (1.3)	92.0 (10.3)
2012	5.6 (2.6)	31.2 (5.3)	44.0 (9.3)	31.2 (7.2)	4.8 (1.3)	112.0 (11.6)
2013	32.8 (16.3)	149.6 (40.1)	39.2 (13.6)	20.8 (5.6)	0.8 (0.8)	242.4 (67.2)
2014	0.8 (0.8)	146.4 (37.0)	56.8 (19.7)	27.2 (7.8)	0.8 (0.8)	231.2 (53.2)
2015	0.0	11.2 (3.0)	61.6 (8.9)	13.6 (4.0)	0.0	86.4 (13.1)

Dataset = cfdpselm.d15

Table 148. Population assessment for redear sunfish collected during spring electrofishing at Elmer Davis Lake from 2001-2015 (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
2015	Value	6.7	4-4+	13.6	0.0		
	Score	4	3	4	0	11	Good
2014	Value	7.7*	3-3+*	27.2	0.8		
	Score	4	4	4	1	13	Good
2013	Value	7.7	3-3+	20.8	0.8		
	Score	4	4	4	1	13	Good
2012	Value	7.7	3-3+	31.2	4.8		
	Score	4	4	4	3	15	Excellent
2011	Value	8.7	2-2+	58.0	2.4		
	Score	4	4	4	2	14	Excellent
2010	Value	8.4	2-2+	13.2	1.2		
	Score	4	4	3	1	12	Good
2009	Value	8.0	3-3+	6.4	1.9		
	Score	4	4	2	2	12	Good
2008	Value	8.8	2-2+	17.6	2.8		
	Score	4	4	4	3	15	Excellent
2007	Value	8.6	2-2+	15.6	2.0		
	Score	4	4	4	2	14	Excellent
2006	Value	8.8	2-2+	30.4	4.0		
	Score	4	4	4	3	15	Excellent
2005	Value	8.7	2-2+	63.2	4.8		
	Score	4	4	4	3	15	Excellent
2004	Value	9.0*	2-2+*	24.8	3.2		
	Score	4	4	4	2	14	Excellent
2003	Value	9.0	2-2+	19.2	0.8		
	Score	4	4	4	1	13	Good
2002	Value	6.5*	4-4+*	15.2	0.8		
	Score	4	3	4	1	12	Good
2001	Value	6.5	4-4+	3.5	1.0		
	Score	4	3	1	1	9	Fair

* Age data not collected

Table 149. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected in the fall from Elmer Davis Lake in 2015.

		Age				
Year	No.	1	2	3	4	5
2014	20	2.2				
2013	13	2.3	3.8			
2012	10	2.3	4.2	5.5		
2011	8	2.0	3.9	5.1	5.9	
2010	1	2.6	4.7	5.7	6.3	6.9
Mean	52	2.2	4.0	5.3	6.0	6.9
Smallest		1.3	2.9	4.4	5.5	6.9
Largest		3.2	5.2	6.6	6.6	6.9
Std Error		0.1	0.1	0.1	0.1	
95% ConLo		2.1	3.8	5.0	5.7	
95% ConHi		2.4	4.2	5.6	6.2	

Intercept value = 0.00
Dataset = cfdagelm.d15

Table 150. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected in the fall from Elmer Davis Lake in 2015.

		Age						
Year	No.	1	2	3	4	5	6	7
2014	27	2.7						
2013	10	2.6	4.8					
2012	12	2.9	5.2	6.7				
2011	6	3.0	5.3	6.9	7.8			
2010	1	1.2	3.5	5.6	7.2	7.8		
2008	1	2.4	5.0	7.4	8.0	8.7	9.4	9.9
Mean	57	2.7	5.0	6.7	7.7	8.3	9.4	9.9
Smallest		1.2	3.5	5.5	6.6	7.8	9.4	9.9
Largest		4.7	7.0	8.3	8.9	8.7	9.4	9.9
Std Error		0.1	0.1	0.2	0.2	0.5		
95% ConLo		2.6	4.8	6.4	7.2	7.4		
95% ConHi		2.9	5.3	7.0	8.2	9.2		

Intercept value = 0.00
Dataset = cfdagelm.d15

Table 151. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Elmer Davis Lake on 18 September 2015; 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)	33	87 (1)	0		110	90 (2)
	4.0–6.9 in		7.0–8.9 in		≥9.0 in		Total	
Redear sunfish	64	96 (2)	36	98 (1)	2	95 (8)	114	97 (1)

Dataset = cfdwrelm.d15

Table 152.. Length distribution and CPUE (fish/hr) of white crappie collected in 1.25 hours of 15-minute electrofishing runs for crappie in Elmer Davis Lake in October 2015; numbers in parentheses are standard errors.

	Inch class									
Species	6	7	8	9	10	11	12	13	Total	CPUE
White crappie	1	5	7	20	6	1		1	41	27.3 (8.5)
Black crappie	1	1	4	11	4				21	14.0 (3.2)

Dataset = cfdwrelm.d15

Table 153. Mean back calculated lengths (in.) at each annulus for otoliths from white crappie collected in the fall from Elmer Davis Lake in 2015.

		Age				
Year	No.	1	2	3	4	5
2014	7	4.2				
2013	18	4.3	7.7			
2012	4	4.1	7.6	9.3		
2011	3	4.4	7.3	8.9	10.1	
2010	1	3.9	6.9	8.0	8.8	9.4
Mean	33	4.3	7.6	8.9	9.8	9.4
Smallest		3.1	6.0	7.6	8.8	
Largest		5.7	9.4	10.8	12.4	
Std Error		0.1	0.2	0.4	0.8	
95% ConLo		4.1	7.3	8.1	8.2	
95% ConHi		4.5	8.0	9.8	11.3	

Intercept value = 0.00
Dataset = cfdagelm.d15

Table 154. Mean back calculated lengths (in.) at each annulus for otoliths from black crappie collected in the fall from Elmer Davis Lake in 2015.

		Age			
Year	No.	1	2	3	4
2014	2	5.0			
2013	7	3.6	6.8		
2012	9	4.5	7.6	9.0	
2011	2	4.4	5.7	7.5	9.1
Mean	20	4.2	7.1	8.8	9.1
Smallest		3.2	5.0	7.5	9.1
Largest		5.2	8.2	9.4	9.2
Std Error		0.1	0.2	0.2	0.1
95% ConLo		4.0	6.7	8.4	9.0
95% ConHi		4.5	7.5	9.2	9.3

Intercept value = 0.00
Dataset = cfdagelm.d15

Table 155. 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 12 October 2015. 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	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
Channel catfish	1	3	5	29	40	34	17	18	7	10	11	7	8	6	2		1			1	200	66.7 (10.9)

Dataset = cfdhnelm.d15

Table 156. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Elmer Davis Lake from 2009-2015; 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)

Dataset = cfdhnelm.d15 - .d07

Table 157. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Elmer Davis Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	191	28 (± 6)	1 (± 1)

Dataset = cfdhnelm.d15

Table 158. Mean length at capture of channel catfish sampled from Elmer Davis Lake in 2015.

	Age							
	1+	2+	3+	4+	5+	6+	7+	8+
Number of fish	20	11	10	13	8	3	0	1
Mean length (in.)	11.2	14.7	15.9	19.1	21.1	21.9		27.2
Std error	(0.3)	(0.5)	(0.5)	(0.4)	(0.3)	(1.5)		-
Smallest (in.)	8.7	11.0	12.3	16.2	19.7	19.6		27.2
Largest (in.)	13.7	16.4	17.5	21.3	22.2	24.8		27.2

Dataset = cfdagelm.d15

Table 159. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Elmer Davis Lake in October 2015; 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	112	87 (1)	51	90 (1)	2	110 (8)	165	88 (1)

Dataset = cfdhnelm.d15

Table 160. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 2.0 hours of 15-minute electrofishing runs in Kincaid Lake, April 2015; 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
Spotted bass													2									2	1.0 (1.0)
Largemouth bass	1	2	1	1	11	16	22	18	30	34	45	31	19	31	29	35	31	16	12	4	1	390	195.0 (22.3)

Dataset = cfdpskin.d15

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Table 161. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Kincaid Lake from 1992-2015; 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	4.0 (0.0)	34.0 (3.1)	13.3 (1.8)	53.3 (4.1)	11.3 (1.8)	104.7 (3.5)
1995	27.5 (3.4)	38.5 (4.5)	17.5 (2.9)	65.0 (6.5)	13.5 (3.0)	148.5 (11.9)
1997	13.5 (2.9)	59.0 (6.2)	53.0 (4.2)	92.0 (14.3)	16.0 (3.7)	217.5 (18.0)
1999	15.0 (4.3)	60.0 (8.6)	55.0 (3.7)	94.0 (6.8)	16.5 (3.4)	224.0 (8.6)
2000	15.3 (5.7)	64.5 (7.0)	36.5 (5.5)	70.0 (7.8)	6.5 (1.1)	186.0 (16.3)
2001	16.0 (2.9)	99.3 (13.7)	35.3 (5.8)	102.7 (10.6)	8.0 (1.0)	253.3 (23.5)
2002	10.0 (4.5)	35.3 (9.4)	36.7 (8.4)	110.0 (14.8)	6.7 (2.0)	192.0 (29.2)
2003	23.4 (5.8)	70.3 (12.1)	32.6 (4.0)	94.9 (15.8)	7.4 (2.0)	221.1 (22.8)
2004	7.0 (2.9)	76.0 (12.5)	38.5 (5.0)	71.0 (10.0)	9.5 (1.5)	192.5 (16.5)
2005	22.0 (3.7)	56.0 (8.2)	69.5 (9.3)	113.0 (18.5)	15.0 (2.8)	260.5 (30.7)
2006	14.5 (3.5)	82.0 (8.3)	43.0 (5.0)	112.5 (9.8)	16.5 (4.2)	252.0 (14.9)
2007	21.5 (5.3)	50.5 (6.1)	47.5 (5.3)	96.0 (6.7)	15.5 (2.4)	215.5 (13.6)
2008	16.0 (3.4)	92.5 (11.5)	48.0 (6.4)	112.0 (15.2)	12.0 (3.6)	268.5 (31.9)
2009	15.5 (2.4)	72.5 (13.7)	70.0 (9.6)	107.0 (11.0)	13.5 (1.5)	265.0 (24.4)
2010	14.8 (1.9)	72.0 (4.9)	61.5 (5.2)	69.3 (4.3)	7.8 (1.4)	217.5 (9.3)
2011	22.0 (3.2)	62.0 (7.9)	59.0 (8.4)	99.0 (4.9)	14.5 (2.1)	242.0 (16.9)
2012	12.0 (2.5)	52.0 (5.8)	41.0 (6.7)	63.0 (5.6)	8.5 (1.2)	168.0 (11.1)
2013	34.5 (4.3)	91.5 (11.0)	69.0 (6.3)	83.0 (6.3)	10.5 (2.5)	278.0 (19.6)
2014			No Sample			
2015	16.0 (5.8)	52.0 (5.9)	47.5 (7.4)	79.5 (6.3)	8.5 (11.9)	195.0 (22.3)

Dataset = cfdpskin.d15- .d92

Table 162. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Kincaid Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	358	71 (± 5)	44 (± 5)

Dataset = cfdpskin.d15

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Table 163. Population assessment for largemouth bass collected during spring electrofishing at Kincaid Lake from 2000-2015 (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
2015	Value	11.7*	0.5	47.5	79.5	8.5				
	Score	4	1	3	4	4			16	Good
2014	Value			No Sample						
	Score									
2013	Value	11.7	1.0	69.0	83.0	10.5				
	Score	4	1	4	4	4			17	Excellent
2012	Value	9.9*	4.5	41.0	63.0	8.5				
	Score	1	1	3	4	4			13	Good
2011	Value	9.9*	5.0	59.0	99.0	14.5				
	Score	1	1	4	4	4			14	Good
2010	Value	9.9*	1.3^	61.5	69.3	7.8				
	Score	1	1	4	4	4			14	Good
2009	Value	9.9	2.5	70.0	107.0	13.5	0.401	33.1		
	Score	1	1	4	4	4			14	Good
2008	Value	10.5*	1.0^	48.0	112.0	12.0				
	Score	2	1	3	4	4			14	Good
2007	Value	10.5*	0.0^	47.5	96.0	15.5				
	Score	2	0	3	4	4			13	Good
2006	Value	10.5*	1.5^	43.0	112.5	16.5				
	Score	2	1	3	4	4			14	Good
2005	Value	10.5	0.0	69.5	113.0	15.0	0.344	29.1		
	Score	2	0	4	4	4			14	Good
2004	Value	10.5*	1.0^	38.5	71.0	9.5				
	Score	2	1	3	4	4			14	Good
2003	Value	10.5	0.0	32.6	94.9	7.4	0.389	32.2		
	Score	2	0	2	4	4			12	Good
2002	Value	10.4	0.0	36.7	110.0	6.7	0.308	26.5		
	Score	2	0	3	4	4			13	Good
2001	Value	9.0	0.0	35.3	102.7	8.0	0.261	23.0		
	Score	1	0	3	4	4			12	Good
2000	Value	9.5	1.5	36.5	70.0	6.5	0.288	25.0		
	Score	1	1	3	4	4			13	Good

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 164.. Length distribution and CPUE (fish/hr) of white crappie collected in 1.25 hours of 15-minute electrofishing runs for crappie in Kincaid Lake in October 2015; numbers in parentheses are standard errors.

	Inch class										
Species	5	6	7	8	9	10	11	12	13	Total	CPUE
White crappie	16	73	67	3	4	3	1	1	2	170	136.0 (64.9)

Dataset = cfdwrkin.d15

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Table 165. Mean back calculated lengths (in.) at each annulus for otoliths from white crappie collected in the fall from Kincaid Lake in 2015.

		Age										
Year	No.	1	2	3	4	5	6	7	8	9	10	11
2014	8	4.0										
2013	3	4.4	6.6									
2012	14	3.8	5.7	6.9								
2011	8	4.1	5.8	6.8	7.6							
2010	5	3.8	5.5	6.6	7.5	8.1						
2009	3	4.1	6.0	6.7	7.2	7.8	8.6					
2008	1	4.6	6.0	7.9	8.9	10.6	12.1	13.1				
2004	1	5.4	7.0	7.7	8.4	9.1	9.8	10.5	11.2	11.9	12.6	13.1
Mean	43	4.0	5.9	6.9	7.6	8.4	9.5	11.8	11.2	11.9	12.6	13.1
Smallest		2.7	4.6	5.8	6.5	6.9	7.4	10.5	11.2	11.9	12.6	13.1
Largest		5.4	7.5	8.8	10.4	11.6	12.1	13.1	11.2	11.9	12.6	13.1
Std Error		0.1	0.1	0.2	0.3	0.5	0.9	1.3				
95% ConLo		3.8	5.6	6.5	7.1	7.3	7.7	9.3				
95% ConHi		4.2	6.1	7.2	8.2	9.4	11.3	14.3				

Intercept value = 0.00
Dataset = cfdagbkl.d15

Table 166. Length composition, relative abundance, and CPUE (fish/set) of channel catfish at Kincaid Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 5 October 2014. Nets were pulled three days after setting them, and 3 sets of tandem nets were used for the sampling event.

	Inch class																
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	Average per set
Channel catfish	1	5	5	9	4	4	2	5	4	2	2	2	3		2	50	16.7 (7.5)

Dataset = cfdhnkin.d15

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Table 167. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Kincaid Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	39	38 (± 15)	0 (± 0)

Dataset = cfdhnkin.d15

Table 168. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Kincaid Lake in October 2015; 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	24	88 (2)	15	98 (3)			39	92 (2)

Dataset = cfdhnkin.d15

Table 169. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Kincaid Lake from 2009-2015; numbers in parentheses are standard errors.

	Length group			
Year	≥12.0 in	≥15.0 in	≥20.0 in	Total
2009	44.7 (19.3)	21.0 (9.0)	9.7 (4.8)	84.0 (31.29)
2010	21.0 (9.0)	9.0 (4.6)	1.0 (0.6)	131.0 (53.5)
2011	8.3 (4.3)	1.3 (0.3)	0.0	48.7 (23.3)
2012	20.7 (4.7)	9.0 (3.8)	3.3 (1.5)	40.0 (8.5)
2013	17.7 (5.8)	5.3 (2.3)	1.7 (1.2)	42.0 (14.6)
2014				
2015	10.0 (4.7)	6.7 (3.5)	1.7 (0.7)	16.7 (7.5)

Dataset = cfdhnkin.d15 - .d09

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Table 170. 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 April 2015; 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
Largemouth bass	16	52	40	2	12	52	82	52	19	10	4	4		5		2	2	354	354.0 (43.1)

Dataset = cfdpsmcl.d15

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Table 171. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from McNeely Lake from 1996-2015; numbers in parentheses are standard errors.

Year	Length group <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 (27.78)	198.0 (18.51)	33.0 (7.55)	13.0 (5.26)	2.0 (1.15)	354.0 (43.13)

Dataset = cfdpsmcl.d15 – d96

Table 172. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in McNeely Lake in 2015; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	244	19 (±6)	5 (± 3)

Dataset = cfdpsmcl.d15

Table 173. Population assessment for largemouth bass collected during spring electrofishing at McNeely Lake from 2000-2015 (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
2015	Value	10.5*	109.0	33.0	13.0	2.0				
	Score	2	4	2	2	3			13	Good
2014	Value	10.5*	18.0	18.0	21.0	3.0				
	Score	2	2	1	3	3			11	Fair
2013	Value					No Sample				
	Score									
2012	Value	10.5	15.2	31.2	21.6	0.8	0.356	30.0		
	Score	2	1	2	3	1			9	Fair
2011	Value	11.4*	72.0	27.3	14.7	2.7				
	Score	3	3	2	2	3			13	Good
2010	Value	11.4*	50.8^	14.7	14.0	1.3				
	Score	3	3	1	2	2			11	Fair
2009	Value	11.4*	67.8^	28.0	12.0	1.3				
	Score	3	3	2	2	2			12	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	3	4	2			13	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	1	3	4	2			13	Good
2004	Value	11.0	24.7	23.3	28.0	2.7	0.319	27.3		
	Score	3	2	2	3	3			13	Good
2003	Value	9.8*	20.0^	56.0	27.3	1.3				
	Score	1	2	4	3	2			12	Good
2002	Value	9.8*	23.3^	43.3	9.3	0.0				
	Score	1	2	3	2	0			8	Fair
2001	Value	9.8	70.0	99.3	31.3	2.7	0.392	32.4		
	Score	1	3	4	4	3			15	Good
2000	Value	10.4*	40.7^	104.7	20.7	4.0				
	Score	2	2	4	3	4			15	Good

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

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Table 174. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.25 hours of 15-minute electrofishing runs in McNeely Lake in September 2015; 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	1	45	97	15		12	49	12	50	40	23	11	6	4	1	1	5	3	1	1	377	301.6 (18.9)

Dataset = cfdwrmcl.d15

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Table 175. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at McNeely Lake on 21 September 2015; 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	90	87 (1)	38	90 (1)	16	99 (2)	144	89 (1)

Dataset = cfdwrmcl.d15

Table 176. 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.

		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	3.8	(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)		

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Table 177 . 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 McNeely Lake, May 2015; numbers in parentheses are standard errors.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE
Bluegill	2		7	54	61	45	103	10			282	225.6 (32.6)
Redear sunfish			1	2	1	3	18	4	10	3	42	33.6 (6.7)

Dataset = cfdpsmcl.d15

Table 178. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from McNeely Lake from 1992-2015; 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
1994	17.6 (3.7)	303.2 (59.6)	13.6 (2.4)	0.0	334.4 (59.1)
1995			No Sample		
1996	2.7 (1.3)	187.3 (52.6)	95.3 (20.5)	0.0	285.3 (68.3)
1997			No Sample		
1998	0.0	72.0 (31.8)	68.7 (15.4)	0.0	140.7 (44.8)
1999	8.0 (4.3)	108.0 (20.6)	108.0 (27.7)	0.0	224.0 (44.8)
2000	2.0 (0.9)	204.7 (36.6)	110.0 (23.3)	0.0	316.7 (46.3)
2001	73.6 (23.8)	152.0 (17.0)	200.8 (29.1)	1.6 (1.1)	428.0 (35.2)
2002	53.6 (11.7)	270.4 (33.2)	335.2 (33.8)	0.8 (0.8)	660.0 (41.9)
2003	12.0 (2.2)	132.0 (31.9)	30.4 (10.6)	0.0	174.4 (40.9)
2004	4.0 (1.8)	181.6 (25.2)	74.4 (8.6)	0.0	260.0 (27.3)
2005	22.0 (3.3)	159.0 (16.7)	174.0 (27.6)	0.0	355.0 (33.5)
2006	47.0 (11.1)	145.0 (23.7)	101.0 (27.6)	0.0	293.0 (40.6)
2007	8.0 (2.8)	114.4 (18.6)	118.4 (22.5)	0.0	241.6 (30.8)
2008	98.40 (11.8)	184.0 (17.8)	206.4 (21.5)	0.0	488.8 (37.7)
2009	4.8 (3.2)	152.8 (28.4)	225.6 (20.3)	0.8 (0.8)	384.0 (37.7)
2010	7.2 (2.2)	104.0 (17.5)	96.0 (12.3)	0.0	207.2 (27.6)
2011	9.6 (3.1)	318.4 (39.4)	156.8 (27.0)	1.6 (1.6)	486.4 (43.5)
2012	4.0 (2.1)	325.0 (47.6)	203.0 (21.5)	1.0 (1.0)	533.0 (61.8)
2013	5.6 (2.9)	137.6 (16.7)	276.8 (30.1)	0.8 (0.8)	420.8 (33.4)
2014			No Sample		
2015	1.6 (1.1)	97.6 (22.1)	118.4 (19.9)	8.0 (2.7)	225.6 (32.6)

Dataset = cfdpsmcl.d15 - .d94

Table 179. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at McNeely Lake during May 2015. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	280	56 (± 6)	4 (± 2)
Redear sunfish	41	85 (±11)	32 (± 14)

[a]Bluegill = RSD_8; Redear = RSD_9

Dataset = cfdpsmcl.d15

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Table 180. Population assessment for bluegill collected during spring electrofishing at McNeely Lake from 2001-2015 (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
2015	Value	5.4	2-2+	126.4	8.0	-	-		
	Score	4	4	4	2			14	Excellent
2014	Value		No Sample						
	Score								
2013	Value	5.8	2-2+	277.6	0.8	-	-		
	Score	4	4	4	1			13	Good
2012	Value	4.6	2-2+	204.0	1.0	0.922	60.2		
	Score	3	4	4	1			12	Good
2011	Value	4.5	2-2+	158.4	1.6	1.001	63.3		
	Score	3	4	4	1			12	Good
2010	Value	4.7	2-2+*	96.0	0.0	0.610	46.0		
	Score	3	4	4	0			11	Good
2009	Value	4.9*	2-2+*	226.4	0.8	0.763	53.4		
	Score	3	4	4	1			12	Good
2008	Value	4.9	2-2+	206.4	0.0				
	Score	3	4	4	0			11	Good
2007	Value	4.8	2-2+	118.4	0.0	0.963	61.8		
	Score	3	4	4	0			11	Good
2006	Value	5.1	3-3+	101.0	0.0	0.597	45.0		
	Score	4	3	4	0			11	Good
2005	Value	4.0	3-3+	174.0	0.0				
	Score	2	3	4	0			9	Fair
2004	Value	3.9	3-3+	74.4	0.0	1.111	67.1		
	Score	2	3	3	0			8	Fair
2003	Value	3.9	3-3+	30.4	0.0	1.117	67.3		
	Score	2	3	2	0			7	Fair
2002	Value	4.2	2-2+	336.0	0.8				
	Score	2	4	4	1			11	Good
2001	Value	4.8	2-2+	202.4	1.6	0.926	60.4		
	Score	3	4	4	1			12	Good

* Age and growth data was not collected.

Table 181. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from McNeely Lake from 1998-2015; 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
1998	0.0	0.7 (0.7)	5.3 (2.2)	1.3 (1.3)	0.0	7.8 (3.4)
1999	0.0	10.0 (3.8)	3.0 (1.9)	1.0 (1.0)	0.0	14.0 (3.5)
2000	0.0	3.3 (2.6)	14.7 (2.5)	0.7 (0.7)	0.0	18.7 (3.4)
2001	2.4 (1.7)	8.8 (3.0)	15.2 (4.8)	8.0 (4.8)	0.0	34.4 (7.8)
2002	1.6 (1.1)	49.6 (10.6)	22.4 (5.8)	6.4 (2.0)	0.0	80.0 (13.4)
2003	0.8 (0.5)	5.2 (1.2)	20.4 (3.8)	2.4 (1.2)	0.0	28.8 (5.4)
2004	0.0	4.8 (1.8)	24.8 (6.5)	25.6 (7.0)	0.0	55.2 (9.9)
2005	1.0 (1.0)	25.0 (5.9)	16.0 (6.6)	33.0 (11.8)	0.0	75.0 (17.0)
2006	1.0 (1.0)	15.0 (3.8)	20.0 (4.0)	16.0 (2.6)	0.0	52.0 (6.2)
2007	0.0	2.4 (1.7)	29.6 (6.8)	6.4 (2.3)	0.0	38.4 (8.8)
2008	6.4 (2.9)	22.4 (4.4)	38.4 (3.8)	36.0 (4.8)	1.6 (1.1)	103.2 (9.4)
2009	0.0	4.8 (3.2)	55.2 (11.3)	38.4 (9.5)	2.4 (1.2)	98.4 (21.8)
2010	0.0	9.6 (4.1)	16.0 (4.1)	8.8 (3.3)	0.8 (0.8)	34.4 (6.4)
2011	0.8 (0.8)	20.8 (5.9)	16.8 (3.0)	21.6 (4.6)	0.0	60.0 (9.0)
2012	0.0	21.0 (5.4)	62.0 (7.1)	34.0 (6.0)	0.0	117.0 (13.2)
2013	0.0	13.6 (3.8)	27.2 (6.3)	52.8 (10.6)	2.4 (1.7)	93.6 (14.3)
2014			No Sample			
2015	0.0	3.2 (2.4)	16.8 (4.4)	13.6 (4.6)	2.4 (1.7)	33.6 (6.7)

Dataset = cfdpsmcl.d15 - .d98

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Table 182. Population assessment for redear sunfish collected during spring electrofishing at McNeely Lake from 2001-2015 (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
2015	Value	8.2	3-3+	13.6	2.4		
	Score	4	4	3	2	13	Good
2014	Value		No Sample				
	Score						
2013	Value	8.2	2-2+	52.8	2.4		
	Score	4	4	4	2	14	Excellent
2012	Value	8.1	3-3+	34.0	0.0		
	Score	4	4	4	0	12	Good
2011	Value	8.0	3-3+	21.6	0.0		
	Score	4	4	4	0	12	Good
2010	Value	8.1	2-2+	8.8	0.8		
	Score	4	4	2	1	11	Good
2009	Value	8.5*	2-2+*	38.4	2.4		
	Score	4	4	4	2	14	Excellent
2008	Value	8.5	2-2+	36.0	1.6		
	Score	4	4	4	1	13	Good
2007	Value	8.0	3-3+	6.4	0.0		
	Score	4	4	2	0	10	Fair
2006	Value	7.9	3-3+	16.0	0.0		
	Score	4	4	4	0	12	Good
2005	Value	8.3	3-3+	33.0	0.0		
	Score	4	4	4	0	12	Good
2004	Value	7.7*	4-4+*	25.6	0.0		
	Score	4	3	4	0	11	Good
2003	Value	7.7	4-4+*	2.4	0.0		
	Score	4	3	1	0	8	Fair
2002	Value	6.7*	4-4+*	6.4	0.0		
	Score	4	3	2	0	9	Fair
2001	Value	6.7	4-4+	8.0	0.0		
	Score	4	3	2	0	9	Fair

Table 183. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected in the fall from McNeely Lake in 2015.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	28	3.0							
2013	10	3.5	5.4						
2012	5	3.1	5.3	6.7					
2011	5	3.1	4.9	6.2	7.0				
2010	5	3.2	5.0	6.2	6.9	7.5			
2007	1	2.4	4.3	5.6	6.1	6.6	7.1	7.6	8.0
Mean	54	3.1	5.2	6.3	6.9	7.4	7.1	7.6	8.0
Smallest		1.6	4.1	5.3	6.1	6.6	7.1	7.6	8.0
Largest		5.1	6.4	7.1	7.4	7.8	7.1	7.6	8.0
Std Error		0.1	0.1	0.1	0.1	0.2			
95% ConLo		2.9	5.0	6.1	6.6	7.0			
95% ConHi		3.3	5.4	6.6	7.2	7.7			

Intercept value = 0.00
Dataset = cfdagmcl.d15

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Table 184. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected in the fall from McNeely Lake in 2015.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	33	3.1							
2013	12	3.1	6.8						
2012	3	3.6	6.6	8.2					
2010	1	4.3	7.3	8.5	9.0	9.6			
2009	2	3.1	6.0	7.5	8.4	9.1	9.7		
2008	1	2.8	5.8	7.3	8.3	9.2	9.6	10.1	
2007	1	4.2	6.5	8.1	9.0	9.5	10.0	10.5	10.7
Mean	55	3.2	6.7	8.0	8.6	9.3	9.7	10.3	10.7
Smallest		2.0	5.4	6.8	7.9	8.7	9.3	10.1	10.7
Largest		4.6	7.5	8.8	9.0	9.6	10.0	10.5	10.7
Std Error		0.1	0.1	0.3	0.2	0.2	0.2	0.2	
95% ConLo		3.0	6.4	7.4	8.2	8.9	9.4	9.9	
95% ConHi		3.3	6.9	8.5	9.1	9.6	10.1	10.8	

Intercept value = 0.00
Dataset = cfdagmcl.d15

Table 185. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at McNeely Lake on 21 September 2015; 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	75	98 (2)	50	89 (1)	6	88 (4)	131	94 (1)
	4.0–6.9 in		7.0–8.9 in		≥9.0 in		Total	
Redear sunfish	60	102 (1)	31	104 (4)	13	96 (2)	104	102 (1)

Dataset = cfdwrmcl.d15

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Table 186. Species composition, relative abundance, and CPUE (fish/hr) of fish collected in 0.22 hours of electrofishing in Boone County Conservancy Park Lake (Old Quarry Pond), May 2015; numbers in parentheses are standard errors.

	Inch class																				CPUE
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	(fish/hr)
Largemouth bass										4				4	1			1		10	45.1
Bluegill	1	10	17	6		1														35	157.7
Rock bass							1	1		1										3	13.5
Hybrid sunfish						1														1	4.5
Channel catfish																			1	1	4.5

Dataset = cfdpsbcp.d15

Table 187. Relative abundance, and CPUE (fish/hr) of black bass collected in 0.875 hours and bluegill collected in 0.50 hours of electrofishing in Doe Run Lake, May 2015; numbers in parentheses are standard errors.

	Inch class																				CPUE
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	(fish/hr)
Largemouth bass					1	4		2	3	6	11	24	20	16	2	3	3	1	1	97	108.0 (35.3)
Bluegill	10	30	19																	59	118.0 (70.0)

Dataset = cfdpsdoe.d15

Table 188. Relative abundance, and CPUE (fish/hr) of fish collected in 0.167 hours of electrofishing in Henry County Lake, May 2015; numbers in parentheses are standard errors.

	Inch class																CPUE
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	(fish/hr)
Largemouth bass			1		3				2	1	2				1	10	58.8 (0)
Bluegill	1	4	15	48	31	14	1									114	670.6 (0)
Black crappie							1	1								2	11.8 (0)

Dataset = cfdpshcl.d15

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Table 189. Species composition, relative abundance, and CPUE (fish/hr) of fish collected in 0.31 hours of electrofishing in Kenton County - Latonia Lakes Park Lake, May 2015; numbers in parentheses are standard errors.

	Inch class																			CPUE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	(fish/hr)
Largemouth bass	1				1			2	1		1	1	2					1	15	49.0
Bluegill		1	6	6	2														10	32.7
White crappie						2	2												4	13.1

Dataset = cfdpskll.d15

Table 190. Species composition, relative abundance, and CPUE (fish/hr) of black bass and sunfish collected in 0.75 hours of electrofishing in Lincoln Homestead Lake, April 2015.

	Inch class																						CPUE
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	(fish/hr)
Largemouth bass				2		1	3	13	5	4	4	19	13	4	3	2	5			1	1	80	106.7 (15.4)
Bluegill	1	7	12	17	54	141	110	10														352	469.3 (47.9)
Redear sunfish								2	5	1												8	10.7 (4.8)

Dataset = cfdpslhl.d15

Table 191. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.75 hours of electrofishing in Long Run Park Lake, May 2015; numbers in parentheses are standard errors.

	Inch class																			CPUE
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	(fish/hr)
Largemouth bass		6	24	19	3	1	6	20	46	48	27	13	3	1	3	4	1	1	226	301.3 (39.2)
Bluegill	2	5	38	61	19	4	2												131	174.7 (44.8)
Redear sunfish			9	10	1	5	7	9	4										45	60.0 (20.8)
Longear sunfish		1	16	7															24	32.0 (6.9)
Hybrid bluegill					1														1	1.3 (1.3)
Black crappie									1	1	2								4	5.3 (2.7)
Bullhead catfish									3										3	4.0 (1.8)

Dataset = cfdpslrp.d15

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Table 192. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.50 hours of electrofishing in Lower Thomas Lake, April 2015; numbers in parentheses are standard errors.

	Inch class																			CPUE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	(fish/hr)
Largemouth bass	3	7	4	1	8	9	6	10	14	7	3		1		2	1		1	77	154.0 (6.0)
Bluegill	4	21	13	15	9														72	144.0 (80.0)
Redear sunfish			15	6	10	6	3												40	80.0 (56.0)

Dataset = cfdpslth.d15

Table 193. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 2.0 hours of electrofishing in Sympson Lake, May 2015; numbers in parentheses are standard errors.

	Inch class																				CPUE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	(fish/hr)
Largemouth bass	1	1	4	27	14	4	6	6	14	30	24	25	25	10	22	17	7	3	1	241	120.5 (10.6)

Dataset = cfdpssym.d15

Table 194. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.75 hours of electrofishing in Thurman Hutchins Park Lake, May 2015.

	Inch class																			CPUE
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	(fish/hr)
Largemouth bass						4	3		1			2	4	2	1	3	1		21	168.0
Bluegill	4	27	45	7	1														84	672.0
Redear sunfish				5	7	1		2											15	120.0

Dataset = cfdpsthh.d15

Table 195. Species composition, relative abundance, and CPUE (fish/hr) of all fish species collected in 0.50 hours of electrofishing in Upper Thomas Lake, May 2015.

	Inch class																			CPUE
Species	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	Total	(fish/hr)
Largemouth bass						**1**		**1**				**1**		**1**	**2**	**1**		**1**	8	16.0 (4.0)
Bluegill	**2**	**1**	**8**	**17**															28	56.0 (20.0)

Dataset = cfdpsuth.d15

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FINDINGS

Stream sampling conditions for 2015 are summarized in Table 1.

Diurnal electrofishing for black bass and rock bass was conducted during April 2015 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 2. Smallmouth bass comprised 62% of the black bass sampled in Floyds Fork, whereas, largemouth bass comprised 32% of the sampled black bass. Finally, spotted bass represented 6% of the black bass population in Floyd's Fork. The catch rate of smallmouth bass on Floyds Fork in 2015 (12.7 fish/hr) was slightly higher than the historical average (12.2 fish/hr) (Table 3). However, the catch rate of rock bass (5.5 fish/hr) was significantly lower than the historical average (11.8 fish/hr) (Table 4). The smallmouth bass population assessment score for Floyds Fork was 17 (Table 5), which results in a "Excellent" rating. The rock bass population assessment score for Floyds Fork was 4 (Table 6), which results in a "Poor" rating. The largemouth bass population assessment score for Floyds Fork was 7 (Table 7), which results in a "Poor" rating. The assessment rating for smallmouth bass (excellent) was an improvement over recent years of "good" ratings. However, the assessment rating for rock bass (poor) was a decline over recent years of "fair" ratings. Finally, the assessment rating for largemouth bass (poor) 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]
Floyd's Fork (Miles Park, Fisherville, 3rd Deer Bridge, and Cane Run)	Black Bass/ Rock Bass	4/13	1000	shock	mostly sunny	62	2.24 ft. at Fisherville Gauge	12	good	good sample

Table 2. Length distribution and CPUE (fish/hr) of black bass and rock bass collected in 2.75 hours of 15-minute electrofishing runs for black bass in April 2015 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	Total	CPUE
Miles Park Canoe Access																		
Rock bass					2	1	2										5	5.0 (1.0)
Smallmouth bass	1	1				1				1							4	4.0 (1.6)
Spotted bass					1					1							2	2.0 (2.0)
Largemouth bass		1	2	2		2	1	2	3		2		1				16	16.0 (4.9)
3rd Deer Bridge																		
Rock bass						3	3										6	8.0 (4.0)
Smallmouth bass		1	2	1		1			4	1	3	2	2				17	22.7 (9.3)
Spotted bass			1														1	1.3 (1.3)
Largemouth bass						1											1	1.3 (1.3)
Fisherville Canoe Access																		
Rock bass							3										3	4.0 (0.0)
Smallmouth bass						1	1		3	2	2			1		1	11	14.7 (2.7)
Spotted bass																	0	0.0 (0.0)
Largemouth bass										1							1	1.3 (1.3)
Cane Run Canoe Access																		
Rock bass							1										1	4.0 (0.0)
Smallmouth bass					1							1				1	3	12.0 (0.0)
Spotted bass																	0	0.0 (0.0)
Largemouth bass																	0	0.0 (0.0)
Total																		
Rock bass					2	4	9										15	5.5 (1.1)
Smallmouth bass	1	2	2	1	1	3	1		7	4	5	3	2	1		2	35	12.7 (3.3)
Spotted bass			1		1					1							3	1.1 (0.8)
Largemouth bass		1	2	2		3	1	2	3	1	2		1				18	6.6 (2.8)

Dataset = cfdpsflf.d15

Table 3. Electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected from Floyd's Fork from 2007-2015; numbers in parentheses are standard errors. Number of samples and locations varies between years.

Year	Length group					Total
	<4.0 in	4.0-8.9 in	>9.0 in	>12.0 in	>14.0 in	
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)

Dataset = cfdpsflf.d15–.d07

Table 4. Electrofishing CPUE (fish/hr) for each length group of rock bass collected from Floyd's Fork from 2007-2015; numbers in parentheses are standard errors. Number of samples and location varies between years.

Year	Length group				Total
	<4.0 in	4.0-5.9 in	>6.0 in	>8.0 in	
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)

Dataset = cfdpsflf.d15–.d07

Table 5. Population assessment for smallmouth bass collected by boat electrofishing gear in Floyd's Fork from 2012-2015 (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
2015	Value	1.1	2.9	8.7	4.7	1.8		
	Score	3	3	3	4	4	17	Excellent
2014	Value	0.0	2.3	5.5	2.3	1.7		
	Score	0	3	3	3	4	13	Good
2013	Value	0.3	7.8	8.0	2.7	0.5		
	Score	2	3	3	3	2	13	Good
2012	Value	1.0	7.0	7.5	2.8	1.8		
	Score	3	3	3	3	4	16	Good

Table 6. Population assessment for rock bass collected by boat electrofishing gear in Floyd's Fork from 2012-2015 (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
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	2	2	2	6	Fair
2013	Value	0.0	1.3	10.7	2.2		
	Score	0	2	2	2	6	Fair
2012	Value	0.6	1.2	11.0	1.7		
	Score	2	2	2	2	8	Fair

Table 7. Population assessment largemouth bass collected by boat electrofishing gear in Floyd's Fork from 2012-2015 (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
2015	Value	0.4	2.9	3.3	1.1	0.0		
	Score	1	2	2	2	0	7	Poor
2014	Value	0.0	4.6	2.7	0.8	0.0		
	Score	0	2	2	2	0	6	Poor
2013	Value	0.3	4.5	1.5	0.0	0.0		
	Score	2	2	2	0	0	6	Poor
2012	Value	1.8	2.0	2.2	1.4	0.2		
	Score	3	2	2	2	1	10	Fair

FINDINGS

The Dix River (Herrington Lake tailwater) was electrofished for trout on November 4 and 12, 2015. 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.

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 4 and 12 November, 2015.

	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.d14

Table 2. Total CPUE (fish/hr) of rainbow trout collected during diurnal electrofishing on the Dix River (Herrington Lake tailwater) for previous years' sampling.

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

Dataset = cfdlfdix.d96-d14

Table 3. Total CPUE (fish/hr) of brown trout collected during diurnal electrofishing on the Dix River (Herrington Lake tailwater) for previous years' sampling.

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

Dataset = cfdlfdix.d96-d14

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
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.

NORTHEASTERN FISHERY DISTRICT

Project A: Lake and Tailwater Sampling

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

Spring flooding prohibited sampling of muskellunge in 2015. Annual spring assessment of this population since 1995 can be found in Table 2. In October of 2015 Cave Run Lake was stocked with 1,307 young-of-year muskellunge, which was less than half of the requested stocking. Stocked fish continue to be marked to indicate their spawning year as is noted in the table below.

Year	Marking	Number Stocked	Average Length (in)
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)

Spring flooding also prohibited sampling of black bass in April of 2015. Annual spring assessment of this population since 1993 can be found in Table 3.

The black bass population was nocturnally electrofished from 29 September to 01 October for assessment of relative weight and relative spawning strength. In total, 1,219 black bass were captured ranging in size from 3.0 to 20.0 in (Table 4). Of these fish, 67% were largemouth bass, 31% spotted bass and 2% smallmouth bass. As is typical for Cave Run Lake, the majority of the spotted bass and all of the smallmouth bass came from samples conducted on the lower two-thirds of the lake, while the largemouth bass were evenly distributed amongst all the units. Overall, largemouth bass relative weights ranged in the low 80s with generally higher values (middle to upper 80s) in the upper portions of the lake (Table 5). Reproductive success for largemouth bass at Cave Run Lake continues to be exceptionally high with some of the highest catch rates of age-0 (and age-0 greater than 5.0 in) fish in recent record (Table 6). For this reason, Cave Run Lake was not stocked with young-of-year largemouth bass in 2015.

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. In these 60 net-nights, 318 crappie were collected ranging in size from 2.0 to 13.0 in (Table 7). As is typical, the majority (89%) of the fish captured were white crappie. 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 8). Relative weights were in the middle 80's for both black and white crappie (Table 9). Otoliths were collected from ten fish of each inch class for an assessment of growth rates. White crappie, in the upper section of the lake, exhibited slower growth rates with some fish reaching 10.0 in as early at 3 years old, but most in their 5^{th} year (Table 10). The majority of the white crappie collected (75%) were less than 2 years old and under 7.0 in (74%; Table 11). Black crappie exhibited growth similar to the white crappie with the average length of 6 year old fish failing to reach 8.0 in (Table 12). The majority of the black crappie were less than 3 years old (73%) and under 8.0 in (95%; Table 13). The overall assessment of the white crappie fishery at Cave Run Lake was poor in 2015 (Table 14). 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 experienced one of their best years of crappie fishing in 2015 on Cave Run Lake; particularly in the middle and lower portions of the lake.

In 2015 staff worked with local anglers to obtain otoliths from fish caught in the middle and lower sections of the lake. These portions of the lake have been difficult to sample with traditional gear and information on the growth of these fish has been lacking. In total, otoliths from 68 black crappie and 48 white crappie were collected in 2015. Lengths of each fish were recorded and back calculated lengths and length at capture at given ages were determined. There are large differences when these observations are compared to observations obtained from otoliths collected during fall trap netting in the upper sections of the lake (Table 15). Specifically, using back calculated lengths, black crappie sampled in the middle unit through angling methods reach 10.0 in in their 4^{th} year while black crappie sampled in the upper unit though trap net sampling need greater than 6 years. White crappie follow a similar but less dramatic trend with back calculated growths differing by at least 0.3 in and at most 1.1 in and length at capture varying between 0.0 and 2.1 in. Obviously there are many factors to take into account when comparing these two datasets, but the possibility exists that fish in the middle and lower sections of the lake exhibit higher growth rates than those in the upper sections. One way to remove the variable of differential selection between gear types would be to collect otoliths from fish angled out of the upper sections of the lake. We will continue to work with local anglers on this project in 2016 and hope to further account for any potential differences.

Grayson Lake (1,512a)

<u>Black bass sampling (Spring/Fall)</u>
The black bass population of Grayson Lake was nocturnally electrofished from 04 to 06 May. In total, 926 fish were collected ranging in size from 3.0 to 21.0 in (Table 16). The majority of these fish (87%) were largemouth bass followed by spotted bass (12%) and smallmouth bass (1%). As has been the trend in recent years, the majority of the largemouth bass were collected in the middle section (53%) followed by the lower (27%) and upper (20%) sections. Catch rates by length group were similar to previous years, with the exception of the catch rates of fish over 15.0 and 20.0 in, which were both higher (Table 17). PSD and RSD_{15} values were on the lower side overall (Table 18) and the assessment of the largemouth bass fishery at Grayson Lake was good (Table 19). The exciting thing about the Grayson fishery is the good and excellent ratings for catch rates of fish over 15.0 and 20.0 in, which were not seen in the past.

From 21 to 23 September Grayson Lake was nocturnally electrofished for determination of spawning strength of largemouth bass. All assessment parameters were among the highest seen since 2003 (Table 20) and therefore the lake was not stocked with young of year largemouth bass in 2015.

Lake Carnico (114a)

<u>Black Bass Electrofishing (spring)</u>
On 23 April the shoreline of Lake Carnico was diurnally electrofished for black bass. A total of 109 largemouth bass were captured ranging in size from 3.0 to 21.0 in (Table 21). Compared to the 15 year average, CPUE of largemouth bass less than 8.0 in was very low; the second lowest observed and a fifth of the mean. Based on this observation, 1,714 fingerlings (mean length = 4.8 in) were stocked on 5 October to buffer this apparent lost year class. Total CPUE and CPUE of fish in the 8.0 to 11.9 in range were the second lowest observed in the past 15 years (Table 22). However, CPUE of larger length groups (greater than 15.0 and greater than 20.0 in) were above average, indicative of an older population. PSD and the RSD_{15} values were above average and the highest observed since 2000 (Table 23). Despite a healthy amount of large fish, the overall population assessment rates the bass fishery as fair (Table 24). The Lake Carnico population assessment often scores less than desirable due to poor values for smaller fish. There is a need for continued monitoring to watch for recruitment failure and to stock fingerling bass as needed.

<u>Catfish Sampling (Summer)</u>
On 21 to 23 July the Lake Carnico channel catfish population was sampled with a combination of trotlines and tandem baited hoop-nets (Zote Soap). Four series of each gear type was fished for 72 hours and fish were removed daily. A total of 18 channel catfish were captured ranging in size from 9.0 to 25.0 in (Table 25). Sample size is too low to draw any conclusions about the population but the gear did collect a wide range of sizes. Relative weights for all sizes were good, but tended to decrease with larger length groups of fish (Table 26). Channel catfish reached

20.0 in by age 5 and some potentially by age 3 (Table 27). The majority of the fish sampled were between 2 and 3 years of age, but there were 4 fish collected that were 11 years old. Back-calculated lengths showed consistent growth until it reached an asymptote near 20.0 in (Table 28). Trot lines were fished with smaller hooks and cut buffalo rather than shad on 22 to 23 October to try to increase sample size. Only five individuals were collected and these results were excluded from the analysis. Future sampling will focus on alternative sites in late spring when water temperatures reach 65° - 70° F.

Miscellaneous
During largemouth bass and channel catfish sampling, dense areas of aquatic vegetation were observed. Much of the littoral zone was covered with Spiny Naiad and Coontail. In order to try and maintain a balanced vegetation density of 5-10% coverage, 250 triploid grass carp will be stocked in the spring 2016.

Greenbo Lake (181a)

Black bass sampling (Spring/Fall)
On 27 April Greenbo Lake was nocturnally electrofished for an assessment of the largemouth bass population. In total, 266 fish were captured ranging in size from 2.0 to 23.0 in (Table 29). The majority of the length groups were near their mean catch rates since 2005 (Table 30). The PSD values were typical of Greenbo Lake though RSD_{15} values are back up to the 10 year average after four years of below average scores (Table 31). The overall assessment of the largemouth bass fishery at Greenbo Lake was good (Table 32).

On 25 September Greenbo Lake was nocturnally electrofished for an assessment of largemouth bass age-0 year class strength (Table 33). This assessment determined that Greenbo Lake required a supplemental stocking and on 5 October, 2,721 fingerlings were stocked (mean length = 4.8 in).

Sunfish electrofishing (Spring)
Daytime electrofishing for sunfishes was conducted on 26 May. Only those sunfish greater than 3.0 in were collected. A total of 167 bluegill, 32 redear sunfish, 70 longear sunfish and 11 green sunfish were collected (Table 34). Catch rates by length group of bluegill can be found in Table 35. Bluegill PSD was higher than average but lower than the record year of 2013 (Table 36). The bluegill population assessment parameters of catch rates over 6.0 and over 8.0 in were fair and good, respectively (Table 37). Catch rates by length groups of redear sunfish can be found in Table 38. Redear sunfish PSD and RSD_9 values were both higher than average (Table 39). The redear sunfish population assessment parameters of catch rates over 8.0 and over 10.0 in were fair and poor, respectively (Table 40).

Miscellaneous
During fall sampling, dense areas of aquatic vegetation were observed. Much of the littoral zone was covered with Elodea, Spiny Naiad and Coontail. This increase coincides with an expected decrease in grass carp density as that population begins to reach its life expectancy. In order to try and maintain a balanced vegetation density of 5-10% coverage, triploid grass carp will be stocked at a fraction of the rate stocked in 1989 (~1 per acre compared to 10 per acre). This conservative stocking rate will be revaluated annually to determine the effect and possible need for an additional year class of grass carp.

Mill Creek Lake (41a)

Sunfish sampling
On 29 May Mill Creek Lake was diurnally electrofished for assessment of the bluegill population. In total, 146 sunfish were captured (Table 41). Of these, 75% were bluegill, 14% were green sunfish and 11% were longear sunfish. Bluegill catch rates overall were lower than average (2005 to present), but this was mainly in the smaller length groups (3.0 to 5.9 in range), as the remaining categories were all at or above average (Table 42). Both PSD and RSD_8 values were higher than average (2005 to present) and within the traditional range for a balanced panfish to largemouth bass population (Table 43). Otoliths were collected for determination of age characteristics of the bluegill population. Bluegill can reach 4.2 in at age 2 and are in the 8.0-in range at age 5 (Table 44). The majority of the bluegill captured in 2015 were less than 4 years old (94%) and under 6.0 in (67%; Table 45). The overall assessment of the bluegill population at Mill Creek Lake in 2015 was good (Table 46).

Lake Reba (76a)

Black bass sampling (Spring)
On 22 April Lake Reba was diurnally electrofished for an assessment of the largemouth bass population. In 1.25 hours of electrofishing, 397 largemouth bass were sampled ranging in size from 2.0 to 20.0 in (Table 47). Seven of the sampled bass were stocked fish (Table 48). Catch rates of the 12.0 to 14.9 in, greater than 15.0 in and greater than 20.0 in classes were all significantly higher than the mean (1995 to present; Table 49). All remaining length groups were lower than the mean. PSD and RSD_{15} values were also significantly higher than the mean (Table 50) and exhibited ranges typically found in balanced populations. The overall assessment rating of the largemouth bass population at Lake Reba in 2015 was excellent (Table 51).

Sunfish sampling
On 20 May Lake Reba was diurnally electrofishing for an assessment of the bluegill and redear sunfish populations. In 1 hour of electrofishing, 892 sunfish were captured (Table 52). Of these, 56% were bluegill, 32% were redear sunfish and the remaining 12% were a mixture of warmouth, hybrid sunfish and green sunfish. Catch rates increased in 2015 for each length group of bluegill (Table 53) but PSD values were right at average (Table 54). Assessment parameters for catch rates of fish over 6.0 and 8.0 in were excellent and poor, respectively (Table 55). Similarly, catch rates for redear sunfish were higher than the 20 year mean for all length groups (Table 56) as were PSD values (Table 57). Assessment parameters for catches of redear sunfish greater than 8.0 in and greater than 10.0 in were excellent and poor, respectively (Table 58).

Black bass sampling (Fall)
On 17 September Lake Reba was diurnally electrofished for assessment of largemouth bass relative weights and relative spawning strength. In total, 557 bass were captured in 1.25 hours of electrofishing ranging in size from 2.0 to 20.0 in (Table 59). Relative weights were stable in the upper 80 to lower 90 range across all length groups (Table 60). Catch rates of all age-0 fish were slightly below average but right at the average for age-0 bass over 5.0 in (Table 61). For this reason, Lake Reba was not stocked in 2015.

In addition to relative weight assessment and spawning strength determination, 10 fish from each inch class were collected for determination of age and growth characteristics of the population. These otoliths showed that a 3-year-old fish averaged about 11.0 in (which would be considered good for a lake of this size) and that fish could reach legal length limits of 15.0 in by their fifth year (Table 62). Age frequency data shows a fairly even distribution amongst all inch classes with a noticeable separation of the age-1 and age-2 year classes at the 6.0 in range (Table 63).

Smoky Valley Lake (36a)

Black bass sampling (Spring)
On 24 April Smoky Valley Lake was diurnally electrofished for assessment of the largemouth bass population. In total 130 bass were collected in 0.92 hours of electrofishing ranging in size from 2.0 to 17.0 in (Table 64). Catch rates were dramatically lower across all length groups when compared to the 25 year mean (1990 – 2014; Table 65). However, if catch rates are compared to the four year mean (2010-2014) the results of the latest size limit can be observed, with thinning and lowering of smaller length groups (less than 8.0 in, and 8.0 to 11.9 in range) and a slight increase in the larger length groups (12.0 to 14.9 in and greater than 15.0 in range). Additionally, PSD and RSD_{15} values are among the highest seen in recent years; further demonstrating the movement in the size characteristics of the population (Table 66). Finally, the largemouth bass population is still rated as fair and continues to demonstrate the need to increase larger size classes of fish (Table 67).

Table 1: Yearly summary of sampling conditions by waterbody, species sampled and date.

Water body	Species	Date (2015)	Time 24hr	Gear	Weather	Water Temp (ºF)	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Cave Run Lake	LMB	9/29	2000	electro	clear	73.2	729.00	48	good	upper section
Cave Run Lake	LMB	9/30	2000	electro	clear	72.2	729.00	-	good	middle section
Cave Run Lake	LMB	10/1	2000	electro	clear	70.8	729.00	69	good	low er section
Cave Run Lake	BC/WC	11/3	0800	trap	clear/w arm	56.9	726.46	-	good	upper section
Cave Run Lake	BC/WC	11/4	0800	trap	clear/w arm	59.3	726.40	-	good	upper section
Cave Run Lake	BC/WC	11/5	0800	trap	overcast	59.0	726.28	-	good	upper section
Cave Run Lake	BC/WC	11/6	0800	trap	rain	61.0	726.16	-	good	upper section
Grayson Lake	LMB	5/4	2030	electro	clear	66.2	645.39	24	good	upper section
Grayson Lake	LMB	5/5	2015	electro	clear	69.5	-	12	good	middle section
Grayson Lake	LMB	5/6	2030	electro	clear	74.2	-	36	good	low er section
Grayson Lake	LMB	9/21	2030	electro	clear	72.7	645.20	36	good	upper section; < 10" LMB only sampled
Grayson Lake	LMB	9/22	2000	electro	clear	74.1	645.15	51	good	middle section; < 10" LMB only sampled
Grayson Lake	LMB	9/23	2000	electro	clear	74.2	645.10	48	good	low er section; < 10" LMB only sampled
Lake Carnico	LMB	4/23	0900	electro	clear	58.2	normal	27	good	
Lake Carnico	CCF	7/22	1000	hoop/trot	clear	-	normal	-	good	
Lake Carnico	CFF	10/19	1000	hoop/trot	clear	-	normal	-	good	
Greenbo Lake	LMB	4/27	2030	electro	clear	58.0	normal	58	good	
Greenbo Lake	BG/RE	5/26	0900	electro	clear	73.2	normal	156	good	
Greenbo Lake	LMB	9/24	2000	electro	clear	74.0	normal	134	good	< 10" LMB only sampled
Mill Creek Lake	BG	5/29	0800	electro	clear	-	normal	-	good	
Lake Reba	LMB	4/22	0900	electro	sunny	57.5	normal	26	good	
Lake Reba	BG/RE	5/20	0830	electro	sunny	74.3	normal	39	good	
Lake Reba	LMB	9/17	0900	electro	sunny	71.7	normal	18	good	
Smoky Valley	LMB	4/24	0900	electro	clear	-	normal	24	good	

Table 2. Muskellunge assessment for Cave Run Lake spring electrofishing from 1995 to present (scoring based on statewide assessment).

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
2015[a]	*Lake flooded, no sample collected*							
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	15	Good
	Score	3	2	3	4	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	15	Good
	Score	1	3	3	4	4		
2010	Value	6.8	7.4	3.9	1.9	0.6	16	Good
	Score	3	3	3	4	3		
2009	Value	2.6	3.9	3.3	1.7	0.7	15	Good
	Score	2	2	3	4	4		
2008	Value	2.7	5.5	3.3	1.3	0.3	14	Good
	Score	2	3	3	3	3		
2007	Value	3.6	2.5	1.8	1.2	0.4	12	Good
	Score	3	1	2	3	3		
2006	Value	2.4	2.9	2.2	1.2	0.4	11	Fair
	Score	2	1	2	3	3		
2005	Value	2.9	5.5	4.0	2.0	0.8	17	Excellent
	Score	2	3	4	4	4		
2004	Value	1.3	3.2	2.6	1.3	0.4	12	Good
	Score	1	2	3	3	3		
2003	Value	1.9	3.2	2.3	1.0	0.3	11	Fair
	Score	1	2	2	3	3		
2002[a]	*Lake flooded, no sample collected*							
2001	Value	2.3	4.4	3.1	1.5	0.6	15	Good
	Score	2	2	3	4	4		
2000	Value	1.7	2.8	1.8	0.9	0.3	10	Fair
	Score	1	1	2	3	3		
1999	Value	1.6	3.2	2.3	0.7	0.2	9	Fair
	Score	1	2	2	2	2		
1998	Value	3.8	2.8	2.8	1.0	0.3	13	Good
	Score	3	3	2	3	2		
1997[a]	*Lake flooded, no sample collected*							
1996	Value	5.2	4.2	2.4	0.8	0.4	12	Good
	Score	3	2	2	2	3		
1995	Value	2.9	4.5	2.8	1.6	0.6	14	Good
	Score	2	2	3	4	3		

nedmuscr.d14-09; nedMS2cr.d08; nedMK1cr.d07; nedmuscr.d06-95

[a] = sample not collected

Table 3. Population assessment of largemouth bass based on samples collected at Cave Run Lake 1992-present (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE age-1	Spring CPUE 12.0 - 14.9	Spring CPUE ≥ 15.0 in	Spring CPUE ≥ 20.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2015[a]	Value									
	Score									
2014	Value		59.0	23.8	20.0	2.0	16	Good		
	Score	3	4	2	4	3				
2013	Value		91.3	20.7	17.7	1.5	14	Good		
	Score	3	4	2	3	2				
2012	Value	11.8	45.3	25.5	18.3	1.3	14	Good	0.852	57.30%
	Score	3	3	3	3	2				
2011[a]	Value									
	Score									
2010[a]	Value									
	Score									
2009[a]	Value									
	Score									
2008	Value		24.9	8.3	3.5	0.5	9	Fair	0.786	54.40%
	Score	3	2	1	1	2				
2007	Value	12.4	66.5	19.9	7.9	0.3	13	Good	0.703	51.00%
	Score	3	4	2	2	2				
2006	Value		49.2	14.7	10.2	0.2	10	Fair	0.799	55.00%
	Score	3	3	1	2	1				
2005	Value		43.0	14.7	7.2	0.7	11	Fair	0.897	59.00%
	Score	3	3	1	2	2				
2004	Value		28..1	26.0	14.1	0.3	13	Good	0.846	57.00%
	Score	3	2	3	3	2				
2003	Value	12.4	39.8	24.8	20.3	0.8	14	Good		
	Score	3	3	2	4	2				
2002[a]	Value									
	Score									
2001	Value	10.7	15.1	27.6	12.6	0.3	10	Fair		
	Score	1	1	3	3	2				
2000	Value	10.3	35.5	26.8	9.0	0.4	10	Fair		
	Score	1	2	3	2	2				
1999	Value	11.0	58.7	21.6	8.6	0.0	9	Fair		
	Score	1	4	2	2	0				
1998	Value	11.4	17.6	20.6	6.9	0.0	7	Poor		
	Score	2	1	2	2	0				
1997	Value	10.8	35.0	24.6	4.4	0.1	8	Fair		
	Score	1	2	2	2	1				
1996	Value	11.1	57.0	15.3	4.0	0.0	9	Fair		
	Score	2	4	2	1	0				
1995	Value	10.8	25.4	36.6	6.4	0.1	10	Fair		
	Score	1	2	4	2	1				
1994	Value	11.5	58.9	38.8	3.7	0.3	13	Good		
	Score	2	4	4	1	2				
1993	Value	11.3	45.1	36.2	4.9	0.3	13	Good		
	Score	2	3	4	2	2				

[a] = sample not collected

Table 4. 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 29 September to 01 October.

Area/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			
Upper																					
Smallmouth bass																			0	0.0	0.0
Spotted bass	1	1		3	3	1	4		1										14	9.3	3.5
Largemouth bass	44	68	19	3	1	11	33	18	23	19	10	12	2	1	1				265	176.7	15.8
Middle																					
Smallmouth bass			1		1	4	2		3		3	2							16	10.7	1.8
Spotted bass	1	50	31	8	37	38	29	25	7		1								227	151.3	22.4
Largemouth bass	5	67	108	25	2	4	23	20	22	12	10	9	4			1	1	1	314	209.3	16.0
Lower																					
Smallmouth bass				2			1	1	1										5	3.3	2.4
Spotted bass	7	26	11	17	10	25	19	20	6		1								142	94.7	35.8
Largemouth bass	2	37	55	16	8	9	17	19	24	11	10	7	5	12	3			1	236	157.3	10.9
Total																					
Smallmouth bass			1	2	1	4	3	1	4		3	2							21	4.7	1.8
Spotted bass	9	77	42	28	50	64	52	45	14		2								383	85.1	24.0
Largemouth bass	51	172	182	44	11	24	73	57	69	42	30	28	11	13	4	1	1	2	815	181.1	10.5

nedwrscr.d15

Table 5. 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.

		Length group											
Species	Area	8.0 - 11.9 in			12.0 - 14.9 in			≥ 15.0 in			Overall		
		No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.
Largemouth bass	Lower	67	82	0.95	28	81	1.28	21	82	2.83	116	82	0.80
	Middle	68	84	1.02	30	81	1.52	7	84	2.64	105	83	0.81
	Upper	84	86	1.04	41	83	2.16	4	88	4.15	129	85	0.97
	Total	219	84	0.60	99	82	1.07	32	83	2.00	350	83	0.52
		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	Lower	64	88	1.18	7	87	3.26				71	88	1.10
	Middle	92	94	1.46	8	87	1.64				100	94	1.36
	Upper	3	94	5.08	1	84	-				4	92	4.35
	Total	159	92	1.00	16	87	1.58				175	91	0.93
		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	Lower	2	86	2.00	1	84	-				3	86	1.34
	Middle	6	81	2.48	6	75	2.97	2	76	1.53	14	78	1.74
	Upper												
	Total	8	82	2.08	7	76	2.84	2	76	1.53	17	79	1.63

nedwrscr.d15

Table 6. 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 Mean lengt	s.e.	Age-0 CPUE	s.e.	Age-0 ≥ 5.0 in CPUE	s.e.	Age-1 CPUE	s.e.
2015	Total	5.0	0.04	100.7	46.4	50.9	12.4		
2014[a]	Total							a	a
2013[a]	Total							59.0	7.5
2012	Total	4.4	0.04	100.7	35.6	31.0	9.2	91.3	6.0
2011	Total	4.0	0.04	85.0	20.6	15.3	2.4	45.3	6.7
2010	Total	4.5	0.04	91.7	27.7	24.7	4.2	a	a
2009	Total	4.6	0.04	70.2	12.2	26.3	4.1	a	a
2008	Total	4.6	0.04	76.5	28.2	26.3	8.1	a	a
2007	Total	4.7	0.06	50.5	19.0	20.3	7.7	24.9	5.9
2006	Total	4.8	0.05	68.5	26.2	31.5	13.1	66.5	7.1
2005	Total	4.1	0.07	51.5	19.4	10.8	3.5	49.2	9.9
2004	Total	5.3	0.06	86.0	26.3	53.5	14.0	63.4	9.9
2003	Total	4.7	0.04	70.7	19.0	23.5	6.4	28.1	3.0

[a] = sample not collected

nedwrscr.d15, d09 - 03; nedpsdcrd14 - d12, d08-d02

nedaagcr.d03, d07

Table 7. Length frequency and CPUE for white crappie collected in 60 net-nights of sampling at Cave Run Lake from 03 - 06 November.

Species	Inch class 2	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	Std. error
White crappie		55	2	55	27	72	25	11	14	15	7	1	284	4.7	1.0
Black crappie	1	5	1		7	12	6	2					34	0.6	0.2

nedctncr.d15

Table 8. White and black crappie PSD and RSD_{10} values from fall trap netting at Cave Run Lake.

Species	No. fish ≥ 5.0 in	PSD Value	PSD ± 95% CI	RSD_{10} Value	RSD_{10} ± 95% CI
White crappie	227	32	± 06	16	± 05
Black crappie	27	30	± 18	7	± 10

nedctncr.d15

Table 9. 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.

	Length group											
	5.0 - 7.9 in			8.0 - 9.9 in			≥ 10.0 in			Overall		
Species	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.
White crappie	154	84	1.09	36	85	4.36	37	86	1.24	227	84	1.03
Black crappie	19	85	2.64	6	81	2.97	2	95	1.56	27	85	2.06

nedctncr.d15

Table 10. Mean back calculated lengths (in) at each annulus for white crappie collected from Cave Run Lake in November 2015, includes 95% confidence interval (CI) for mean length for each age class.

		Age				
Year	No.	1	2	3	4	5
2015	0					
2014	23	3.8				
2013	34	3.9	6.0			
2012	32	4.4	6.6	8.4	12.1	
2011	10	4.2	6.3	8.0	9.5	
2010	9	4.5	6.5	7.8	9.1	10.5
Mean		4.1	6.3	8.2	9.5	10.5
Number		108	85	51	19	9
Smallest		3.2	5.1	6.6	7.4	8.8
Largest		5.6	8.9	10.8	12.1	12.2
Std. Error		0.0	0.1	0.1	0.3	0.4
95% CI (±)		0.2	0.2	0.6	1.0	1.1

nedaagcr.d15

Table 11. Age frequency and CPUE of white crappie sampled in 2015.

	Inch class														
Age	3	4	5	6	7	8	9	10	11	12	13	Total	%	CPUE	Std. error
0	55	1										56	20	0.9	0.4
1		1	55	10								66	23	1.1	0.3
2				17	61	13						90	32	1.5	0.3
3					11	11	9	9	8	1		49	17	0.8	0.1
4						1	2	3	4	2		12	4	0.2	0.0
5								3	3	4	1	10	4	0.2	0.0
Total	55	2	55	27	72	25	11	14	15	7	1	284	100		
%	19	1	19	10	25	9	4	5	5	2	0	100			

necctncr.d15, nedaagc1.d15

Table 12. Mean back calculated lengths (in) at each annulus for black crappie collected from Cave Run Lake in November 2015, includes 95% confidence interval (CI) for mean length for each age class.

		Age					
Year	No.	1	2	3	4	5	6
2015	0						
2014	1	3.5					
2013	8	3.8	5.7				
2012	5	3.6	5.3	6.6			
2011	1	3.4	4.7	5.9	6.8		
2010	5	3.9	5.4	6.3	7.1	8.0	
2009	2	3.0	5.3	6.4	7.0	7.5	7.9
Mean		3.7	5.4	6.4	7.0	7.9	7.9
Number		22	21	13	8	7	2
Smallest		3.0	4.7	5.8	6.5	7.2	7.7
Largest		5.0	7.8	7.7	8.4	10.0	8.1
Std. Error		0.1	0.1	0.2	0.2	0.4	0.2
95% CI (±)		0.4	0.5	0.6	0.9	1.4	0.8

nedaagcr.d15

Table 13. Age frequency and CPUE of black crappie sampled in 2015.

	Inch class												
Age	2	3	4	5	6	7	8	9	10	Total	%	CPUE	Std. error
0	1	5								6	18	0.1	0.1
1			1							1	3	0.0	0.0
2					6	3			2	11	32	0.2	0.1
3					1	5	1			7	20	0.1	0.0
4						2				2	4	0.0	0.0
5						3	2			5	16	0.1	0.0
6							2			2	7	0.0	0.0
Total	1	5	1	0	7	12	6	0	2	34	100		
%	3	15	3	0	21	35	18	0	6	100			

necctncr.d15, nedaagc1.d15

Table 14. Population assessment of white crappie based on samples collected at Cave Run Lake in 2013 compared to previous years (scoring based on statewide assessment).

Year		Overall CPUE excluding age-0	CPUE age-1	CPUE age-0	Fall CPUE ≥ 8.0 in	length age-2 at capture	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2015	Value	3.8	1.1	0.9	1.2	7.5	5	Poor	-0.800	55.10%
	Score	1	1	1	1	1				
2014[a]	Value									
	Score									
2013	Value	4.6	1.4	1.5	2.0		5	Poor		
	Score	1	1	1	1	1				
2012	Value	5.8	2.2	2.8	0.7	7.9	6	Poor	-1.179	69.20%
	Score	2	1	1	1	1				
2011	Value	21.4	11.6	17.3	3.4		12	Good		
	Score	4	2	4	2	1				
2010	Value	3.6	0.9	2.5	1.4		5	Poor	-1.220	70.50%
	Score	1	1	1	1	1				
2009	Value	106.4	59.2	56.0	3.3		15	Good	-1.490	77.50%
	Score	4	4	4	2	1				
2008	Value	2.0	0.6	1.3	0.6		5	Poor	0.588	45.50%
	Score	1	1	1	1	1				
2007	Value	2.8	0.7	0.6	0.6	7.7	5	Poor	1.410	75.50%
	Score	1	1	1	1	1				
2006	Value	6.9	5.1	3.8	0.7		8	Fair	0.951	66.30%
	Score	2	2	2	1	1				
2005	Value	2.2	0.7	1.7	0.9		5	Poor	0.572	43.60%
	Score	1	1	1	1	1				
2004	Value	9.3	4.2	6.4	3.0	7.9	10	Fair	0.762	53.30%
	Score	2	2	3	2	1				
2003	Value	1.6	0.2	0.1	0.7	7.8	5	Poor	0.391	32.30%
	Score	1	1	1	1	1				
2002	Value	4.4	1.1	0.6	0.8	7.3	5	Poor		
	Score	1	1	1	1	1				
2001	Value	1.7	0.6	0.1	0.4	6.9	5	Poor		
	Score	1	1	1	1	1				
2000	Value	1.9	0.8	0.0	0.4		4	Poor		
	Score	1	1	0	1	1				
1999	Value	2.8	1.3	0.0	0.5	6.3	4	Poor		
	Score	1	1	0	1	1				
1998	Value	3.6	0.8	0.0	0.6	6.6	4	Poor		
	Score	1	1	0	1	1				
1997	Value	2.3	0.9	0.0	0.5	6.1	4	Poor		
	Score	1	1	0	1	1				
1996	Value	2.3	1.2	0.0	0.6	5.9	4	Poor		
	Score	1	1	0	1	1				
1995	Value	1.5	0.2	0.0	0.4	5.3	3	Poor		
	Score	0	1	0	1	1				
1994	Value	2.2	1.4	0.0	0.5	6.3	4	Poor		
	Score	1	1	0	1	1				
1993	Value	1.9	0.4	0.0	0.3	6.2	4	Poor		
	Score	1	1	0	1	1				
1992	Value	1.5	0.3	0.0	0.6	5.9	4	Poor		
	Score	1	1	0	1	1				

nedctncr.d92-13; nedaagcr.d92-99, d01-04, 07, 12

[a] = sample not collected

Table 15. Black and white crappie back caculated and mean length at capture compared between middle and upper sections of the lake and by angling and trap net capture methods.

Species	Location/ Gear	Measure	Age 1	2	3	4	5	6	7
Black crappie	Upper (Trap Net)	Back Caculated Length	3.7	5.4	6.4	7.0	7.9	7.9	
		(Number)	(22)	(20)	(15)	(14)	(09)	(01)	
		Length at Capture	4.9	7.0	7.5	7.4	8.7	8.2	
		(Number)	(01)	(08)	(05)	(01)	(06)	(02)	
	Middle (Angling)	Back Caculated Length	4.2	7.2	9.3	10.1	10.8	11.6	11.5
		(Number)	(68)	(68)	(66)	(59)	(06)	(51)	(19)
		Length at Capture	-	8.9	10.5	11.0	11.3	12.1	11.9
		(Number)	(00)	(19)	(32)	(07)	(01)	(07)	(02)
White crappie	Upper (Trap Net)	Back Caculated Length	4.1	6.3	8.2	9.5	10.5		
		(Number)	(108)	(85)	(51)	(19)	(09)		
		Length at Capture	5.8	7.5	9.8	10.8	11.8		
		(Number)	(23)	(34)	(32)	(10)	(09)		
	Middle (Angling)	Back Caculated Length	4.4	7.4	9.2	9.9	10.9	12.2	
		(Number)	(48)	(47)	(27)	(12)	(09)	(03)	
		Length at Capture	7.1	9.6	10.9	11.5	11.8	12.9	
		(Number)	(01)	(25)	(15)	(03)	(06)	(03)	

Table 16. Length frequency and CPUE (fish/hr) of black bass collected in 4.5 hours (1.5 hours in the upper, middle and lower areas) of nocturnal electrofishing (3- 30-minute runs) for black bass in Grayson Lake on 04 -06 May.

	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
Upper																						
Smallmouth bass																						
Spotted bass		1				1														2	1.3	0.7
Largemouth bass	1	2	7	6	7	14	18	32	19	18	8	5	8	4	6	2	4	4		165	110.0	17.0
Middle																						
Smallmouth bass																						
Spotted bass	2	7	8		3	4	11	6												41	27.3	7.7
Largemouth bass	5	27	81	33	6	49	55	59	43	23	12	6	4	2	5	3	6	4	2	425	283.3	22.9
Lower																						
Smallmouth bass			1		2															3	2.0	1.2
Spotted bass	6	9	4	8	16	10	13	4		1										71	47.3	8.2
Largemouth bass		23	36	12	2	21	48	30	21	10	2	1	1	2		2	3	4	1	219	146.0	11.0
Total																						
Smallmouth bass			1		2															3	0.7	0.5
Spotted bass	8	17	12	8	19	15	24	10		1										114	25.3	7.4
Largemouth bass	6	52	124	51	15	84	121	121	83	51	22	12	13	8	11	7	13	12	3	809	179.8	27.8

nedpsdgl.d15

Table 17. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Grayson Lake from 1999-present.

	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.
2015	55.11	14.15	90.89	12.53	18.89	3.97	14.89	2.56	3.33	0.88	179.78	27.84
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	16.08
2011[a]												
2010[a]												
2009	22.83	4.03	41.00	4.22	17.00	2.68	12.67	2.04	0.83	0.30	93.50	10.25
2008	25.7	7.2	22.5	4.4	11.50	2.48	3.67	0.85	0.33	0.22	63.33	11.51
2007	48.0	8.0	46.8	3.8	16.0	2.09	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

[a] = sample not collected

nedpsdgl.d15-d12; d09 - d99

Table 18. PSD and RSD_{15} values obtained for each black bass species taken in spring electrofishing samples in each area of Grayson Lake.

		No.	PSD		RSD_{15}	
		≥ 8.0"	Value	± 95% CI	Value	± 95% CI
Upper	Smallmouth bass					
	Spotted bass	1	-	-	-	-
	Largemouth bass	142	42	± 08	20	± 07
Middle	Smallmouth bass					
	Spotted bass	24	-	-	-	-
	Largemouth bass	273	25	± 05	10	± 03
Lower	Smallmouth bass	2	-	-	-	-
	Spotted bass	44	2	± 04	-	-
	Largemouth bass	146	18	± 06	9	± 05
Total	Smallmouth bass	2	-	-	-	-
	Spotted bass	69	1	± 03	-	-
	Largemouth bass	561	27	± 04	12	± 03

nedpsdgl.d15

Table 19. Population assessment of largemouth bass based on samples collected at Grayson Lake from 2000 - 2015 (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)%
2015	Value		53.8	18.9	14.9	3.3	15	Good		
	Score	2	4	2	3	4				
2014	Value		46.9	12.7	13.5	2.2	12	Good		
	Score	2	3	1	3	3				
2013	Value		73.2	13.2	16.3	1.5	12	Good		
	Score	2	4	1	3	2				
2012	Value		48.5	16.8	13.3	0.3	12	Good		
	Score	2	3	2	3	2				
2011[a]	Value									
	Score									
2010[a]	Value									
	Score									
2009	Value	11.6	19.9	17.0	12.7	0.8	10	Fair	-0.361	30.30%
	Score	2	1	2	3	2				
2008	Value	11.6	21.3	11.5	3.7	0.3	7	Poor	-0.445	35.90%
	Score	2	1	1	1	2				
2007	Value	10.7	45.9	16.0	5.0	0.2	9	Fair	-0.538	41.60%
	Score	1	3	2	2	1				
2006	Value	10.7	17.3	23.7	5.3	0.3	8	Fair	-5.350	41.50%
	Score	1	1	2	2	2				
2005	Value	10.7	46.8	25.1	2.9	0.2	10	Fair	-0.731	51.90%
	Score	1	3	3	1	2				
2004	Value	10.7	40.4	12.9	2.9	0.3	8	Fair		
	Score	1	3	1	1	2				
2003	Value	10.7	125.2	6.3	2.2	0.7	9	Fair		
	Score	1	4	1	1	2				
2002	Value	10.7	127.2	4.8	3.0	0.8	9	Fair		
	Score	1	4	1	1	2				
2001	Value	10.7	218.1	6.7	2.2	0.2	9	Fair		
	Score	1	4	1	1	2				
2000	Value	10.5	130.8	13.4	6.7	0.3	10	Fair		
	Score	1	4	1	2	2				

nedpsdgl.d00-d15; nedaaggl.d03,d08

[a] = sample not collected

Table 20. 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.

Year		Age-0		Age-0		Age-0 ≥ 5.0 in		Age-1	
class	Area	Mean Length	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.
2015	Total	4.8	0.03	126.0	16.7	48.7	8.6		
2014	Total	4.6	0.04	101.8	15.7	31.8	8.3	53.8	14.3
2013	Total	4.3	0.04	81.3	11.2	15.3	3.3	46.9	9.5
2012	Total	4.5	0.04	139.1	23.0	41.8	6.1	65.7	9.1
2011	Total	4.0	0.04	83.6	15.0	11.1	2.6	48.5	12.0
2010	Total	4.8	0.04	98.2	17.3	42.0	6.9	[a]	[a]
2009	Total	4.1	0.06	33.1	5.7	4.2	1.4	[a]	[a]
2008	Total	4.1	0.04	66.0	16.4	8.7	2.8	19.9	3.8
2007	Total	4.3	0.07	44.9	9.2	12.9	2.8	29.8	10.0
2006	Total	4.1	0.04	87.1	17.9	12.0	2.6	45.9	8.0
2005	Total	4.0	0.04	72.3	17.0	11.7	2.2	17.3	2.8
2004	Total	4.3	0.08	40.4	5.7	11.3	2.1	46.8	7.8
2003	Total	4.3	0.03	59.1	6.8	10.4	1.7	158.9	21.7

[a] = sample not collected

nedbsigl.d15-d13; nedwrsgl.d12 - d03; nedpsdgl.d15-d12, d09 - d04
nedaaggl.d03, d08

Table 21. Length frequency and CPUE (fish/hr) for largemouth bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Lake Carnico (Nicholas Co.) on 23 April.

	Inch class																					Std.
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	error
Largemouth bass	1	2	1	2	5	13	7	5	7	6	15	12	9	7	5	6	2	3	1	109	72.7	8.2

nedpsdlc.d15

Table 22. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Carnico from 2000 to present.

	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.
2015	7.3	1.6	21.3	2.2	22.0	3.5	22.0	4.2	2.7	1.3	72.7	8.2
2014[a]	-		-		-		-		-		-	
2013	40.0	6.2	77.3	8.6	34.7	4.7	22.0	4.7	2.0	1.4	174.0	13.4
2012	52.0	7.9	44.7	10.8	23.3	3.3	14.7	2.5	-		134.7	15.9
2011	22.0	3.7	24.0	5.8	24.0	2.3	9.3	2.0	-		79.3	8.9
2010	20.0	5.9	26.7	4.0	28.0	4.7	12.0	3.4	1.3	0.8	86.7	9.2
2009	38.7	7.0	29.3	5.2	18.7	2.9	8.7	1.6	1.3	0.8	95.3	10.8
2008	2.7	0.8	16.0	4.5	9.3	2.5	8.0	2.1	1.3	0.8	36.0	7.3
2007	40.0	8.1	108.7	9.0	31.3	3.9	14.7	2.5	1.3	1.3	194.7	10.3
2006	28.7	5.1	41.3	8.6	18.0	3.7	9.3	2.9	0.7	0.7	97.3	18.1
2005	24.0	5.6	64.7	8.5	24.7	3.3	14.0	1.7	0.7	0.7	127.3	12.6
2004	56.7	13.4	121.3	15.6	36.0	5.2	19.3	3.0	0.7	0.7	233.3	34.7
2003	42.7	9.5	47.7	6.3	34.0	4.7	13.3	4.1	1.3	0.8	164.7	15.8
2002	49.0	9.4	51.0	17.1	30.0	7.8	9.0	1.9	-		139.0	29.6
2001	35.0	5.0	51.0	8.5	28.0	5.9	6.0	2.6	-		123.0	11.3
2000	28.0	6.3	41.0	3.0	16.0	5.7	9.0	3.0	1.0	1.0	94.0	15.9

nedpsdlc.d15, d13 - d00

[a] = sample not collected

Table 23. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Carnico.

	No.	PSD		RSD_{15}	
	≥ 8.0 in	Value	± 95% CI	Value	± 95% CI
2015	24	67	± 09	34	± 09
2014[a]					
2013	201	42	± 07	16	± 05
2012	124	46	± 09	18	± 07
2011	86	58	± 10	16	± 08
2010	100	60	± 19	18	± 15
2009	85	48	± 11	15	± 08
2008	50	52	± 14	24	± 12
2007	232	30	± 06	10	± 04
2006	103	40	± 10	14	± 07
2005	155	37	± 08	14	± 06
2004	265	31	± 06	11	± 04
2003	183	39	± 07	11	± 05
2002	90	43	± 10	10	± 06
2001	85	40	± 11	7	± 06
2000	66	38	± 12	14	± 08

nedpsdlc.d15, d13-d00

[a] = sample not collected

Table 24. Population assessment of largemouth bass based on samples collected at Lake Carnico from 2004 - present (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)%
2015	Value		4.0	22.0	22.0	2.7	12	Fair	-	-
	Score	3	1	2	3	3				
2014[a]	Value	-	-	-	-	-	-	-	-	-
	Score									
2013	Value		20.0	34.7	22.0	2.0	13	Good	-	-
	Score	3	2	2	3	3				
2012	Value		16.0	23.3	14.7	0.0	9	Fair	-0.504	39.60%
	Score	3	2	2	2	0				
2011	Value		9.3	24.0	9.3	0.0	8	Fair	-0.419	34.20%
	Score	3	1	2	2	0				
2010	Value		18.7	28.0	12.0	1.3	11	Fair	-0.552	42.50%
	Score	3	2	2	2	2				
2009	Value		18.0	18.7	8.7	1.3	10	Fair	-0.599	45.10%
	Score	3	2	1	2	2				
2008	Value	11.0	2.7	9.3	8.0	1.3	9	Fair	-0.673	49.00%
	Score	3	1	1	2	2				
2007	Value		39.5	31.3	14.7	1.3	12	Fair	-0.679	49.30%
	Score	4	2	2	2	2				
2006	Value		27.5	18.0	9.3	0.7	10	Fair	-0.505	39.60%
	Score	4	2	1	2	1				
2005	Value		23.2	24.7	14.0	0.7	11	Fair	-0.511	40.00%
	Score	4	2	2	2	1				
2004	Value	12.2	54.1	36.0	19.3	0.7	14	Good	-0.631	46.90%
	Score	4	3	3	3	1				

nedpsdlc.d15, d13 - d04; nedaaglc.d03,d08

[a] = sample not collected

Table 25. Length frequency, CPUE (four series/lines for two nights) and standard error (SE) for channel catfish collected in 192 hours of trot lining and baited tandem hoop nets at Lake Carnico (Nicholas Co.) on 22-23 July 2015.

	Inch class																			Std
Gear	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	CPUE	error
Hoop Net	1																	1	0.1	0.1
Trot Line				1	1			5	4	1	2	1					2	17	1.4	0.9
Combined	1			1	1			5	4	1	2	1					2	18	1.5	1.0

nedccflc.d15

Table 26. Number of fish, relative weight (Wr) and standard error (SE) for each length group of channel catfish collected at Lake Carnico in 2015.

	Length group											
	11.0 - 16.0 in			16.0 - 24.0 in			≥ 24.0 in			Total		
Year	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.	No.	W_r	s.e.
2015	2	106	3.21	13	90	4.05	2	73	7.07	17	90	3.73

nedccflc.d15

Table 27. Age frequency, CPUE and standard error (SE) of channel catfish from Lake Carnico in 2015.

	Inch class																				Std
Age	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	%	CPUE	error
1	1																	1	6	0.1	0.1
2				1	1													2	11	0.2	0.2
3								1			1							2	11	0.2	0.1
4								4	4	1	1	1						11	61	0.9	0.3
5																		0	0		
6																		0	0		
7																	2	2	11	0.2	0.1
Total	1	0	0	1	1	0	0	5	4	1	2	1	0	0	0	0	2	18	100		
%	6	0	0	6	6	0	0	28	22	6	11	6	0	0	0	0	11	100			

nedccflc.d15; nedaaglc.d15

Table 28. Mean back-calculated lengths (in) at each annulus for channel catfish collected from Lake Carnico on 22-23 July 2015, including the range of length of fish at each age and the 95% confidence intervals for each age class.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	1	5.6							
2013	2	7.9	11.7						
2012	2	9.3	13.1	16.3					
2011	11	7.6	11.2	14.1	16.4				
2010	0								
2009	0								
2008	1	7.3	12.0	15.2	18.9	20.0	21.4	23.6	
2007	1	6.2	12.5	15.6	17.7	19.6	21.5	22.7	23.7
Mean	18	7.6	11.6	14.6	16.7	19.8	21.4	23.2	23.7
Number		18	17	15	13	2	2	2	1
Smallest		5.6	9.9	11.7	14.1	19.6	21.4	22.7	23.7
Largest		10.4	14.1	17.5	18.9	20.0	21.5	23.6	23.7
Std error		0.3	0.3	0.4	0.4	0.2	0.0	0.4	-
95% CI (±)		1.0	1.2	1.6	1.7	0.6	0.1	1.7	-

Otoliths were used for age-determinations; Intercept=0
nedccflc.d15; nedaaglc.d15

Table 29. 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 27 April.

	Inch class																								Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	error
Largemouth bass	1	1	6	2	11	37	43	28	19	12	18	40	29	10	3	1	1	1	1	1		1	266	177.3	16.8

nedpsdgb.d15

Table 30. 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.
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
2005	42.0	20.3	58.7	9.6	28.0	3.4	13.3	3.5	3.3	1.2	142.0	22.5

nedpsdgb.d05 - d15

Table 31. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Greenbo Lake.

	No.	PSD		RSD_{15}	
	≥ 8.0 in	Value	± 95% CI	Value	± 95% CI
2015	208	51	±07	9	±04
2014	264	70	±06	4	±02
2013	244	52	±06	5	±03
2012	277	40	±06	5	±03
2011	234	51	±06	4	±03
2010	219	40	±07	9	±04
2009	192	53	±07	14	±05
2008	84	51	±11	17	±08
2007	188	46	±07	7	±04
2006	202	51	±07	14	±05
2005	150	41	±08	13	±05

nedpsdgb.d05 - d15

Table 32. Population assessment of largemouth bass based on samples collected at Greenbo Lake from 2005-present (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)%
2015	Value		38.7	58.0	12.6	2.0	15	Good	-	-
	Score	3	3	4	2	3				
2014	Value		21.3	116.0	7.3	3.3	15	Good	-	-
	Score	3	2	4	2	4				
2013	Value		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		9.5	58.0	6.7	1.3	11	Fair	-	-
	Score	2	1	4	2	2				
2010	Value		5.3	45.3	13.3	2.0	11	Fair	-0.597	45.00%
	Score	2	1	3	2	3				
2009	Value		3.2	50.0	18.0	2.7	13	Good	-0.415	34.00%
	Score	2	1	4	3	3				
2008	Value		1.0	19.3	9.3	2.7	9	Fair	-0.642	47.40%
	Score	2	1	1	2	3				
2007	Value	10.7	16.0	48.7	8.7	1.3	11	Fair	-0.687	49.70%
	Score	2	2	3	2	2				
2006	Value		35.6	50.0	18.7	7.3	17	Excellent	-0.521	40.70%
	Score	4	2	4	3	4				
2005	Value	11.7	46.7	28.0	13.3	3.3	14	Good	-0.493	39.00%
	Score	4	3	2	2	3				

nedpsdgb.d05-d15; nedaaggb.d05, d10, d12

Table 33. 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	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.
2015	3.4	0.15	63.3	6.7	9.3	2.5		
2014	4.2	0.15	51.3	10.8	15.3	4.1	38.7	4.8
2013	3.3	0.06	99.3	9.8	3.3	1.6	21.3	6.3
2012	3.5	0.04	219.3	35.0	13.3	5.9	3.8	1.4
2011	3.5	0.15	44.0	11.9	6.0	1.7	2.0	0.9
2010	3.9	0.14	40.7	9.2	8.7	2.6	9.5	2.8
2009	5.1	0.16	48.0	6.0	26.0	4.8	5.3	0.4
2008	3.5	0.06	82.0	7.6	2.0	1.4	3.2	1.3
2007	3.9	0.09	44.7	11.3	3.3	1.2	1.0	0.9
2006	3.6	0.10	45.3	9.2	2.7	1.7	2.1	1.0
2005	3.8	0.12	32.0	7.0	4.0	1.0	35.6	5.5

nedbsigb.d13 - d15; nedwrsgb.d05 - d12; nedpsdgb.d05 - 15; nedaaggb.d05 - d10, d12

Table 34. Species composition, relative abundance and CPUE (fish/hr) of sunfish collected in 1.25 hours of electrofishing (5- 15-minute runs) in Greenbo Lake on 26 May.

	Inch class										
Species	3	4	5	6	7	8	9	10	Total	CPUE	Std. error
Bluegill	70	27	18	17	18	12	5		167	133.6	12.4
Longear sunfish	51	14	5						70	56.0	20.5
Redear sunfish	6	2	6	4	4	4	4	2	32	25.6	7.1
Green sunfish		4	1	1	4	1			11	8.8	3.2

nedsungb.d15

Table 35. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Greenbo Lake.

	Inch class										Total (excluding < 3.0 in)
	<3.0 in		3.0-5.9 in		6.0-7.9 in		>8.0 in		Total		
Year	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	
2015			92.0	6.3	28.0	12.7	13.6	5.3	133.6	12.4	133.6
2014[a]	-		-		-		-		-		
2013			96.8	21.9	97.6	19.2	24.0	5.2	218.4	31.6	218.4
2012			276.0	65.6	70.4	5.9	7.2	2.5	353.6	66.7	353.6
2011	693.6	115.6	340.8	60.2	37.6	7.2	13.6	4.8	1085.6	164.2	392.0
2010	721.6	226.2	176.8	40.4	68.0	10.0	24.0	6.3	990.4	255.8	268.8
2009	103.2	35.9	194.4	35.6	35.2	9.6	5.6	2.7	338.4	76.8	235.2
2008	80.0	15.2	196.8	51.3	40.8	7.6	6.4	2.0	324.0	56.6	244.0
2007	286.4	50.8	191.2	47.4	45.6	15.1	7.2	2.8	530.4	80.4	244.0

nedsungb.d15, d13 - d05

* Beginning in 2012, <3.0 in were not collected.

[a] = sample not collected

Table 36. Bluegill PSD and RSD_8 values from spring electrofishing at Greenbo Lake; confidence limits are in parentheses.

	No. ≥ 3.0 in	PSD		RSD_8	
		Value	± 95% CI	Value	± 95% CI
2015	167	31	±07	10	±04
2014[a]					
2013	273	56	±06	11	±04
2012	442	22	±04	2	±01
2011	490	13	±03	3	±02
2010	336	34	±10	9	±06
2009	294	17	±04	2	±02
2008	305	19	±04	2	±02
2007	305	22	±05	3	±02

nedpsdgb.d05 - d15

[a] = sample not collected

Table 37. Population assessment of bluegill based on samples collected at Greenbo Lake from 2005 - present (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	Instantaneous mortality (z)	Annual mortality (A)%
2015	Value			41.6	17.8				
	Score			2	3				
2014[a]	Value								
	Score								
2013	Value			121.6	24.0				
	Score			4	4				
2012	Value			77.6	7.2				
	Score			4	2				
2011	Value	4.9	3.0	51.2	13.6	12	Good	-1.150	68.30%
	Score	3	3	3	3				
2010	Value			92.0	24.0				
	Score			4	4				
2009	Value			40.8	5.6				
	Score			2	2				
2008	Value	4.9	3.0	47.2	6.4	10	Fair	-0.865	57.90%
	Score	3	3	2	2				
2007	Value			52.8	7.2				
	Score			3	2				
2006	Value			28.0	4.8				
	Score			2	2				
2005	Value	5.2	3.0	49.6	3.2	11	Good	-1.270	71.90%
	Score	4	3	2	2				

nedsungb.d05-15; nedaaggb.d11, d08

[a] = sample not collected

Table 38. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Greenbo Lake.

	Inch class												
	<3.0 in		3.0-5.9 in		6.0-7.9 in		>8.0 in		>10.0 in		Total		Total (excluding < 3.0 in)
Year	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	
2015			11.2	2.3	6.4	2.0	8.0	5.1	1.6	1.6	25.6	7.1	25.6
2014[a]	-		-		-		-				-		
2013			1.6	1.1	3.2	1.8	3.2	2.4	2.4	2.4	8.0	2.9	8.0
2012			4.8	4.8	0.8	0.8	0.8	0.8	0.8	0.8	6.4	4.7	6.4
2011	0.8	0.8	3.2	1.8	6.4	2.0	4.0	2.5			14.4	4.1	13.6
2010	4.8	2.1	11.2	4.2	8.0	2.4	4.0	2.2	0.8	0.8	28.0	7.3	23.2
2009	0.8	0.8	0.8	0.8	2.4	1.2					4.0	1.8	3.2
2008			7.2	3.7	5.6	3.4	0.8	0.8			13.6	5.7	13.6
2007	2.4	1.2	12.0	6.1	1.6	1.1					16.0	6.9	13.6

nedsungb.d15, d13 - d05

* Beginning in 2012, <3.0 in were not collected.

[a] = sample not collected

Table 39. Redear sunfish PSD and RSD_9 values from spring electrofishing at Greenbo Lake; confidence limits are in parentheses.

	No.	PSD		RSD_9	
	≥ 4.0 in	Value	± 95% CI	Value	± 95% CI
2015	26	54	±20	23	±17
2014[a]					
2013	8	63	±36	50	±37
2012	5	20	±39	20	±39
2011	17	41	±24	12	±16
2010	22	32	±20	23	±18
2009	4	25	±49	0	±00
2008	13	23	±24	0	±00
2007	11	9	±18	0	±00

nedsungb.d15, d13 - d05

[a] = sample not collected

Table 40. Population assessment of redear sunfish based on samples collected at Greenbo Lake from 2007 - present (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	Instantaneous mortality (z)	Annual mortality (A)%
2015	Value			8.0	1.6				
	Score			2	1				
2014[a]	Value								
	Score								
2013	Value			3.2	2.4				
	Score			1	2				
2012	Value			0.8	0.8				
	Score			1	1				
2011	Value	9.7	3	4.0	0.0	11	Good	-0.271	23.70%
	Score	4	4	3	0				
2010	Value			4.0	0.8				
	Score			3	1				
2009	Value			0.0	0.0				
	Score			0	0				
2008	Value	7.6	4	0.8	0.0	8	Fair	-0.626	46.50%
	Score	4	3	1	0				
2007	Value			0.0	0.0				
	Score			0	0				

nedsungb.d15, d13 - d05; nedaaggb.d11, d08

[a] = sample not collected

Table 41. Length frequency and CPUE (fish/hr) for sunfish collected in 1 hour of diurnal electrofishing (4-15-minute runs) at Mill Creek Lake (Powell/Wolfe Co.) on 29 May.

Species	Inch class							Total	CPUE	Std. Error
	3	4	5	6	7	8	9			
Bluegill	18	24	12	18	21	14	2	109	109.0	22.1
Green sunfish	4	4	4	7	1			20	20.0	7.1
Longear sunfish	8	4	4	1				17	17.0	2.5

nedsunmc.d15

Table 42. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Mill Creek Lake from 2005 - present.

	Length group										Total		CPUE (excluding <3.0 in)
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥6.0 in		≥8.0 in				
Year	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.	
2015			54.0	4.8	39.0	17.1	55.0	23.3	16.0	10.7	109.0	22.1	109.0
2014[a]													
2013[a]													
2012			161.0	37.4	74.0	8.7	98.0	12.4	24.0	7.1	259.0	42.4	259.0
2011[a]													
2010	254.0	11.9	153.0	23.2	35.0	8.7	46.0	6.2	11.0	3.0	453.0	37.3	199.0
2009	519.0	219.0	193.0	15.3	19.0	7.0	23.0	6.0	4.0	1.6	735.0	234.1	216.0
2008			164.0	49.9	20.0	10.1	28.0	13.7	8.0	4.6	192.0	55.6	192.0
2007			76.0	14.7	18.0	6.2	25.0	7.9	7.0	3.2	101.0	14.0	101.0
2006	124.6	48.9	74.3	16.2	33.1	8.1	42.3	13.0	9.1	7.9	241.1	73.9	116.6
2005	42.3	8.1	98.3	16.2	77.2	12.3	100.6	16.6	22.9	7.5	241.1	17.6	198.9

nedsunmc.d15, d12 - d05

[a] = Lake not sampled

Table 43. Bluegill PSD and RSD_8 values from spring electrofishing at Mill Creek Lake.

	No.	PSD		RSD_8	
	≥ 3.0 in	Value	± 95% CI	Value	± 95% CI
2015	109	50	±09	15	±07
2014[a]					
2013[a]					
2012	259	38	±06	9	±04
2011[a]					
2010	199	23	±06	6	±03
2009	216	11	±04	2	±02
2008	96	15	±07	4	±04
2007	101	25	±08	7	±05
2006	102	36	±09	8	±05
2005	174	51	±07	11	±05

nedpsdmc.d05 - d15

[a] = sample not collected

Table 44. Mean back-calculated lengths (in) at each annulus for bluegill collected from Mill Creek Lake, including size range at each age and 95% confidence intervals.

		Age					
Year	No.	1	2	3	4	5	6
2014	5	3.0					
2013	20	2.4	4.4				
2012	15	2.3	4.2	6.1			
2011	10	2.3	3.9	5.7	7.3		
2010	5	2.5	4.7	6.7	7.6	8.2	
2009	4	2.0	4.0	6.0	7.3	8.0	8.6
Mean		2.4	4.2	6.1	7.4	8.1	8.6
Number		59	54	34	19	9	4
Smallest		1.6	3.8	4.6	6.5	7.5	8.3
Largest		3.8	5.9	7.4	8.4	8.3	8.9
Std Error		0.1	0.1	0.1	0.1	0.1	0.1
95% CI (±)		0.2	0.3	0.5	0.4	0.4	0.5

Otoliths were used for age determination; Intercept = 0
nedaagmc.d15

Table 45. Age frequency and CPUE of bluegill collected during spring electrofishing in Mill Creek Lake.

	Inch class										Std.
Age	3	4	5	6	7	8	9	Total	%	CPUE	error
1	10							10	9	10.3	3.6
2	8	24	7	2				40	37	40.0	3.1
3			5	15	4			24	22	24.3	9.8
4				2	17	2		20	18	20.0	9.2
5						8		8	7	7.8	4.8
6						5	2	7	6	6.7	4.9
Total	18	24	12	18	21	14	2	109	100		
%	17	22	11	17	19	13	2	100			

nedaagmc.d15, nedsuncm.d15

Table 46. Population assessment of bluegill based on samples collected at Mill Creek Lake from 2005-present (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)%
2015	Value	4.67	3	55.0	16.0	13	Good	-0.458	36.80%
	Score	3	3	3	4				
2014[a]	Value								
	Score								
2013[a]	Value								
	Score								
2012	Value			98.0	24.0				
	Score			4	4				
2011[a]	Value								
	Score								
2010	Value	3.9	3-3+	46.0	11.0	10	Fair	-1.503	77.80%
	Score	2	3	2	3				
2009	Value			23.0	4.0				
	Score			1	1				
2008	Value			28.0	8.0				
	Score			2	2				
2007	Value	4.4	4-4+	25.0	7.0	8	Fair	-1.391	75.10%
	Score	2	2	2	2				
2006	Value			42.3	9.1				
	Score			2	2				
2005	Value			100.6	22.9				
	Score			4	4				

nedsunmc.d15, d12 - d05

[a] = sample not collected

Table 47. Length frequency and CPUE (fish/hr) of black bass collected in 1.25 hour (5 - 15 minute runs) of diurnal electrofishing largemouth bass in Lake Reba on 22 April.

	Inch class																			Total	CPUE	Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			error
Largemouth bass	2	14	35	42	26	10	16	25	22	42	51	53	17	14	9	8	4	2	5	397	317.6	23.0

nedpsdlr.d15

Table 48. Length frequency and CPUE (fish/hr) of stocked and wild largemouth bass collected in 1.25 hour of diurnal electrofishing at Lake Reba.

	Inch class																			Total	CPUE	Std.
Type	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			error
Wild	2	14	35	42	26	10	13	23	22	42	51	51	17	14	9	8	4	2	5	390	312.0	22.4
Stocked							3	2				2								7	5.6	3.0

nedstklr.d15; nedwldlr.d15

Table 49. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Reba from 1995-present.

	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.
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[a]												
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

[a] = sample not collected

Table 50. Largemouth Bass PSD and RSD_{15} values from spring electrofishing at Lake Reba.

	No. ≥ 8.0 in	PSD		RSD_{15}	
		Value	± 95% CI	Value	± 95% CI
2015	268	61	±06	16	±04
2014	314	54	±06	24	±05
2013	243	47	±06	14	±04
2012	263	48	±06	10	±04
2011	360	55	±05	11	±03
2010	270	35	±06	4	±02
2009	536	33	±04	7	±02
2008	382	18	±04	5	±02
2007	444	27	±04	6	±02
2006	154	31	±07	6	±04
2005	174	51	±07	11	±05
2004	275	32	±06	4	±02
2003	279	32	±05	4	±02
2002	176	20	±06	3	±02
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[a]					
1996	54	96	±08	62	±19
1995	54	79	±08	3	±03

nedpsdlr.d15 - d98, d96 - d95

[a] = sample not collected

Table 51. Population assessment of largemouth bass based on samples collected at Lake Reba from 1995 - present (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)%
2015	Value	11.0	72.8	96.8	33.6	4.0	18	Excellent	-0.464	37.10%
	Score	3	3	4	4	4				
2014	Value		50.0	95.0	75.0	7.0	18	Excellent		
	Score	3	3	4	4	4				
2013	Value		28.4	63.3	27.1	0.0	12	Good		
	Score	3	2	4	3	0				
2012	Value		76.0	68.0	16.7	1.3	15	Good		
	Score	3	4	4	2	2				
2011	Value		52.7	106.0	25.3	2.0	16	Good		
	Score	3	3	4	3	3				
2010	Value	11.4	47.1	57.7	6.8	0.7	13	Good	-1.019	63.90%
	Score	3	3	4	2	1				
2009	Value		65.3	92.7	26.0	0.7	14	Good	-0.162	15.00%
	Score	3	3	4	3	1				
2008	Value		113.0	34.0	12.7	0.0	11	Fair	-1.030	64.30%
	Score	3	4	2	2	0				
2007	Value		183.7	60.7	18.7	0.7	15	Good	-1.040	65.00%
	Score	3	4	4	3	1				
2006	Value	11.2	192.0	26.0	6.0	0.0	11	Fair	-0.790	55.00%
	Score	3	4	2	2	0				
2005	Value		41.2	45.3	13.3	0.7	10	Fair	-0.250	22.00%
	Score	2	2	3	2	1				
2004	Value		23.2	51.3	6.7	0.0	10	Fair	-0.290	25.00%
	Score	2	2	4	2	0				
2003	Value		52.1	52.0	8.0	0.7	12	Good	-0.500	39.00%
	Score	2	3	4	2	1				
2002	Value		105.8	31.0	5.0	0.0	10	Fair		
	Score	2	4	2	2	0				
2001	Value	10.1	186.9	9.3	4.0	0.0	9	Fair		
	Score	2	4	1	2	0				
2000	Value	8.8	99.7	4.6	8.0	0.0	8	Fair		
	Score	1	4	1	2	0				

nedpsdlr.d14

Table 52. Length frequency and CPUE (fish/hr) for sunfish collected in 1 hour of diurnal electrofishing (8- 7.5-minute runs) at Lake Reba on 20 May 2015.

	Inch class								
Species	3	4	5	6	7	8	Total	CPUE	Std. error
Bluegill	222	159	37	42	41	1	502	502.0	78.8
Redear sunfish	20	13	21	66	132	33	285	285.0	58.6
Warmouth	4	13	25	29	21	6	98	98.0	14.2
Hybrid sunfish	1	1	1	2	1	1	7	7.0	3.8
Green sunfish	1				1		2	2.0	2.0

nedsunlr.d15

Table 53. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Lake Reba from 1995 - present.

	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)
2015			418.0	83.2	83.0	25.1	84.0	25.1	1.0	1.0	502.0	78.8	502.0
2014[a]													
2013			371.0	84.6	44.0	15.3	44.0	15.3			415.0	415.0	415.0
2012			151.0	26.4	38.0	14.7	38.0	14.7			189.0	36.6	189.0
2011	2169.0	361.1	919.0	141.7	98.0	26.5	99.0	26.7	1.0	1.0	3187.0	448.7	1018.0
2010	514.4	138.5	375.2	35.5	21.6	4.8	21.6	4.8			911.2	144.8	396.8
2009	527.0	93.0	200.0	19.7	22.0	6.4	22.0	6.4			749.0	100.5	222.0
2008	188.0	41.9	194.0	41.1	71.0	11.6	71.0	11.6			453.0	59.1	265.0
2007			73.0	10.8	29.0	7.7	29.0	7.7			102.0	10.9	102.0
2006	843.2	140.7	228.8	22.9	79.2	20.3	79.2	20.3			1151.2	158.5	308.0
2005	279.2	37.0	308.0	42.7	97.6	19.4	97.6	19.4			684.8	74.4	405.6
2004	199.2	39.4	187.2	27.0	23.2	7.0	23.2	7.0			409.6	58.2	210.4
2003	178.4	27.9	356.0	49.7	49.5	20.1	49.5	20.1			584.0	75.3	405.6
2002	266.0	39.7	703.0	102.0	29.0	10.4	29.0	10.4			998.0	138.3	732.0
2001			1210.7	207.6	89.3	16.7	89.3	16.7			1300.0	220.3	1300.0
2000	7.0	4.7	1181.3	152.3	303.5	13.0	303.5	13.0			1327.0	124.5	1320.0
1999	74.0	74.0	700.0	120.0	48.0	16.0	48.0	16.0			822.0	30.0	748.0
1998			1032.0		4.0		4.0				1036.0	0.0	1036.0
1997[a]													
1996	16.0	12.0	722.0	110.0	22.0	18.0	22.0	18.0			760.0	140.0	744.0
1995			338.0	54.0	32.0	0.0	32.0	0.0			1370.0	54.0	1370.0

nedsunlr.d15, d13 - d98, d96 - d95

[a] = Sample not collected

Table 54. Bluegill PSD and RSD_8 values from spring electrofishing at Lake Reba.

	No.	PSD		RSD_8	
	≥ 3.0 in	Value	± 95% CI	Value	± 95% CI
2015	502	17	±03	0	±00
2014[a]					
2013	415	11	±03		
2012	189	20	±06		
2011	1018	10	±02	0	±00
2010	496	5	±02		
2009	222	10	±04		
2008	265	27	±05		
2007	102	28	±09		
2006	385	26	±04		
2005	507	24	±04		
2004	263	11	±04		
2003	507	12	±03		
2002	732	4	±01		
2001	975	7	±02		
2000	1320	21	±02		
1999	374	6	±02		
1998	259	0	±01		
1997[a]					
1996	372	3	±02		
1995	685	2	±01		

nedsunlr.d15, d13 - d98, d96 - d95

**No BG over 8.0 in sampled from 1995 - 2010 and 2012-2013 to be able to determine RSD_8*

[a] = Sample not collected

Table 55. Population assessment of bluegill based on samples collected at Lake Reba from 1995 - present (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)%
2015	Value			84.0	1.0				
	Score			4	1				
2014[a]	Value								
	Score								
2013	Value			44.0	0.0				
	Score			2	0				
2012	Value	4.0	3+	38.0	0.0	7	Fair	-0.112	10.60%
	Score	2	3	2	0				
2011	Value			99.0	1.0				
	Score			4	1				
2010	Value			21.6	0.0				
	Score			1	0				
2009	Value			22.0	0.0				
	Score			1	0				
2008	Value	4.0	3+	71.0	0.0	8	Fair	-0.719	51.30%
	Score	2	3	3	0				
2007	Value			29.0	0.0				
	Score			2	0				
2006	Value			79.2	0.0				
	Score			4	0				
2005	Value			97.6	0.0				
	Score			4	0				
2004	Value			23.2	0.0				
	Score			1	0				
2003	Value	4.1	3+	49.6	0.0	7	Fair	-0.422	34.40%
	Score	2	3	2	0				
2002	Value			29.0	0.0				
	Score			2	0				
2001	Value			89.3	0.0				
	Score			4	0				
2000	Value	5.0	4+	303.5	0.0	10	Fair		
	Score	4	2	4	0				
1999	Value			48.0	0.0				
	Score			2	0				
1998	Value			4.0	0.0				
	Score			1	0				
1997[a]	Value								
	Score								
1996	Value			22.0	0.0				
	Score			1	0				
1995	Value			32.0	0.0				
	Score			2	0				

nedsunlr.d15, d13 - d98, d96 - d95
[a] = Sample not collected

Table 56. Spring electrofishing CPUE (fish/hr) for various length groups of redear sunfish collected at Lake Reba from 1995 - present.

	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)
2015			54.0	7.7	198.0	56.5	231.0	56.9	33.0	6.3			285.0	58.6	285.0
2014[a]															
2013			98.0	26.2	143.0	23.6	145.0	23.5	2.0	1.3			243.0	21.2	243.0
2012			79.0	15.2	94.0	24.5	95.0	25.2	1.0	1.0			174.0	33.5	174.0
2011	31.0	12.6	146.0	19.6	204.0	57.8	210.0	59.4	6.0	3.3			387.0	48.7	356.0
2010	14.4	5.8	101.6	19.2	28.0	7.4	28.8	7.9	0.8	0.8			144.8	28.2	130.4
2009	184.0	52.9	150.0	22.9	60.0	4.5	60.0	4.5					394.0	65.7	210.0
2008	10.0	5.0	134.0	18.3	225.0	18.0	226.0	18.5	1.0	1.0			370.0	33.0	360.0
2007			122.0	16.3	33.0	5.9	35.0	5.0	2.0	1.3			157.0	20.3	157.0
2006	111.2	30.7	121.6	17.2	205.6	44.7	206.4	44.8	0.8	0.8			439.2	51.5	328.0
2005	16.8	5.9	39.2	5.5	196.0	33.4	196.0	33.4					252.0	30.7	235.2
2004	17.6	4.6	59.2	18.3	67.2	13.7	67.2	13.7					144.0	30.4	126.4
2003	13.6	5.7	119.2	19.8	178.4	68.8	178.4	68.8					311.2	82.9	297.6
2002	11.0	1.9	424.0	124.1	151.0	47.9	152.0	48.7	1.0	1.0			587.0	160.3	576.0
2001			220.0	46.1	84.0	32.7	85.3	32.4	1.3	1.3			305.3	39.4	305.3
2000			125.8	39.3	134.9	39.6	134.9	39.6					245.0	74.9	245.0
1999	2.0	2.0	92.0	36.0	122.0	22.0	122.0	22.0					216.0	60.0	214.0
1998			80.0		44.0		44.0						124.0	0.0	124.0
1997[a]															
1996			44.0	20.0	14.0	10.0	14.0	10.0					58.0	30.0	58.0
1995															

nedsunlr.d15, d13 - d98, d96 - d95

[a] = Sample not collected

Table 57. Redear sunfish PSD and RSD_9 values from spring electrofishing at Lake Reba.

	No.	PSD		RSD_9	
	≥ 3.0 in	Value	± 95% CI	Value	± 95% CI
2015	265	62	±06		
2014[a]					
2013	237	26	±06		
2012	139	21	±07		
2011	310	22	±05	0	±00
2010	118	8	±05		
2009	175	4	±03		
2008	342	11	±03		
2007	141	10	±05		
2006	297	49	±06		
2005	264	19	±05		
2004	146	4	±03		
2003	359	4	±02		
2002	452	6	±02		
2001	158	9	±04		
2000	216	29	±06		
1999	91	4	±04		
1998	27	4	±07		
1997[a]					
1996	28	4	±07		
1995					

nedsunlr.d15, d13 - d98, d96 - d95

**No RE over 9.0 in sampled from 1995 - 2010, 2012-2013 or 2015 to be able to determine* RSD_9

[a] = Sample not collected

Table 58. Population assessment of redear sunfish based on samples collected at Lake Reba from 1995 - 2015 (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)%
2015	Value			33.0	0.0				
	Score			4	0				
2014[a]	Value								
	Score								
2013	Value			2.0	0.0				
	Score			1	0				
2012	Value	5.8	>6	1.0	0.0	4	Poor	-0.963	61.80%
	Score	2	1	1	0				
2011	Value			6.0	0.0				
	Score			2	0				
2010	Value			0.8	0.0				
	Score			1	0				
2009	Value			0.0	0.0				
	Score			0	0				
2008	Value	6.3	>7	1.0	0.0	5	Poor	-0.810	55.70%
	Score	3	1	1	0				
2007	Value			2.0	0.0				
	Score			1	0				
2006	Value			0.8	0.0				
	Score			1	0				
2005	Value			0.0	0.0				
	Score			0	0				
2004	Value			0.0	0.0				
	Score			0	0				
2003	Value	6.5	>6	0.0	0.0	5	Poor	-0.322	27.90%
	Score	4	1	0	0				
2002	Value			1.0	0.0				
	Score			1	0				
2001	Value			1.3	0.0				
	Score			1	0				
2000	Value			0.0	0.0				
	Score			0	0				
1999	Value			0.0	0.0				
	Score			0	0				
1998	Value			0.0	0.0				
	Score			0	0				
1997[a]	Value								
	Score								
1996	Value								
	Score								
1995	Value								
	Score								

nedsunlr.d15, d13 - d98, d96 - d95

[a] = Sample not collected

Table 59. Length frequency and CPUE (fish/hr) of black bass collected in 1.25 hour (5- 15-minute runs) of diurnal electrofishing largemouth bass in Lake Reba on 17 September.

	Inch class																				
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std. error
Largemouth Bass	2	30	69	44	1	39	116	64	47	54	43	29	8	4	1	1	1	2	2	557	445.6	38.2

nedwrslr.d15

Table 60. Number of fish and relative weights (W_r) for each length group of largemouth bass captured at Lake Reba.

	Length group								
	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.
2015	216	91	0.50	62	89	0.92	7	91	3.98
2014[a]									
2013[a]									
2012[a]									
2011	114	93	0.75	80	89	1.03	16	94	2.20
2010	191	90	3.34	116	86	0.78	12	86	7.23
2009	91	86	1.02	31	84	1.43	2	88	10.76
2008	219	84	0.59	32	86	1.31	1	81	
2007	142	91	5.35	17	83	1.88	8	93	3.29
2006	243	91	0.52	75	93	1.08	18	101	1.76
2005	134	90	0.70	27	90	2.67	9	92	2.85
2004	186	87	0.61	73	90	0.78	10	95	1.92
2003	65	85	1.09	28	87	1.77	2	83	3.22
2002	67	92	1.60	12	87	2.83	1	93	
2001	92	94	0.79	53	92	1.05	12	99	2.37
2000	60	97	1.23	13	95	2.69	9	98	2.81
1999	56	90	1.21	6	92	2.64	3	96	3.51
1998	9	93	3.11	3	94	4.82	3	103	4.96
1997	25	94	1.58	6	98	1.23	9	101	2.11
1996[a]									
1995	12	99	3.14	27	99	2.57	10	107	2.61
1994	37	92	1.79	56	95	1.06	3	104	5.88

nedwrslr.d15, d11 - d97, d95 - d94

[a] = Sample not collected

Table 61. Indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass while diurnal electrofishing at Lake Reba

Year	Age-0		Age-0		Age-0 ≥5.0 in		Age-1	
class	Mean length	s.e.	CPUE	s.e.	CPUE	s.e.	CPUE	s.e.
2015	4.5	0.6	116.0	34.5	35.2	10.2		
2014	4.1	0.1	375.0	29.6	74.0	16.5	100.0	27.3
2013	3.9	0.1	80.0	16.4	12.0	4.4	50.0	8.9
2012	4.5	0.1	129.1	16.8	37.2	6.0	54.6	9.4
2011	4.4	0.0	334.9	44.8	84.4	19.5	76.0	14.9
2010	3.9	0.1	58.7	18.9	10.7	4.8	57.3	10.5
2009	4.0	0.1	58.7	15.6	11.3	8.1	47.1	7.0
2008	4.2	0.1	58.7	15.6	11.3	8.1	65.3	7.1
2007	4.3	0.1	44.0	11.2	5.3	2.2	113.0	27.2
2006	4.3	0.0	175.3	35.9	30.0	8.7	183.7	22.1
2005	5.2	0.1	225.0	48.6	133.0	30.2	192.0	19.5
2004	4.2	0.1	76.7	9.6	15.3	1.9	61.0	10.4
2003	3.7	0.2	23.3	4.8	0.7	0.7	47.3	14.0

nedwrslr.d15, nedbsilr.d14 - d12, nedwrslr.d11 - d03, nedpsdlr.d12-d02

Table 62. Mean back-calculated lengths (in) at each annulus for largemouth bass collected from Lake Reba, including size range at each age and 95% confidence intervals.

		Age				
Year	No.	1	2	3	4	5
2015	0					
2014	28	5.5				
2013	13	5.5	9.0			
2012	15	5.5	8.9	11.0	11.1	
2011	14	5.6	8.8	11.0	12.2	
2010	3	5.8	9.5	12.6	13.9	14.9
Mean		5.6	8.9	11.1	12.4	14.9
Number		73	45	32	17	3
Smallest		4.2	7.2	9.2	10.3	14.6
Largest		7.6	11.0	12.7	14.0	15.0
Std Error		0.1	0.1	0.2	0.3	0.1
95% CI (±)		0.3	0.5	0.7	1.1	0.5

Otoliths were used for age determination; Intercept = 0
nedaaglr.d15

Table 63. Age frequency and CPUE of largemouth bass collected during spring electrofishing in Lake Reba.

	Inch class																
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	%	CPUE	Std. error
1	14	35	42											91	27	72.8	29.3
2					10	16	16	2						44	13	35.5	4.6
3							9	17	5	5				36	11	28.8	4.6
4								2	19	36	20			77	22	61.4	6.9
5									19	10	33	17		79	23	63.2	6.9
6													14	14	4	11.2	2.0
Total	14	35	42	0	10	16	25	22	42	51	53	17	14	341	100		
%	4	10	12	0	3	5	7	6	12	15	16	5	4	100			

nedaaglr.d15; nedpsdlr.d15

Table 64. Length frequency and CPUE (fish/hr) for largemouth bass collected in 0.92 hours of nocturnal electrofishing (3- 15 and 1- 10-minute runs) at Smoky Valley Lake (Carter Co.) on 24 April.

	Inch class																Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Largemouth bass	3	7	8	11	3	7	35	17	12	13	7	4	1	1		1	130	147.9	26.5

nedpsdsv.d15

Table 65. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Smoky Valley Lake from 1990-present.

	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.
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.d15-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

[a] = Sample not collected

Table 66. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Smoky Valley Lake.

	No.	PSD		RSD_{15}	
	≥ 8.0 in	Value	± 95% CI	Value	± 95% CI
2015	91	15	±07	2	±03
2014	156	12	±05	1	±01
2013	105	10	±06	2	±03
2012	101	13	±07	1	±02
2011	70	14	±08		
2010	67	6	±06	1	±03
2009	160	9	±05	1	±01
2008	245	19	±05		
2007	268	15	±04	1	±01
2006	322	20	±04	1	±01
2005	318	25	±05	0	±01
2004[a]					
2003[a]					
2002[a]					
2001	172	22	±06	1	±02
2000	288	24	±05	0	±01
1999[a]					
1998	210	37	±07	1	±02
1997	105	40	±09	3	±03
1996	130	41	±08	2	±03
1995	190	45	±07	1	±01
1994	205	49	±07	3	±02
1993	131	33	±08	5	±04
1992	213	51	±07	4	±03
1991	153	16	±06	4	±03
1990	194	30	±06	11	±04

nedpsdsv.d15-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

[a] = Sample not collected

Table 67. Population assessment of largemouth bass based on samples collected at Smoky Valley lake from 2000-present (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)%
2015	Value		36.7	13.4	2.0	0.0	8	Fair		
	Score	4	2	1	1	0				
2014	Value		70.1	24.4	1.0	0.0	10	Fair		
	Score	4	3	2	1	0				
2013	Value		80.0	8.9	2.0	0.0	10	Fair		
	Score	4	4	1	1	0				
2012	Value	11.50	68.0	12.8	1.0	0.0	9	Fair	-0.936	60.80%
	Score	4	3	1	1	0				
2011	Value		150.5	10.0	0.0	0.0	6	Poor		
	Score	1	4	1	0	0				
2010	Value	9.6	34.9	3.3	1.0	0.0	5	Poor	-0.787	54.50%
	Score	1	2	1	1	0				
2009	Value		9.0	14.0	1.0	0.0	4	Poor	-0.223	20.00%
	Score	1	1	1	1	0				
2008	Value		56.0	46.0	0.0	0.0	7	Poor	-0.550	22.50%
	Score	1	3	3	0	0				
2007	Value	9.6	7.0	37.0	2.0	0.0	6	Poor	-0.513	40.10%
	Score	1	1	3	1	0				
2006	Value		70.1	62.0	4.0	0.0	12	Good	-0.579	43.90%
	Score	3	3	4	2	0				
2005	Value		19.1	36.2	8.0	0.0	10	Fair	-0.353	29.80%
	Score	3	2	3	2	0				
2004[a]	Value									
	Score									
2003[a]	Value									
	Score									
2002[a]	Value									
	Score									
2001	Value	11.0	23.1	46.7	2.7	0.0	9	Fair		
	Score	3	2	3	1	0				
2000	Value		44.0	69.0	1.0	0.0	10	Fair		
	Score	3	2	4	1	0				

nedpsdsv.d14, d09-05, nedsprsv.d10, nedlmbsv.d01-00

[a] = Sample not collected

SOUTHEASTERN FISHERY DISTRICT

Project A: Lake and Tailwater Sampling

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)

Nocturnal electrofishing studies were conducted at Wolf Creek dam, and in the Harmon Creek, Fishing Creek, and Lily Creek embayments of Lake Cumberland during April and May 2015 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 2014. Table 7 compares the catch-per-hour by length group of black bass in Lake Cumberland to other SEFD lakes sampled in 2015.

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 and smallmouth bass populations exhibited excellent size structure, with a PSD value of 70 and an RSD_{15} value of 25 for largemouth bass and a PSD value of 87 and an RSD_{14} value of 66 for smallmouth bass (Table 11). Spotted bass populations had a good size structure, with a PSD value of 63 and an RSD_{14} value of 16 (Table 11). Table 12 compares the size structure of black bass populations in Lake Cumberland to other SEFD lakes sampled in 2015.

Black Bass Sampling (Fall)

Nocturnal electrofishing was conducted in the Fishing Creek embayment during September to index the largemouth bass year class strength (Tables 13 and 14). Catch rates of age-0 largemouth bass were low in 2015 (Table 14). Table 15 compares the CPUE of age-0 largemouth bass in Lake Cumberland to other SEFD lakes sampled in fall 2015. Relative weight (Wr) values for largemouth bass and spotted bass collected during September sampling are shown in Table 16. Table 17 compares Wr values for black bass in Lake Cumberland to other SEFD lakes sampled in fall 2015.

Crappie Sampling

Fall trap netting was conducted in the Fishing Creek and Wolf Creek embayments of Lake Cumberland during October 2015 to assess the crappie population. Length frequency and CPUE for black and white crappie from each area are shown in Table 18. The PSD and RSD_{10} values for white and black crappie are shown in Table 19. Age-growth data from white and black crappie collected in 2015 are shown in Tables 20 and 21, respectively. Age-0 white crappie (72%) dominated the white crappie catch (Table 22). Age-2 black crappie (2013 year class) comprised 59% of the black crappie catch (Table 23). The crappie population assessments (white, black, and white and black combined) are shown in Table 24. Black crappie and the combined assessment rated poor, and the white crappie assessment rated fair. The crappie population did not meet any of the five management objectives (Table 25). Relative weight (Wr) values for black and white crappie are shown in Table 26. Based on crappie caught during striped bass netting and angler reports, our sampling may not be indicative of how good the crappie population actually is.

Striped Bass Sampling
Gill nets were used in December 2015 to evaluate the striped bass population in Lake Cumberland. Thirty net-nights captured 138 striped bass for a catch rate of 4.6 fish/nn. Length-frequency and CPUE of striped bass are shown in Table 27. Striped bass ranged from 9.0 to 31.0 in with the mode being the 22.0 in class (30 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 2015 is shown in Table 29. Nine year-classes were represented in the catch (Table 30). The 2013 (age-2) year class was the most abundant year class collected (46%), which coincided with the increased (pulsed) stocking rate of approximately 14.0 fish/acre in 2013. Mean length of age-2+ fish at capture (2013 year class) was 22.3 in, which met the growth objective (21.0 in) for the striped bass fishery (Table 31). The striped bass assessment score was 11 (rating=good; Table 31). Striped bass collected during netting were used to evaluate relative weight (Wr) values, which are shown in Table 32.

Cumberland Tailwater

Trout Sampling (Fall)
Nocturnal electrofishing sampling was conducted November 1 and 2 2015 to assess the trout population in the Lake Cumberland tailwater. Electrofishing was completed in eight different areas of the tailwater. Table 33 has the length-frequency and CPUE for the three trout species collected in each area. Catch rates of rainbow trout (Table 34) and brown trout (Table 35) 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 36.

Laurel River Lake (6,060 acres)

Black Bass Sampling (Spring)
Nocturnal electrofishing sampling was conducted during April and May 2015 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 37. The catch-per-hour (by area and length group) of the three black bass species are shown in Tables 38-41. Table 7 compares the catch-per-hour by length group of black bass in Laurel River Lake to other SEFD lakes sampled in 2015.

The largemouth bass population met three of the four catch rate objectives (Table 42). Spotted bass met one of the four catch rate management objectives (Table 43). The smallmouth bass population met two of the four catch rate management objectives (Table 44).

All three black bass species exhibited an excellent size structure, with largemouth bass having a PSD value of 73 and an RSD_{15} value of 35 and smallmouth bass having a PSD value of 69 and an RSD_{14} value of 62 (Table 45). Spotted bass had a PSD of 70 and an RSD_{14} of 29 (Table 45). Table 12 compares the size structure values of black bass populations in Laurel River Lake to other SEFD lakes sampled in 2015.

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted in the Laurel River arm during September 2015 to index largemouth bass year class strength (Tables 46 and 47). The CPUE of age-0 largemouth bass in 2015 was low; however, additional stocking of age-0 bass was not recommended due to poor success of previous stockings (Table 47). Relative weight (Wr) values for largemouth and spotted bass collected during September sampling are shown in Table 48.

Walleye Sampling
Gill nets were used in November 2015 to evaluate the walleye population in Laurel River Lake. A total of 145 walleye were captured in 8 net-nights for a catch rate of 18.1fish/nn. Length frequency and CPUE of walleye is shown in Table 49. Walleye ranged from 9.0-24.0 in with the mode being the 20.0-in class (34 fish). The three catch rate management objectives for walleye were met (Table 50). Age-growth data for male and female walleye are shown in Tables 51 and 52, respectively. The age-growth for both sexes combined is shown in Table 53. Nine year-classes were represented in the catch, with age-1 (2014 year class) and age-2 (2013 year class) walleye

comprising 50% of the catch (Table 54). The walleye assessment score was 16 (rating=excellent; Table 55). Mean length of age-2+ walleye at capture (19.5 in) surpassed the growth objective of 18.0 in (Table 55). Relative weight (Wr) values for walleye are shown in Table 56.

Cedar Creek Lake (784 acres; Lincoln Co.)

Black Bass Sampling (Spring)

Nocturnal electrofishing was conducted on 6 May 2015 to assess the largemouth bass population in Cedar Creek Lake. The length-frequency and CPUE of largemouth bass is shown in Table 57. Size structure of largemouth bass was excellent (PSD=80, RSD_{15}=52; Table 58). The catch-per-hour (by area and length group) of largemouth bass for 2003-2015 is shown in Table 59. Three of the four CPUE management objectives for the largemouth bass population were exceeded, with the age-1 bass CPUE (8.0 fish/hr) failing to meet the objective of 16.0 fish/hr (Table 60).

Black Bass Sampling (Fall)

Nocturnal electrofishing was conducted on 24 September 2015 to index the largemouth bass year-class strength (Tables 61 and 62). Catch rates of age-0 bass in 2015 had increased over previous years sampling (Table 62). Relative weight (Wr) values for largemouth bass are found in Table 63. Age-growth data from largemouth bass collected in 2015 from Cedar Creek Lake is shown in Table 64.

Bluegill/Redear Sunfish Sampling

Diurnal electrofishing was conducted on 26 May 2015 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 65. The catch-per-hour (by length group) of bluegill and redear sunfish is shown in Table 66. PSD and RSD values for bluegill and redear sunfish are shown in Table 67. Age-growth of bluegill is shown in Table 68. Five year classes were represented in the catch of bluegill, with the 2013 and 2014 year classes comprising 83% of the catch (Table 69). The bluegill population assessment score was 4 (rating=poor; Table 70). Age-growth of redear sunfish is shown in Table 71. Nine year classes were represented in the catch of redear sunfish, with the 2012 and 2013 year classes comprising 43% of the catch (Table 72). The redear sunfish assessment score was 6 (rating=poor; Table 73).

Bert T. Combs Lake (36 acres; Clay Co.)

Largemouth Bass Sampling (Spring)

Nocturnal electrofishing was conducted on 4 May 2015 at Bert T. Combs Lake to assess the largemouth bass population. Length frequency and CPUE for largemouth bass is shown in Table 74. Catch-per-hour (by length group) for largemouth bass is shown in Table 75. The largemouth bass size structure was poor, with a PSD value of 18 (RSD_{15}=1; Table 76).

Beulah Lake (87 acres; Jackson Co.)

Largemouth Bass Sampling (Spring)

Nocturnal electrofishing was conducted on 4 May 2015 at Beulah Lake to assess the black bass population. Length frequency and CPUE for black bass is shown in Table 77. Catch-per-hour (by length group) for largemouth and smallmouth bass is shown in Table 78. The largemouth bass size structure was poor, with a PSD value of 11 (RSD_{15}=3; Table 79).

Largemouth Bass Sampling (Fall)

Diurnal electrofishing was conducted on 7 October 2015 at Beulah Lake to collect largemouth bass to determine age-growth. Age-growth data from largemouth bass collected in 2015 is shown in Table 80. Relative weight values for largemouth bass are in Table 81.

Cannon Creek Lake (243 acres; Bell Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 5 May 2015 at Cannon Creek Lake to assess the black bass population. Length frequency and CPUE for bass are shown in Table 82. The catch-per-hour (by length group) for the three bass species is shown in Table 83. Table 84 lists the PSD and RSD values for the black bass species in the lake.

Wood Creek Lake (625 acres; Laurel Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 27 April 2015 in the Dam, 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 85. The size structure for largemouth bass was marginal, having a PSD value of 41 (RSD_{15}=10; Table 86). The spotted bass population also had a poor size structure (PSD=30, RSD_{14}=0; Table 86). Catch-per-hour (by length group) for largemouth and spotted bass are shown in Tables 87 and 88, respectively. A largemouth bass population assessment is shown in Table 89. Only one of the four catch rate management objectives was met for the largemouth bass population (Table 89).

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted on 28 September 2015 in the Dam, Pump Station, and Dock areas of Wood Creek Lake to index largemouth bass year class strength (Tables 90 and 91). Catch rates of age-0 largemouth bass in 2015 were high (Table 91); thus, no additional age-0 bass were stocked in the lake during the fall. Relative weight values for largemouth and spotted bass are in Table 92.

Table 1. Summary of sampling conditions by waterbody, species sampled, and date for the Southeastern Fisheries District in 2015.

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	4/22/2015	2015	shock	mostly clear, cool, breezy	56	728	30-36	fair	water was murky
	Harmon Creek	Black bass	4/21/2015	1850	shock	partly clear, 60s, breezy	62	728	18-24	fair	murky water; 1 dipper
	Fishing Creek	Black bass	5/7/2015	1945	shock	clear, warm	78	721	42	good	some areas were murky
	Lily Creek	Black bass	4/28/2015	1950	shock	mostly overcast, low 60s	65	724	30	good	water brown colored and somewhat murky
	Fishing Creek	Black bass	9/22/2015	1945	shock	clear, 70s, nice	77	710	18	good	calm
	Fishing Creek	Crappie	10/19-10/22		trap net	-	64	705	-	good	
	Wolf Creek	Crappie	10/26-10/29		trap net	rain, 50s, sun late in week	64	703	42	good	
	Beaver Creek	Striped bass	12/1-12/4		gill net	cloudy, 50s	51	702	60	good	
	Lily/Wolf	Striped bass	12/1-12/4		gill net	rain early, sunny late, temps 40-50	58	704-710	-	good	rain early in the week caused a significant increase in lake levels
Cumberland Tailwater											
	Above Helms	Trout	11/1/2015	1750	shock	cloudy and mild	63	4320 cfs			
	Below Helms	Trout	11/1/2015	1750	shock	cloudy and mild	62	4300 cfs			
	Rainbow Run	Trout	11/1/2015	1745	shock		65	4300 cfs	108		
	Big Willis	Trout	11/1/2015	1800	shock	cloudy	64	4300 cfs			
	Crocus Creek	Trout	11/1/2015		shock						
	Hwy 61 Traces	Trout	11/2/2015	1730	shock	mostly cloudy, clearing late	63	4360			only 4 runs due to boat malfunction
	Cloyds	Trout	11/2/2015		shock						
	Biggerstaff Bar	Trout	11/2/2015	1800	shock	overcast, mild 60s	62		24-36		a little murky
Laurel River Lake											
	Dam	Black bass	4/21/2015	2000	shock	partly cloudy, 60s, breezy	64	1017	84	good	water clear; very slightly murky
	Spruce Creek	Black bass	4/28/2015	1930	shock	slightly overcast, 60s	64	1016	84-96	good	water clearish green; 1 dipper
	Craig's Creek	Black bass	5/7/2015	2045	shock	clear, 70s	74	1016	60-72	good	water clearish green
	312 Bridge	Black bass	5/12/2015	2020	shock	-	75	1015	24	good	water slightly murky and green
	312 Bridge	Black bass	9/23/2015	1930	shock	clear, 70s	78	1011	30-36	good	a little murky
		Walleye	11/16-11/17		gill net	cloudy, 50s	58	1012	-	good	approximately 100 ft of net was cut and removed from 1 net
Cedar Creek Lake		LMB	5/6/2015	2000	shock	clear	73	full	30	good	water stained brown color
		LMB	9/24/2015	1930	shock	mostly clear, 70s at start	75	full	66	good	water green color and clear; vegetation thick
		BLG/redear	5/26/2015	1000	shock	Increasing clouds, 70s, breezy	73	full	30	good	some vegetation
Bert T. Combs Lake		LMB	5/4/2015	2000	shock	clear, 60s-70s	69	full	36-48	good	slightly murky; overhanging trees a problem on some runs
Beulah Lake		Black bass	5/4/2015	2000	shock	clear, warm, 70s	68	full	42	good	water was brown in color
		LMB	10/7/2015	845	shock	sunny, 60s to 70s	64	down 4.5 ft	72-84	fair	water too clear
Cannon Creek Lake		Black bass	5/5/2015	2030	shock	clear, 70s at start	71	full	60	fair	water slightly murky; trees made sampling difficult; 1 dipper
Wood Creek Lake		Black bass	4/27/2015	2000	shock	mostly clear, 60s	63	full	48-66	good	two crews
		Black bass	9/28/2015	1930	shock	mostly cloudy, warm, upper 70s	75	full	48-120	good	two crews; water very clear

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 April and May 2015; 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	19	20	21	Total	CPUE
Dam	Largemouth bass					1	1				1	1	3	1	3	5	2	1			19	12.7 (6.8)
	Spotted bass	2	3			6	2	5	1	3	11	2	3	4	2						44	29.3 (7.1)
	Smallmouth bass	1		2	2				1					1				1		1	9	6.0 (2.7)
Harmon Creek	Largemouth bass					1	2			5	1		1		3	1					14	9.3 (3.2)
	Spotted bass				1	2	6		1	1			1								12	8.0 (2.3)
	Smallmouth bass							1	1	1	2	2	3	2	2	1	1				16	10.7 (3.0)
Fishing Creek	Largemouth bass			1	12	22	3	1	7	19	29	9	7	6	5	3	1	2			127	84.7 (11.6)
	Spotted bass	1				1	4	3	2	5	3			1							20	13.3 (7.8)
	Smallmouth bass																				0	0.0 (0.0)
Lily Creek	Largemouth bass					1	2	5	3	8	16	14	3	5	3	5	1	1			67	44.7 (13.4)
	Spotted bass	4			1	4	5	1	6	16	14	7	3	7							68	45.3 (6.5)
	Smallmouth bass	1		1			1	2		1	2	2	3	3	5	3	4		1		29	19.3 (6.7)
Total	Largemouth bass			1	12	25	8	6	10	32	47	24	14	12	14	14	4	4			227	37.8 (7.8)
	Spotted bass	7	3		2	13	17	9	10	25	28	9	7	12	2						144	24.0 (4.2)
	Smallmouth bass	2		3	2		1	3	2	2	4	4	6	6	7	4	5	1	1	1	54	9.0 (2.4)

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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 2011-2015.

	Stock					Quality					Preferred				
Species/Area	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Largemouth bass															
Dam	6.7	24.0	4.0	18.7	12.0	4.7	14.7	3.3	17.3	11.3	2.7	9.3	2.7	10.0	8.0
Harmon Creek	5.3	13.3	9.3	6.7	8.7	3.3	8.7	8.0	6.0	4.0	1.3	4.7	4.0	2.0	2.7
Fishing Creek	31.3	120.7	45.3	25.3	61.3	12.7	80.7	21.3	19.3	41.3	4.7	25.3	5.3	6.7	11.3
Lily Creek	18.0	59.3	25.3	72.0	44.0	14.7	29.3	18.7	28.7	32.0	6.0	7.3	6.7	14.0	10.0
Mean	15.3	54.3	21.0	30.7	31.5	8.8	33.3	12.8	17.8	22.2	3.7	11.7	4.7	8.2	8.0
Spotted bass															
Dam	36.0	82.7	26.0	44.7	26.0	19.3	26.7	17.3	24.7	16.7	1.3	2.7	3.3	6.7	6.0
Harmon Creek	18.7	28.7	16.7	5.3	7.3	0.7	7.3	10.7	0.7	1.3	0.0	0.0	0.7	0.0	0.7
Fishing Creek	8.7	1.3	2.7	5.3	12.7	0.7	0.0	0.0	1.3	6.0	0.0	0.0	0.0	0.0	0.7
Lily Creek	19.3	36.7	35.3	44.7	42.0	3.3	4.0	17.3	13.3	31.3	0.0	0.0	2.0	2.7	6.7
Mean	20.7	37.3	20.2	25.0	22.0	6.0	9.5	11.3	10.0	13.8	0.3	0.7	1.5	2.3	3.5
Smallmouth bass															
Dam	0.7	11.3	10.7	21.3	2.7	0.0	5.3	3.3	10.7	2.0	0.0	4.7	2.7	6.0	2.0
Harmon Creek	2.7	9.3	6.0	7.3	10.7	2.0	2.7	3.3	4.0	9.3	0.0	2.0	3.3	2.0	6.0
Fishing Creek	0.7	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	1.3	18.0	1.3	0.0	1.3	0.0	16.0	0.7	0.0	0.7	0.0	12.7
Mean	1.3	5.5	4.5	7.5	7.8	0.8	2.0	2.0	3.7	6.8	0.2	1.7	1.7	2.0	5.2

Largemouth bass - ≥8.0 in = stock, ≥12.0 in = quality, ≥15.0 in = preferred.
Smallmouth bass and spotted bass - ≥7.0 in = stock, ≥11.0 in = quality, ≥14.0 in = preferred.
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Table 4. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Lake Cumberland during April and May 2015.

	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.
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 April and May 2015.

	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.
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 April and May 2015.

	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.
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 2015.

Species/Lake	Stock*	Quality*	Preferred*
Largemouth bass			
Lake Cumberland	31.5	22.2	8.0
Laurel River Lake	61.2	44.7	21.7
Cedar Creek Lake	134.7	108.0	70.7
Bert T. Combs Lake	82.4	15.2	0.8
Beulah Lake	140.0	16.0	4.0
Cannon Creek Lake	20.0	10.0	0.7
Wood Creek Lake	86.3	35.0	8.7
Spotted bass			
Lake Cumberland	22.0	13.8	3.5
Laurel River Lake	11.7	8.2	3.3
Cannon Creek Lake	21.3	4.7	0.0
Wood Creek Lake	12.3	3.7	0.0
Smallmouth bass			
Lake Cumberland	7.8	6.8	5.2
Laurel River Lake	2.2	1.5	1.3
Beulah Lake	8.7	0.7	0.0
Cannon Creek Lake	2.7	2.7	0.0
Wood Creek Lake	1.0	1.0	1.0

*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 1990-2015 (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	≥5.0 fish/hr	≥10.0 fish/hr	≥8.0 fish/hr	≥0.5 fish/hr		
2015	Value		8.3	14.2	8.0	0.0		
	Score	4	1	1	2	0	8	F
2014	Value		12.8	9.7	8.2	0.3		
	Score	4	1	1	2	2	10	F
2013	Value		6.6	8.2	4.7	0.2		
	Score	4	1	1	2	1	9	F
2012	Value	14.0	21.0	21.7	11.7	0.2		
	Score	4	2	2	2	1	11	F
2011	Value		6.8	5.2	3.7	0.2		
	Score	4	1	1	1	1	8	F
2010	Value		11.5	13.7	10.7	0.5		
	Score	4	1	1	2	2	10	F
2009	Value		25.7	8.5	8.2	0.5		
	Score	4	2	1	2	2	11	F
2008	Value		10.0	20.2	18.0	0.2		
	Score	4	1	2	3	1	11	F
2007	Value	13.4	10.3	20.9	15.3	0.5		
	Score	4	1	2	3	2	12	G
2006	Value		1.2	8.8	10.2	0.5		
	Score	4	1	1	2	2	10	F
2005	Value		1.2	9.9	5.5	0.0		
	Score	4	1	1	2	0	8	F
2004	Value		1.1	7.0	6.5	1.0		
	Score	4	1	1	2	2	10	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	2	2	10	F
2000	Value		2.8	9.5	5.2	0.3		
	Score	4	1	1	2	2	10	F
1999	Value	13.5	9.5	13.3	11.7	0.4		
	Score	4	1	1	2	2	10	F
1997	Value		2.6	29.5	18.6	0.4		
	Score	4	1	3	3	2	13	G
1996	Value		1.7	9.6	9.6	0.5		
	Score	4	1	1	2	2	10	F
1995	Value		1.5	21.7	13.9	0.4		
	Score	4	1	2	3	2	12	G
1993	Value		1.8	20.5	4.4	0.1		
	Score	4	1	2	2	1	10	F
1992	Value		3.7	27.1	4.4	0.2		
	Score	4	1	3	2	1	11	F
1991	Value		5.7	11.8	3.9	0.1		
	Score	4	1	1	1	1	8	F
1990	Value		19.6	10.1	4.2	0.0		
	Score	4	1	1	2	0	8	F

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Table 9. Population assessment for spotted bass based on spring electrofishing at Lake Cumberland from 1990-2015 (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	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥9.6 in	≥4.0 fish/hr	≥7.0 fish/hr	≥2.0 fish/hr	≥0.1 fish/hr		
2015	Value		1.7	10.3	3.5	0.0		
	Score	4	2	4	4	0	14	G
2014	Value		1.2	7.7	2.3	0.0		
	Score	4	2	4	4	0	14	G
2013	Value	11.1	0.0	9.8	1.5	0.0		
	Score	4	0	4	3	0	11	F
2012	Value		14.0	8.8	0.7	0.0		
	Score	4	3	4	3	0	14	G
2011	Value		3.9	5.7	0.3	0.0		
	Score	4	2	3	3	0	12	G
2010	Value		9.7	12.2	0.8	0.0		
	Score	4	3	4	3	0	14	G
2009	Value		6.8	10.0	1.0	0.0		
	Score	4	2	4	3	0	13	G
2008	Value	11.0	8.8	15.3	5.0	0.0		
	Score	4	3	4	4	0	15	G
2007	Value		1.3	13.6	7.0	0.4		
	Score	4	2	4	4	3	17	E
2006	Value		1.8	13.8	8.0	0.2		
	Score	4	2	4	4	2	16	G
2005	Value		5.1	11.2	3.1	0.0		
	Score	4	2	4	4	0	14	G
2004	Value		6.0	10.5	1.9	0.0		
	Score	4	2	4	3	0	13	G
2003	Value	11.4	16.7	9.1	2.9	0.0		
	Score	4	3	4	4	0	15	G
2002	Value		5.1	5.2	1.5	0.0		
	Score	4	2	3	3	0	12	G
2001	Value		2.1	4.7	1.6	0.0		
	Score	4	2	3	3	0	12	G
2000	Value		1.9	5.6	1.2	0.0		
	Score	4	2	3	3	0	12	G
1999	Value		3.0	11.2	3.0	0.1		
	Score	4	2	4	4	2	16	G
1997	Value		6.0	6.7	1.9	0.0		
	Score	4	2	3	3	0	12	G
1996	Value		1.0	6.6	1.3	0.0		
	Score	4	2	3	3	0	12	G
1995	Value		1.3	2.3	0.6	0.0		
	Score	4	2	3	3	0	12	G
1993	Value		0.7	2.7	0.0	0.0		
	Score	4	1	3	0	0	8	F
1992	Value		0.7	2.7	0.4	0.0		
	Score	4	1	3	3	0	11	F
1991	Value		1.3	1.3	0.0	0.0		
	Score	4	2	2	0	0	8	F
1990	Value		3.5	1.2	0.0	0.0		
	Score	4	2	2	0	0	8	F

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Table 10. Population assessment for smallmouth bass based on spring electrofishing at Lake Cumberland from 1990-2015 (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	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥11.0 in	≥2.0 fish/hr	≥3.0 fish/hr	≥2.0 fish/hr	≥0.5 fish/hr		
2015	Value		0.3	1.7	5.2	2.0		
	Score	3	2	3	4	4	16	G
2014	Value		0.2	1.7	2.0	0.8		
	Score	3	1	3	4	4	15	G
2013	Value		0.3	0.3	1.7	0.3		
	Score	3	2	2	4	3	14	G
2012	Value		2.5	0.3	1.7	0.5		
	Score	3	4	2	4	4	17	E
2011	Value		0.0	0.7	0.2	0.2		
	Score	3	0	2	2	2	9	F
2010	Value	11.3	0.7	1.2	3.7	2.3		
	Score	3	2	3	4	4	16	G
2009	Value		1.8	0.2	0.7	0.2		
	Score	4	3	2	3	2	14	G
2008	Value		2.5	1.2	2.7	0.8		
	Score	4	4	3	4	4	19	E
2007	Value		2.6	3.8	1.4	0.5		
	Score	4	4	4	4	4	20	E
2006	Value		0.0	0.3	0.3	0.2		
	Score	4	0	2	2	2	10	F
2005	Value	12.2	0.8	1.3	3.9	1.3		
	Score	4	2	3	4	4	17	E
2004	Value		1.9	1.2	1.3	0.0		
	Score	2	3	3	4	0	12	G
2003	Value		1.3	1.6	3.4	1.0		
	Score	2	3	3	4	4	16	G
2002	Value		1.7	2.4	0.9	0.1		
	Score	2	3	3	3	2	13	G
2001	Value		0.5	0.4	0.9	0.5		
	Score	2	2	2	3	4	13	G
2000	Value		0.0	1.4	1.1	0.0		
	Score	2	0	3	4	0	9	F
1999	Value		0.5	2.6	2.5	0.8		
	Score	2	2	4	4	4	16	G
1997	Value	9.6	6.1	3.8	1.3	0.3		
	Score	2	4	4	4	3	17	E
1996	Value		0.1	3.2	2.5	0.8		
	Score	2	1	4	4	4	15	G
1995	Value		6.7	7.4	4.0	1.5		
	Score	2	4	4	4	4	18	E
1993	Value		0.7	2.2	1.1	0.2		
	Score	2	2	3	4	2	13	G
1992	Value		0.8	4.7	1.8	0.3		
	Score	2	2	4	4	3	15	G
1991	Value		3.2	5.5	2.3	0.8		
	Score	2	4	4	4	4	18	E
1990	Value		5.2	4.0	1.3	0.7		
	Score	2	4	4	4	4	18	E

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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 April and May 2015; 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%)
2015	Dam	18	94 (± 11)	67 (± 22)	39	64 (± 15)	23 (± 13)	4	75 (± 49)	75 (± 49)
	Harmon Creek	13	46 (± 28)	31 (± 26)	11	18 (± 24)	9 (± 18)	16	88 (± 17)	56 (± 25)
	Fishing Creek	92	67 (± 10)	18 (± 8)	19	47 (± 23)	5 (± 10)	0	0 (± 0)	0 (± 0)
	Lily Creek	66	73 (± 11)	23 (± 10)	63	74 (± 11)	16 (± 9)	27	89 (± 12)	70 (± 18)
	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, Bert T. Combs Lake, Beulah Lake, Cannon Creek Lake, and Wood Creek Lake during 2015; 95% confidence limits are in parentheses.

	Largemouth bass		Smallmouth bass		Spotted bass	
Lake	PSD	RSD_{15}	PSD	RSD_{14}	PSD	RSD_{14}
Lake Cumberland	70 (±7)	25 (±6)	87 (±10)	66 (±14)	63 (±8)	16 (±6)
Laurel River Lake	73 (±5)	35 (±5)	69 (±26)	62 (±28)	70 (±11)	29 (±11)
Cedar Creek Lake	80 (±6)	52 (±7)				
Bert T. Combs Lake	18 (±8)	1 (±2)				
Beulah Lake	11 (±4)	3 (±2)	8 (±15)	0 (±0)		
Cannon Creek Lake	50 (±18)	3 (±7)	100 (±0)	0 (±0)	22 (±15)	0 (±0)
Wood Creek Lake	41 (±6)	10 (±4)	100 (±0)	100 (±0)	30 (±15)	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 22 September 2015; standard error is in parentheses.

	Inch class													
Species	3	4	5	6	7	8	9	10	11	12	14	17	Total	CPUE
Largemouth bass	5	10	7	5	1	2	5	11	4	3	3	1	57	38.0 (16.5)
Spotted bass	1	6	1		6	6	2	3	1	1			27	18.0 (6.3)

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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								
2015	Fishing Creek	5.1	0.2	18.7	14.1	8.7	6.4		
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 2015 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	5.1	0.2	18.7	14.1	8.7	6.4
Laurel River Lake	Laurel River Arm	3.5	0.1	5.3	2.0	0.0	0.0
Cedar Creek Lake		3.4	0.1	50.0	18.6	4.0	1.5
Wood Creek Lake		4.2	0.1	32.7	7.8	8.0	2.2

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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 22 September 2015. 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
	22	93 (2)	6	93 (2)	1	87 (-)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	17	102 (2)	2	91 (3)	0	-

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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, Beulah Lake, and Wood Creek Lake during September 2015. Standard error is in parentheses.

Species	Location	Length group					
		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)	22	93 (2)	6	93 (2)	1	87 (-)
	Laurel River Lake (Laurel River Arm)	41	100 (1)	12	110 (4)	4	112 (3)
	Cedar Creek Lake	20	89 (2)	14	92 (2)	11	89 (2)
	Beulah Lake	35	84 (1)	12	83 (2)	1	76 (1)
	Wood Creek Lake	178	88 (1)	57	87 (1)	8	99 (4)
Spotted bass		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	Lake Cumberland (Fishing Creek)	17	102 (2)	2	91 (3)	0	-
	Laurel River Lake (Laurel River Arm)	35	110 (2)	19	116 (3)	1	118 (-)
	Wood Creek Lake	15	100 (3)	10	93 (1)	0	-

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Table 18. Length frequency and CPUE (fish/nn) for each species of crappie collected in the Fishing Creek (26 net-nights) and Wolf Creek (27 net-nights) embayments of Lake Cumberland in 53 net-nights from 19-22 and 26-29 October 2015.

		Inch class														
Area	Species	2	3	4	5	6	7	8	9	10	11	13	14	Total	CPUE	Std. error
Fishing Creek																
	White crappie	6	12	3	1		1	2			1	2		28	1.1	0.4
	Black crappie	6	3	2	36	5	10	16	12	2				92	3.5	0.8
Wolf Creek																
	White crappie							1						1	0.0	0.0
	Black crappie	1	3	8	4	17	31	39	11	1	1		1	117	4.3	1.2
Total																
	White crappie	6	12	3	1		1	3			1	2		29	0.6	0.2
	Black crappie	7	6	10	40	22	41	55	23	3	1		1	209	3.9	0.7

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Table 19. PSD and RSD_{10} values calculated for crappie collected in trapnets at Lake Cumberland in October 2015; 95% confidence limits are in parentheses.

Species		No.	PSD	RSD_{10}
White crappie				
	Fishing Creek	7	71 (± 36)	43 (± 40)
	Wolf Creek	1	100 (± 0)	0 (± 0)
	Lake Cumberland	8	75 (± 32)	38 (± 36)
Black crappie				
	Fishing Creek	81	37 (± 11)	2 (± 3)
	Wolf Creek	105	50 (± 10)	3 (± 3)
	Lake Cumberland	186	45 (± 7)	3 (± 2)

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Table 20. Mean back calculated lengths (in) at each annulus for white crappie collected from Lake Cumberland during 2015, including the 95% confidence interval (CI) for each mean length per age group.

		Age				
Year	No.	1	2	3	4	5
2014	5	4.2				
2012	2	5.0	9.4	11.3		
2010	1	4.9	8.8	10.4	11.8	12.6
Mean		4.5	9.2	11.0	11.8	12.6
Number		8	3	3	1	1
Smallest		3.3	8.7	10.3	11.8	12.6
Largest		5.0	10.1	12.3	11.8	12.6
Std error		0.2	0.5	0.7		
95% CI ±		0.4	1.0	1.3		

Otoliths were used for age-growth determinations; Intercept = 0
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Table 21. Mean back calculated lengths (in) at each annulus for black crappie collected from Lake Cumberland during 2015, including the 95%confidence interval (CI) for each mean length per age group.

Year	No.	Age 1	2	3	4	5
2014	33	3.5				
2013	55	3.8	6.4			
2010	1	4.7	9.0	10.8	12.7	14.0
Mean		3.7	6.4	10.8	12.7	14.0
Number		89	56	1	1	1
Smallest		2.5	5.0	10.8	12.7	14.0
Largest		5.1	9.1	10.8	12.7	14.0
Std error		0.1	0.1			
95% CI ±		0.1	0.3			

Otoliths were used for age-growth determinations; Intercept = 0
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Table 22. Age-frequency and CPUE (fish/nn) of white crappie trap-netted at Lake Cumberland in 53 net-nights in October 2015.

	Inch class											Std
Age	2	3	4	5	7	8	11	13	Total	%	CPUE	error
0+	6	12	3						21	72.4	0.40	0.17
1+				1	1	3			5	17.2	0.09	0.04
3+							1	1	2	6.9	0.04	0.02
5+								1	1	3.4	0.02	0.01
Total	6	12	3	1	1	3	1	2	29	100.0	0.55	
%	20.7	41.4	10.3	3.4	3.4	10.3	3.4	6.9				

CPUE of ≥8.0 in (quality size) crappie = 0.11 fish/nn
CPUE of ≥10.0 in (preferred size) crappie = 0.0.06 fish/nn
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Table 23. Age-frequency and CPUE (fish/nn) of black crappie trap-netted at Lake Cumberland in 53 net-nights in October 2015.

	Inch class														Std
Age	2	3	4	5	6	7	8	9	10	11	14	Total	%	CPUE	error
0+	7	6										13	6.2	0.25	0.09
1+			10	40	7	15						72	34.4	1.36	0.36
2+					15	26	55	23	3	1		123	58.9	2.32	0.56
5+											1	1	0.5	0.02	0.02
Total	7	6	10	40	22	41	55	23	3	1	1	209	100.0	3.94	
%	3.3	2.9	4.8	19.1	10.5	19.6	26.3	11.0	1.4	0.5	0.5				

CPUE of ≥8.0 in (quality size) crappie = 1.57 fish/nn
CPUE of ≥10.0 in (preferred size) crappie = 0.09 fish/nn
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Table 24. Population assessment for white, black, and white and black crappie combined from Lake Cumberland trap net data collected in October 2015 (scoring based on statewide assessment).

	Species					
	White crappie		Black crappie		Combined	
Parameter	Assessment value	Assessment score	Assessment value	Assessment score	Assessment value	Assessment score
CPUE age-1 and older	0.2	1	3.7	1	3.9	1
CPUE age-1	0.1	1	1.4	1	1.5	1
CPUE age-0	0.4	1	0.3	1	0.7	1
CPUE $\geq$ 8.0 in	0.1	1	1.6	1	1.7	1
Mean length age-2 at capture	11.9*	4	8.4	1	8.5	2
Instantaneous mortality (Z)	0.256		1.513		1.311	
Annual mortality (A)	22.6		78.0		73.0	
Total score:		8		5		6
Assessment rating:		F		P		P

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* No age-2 fish collected. Data is from age-2 white crappie collected in 2013.

Table 25. Population assessment for crappie based on fall trap netting at Lake Cumberland from 1990-2015 (scoring based on statewide assessment).

Year		CPUE ≥ age-1			CPUE age-1			CPUE age-0			CPUE ≥ 8.0 in			Mean length age-2 at capture			Total	Assessement
		WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	Score	rating
Management objective				≥ 5.0 fish/nn			≥ 3.0 fish/nn			≥ 3.0 fish/nn			≥ 2.0 fish/nn			≥ 9.6 in		
2015	Value	0.2	3.7	3.9	0.1	1.4	1.5	0.4	0.3	0.7	0.1	1.6	1.7	11.9*	8.4	8.5		
	Score			1			1			1			1			2	6	P
2013	Value	0.2	0.9	1.1	0.0	0.1	0.1	0.0	34.2	34.2	0.2	0.8	1.0	11.9	9.7	9.9		
	Score			1			1			4			1			4	11	F
2011	Value	2.8	2.7	5.5	2.3	2.2	4.5	0.2	23.3	23.5	1.4	0.7	2.0	10.7	9.8	10.2		
	Score			2			2			4			2			4	14	G
2009	Value	0.8	0.7	1.5	0.8	0.6	1.4	0.6	7.3	7.9	0.6	0.3	0.9	-	-	-		
	Score			1			1			3			1			0	6	P
2007	Value	0.3	7.0	7.3	0.2	6.7	6.9	0.0	0.2	0.3	0.3	0.5	0.8	11.2	9.4	9.9		
	Score			2			2			1			1			4	10	F
2005	Value	0.5	5.2	5.7	0.1	2.8	3.0	0.2	1.2	1.4	0.5	1.4	1.9	10.6	8.1	8.8		
	Score			2			1			1			1			2	7	P
2003	Value	2.3	3.5	5.8	1.8	2.7	4.5	0.2	4.5	4.7	1.2	1.2	2.4	10.4	9.8	10.1		
	Score			2			2			2			2			4	12	F
2001	Value	0.4	0.6	1.0	0.1	0.4	0.6	0.3	4.0	4.3	0.3	0.2	0.5	10.4	9.3	9.7		
	Score			1			1			2			1			4	9	F
1998	Value	1.7	0.9	2.7	0.5	0.3	0.9	0.3	0.5	0.8	1.7	0.8	2.5	9.5	-	9.3		
	Score			1			1			1			2			3	8	F
1996	Value	3.3	1.0	4.2	0.5	0.5	1.0	2.7	0.2	2.9	1.5	0.1	1.6	8.7	6.8	8.5		
	Score			1			1			1			1			2	6	P
1995	Value	8.2	2.1	10.3	7.2	1.7	8.9	0.5		0.6	1.4	0.3	1.7	9.9	7.7	9.3		
	Score			2			3			1			1			3	10	F
1994	Value	2.8	1.2	4.0	1.6	0.7	2.3	2.0	0.4	2.4	1.7	0.3	2.0	9.7	7.6	8.9		
	Score			1			1			1			2			2	7	P
1993	Value	3.2	0.8	4.0	1.4	0.7	2.1	0.8	0.3	1.1	2.0	0.1	2.1	9.8	8.8	9.7		
	Score			1			1			1			2			4	9	F
1991	Value	3.6	1.5	5.1	2.2	0.3	2.6	1.8	0.3	2.1	2.5	1.1	3.5	9.8	8.4	9.3		
	Score			2			1			1			2			3	9	F
1990	Value	4.3	1.6	5.9	2.5	1.4	3.8	0.1	0.0	0.1	2.2	0.3	2.5	10.0	-	9.4		
	Score			2			2			1			2			3	10	F

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* No age-2 fish collected. Data is from age-2 white crappie collected in 2013.

Table 26. Number of fish and mean relative weight (Wr) for each length group of crappie collected in Lake Cumberland in October 2015. Standard error is in parentheses.

		Length group					
		5.0-7.9 in		8.0-9.9 in		≥10.0 in	
Species	Location	No.	Wr	No.	Wr	No.	Wr
White crappie							
	Fishing Creek	2	82 (3)	2	88 (2)	3	91 (1)
	Wolf Creek	0	-	1	98 (-)	0	-
	Lake Cumberland	2	82 (3)	3	91 (4)	3	91 (1)
Black crappie							
	Fishing Creek	51	89 (1)	28	93 (2)	2	102 (7)
	Wolf Creek	52	90 (1)	50	98 (1)	3	98 (2)
	Lake Cumberland	103	89 (1)	78	96 (1)	5	100 (3)

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Table 27. Length frequency and CPUE (fish/nn) of striped bass collected at Lake Cumberland in 30 net-nights on 1-4 December 2015.

	Inch class																						
Species	9	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	CPUE	Std. error
Striped bass	1	1	3	7	3	1	3	8	3	18	30	15	7	4	12	6	8	2	1	5	138	4.6	0.5

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Table 28. Population assessment for striped bass based on fall gill netting at Lake Cumberland from 1994-2015.

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		
2015	Value	4.6	22.3	1.5	0.9		
	Score	3	4	3	1	11	G
2014	Value	6.1	21.9	0.6	5.2		
	Score	4	3	2	4	13	G
2013	Value	7.2	22.1	2.8	2.6		
	Score	4	4	4	3	15	E
2012	Value	7.3	20.6	1.9	0.8		
	Score	4	2	3	1	10	G
2011	Value	5.9	20.5	1.2	0.6		
	Score	3	2	3	1	9	F
2009	Value	4.0	21.6	1.2	1.8		
	Score	3	3	3	2	11	G
2008	Value	9.2	22.1	1.5	2.7		
	Score	4	4	3	3	14	E
2007	Value	5.3	23.7	1.2	3.9		
	Score	3	4	3	4	14	E
2006	Value	3.9	22.8	1.6	1.3		
	Score	2	4	3	2	11	G
2005	Value	3.4	23.3	1.5	1.2		
	Score	2	4	3	2	11	G
2004	Value	4.4	23.4	2.1	1.8		
	Score	3	4	4	2	13	G
2003	Value	4.1	21.9	1.2	1.7		
	Score	3	3	3	2	11	G
2002	Value	3.5	22.9	1.3	1.8		
	Score	2	4	3	2	11	G
2001	Value	3.1	21.0	0.1	2.7		
	Score	2	3	1	3	9	F
2000	Value	3.4	23.3	0.7	2.5		
	Score	2	4	2	3	11	G
1999	Value	3.4	22.4	0.3	2.7		
	Score	2	4	1	3	10	G
1998	Value	5.3	21.5	0.4	4.8		
	Score	3	3	1	4	11	G
1997	Value	1.9	21.5	1.1	0.4		
	Score	1	3	3	1	8	F
1996	Value	2.7	22.2	0.9	1.0		
	Score	2	4	2	2	10	G
1995	Value	3.5	22.7	1.5	1.5		
	Score	2	4	3	2	11	G
1994	Value	4.3	21.7	0.8	2.7		
	Score	3	3	2	3	11	G

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Table 29. Mean back calculated lengths (in) at each annulus for striped bass collected from Lake Cumberland during 2015, including the 95% confidence interval (CI) for each mean length per age group.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	25	9.6							
2013	33	12.3	18.8						
2012	6	11.9	18.4	22.0					
2011	4	10.2	17.7	21.4	23.7				
2010	5	11.4	18.0	21.3	23.6	25.2			
2009	17	12.0	18.4	21.6	23.7	25.4	27.3		
2008	10	10.7	17.3	21.2	23.0	24.5	25.8	27.2	
2007	1	11.4	18.6	22.8	24.8	26.4	27.4	28.3	28.7
Mean		11.3	18.4	21.6	23.5	25.1	26.8	27.3	28.7
Number		101	76	43	37	33	28	11	1
Smallest		4.8	14.9	20.1	21.6	22.9	24.5	25.5	28.7
Largest		15.0	20.8	24.0	26.1	27.9	30.1	30.5	28.7
Std error		0.2	0.1	0.1	0.2	0.2	0.3	0.5	
95% CI $\pm$		0.5	0.3	0.3	0.4	0.5	0.7	0.9	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 30. Age-frequency and CPUE (fish/nn) of striped bass gill netted for 30 net-nights at Lake Cumberland in December 2015.

	Inch class																							Std
Age	9	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	%	CPUE	error
0	1																				1	0.7	0.0	0.0
1+		1	3	7	3	1	3	8													26	18.7	0.9	0.2
2+									3	18	27	15	1								64	46.0	2.1	0.4
3+											3		4	1							8	5.8	0.3	0.1
4+													2	1	1						4	2.9	0.1	0.0
5+														1	4	1					6	4.3	0.2	0.1
6+														1	4	3	5		1	4	18	12.9	0.6	0.1
7+															4	2	3	1		1	11	7.9	0.4	0.1
8+																		1			1	0.7	0.0	0.0
Total	1	1	3	7	3	1	3	8	3	18	30	15	7	4	13	6	8	2	1	5	139	100.0	4.6	
%	0.7	0.7	2.2	5.0	2.2	0.7	2.2	5.8	2.2	12.9	21.6	10.8	5.0	2.9	9.4	4.3	5.8	1.4	0.7	3.6				

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Table 31. Population assessment for striped bass gill netted at Lake Cumberland in December 2015.

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	4.6	3
Growth rate (Mean length age 2+ at capture)	22.3	4
Size structure (CPUE ≥24.0 in)	1.5	3
Recruitment (CPUE age 1)	0.9	1
Instantaneous mortality (Z)	0.339	
Annual mortality (A)	28.7	
Total score		11
Assessment rating		G

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Table 32. Number of fish and mean relative weight (Wr) for each length group of striped bass collected in Lake Cumberland in December 2015. 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
25	101 (1)	98	87 (1)	6	80 (2)

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Table 33. Species composition, relative abundance, and CPUE (fish/hr) of trout collected during 9.75 hours of 15-minute nocturnal electrofishing runs for trout in Cumberland tailwater during November 2015; standard error is in parentheses.

		Inch class																						
Area	Species	4	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	26	Total	CPUE
Above Helms	Rainbow trout	1			3	33	68	27	15	5	4	1	2	1	2	1							163	130.4 (18.4)
	Brown trout				7	33	15	6	7	12	3	3	2		1	3	3	1			1		97	77.6 (24.9)
	Brook trout					3	5	1	1														10	8.0 (1.3)
Below Helms	Rainbow trout		1	1		20	30	15	11	6	7	6	3			1							101	80.8 (11.2)
	Brown trout				2	11	11	9	1	3	5	1	3	2	2			1					51	40.8 (10.7)
	Brook trout					3	15	1	1														20	16.0 (6.3)
Rainbow Run	Rainbow trout				1		2	8	3	5	3	9			1	1							33	26.4 (9.3)
	Brown trout				1	8	16	8	4	5	8	3	6	8	3	1				1	1	1	74	59.2 (13.5)
	Brook trout					1	8	2															11	8.8 (5.0)
Big Willis	Rainbow trout		1	1		7	11	10	6	7	6	11	3	3	1	1	1						69	55.2 (17.6)
	Brown trout			1	1	15	26	3	3	8	7	3	2		1	1		3					74	59.2 (9.4)
	Brook trout						5	2															7	5.6 (1.6)
Crocus Creek	Rainbow trout				3	8	26	12	4	6	2	5	9	3									78	62.4 (14.7)
	Brown trout				1	2	5	1	3	3	2			2									19	15.2 (4.8)
	Brook trout					1																	1	0.8 (0.8)
Hwy 61 Bridge	Rainbow trout					1				1	2		4	2	2	1							13	13.0 (9.4)
	Brown trout				7	4	1	1	2	2	6	4	3		2								32	32.0 (8.6)
	Brook trout																						0	0.0 (0.0)
Cloyd's Landing	Rainbow trout							4	6	2	2	1	4	3	2	3	1	1					29	23.2 (2.3)
	Brown trout						1			2	2												5	4.0 (2.2)
	Brook trout					1																	1	0.8 (0.8)
Biggerstaff Bar	Rainbow trout							1	1	1	2	1			1	2			1				10	8.0 (4.6)
	Brown trout							1				1											2	1.6 (1.6)
	Brook trout																						0	0.0 (0.0)
Total	Rainbow trout	1	2	2	7	69	137	77	46	33	28	34	25	12	9	10	2	1	1				496	50.9 (7.4)
	Brown trout			1	19	73	75	29	20	35	33	15	16	12	9	5	3	5		1	2	1	354	36.3 (5.8)
	Brook trout					9	33	6	2														50	5.1 (1.3)

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Table 34. 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 2015. 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.
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 35. 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 2015. 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.
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 36. Number of fish and mean relative weight (Wr) for each species of trout collected in the Cumberland tailwater during November 2015. Standard error is in parentheses.

	Species					
	Rainbow trout		Brown trout		Brook trout	
Location	No.	Wr	No.	Wr	No.	Wr
Above Helms	162	84 (1)	97	91 (1)	10	85 (4)
Below Helms	96	82 (1)	49	91 (2)	20	83 (2)
Rainbow Run	33	85 (1)	73	90 (1)	11	82 (3)
Big Willis	67	83 (1)	74	90 (1)	7	78 (21)
Crocus Creek	78	85 (2)	19	87 (2)	1	82 (-)
Hwy 61	13	89 (3)	32	94 (2)	-	-
Cloyds	29	87 (1)	5	88 (3)	1	90 (-1)
Biggerstaff Bar	10	93 (3)	2	90 (3)	-	-
Total	488	84 (0)	351	91 (1)	50	83 (1)

sedcbtwt.d15

Table 37. 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 Laurel River Lake during April and May 2015; 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	19	20	21	Total	CPUE
Dam	Largemouth bass			1	4	3	6	2	6	7	15	14	7	8	11	8	1	2	1	1	97	64.7 (11.1)
	Spotted bass		1					1	1	1	3	3	2	1	1						14	9.3 (2.7)
	Smallmouth bass																				0	0.0 (0.0)
Spruce Creek	Largemouth bass				4	9	8	3	3	4	4	9	9	6	17	8	6	2	2		94	62.7 (11.7)
	Spotted bass	1		2	2			4	1	1		1	6	2	1						21	14.0 (3.4)
	Smallmouth bass												2				1				3	2.0 (0.9)
Laurel River Arm	Largemouth bass		1	3	6	22	19	10	6	14	19	25	14	7	5	7	2	2	1		163	108.7 (14.5)
	Spotted bass			1		1	1	2	1	2	3				1						12	8.0 (2.5)
	Smallmouth bass																				0	0.0 (0.0)
Upper Craigs Creek	Largemouth bass			1	5	10	5	4	1	1	8	4	10	10	10	4	4	3	2		82	54.7 (10.2)
	Spotted bass				1	3		1	5	7	6	2	2	4							31	20.7 (4.6)
	Smallmouth bass					2	1	1			1		1	1	1	1	1				10	6.7 (2.7)
Total	Largemouth bass		1	5	19	44	38	19	16	26	46	52	40	31	43	27	13	9	6	1	436	72.7 (7.1)
	Spotted bass	1	1	3	3	4	1	8	8	11	12	6	10	7	3						78	13.0 (1.9)
	Smallmouth bass					2	1	1			1		3	1	1	1	2				13	2.2 (0.9)

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Table 38. Comparison of catch-per-hour of black bass (by area) captured during spring electrofishing on Laurel River Lake during the period of 2011-2015.

	Stock					Quality					Preferred				
Species/Area	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Largemouth bass															
Dam	33.3	52.7	64.7	26.7	59.3	15.3	31.3	53.3	21.3	45.3	6.7	15.3	12.7	13.3	21.3
Spruce Creek	50.7	32.0	60.0	43.3	54.0	45.3	24.0	49.3	33.3	42.0	25.3	16.0	26.7	17.3	27.3
Laurel River Arm	102.0	102.7	59.3	102.7	87.3	74.0	61.3	42.7	47.3	54.7	32.7	27.3	24.0	24.0	16.0
Craigs Cr. headwaters	80.0	54.7	59.3	60.7	44.0	52.0	32.0	44.7	51.3	36.7	15.3	14.7	21.3	31.3	22.0
Mean	66.5	60.5	60.8	58.3	61.2	46.7	37.2	47.5	38.3	44.7	20.0	18.3	21.2	21.5	21.7
Spotted bass															
Dam	16.0	18.0	6.0	5.3	8.7	8.0	8.7	3.3	2.0	7.3	3.3	2.7	0.7	0.7	2.7
Spruce Creek	18.0	18.7	25.3	14.7	10.7	11.3	12.7	22.7	9.3	7.3	2.7	3.3	6.0	4.7	6.0
Laurel River Arm	15.3	17.3	8.7	18.0	7.3	2.0	2.7	4.7	4.0	4.0	0.0	0.7	0.7	0.0	0.7
Craigs Cr. headwaters	38.7	28.7	36.0	42.0	20.0	16.7	10.0	21.3	25.3	14.0	2.0	0.0	1.3	10.0	4.0
Mean	22.0	20.7	19.0	20.0	11.7	9.5	8.5	13.0	10.2	8.2	2.0	1.7	2.2	3.8	3.3
Smallmouth bass															
Dam	2.0	2.7	2.7	1.3	0.0	0.0	2.7	2.7	1.3	0.0	0.0	2.0	1.3	1.3	0.0
Spruce Creek	6.0	2.7	4.7	4.7	2.0	2.7	2.0	4.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Laurel River Arm	1.3	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
Craigs Cr. headwaters	4.7	0.7	1.3	8.0	6.7	2.7	0.7	0.0	7.3	4.0	1.3	0.0	0.0	5.3	3.3
Mean	3.5	1.5	2.2	3.7	2.2	1.3	1.3	1.8	2.8	1.5	0.8	1.0	0.8	2.3	1.3

Largemouth bass - ≥8.0 in = stock, ≥12.0 in = quality, ≥15.0 in = preferred.
Smallmouth bass and spotted bass - ≥7.0 in = stock, ≥11.0 in = quality, ≥14.0 in = preferred.
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Table 39. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Laurel River Lake during April and May 2015.

	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.
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 40. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Laurel River Lake during April and May 2015.

	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.
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 41. Spring electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected at Laurel River Lake during April and May 2015.

	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.
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 42. Population assessment for largemouth bass based on spring electrofishing at Laurel River Lake from 1990-2015 (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		
2015	Value		1.3	23.0	21.7	1.2		
	Score	4	1	2	4	2	13	G
2014	Value		1.6	16.8	21.5	0.8		
	Score	4	1	2	4	2	13	G
2013	Value	13.1	1.2	26.3	21.2	1.2		
	Score	4	1	3	4	2	14	G
2012	Value		3.3	18.8	18.3	0.2		
	Score	4	1	2	3	1	11	F
2011	Value		9.2	26.7	20.0	0.8		
	Score	4	1	3	4	2	14	G
2010	Value		6.5	20.7	21.2	0.8		
	Score	4	1	2	4	2	13	G
2009	Value		12.2	16.8	20.8	0.8		
	Score	4	1	2	4	2	13	G
2008	Value	13.3	36.3	7.8	17.7	0.7		
	Score	4	3	1	3	2	13	G
2007	Value		2.1	14.5	21.8	0.5		
	Score	4	1	1	4	2	12	G
2006	Value		18.4	17.1	19.5	0.6		
	Score	4	1	2	3	2	12	G
2005	Value		4.6	18.5	22.5	0.2		
	Score	4	1	2	4	1	12	G
2004	Value		2.6	18.5	14.2	0.0		
	Score	4	1	2	3	0	10	F
2003	Value	13.7	7.8	29.3	13.8	0.0		
	Score	4	1	3	3	0	11	F
2002	Value		18.2	23.3	8.8	0.0		
	Score	4	1	2	2	0	9	F
2001	Value		17.8	22.1	2.5	0.3		
	Score	4	1	2	1	2	10	F
2000	Value		2.3	16.3	2.1	0.1		
	Score	4	1	2	1	1	9	F
1999	Value		8.2	26.0	6.4	0.5		
	Score	4	1	3	2	2	12	G
1998	Value		6.0	9.2	7.8	1.5		
	Score	4	1	1	2	2	10	F
1997	Value		14.5	25.4	6.2	0.7		
	Score	4	1	3	2	2	12	G
1996	Value		8.7	15.4	6.6	0.9		
	Score	4	1	2	2	2	11	F
1995	Value		1.2	9.3	6.1	1.1		
	Score	4	1	1	2	2	10	F
1994	Value		5.7	13.9	7.0	1.3		
	Score	4	1	1	2	2	10	F
1993	Value		6.0	11.4	6.5	1.3		
	Score	4	1	1	2	2	10	F
1992	Value		9.1	24.4	8.8	1.3		
	Score	4	1	2	2	2	11	F
1991	Value		22.1	11.6	4.7	0.0		
	Score	4	2	1	2	0	9	F
1990	Value		17.5	10.2	4.9	1.1		
	Score	4	1	1	2	2	10	F

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Table 43. Population assessment for spotted bass based on spring electrofishing at Laurel River Lake from 1990-2015 (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	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥11.0 in	≥3.0 fish/hr	≥7.0 fish/hr	≥1.0 fish/hr	≥0.1 fish/hr		
2015	Value		0.3	4.8	3.3	0.0		
	Score	4	1	3	4	0	12	G
2014	Value		0.5	6.3	3.8	0.0		
	Score	4	1	3	4	0	12	G
2013	Value		0.3	10.8	2.2	0.0		
	Score	4	1	4	4	0	13	G
2012	Value	10.0	0.5	6.8	1.7	0.0		
	Score	4	1	3	3	0	11	F
2011	Value		0.8	7.5	2.0	0.0		
	Score	4	1	4	4	0	13	G
2010	Value		2.5	9.0	4.8	0.0		
	Score	4	2	4	4	0	14	G
2009	Value		0.3	6.8	2.7	0.2		
	Score	4	1	3	4	2	14	G
2008	Value		4.0	8.5	2.3	0.0		
	Score	4	2	4	4	0	14	G
2007	Value	10.4	0.8	10.7	2.0	0.0		
	Score	4	1	4	4	0	13	G
2006	Value		4.3	9.1	2.6	0.0		
	Score	4	2	4	4	0	14	G
2005	Value		1.5	7.7	3.7	0.0		
	Score	4	2	4	4	0	14	G
2004	Value		0.0	9.8	2.2	0.0		
	Score	4	0	4	4	0	12	G
2003	Value		2.3	10.2	0.8	0.0		
	Score	4	2	4	3	0	13	G
2002	Value	11.5	2.2	5.5	0.3	0.0		
	Score	4	2	3	3	0	12	G
2001	Value		6.0	8.3	0.1	0.0		
	Score	4	2	4	2	0	12	G
2000	Value		2.6	2.3	0.1	0.0		
	Score	4	2	3	2	0	11	F
1999	Value		1.5	5.6	0.4	0.0		
	Score	4	2	3	3	0	12	G
1998	Value		6.6	4.8	0.3	0.0		
	Score	4	2	3	3	0	12	G
1997	Value		1.6	7.5	0.7	0.0		
	Score	4	2	4	3	0	13	G
1996	Value		0.3	7.9	0.7	0.0		
	Score	4	1	4	3	0	12	G
1995	Value		1.2	9.9	0.0	0.0		
	Score	4	2	4	0	0	10	F
1994	Value		4.8	5.4	1.4	0.0		
	Score	4	2	3	3	0	12	G
1993	Value		1.2	5.3	0.6	0.2		
	Score	4	2	3	3	2	14	G
1992	Value		3.4	13.2	1.0	0.0		
	Score	4	2	4	3	0	13	G
1991	Value		4.0	12.7	0.0	0.0		
	Score	4	2	4	0	0	10	F
1990	Value		6.7	3.2	2.4	0.0		
	Score	4	2	3	4	0	13	G

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Table 44. Population assessment for smallmouth bass based on spring electrofishing at Laurel River Lake from 1990-2015 (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	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥13.0 in	≥3.0 fish/hr	≥1.5 fish/hr	≥1.0 fish/hr	≥0.5 fish/hr		
2015	Value		0.0	0.2	1.3	0.5		
	Score	4	0	2	4	4	14	G
2014	Value		0.0	0.5	2.3	1.0		
	Score	4	0	2	4	4	14	G
2013	Value	13.2	0.0	1.0	0.8	0.0		
	Score	4	0	3	3	0	10	F
2012	Value		0.0	0.3	1.0	0.5		
	Score	4	0	2	4	4	14	G
2011	Value		0.3	0.5	0.8	0.7		
	Score	4	2	2	3	4	15	G
2010	Value		3.8	0.7	2.8	1.2		
	Score	4	4	2	4	4	18	E
2009	Value		0.3	0.7	3.5	1.8		
	Score	4	2	2	4	4	16	G
2008	Value	13.6	0.8	1.3	3.2	1.8		
	Score	4	2	3	4	4	17	E
2007	Value		1.2	0.3	1.2	0.8		
	Score	4	3	2	4	4	17	E
2006	Value		0.4	0.2	1.0	0.3		
	Score	4	2	2	3	3	14	G
2005	Value		0.1	1.5	5.5	2.8		
	Score	4	1	3	4	4	16	G
2004	Value		0.4	0.7	1.2	0.0		
	Score	4	2	2	4	0	12	G
2003	Value	13.6	4.0	1.8	2.2	0.2		
	Score	4	4	3	4	2	17	E
2002	Value		6.0	2.2	0.7	0.2		
	Score	4	4	3	3	2	16	G
2001	Value		3.4	2.8	1.1	0.0		
	Score	4	4	4	4	0	16	G
2000	Value		0.9	1.3	0.6	0.1		
	Score	4	2	3	3	2	14	G
1999	Value		2.1	1.9	0.5	0.1		
	Score	4	3	3	3	2	15	G
1998	Value		12.7	0.7	0.7	0.5		
	Score	4	4	2	3	4	17	E
1997	Value		6.7	2.1	1.5	0.1		
	Score	4	4	3	4	2	17	E
1996	Value		0.1	2.9	0.4	0.0		
	Score	4	1	4	3	0	12	G
1995	Value		1.2	0.5	1.1	0.3		
	Score	4	3	2	4	3	16	G
1994	Value		3.4	1.3	0.7	0.3		
	Score	4	4	3	3	3	17	E
1993	Value		1.6	0.6	0.4	0.3		
	Score	4	3	2	3	3	15	G
1992	Value		1.9	1.5	0.2	0.0		
	Score	4	3	3	2	0	12	G
1991	Value		0.4	0.4	0.0	0.0		
	Score	4	2	2	0	0	8	F
1990	Value		8.6	1.4	1.4	0.5		
	Score	4	4	3	4	4	19	E

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Table 45. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Laurel River Lake during April and May 2015; 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%)
2015	Dam	89	76 (± 9)	36 (± 10)	13	85 (± 20)	31 (± 26)	0	0 (± 0)	0 (± 0)
	Spruce Creek	81	78 (± 9)	51 (± 11)	16	69 (± 23)	56 (± 25)	3	100 (± 0)	100 (± 0)
	Laurel River Arm	131	63 (± 8)	18 (± 7)	11	55 (± 31)	9 (± 18)	0	0 (± 0)	0 (± 0)
	Upper Craigs Creek	66	83 (± 9)	50 (± 12)	30	70 (± 17)	20 (± 15)	10	60 (± 32)	50 (± 33)
	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 46. 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 23 September 2015; standard error is in parentheses.

		Inch class															
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	17	Total	CPUE
Laurel River Arm	Largemouth bass	7	1	1	1	5	7	13	9	12	6	4	2	3	1	72	48.0 (9.6)
	Spotted bass		4	10	6	14	14	5	2	10	4	6	1			76	50.7 (6.0)
	Smallmouth bass								1				1	1		3	2.0 (1.4)

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Table 47. 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
2015	Laurel River Arm	3.5	0.1	5.3	2.0	0.0	0.0		
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 48. Number of fish and mean relative weight (Wr) for each length group of black bass collected at 312 Bridge in Laurel River Lake on 23 September 2015. 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
	41	100 (1)	12	110 (4)	4	112 (3)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	35	109 (2)	19	116 (3)	1	118 (-)

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Table 49. Length frequency and CPUE (fish/nn) of walleye collected from Laurel River Lake in 8 net-nights in November 2015.

	Inch class																		
Species	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	Std. error
Walleye	3	3	8	1	8	8	8	5	8	13	12	34	21	10	2	1	145	18.1	3.4

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Table 50. Population assessment for walleye based on fall gill netting at Laurel River Lake from 1990-2015 (scoring based on statewide assessment).

		Parameters					
		CPUE	Mean length	CPUE	CPUE	Total	Assessment
Year		≥ age-1+	age-2+ at capture	≥ 20.0 in	age-1+	score	rating
Management objective		≥10.0 fish/nn	≥18.0 in	≥2.5 fish/nn	≥4.0 fish/nn		
2015	Value	16.5	19.5	8.5	4.9		
	Score	4	4	4	4	16	E
2013	Value	18.5	19.4	7.9	4.6		
	Score	4	4	4	4	16	E
2011	Value	15.1	19.1	4.3	1.2		
	Score	4	4	4	2	14	E
2009	Value	15.3	19.0	7.2	5.1		
	Score	4	4	4	4	16	E
2007	Value	21.6	19.1	6.5	8.3		
	Score	4	4	4	4	16	E
2005	Value	25.1	19.5	9.3	8.0		
	Score	4	4	4	4	16	E
2002	Value	10.6	18.8	0.6	6.1		
	Score	4	4	2	4	14	E
1993	Value	4.3	18.6	0.5	2.4		
	Score	3	4	1	3	11	G
1991	Value	3.7		0.8	0.5		
	Score	2	4	2	1	9	F
1990	Value	4.7		1.5	1.5		
	Score	3	4	3	2	12	G

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Table 51. Mean back calculated lengths (in) at each annulus for male walleye collected from Laurel River Lake during 2015, including the 95% confidence interval (CI) for each mean length per age group.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	29	9.0							
2013	12	10.5	16.5						
2012	5	9.9	16.2	18.8					
2011	9	11.5	16.6	18.6	19.8				
2010	4	9.1	15.6	18.4	20.0	21.2			
2009	7	10.9	15.6	17.5	18.8	19.8	20.5		
2008	5	10.4	16.0	18.4	19.8	20.7	21.5	21.9	
2007	1	10.7	16.7	19.0	19.8	20.6	21.4	22.2	22.6
Mean		9.9	16.2	18.3	19.6	20.4	21.0	22.0	22.6
Number		72	43	31	26	17	13	6	1
Smallest		4.6	13.8	16.6	17.9	18.9	19.6	21.0	22.6
Largest		13.1	18.3	20.2	21.3	22.3	23.1	23.5	22.6
Std error		0.2	0.1	0.2	0.2	0.2	0.3	0.4	
95% CI ±		0.5	0.3	0.3	0.3	0.5	0.6	0.7	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 52. Mean back calculated lengths (in) at each annulus for female walleye collected from Laurel River Lake during 2015, including the 95% confidence interval (CI) for each mean length per age group.

		Age			
Year	No.	1	2	3	4
2014	1	12.6			
2013	7	12.3	18.0		
2012	3	12.7	18.5	21.2	
2011	1	13.5	18.2	21.1	22.8
Mean		12.5	18.1	21.2	22.8
Number		12	11	4	1
Smallest		10.7	17.3	20.6	22.8
Largest		13.8	19.3	21.6	22.8
Std error		0.3	0.2	0.2	
95% CI ±		0.5	0.4	0.5	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 53. Mean back calculated lengths (in) at each annulus for walleye (both sexes) collected from Laurel River Lake during 2015, including the 95% confidence interval (CI) for each mean length per age group.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2014	37	9.0							
2013	21	10.7	16.8						
2012	8	10.9	17.1	19.7					
2011	10	11.7	16.7	18.9	20.1				
2010	4	9.1	15.6	18.4	20.0	21.2			
2009	7	10.9	15.6	17.5	18.8	19.8	20.5		
2008	5	10.4	16.0	18.4	19.8	20.7	21.5	21.9	
2007	1	10.7	16.7	19.0	19.8	20.6	21.4	22.2	22.6
Mean		10.1	16.5	18.7	19.7	20.4	21.0	22.0	22.6
Number		93	56	35	27	17	13	6	1
Smallest		4.6	13.5	16.6	17.9	18.9	19.6	21.0	22.6
Largest		13.8	19.3	21.6	22.8	22.3	23.1	23.5	2.6
Std error		0.2	0.2	0.2	0.2	0.2	0.3	0.4	
95% CI ±		0.5	0.3	0.4	0.4	0.5	0.6	0.7	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 54. Age-frequency and CPUE (fish/nn) of walleye gill netting for 8 net-nights at Laurel River Lake during November 2015.

	Inch class																			Std
Age	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	%	CPUE	error
0	3	3	8	1													15	10.2	1.9	1.4
1					8	8	8	5	7	3							39	26.5	4.9	1.2
2									1	9	7	15	4				36	24.5	4.5	0.9
3										1	3	2	2	3			11	7.5	1.4	0.3
4											3	10	4	1		1	19	12.9	2.4	0.6
5													4	2			6	4.1	0.8	0.3
6												7	5	1			13	8.8	1.6	0.5
7													4	2	1		7	4.8	0.9	0.3
8															1		1	0.7	0.1	0.1
Total	3	3	8	1	8	8	8	5	8	13	13	34	23	9	2	1	147	100.0	18.4	
%	2.0	2.0	5.4	0.7	5.4	5.4	5.4	3.4	5.4	8.8	8.8	23.1	15.6	6.1	1.4	0.7				

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Table 55. Population assessment for walleye gill netted at Laurel River Lake in November 2015 (scoring based on statewide assessment).

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	16.5	4
Growth rate (Mean length age 2+ at capture)	19.5	4
Size structure (CPUE ≥20.0 in)	8.5	4
Recruitment (CPUE age 1)	4.9	4
Total score		16
Assessment rating		E
Instantaneous mortality (Z)	0.411	
Annual mortality (A)	33.7	

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Table 56. Number of fish and mean relative weight (Wr) for each length group of walleye collected in Laurel River Lake during November 2015. Standard error is in parentheses.

Length group					
10.0-14.9 in		15.0-19.9 in		≥20.0 in	
No.	Wr	No.	Wr	No.	Wr
28	100 (1)	46	97 (1)	68	100 (1)

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Table 57. 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 nocturnal electrofishing on 6 May 2015.

		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. error
Lower	Largemouth bass	2	1	2	5	2	6	3	4	5	8	5	7	14	14	11	6	6	7	2	3	113	150.7	2.7
Upper	Largemouth bass						3	9	4	2	5	9	12	9	15	16	9	11	3	1	2	110	146.7	19.2
Total	Largemouth bass	2	1	2	5	2	9	12	8	7	13	14	19	23	29	27	15	17	10	3	5	223	148.7	8.7

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Table 58. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in each area of Cedar Creek Lake on 6 May 2015; 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%)
2015*	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)

* sampling effort was reduced beginning in 2015
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Table 59. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from each section of Cedar Creek Lake from 2003-2015.

		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.
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 60. Population assessment for largemouth bass based on spring electrofishing at Cedar Creek Lake from 2003-2015 (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		
2015	Value	12.0	8.0	37.3	70.7	5.3		
	Score	4	1	3	4	4	16	G
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	3	3	4	4	18	E
2010	Value	13.5	35.5	45.0	42.8	4.1		
	Score	4	2	3	4	4	17	E
2009	Value		92.6	34.0	36.3	5.1		
	Score	4	4	2	4	4	18	E
2008	Value		72.6	18.3	32.6	4.3		
	Score	4	3	1	4	4	16	G
2007	Value	12.0	26.6	18.9	34.9	3.4		
	Score	4	2	1	4	3	14	G
2006	Value		23.1	6.6	33.4	0.3		
	Score	4	2	1	4	1	12	G
2005	Value	14.0	1.7	30.0	49.4	0.0		
	Score	4	1	2	4	0	11	F
2004	Value		5.4	74.7	6.3	0.0		
	Score	4	1	4	2	0	11	F
2003	Value		6.0	17.3	0.5	0.0		
	Score	4	1	1	1	0	7	P

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Table 61. 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 upper end; 15-minute runs) at Cedar Creek Lake on 24 September 2015; 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	Total	CPUE
Low er	13	27	9	4	2	5	2	3	3	4	1	1	4	3	2		2		85	113.3 (43.7)
Upper	12	3	5	2		3	3			5	2	2	4	1	1	1		1	45	60.0 (14.4)
Total	25	30	14	6	2	8	5	3	3	9	3	3	8	4	3	1	2	1	130	86.7 (23.8)

sedyoycc.d15

Table 62. 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 ≥5.0 in		Age-1	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2015	3.4	0.1	50.0	18.6	4.0	1.5		
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

sedyoycc.d15

Table 63. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected in Cedar Creek Lake on 24 September 2015. 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	12	91 (3)	6	96 (5)	7	89 (3)
	Upper	8	87 (3)	8	90 (2)	4	91 (3)
	Total	20	89 (2)	14	92 (2)	11	89 (2)

sedyoycc.d15

Table 64. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Cedar Creek Lake during 2015, including the 95% confidence interval (CI) for each mean length per age group.

Year	No.	Age 1	2	3	4	5	6
2014	17	4.1					
2013	13	4.2	8.4				
2012	9	3.8	8.8	12.0			
2011	5	5.6	10.1	12.6	14.5		
2010	6	6.9	10.9	13.1	14.7	15.6	
2009	5	6.3	10.4	12.7	14.1	15.1	15.8
Mean		4.7	9.4	12.5	14.5	15.4	15.8
Number		55	38	25	16	11	5
Smallest		3.1	7.0	10.6	12.7	13.4	14.4
Largest		9.3	13.4	14.9	16.9	18.0	17.9
Std error		0.2	0.2	0.2	0.4	0.5	6.0
95% CI ±		0.4	0.5	0.5	0.7	1.0	1.3

Otoliths were used for age-growth determinations; Intercept = 0
sedagccl.d15

Table 65. 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 26 May 2015.

Species	Inch class 1	2	3	4	5	6	7	8	9	10	Total	CPUE	Std. error
Bluegill	5	460	428	156	54	13	3				1119	895.2	110.5
Redear sunfish		2	6	20	31	31	22	6	3	2	123	98.4	14.9

sedbgccl.d15

Table 66. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Cedar Creek from 2007-2015.

		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													
	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													
	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

sedbgccl.d15

Table 67. PSD and RSD_{15} values obtained for bluegill and redear sunfish taken in spring electrofishing samples in Cedar Creek Lake on 26 May 2015; 95% confidence levels are in parentheses.

Species	No. $\geq$ stock size	PSD	RSD[a]
Bluegill	654	2 ($\pm$ 1)	0 ($\pm$ 0)
Redear sunfish	115	29 ($\pm$ 8)	4 ($\pm$ 4)

[a] Bluegill = RSD_8, redear sunfish = RSD_9

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Table 68. Mean back calculated lengths (in) at each annulus for bluegill collected from Cedar Creek Lake during May 2015, including the 95% confidence interval (CI) for each mean length per age group.

		Age				
Year	No.	1	2	3	4	5
2014	12	2.1				
2013	13	2.3	3.4			
2012	10	2.5	3.7	4.6		
2011	17	2.3	3.7	4.8	5.6	
2010	3	2.4	3.8	4.9	5.9	6.6
Mean		2.3	3.7	4.8	5.7	6.6
Number		55	43	30	20	3
Smallest		1.7	2.8	3.9	4.7	5.9
Largest		3.4	5.0	5.9	6.9	7.0
Std error		0.1	0.1	0.1	0.1	0.3
95% CI $\pm$		0.1	0.2	0.2	0.3	0.7

Otoliths were used for age-growth determinations; Intercept = 0
sedagccb.d15

Table 69. Age-frequency and CPUE (fish/hr) of bluegill collected during 1.25 hour of daytime electrofishing at Cedar Creek Lake on 26 May 2015.

	Inch class										Std
Age	1	2	3	4	5	6	7	Total	%	CPUE	error
1	5	460						465	41.6	372.0	51.8
2			428	36				464	41.5	371.2	52.5
3				96	5	2		103	9.2	82.4	17.8
4				24	43	11		78	7.0	62.4	12.2
5					5		3	8	0.7	6.4	2.0
Total	5	460	428	156	53	13	3	1118	100.0	894.4	
%	0.4	41.1	38.3	14.0	4.7	1.2	0.3	100.0			

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sedagccb.d15

Table 70. Population assessment for bluegill collected from Cedar Creek Lake in May 2015.

Parameter	Actual value	Assessment score
Mean length age-2 at capture	3.4	1
Years to 6.0 in	4-4+	2
CPUE $\geq$6.0 in	12.8	1
CPUE $\geq$8.0 in	0.0	0
Instantaneous mortality (Z)	0.991	
Annual mortality (A)	62.9	
Total score		4
Assessment rating		P

sedbgccl.d15

Table 71. Mean back calculated lengths (in) at each annulus for redear sunfish collected from Cedar Creek Lake during spring 2015, 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	10
2014	4	2.9									
2013	17	2.9	4.4								
2012	9	3.1	4.8	5.6							
2011	7	3.5	5.3	6.4	7.1						
2010	8	2.9	4.9	6.1	6.9	7.5					
2009	5	2.8	4.6	5.8	6.6	7.2	7.6				
2008	5	2.8	4.8	5.9	6.9	7.7	8.2	8.6			
2007	1	2.8	4.9	5.9	6.9	7.4	7.9	8.7	9.2		
2005	1	2.2	4.5	5.8	6.3	6.5	6.9	7.4	7.6	8.1	8.5
Mean		3.0	4.7	6.0	6.9	7.4	7.8	8.5	8.4	8.1	8.5
Number		57	53	36	27	20	12	7	2	1	1
Smallest		1.9	3.3	4.9	5.8	6.3	6.8	7.4	7.6	8.1	8.5
Largest		4.9	7.0	7.8	8.8	9.0	9.5	10.0	9.2	8.1	8.5
Std error		0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.8		
95% CI ±		0.2	0.2	0.3	0.3	0.4	0.6	0.8	1.6		

Otoliths were used for age-growth determinations; Intercept = 0
sedagccb.d15

Table 72. Age-frequency and CPUE (fish/hr) of redear sunfish collected during 1.25 hour of daytime electrofishing at Cedar Creek Lake on 26 May 2015.

	Inch class												
Age	2	3	4	5	6	7	8	9	10	Total	%	CPUE	Std error
1	2	2								4	3.3	3.2	1.6
2		5	20	3						28	22.8	22.4	6.0
3				25						25	20.3	20.0	5.0
4				3	12	6	1			22	17.9	17.6	3.4
5					12	6	3			21	17.1	16.8	3.0
6					6	6		1		13	10.6	10.4	1.8
7						4	1	1	2	8	6.5	6.4	1.4
8								1		1	0.8	0.8	0.4
10							1			1	0.8	0.8	0.3
Total	2	7	20	31	30	22	6	3	2	123	100.0	98.4	
%	1.6	5.7	16.3	25.2	24.4	17.9	4.9	2.4	1.6	100.0			

sedbgccl.d15
sedagccb.d15

Table 73. Population assessment for redear sunfish collected from Cedar Creek Lake in May 2015.

Parameter	Actual value	Assessment score
Mean length age-3 at capture	5.6	2
Years to 8.0 in	$\geq$ 6	1
CPUE $\geq$8.0 in	8.8	2
CPUE $\geq$10.0 in	1.6	1
Instantaneous mortality (Z)	0.235	
Annual mortality (A)	20.9	
Total score		6
Assessment rating		P

sedbgccl.d15

Table 74. Length frequency and CPUE (fish/hr) of largemouth bass collected at Bert T. Combs Lake in 1.25 hours (7.5-min runs) of nocturnal electrofishing on 4 May 2015.

	Inch class													Std.
Species	4	5	6	7	8	9	10	11	12	13	18	Total	CPUE	error
Largemouth bass	4	1	7	7	4	7	37	36	15	3	1	122	97.6	18.5

sedpsdbc.d15

Table 75. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Bert T. Combs Lake on 4 May 2015.

	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.
2015	15.2	5.3	67.2	11.0	14.4	5.4	0.8	0.8	0.0	0.0	97.6	18.5
2012	30.7	12.0	71.3	14.3	24.0	4.3	0.7	0.7	0.0	0.0	126.7	28.9
2009	21.3	9.3	45.3	7.9	38.7	5.8	6.0	0.9	4.0	1.5	111.3	16.2
2006	5.3	1.3	100.7	21.2	25.3	4.3	11.3	2.8	4.7	3.2	142.7	25.7

sedpsdbc.d15

Table 76. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in Bert T. Combs Lake on 4 May 2015; 95% confidence levels are in parentheses.

Year	No. $\geq$ 8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
2015	103	18 ($\pm$ 8)	1 ($\pm$ 2)
2012	144	26 ($\pm$ 7)	1 ($\pm$ 1)
2009	135	50 ($\pm$ 8)	7 ($\pm$ 4)
2006	206	27 ($\pm$ 6)	8 ($\pm$ 4)

sedpsdbc.d15

Table 77. Length frequency and CPUE (fish/hr) of black bass collected at Beulah Lake in 1.5 hours (15.0-min runs) of nocturnal electrofishing on 4 May 2015.

	Inch class																		
Species	3	4	5	6	7	8	9	10	11	12	13	15	17	20	21	22	Total	CPUE	Std. error
Largemouth bass	8	41	50	32	4	9	25	60	92	14	4	1	1	1	2	1	345	230.0	18.3
Spotted bass							2										2	1.3	0.8
Smallmouth bass	6	7			10	2					1						26	17.3	2.0

sedpsdbl.d15

Table 78. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Beulah Lake on 4 May 2015.

		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													
	2015	90.0	16.1	124.0	5.2	12.0	4.0	4.0	1.8	2.7	0.8	230.0	18.3
	2012	54.0	11.0	155.3	19.9	22.0	4.1	10.0	3.7	6.0	3.2	241.3	29.7
	2009	82.0	12.8	168.7	23.3	51.3	6.9	6.7	1.7	4.0	1.5	308.7	20.5
	2006	87.3	18.2	185.3	13.3	4.7	1.9	4.7	1.9	2.0	0.9	282.0	23.9
		<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
		CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.
Smallmouth bass													
	2015	15.3	1.6	1.3	0.8	0.7	0.7	0.0	0.0	0.0	0.0	17.3	2.0
	2012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

sedpsdbl.d15

Table 79. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in Beulah Lake on 4 May 2015; 95% confidence levels are in parentheses.

Year	No. $\geq$ 8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
2015	210	11 ($\pm$ 4)	3 ($\pm$ 2)
2012	281	17 ($\pm$ 4)	5 ($\pm$ 3)
2009	340	26 ($\pm$ 5)	3 ($\pm$ 2)
2006	292	5 ($\pm$ 2)	2 ($\pm$ 2)

sedpsdbl.d15

Table 80. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Beulah Lake during 2015, including the 95% confidence interval (CI) for each mean length per age group.

		Age					
Year	No.	1	2	3	4	5	6
2014	26	5.4					
2013	11	5.0	9.1				
2012	5	5.4	8.6	10.5			
2011	7	5.3	8.7	10.0	11.1		
2010	6	4.7	8.5	10.6	11.6	12.5	
2009	6	3.9	7.4	9.8	11.0	11.6	12.4
Mean		5.1	8.5	10.2	11.2	12.0	12.4
Number		61	35	24	19	12	6
Smallest		3.1	5.8	7.3	9.2	9.4	11.0
Largest		7.1	10.1	12.3	14.5	16.1	14.0
Std error		0.1	0.2	0.2	0.2	0.5	0.4
95% CI $\pm$		0.2	0.4	0.4	0.5	0.9	0.9

Otoliths were used for age-growth determinations; Intercept = 0
sedagbl.d15

Table 81. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected at Beulah Lake on 7 October 2015. Standard error is in parentheses.

Species	Length group					
	8.0-11.9 in		12.0-14.9 in		$\geq$15.0 in	
Largemouth bass	No.	Wr	No.	Wr	No.	Wr
	35	84 (1)	12	83 (2)	1	76 (-)

sedwrbl.d15

Table 82. Length frequency and CPUE (fish/hr) of black bass collected at Cannon Creek Lake in 1.5 hours (15.0-min runs) of nocturnal electrofishing on 5 May 2015.

	Inch class														
Species	3	4	5	6	7	8	9	10	11	12	13	20	Total	CPUE	Std. Err.
Largemouth bass		2	2	1		1	2	1	11	11	3	1	35	23.3	4.3
Spotted bass	2	11	10	2	3	3	3	16	6	1			57	38.0	8.1
Smallmouth bass		1	1	1						2	2		7	4.7	1.9

sedpsdcc.d15

Table 83. Spring electrofishing CPUE (fish/hr) for each length group of black bass collected at Cannon Creek Lake on 5 May 2015.

		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													
	2015	3.3	1.6	10.0	2.0	9.3	3.2	0.7	0.7	0.7	0.7	23.3	4.3
	2012	2.5	1.5	23.0	3.8	5.0	1.5	1.5	0.7	0.5	0.5	32.0	5.1
	2009	12.5	1.9	13.0	3.0	10.0	1.7	0.0	0.0	0.0	0.0	35.5	4.8
	2006	2.4	1.1	15.2	2.1	2.8	0.9	2.4	0.9	0.4	0.4	22.8	2.6
		<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
		CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.	CPUE	Std. Err.
Spotted bass													
	2015	18.7	8.3	14.7	2.9	4.7	1.9	0.0	0.0	0.0	0.0	38.0	8.1
	2012	10.0	3.1	24.5	4.6	4.5	1.8	0.0	0.0	0.0	0.0	39.0	8.5
	2009	31.5	7.2	24.0	3.6	10.5	3.1	0.0	0.0	0.0	0.0	66.0	9.4
	2006	3.2	1.4	15.2	3.3	2.8	1.0	0.4	0.4	0.0	0.0	21.6	4.9
		<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.
Smallmouth bass													
	2015	2.0	1.4	0.0	0.0	2.7	1.3	0.0	0.0	0.0	0.0	4.7	1.9
	2012	0.5	0.5	3.0	1.0	4.0	1.5	0.0	0.0	0.0	0.0	7.5	1.9
	2009	12.5	1.9	1.5	0.7	9.5	1.3	0.0	0.0	0.0	0.0	23.5	2.4
	2006	1.2	0.9	4.4	1.3	2.8	1.2	0.0	0.0	0.0	0.0	8.4	2.2

sedpsdcc.d15

Table 84. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Cannon Creek Lake on 5 May 2015; 95% confidence limits are in parentheses.

	Largemouth bass			Spotted bass			Smallmouth bass		
Year	No. ≥ stock size	PSD (+/- 95%)	RSD_{15} (+/- 95%)	No. ≥ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)	No. ≥ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)
2015	30	50 (± 18)	3 (± 7)	32	22 (± 15)	0 (± 0)	4	100 (± 0)	0 (± 0)
2012	59	22 (± 11)	5 (± 6)	70	13 (± 8)	0 (± 0)	14	57 (± 27)	0 (± 0)
2009	46	43 (± 14)	0 (± 0)	85	25 (± 9)	0 (± 0)	22	86 (± 15)	0 (± 0)
2006	51	25 (± 12)	12 (±9)	47	17 (± 11)	2 (± 4)	18	39 (± 23)	0 (± 0)

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Table 85. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 3.0 hours of 15-minute nocturnal electrofishing runs for black bass in Wood Creek Lake on 27 April 2015; standard error is in parentheses.

		Inch class																				
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE
Dam	Largemouth bass	2	3	3	5	1	4	7	7	8	5	1		1	2	1	1		1		52	52.0 (8.2)
	Spotted bass	1	3		1	3	3	7	5	1											24	24.0 (5.4)
	Smallmouth bass											1				1		1			3	3.0 (1.9)
Pump Station	Largemouth bass	2	1	5	4	5	16	16	12	9	6	3	2	5	1	1	2	1		1	92	92.0 (14.1)
	Spotted bass	1	2	2	3	4	1	3	4	1											21	21.0 (5.5)
	Smallmouth bass																				0	0.0 (0.0)
Dock	Largemouth bass		2	2	6	16	10	24	36	24	12	11		2	1	2	1	1			150	150.0 (29.1)
	Spotted bass							1													1	1.0 (1.0)
	Smallmouth bass																				0	0.0 (0.0)
Total	Largemouth bass	4	6	10	15	22	30	47	55	41	23	15	2	8	4	4	4	2	1	1	294	98.0 (15.8)
	Spotted bass	2	5	2	4	7	4	11	9	2											46	15.3 (3.9)
	Smallmouth bass											1				1		1			3	1.0 (0.7)

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Table 86. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Wood Creek Lake on 27 April 2015; 95% confidence limits are in parentheses.

		Largemouth bass			Spotted bass		
Year	Area	No. ≥ stock size	PSD (+/- 95%)	RSD_{15} (+/- 95%)	No. ≥ stock size	PSD (+/- 95%)	RSD_{14} (+/- 95%)
2015	Dam	39	51 (± 16)	15 (± 11)	20	30 (± 21)	0 (± 0)
	Pump Station	80	39 (± 11)	16 (± 8)	16	31 (± 23)	0 (± 0)
	Dock	140	39 (± 8)	5 (± 4)	1	0 (± 0)	0 (± 0)
	Total	259	41 (± 6)	10 (± 4)	37	30 (± 15)	0 (± 0)
2014	Total	334	34 (± 5)	10 (± 3)	61	21 (± 10)	0 (± 0)
2013	Total	256	23 (± 5)	9 (± 4)	79	14 (± 8)	1 (± 2)
2012	Total	215	20 (± 5)	5 (± 3)	60	17 (± 10)	0 (± 0)
2011	Total	185	39 (± 7)	16 (± 5)	47	17 (± 11)	0 (± 0)
2010	Total	181	52 (± 7)	15 (± 5)	55	20 (± 11)	0 (± 0)
2009	Total	241	55 (± 6)	17 (± 5)	69	16 (± 9)	1 (± 3)
2008	Total	223	40 (± 6)	19 (± 5)	66	12 (± 8)	2 (± 3)
2007	Total	223	32 (± 6)	24 (± 6)	109	23 (± 8)	5 (± 4)
2006	Total	165	56 (± 8)	38 (± 7)	93	44 (± 10)	11 (± 6)
2005	Total	138	74 (± 7)	23 (± 7)	86	57 (± 11)	13 (± 7)

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Table 87. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Wood Creek Lake during April 2015.

	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.
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

sedpsdwc.d15

Table 88. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Wood Creek Lake during April 2015.

	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.
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

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Table 89. Population assessment for largemouth bass based on spring electrofishing at Wood Creek Lake from 2005-2015 (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		
2015	Value		5.0	26.3	8.7	1.3		
	Score	3	1	2	2	2	10	F
2014	Value	11.3	6.0	25.7	11.7	1.0		
	Score	3	1	2	2	2	10	F
2013	Value		14.0	12.0	8.0	1.0		
	Score	3	1	1	2	2	9	F
2012	Value		4.3	11.0	3.7	0.3		
	Score	3	1	1	1	1	7	P
2011	Value		24.8	14.3	9.7	1.0		
	Score	3	2	1	2	2	10	F
2010	Value	11.4	15.1	33.5	14.0	2.5		
	Score	3	1	2	2	3	11	F
2009	Value		5.3	31.0	13.3	2.7		
	Score	4	1	2	2	3	12	G
2008	Value		5.7	15.3	14.3	2.0		
	Score	4	1	1	2	3	11	F
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	1	1	3	3	12	G
2005	Value	12.3	2.4	28.0	12.8	3.2		
	Score	4	1	2	2	3	12	G

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Table 90. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 3.0 hours of 15-minute nocturnal electrofishing runs for black bass in Wood Creek Lake on 28 September 2015; standard error is in parentheses.

		Inch class																		
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	16	18	19	22	Total	CPUE
Dam	Largemouth bass	1	3	2	1	2	6	1	3	5	3	5							32	32.0 (7.7)
	Spotted bass	3	2	2	4	2	3	3			1								20	20.0 (5.9)
	Smallmouth bass										1								1	1.0 (1.0)
Pump station	Largemouth bass	5	15	11	7	1	7	10	12	14	11	9	2	3	4				111	111.0 (23.5)
	Spotted bass		2		3				1	3	4	1							14	14.0 (4.8)
	Smallmouth bass																		0	0.0 (0.0)
Dock	Largemouth bass	1	15	21	16	14	27	38	24	30	31	22	13	4		1	2	1	260	260.0 (20.5)
	Spotted bass								2	3	3	1							9	9.0 (4.1)
	Smallmouth bass																		0	0.0 (0.0)
Total	Largemouth bass	7	33	34	24	17	40	49	39	49	45	36	15	7	4	1	2	1	403	134.3 (30.1)
	Spotted bass	3	4	2	7	2	3	3	3	6	8	2							43	14.3 (2.9)
	Smallmouth bass										1								1	0.3 (0.3)

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Table 91. 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.

Year Class	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
2015	4.2	0.1	32.7	7.8	8.0	2.2		
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

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[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

Table 92. Number of fish and mean relative weight (Wr) for each length group of black bass collected at Wood Creek Lake during 28 September 2015. Standard error is in parentheses.

Species	Length group	No.	Wr	Length group	No.	Wr	Length group	No.	Wr
Largemouth bass	8.0-11.9 in	178	88 (1)	12.0-14.9 in	57	87 (1)	≥15.0 in	8	99 (4)
Spotted bass	7.0-10.9 in	15	100 (3)	11.0-13.9 in	10	93 (1)	≥14.0 in	0	-

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Stream Fishery Surveys – Warmwater Streams

FINDINGS

Upper Cumberland River Basin

The Southeastern Fishery district sampled two locations in the Upper Cumberland River Basin in Whitley and Knox counties in 2015. Sampling was conducted to assess the black bass, sunfish, and walleye populations. During 2.25 hours of shocking, 50 fish were collected, which was comprised of 9 species (Table 1). Due to the low number of fish collected, no further assessments were completed.

Rockcastle River Basin

The Southeastern Fishery district sampled three locations on the Rockcastle River in Rockcastle County in 2015 to assess the black bass, rock bass, and walleye populations. A total of 6.0 hours of shocking yielded 1,017 fish, with longear sunfish comprising 47% of the catch (Table 2). Smallmouth bass rated excellent (score=17; Table 3), and rock bass rated good (score=11; Table 4).

Table 1. Length-frequency and CPUE (fish/hr) of selected fish species* collected during 2.25 hours of electrofishing (15-minute runs) in the Redbird ramp area (0.75 hours) and Four Mile ramp area (1.50 hours) of the Upper Cumberland River (Whitley and Knox counties) in 2015; standard error is in parantheses.

		Inch class															
Species	Location	1	2	3	4	5	6	7	8	9	10	11	14	15	16	Total	CPUE
Smallmouth bass																	
	Redbird										1	1				2	2.7 (2.7)
	Four Mile															0	0.0 (0.0)
	Total										1	1				2	0.9 (0.9)
Spotted bass																	
	Redbird		2		1			1		3	1					8	10.7 (5.8)
	Four Mile								1	2						3	2.0 (0.9)
	Total		2		1			1	1	5	1					11	4.9 (2.3)
Largemouth bass																	
	Redbird								1							1	1.3 (1.3)
	Four Mile															0	0.0 (0.0)
	Total								1							1	0.4 (0.4)
Bluegill																	
	Redbird	1		1	1	1										4	5.3 (2.7)
	Four Mile					2										2	1.3 (1.3)
	Total	1		1	1	3										6	2.7 (1.3)
Longear sunfish																	
	Redbird			13	4	3	1									21	28.0 (12.2)
	Four Mile															0	0.0 (0.0)
	Total			13	4	3	1									21	9.3 (5.9)
Redbreast sunfish																	
	Redbird															0	0.0 (0.0)
	Four Mile				1											1	0.7 (0.7)
	Total				1											1	0.4 (0.4)
Redear sunfish																	
	Redbird								1							1	1.3 (1.3)
	Four Mile															0	0.0 (0.0)
	Total								1							1	0.4 (0.4)
Warmouth																	
	Redbird				1	1										2	2.7 (2.7)
	Four Mile															0	0.0 (0.0)
	Total				1	1										2	0.9 (0.9)
Channel catfish																	
	Redbird							1					1	1	2	5	6.7 (2.7)
	Four Mile															0	0.0 (0.0)
	Total							1					1	1	2	5	2.2 (1.4)

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* Did not net shad, suckers, and minnow s.

Table 2. Length-frequency and CPUE (fish/hr) of selected fish species* collected during 6.00 hours of electrofishing (15-minute runs) in the Livingston area (1.25 hours), Hwy 25 Bridge area (2.75 hours), and I-75 ramp area (2.00 hours) of the Rockcastle River in 2015; standard error is in parantheses.

		Inch class																												
Species	Location	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	27	30	33	Total	CPUE
Smallmouth bass																														
	Livingston		3		11	4	7	8	2	4	1	1	2				2												45	36.0 (6.2)
	Hwy 25 Bridge		7	1	17	6	12	7	4	5	3	2	1	1				1											67	24.4 (4.4)
	I-75		5	3	3	17	1	7	4	5	3	2	5						1										56	28.0 (5.7)
	Total		15	4	31	27	20	22	10	14	7	5	8	1			2	1	1										168	28.0 (3.1)
Spotted bass																														
	Livingston				1	1																							2	1.6 (1.6)
	Hwy 25 Bridge		1	1	8	8	2	1		2	2																		25	9.1 (2.7)
	I-75		2	1	5	5	2	4	2	2	1																		24	12.0 (2.4)
	Total		3	2	14	14	4	5	2	4	3																		51	8.5 (1.6)
Largemouth bass																														
	Livingston					1				1																			2	1.6 (1.0)
	Hwy 25 Bridge										1																		1	0.4 (0.4)
	I-75																												0	0.0 (0.0)
	Total					1				1	1																		3	0.5 (0.3)
Rock bass																														
	Livingston		1	2	9	24	15	14	2																				67	53.6 (18.0)
	Hwy 25 Bridge		3	6	14	21	21	14	2																				81	29.5 (5.2)
	I-75	1	1	4	7	15	34	18	1																				81	40.5 (10.1)
	Total	1	5	12	30	60	70	46	5																				229	38.2 (5.6)
Green sunfish																														
	Livingston																												0	0.0 (0.0)
	Hwy 25 Bridge																												0	0.0 (0.0)
	I-75				1	1																							2	1.0 (0.7)
	Total				1	1																							2	0.3 (0.2)
Warmouth																														
	Livingston					1																							1	0.8 (0.8)
	Hwy 25 Bridge																												0	0.0 (0.0)
	I-75																												0	0.0 (0.0)
	Total					1																							1	0.2 (0.2)
Bluegill																														
	Livingston	1	1	3	2			1																					8	6.4 (4.5)
	Hwy 25 Bridge			8	4	1																							13	4.7 (1.5)
	I-75		1	5	2	1																							9	4.5 (0.9)
	Total	1	2	16	8	2		1																					30	5.0 (1.1)
Longear sunfish																														
	Livingston	2	17	15	26	6																							66	52.8 (20.1)
	Hwy 25 Bridge	4	37	73	68	27	1																						210	76.4 (16.9)
	I-75	2	33	69	80	22																							206	103.0 (16.8)
	Total	8	87	157	174	55	1																						482	80.3 (10.7)
Redear sunfish																														
	Livingston		1		2																								3	2.4 (1.6)
	Hwy 25 Bridge																												0	0.0 (0.0)
	I-75			1		1																							2	1.0 (0.7)
	Total		1	1	2	1																							5	0.8 (0.4)
Walleye																														
	Livingston												1					1											2	1.6 (1.6)
	Hwy 25 Bridge																				2								2	0.7 (0.5)
	I-75																												0	0.0 (0.0)
	Total												1					1			2								4	0.7 (0.4)
Longnose gar																														
	Livingston								1																				1	0.8 (0.8)
	Hwy 25 Bridge																									1	1	1	3	1.1 (0.8)
	I-75																												0	0.0 (0.0)
	Total								1																	1	1	1	4	0.7 (0.4)
Flathead catfish																														
	Livingston																												0	0.0 (0.0)
	Hwy 25 Bridge														1														1	0.4 (0.4)
	I-75																												0	0.0 (0.0)
	Total														1														1	0.2 (0.2)
Yellow bullhead																														
	Livingston																												0	0.0 (0.0)
	Hwy 25 Bridge																												0	0.0 (0.0)
	I-75							1																					1	0.5 (0.5)
	Total							1																					1	0.2 (0.2)
Freshwater drum																														
	Livingston												1		1			1											3	2.4 (1.6)
	Hwy 25 Bridge									2	4	2	1	3	2	4	2	1	1			1	1	2	1				27	9.8 (2.8)
	I-75												1	2	1	1				1									6	3.0 (1.0)
	Total									2	4	2	3	5	4	5	2	2	1	1		1	1	2	1				36	6.0 (1.5)

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* Did not net shad, suckers, and minnows.

Table 3. Population assessment for smallmouth bass collected from the Rockcastle River in 2015.

Parameter	Actual value	Assessment score
Recruitment (CPUE < 4.0 in)	3.2	4
Intermediate density (CPUE 4.0-8.9 in)	18.3	4
Adult density (CPUE $\geq$ 9.0 in)	6.5	3
Quality size density (CPUE $\geq$ 12.0 in)	2.2	3
Preferred size density (CPUE $\geq$ 14.0 in)	0.7	3
Total score		17
Assessment rating		E

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Table 4. Population assessment for rock bass collected from the Rockcastle River in 2015.

Parameter	Actual value	Assessment score
Recruitment (CPUE < 4.0 in)	3.0	3
Intermediate density (CPUE 4.0-5.9 in)	15.0	4
Quality size density (CPUE $\geq$ 6.0 in)	20.2	3
Preferred size density (CPUE $\geq$ 8.0 in)	0.8	1
Total score		11
Assessment rating		G

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EASTERN FISHERY DISTRICT

Project A: Lake and Tailwater Sampling

FINDINGS

Table 1 shows sampling conditions by water body for eastern fishery district lakes in 2015.

Buckhorn Lake

Continued flooding and blocked boating access prevented late winter/early spring muskellunge sampling.

Black bass were sampled during the spring and fall (Tables 2-7). An assessment rating of "Good" was observed for largemouth bass in the spring (Table 5). Increases in both 12.0-14.9 in fish and age-0 numbers influenced the improved largemouth bass assessment rating (Table 5). Historically, the population has remained stable with mostly "Fair-Good" assessment ratings. Fall CPUE of age-0 largemouth bass $\geq$ 5.0 in was below average (Table 7). Therefore, a total of 8,692 largemouth bass (4.5 in) were stocked in October to supplement below average numbers of age-0 fish.

White crappie were sampled with trap nets in the fall. Fish were sampled from 3.0-12.0 in (Table 8). PSD, RSD, age and growth, and age frequency are listed in Tables 9-11. An assessment value of "Good" was observed in 2015 as well as in 2013 (Table 12). Mean length of age-2 fish at capture was 7.2 in; an improvement over the 6.9 inches in seen in 2013 (Table 12). This is still slightly lower than the 8.0 – 8.3 in value observed prior to the 9-in minimum length regulation implemented in 2007. Future management may require this regulation to be removed to improve growth rates and reduce small fish numbers. However, increased natural mortality, poor recruitment years, and spillway loss could also lead to natural reduction in numbers.

Fish habitat work occurred in the fall and summer. This work consisted of 13 new wood pallet and brush structures, 2 new Christmas tree reefs, 2 refurbished Christmas tree reefs, and 450 lbs of winter wheat seed sowed on mudflats.

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.

Carr Creek Lake

Electrofishing was used to sample black bass in the spring and fall (Tables 13-18). Recent increases seen in CPUE (Table 14) are related to stocking of supplemental fingerling bass in the spring versus previous stockings occurring in the fall. Survival of spring-stocked fish has been very good. Largemouth bass PSD values (Table 15) and assessment ratings (Table 16) were good. Poor recruitment as determined by low fall age-0 CPUE's (Table 18) has led to supplemental stocking of fingerling bass in the spring. These stockings will continue as necessary.

Spring electrofishing was utilized to sample walleye (Tables 19-21). Flooding during spring sampling led to a higher than normal CPUE standard error in 2015 (Table 19). The increased lake level moved fish from normal locations and concentrated many fish in just one location. From 2008-2013, lower catch rates (Table 19) were related to increased sampling time to collect broodstock for hatchery production. This requires sampling parts of the lake multiple times and sampling areas that are less productive. The assessment rating continues to remain "Good" (Table 21) and scoring is expected to improve with increases in the population density parameter. An estimated 35,518 walleye (1.8 in) were stocked in May.

Additional fish stockings consisted of 35,945 channel catfish (3.0-5.0 in) during the spring and 1000 rainbow trout per month in the tailwater during the months of 4, 5, 6, 10, & 11.

No fertilizer was applied during 2015 for plankton production. Additionally, fertilization will not occur in future years. Fish habitat work consisted of constructing various types of brush and tree habitat and herbicide treatments of hydrilla and purple loosestrife. A total of 1 new brushpile, 2 refurbished brushpiles, 2 refurbished Christmas tree reefs, and 20 hinge-cut trees were completed during the year. Herbicide was applied once for hydrilla control and once for purple loosestrife control in Defeated Creek branch. Purple loosestrife has been controlled, but hydrilla continues to expand in areas. 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

Trophy-sized largemouth bass numbers have increased as well as white crappie and redear sunfish numbers. There are many types of aquatic vegetation due to the clear water at this lake. Brittle naiad has become a nuisance in shallow upper lake areas and requires some herbicide application at boat access areas in the upper lake. However, this thick growth of aquatic vegetation has correlated with a trend of increased quality fisheries for largemouth bass, white crappie, and redear sunfish. Spring and fall electrofishing was completed at Cranks Creek Lake (219 acres) for black bass in 2015 (Tables 22-27). Largemouth bass from 3.0–24.0 in were observed during spring sampling (Table 22). CPUE of largemouth bass > 20.0 in continues to improve as well as most other length groups (Table 23). Below average fall age-0 CPUE (Table 27) resulted in stocking of supplemental fingerling largemouth bass. A total of 3,288 largemouth bass fingerlings (4.5 in) were stocked in October.

Rainbow trout were stocked at 1,500/mo during January, April, May, and October for a total of 6,000 fish. Fish habitat work was not conducted in 2015.

Dewey Lake

Spring and fall electrofishing was completed during 2015 for black bass (Tables 28-33). Largemouth bass in the spring sample were collected from 3.0-21.0 in (Table 28) and CPUE of fish ≥ 15.0 in continues to increase (Table 29). This increase in fish ≥15.0 in has continued since the low in 2009 following the die-off of hydrilla in lake. Tournament weigh-ins are also producing increased numbers of fish. The largemouth bass assessment rating continued to be “Good” in 2015 (Table 31). Near average numbers of age-0 fish were observed in the fall, but a low number of these were ≥ 5.0 in (Table 33). Consequently, 16,507 largemouth bass fingerlings (4.5 in) were stocked in October to supplement the 2015 year class.

Additional fish stockings consisted of channel catfish and rainbow trout. A total of 29,450 channel catfish (3-8 in) were stocked in early spring. Although scheduled to stock, there were no surplus blue catfish or muskellunge available for stocking during the year. Both species will be in stocking plans for 2016. Rainbow trout were stocked in the tailwater of Dewey Lake in April, May, October, and November (1,000/mo, 8.0-12.0 inches).

New and refurbished fish habitat structures were completed. This work consisted of 11 new brushpiles, 11 refurbished brushpiles, 2 new Christmas tree reefs, 10 hinge-cut trees, 2 refurbished stake beds, 250 lbs of winter wheat sowed on mudflats, 2 types of vegetation planted (bald cypress and floating leaf pondweed). Maintenance was performed on courtesy dock at boat ramp by Jenny Wiley State Park Campground and with mowing of bank access points in Stratton Branch and Arrowhead Point.

Fishtrap Lake

Spring and fall electrofishing was completed for black bass (Tables 34-39). Largemouth bass were sampled from 3.0-22.0 inches in the spring sample (Table 34). Smallmouth, spotted, and largemouth bass are present in this lake and all are caught regularly by anglers. Tables 34-39 contain spring and fall black bass data. The largemouth bass fishery has a good proportion of quality fish with PSD values above 50 (Table 36). The assessment rating of largemouth bass remains “Good” (Table 37). Age-0 largemouth bass numbers were above average (Table 39) and no supplemental stocking of fingerling bass occurred.

White crappie were sampled with trap nets in the fall (Tables 40-44). Sample time was reduced due to flooding which prohibited a thorough collection of various ages. As a result, no small fish were sampled in the one night of netting and the assessment value is artificially reduced. The assessment value obtained was “Fair” versus the 2013 assessment value of “Excellent” (Table 44). Mean length of age-2 fish at capture was 8.5 in (Table 44), but this was based on just 7 fish and may be an overestimation of growth. However, the angler’s catch contains good numbers, size, and many daily limits. This population is very good and the 2015 assessment is not representative.

Several additional fish stockings occurred during the year at Fishtrap Lake. During May, native strain walleye totaling 9,172 (1.4 in) were stocked in the Levisa Fork River upstream of Fishtrap Lake. A total of 5,200 blue catfish (8.0-12.0 in) were stocked in June. Also, in June there were 23,068 hybrid striped bass (1.6 in) stocked. Rainbow trout totaling 10,000 were stocked in the tailwater.

Fish habitat work consisted of 2 refurbished Christmas tree reefs, 5 refurbished brushpiles, 10 new brushpiles, and 10 hinge-cut trees. This work occurred during spring and summer.

Martins Fork Lake

Martins Fork Lake (330 acres) was sampled for black bass and native strain walleye in the spring and fall of 2015 (Tables 45-50). Spring sampling collected all four species of black bass found in Kentucky (Table 45) and the assessment stayed at “Fair” for largemouth bass (Table 48). The total assessment score of 11 was the highest seen for largemouth bass since 2008 (Table 48). No walleye were sampled during the spring (Table 45) or fall (Table 49). Walleye CPUE’s during spring and fall of 2014 were 1.0 and 16.8 fish/hr, respectively. No supplemental stocking of fingerling largemouth bass was necessary as determined by above average age-0 fish numbers in the fall (Table 50).

Native strain walleye and rainbow trout were stocked in 2015. A total of 16,758 native strain walleye (1.4 in) were stocked in May. This was the third annual stocking of native strain walleye. Rainbow trout were stocked at the tailwater throughout the year for an approximate total of 3,750 fish (750 fish/month for 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. In 2016, habitat construction will consist of hinge-cut trees and stake-bed construction.

Paintsville Lake

Black bass were sampled during the spring and fall (Tables 51-56). In recent years, there has finally been an observed increase of largemouth bass in the protected slot of 12.0-14.9 inches (Table 52). This protective slot length limit was implemented in 2002. Angler catch of largemouth bass has slowly been improving for fish $\geq$15.0 in and sample data follows this (Table 52). Fall age-0 CPUE was above average (Table 56) and no supplemental stocking of fingerling bass was necessary. Fingerling smallmouth bass were stocked in the lake from 2008-2012. However, current sampling has not observed an increase in smallmouth bass numbers from this stocking program.

Walleye were sampled during early spring with the primary objective of broodfish collection for Minor Clark Hatchery. A total of 6 fish were sampled ranging in size from 19.0–31.0 in (Table 57). The largest fish weighed 11.49 pounds. This sample was not of sufficient size to comment on catch rate or assessment versus other years. However, in recent years the walleye population has observed an assessment of “Fair”. A total of 57,128 walleye (1.5–1.8 in) were stocked in May.

During March there were 58,070 channel catfish (3.0-5.0 in) stocked. Approximately 4,500 rainbow trout (8.0-12.0 in) were stocked in the lake at the end of January. Additional fisheries provided by the lake are the brown and rainbow trout fisheries found in the tailwater area below the dam. Approximately 20,000 rainbow trout were stocked in the tailwater from April to November, and 300 brown trout were stocked in the tailwater in April. Paintsville tailwater occasionally receives additional rainbow trout stockings during the summer due to poor water conditions at other eastern Kentucky stocking locations.

During 2015, fish habitat work consisted primarily of new brushpile construction. A total of 4 new hardwood and Christmas tree brushpiles were completed. Eleven trees were hinge-cut for additional habitat. No herbicide application was necessary throughout the year for invasive plants at boat ramps.

Pikeville City Lake

The primary fisheries at Pikeville City Lake (20 acres) are largemouth bass, bluegill, white crappie, common carp, and channel catfish. This lake has a catch-and-release only regulation for largemouth bass and contains gizzard shad. During the summer, oxygen is added to the lake by 1 to 4 aerators as needed to prevent fish kills due to excessive fertility, which is uncommon in eastern Kentucky lakes.

During the summer of 2014, anglers caught a few largemouth bass with poor relative weights and some post spawning lesions. With this information, largemouth bass were sampled via boat electrofishing during the spring of 2015. Size distribution was good (Table 58) with length group CPUE's comparable to previous years (Table 59). The PSD value of 73 and RSD value of 50 are both high, but expected with the current catch-and-release-only management regulation. No fish were observed with disease or health issues during the 2015 spring sample and there is still some annual recruitment of young fish.

Yatesville Lake

Electrofishing was utilized to sample black bass during the spring and fall (Tables 61-67). Spring sampling CPUE for lower and upper areas was approximately the same (Table 61). The spring CPUE of largemouth bass $\geq$15.0 in was the highest seen at the lake (Table 62). The assessment rating of "Good" continued for largemouth bass in 2015 (Table 64). Although the largemouth bass population at Yatesville Lake (2,280 acres) receives a great amount of fishing pressure (resident and nonresident) through tournaments on the weekends, it has remained consistent. Fall sample data observed above average numbers of age-0 largemouth bass (Table 66). There were no supplemental fingerling largemouth bass stocked in the fall. Age and growth was obtained from fish in the fall sample (Table 67). The mean length of age-3 fish at capture was 11.1 in which is much less than the minimum 15.0 inch length regulation for this lake. However, with PSD values of greater than 40 this population has good numbers of larger fish and a good population balance (Table 63).

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 was added with 4 refurbished brushpiles, 1 refurbished Christmas tree reef, and 6 hinge-cut trees.

A random roving angler creel survey (date and time) was conducted from 2 April – 30 October (Tables 68-74). There were 2 survey areas for the lake, from the dam to Little Blaine Creek (lower) and from Little Blaine Creek to the junction of Rich Creek and Blaine Creek (upper). The survey was daytime only and consisted of 2, 6.0-hour random time periods (morning 0700-1300, afternoon 1300-1900). Angler counts were conducted at random occurring at middle of creel period.

There were some differences from 2007 to 2015 in angler trips, hours, success rates, and other information of importance at this lake. The number of fishing trips was 14,312 in 2007 and 11,180 in 2015 (Table 68). Total angler hours were 46,544 in 2007 and 41,644 in 2015 (Table 68). Anglers were comprised of 54.98% resident and 45.02% non-resident in 2007 and 65.73% resident and 34.27% non-resident in 2015 (Table 68). Angler success rates at Yatesville Lake during 2007 were 0.89% for black bass, 51.52% for white crappie, 41.67% for panfish, and 57.14% for catfish. During the 2015 survey, angler success rates were 3.16% for black bass, 41.67% for white crappie, 50.00% for panfish, and 45.00% for catfish (Table 69). Largemouth bass were the most numerous caught fish during the 2007 (27,551 fish) and 2015 (29,541 fish) surveys (Table 69). Harvest and release numbers for all fish by inches during the survey period are listed in Table 70. Monthly black bass angling success (Table 71), white crappie (Table 72), and catfish (Table 73) observed most numerous catches in spring and fall for black bass, spring for white crappie, and spring and into early summer for catfish.

An angler attitude survey was conducted at the lake to obtain further information. Anglers were asked to answer a series of questions regarding the fishery at Yatesville Lake. Anglers were surveyed throughout the creel during 2015 with anglers only being asked the questions once. Due to hiring of 4 different employees to complete this creel survey, low total number of attitude surveys were completed. It was observed that a large number of anglers were reporting to new employees that they had already been interviewed. A total of 40 surveys were completed during the lake creel. Black bass at 95.0% (N=38) were the most popular species fished for on the lake followed by white crappie at 35.0 (N=14), channel catfish at 20.0% (N=8), and bluegill/redear at 10.0% (N=4). Level of fishing satisfaction was asked for several fish groups or species. Angler fishing satisfaction of somewhat satisfied to very satisfied was 81.6% for black bass, 56.1% for white crappie, 50.0% for channel catfish, and 100.0% for bluegill. A total of 27.5% of attitude survey participants fished tournaments at the lake. Of participants in the attitude survey, approximately 7.5% used the KDFWR tournament website registration page and approximately 2.5% utilized this webpage in planning their activity at a particular boat ramp. Additional observations from the attitude survey were that 85.0% were aware of KDFWR placing fish habitat structures in lake, 82.4% thought these structures improved their fishing success, and 55.9% were aware that the positions/GPS coordinates were available on the KDFWR website.

Table 1: Summary of 2015 sampling conditions by waterbody, species sampled and date.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water Temp (ºF)	Water level (elev ft)	Secchi (in)	Pertinent sampling comments [a,b]
Buckhorn Lake	LMB	5/12	1100	shock	partly cloudy	75.0	782.20		cond: 250; outflow : 249CFS; BP: 30.15; used 1 boat; w hole lake
Buckhorn Lake	LMB	9/24	1100	shock	sunny/clear	79.5	782.10	74	cond: 470; bp: 30.25; outflow : 43CFS; used 1 boat; w hole lake
Buckhorn Lake	WC	11/9	1000	trap net	rain	59.5-60	768.70		bp: 30.26; outflow : 320CFS; lake level falling; w ater murky
Carr Creek Lake	Walleye	3/10	1000	shock	Fog, rain	50.0	1028.40		bp: 30.15; outflow : 465CFS; used 2 boats; w hole lake; w alleye broodfish collection
Carr Creek Lake	Walleye	3/17	1000	shock	sunny	54.0	1027.6		cond: 297; bp: 29.93; outflow : 462CFS; 2 boats; w ater muddy; w alleye broodfish
Carr Creek Lake	LMB	4/30	1000	shock	cloudy/rain	63.0	1028	54	cond: 408; BP 29.77; w hole lake; 2 boats
Carr Creek Lake	LMB	9/25	1000	shock	Cloudy/rain	76.5	1026.80	124	cond: 749; BP 30.17; w hole lake; 1 boat; outflow 22CFS
Cranks Creek Lake	LMB	5/5	1100	shock	sunny/w indy	70.0	normal	72L-24U	used one boat; low er-clear, upper-murky
Cranks Creek Lake	LMB	9/29	2000	shock	rain	74.0	normal	183	w hole lake; one boat; lake clear; BP: 29.92 and falling
Dew ey Lake	LMB	5/4	1000	shock	sunny	67.0	650.41	72L-20U	cond: 368; 2 boats; w hole lake; murky upper; outflow : 205CFS
Dew ey Lake	LMB	4/30	2000	shock	cloudy	68.0		86	cond: 457; low er lake; 1 boat
Dew ey Lake	LMB	9/21	1100	shock	cloudy	77.0	650.30	30	1 boat; w hole lake; w ater turbid in upper; cond: 639
Fishpond	LMB	4/21	2000	shock	pt. cloudy / breezy	64.0	normal	138	w hole lake; one boat; cond: 636; bp: 29.94; 7.5 minute runs
Fishtrap Lake	LMB	4/28	2000	shock	clear	62.0	757.29	105	cond: 548; bp: 29.96; outflow : 614CFS; 2 boats; w hole lake
Fishtrap Lake	LMB	9/24	2000	shock	partly cloudy	77.0	757.09	114	cond: 763; bp: 30.22; used 1 boat; outflow 88CFS
Fishtrap Lake	WC	12/15	1000	trap net	cloudy, w indy	49.7	735.3		upper lake; bp: 29.91; outflow : variable, 164.3-109.7CFS;
Martin Co Lake	catfish	10/12	1000	hoop net	sunny / breezy	68.0	normal		bp: 30.06; 3 tandem net sets for FINs catfish; BP 29.89 and falling
Martins Fk Lake	LMB	5/5	1000	shock	sunny / w indy	68.0		80	w hole lake; 1 boat; lake clear
Martins Fk Lake	LMB	9/29	2000	shock	rain / storms	75.0	1310.1	98	cond: 190; bp: 29.92; 1 boat; 1 dipper; w hole lake
N. Fork KY River	sportfish	10/19	1000	shock	sunny	55.0	4.25		cond: 775; sportfish data collection w ith Stream Research @ Hazard
N. Fork KY River	sportfish	10/20	1000	shock	sunny	55.0	4.24		cond: 780; sportfish data collection w ith Stream Research @ Sam Campbell Br.
N. Fork KY River	sportfish	10/21	1000	shock	pt cloudy	55.0			284 CFS; sportfish data collection w / Stream Research-below Roy Spencer ramp
N. Fork KY River	sportfish	10/22	1000	shock	pt. cloudy	55.0	4.23		cond: 780; sportfish data collection w ith Stream Research @ Viper / Maces Ck.
Paintsville Lake	Walleye	3/18	1000	shock	sunny	45.0	711.67		cond: 89; bp: 30.32in; outflow 1469cfs; 2 boats; w alleye broodfish acquisition
Paintsville Lake	LMB	5/11	1000	shock	cloudy / rainy	78.0	709.91	78	outflow : 24CFS; bp: 30.10; used 1 boat; w hole lake;
Paintsville Lake	LMB	10/16	2000	shock	cloudy	66.5	709.02	64	bp:30.18 and rising; 2 boats; w hole lake; outflow : 24CFS
Pikeville City Lake	LMB	4/23	1000	shock	sunny	59.0	normal	24	cond: 459; bp: 30.03; used 1 boat; w hole lake; w ater turbid
Yatesville Lake	LMB	5/7	1100	shock	cloudy	75.0	630.12	27	bp: 30.15; outflow : 112CFS; used 2 boats; low er lake turbid; w hole lake
Yatesville Lake	LMB	9/28	2000	shock	rain	74.0	630.14	74	cond: 160; bp: 30.11-rising; outflow : 32CFS; 2 boats; w hole lake; LMB age / grow th

[a] cond = conductivity in µS/cm

[b] bp = barometric pressure in inches

L= lower lake

U= upper lake

Table 2. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 2.25 hours of 15-minute electrofishing samples at Buckhorn Lake (1,230 acres) on 12 May 2015; numbers in parentheses are standard errors.

		Inch class																			
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Lower	Largemouth bass	19	22	15	2	8	6	12	15	24	14	6	2	1		1	1		1	149	119.2 (16.0)
Upper	Largemouth bass	10	22	29	8	3	6	10	7	11	3	3		1				1		114	114.0 (8.1)
Total	Largemouth bass	29	44	44	10	11	12	22	22	35	17	9	2	2	0	1	1	1	1	263	116.9 (9.1)

EFDBLLSS.D15

Table 3. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Buckhorn Lake (1,230 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
2003	22.7	3.5	18.7	2.3	28.3	3.8	6.3	1.2	0.0		76.0	6.9
2004	38.0	6.2	51.7	6.5	29.3	4.2	4.3	1.2	0.0		123.3	11.6
2005	17.0	3.5	45.0	5.1	38.3	5.5	8.3	1.2	0.3	0.3	108.7	7.9
2006	14.2	2.2	35.2	4.6	40.5	5.1	15.2	3.4	0.3	0.3	105.1	11.0
2007	14.5	4.3	26.0	2.7	20.5	3.3	14.0	2.4	0.5	0.5	75.0	6.0
2008	14.8	5.5	27.0	7.2	21.4	3.3	13.8	1.8	0.0		77.0	12.0
2009	41.2	3.5	32.0	7.7	17.2	4.8	14.5	3.0	0.0		104.8	13.2
2010	21.2	4.5	31.8	6.6	18.3	3.7	10.7	2.6	0.4	0.4	82.0	11.7
2011						no sample						
2012	32.5	6.3	26.5	5.3	7.5	0.9	3.5	1.2	0.5	0.5	70.0	8.3
2013						no sample						
2014	9.3	3.4	25.3	6.3	6.0	1.7	2.7	1.3	0.0		43.3	9.9
2015	56.4	6.0	29.8	5.2	27.1	5.3	3.6	1.2	0.9	0.6	116.9	9.1

EFDBLLSS.D03-D10, D12, D14-D15

Table 4. PSD and RSD values for each species of black bass collected in each area of Buckhorn Lake (1,230 acres) on 12 May 2015. Number of fish (No.) is the number of stock-size or larger fish collected and numbers in parentheses are 95% confidence intervals.

	Largemouth bass		
Area	No.	PSD_8	RSD_{15}
Lower	91	55 (45-65)	7 (2-12)
Upper	45	42 (28-57)	4 (0-11)
Total	136	51 (42-59)	6 (2-10)

EFDBLLSS.D15

Table 5. Population assessments for largemouth bass collected during spring at Buckhorn Lake (1,230 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year									
Parameter	2004	2005	2006	2007	2008	2009	2010	2012	2014	2015
Mean length age-3 at capture	4	4	4	4	4	4	4	4	3	3
	(12.6)	(12.6)	(12.6)	(12.6)	(12.6)	(13.3)	(13.3)	(13.3)	(12.1)	(12.1)
Spring CPUE age 1	2	1	1	1	1	3	2	3	1	4
	(35.5)	(16.3)	(11.2)	(13.0)	(11.2)	(43.8)	(26.1)	(36.1)	(8.7)	(56.0)
Spring CPUE 12.0-14.9 in	3	4	4	2	2	2	2	1	1	3
	(29.3)	(38.3)	(40.5)	(20.5)	(21.4)	(17.2)	(18.3)	(7.5)	(6.0)	(27.1)
Spring CPUE ≥15.0 in	2	2	3	3	3	3	2	1	1	1
	(4.3)	(8.3)	(15.2)	(14.0)	(13.8)	(14.5)	(10.7)	(3.5)	(2.7)	(3.6)
Spring CPUE ≥20.0 in	0	2	2	2	0	0	2	2	0	2
	(0.0)	(0.3)	(0.3)	(0.5)	(0.0)	(0.0)	(0.4)	(0.5)	(0.0)	(0.9)
Total score	11	13	14	12	10	12	12	11	6	12
Assessment rating	Fair	Good	Good	Good	Fair	Good	Good	Fair	Poor	Good
Instantaneous mortality (z)	0.85	0.67	0.48	0.45	0.42	0.64	0.73	0.77		
Annual mortality (A)	57.20	48.70	38.00	36.40	34.20	47.40	51.80	54.90		

EFDBLLSS.D03-D10, D12, D14-D15
EFDBLLAS.D04, D09
EFDBLLAF.D14

Table 6. Length frequency and CPUE (fish/hr) of black bass collected in approximately 1.25 hours of 15-min nocturnal electrofishing runs at Buckhorn Lake (1,230 acres) on 23 September 2015; numbers in parentheses are standard

Area		Inch class																	
	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE
Lower																			
	Spotted		2															2	2.7 (1.3)
	LMB	13	21	24	10	3		5	5	4	2		3				1	91	121.3 (23.1)
Upper																			
	Spotted																	0	0.0
	LMB		4	16	5	4	2	2	5	3		2	3					46	92.0
Total																			
	Spotted	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1.6 (1.0)
	LMB	13	25	40	15	7	2	7	10	7	2	2	6	0	0	0	1	137	109.6 (14.6)

LMB = largemouth bass
EFDBLLSF.D15

Table 7. 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		

EFDBLLSF.D02-D08, D10-D15
EFDBLLAS.D04, D09
EFDBLLAF.D14
EFDBLLSS.D03-D10, D12, D14-D15

Table 8. Length frequency and CPUE (fish/net-night) for white crappie collected at Buckhorn Lake (1,230 acres) in 9 net-nights 9-10 November 2015. SE= standard error of

Inch class												
3	4	5	6	7	8	9	10	11	12	Total	CPUE	SE
66	24	72	76	97	146	75	17	7	1	581	64.6	10.4

EFDBLCTF.D15

Table 9. PSD and RSD values calculated for white crappie collected in trap nets at Buckhorn Lake (1,230 acres) on 9-10 November 2015; 95% confidence intervals are in parentheses.

No. $\geq$stock size	PSD_5	RSD_{10}
491	50 (46-55)	5 (3-7)

EFDBLCTF.D15

Table 10. Mean back-calculated length (in) at each annulus for white crappie collected from Buckhorn Lake (1,230 acres) November 2015, including 95% confidence intervals.

Year class	No.	Age 1	2	3	4	5	6	7
2014	16	3.9						
2013	16	3.9	5.8					
2012	26	4.1	6.0	7.4				
2011	10	4.1	6.0	7.4	8.4			
2010	20	4.4	6.2	7.3	8.2	9.0		
2009	5	4.2	5.8	7.0	7.7	8.4	8.9	
2008	1	4.4	5.9	7.3	8.2	8.9	9.1	10.5
Mean	94	4.1	6.0	7.3	8.2	8.9	9.1	10.5
Smallest		3.1	4.2	5.3	6.6	7.0	7.4	10.5
Largest		5.0	7.2	9.0	10.0	11.1	12.1	10.5
STD error		0.0	0.1	0.1	0.1	0.2	0.7	
95% CI LO		4.0	5.9	7.1	8.0	8.5	7.8	
95% CI HI		4.2	6.1	7.5	8.5	9.2	10.4	

Intercept = 0
EFDBLCAF.D15

Table 11. Age frequency and CPUE (fish/net-night) of white crappie collected by trap netting for 9 net-nights at Buckhorn Lake (1,230 acres) November 2015; numbers in parentheses are standard errors.

	Inch class												
Age	3	4	5	6	7	8	9	10	11	12	Total	Age%	CPUE
0	66	24									90	15	10.00 (2.13)
1			72	32	7						111	19	12.33 (3.76)
2				36	21	23	5				85	15	9.47 (1.80)
3				8	55	46	27	5	1		142	24	15.82 (1.97)
4					7	23	21	1	1		53	9	5.98 (0.79)
5						46	11	11	4		72	12	7.92 (1.17)
6					7	8	11			1	27	5	2.93 (0.34)
7									1		1	0	0.13 (0.05)
Total	66	24	72	76	97	146	75	17	7	1	581	100	
%	11	4	12	13	17	25	13	3	1	1	100		

CPUE of >8 in (quality size) = 27.33

CPUE of >10 in (preferred size) = 2.7

EFDBLCAF.D15

EFDBLCTF.D15

Table 12. Population assessment scores for white crappie collected from Buckhorn Lake (1,230 acres). Actual values are in parantheses.

Parameter	2004	2005	2006	2007	2008	2010	2011	2013	2015
CPUE (excluding age-0)	2 (5.5)	3 (14.8)	4 (191.4)	4 (32.5)	4 (60.7)	4 (54.0)	4 (299.7)	4 (52.1)	4 (54.6)
CPUE age-1	1 (0.7)	3 (7.4)	4 (58.6)	1 (3.0)	4 (14.5)	4 (32.9)	4 (155.8)	4 (28.4)	3 (12.3)
CPUE age-0	1 (0.8)	1 (0.4)	4 (29.8)	1 (0.6)	1 (0.4)	4 (22.3)	4 (51.0)	4 (50.0)	4 (10.0)
CPUE $\geq$ 8.0 in	2 (2.2)	2 (4.1)	4 (17.8)	3 (5.5)	3 (5.9)	4 (12.6)	4 (54.7)	3 (10.9)	4 (27.3)
Mean length age-2 at capture	1 (8.1)	1 (8.3)	1 (7.1)	1 (6.3)	1 (6.3)	1 (7.7)	1 (8.2)	1 (6.9)	1 (7.2)
Total score	7	10	17	10	13	17	17	16	16
Assessment rating	Poor	Fair	Good	Fair	Good	Good	Good	Good	Good
Instantaneous mortality (z)	1.37	1.30	1.52	1.74	1.03	0.87	0.98	0.89	0.61
Annual Mortality (A)	74.70	72.80	78.00	82.50	64.40	58.20	62.40	59.30	45.90

EFDBLCTF.D03-D15
EFDBLCAF.D03-D15

Table 13. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 2.0 hours of 15-minute electrofishing samples at Carr Creek Lake (710 acres) on 30 April 2015; 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	Smallmouth bass													1			1			2	2.0 (2.0)
	Spotted bass				2	1						1								4	4.0 (2.8)
	Largemouth bass	1	6	47	2	6	3	4	3	1	2	5	3	3	4	3	1			94	94.0 (53.0)
Upper	Smallmouth bass																			0	0.0 0.0
	Spotted bass		1	2	3		4	4												14	14.0 (9.0)
	Largemouth bass		14	50	4	9	10	9	5	2	4	7	10	9	6	7	7	2	2	157	157.0 (17.5)
Total	Smallmouth bass	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	1.0 (1.0)
	Spotted bass	0	1	2	5	1	4	4	0	0	0	1	0	0	0	0	0	0	0	18	9.0 (4.8)
	Largemouth bass	1	20	97	6	15	13	13	8	3	6	12	13	12	10	10	8	2	2	251	125.5 (28.5)

EFDCLLSS.D15

Table 14. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carr Creek Lake (710 acres) from 2002-2015. 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

BBRPSCFL.D02-D05
EFDCLLSS.D06-D10, D12-D15

Table 15. PSD and RSD values for each species of black bass collected in each area of Carr Creek Lake (710 acres) on 30 April 2015. 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	32	66	34	2	100	100	2	50	0
		(49-82)	(18-51)		(100-100)	(100-100)		(0-148)	
Upper	80	68	41				8	0	
		(57-78)	(30-52)						
Total	112	67	39	2	100	100	10	10	0
		(58-76)	(30-48)		(100-100)	(100-100)		0-30)	

EFDCLLSS.D15

Table 16. Population assessment for largemouth bass collected from Carr Creek Lake (710 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Mean length age-3 at capture	4	4	4	4	4	4	4	4	4	4	4	4
	(13.2)	(13.2)	(13.2)	(13.2)	(12.6)	(12.6)	(12.6)	(12.6)	(12.6)	(13.5)	(13.5)	(13.5)
Spring CPUE age-1	4	2	2	1	1	1	1	1	1	4	4	3
	(133.7)	(18.8)	(21.1)	(7.6)	(2.4)	(3.1)	(10.0)	(9.0)	(13.9)	(114.7)	(116.0)	(71.0)
Spring CPUE 12.0-14.9 in	1	2	2	1	2	1	1	1	1	1	2	1
	(8.4)	(24.8)	(27.9)	(18.6)	(24.7)	(17.1)	(10.8)	(5.5)	(9.0)	(16.0)	(25.0)	(15.5)
Spring CPUE ≥15.0 in	2	2	3	2	3	2	2	2	2	2	3	3
	(9.0)	(14.0)	(29.9)	(15.7)	(23.7)	(16.0)	(12.6)	(16.0)	(13.5)	(16.7)	(18.5)	(18.5)
Spring CPUE ≥20.0 in	1	1	1	1	1	1	1	1	2	3	1	1
	(0.2)	(0.3)	(0.7)	(0.5)	(0.5)	(0.6)	(0.9)	(1.0)	(1.5)	(2.7)	(1.0)	(1.0)
Total score	12	11	12	9	11	9	9	9	10	14	14	12
Assessment rating	Good	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Good	Good	Good
Instantaneous mortality (z)	0.54	0.47	0.43	0.37	0.41	0.74	0.34	0.27	0.44			
Annual mortality (A)	42.00	37.50	35.10	30.90	33.50	52.30	29.10	23.80	35.80			

BBRPSCFL.D04-D05
EFDCLLSS.D06-D15
EFDCLLAS.D08
EFDCLLAF.D13

Table 17. Length frequency and electrofishing CPUE (fish/hr) of black bass collected in approximately 0.75 hours of 15-minute nocturnal electrofishing samples at Carr Creek Lake (710 acres) on 25 September 2015; numbers in parentheses are standard errors.

		Inch class															
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE
Lower	Smallmouth bass															0	0.0
	Spotted bass															0	0.0
	Largemouth bass	1	7	1	1	4	1	1		2	1	1	1	1	1	23	92.0 NA
Upper	Smallmouth bass															0	0.0
	Spotted bass	1	1	1	1	1	1		1							7	14.0 (10.0)
	Largemouth bass	4	10	7	4	11	7	1	3		1		1	1	2	52	104.0 (12.0)
Total	Smallmouth bass	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0 (0.0)
	Spotted bass	1	1	1	1	1	1	0	1	0	0	0	0	0	0	7	9.3 (7.4)
	Largemouth bass	5	17	8	5	15	8	2	3	2	2	1	2	2	3	75	100.0 (8.0)

EFDCLLSF.D15

NA: no SE only 1 sample

Table 18. 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 ≥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		

* Includes stocked fish
BBRWRCFL.D03-D05
BBRSCCFL.D03
EFDCLLSF.D06-D15
EFDCLLAS.D08
EFDCLLSS.D06-D15
EFDCLLAF.D13

Table 19. Length frequency and CPUE (fish/hr) of walleye collected at Carr Creek Lake (710 acres) during daytime spring electrofishing.

	Inch class																								
Year	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	CPUE	SE
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

EFDCLWSS.D00-D15

Table 20. Spring electrofishing catch rate (fish/hr) for each age of walleye collected from Carr Creek Lake (710 acres) from 2006-2015.

	Year									
Age	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1										
2	0.9	1.2	0.6	2.0	2.1	1.3	1.6	1.0	0.9	3.2
3	7.8	8.8	3.4	7.2	3.2	5.0	7.8	4.2	4.5	9.1
4	8.2	7.5	3.2	5.5	2.6	3.6	5.1	2.6	3.6	5.2
5	4.2	5.4	1.7	2.4	1.4	1.6	2.9	1.2	1.3	1.6
6	1.4	1.9	0.6	0.8	0.3	0.4	0.9	0.5	0.4	0.6
7	1.6	0.9	0.7	0.8	0.4	0.4	0.5	0.1	0.1	0.2
8	2.4	3.5	0.9	1.0	0.9	0.7	0.8	0.5	0.5	0.6
9	2.4	2.4	1.1	1.4	0.8	1.0	1.2	0.5	0.5	0.7
10	0.6	0.6	0.2	0.3	0.2	0.3	0.1	0.1	0.2	0.2

EFDCLWSS.D06-D15
EFDCLWAS.D03, D09

Table 21. Spring electrofishing population assessments for walleye at Carr Creek Lake (710 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year									
Parameter	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population density	4	4	2	4	2	3	4	2	2	4
(Total CPUE)	(31.3)	(32.9)	(12.8)	(21.3)	(12.7)	(15.4)	(20.8)	(10.7)	(11.8)	(21.6)
Growth rate	4	4	4	4	4	4	4	4	4	4
(Mean length age-3 at capture)	(20.6)	(20.6)	(20.6)	(19.3)	(19.3)	(19.3)	(19.3)	(19.3)	(19.3)	(19.3)
Size structure	4	4	4	4	4	4	4	4	4	4
(CPUE ≥20.0 in)	(24.8)	(20.9)	(9.3)	(11.8)	(7.8)	(9.3)	(11.9)	(6.2)	(6.3)	(9.0)
Recruitment	0	0	0	0	0	2	0	0	0	0
(CPUE <13.0 in)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.5)	(0.0)	(0.0)	(0.0)	(0.0)
Total score	12	12	10	12	9	13	12	10	10	12
Assessment rating	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Instantaneous mortality (z)	0.20	0.35	0.94	0.36	0.33	0.29	0.43	0.34	0.34	0.45
Annual mortality (A)	22.50	41.40	60.90	30.60	28.20	25.00	35.20	28.90	29.50	36.5

EFDCLWSS.D06-D15
EFDCLWAS.D03, D09

Table 22. Length frequency and CPUE (fish/hr) of black bass collected in 1.25 hours of 15-min electrofishing runs at Cranks Creek Lake (219 acres) on 5 May 2015; 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	23	24	Total	CPUE
LMB	1	12	8	3	10	12	30	30	23	9	7	3	3	2	2	1	1	5	1		1	1	165	132.0 (10.8)
SB			2	1	1	2	1	1		1													9	7.2 (4.8)

LMB = largemouth bass
SB = spotted bass
EFDCCLSS.D15

Table 23. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Cranks Creek Lake (219 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
2000	51.3	11.1	24.7	3.8	2.7	1.3	2.0	1.4	2.0	1.4	80.7	12.5
2001	20.0	6.4	22.0	8.3	2.7	1.3	2.0	0.9	0.7	0.7	46.7	13.8
2002						no sample						
2003						no sample						
2004	40.7	7.6	40.0	5.8	3.3	1.9	4.0	2.1	0.7	0.7	88.0	11.1
2005	59.2	16.6	70.4	10.5	4.0	1.3	6.4	2.0	2.4	1.0	140.0	17.3
2006						no sample						
2007						no sample						
2008	33.0	7.9	51.0	6.6	27.0	4.4	8.0	3.7	3.0	1.9	119.0	8.2
2009						no sample						
2010	80.8	27.6	43.2	10.4	9.6	3.0	14.4	2.0	4.8	2.3	148.0	41.2
2011	57.6	6.0	52.0	10.5	9.6	1.6	11.2	3.9	5.6	3.5	130.4	15.4
2012	34.4	12.0	32.8	4.6	5.6	2.4	8.8	2.3	2.4	1.0	81.6	14.5
2013						no sample						
2014						no sample						
2015	27.2	6.0	76.0	8.3	15.2	0.8	13.6	2.4	6.4	1.6	132.0	10.8

EFDCCLSS.D00-D15

Table 24. PSD and RSD values for each species of black bass collected in each area of Cranks Creek Lake (219 acres) on 5 May 2015. Number of fish (No.) is the number of stock-size or larger fish collected and numbers in parentheses are 95% confidence intervals.

	Largemouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}
Total	131	27 (20-35)	13 (7-19)	6	17 (0-49)	0

EFDCCLSS.D15

Table 25. Population assessments for largemouth bass collected from Cranks Creek Lake (219 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year					
Parameter	2005	2008	2010	2011	2012	2015
Mean length age-3 at capture	3	3	3	3	3	1
	(11.2)	(11.2)	(11.2)	(11.2)	(11.2)	(10.0)
Spring CPUE age-1	3	2	3	2	2	2
	(50.4)	(23.0)	(68.8)	(45.6)	(28.0)	(19.2)
Spring CPUE 12.0-14.9 in	1	2	1	1	1	1
	(4.0)	(27.0)	(9.6)	(9.6)	(5.6)	(15.2)
Spring CPUE ≥15.0 in	2	2	2	2	2	2
	(6.4)	(8.0)	(14.4)	(11.2)	(8.8)	(13.6)
Spring CPUE ≥20.0 in	3	3	4	4	3	4
	(2.4)	(3.0)	(4.8)	(5.6)	(2.4)	(6.4)
Total score	12	12	13	12	11	10
Assessment rating	Good	Good	Good	Good	Fair	Fair
Instantaneous mortality (z)	0.48	0.52	0.49	0.56	0.53	
Annual mortality (A)	38.40	40.60	38.90	43.10	40.90	

EFDCCLAS.D08
EFDCCLAF.D13
EFDCCLSS.D05-D15

Table 26. Length frequency and CPUE (fish/hr) of black bass collected in 1.0 hours of 15-min nocturnal electrofishing runs at Cranks Creek Lake (219 acres) on 29 September 2015; 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
SB	1	12	2	1		1	1	1	2	2											23	23.0 (4.4)
LMB		19	9	5	4	3	3	4	4	6	2		2							1	62	62.0 (20.3)

SB = spotted bass
LMB = largemouth bass
EFDCCLSF.D15

Table 27. 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		

EFDCCLSF.D01-D02, D07, D09-D14
EFDCCLAS.D08
EFDCCLSS.D00, D01, D04, D05, D08, D10-D15
EFDCCLAF.D13

Table 28. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples by area at Dewey Lake (1,100 acres) on 4 May 2015. Standard errors are in parentheses.

		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
Lower	Spotted bass			2	2		2	1	1	1	1	1									11	8.8 (4.6)
	Largemouth bass	1	7	5	7	3	7	12	6	19	23	17	5	7	2	4	6	4			135	108.0 (20.2)
Upper	Spotted bass							1													1	0.8 (0.8)
	Largemouth bass		3	8	5	14	10	11	9	14	22	18	23	12	7	9	7		1	1	174	139.2 (6.0)
Total	Spotted bass	0	0	2	2	0	2	2	1	1	1	1	0	0	0	0	0	0	0	0	12	4.8 (2.6)
	Largemouth bass	1	10	13	12	17	17	23	15	33	45	35	28	19	9	13	13	4	1	1	309	123.6 (11.2)

EFDDLLSS.D15

Table 29. 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

EFDDLLSS.D87-D02, D06-D10, D12-D15
BBRPSDEW.D03-D05

Table 30. PSD and RSD values for each species of black bass collected in each area of Dewey Lake (1,100 acres) during spring 2015. Numbers in parentheses are 95% confidence intervals.

	Largemouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}
Lower	112	61	21	7	43	0
		(52-70)	(13-28)		(3-82)	
Upper	144	69	26	1	0	0
		(62-77)	(19-33)			
Total	256	66	23	8	38	0
		(60-71)	(18-29)		(2-73)	

EFDDLLSS.D15

Table 31. 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
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)
Spring CPUE age-1	2 (24.8)	2 (27.9)	3 (49.0)	4 (49.5)	4 (55.6)	1 (16.4)	1 (19.5)	2 (20.8)	1 (10.8)	1 (17.2)
Spring CPUE 12.0-14.9 in	3 (31.0)	2 (24.2)	4 (35.1)	2 (21.6)	2 (18.8)	1 (12.3)	3 (34.9)	4 (54.0)	3 (31.2)	4 (43.2)
Spring CPUE $\geq$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)
Spring CPUE $\geq$20.0 in	2 (0.3)	2 (0.7)	2 (1.5)	2 (0.8)	2 (0.5)	0 (0.0)	2 (0.4)	2 (1.2)	2 (1.2)	2 (0.8)
Total score	12	11	14	13	13	6	10	13	12	13
Assessment rating	Good	Fair	Good	Good	Good	Poor	Fair	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-D15
EFDDLLAS.D08
EFDDLLAF.D13

Table 32. Length-frequency distribution of each black bass species captured during 1.5 hours of 15-minute nocturnal electrofishing runs at Dewey Lake (1,100 acres) on 21 September 2015. 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	Total	CPUE
Lower	Spotted bass		1			1		1	1	1									5	6.7 (4.8)
	Largemouth bass	15	14	4	1	1	5	5	5	1	4	7	6	4	2	5		1	80	106.7 (10.7)
Upper	Spotted bass								1										1	1.3 (1.3)
	Largemouth bass	5	5	4	6	3	3	4	5	4	5	8	5	5	3	3	3	3	74	98.7 (31.4)
Total	Spotted bass	0	1	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	6	4.0 (2.5)
	Largemouth bass	20	19	8	7	4	8	9	10	5	9	15	11	9	5	8	3	4	154	102.7 (15.0)

EFDDLLSF.D15

Table 33. 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		

BBRPSDEW.D03-D05
BBRDLLSF.D02
BBRWRDEW.D03-D04
BBRSCDEW.D03
EFDDLLSF.D05-D15
EFDDLLSS.D06-D10, D12-D15
EFDDLLAS.D08

Table 34. 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 4 May 2015; 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	21	22	Total	CPUE
Lower	Smallmouth bass					4	4	1		1	1				2		1					14	11.2 (5.4)
	Spotted bass			6	1	3	3	3	6	3												25	20.0 (8.0)
	Largemouth bass	1	3	8	9	17	19	22	12	16	15	13	16	8	4	3	1	2	2	1		172	137.6 (12.6)
Upper	Smallmouth bass						1															1	0.8 (0.8)
	Spotted bass																					0	0.0
	Largemouth bass			6	9	6	13	23	12	4	17	18	5	5	7	1	5	3	2		1	137	109.6 (8.9)
Total	Smallmouth bass	0	0	0	0	4	5	1	0	1	1	0	0	0	2	0	1	0	0	0	0	15	6.0 (3.1)
	Spotted bass	0	0	6	1	3	3	3	6	3	0	0	0	0	0	0	0	0	0	0	0	25	10.0 (5.0)
	Largemouth bass	1	3	14	18	23	32	45	24	20	32	31	21	13	11	4	6	5	4	1	1	309	123.6 (8.6)

EFDFLLSS.D15

Table 35. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass at Fishtrap Lake (1,143 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2000	28.7	4.2	29.0	2.3	19.0	2.6	23.0	4.3	3.4		99.7	9.9
2001	20.3	3.7	32.7	4.3	17.3	2.5	10.3	2.9	1.3		80.7	7.7
2002	no data											
2003	43.0	4.4	25.0	7.6	16.0	4.9	11.0	3.4	2.0		95.0	4.1
2004	44.7	6.8	45.1	5.8	19.3	2.2	13.1	3.9	1.5		122.2	10.7
2005	61.8	10.2	67.6	10.0	38.9	6.5	14.9	2.0	0.0		183.3	20.8
2006	52.5	8.8	37.6	1.9	33.0	3.4	4.0	0.7	0.0		127.1	11.6
2007	28.7	4.7	53.9	8.3	33.0	3.5	7.9	1.9	1.2	0.9	123.5	13.5
2008	39.5	12.7	31.1	3.5	32.0	5.8	9.4	2.7	0.0		111.9	15.0
2009	44.2	10.7	61.4	11.8	20.4	4.8	9.9	2.4	0.6	0.6	135.9	15.1
2010	52.4	3.1	35.6	5.6	20.4	2.8	10.4	2.5	0.4	0.4	118.8	11.3
2011						no sample						
2012	54.7	9.0	20.7	1.9	12.0	2.3	12.7	4.3	3.3	2.6	100.0	9.4
2013						no sample						
2014	25.6	5.5	32.8	10.2	35.2	5.9	16.8	5.3	3.2	1.5	110.4	15.2
2015	23.6	3.5	48.4	6.8	33.6	4.6	18.0	2.6	2.4	0.9	123.6	8.6

EFDFLLSS.D00-D10, D12, D14-D15

Table 36. PSD and RSD values for each species of black bass collected in each area of Fishtrap Lake (1,143 acres) on 4 May 2015. Number of fish (No.) is the number of stock-size or larger fish collected and numbers in parentheses are 95% confidence intervals.

	Smallmouth bass			Spotted bass			Largemouth bass		
Area	No.	PSD_7	RSD_{14}	No.	PSD_7	RSD_{14}	No.	PSD_8	RSD_{15}
Lower	14	36 (10-62)	21 (0-44)	18	17 (0-34)	0	134	49 (40-57)	16 (9-22)
Upper	1	0		0			116	55 (46-64)	21 (13-28)
Total	15	33 (9-58)	20 (0-41)	18	17 (0-34)	0	250	52 (45-58)	18 (13-23)

EFDFLLSS.D15

Table 37. Population assessment for largemouth bass collected from Fishtrap Lake (1,143 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year									
Parameter	2004	2005	2006	2007	2008	2009	2010	2012	2014	2015
Mean length age 3 at capture	4	4	4	4	4	4	3	3	3	3
	(13.6)	(13.6)	(13.6)	(13.6)	(13.6)	(13.6)	(11.7)	(11.7)	(11.7)	(11.7)
Spring CPUE age 1	2	4	4	2	3	3	4	4	2	2
	(35.4)	(61.5)	(52.5)	(28.3)	(38.5)	(44.2)	(51.6)	(50.8)	(24.2)	(22.1)
Spring CPUE 12.0-14.9 in	2	4	3	3	3	2	2	1	4	3
	(19.3)	(38.9)	(33.0)	(33.0)	(32.0)	(20.4)	(20.4)	(12.0)	(35.2)	(33.6)
Spring CPUE $\geq$15.0 in	3	3	1	2	2	2	2	3	3	3
	(13.1)	(14.9)	(4.0)	(7.9)	(9.4)	(9.9)	(10.4)	(12.7)	(16.8)	(18.0)
Spring CPUE $\geq$20.0 in	2	0	0	2	0	2	2	4	4	3
	(1.5)	(0.0)	(0.0)	(1.2)	(0.0)	(0.6)	(0.4)	(3.3)	(3.2)	(2.4)
Total score	13	15	12	13	12	13	13	15	16	14
Assessment rating	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Instantaneous mortality (z)	0.56	0.65	0.83	0.72	0.59	0.67	0.66	0.50	0.43	0.52
Annual mortality (A)	42.70	48.00	56.50	51.30	44.30	49.10	48.20	39.20	35.20	40.70

EFDFLLSS.D03-D10, D12, D14-D15
EFDFLLAS.D04, D10

Table 38. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 1.50 hours of 15-minute electrofishing samples at Fishtrap Lake (1,143 acres) on 21 September 2015; 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	Total	CPUE
Lower	Smallmouth bass			1	1	1										1					4	8.0 (4.0)
	Spotted bass			2							1										3	6.0 (2.0)
	Largemouth bass	4	16	30	14	4	2	2	3	7	10	6		1		2	1	1		1	104	208.0 (76.0)
Upper	Smallmouth bass																				0	0.0
	Spotted bass																				0	0.0
	Largemouth bass		2	25	30	14	5	3	3	4	6	5	3	3			1				104	208.0 (32.0)
Total	Smallmouth bass	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	4.0 (2.8)
	Spotted bass	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	3.0 (1.9)
	Largemouth bass	4	18	55	44	18	7	5	6	11	16	11	3	4	0	2	2	1	0	1	208	208.0 (33.7)

EFDFLLSS.D15

Table 39. 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 ≥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		

EFDFLLSF.D03-D15
EFDFLLSS.D04-D10, D12, D14-D15
EFDFLLAS.D04, D10

Table 40. Length frequency and CPUE (fish/net-night) for white crappie collected at Fishtrap Lake (1,143 acres) in 8 net-nights on 15-16 December 2015. Standard errors are in parentheses.

Inch class														
3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	SE
2	7		2	9	61	64	17	5	3	2		172	21.5	(4.6)

EFDFLCTF.D15

Table 41. PSD and RSD values calculated for white crappie collected in trap nets at Fishtrap Lake (1,143 acres) on 15-16 December 2015; 95% confidence intervals are in parentheses.

No. ≥stock size	PSD_5	RSD_{10}
163	93	17
	(89-97)	(11-23)

EFDFLCTF.D15

Table 42. Mean back-calculated length (in) at each annulus for white crappie collected from Fishtrap Lake (1,143 acres) on 15-16 December 2015, including 95% confidence intervals.

Year class	No.	Age 1	2	3	4	5	6	7	8
2014	9	4.7							
2013	7	4.7	6.9						
2012	7	4.6	7.1	8.5					
2011	16	4.6	6.9	8.3	9.2				
2010	16	4.6	6.5	7.9	8.7	9.5			
2009	9	4.2	6.2	7.3	8.0	8.7	9.3		
2008	1	5.2	7.2	8.3	9.4	10.1	11.7	12.8	
Mean	65	4.6	6.7	8.0	8.8	9.3	9.5	12.8	
Smallest		3.6	5.2	6.0	6.8	7.3	7.8	12.8	
Largest		5.8	9.0	11.4	12.7	11.7	12.3	12.8	
STD error		0.1	0.1	0.1	0.2	0.2	0.5		
95% CI LO		4.5	6.5	7.7	8.4	8.8	8.5		
95% CI HI		4.7	6.9	8.3	9.1	9.7	10.6		

Intercept = 0

EFDFLCAF.D15

Table 43. Age frequency and CPUE (fish/net-night) of white crappie collected by trap netting for 8 net-nights at Fishtrap Lake (1,143 acres) on 15-16 December 2015; numbers in parentheses are standard errors.

	Inch class															
Age	3	4	5	6	7	8	9	10	11	12	13	14	Total	Age%	CPUE	
0	2	7											9	5	1.1	(0.7)
1				2	7								9	5	1.1	(0.4)
2					1	22	4						27	16	3.4	(1.0)
3						13	4	4					21	12	2.6	(0.7)
4					1	4	24	6	2		1		38	22	4.8	(1.0)
5						13	16	6	3	1			39	23	4.9	(1.1)
6						9	16	1		2			28	16	3.5	(0.9)
7											1		1	1	0.1	(0.1)
Total	2	7	0	2	9	61	64	17	5	3	2	0	172	100		
%	1	4	0	1	5	35	37	10	3	2	1	0	100			

CPUE of ≥8.0 in (quality size) = 19.0 fish/nn

CPUE of ≥10.0 in (preferred size) = 3.4 fish/nn

EFDFLCAF.D15

EFDFLCTF.D15

Table 44. Population assessment scores for white crappie collected from Fishtrap Lake (1,143 acres). Actual assessment values are in parentheses. Scoring based on statewide assessment.

	Year							
Parameter	2003	2005	2007	2008	2010	2011	2013	2015
CPUE (excluding age-0)	4	4	2	4	4	4	4	3
	(100.0)	(38.9)	(6.7)	(31.9)	(27.2)	(74.9)	(117.0)	(20.4)
CPUE age-1	4	1	2	3	3	4	4	1
	(33.2)	(2.1)	(3.2)	(10.8)	(10.6)	(15.1)	(27.8)	(1.1)
CPUE age-0	1	4	1	4	2	4	4	1
	(0.0)	(22.5)	(2.7)	(18.8)	(3.1)	(14.0)	(12.1)	(1.1)
CPUE $\geq$ 8.0 in	4	4	2	3	3	4	4	4
	(15.9)	(25.9)	(2.9)	(8.8)	(10.4)	(25.1)	(69.2)	(19.0)
Mean length age-2 at capture	1	1	2	1	1	1	2	2
	(7.1)	(8.2)	(8.8)	(7.8)	(7.5)	(7.3)	(8.8)	(8.5)
Total score	14	14	9	15	13	17	18	11
Assessment rating	Good	Good	Fair	Good	Good	Good	Excellent	Fair
Instantaneous mortality (z)	1.45	0.56	0.80	0.78	1.19	0.75	0.87	0.21
Annual Mortality (A)	76.60	43.10	54.90	54.40	69.7	53.00	58.20	19.00

EFDFLCTF.D03-D15
EFDFLCAF.D03-D15

Table 45. Length frequency and CPUE (fish/hr) of black bass and walleye collected in 1.25 hours of 15-min electrofishing runs in Martins Fork Lake (330 acres) on 5 May 2015; 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
LMB	1	1	19	10	2	5	21	13	19	35	9	7	3	5	6	6	4	2	168	134.4 (14.9)
SB		3	6	2	3	6	9	17	3										49	39.2 (10.6)
SMB		1				1	1		1										4	3.2 (2.0)
Coosa						1			1										2	1.6 (1.6)
Walleye																			0	0.0

LMB = largemouth bass
SB = spotted bass
SMB = smallmouth bass
EFDMLLSS.D15

Table 46. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Martins Fork Lake (330 acres). S.E. = 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
2003	14.0	3.7	22.0	3.8	3.3	1.2	5.3	2.0	0.0		68.0	15.7
2004	2.7	2.7	89.3	19.2	4.0	2.3	5.3	3.5	0.0		101.3	26.8
2005	4.8	2.3	23.2	6.0	17.6	4.8	4.8	2.0	0.0		50.4	10.8
2006	9.3	2.0	19.9	6.0	13.3	3.0	9.3	2.7	0.7		51.7	10.7
2007	7.9	3.3	48.6	13.3	15.7	2.6	21.1	5.3	1.6	1.0	93.3	19.3
2008	7.8	4.8	19.5	7.2	20.2	3.7	19.4	2.4	0.8	0.8	66.9	12.2
2009	11.2	4.1	19.9	3.3	9.6	2.0	11.2	1.5	1.6	1.0	51.8	7.4
2010	17.6	6.3	26.4	16.4	8.0	2.8	19.2	2.7	0.8	0.8	71.2	22.8
2011	23.2	5.6	34.4	9.7	16.8	3.9	16.0	3.4	0.8	0.8	90.4	12.8
2012	16.8	4.6	12.0	3.8	5.6	2.4	10.4	4.3	0.8	0.8	44.8	8.3
2013						no sample						
2014	38.0	6.6	46.0	12.5	11.0	6.2	11.0	2.5	1.0	1.0	106.0	18.9
2015	26.4	5.7	46.4	7.9	40.8	8.3	20.8	2.9	1.6	1.0	134.4	14.9

EFDMLLSS.D03-D12, D14-D15

Table 47. PSD and RSD values obtained for each black bass species taken in spring nocturnal electrofishing samples at Martins Fork Lake (330 acres) in May 2015; 95% confidence intervals are in parentheses.

Largemouth bass			Spotted bass			Smallmouth bass		
No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}	No.	PSD_7	RSD_{14}
135	57 (49-65)	19 (13-26)	38	9 (0-17)	0	3	33 (0-99)	0

EFDMLLSS.D15

Table 48. Spring electrofishing population assessments for largemouth bass collected from Martins Fork Lake (330 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year									
Parameter	2005	2006	2007	2008	2009	2010	2011	2012	2014	2015
Mean length age-3 at capture	4	4	4	4	4	4	4	4	1	1
	(14.3)	(14.3)	(14.3)	(14.3)	(11.8)	(11.8)	(11.8)	(11.8)	(10.0)	(10.0)
Spring CPUE age-1	1	1	1	1	1	1	1	1	2	2
	(5.4)	(10.0)	(10.1)	(10.0)	(7.2)	(4.8)	(11.2)	(8.8)	(22.0)	(22.4)
Spring CPUE 12.0-14.9 in	1	1	1	2	1	1	1	1	1	3
	(17.6)	(13.3)	(15.7)	(20.2)	(9.6)	(8.0)	(16.8)	(5.6)	(11.0)	(40.8)
Spring CPUE $\geq$15.0 in	2	2	3	3	2	3	2	2	2	3
	(4.8)	(9.3)	(21.1)	(19.4)	(11.2)	(19.2)	(16.0)	(10.4)	(11.0)	(20.8)
Spring CPUE $\geq$20.0 in	0	1	2	1	2	1	1	1	2	2
	(0.0)	(0.7)	(1.6)	(0.8)	(1.6)	(0.8)	(0.8)	(0.8)	(1.0)	(1.6)
Total score	8	9	11	11	10	10	9	9	8	11
Assessment rating	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Instantaneous mortality (z)	1.08	0.81	0.80	0.48	0.54	0.37	0.33	0.54		
Annual mortality (A)	66.00	55.70	55.10	38.40	41.60	31.30	28.40	41.60		

EFDMLLSS.D03-D12, D14-D15
EFDMLLAS.D03, D09
EFDMLLAF.D14

Table 49. Length frequency and CPUE (fish/hr) of black bass and walleye collected at Martins Fork Lake (330 acres) during 1.0 hours of 15-minute nocturnal electrofishing samples on 19 September 2015; numbers in parentheses are standard errors.

	Inch class												
Species	2	3	4	5	6	7	8	9	10	11	12	Total	CPUE
LMB	2	14	25	8	13			3	1		1	67	67.0 (28.8)
SB		1	3	3	1	1	5	4	2			20	20.0 (5.9)
SMB												0	0.0
Coosa		1										1	1.0 (1.0)
Walleye												0	0.0

LMB = largemouth bass
SB = spotted bass
SMB = smallmouth bass
EFDMLLSF.D15

Table 50. 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 $\geq$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		

EFDMLLSF.D02
EFDMLLSF.D05-D15
EFDMLLSS.D03-D12, D14-D15
EFDMLLAS.D03, D09
EFDMLLAF.D14

Table 51. Length frequency and CPUE (fish/hr) of black bass collected in approximately 2.25 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 11 May 2015; numbers in parentheses are standard errors.

	Inch class																							
Species/Area	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE
Lower																								
SMB																							0	0.0
SB										1													1	0.8 (0.8)
LMB	1	17	42	31	8	13	46	36	15	17	12	8	6	3	1	3	1			1	1	1	263	210.4 (18.4)
Upper																								
SMB																							0	0.0
SB		1		2		1	2	1															7	7.0 (3.0)
LMB		1	18	24	5	28	21	11	2	6	4	4	6	5		1	2	2	2	1			143	143.0 (3.0)
Total																								
SMB	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
SB	0	1	0	2	0	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	8	3.6 (1.7)
LMB	1	18	60	55	13	41	67	47	17	23	16	12	12	8	1	4	3	2	2	2	1	1	406	180.4 (15.4)

SMB = smallmouth bass
SB = spotted bass
LMB = largemouth bass
EFDPLLSS.D15

Table 52. 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

EFDPLLSS.D88-D15

Table 53. 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 11 May 2015; 95% confidence intervals are in parentheses; largemouth bass stock size $\geq$8.0 in and spotted bass stock size $\geq$7.0 in.

	Largemouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}
Lower	151	25	7	1	100	0
		(18-31)	(3-11)			
Upper		40	19	4		
	67	(28-52)	(10-29)			
Total	218	29	11	5	20	0
		(23-35)	(7-15)		(0-59)	

EFDPLLSS.D15

Table 54. 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	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Mean length age-3 at capture	2	2	3	3	3	3	3	1	2	2	2	2
	(11.4)	(11.4)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(10.6)	(11.2)	(11.2)	(11.2)	(11.2)
Spring CPUE age-1	4	4	3	3	4	2	4	2	4	4	4	4
	(61.4)	(75.6)	(43.5)	(44.0)	(51.5)	(35.6)	(58.1)	(35.6)	(68.8)	(64.9)	(63.7)	(90.7)
Spring CPUE 12.0-14.9 in	2	4	1	1	1	1	1	1	1	1	2	2
	(17.0)	(35.1)	(13.6)	(11.1)	(9.8)	(6.2)	(13.3)	(9.4)	(9.9)	(4.6)	(24.8)	(17.8)
Spring CPUE $\geq$15.0 in	1	2	1	2	1	1	2	1	1	1	2	2
	(2.0)	(6.2)	(2.6)	(6.5)	(4.0)	(2.3)	(5.6)	(3.7)	(2.1)	(4.0)	(4.3)	(10.7)
Spring CPUE $\geq$20.0 in	0	2	0	0	2	0	3	2	2	2	2	3
	(0.0)	(0.4)	(0.0)	(0.0)	(0.4)	(0.0)	(1.9)	(1.1)	(1.3)	(0.3)	(0.8)	(2.7)
Total score	9	14	8	9	11	7	13	7	10	10	12	13
Assessment rating	Fair	Good	Fair	Fair	Fair	Poor	Good	Poor	Fair	Fair	Good	Good
Instantaneous mortality (z)	1.15	1.10	1.02	1.16	1.17	1.12	1.18	0.57				
Annual mortality (A)	68.20	66.60	63.80	68.60	69.10	67.40	69.40	83.70				

EFDPLLSS.D03-D15
EFDPLLAS.D03, D06, D11
EFDPLLAF.D12

Table 55. Length frequency and CPUE (fish/hr) of black bass collected in 2.25 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 16 October 2015; 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	19	20	21	Total	CPUE
Lower																					
SMB																				0	0.0
SB	1						1													2	1.6 (1.6)
LMB	14	74	45	13	1	19	17	16	5	3	1	3		2		2			1	216	172.8 (29.0)
Upper																					
SMB																				0	0.0
SB		1					1	1	1											4	4.0 (1.6)
LMB	9	22	26	12	4	15	8	10	1	2	1		1	1						112	112.0 (15.6)
Total																					
SMB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
SB	1	1	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	6	2.7 (1.2)
LMB	23	96	71	25	5	34	25	26	6	5	2	3	1	3	0	2	0	0	1	328	145.8 (19.7)

SMB = smallmouth bass

SB= spotted bass

LMB = largemouth bass

EFDPLLSF.D15

Table 56. 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		

EFDPLLSF.D03-D15
EFDPLLSS.D02-D15
EFDPLLAS.D03, D06, D11
EFDPLLAF.D12

Table 57. Length frequency and CPUE (fish/hr) of walleye collected at Paintsville Lake (1,150 acres). Sample time was 4.96 hours of daytime spring electrofishing on 18 March 2015; 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

EFDPLWSS.D00-D15

Table 58. Length frequency and electrofishing CPUE (fish/hr) of largemouth bass collected in approximately 0.750 hours of 7.5-min. electrofishing runs in Pikeville City Lake (20 acres) on 23 April 2015; numbers in parentheses are standard errors.

Inch class																				
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
1			2	5	3	5	4	3	4	5	4	2	3	6	9	3	2	3	64	85.3 (7.4)

EFDHALSS.D15

Table 59. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Pikeville City Lake (20 acres). SE = standard error.

	Length group										Total	
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2004	5.1	2.6	12.8	12.8	15.4	7.7	30.8	8.9	2.6		64.1	2.6
2005	12.8	4.3	11.5	3.3	1.3	1.3	51.3	9.5	8.9		76.9	8.1
2006	5.1	2.5	34.8	4.1	4.0	2.7	49.0	6.2	1.3		92.9	9.1
2007	43.2	15.1	11.2	3.2	8.0	4.4	46.4	6.9	6.4	3.0	108.8	24.3
2008	10.7	3.4	48.0	7.5	10.7	2.7	50.7	7.4	10.7	4.9	120.0	16.7
2009	22.7	4.8	18.7	4.9	9.3	3.2	25.3	4.8	8.0	2.1	76.0	6.1
2010	22.9	3.2	21.7	5.4	21.7	7.6	52.6	4.9	8.0	1.8	118.9	10.1
2011						no sample						
2012	8.0	2.9	6.7	2.5	4.0	2.7	36.0	6.8	1.3	1.3	54.7	9.1
2013						no sample						
2014	11.4	3.4	22.9	2.1	13.7	3.4	57.1	9.1	11.4	3.0	105.1	8.8
2015	10.7	2.7	20.0	3.4	17.3	4.8	37.3	9.6	6.7	3.8	85.3	7.3

EFDHALSS.D04-D15

Table 60. PSD and RSD values obtained for largemouth bass species taken in spring electrofishing samples in Pikeville City Lake (20 acres) on 23 April 2015; 95% confidence intervals are in parentheses.

No.	PSD_8	RSD_{15}
56	73	50
	(62-85)	(37-63)

EFDHALSS.D15

Table 61. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 3.0 hours of 15-minute electrofishing samples at Yatesville Lake (2,280 acres) on 7 May 2015; 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	21	Total	CPUE
Lower	LMB	11	44	33	14	6	27	25	16	18	11	8	9	12	10	5		4	1	1	255	170.0 (17.1)
	SB	2	1	4		1	1														9	6.0 (4.1)
Upper	LMB		11	27	18	8	30	27	32	27	13	16	12	11	12	7	4	3			258	172.0 (5.9)
	SB		2	2	3	2	1				1										11	7.3 (3.6)
Total	LMB	11	55	60	32	14	57	52	48	45	24	24	21	23	22	12	4	7	1	1	513	171.0 (8.6)
	SB	2	3	6	3	3	2	0	0	0	1	0	0	0	0	0	0	0	0	0	20	6.7 (2.6)

LMB =largemouth bass
SB = spotted bass
EFDYLLSS.D15

Table 62. 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

EFDYLLSS.D93, D96-D02, D04-D10, D12, D14-D15

Table 63. PSD and RSD values for black bass species taken in spring electrofishing samples in each area of Yatesville Lake (2,280 acres) on 7 May 2015; 95% confidence intervals are in parentheses.

	Largemouth bass			Spotted bass		
Area	No.	PSD_8	RSD_{15}	No.	PSD_7	RSD_{14}
Lower	147	42 (34-50)	22 (16-29)	2	0	0
Upper	194	40 (33-47)	19 (14-25)	4	25 (0-74)	0
Total	341	41 (36-46)	21 (16-25)	6	17 (0-49)	0

EFDYLLSS.D15

Table 64. 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	2004	2005	2006	2007	2008	2009	2010	2012	2014	2015
Mean length age-3 at capture	4	4	4	4	4	4	4	3	3	2
	(13.2)	(13.2)	(13.5)	(13.5)	(13.5)	(13.5)	(13.5)	(12.4)	(12.4)	(11.1)
Spring CPUE age-1	1	3	3	3	3	2	3	1	3	4
	(13.0)	(42.3)	(45.9)	(47.0)	(45.0)	(28.2)	(42.6)	(19.4)	(37.0)	(54.3)
Spring CPUE 12.0-14.9 in	2	4	2	3	2	3	2	2	2	2
	(23.7)	(42.0)	(20.3)	(31.3)	(20.4)	(30.6)	(19.3)	(21.6)	(23.3)	(23.0)
Spring CPUE $\geq$15.0 in	2	4	3	3	3	3	2	2	3	4
	(9.0)	(21.7)	(16.0)	(15.8)	(16.6)	(16.6)	(11.0)	(8.4)	(16.7)	(23.3)
Spring CPUE $\geq$20.0 in	0	2	2	0	0	0	2	2	2	2
	(0.0)	(0.3)	(0.7)	(0.0)	(0.0)	(0.0)	(0.7)	(0.8)	(0.3)	(0.7)
Total score	10	17	14	13	12	12	13	10	13	14
Assessment rating	Fair	Excellent	Good	Good	Good	Good	Good	Fair	Good	Good
Instantaneous mortality (z)	1.07	0.91	1.23	0.80	0.70	0.91	1.22	0.79	0.77	
Annual mortality (A)	65.80	59.80	70.70	55.20	50.20	59.80	70.40	54.60	53.70	

EFDYLLSS.D02-D10, D12, D14-D15
EFDYLLAS.D05, D06, D12
EFDYLLAF.D15

Table 65. Length frequency and nocturnal electrofishing CPUE (fish/hr) of black bass collected at Yatesville Lake (2,280 acres) during 2.75 hours of 15-minute samples on 28 September 2015; 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																					
LMB		27	33	53	30	2	9	22	16	8	5	1	1	2	1	1				211	168.8 (22.5)
SB		2	6	2	2	6	2	6												26	20.8 (5.6)
Upper																					
LMB	2	17	40	35	16	2	23	22	20	9	2	1	10	2	3				1	205	136.7 (14.1)
SB					2		1	1	1											5	3.3 (2.2)
Total																					
LMB	2	44	73	88	46	4	32	44	36	17	7	2	11	4	4	1	0	0	1	416	151.3 (13.1)
SB	0	2	6	2	4	6	3	7	1	0	0	0	0	0	0	0	0	0	0	31	11.3 (3.8)

LMB = largemouth bass
SB= spotted bass
EFDYLLSF.15

Table 66. Fall electrofishing indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected during 2003 - 2015 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		

EFDYLLSS.D03-D10, D12, D14-D15
EFDYLLSF.D03-D15
EFDYLLAS.D05, D06, D12
EFDYLLAF.D15

Table 67. Mean back-calculated length (in) at each annulus for largemouth bass collected from Yatesville Lake (2,280 acres) on 28 September 2015, including 95% confidence intervals.

Year class	No.	Age 1	2	3	4	5
2014	23	5.7				
2013	14	5.8	8.8			
2012	14	6.0	9.0	11.1		
2011	8	6.1	9.5	11.5	13.0	
2010	2	5.5	9.0	11.3	13.4	14.7
Mean		5.8	9.0	11.3	13.1	14.7
Smallest		4.5	7.4	9.6	10.8	13.9
Largest		7.5	11.1	14.6	14.5	15.5
STD error		0.1	0.1	0.2	0.3	0.8
95% CI LO		5.7	8.8	10.8	12.4	13.1
95% CI HI		6.0	9.3	11.7	13.8	16.3

Intercept = 0
EFDYLLAF.D15

Table 68. Fish harvest statistics derived from a daytime creel survey at Yatesville Lake (2,280 acres) from 2 April through 30 October 2015. Standard errors are in parentheses.

Fishing trips	
No. of fishing trips	11,180
No. of fishing trips per acre	4.9
Fishing pressure	
Total angler hours	41,644 (1,775.02)
Man-hours/acre	18.26
Catch/harvest	
No. of fish caught	39,669 (4,901.12)
No. of fish harvested	2,377 (588.59)
Lb of fish harvested	1,963
Harvest rates	
Fish/hour	0.06
Fish/acre	1.04
Lb/acre	0.86
Catch rate	
Fish/hour	0.97
Fish/acre	17.40
Miscellaneous characteristics (%)	
Male	91.83
Female	8.17
Resident	65.73
Non-resident	34.27
Method (%)	
Still fishing	13.12
Casting	86.35
Spider Rig	0.27
Fly fishing	0.13
Trolling	0.13
Mode (%)	
Boat	94.31
Bank	5.69

Table 69. Fish harvest statistics derived from a creel survey at Yatesville Lake (2,280 acres) from 2 April through 30 October 2015.

	Common carp	Channel catfish	Flathead catfish	Green sunfish	Bluegill	Smallmouth bass	Spotted bass	Largemouth bass	White crappie	Rock bass	Warmouth	Longear sunfish	Redear sunfish
No. caught	9	519	15	337	4,089	16	129	29,541	4,611	78	26	126	164
(per acre)	(0.004)	(0.228)	(0.007)	(0.148)	(1.793)	(0.007)	(0.056)	(12.956)	(2.022)	(0.034)	(0.012)	(0.055)	(0.072)
No. harvested	9	249	8	120	375	0	0	429	1,124	0	0	33	23
(per acre)	(0.004)	(0.109)	(0.003)	(0.052)	(0.164)			(0.188)	(0.493)			(0.015)	(0.010)
% of total no. harvested	0.37	10.48	0.89	1.18	3.22			54.20	20.34			1.40	0.95
Lb harvested	49.30	324.80	17.40	23.10	63.20			1064.00	399.20			4.30	5.40
(per acre)	(0.022)	(0.142)	(0.008)	(0.010)	(0.028)			(0.467)	(0.175)			(0.002)	(0.002)
% of total lb harvested	2.51	16.55	0.89	1.18	3.22			54.20	20.34			0.22	0.28
Mean length (in)	23.0	15.8	18.0	6.9	6.3			16.6	9.4			6.0	7.0
Mean weight (lb)	5.68	1.29	2.31	0.22	0.17			2.42	0.40			0.13	0.24

	Catfish group	Panfish group	Black bass group	Crappie group	Anything
No. of fishing trips for that species	165	89	9,102	501	1,324
% of all trips	1.47	0.79	81.41	4.48	11.84
Hours fished for that species	613.12	330.65	33,904.18	1,865.67	4,930.12
(per acre)	(0.27)	(0.15)	(14.87)	(0.82)	(2.16)
No. harvested fishing for that species	123	120	401	836	
Lb harvested fishing for that species	151.5	24.5	1013.9	294.8	
No./hour harvested fishing for that species	0.219	0.543	0.013	0.540	
% success fishing for that species	45.00	50.00	3.16	41.67	11.05

Table 70. Species composition and length distribution of each species of fish harvested (H) and released (R) from a creel survey on Yatesville Lake (2,280 acres) from 2 April to 30 October 2015.

Species		Inch class																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Common carp	H																							8				
	R																											
Channel catfish	H								9		9		9	17	26	26	52	9	52	17	17		6					
	R								17	9	17		61	61	52	26	9		18									
Flathead catfish	H																		7									
	R																											7
RockbBass	H																											
	R				61	9			8																			
Bluegill	H			27	18	71	89	45	124																			
	R		28	327	1,188	758	954	131	196	56	47	19	10															
Green sunfish	H					9	74		36																			
	R			35	156	17	9																					
Longear sunfish	H						33																					
	R				58	12	22																					
Redear sunfish	H					8			14																			
	R			20	30	51	40																					
Spotted bass	H																											
	R								30		59		30						9									
Largemouth bass	H															130	57	138	40	32	8	16	8					
	R								2594	517	6,712	2852	6373	4252	2130	1275	927	713	428	178	71	36	36		9	8		
Smallmouth bass	H																											
	R							8			8																	
White crappie	H					25	42	101	245	152	304	152	85	17														
	R			374	678	522	1061	409	383	43	16																	
Illegal bass	H														8													
	R																											
Warmouth	H																											
	R					26																						

Table 71. Monthly black bass angling success at Yatesville Lake (2,280 acres) during the 2015 creel survey period.

Month	Total no. of bass caught	Total no. of bass harvested	No. of black bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/hour by bass anglers
Apr	2,045		1222.57	4,554.05	1,886	0.88		
May	9,727	115	2313.75	8,618.71	9,066	1.05	88	0.01
Jun	2,759	265	1247.78	4,647.97	2,434	0.52	265	0.06
Jul	1,768	41	811.76	3,023.82	1,727	0.57	31	0.01
Aug	2,899		981.00	3654.21	2,603	0.71		
Sep	7,321	17	1582.71	5895.58	7,190	1.22	17	0.00
Oct	3,175		942.24	3509.84	3,058	0.87		
Total	29,694	438	9,101.81	33,904.18	27,964		401	
Mean						0.83		0.01

Table 72. Monthly white crappie angling success at Yatesville Lake (2,280 acres) during the 2015 creel survey period.

Month	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	95	11	70.08	261.06	43	0.16	11	0.04
May	3,119	846	218.87	815.28	2,546	3.12	617	0.76
Jun	370	129	80.70	300.62	242	0.81	106	0.35
Jul								
Aug	309		57.71	214.95	13	0.06		
Sep								
Oct	717	139	64.98	242.06	541	2.24	102	0.42
Total	4,610	1,125	492.34	1,833.97	3,385		836	
Mean						0.91		0.22

Table 73. Monthly catfish angling success at Yatesville Lake (2,280 acres) during the 2015 creel survey period.

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
Apr	11	11	62.30	232.05	11	0.05	11	0.05
May	291	106	18.76	69.88	26	0.37	26	0.37
Jun	144	106	31.04	115.62	83	0.72	60	0.52
Jul								
Aug	39	26	19.24	71.65	26	0.36	26	0.36
Sep	43	9						
Oct	7		16.25	60.51	7	0.12		
Total	535	258	147.59	549.71	153		123	
Mean						0.23		0.19

Table 74. Catch and harvest statistics derived from a creel survey at Yatesville Lake (2,280 acres) for largemouth bass, white crappie, and channel and flathead catfish caught and released by all anglers from 2 April to 30 October 2015.

	Largemouth bass				White crappie				Channel catfish			
		Catch & release				Catch & release				Catch & release		
	Harvest	12-14.9 in	≥15.0 in	Total	Harvest	≤8.9 in	≥9.0 in	Total	Harvest	12-14.9 in	≥15.0 in	Total
Total number	438	12,755	3,682	29,541	1,124	3,427	60	4,611	249.04	174	53	519.2
Total weight (lb)	1064.0	10,733.0	3,107.6	25,650.6	399.2	217.0	4.1	620.3	324.8	126.0	36.6	519.4
Mean length (in)	16.6				9.4				15.8			
Mean weight (lb)	2.42				0.40				1.29			
Rate (fish/hour)	0.115				0.029				0.006			

	Flathead catfish			
		Catch & release		
	Harvest	12-14.9 in	≥15.0 in	Total
Total number	7.56		7.56	15.1
Total weight (lb)	17.4		58.9	76.3
Mean length (in)	18.0			
Mean weight (lb)	2.31			
Rate (fish/hour)	0.000			

Yatesville Lake Angler Attitude Survey

3. Which species of fish do you fish for at Yatesville Lake?

	Frequency	Percent
Bass	38	95.0%
Crappie	14	35.0%
Bluegill/Redear	4	10.0%
Catfish	8	20.0%
Trout	1	2.5%
Total	40	

4. Which one species do you fish for most at Yatesville Lake?

	Frequency	Percent
Bass	31	77.5%
Crappie	3	7.5%
Bluegill/Redear	2	5.0%
Catfish	4	10.0%
Total	40	
No Response	0	

5. In general, what level of satisfaction or dissatisfaction do you have with bass fishing at Yatesville Lake?

	Frequency	Percent
Very satisfied	12	31.6%
Somewhat satisfied	19	50.0%
Neutral	5	13.2%
Somewhat dissatisfied	1	2.6%
Very dissatisfied	0	0.0%
No Opinion	1	2.6%
Total	38	
No Response	2	

5a. If you responded with very or somewhat dissatisfied in question (5) - What is the single most important reason for your dissatisfaction?

	Frequency	Percent
Number of fish	0	0.0%
Size of fish	1	100.0%
Not happy with regulations	0	0.0%
Too many anglers	0	0.0%
Unfamiliar with lake	0	0.0%
Total	1	
No Response	39	

6. In general, what level of satisfaction or dissatisfaction do you have with crappie fishing at Yatesville Lake?

	Frequency	Percent
Very satisfied	4	28.6%
Somewhat satisfied	4	28.6%
Neutral	4	28.6%
Somewhat dissatisfied	0	0.0%
Very dissatisfied	2	14.3%
No Opinion	0	0.0%
Total	14	
No Response	26	

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

	Frequency	Percent
Number of fish	0	0.0%
Size of fish	2	100.0%
Size of fish	0	0.0%
Not happy with regulations	0	0.0%
Too many anglers	0	0.0%
Unfamiliar with lake	0	0.0%
Total	2	
No Response	38	

7. In general, what level of satisfaction or dissatisfaction do you have with bluegill/redear fishing at Yatesville Lake?

	Frequency	Percent
Very satisfied	2	50.0%
Somewhat satisfied	2	50.0%
Neutral	0	0.0%
Somewhat dissatisfied	0	0.0%
Very dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	4	
No Response	36	

8. In general, what level of satisfaction or dissatisfaction do you have with catfisf fishing at Yatesville Lake?

	Frequency	Percent
Very satisfied	2	25.0%
Somewhat satisfied	2	25.0%
Neutral	4	50.0%
Somewhat dissatisfied	0	0.0%
Very dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	8	
No Response	32	

9. On average how many times do you fish Yatesville Lake in a year?

	Frequency	Percent
First time	0	0.0%
1 to 4	6	15.0%
5 to 10	11	27.5%
More than 10	23	57.5%
Total	40	
No Response	0	

10. Do you fish in any tournaments?

	Frequency	Percent
Yes	11	27.5%
No	29	72.5%
Total	40	
No Response	0	

11. Do you use the KDFWR tournament registration website to register tournaments?

	Frequency	Percent
Yes	3	7.5%
No	37	92.5%
Total	40	
No Response	0	

12. Do you use the KDFWR tournament registration website to plan your activity at a particular boat ramp access?

	Frequency	Percent
Yes	1	2.5%
No	39	97.5%
Total	40	
No Response	0	

13. How would you rate the existing fish habitat at Yatesville Lake (both natural and man-made)?

	Frequency	Percent
Very Good	8	20.0%
Good	28	70.0%
Fair	4	10.0%
Poor	0	0.0%
Very Poor	0	0.0%
No Opinion	0	0.0%
Total	40	
No Response	0	

14. Were you aware KDFWR places fish habitat (e.g. fish attractors/structures) within the lake?

	Frequency	Percent
Yes	34	85.0%
No	6	15.0%
Total	40	
No Response	0	

15. Do you regularly fish Dept. placed attractors/structures at Yatesville Lake?

	Frequency	Percent
Yes	20	60.6%
No	13	39.4%
Total	33	
No Response	7	

16. How did you find these attractors/structures?

	Frequency	Percent
On my own	17	42.5%
Friend/Word of mouth	15	37.5%
KDFWR Website	10	25.0%
Newspaper	1	2.5%
Work	1	2.5%

17. Do you feel the addition of Dept. placed attractors/structures has improved your fishing results?

	Frequency	Percent
Yes	28	82.4%
No	0	0.0%
No Opinion	6	17.6%
Total	34	
No Response	6	

18. Were you aware that the locations of KDFWR placed attractors/structure are available on KDFWR website?

	Frequency	Percent
Yes	19	55.9%
No	15	44.1%
Total	34	
No Response	6	

19. Would you support or oppose a 12 inch minimum size limit on channel catfish in all public lakes and reservoirs, except Kentucky and Barkley Lakes?

	Frequency	Percent
Support	35	87.5%
Oppose	3	7.5%
No Opinion	2	5.0%
Total	40	
No Response	0	

Fish Habitat Improvement - Public Lakes Fertilization

Lake		County	Size (acres)
Northwestern Fishery District	Subtotal		26
Peabody WMA (Honeycomb, Little Gill and Tin lakes)		Muhlenburg	26
Southwestern Fishery District	Subtotal		68
Marion County Lake		Marion	25
Spurlington Lake		Taylor	25
Briggs Lake		Logan	18
Eastern Fishery District	Subtotal		29
Fishpond Lake		Knott	29

Fish Habitat Improvement - Fish Attractors

District / Lake	Fish Attractor Sites
Western Fishery District	
Barkley Lake	121 hardwood units were used to create new deepwater fish attractor sites; 10 hardwood units were used to refurbish existing deepwater fish attractors; 25 Christmas tree units were used to create new fish attractor sites; 173 Christmas tree units were used to refurbish existing deepwater fish attractors; 10 new shallow water stake beds were created; 159 shallow water stake beds were refurbished
Kentucky Lake	119 Hardwood units were used to create new deep water fish attractor sites; 14 Hardwood units were used to refurbish existing deepwater sites; 9 hardwood units were used to create one fish attractor in front of the new handicap fishing pier in Blood River; 2 Christmas tree units were used to create a new attractor site; approximately 250 hardwood stakes placed beneath the handicap fishing pier in Blood River
Ballard WMA	8 Christmas tree units were used to refurbish existing deep water attractor sites at Gravel pit pond; 3 Christmas tree units were used to refurbish existing deep water attractor sites at Shelby Lake
West KY WMA	13 Christmas tree units were used to refurbish existing deep water attractor sites at the Handicap pond
Northwestern Fishery District	
Peabody WMA Lakes	
Panther Lake	104 Christmas trees
Bell Lake	266 Christmas trees
Nolin River Lake	
Moutardier fishing pier	8 spider block units (1 unit = 4 spider blocks) and 16 Christmas trees
Rough River Lake	
Laurel Branch area	25 mature, flood-killed hardwood trees
North Fork fishing pier	8 spider block units and 20 Christmas trees
Kingfisher lakes	
New Kingfisher	38 stake buckets
Old Kingfisher	99 Christmas trees
Southwestern Fishery District	
Barren River Lake	1 new brush sites; 4 refurbished brush sites
Green River Lake	3 new brush sites; 6 new stakebeds; 7 refurbished stakebeds
Briggs Lake	2 refurbished brush sites; 2 new stake beds
Shanty Hollow Lake	4 new brushpiles (300+ x-mas trees)
Mill Creek Lake	2 refurbished brush sites (30+ xmas trees); 2 new xmas tree brush sites
Metcalfe County Lake	1 new stake bed; 2 refurbished brush sites
Three Springs Lake	6 refurbished brush sites; 3 new brush sites

Fish Habitat Improvement - Fish Attractors cont.

District / Lake	Fish Attractor Sites
<u>Central Fishery District</u>	
Beaver Lake	6 brush piles (100 total trees)
Boltz Lake	5 brush piles (83 total trees)
Elmer Davis Lake	7 brush piles (104 total trees)
Guist Creek Lake	11 brush piles (115 total trees)
McNeely Lake	28 brush piles (126 total trees)
Taylorsville Lake	75 stake buckets; 113 pallet units (3 pallets per unit); 19 brush piles (261 total trees); 1 rock pile (concrete blocks)
<u>Northeastern Fishery District</u>	
Cave Run Lake	
Annual habitat work	6 refurbished brush sites (Christmas tree sites – 250+ trees)
Large-scale habitat project work	Zilpo Flats and Scott's Creek Cove sites: In total, 20 new sites were created (with 5 sites refreshed) and one large (0.5 mile) habitat reef. 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 (40 Christmas trees per site)
<u>Eastern Fishery District</u>	
Buckhorn Lake	2 new christmas tree reefs, 2 refurbished christmas tree reefs, 13 new pallet structures with christmas trees, 450lbs of winter wheat sowed
Carr Creek Lake	1 new brushpiles, 2 refurbished brushpiles, 2 refurbished christmas tree reefs, 20 hinge-cut trees
Dewey Lake	11 new brushpiles, 11 refurbished brushpiles, 2 new christmas tree reefs, 10 hinge-cut trees, 2 refurbished stake beds, 200lbs winter wheat sowed, aquatic plants planted - floating leaf pondweed, bald cypress
Fishtrap Lake	5 refurbished brushpiles, 2 refurbished christmas tree reefs, 10 hinge-cut trees, 10 new brushpiles, 5 refurbished brushpiles
Martin County Lake (Milo)	2 new brushpiles; 5 hinge-cut trees
Paintsville Lake	4 new brushpiles; 11 refurbished christmas tree reef
Yatesville Lake	4 refurbished brushpiles, 1 refurbished christmas tree reef, 6 hinge-cut trees

WESTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Table 1. Technical guidance given to pond owners in the Western Fishery District during the 2015 project year. An additional 102 telephone calls to the office regarding technical guidance and stocking were also handled.

County Pond Owner	Date of Inspection	Findings	Management Recommendations
Ballard			
Southland Ranch	21-May	Creeping water primrose	Aquatic approved glyphosate and grass carp
Calloway			
Damon Eastwood	26-Jun	Low DO, Primrose, Duckweed, green sunfish, shiners	Deepen pond, SONAR for duckweed
Damon Eastwood	28-Mar	Filamentous Algae	Copper Sulfate
Robert Danielson	15-Jul	Pondweed, filamentous algae	Cutrine, grass carp, aquashade
Jerry Penner	28-Aug	few small LMB, clear water, large catfish	Fertilize, stock LMB, harvest catfish, add habitat
Jerry Penner	28-Aug	Recent fish kill, still has large bass and small bluegill	Fertilize, add habitat, maintain current harvest
Cindy Dennis	28-Mar	Back Pond - Filamentous algae and muddy water, low alk.	Cutrine Plus, and ag. Lime
Cindy Dennis	28-Mar	Front Pond - low alkalinity	ag. Lime
Graves			
Johnnie Lee	26-May	Pond leak	Drain, line with compacted clay
Joe Keith	26-May	Swine manure pond, primrose, duckweed, filamentous	rodeo for primrose, 2-4-d for duckweed, Cutrine plus for algae grass carp delay stocking until weeds under control,
Richard Bradley	30-Sep	Fish kill, primrose	Stock catfish, and bass, remove crappie and hybrid BG. Grass carp, 2-4-d
Lyon			
Lyon county fiscal court	22-May	clear water, filamentous algae, pond weed, bass crowded, hybrid sunfish	deepen pond, renovate and restock
Marshall			
David Lineberry	11-Jun	Low alkalinity, clear water	Lime and fertilize

Table 1 continued.

County Pond Owner	Date of Inspection	Findings	Management Recommendations
McCracken			
David Goewert	21-May	clear water, pondweed, small bluegill	reduce harvest of large bass, stock grass carp, fertilize
David Culbertson	21-May	stunted bass, clear water	remove some bass, stock fathead minnows, lime and fertilize
Bruce Penix	1-Jun	Could not launch boat	
Sheldon Hurst	21-Jul	Improper herbicide treatment, Filamentous algae, primrose, clear water	Cutrine +, aquashade, aeration, lime, fertilize
Dan Everett	21-Jul	Stunted bass	Harvest small bass, stock fathead minnows
Caldwell			
	22-May	Bass stunted, low alkalinity	harvest bass, add lime
Carlisle			
Chandler Martin	30-Aug	Primrose, water clover, crappie, stunted bass, low alkalinity	harvest bass, add lime, 2-4-D, stock minnows, remove crappie

NORTHWESTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Six on-site pond visits were provided to 6 pond owners in 2015. Problems include unbalanced fish populations, pond construction issues, fertilization needs and the presence of nuisance fish species. Table 1 contains problems encountered and management recommendations. Many other requests for information 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 2015.

County	Pond/Lake Owner	Date	Findings	Recommendations
Daviess	Carl McCarthy	6/5/15	one LMB, small BG	Restock according to fishing goals, add habitat
Hancock	Terry McCoy	6/5/15	Stunted LMB, decent BG, crappie	Remove sublegal LMB, add dense habitat, remove all crappie caught
Henderson	Ben Blosser	6/10/15	Decent fish pops, overabundant veg, dam leak	Fix leak in dam, veg control, stock CCF, fertilize 2016
Hopkins	Art Stone	6/12/15	Good fish pops, strip pits	Continue current management
Webster	Chester Bradford	6/10/15	Small LMB, medium sunfish, lost shallow water	Draw down, recontour shoreline, add habitat, fertilize spring 2016
Webster	Joe Nance	6/10/15	Good LMB/BG, Blue cats, no habitat	Remove BCF, add habitat for BG, fertilize spring 2016

SOUTHWESTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Onsite technical guidance given during 2015: Emails and phone calls also taken, but were not enumerated.

Table 1: Onsite technical guidance visits during 2015

County	Date	Landowner	Problem/Situation	Recommendations
Allen	7/9	Chad Spalding	Fish ID & population status	Remove undesirables (yellow bass, green sunfish) & stock bluegill
	7/9	Allen Walker	Aquatic veg. ID	Brittle Naiad – grass carp
Butler	8/17	Allen Cooper	Alkalinity check & DO profile w/ diffuser install	Looked good
Edmonson	8/17	Scott Gary	Bluegill population status & ID	Looked good
Hart	8/17	David Logsdon	Poor fish growth – Low alkalinity	Lime
Marion	8/13	Mike Lawson	Persisting muddy water & low alkalinity	Lime
	8/13	George Harris	Low alkalinity/productivity & aquatic veg	Lime, add grass carp & cut trees off dam
	9/24	Maker's Mark Distillery	Algal fouling of water & fish population status for harvest guidelines	Consider bottom aeration to reduce algal buildup/nutrient load
	9/24	Bobby Gardner	Poor fish growth (low alkalinity & no/low bass	Lime & stock bass
	9/24	Kevin Gardner	Low alkalinity, fish composition/balance	Lime, add catfish & redears if desired
Taylor	8/13	Dale Bowles	Aquatic veg. & siltation	Grass carp & restrict/eliminate livestock access

CENTRAL FISHERIES DISTRICT

Project B: Technical Guidance

FINDINGS

A total of 55 pond owners and 69 ponds were visited in 2015. 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 2015 technical guidance sampling, eight landowners requested a Fisheries Special Management Permit (FMP) for their ponds. Finally, a total of 391 phone calls, 238 e-mails, and 5 walk-in office visits concerning farm pond problems were handled this year.

Table 1. Technical guidance in the Central Fishery District in 2015.

County	Name of lake / pond owner	Date sampled	Findings	Recommendations
Anderson (2)	Jim Burkley	6/12/15	Good fish populations	FMP for removal of small bass; add cover
	Denny Markwell	6/23/15	Good fish populations;	FMP for removal of small bass; add cover
Boone (1)	William Martin	6/18/15	Unbalanced fish populations	Stock LMB
Boyle (2)	Gary Taylor	6/9/15	Good fish populations	Harvest CCF and restock as needed.
	Camp Horsin' Around	8/5/15	Good fish population	OK to harvest fish from pond; add cover
Bullitt (3)	Shirley Hall	7/1/15	Undesirable fish species; very shallow	Renovate and restock
	Jonathan Rideout	7/1/15	Undesirable fish species; unbalanced population	Stock LMB; harvest blue catfish
	Lyn Hobbs	8/19/15	Inaccessible	Stock LMB, BG, CCF, and Grass Carp
Campbell (1)	Greg Rawe	8/10/15	Good fish populations	Harvest bass; add cover
Fayette (3)	Overbrook Farm	6/8/15	2 ponds; 1) Good fish populations; 2) Excellent fish populations	1) harvest BG and crappie; 2) harvest a few LMB and BG;
	Thomas Flamm	7/22/15	Good fish populations	Harvest crappie; herbicides for vegetation control;
	Dennis Anderson	8/5/15	Unbalanced fish populations	Stock LMB and CCF
Gallatin (2)	Aaron Hickey	7/26/14	Good fish populations	Harvest crappie; add cover
	Jeff Wallace	7/26/14	Fair fish populations; recovering from fish kill	Protect fish populations; add cover
Grant (1)	Ron Wainscott	6/17/15	Good fish populations	FMP to remove small bass; herbicide for cattail control
Henry (1)	Henry County Rod and Gun Club	7/27/15	Good fish populations	Harvest crappie; add cover
Jefferson (2)	Emmett Kaelin	6/16/15	Good fish populations; Excessive vegetation	Herbicides for vegetation control
	South Park Country Club	8/26/15	Good panfish populations	None
Jessamine (1)	Lynn Anderson	7/22/15	Inaccessible due to size	Stock LMB and BG
Kenton (2)	Mike Zimmer	6/18/15	Good fish populations	Add cover
	Brad Treas	8/27/15	Good fish populations	Add cover
Mercer (1)	B. Allen Dienst	7/28/15	Unbalanced fish populations	Protect LMB and BG; stock CCF; add cover
Nelson (7)	Spooky Hollow	6/4/15	2 ponds; 1) Good fish populations; 2) Good fish populations;	1) Lime/fertilize; FMP harvest small bass; add cover 2) Lime and fertilize; add cover

County	Name of lake / pond owner	Date sampled	Findings	Recommendations
Nelson (7)	Debra Harris	6/10/15	2 ponds; 1) Undesirable fish species; 2) Undesirable fish species	1) Renovate and restock; 2) Renovate and restock
	Melody Lake Ranch Club	6/10/15	Good fish populations;	Stock LMB and CCF; add cover;
	Jack Newcomb, Jr.	6/15/15	4 ponds; 1) Excellent fish populations; 2) Good fish population; 3) Good fish populations 4) Good fish populations	1) Harvest LMB and CCF; 2) FMP to harvest small bass; 3) None; 4) Harvest LMB
	Danny Taylor	8/11/15	Unbalanced fish populations	Stock LMB and BG
	Kenneth Armstrong	8/11/15	Good fish populations	None
	Phillip Bischoff	9/11/15	Good fish populations	Add cover
Oldham (4)	David Levitch	6/24/15	Limited fish populations; pond very shallow	Deepen pond; protect LMB
	Daniel Metzinger	8/14/15	Undesirable fish species – shad	Stock LMB; add cover
	Walt Schumm	8/14/15	Unbalance fish populations	Stock LMB; harvest CCF/koi
	Chapel View Homeowners	8/14/15	Undesirable fish species – shad	Stock LMB and CCF; add cover
Owen (3)	Marcus Carey	8/10/15	Good fish populations	None
	Larry Savage	8/20/15	Good fish populations	None
	Jeffrey Kaiser	8/27/15	Good fish populations	None
Scott (3)	Ken Tyson	6/17/15	Good fish populations;	Lime and fertilize; Harvest crappie and flathead catfish; add cover; FMP for removal of small bass;
	Belvedere Homeowners Association	6/26/15	Inaccessible due to aquatic vegetation	Sonar for vegetation control
	Dennis Frommeyer	6/26/15	Inaccessible due to aquatic vegetation	Sonar for vegetation control
Shelby (9)	David Lizotte	6/5/15	2 ponds; 1) Unbalanced fish populations; aquatic vegetation; 2) inaccessible due to duckweed	1) Stock LMB and CCF; herbicides for vegetation control; 2) Sonar for vegetation control
	Joni Carlos	6/5/15	Inaccessible due to aquatic vegetation	Sonar for vegetation control
	Rick Ellis	6/16/15	Unbalanced fish populations; trees on dam;	Stock LMB; Herbicides for vegetation control
	Mark Sobaszko	6/25/15	Good fish populations	None

County	Name of lake / pond owner	Date sampled	Findings	Recommendations
Shelby (9)	Jack Irwin	6/25/15	5 ponds 1) Great fish populations; 2) Inaccessible due to duckweed 3) Good fish population; 4) Good fish populations 5) Good fish populations	1) Harvest crappie; 2) Sonar for vegetation control; 3) herbicides for vegetation control; 4) None; 5) None
	George Harp	7/24/15	Unbalanced fish populations	Stock LMB and CCF; add cover
	Curt Vaughn	7/31/15	Inaccessible due to aquatic vegetation	Sonar for vegetation control
	James Whitaker	8/28/15	2 ponds; 1) Fair fish populations; 2) Inaccessible	1); trees on dam; add cover 2) Stock LMB and BG
	Steve Higdon	8/28/15	Good fish populations	FMP for small bass removal
Trimble (1)	John Reynolds	7/27/15	Inaccessible due to size and tree coverage	Stock LMB, BG, and CCF; treat vegetation with aquatic herbicides
Washington (4)	City of Willisburg	6/9/15	Good fish populations	None;
	Darrel Nice	6/23/15	3 ponds; 1) Good panfish 2) good panfish 3) small pond; limited fishery	1) FMP for small bass removal; add cover 2) add cover; 3) none
	Jason Mattingly	8/4/15	Unbalanced fish populations	Stock LMB and CCF; add cover
	Eric Bobbit	8/4/15	Unbalanced fish populations	Stock LMB and CCF
Woodford (2)	Three Chimneys Farm	6/8/15	Low recruitment of largemouth bass	Stock LMB
	Gene Hornbeck	8/21/15	Unbalanced fish population	Stock LMB

NORTHEASTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Table 1 provides a list of ponds visited (16) in 2015 and our findings and recommendations. In addition to on-site inspections, consultations were rendered via telephone (50-75) and/or written correspondence (1). Most vegetation problems and a few population problems were resolved using email pictures, pond harvest log data or through the use of 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 2015.

County	Name	Date	Findings	Recommendations
Carter	J. Kantor	29-Aug	P1- No fish observed, vegetation problem P2- No fish observed P3- No fish observed P4- No fish observed	All Ponds - soil sample and follow recommendations; stock according to pond size
	Olive Hill Resv.	17-Jul	Unbalanced, few bluegill	Stock 660 BG, and reduce harvest
Harrison	Maric Farm 7	4-Sep	Balanced with a few undesirables	Remove undesirables as they are caught
Lee	B. Hogan	11-Sep	Unblanced pond, vegetation problem	Stock 75 BG, soil test, apply rodeo
	Youth Haven Bible Camp	11-Sep	Unblanced pond, vegetation problem	Stock 100 BG and 10 grass carp
Madison	S. Himes	26-Aug	Complete fish kill caused by farm nutrient run off	Prevent animal run-off and re-stock
Menifee	D. Smith	8-Oct	P1- Unbalanced, low fertility P2- Vegetation problem	P1- Stock 200 BG and 20 CCF; soil test P2- Apply rodeo
Morgan	N. Davis	15-Oct	Unbalanced	Stock 75 BG
	H. Elam	9-Jun	Unbalanced	Stock 75 BG and 15 CCF
Owsley	D. Barrett	11-Sep	Unbalanced	Stock 75 BG
Rowan	C. Berry	21-Sep	Unbalanced (No BG)	Stock 250 BG, soil test
	J. Kidd	13-May	Unbalanced (many 10-12" LMB, low BG)	Remove 15-20 12" LMB, stock 75 BG and 50 RE (owner wanted RE)

SOUTHEASTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Details of the technical guidance provided during 2015 are shown in Table 1. Technical guidance (30) was provided by on-site visits (21), 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 2015.

County	Name of pond or pond owner	Date	Findings	Recommendations
Casey	Janetta Collett	5/5	Requested information on yellow grub	Recommended stocking redear sunfish; sent fish suppliers list and farm pond management booklet
Knox	Glenn Bolton	5/5	Low number of bluegill; naiads and filamentous algae present	Harvest skinny bass; stock grass carp or treat vegetation with herbicides; add cover
	Michael Hensley	6/11	Bass overcrowded; filamentous algae	Remove skinny bass; do not harvest bluegill for a couple of years; add brushy cover; use copper sulfate compounds for algae control
	Robin Jones	5/5	Algae present	Gave farm pond management booklet and herbicide pamphlet for algae control
	Terry Smith	10/14	Requested information on stocking, algae control, and pond turnover	Sent farm pond management booklet and fish suppliers list
Laurel	Jeremy Allen	6/11	Balanced fish population; some watershield around margins	Add cover; consider aeration and lime; stock 50 (8-9 inch) channel catfish; treat watershield with herbicides
	Jreg Botner	5/7	Bass overcrowded	Remove some bass; lime and fertilize
	Patrick Detherage	5/7	Bass overcrowded	Harvest skinny bass; add lime and fertilize; aerate; add cover
	Fred Gambill	8/13	Requested fish suppliers list	Sent fish suppliers list
	Rush	7/15	Bass overcrowded; naiads and filamentous algae present	Aerate; stock 10-12 grass carp or treat pond with herbicides; add 2,000-3,000 pounds of lime; harvest skinny bass; feed catfish
	Dan Shuman	5/12	Bass overcrowded; low alkalinity; filamentous algae and watershield present	Remove some bass; add lime; control vegetation with herbicides
Lincoln	Marvin Jefferies	2/9	Requested information on new pond	Sent farm pond booklet, pond stocking application, and fish suppliers list
	Jack Jacobs	9/25	Requested information on grass carp	Sent fish suppliers list, grass carp handout, and farm pond management booklet
	Gary Jenkins	5/13	Filamentous algae, watermeal, and duckweed present	Treat vegetation with copper sulfate and Clipper
	Jennifer Weinrauch	8/7	Only small green sunfish and bluegill observed	Kill out and restock pond; lime in the winter
McCreary	Federal Penitentiary	9/17	Ponds 1-3: Bass overcrowded; pondweed and chara present	Ponds 1-3: remove some bass; don't harvest bluegill; add cover; add grass carp for vegetation control
	Bessie Goad	8/12	Requested information on grass carp	Sent fish suppliers list and farm pond management booklet

Table 1. continued.

County	Name of pond or pond owner	Date	Findings	Recommendations
Pulaski	Cynthia Garner	7/31	Bass slightly overcrowded; algae present	Harvest a few bass; stock 4-6 inch bluegill; stock 15-20 channel catfish; add 500 pounds of lime; treat algae with copper sulfate
	Mike Price		Pond slightly muddy; some bass skinny	Add cover; control muddiness; consider adding lime; fertilize in the spring
	Connie Woodcock	1/23	Filamentous algae present	Treat algae with Cutrine Plus
Rockcastle	Tim Young	4/28	Low alkalinity; muddy water	Add lime
Russell	Tim Ankiel	5/20	Bass slightly overcrowded; green sunfish present; some algae and naiads present	Remove skinny bass; remove green sunfish; add treetops for cover; don't harvest bluegill
	Daryll Burton	6/4	Balanced fish population; abundant bluegill population	Continue current management; removed some bluegill
	Bob Hubbard	5/1	No fish observed	Stock fish
	Vern Nissley	5/20	Some bass overcrowded; low alkalinity; pondweeds present	Remove skinny bass; add lime; fertilize in the spring
Whitley	Phil Goins	5/4	Fish dying in pond	Suspected fish disease and let it run it's course
	Chad Gregory	6/3	Low alkalinity	Add lime
	Byran Martin	5/12	Balanced fish population; algae, chara, pondweeds present	Control bank erosion; add cover; treat vegetation with Cutrine Plus
	Sergeant Powers	5/13	Leaking pond	Recommended bentonite clay
	Gary Taylor	5/12	High pH	Limit nutrient input into the pond

EASTERN FISHERY DISTRICT

Project B: Technical Guidance

FINDINGS

Details of the technical guidance provided during 2015 are shown in Table 1. Technical guidance (21) was provided by on-site visits (5), 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 2015.

Date	County	Owner	Problem	Recommendations
1/15	Floyd	Bob Sheperd	new pond const.	refer to NRCS & farm pond app.
2/24	Knott	Johnny Gayheart	pond washout	private dealers list
4/28	Pike	Chester Bartley	algae	copper sulfate
5/14	Johnson	Robert Elem	no catfish	D.O. issue
5/15	Johnson	Robert Elem	catfish	schedule site visit
6/3	Breathitt		pond stocking	online application
6/8	Letcher	Dustin Campbell	pond reconstruction	refer to NRCS contacts in Whitesburg
6/11	Martin	Greg Murphy	algae in goldfish pond	GreenClean & refer to Aquatic Control
*6/17	Breathitt	Mike Tabor	pond balance	add habitat & stock bluegill, redear sunfish
*6/26	Johnson	Robert Elem	stock catfish	screen spillway, lime, holding tank when stocking
6/29		John Hatton	algae	Cutrine Plus
7/6	Floyd	Dean Harless	new pond leaking	Bentonite
*7/28	Johnson	Burnis Goble	turtles, algae	trap turtles & remove, copper sulfate
*7/29	Pike	Brett Salyers	weeds, pond construction	stocking app., & Sonar RTU or Reward
*8/25	Knott	John Maggard	brown water& pond balance	Cutrine Plus, remove creek fish from pond
8/31	Johnson	Beckie Parks	pond balance	refer to website & call back after fishing
9/4	Johnson	Regina Kitchen	freshwater mussels	email for ID & how to remove
9/8	Leslie	Ruie Caldwell	jellyfish in pond	no concern, send species info
9/8	Leslie	Robert Collins	pond stocking	fish suppliers list & pond book
9/18	Lawrence	Kurt Fitzpatrick	pond balance, & feeding	stocking number recommendations & feed rates
10/2	Johnson	Danny Fitch	algae	cutrine-plus

*on-site visit

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Muskellunge - surplus	**Minor Clark**	2,700	13	1,307	13	Cave Run Lake*
		2,700	13	1,300	13	Green River Lake*
		400	13	201	13	Buckhorn Lake*
		350	13			Dewey Lake
Ohio River (123,107) - Eggs		1,550	9			Barren River
Licking River (362,350) - Fry		1,000	9			Kentucky River
Hatchery Oxbow (1) - 13"		400	9			South Fork Kentucky River
		400	9			North Fork Kentucky River
		40	9			Station Camp
		40	9			Sturgeon Creek
		200	9			Tygarts Creek
* Dorsal fin micro-wire tagged		25	9			Drakes Creek
** Dorsal fin micro-wire tagged and left pectoral fin clip		149	13	149	13	Kentucky River Pools 2-3**
		149	9	149	9	Kentucky River Pools 2-3***
*** Left pectoral fin clip		6,299	13			
		3,804	9	3,106		
Walleye - surplus **Erie strain** Fry:	**Minor Clark**	350,000	1.5	325,693	1.7	Lake Cumberland
Licking River (1,161,984)		300,000	1.5	262,653	1.5	Laurel River Lake
		35,000	1.5	35,518	1.8	Carr Creek Lake
West Virginia (997,920)		57,000	1.5	57,129	1.6	Paintsville Lake
		200,000	1.5	100,716	2	Nolin River Lake
Lake Cumberland (882,000)		200,000	1.5	200,206	1.5	Green River Lake
Native strain:		15,000	1.5	15,029	2.1	Russell Fork Lake
Tennessee (29,100) - Fry		9,100	1.5	9,172	1.4	Upper Levisa Fork (native)
		33,600	1.5	33,163	1.4	Wood Creek Lake (native)
Lower Barren River (18,522) - 1.4"						
Drakes Creek (6,174) - 1.4"		25,000	2.5	25,255	2.7	Upper KY River (native)
		16,700	1.5	16,758	1.4	Martins Fork Lake (native)
Lower Barren River (16,592) - 3"		65,650	1.5	40,360	1.8	Upper Cumberland River (native)
		1,307,050	1.5	1,121,652		
Striped Bass - surplus fish stocked in Lake	**Minor Clark**	350,000	1.5	350,869	1.5	Lake Cumberland
		261,000	1.5			Ohio River
		50,000	1.5	89,269	1.2	Kentucky Lake tailwater
		50,000	1.5	89,506	1.2	Barkley Lake tailwater
		711,000	1.5	529,644		

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	400,374	1.4	Barren River Lake***
		286,200	1.5	438,532	1.3	Ohio River***
Paintsville Lake****		2,600	1.5	2,663	1.6	Sympson Lake**** (Nelson Co.)
(11,012) - 1.4"		15,000	1.5	15,028	1.5	Grayson Lake***
		102,000	1.5	51,840	1.5	Rough River Lake*
*Reciprocal cross				51,297	1.5	Rough River Lake**
unmarked		60,000	1.5	30,080	1.6	Taylorsville Lake*
**OTC marked originals				30,210	1.5	Taylorsville Lake**
		50,000	1.5	25,344	1.5	Herrington Lake*
***Mixed recips &				25,176	1.5	Herrington Lake**
originals unmarked		23,000	1.5	23,068	1.6	Fishtrap Lake***
****Originals unmarked		20,000	1.5	20,006	1.5	Kentucky River**** Pools 4-9
		7,200	1.5	7,938	1.8	Lake Linville***
		19,000	1.5	19,045	1.6	Guist Creek Lake****
		785,000	1.5	1,140,601		
	Pfeiffer	3,250,000	fry	4,790,000	fry	Reciprocal
White Bass	**Pfeiffer**		1.5	1,400,000	1	Elkhorn Creek-KY River Pool 3
Largemouth Bass	**Minor Clark**	100,000	5.0	338109		Priority 1 lakes at 15 fish per acre
		30,000	0.75	61,965	0.90	Farm Pond Stocking Program
Tygart's Creek (423,660) - Fry		137,244	2.0	138,026	1.7	Ohio River - Markland, Meldahl & Greenup Pools
				538,100		
Blue Catfish	**Pfeiffer**					
FIN's (21,317) - 12"-24"		23,500	8-12	23,500	7-14	Taylorsville Lake Fall
		40,000	5-7	8,080	7-14	Barren River Lake Spring
		4,800	5-7			Dewey Lake Spring
		5,200	5-7	5,200	7-14	Fishtrap Lake Spring
		73,500		36,780		
Sauger	**Pfeiffer**					
Tennessee Wildlife						
Resources Agency		10,000	1.5	20,835	1.4	Ky River Pool 3 Stillwaters
(225,000) - Fry		10,000	1.5	17,035	1.4	Ky River Pool 4 Benson Creek Ramp
Ohio River, Ghent boat		10,000	1.5	14,625	1.4	Ky River Pool 5 Tyrone Ramp
ramp (50,000) - Fry		10,000	1.5	15,050	1.4	Ky River Pool 6 Oregon Ramp
		15,000	1.5	33,940	1.5	Ky River Pool 8 Paint Lick Ramp
Elkhorn Creek PFH		10,000	1.5	15,240	1.4	Ky Pool 9 Boonesborough State
(1,500) - 1.5"		10,000	1.5	14,570	1.4	Ky River Pool 10 College Hill Ramp
		10,000	1.5	14,485	1.5	Ky River Pool 11 Irvine Ramp
		10,000	1.5	14,400	1.5	Ky River Pool 12 Ravenna Ramp
		95,000	1.5	160,180	1.5	

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Saugeye	**Pfeiffer**	25,360	1.5	25,910	1.75	Guist Creek Lake
Taylorsville Lake		6,900	1.5	6,900	1.75	Boltz Lake
(65,550) - 1.5"-2"		14,000	1.5	14,350	1.75	A.J. Jolly Lake
		46,260	1.5	47,160	1.75	
Channel Catfish	**Pfeiffer**	89,800	15	30,138	12-24	FINS program
		66,551	8-12	69,933	8-10	Public fishing lakes and FINS
		156,351		100,071		
Fall Surplus (34,900) - 3"						
Spring Surplus (175,600) - 4"-6"						
FIN's retired broodstock (131) - 25"-30"						
Hybrid Catfish	**Pfeiffer**			32,216	10-18	FINS program
Redear Sunfish	**Pfeiffer**	31,600	1.5	35,625	1.5	Beaver Lake
		18,400	1.5	20,775	1.5	Boltz Lake
		75,000	1.5	108,380	1.5	Lake Cumberland (surplus)
		125,000		164,780		
Hybrid Sunfish	**Pfeiffer**	30,000	6-8	29,950	5-8	FINS program
		15,000	6-8			Special Fishing Events
Alligator Gar	**Pfeiffer**	8,000	10			Western Kentucky
Lake Sturgeon	**Pfeiffer**	6,000	8	7,705	7.6	Upper Cumberland
	Pfieffer					
Technical Guidance (Farm Pond Stocking Program)						
Bluegill		133,000	0.75	88,890	fry	81,810 Stocked Elsewhere
Channel Catfish		20,000	3	11,100	3	

Project C- Fish Propagation and Transportation

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Rainbow Trout	**Wolf Creek**	2,000	9.0	2,000	8-12	Anderson County Park - Anderson County
		3,750	9.0	3,750	8-12	Bark Camp Creek - Whitley County
		1,500	9.0	1,500	8-12	Beaver Creek - Wayne County
		1,200	9.0	800	8-12	Beaver Creek Left Fork - Floyd County
		1,200	9.0	1,600	8-12	Beaver Creek Right Fork - Floyd County
		4,000	9.0	4,000	8-12	Bert Combs Lake - Clay County
		4,000	9.0	4,000	8-12	Beulah Lake - Jackson County
		1,500	9.0	2,250	8-12	J. Beville Lake - Grayson County
		1,200	9.0	1,200	8-12	Big Bone Creek - Boone County
		2,500	9.0	1,000	8-12	Big Caney Creek - Elliott County
		1,500	9.0	1,500	8-12	Bloomfield Park - Nelson County
		6,250	9.0	6,750	8-15	Bob Noble Park - McCracken County
		2,500	9.0	4,750	8-12	Brickyard Pond - Knox County
		5,000	9.0	5,000	8-12	Buckhorn Lake TW (Middle Fork KY) - Perry County
		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
		6,800	9.0	5,000	8-12	Carr Creek Lake tailwater - Knott County
		8,000	9.0	7,000	8-12	Casey Creek - Trigg County
		6,800	9.0	7,600	8-20	Cave Run Lake TW (Licking River) - Rowan County
		21,000	9.0	21,273	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	2,300	8-12	East Fork Indian Creek - Menifee County
		2,000	9.0	1,998	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	Fagen 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	9,999	8-12	Fishtrap Lake tailwater (Levisa Fork) - Pike County
		2,400	9.0	2,400	8-12	Ft. Campbell - Christian County
		4,000	9.0	5,250	8-12	Ft. Knox (Otter Creek) - Meade County
		3,600	9.0	3,600	8-12	Floyds Fork (2 sites) - Jefferson County
		1,000	9.0	1,000	8-12	Goose Creek - Casey County
		2,000	9.0	2,000	8-12	Grants Branch Lake - Pike County
		5,000	9.0	4,200	8-12	Grayson Lake tw (Little Sandy River) - Carter County
		400	9.0	400	9-11	Greasy Creek - Leslie County
		11,000	9.0	10,980	8-12	Greenbo Lake - Greenup County
		27,000	9.0	24,850	8-12	Hatchery Creek - Russell County
*includes triploid		4,500	9.0	5,000	8-12	*Herrington Lake tailwater - Garrard/Mercer Co.
		2,750	9.0	2,750	8-12	Highsplint Lake - Pike County
		1,500	9.0	1,500	8-12	Jack C. Fisher Park Lake - Daviess County
		12,000	9.0	11,500	8-12	Jacobson Park Lake - Fayette County
		7,000	9.0	8,100	8-12	Jennings Creek - Warren County
		3,750	9.0	4,500	8-12	Kingdom Come Lake - Harlan County
*includes triploid		161,000	9.0	167,001	7-12	*Lake Cumberland tailwater (Cumberland River) - Russell/Clinton/Cumberland/Monroe counties
		45,000	9.0	45,000	8-12	Laurel River Lake - Laurel County
		500	9.0	300	8-15	Laurel River Lake tailwater - Laurel/Whitley counties
		2,750	9.0	4,250	8-12	Laurel Creek - Elliott County
		400	9.0	400	8-12	Little Sandy River (East Fork) - Boyd County
		1,500	9.0	2,250	8-12	Looney Creek - Harlan County
		2,000	9.0	1,500	8-12	Lower Sportsman's Lake - Franklin County
		2,000	9.0	2,000	8-12	Lusby Park Lake- Scott County

Species	Hatchery	Planned No.	Planned Size	Actual No.	Actual Size	Location
Rainbow Trout	**Wolf Creek**	2,500	9.0	2,700	8-12	Lynn Camp Creek - Hart County
		6,250	9.0	6,250	8-12	Madisonville City Park Lake North - Hopkins County
		6250	9	6,250	8-12	Mason County Lake - Mason County
		3,750	9.0	3,000	8-12	Martins Fork Lake tailwater - Harlan County
		500	9.0	500	8-12	Metcalfe County Lake - Metcalfe County
		3,000	9.0	3,000	8-12	Middle Fork Red River - Powell County
		3,000	9.0	3,000	8-12	Middleton Mills Park Lakes (2) - Kenton County
		3,750	9.0	4,250	8-12	Mike Miller Park Lake - Marshall County
		6,250	9.0	6,250	8-12	Miles Park Lakes #3 & #4 - Jefferson County
		6,000	9.0	6,000	8-12	Mill Creek Lake - Powell County
		1,500	9.0	1,500	8-12	Millenium Park Lake - Boyle County
		6,250	9.0	6,249	8-12	Milo Lake - Martin County
		1,500	9.0	1,500	8-12	Mingo Lake - Jessamine County
		500	9.0	500	8-12	Mortons Lake (H&H) - Union County
		9,000	9.0	7,000	8-12	Nolin River Lake tailwater - Edmonson
		1,050	9.0	1,050	8-12	North Fork Triplett Creek - Rowan County
		7,500	9.0	7,500	8-12	Otter Creek - Meade County
		600	9.0	600	8-12	Paint Creek - Johnson county
		4,500	9.0	4,500	8-12	Paintsville Lake - Johnson/Morgan Counties
		20,000	9.0	20,000	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	3,750	8-12	Pollywog Lake - Grant County
		3,750	9.0	3,750	8-12	Prisoner's Lake - Kenton County
		400	9.0	400	9-11	Raven Creek - Harrison County
		15,600	9.0	15,600	8-12	Rock Creek (S.F. Cumberland River) - McCreary
		2,800	9.0	3,000	8-12	Roundstone Creek - Hart County
*includes triploid		1,600	9.0	1,600	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
		2,000	9.0	2,000	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
		500	9.0	500	8-12	Station Camp Creek - Estill County
		6,250	9.0	6,250	8-12	Alexandria Community Park Lake- Campbell County
		400	9.0	400	8-12	Sturgeon Creek - Lee County
		2,500	9.0	3,200	8-12	Sulphur Spring Creek - Simpson County
		1,000	9.0	1,000	8-12	Swift Camp Creek - Wolfe County
		3,000	9.0	3,000	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	6,249	8-12	Tom Wallace Lake - Jefferson County
		8,750	9.0	9,050	8-12	Trammel Creek - Allen County
		1,200	9.0	1,200	8-12	Triplett Creek - Rowan County
		6,250	9.0	7,000	8-12	Upper Sportsman's Lake - Franklin County
		2,500	9.0	2,811	8-12	War Fork - Jackson County
		3,750	9.0	3,750	8-12	Watterson Park Lake - Jefferson 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
		1,500	9.0	1,500	8-12	West Hickman Creek - Scott County
		2,500	9.0			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
		666,150	9.0	669,610	7-12	

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 - Elliott County
		450	4.0	500	4-8	Chimney Top Creek - Wolfe County
		750	8.0			Fletchers Fork - Ft. Campbell Military Reservation
		1,000	8.0	1,000	6-8	Herrington Lake tailwater - Garrard/Mercer Co.
		500	8.0	200	4-10	Jennings Creek - Warren County
		38,000	8.0	43,100	4-12	Lake Cumberland tailwater
		250	8.0	250	4-8	Laurel Creek - Elliott County
		250	8.0	250	4-10	Laurel River Lake tailwater
		2,500	8.0	3,250	8-10	Little West Fork - Ft. Campbell Military Reservation
		700	8.0	700	6-8	Looney Creek - Harlan County
		500	8.0	500	6-10	Otter Creek - Meade County
		300	8.0	300	6-9	Paint Creek - Johnson County
		200	8.0	200	6-10	Roundstone Creek - Hart County
		200	8.0	100	4-10	Sulphur Springs Creek - Simpson County
		600	8.0	600	4-10	Trammel Creek - Allen County
		450	4.0			
		47,400	8.0	51,700	4-12	
Brook Trout	**Wolf Creek**	40,000	8.0	62,498	4-12	Lake Cumberland tailwater
				300	4-8	Parched Corn Creek
		706,850		715,060		
	Total			6,439,734	w/fry	14,381,838