Commonwealth of Kentucky

Date: June 30, 2012

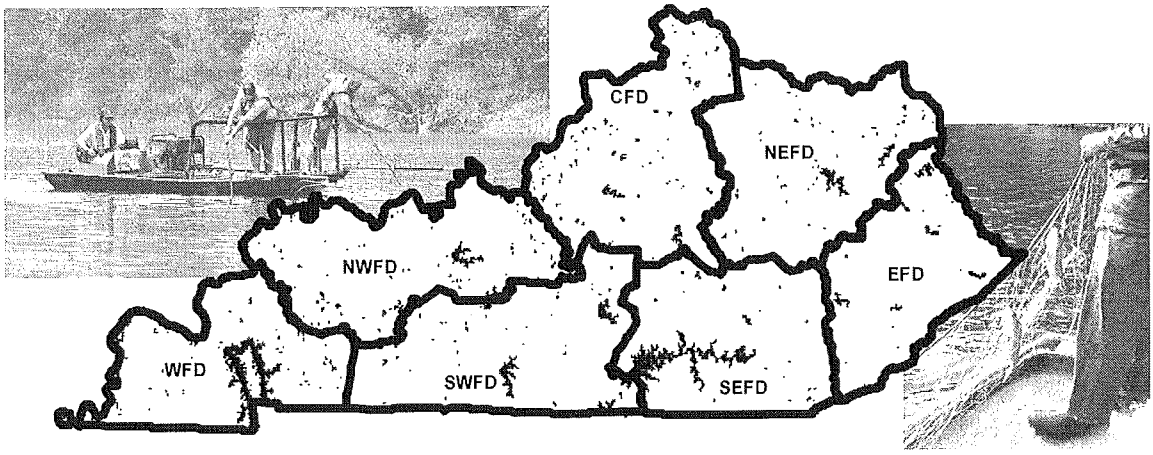
Sport Fish Restoration Grant F-50, Segment 34

Period: 01 April 2011
through
31 March 2012

ANNUAL PERFORMANCE REPORT

District Fisheries Management
Part I

Project 1: Lake and Tailwater Fishery Surveys



Project Leader: *Paul Rister*, Western Fishery District Biologist (WFD)
Assistant Project Leader: *Neal Jackson* , Assistant WFD Biologist

Project Leader: *Robert Rold* , Northwestern Fishery District Biologist (NWFD)
Assistant Project Leader: *Jeremy Shiflet*, Assistant NWFD Biologist

Project Leader: *Eric Cummins*, Southwestern Fishery District Biologist (SWFD)
Assistant Project Leader: *John Zeigler*, Assistant SWFD Biologist

Project Leader: *Jeff Crosby*, Central Fishery District Biologist (CFD)
Assistant Project Leader: *Kathryn Emme*, Assistant CFD Biologist

Project Leader: *Fred Howes,* Northeastern Fishery District Biologist (NEFD)
Assistant Project Leader: *Tom Timmermann,* Assistant NEFD Biologist

Project Leader: *John Williams*, Southeastern Fishery District Biologist (SEFD)
Assistant Project Leader: *Marcy Anderson*, Assistant SEFD Biologist

Project Leader: *Kevin Frey*, Eastern Fishery District Biologist (EFD)
Assistant Project Leader: *Jason Herrala*, Assistant EFD Biologist

Department of Fish and Wildlife Resources
Fisheries Division

PROJECT ASSISTANTS

Terry Yarbrough and Kenneth Bucy, Western Fishery District

Tim Abney and Michael Kinney, Northwestern Fishery District

Mike McCormack and *Phillip Matlock*, Southwestern Fishery District

Danny Duvall and Jason *McDowell*, Central Fishery District

Chad Nickell and *Kevan Lane*, Northeastern Fishery District

Danny Parks and *Dirk Bradley*, Southeastern Fishery District

Jason Russell and *Mark Harless,* Eastern Fishery District

STATE: Kentucky

GRANT NO.: F-50-34

GRANT TITLE: District Fisheries Management

PERIOD COVERED: 1 April 2011 – 31 March 2012

PROJECT: Project 1 – Lake and Tailwater Sampling

Project Objective: To annually manage and conserve the 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 78 lakes/reservoirs (encompassing approximately 217,498 acres), in addition to four major tailwaters (approximately 4,182 acres) were sampled and managed. Otoliths were removed to calculate age/growth from various sport fish species of concern. 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 seven sport fisheries including: (1) Lake Malone; (2) Guist Creek; (3) Lake Cumberland; (4) Smokey Valley Lake (Carter Caves Lake); (5) Ohio River – Newburg Pool; (6) Kentucky Lake; and (7) Paintsville Lake. Data from creel surveys is used to compare with standardized sampling data and obtain measurements concerning the public's catch rates, harvest rates, species of interest, 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 are analyzed and summarized in the Fisheries Division 2011 Annual Reports. This information is available to the public at their request.

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date- 31 March 2012
Work accomplished- 31 March 2012

C. SIGNIFICANT DEVIATIONS

None.

D. REMARKS

None.

E. RECOMMENDATIONS

Continue this project as approved in segment #35 for F-40.

F. COST

$ 1,361,299.01

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WESTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

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

Kentucky Lake

Spring sampling for bass was hindered due to record flooding (373.3 elevation) in the Tennessee River drainage area. Sampling was attempted during the normal sampling period (May 01-12) by diurnal electrofishing (120 PPS). However, the water was 10 feet above summer pool elevation. Sampling was attempted later in May once water levels had receded. Only a minimum number of sampling runs were made because of low catch rates. During this sampling, 214 bass (61.14 fish/hr) were collected (Table 2). Flooding also occurred in 2010 during the same period as the 2011 flood. The catch rate during the spring of 2010 was 121.57 fish/hr. Some of the sampling in 2010 was completed pre-flood condition. The other difference was the water temperature. In 2010 the water temperature during sampling was still in the 60s F. The water temperature was in the upper 70s F when sampling was attempted this year.

The assessment of the Kentucky Lake Fish Management Plan (KLFMP) for largemouth bass (Table 3) was calculated using the 2011 spring data, but should be read with caution due to the limited sample. The population rated "fair". PSD values were calculated from sampled bass and reported in Table 4. The PSD value calculated for all largemouth bass was 76, which falls just above the targeted range (PSD 55-75) suggested in the KLFMP. The calculated RSD_{15} was 15, which falls below the range reported in the KLFMP (RSD_{15} 20-40). These values suggest a population with a higher density of bass between 12.0-15.0 in.

Age estimates and age frequency were determined based of a small sample size (n=81) of otoliths collected from largemouth bass during spring sampling. Largemouth bass at Kentucky Lake still demonstrate good growth. The mean length of age-3 fish at capture is 12.4 in. Most largemouth bass reach harvestable size ($\geq$ 15.0 in) during their fourth growing season (Table 5). One notable observation from the length frequency table is the high catch of age 4 bass (Table 6). This strong year class was also observed as one year old bass during the 2008 survey.

During October, 1,101 black bass were collected by diurnal electrofishing (120 PPS) at three locations; Blood River, Jonathan Creek and Big Bear Creek. Largemouth bass comprised 90% (132.00 fish/hr) of this catch (Table 7). Samples at each embayment were similar in that there were high catch rates of bass between 4.0-7.0 in (~63.00 fish/hr), and 11.0-16.0 in (~42.00 fish/hr). During the spring sample 78% of the catch was between 10.0-15.0 in (~48.00 fish/hr). Length and weight data were recorded from all bass collected to calculate relative weight values. The relative weight value for harvestable size largemouth bass was 97 (Table 8). Overall the condition for black bass was good. During this period the threadfin shad density was noted as being very high in the lake. Length-weight equations for black bass species at Kentucky Lake are:

Largemouth bass $\text{Log}_{10}(\text{weight}) = -3.47270 + 3.16118 \times \text{Log}_{10}(\text{length})$
Smallmouth bass $\text{Log}_{10}(\text{weight}) = -3.48974 + 3.13583 \times \text{Log}_{10}(\text{length})$
Spotted bass $\text{Log}_{10}(\text{weight}) = -3.54617 + 3.20929 \times \text{Log}_{10}(\text{length})$

Otoliths were collected from largemouth bass up to 10.0 in during fall sampling. Otoliths were used to age the smaller bass so that age-0 CPUE and growth could be evaluated. The CPUE of age-0 largemouth bass during the fall sample was 75.87 fish/hr (Table 9). After a few years of decline in catch rates for these small bass, this value was more than double what has been recorded in the past 3 years. This good year class can likely be attributed to flood conditions during the spawning period. The growth of the age-0 largemouth bass continues to be good. Ideally, the age-0 bass should average at least 5.0 in by the fall, which can increase winter survival.

Trap nets were fished for crappie in Blood River and Jonathan Creek embayments for 80 net-nights (nn) during October and November yielding 1,773 crappie (22.16 fish/nn), of which 5.50 fish/nn (25%) were white crappie and 16.66 fish/nn (75%) were black crappie (Table 10). Last year's sampling yielded a better catch of white crappie.

It is speculated this was because a severe storm left the water a little more turbid than normal at Jonathan Creek last year. One of the management objectives in the KLFMP is to maintain a catch rate of crappie (excluding age 0) of 20.00 fish/nn. This year's sampling yielded 18.75 fish/nn (Table 11). This is an increase over the five previous years.

The crappie population at Kentucky Lake continues to produce a quality fishery. The number of harvestable size crappie has declined due to poor year classes observed in 2006-2008. Good recruitment appears to have occurred from the 2009 and 2010 year classes. The number of crappie ≥8.0 in collected in trap nets increased to 12.31 fish/nn from last year's record low of 8.41 fish/nn (Table 11). The number of crappie ≥10.0 in continued to remain low (3.40 fish/nn) as a result of the earlier poor year classes. The KLFMP objective for crappie is to maintain a catch rate of at least 9.00 fish/nn for crappie ≥8.0 in, and 3.00 fish/nn for crappie ≥10.0 in. Although the goals were met, angler attitude during the past fishing season was that the population was in poor condition. Therefore these values in the KLFMP probably need to be increased. In years where our sampling yielded closer to 5.00 fish/nn, anglers complained less about a declining fishery. Maintaining a higher catch rate of larger fish will require higher catch rates of smaller crappie in prior years. During those years of satisfactory catches of larger crappie by anglers, our sampling yielded catch rates closer to 14.00 fish/nn for crappie ≥8.0 in. PSD and RSD_{10} values are reported in Table 12. Length-weight equations for white and black crappie are listed below. With the density of adult crappie down, it is expected that growth rates will continue to be good or increase slightly.

White crappie	Log_{10} (weight) = -3.69999 + 3.40711 x Log_{10} (length)
Black crappie	Log_{10} (weight) = -3.53903 + 3.30246 x Log_{10} (length)

Age and growth determinations were made based on otoliths collected from 398 crappie. Tables 13 and 14 list the back calculated length by age for white and black crappie, respectively. The growth of crappie continues to be excellent with fish reaching 10.0 in (minimum length limit size) at age 3. The growth management objective in the KLFMP is for age 2 crappie collected in the fall to reach 9.5 inches in length (Table 11). Tables 15 and 16 show age frequency for white and black crappie collected. Age-0 and age-1 white crappie each made up about 42% of the white crappie sample. Combined, these two year classes comprised 85% (4.66 fish/nn) of the white crappie sample. Age 0 black crappie comprised only 6% (1.06 fish/nn) of the black crappie collected. It was the age-1 and age-2 fish that each made up about 40% of the black crappie sample, and a combined 83% of the sample. One of the management objectives is to maintain a catch of age-1 crappie of at least 11.00 fish/nn (Table 11). This value has been below the management objective for the past few years, excluding 2010. Failure to meet this objective is due to the cyclic nature of crappie populations, hence the prior poor year classes. Although, recruitment has increased in the past two years, it was still not enough to meet the management objective. Overall, the crappie population at Kentucky Lake rated "fair" (Table 17). This is mainly due to the density of ≥8.0 in crappie in the population and the continued good growth rates.

As part of a three year study (2009-2011), Blood River was stocked with an estimated 177,695 age-0 white crappie during late October. About a third of these crappie came from the Minor Clark Fish Hatchery. Four nets (2-old and 2-new) were used to determine stocking mortality by holding a sample (~100 crappie) overnight. Because of previous year's estimated high stocking mortality, crappie were divided into two groups as denoted by the concentration of OTC they were marked with. Group one (300 ppm OTC) exhibited about 61% mortality. Group two (500 ppm OTC) exhibited about 93% mortality. The two different nets yielded similar results. The following week an additional 126,285 white crappie were delivered from Missouri. White crappie on the truck were held in different compartments; high densities with OTC, high density with no salt, high density with salt, and low density. Because these crappie were smaller than expected (1.0 – 3.0 in), some fish were able to escape holding pens (old nets) used to determine stocking mortality. Mortality in the first two nets (new nets) was estimated to be 1.3% (HD w/OTC) and 6.5% (HD w/o salt). In the later two nets, it was inconclusive due to a high percent of the fish that had escaped the holding nets (old nets). The water temperature in the lake was near 60 degrees at the time these crappie were stocked. This was within five degrees of the water temperature on the trucks used to haul the crappie on. As a result, a research project will be conducted to determine the cause(s) of the crappie holding mortality, whether it is handling, the holding nets or a combination of factors.

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 17 February to 13 November 2011. This survey was different from previous year's surveys. Earlier surveys ran from March through October. The Kentucky portion of the lake was divided into ten creel areas (Appendix A). The survey was conducted five days per week, six hours (h) 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. 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, than were assigned to the other seven areas. Equal probabilities were assigned to all areas from June to September. An angler attitude questionnaire concerning fishing in Kentucky Lake was conducted by the creel clerk throughout the survey period (Appendix B).

Fishing pressure was lower in 2011 than in previous surveys, though the number of fish caught and harvested increased (Table 18). During the 2007 creel survey the fishing effort during March and April was 463,656 hours. During this same period in 2011 fishing pressure was estimated to be 352,610 hours. The main reason for this decline in fishing pressure was high water levels. In 2011 record flood levels were reached. There were approximately 8 days where the lake was above 370 feet above sea level (fasl), and 24 days above 365 fasl. Lake elevation peaked at 373.3 fasl. Once the water receded, there appeared to be good fishing the rest of the year. Despite the high water, the number of fish caught in 2011 exceeded the number caught in 2007 by almost 90,000 fish. The number of fish harvested increased by over 3,500 fish. Overall, more anglers fished for bass and bluegill, while fewer anglers fished for crappie. This decline is likely caused by the high water during the spring months, though some of the decline could also be accounted for by the lower density of adult crappie projected to be in the lake by the fall trap netting data or by a change in creel regulations since the 2007 survey. In 2008 the crappie creel limit was reduced from 30 to 20. Table 19 lists the species caught and the size frequency for those fish harvested and released.

Table 20 includes fish harvest statistics for the 2011 creel survey. Overall, crappie accounted for about 20% of all the fish harvested during this creel survey. Crappie anglers accounted for 24% of fishing trips to Kentucky Lake in 2011 (37% in 2007, 32% in 2004, and 42% in 2003). This decline can probably best be explained by the flooding during March and April. Likewise, catch and harvest were down. Normally 80% of the crappie catch annually occurs in March and April. However, during this survey only about 50% of the annual total were caught during the spring months (Table 21). Despite a decrease in effort for crappie, and anglers complaining that the crappie population had declined; the harvest rate for white crappie was similar in the 2007 and 2011 surveys (0.12 fish/hr and 0.11 fish/hr, respectively; Table 22). The catch rate for black crappie decreased by 0.03 fish/hr. Even with the creel limit having been reduced in 2008, harvest rates have not declined much, suggesting that the crappie populations have not decreased as much as anglers perceive.

Black bass anglers accounted for about 43% of all fishing trips to Kentucky Lake during 2011 (Table 20). The effort for black bass increased about 10% when compared to the 2007 survey. Black bass accounted for 7% of the harvested fish in this survey, compared to 4% in the 2007 creel. Those who targeted black bass enjoyed a catch rate of 1.39 fish/hr (0.73 fish/hr in 2004). Largemouth bass accounted for 96% of the harvested black bass, and 93% of the harvested weight of black bass. These values increased by 10% from the previous creel survey. As expected, the catch of bass in May and June accounted for almost 50% of the bass caught throughout the year (Table 23). Although most bass anglers practice catch and release, the number of those actually harvesting their catch of largemouth bass increased this year by 6% (0.04 fish/hr; Table 24). During the 2007 creel survey only 30% of the legal size largemouth bass were harvested (0.02 fish/hr).

Panfish anglers accounted for about 21% of all trips taken to Kentucky Lake during 2011 (Table 20). The pressure for panfish increased from 158,848 hours during 2007 to 205,161 hours in the most recent survey. The catch rate for all panfish was 3.15 fish/hr, compared to 3.88 fish/hr in 2007. Harvest increased slightly from 1.73 fish/hr in 2007 to 1.81 fish/hr in 2011. Panfish comprised 61% of all harvested fish in 2011, compared to 45% in 2007. Table 25 separates the panfish caught and harvested by bluegill and redear sunfish. Bluegill made up 81% of the panfish harvested. The harvest was similar to the 2007 value (0.21 versus 0.22 fish/hr). The number of redear harvested increased three fold from the 2007 creel survey.

Their average size was slightly less during this survey than was recorded in the 2007 survey. The average length was lower by almost a half inch, while the weight decreased 0.10 a pound. Catch of redear was higher, likely due to the spring flooding. While the water levels were up, anglers reported catching redear from flooded gravel driveways and backyards adjacent to the lake. Almost 75% of the panfish were harvested during May (Table 26).

Catfish anglers accounted for 4% of all fishing trips to Kentucky Lake during 2011 (Table 20). The fishing effort for catfish declined 2% since the 2007 survey, and 7% since the 2004 survey. However the catch and harvest of catfish were higher in 2011 than in either of the previous surveys. Anglers reported catching 37,981 catfish and harvesting 29,127 of them in 2011, an increase from 25,146 and 18,175 reported in 2007. Despite a decrease in effort, the harvest rate was three times higher in 2011 than 2007 (0.91 fish/hr and 0.30 fish/hr, respectively). The catfish harvest represented 13% of the total weight of harvested fish in 2011. In 2007 this value was 11% of the total weight of harvested fish, which was much lower than 28% during the 2004 survey. Channel catfish made up 75% of the catfish harvested by weight (Table 27). Since the majority of the catfish caught were channel catfish, it would make sense that the month most likely to catch catfish was May (Table 28). This is typically when the channel catfish move into the embayments to spawn. Fishing pressure increased later in the year along the river channel for blue catfish.

Only 2% of all fishing trips to Kentucky Lake were for *Morones* (white bass, yellow bass, striped bass and hybrids) in 2011 (Table 20), which was similar to that reported during 2007 (3%) and 2004 (2%). The estimated catch was 135,098, which was lower than the 190,000 reported in 2007. White bass made up 17% of the *Morones* caught. The number of white bass caught continued to decline from previous surveys. The catch of white bass dropped from 35,000 in 2004 to 26,000 in 2007, and 12,763 in 2011. Harvest by anglers targeting these fish was 0.02 fish/hr (Table 29). The catch and harvest of yellow bass made up 81% and 66% of the *Morones* in this survey, respectively. There is an increasing number of yellow bass caught that are larger than 12.0 in. Several anglers have claimed to have caught a state record yellow bass. However, DNA analysis conducted at Southern Illinois University concluded that the larger yellow bass were actually hybrids (yellow/white crosses). Visual examination of these fish suggests that they are hybrids, though it is often difficult to determine. During March and October, high numbers of *Morones* were recorded (Table 30). During this time the yellow bass are usually up shallow and running the shoreline. This makes them very susceptible to being caught by crappie anglers casting the shoreline for black crappie. Fishing pressure specifically for *Morones* (white bass) typically occurs during the summer months.

Lake Barkley

The spring flood of 2011 precluded normal black bass sampling. As a result, much of the data that is typically presented in this report is not available including assessment scores.

Black bass were sampled in October 2011 to collect length-weight data and determine the strength of the 2011 year-class. Four hundred sixty largemouth bass were collected at a catch rate of 83.64 fish/hr (Table 31). Similar numbers and sizes of largemouth bass were captured in each embayment (Little River and Eddy Creek). The length-weight equation for largemouth bass at Lake Barkley is:

$$\text{Log}_{10}(\text{weight}) = -3.609 + 3.262 \times \text{Log}_{10}(\text{length})$$

Very few smallmouth bass (8) and spotted bass (3) were collected during the fall sample and therefore length-weight equations were not calculated. Relative weights for the 2011 data are listed in Table 32 for all size-classes of largemouth bass. These values are slightly below the 20 year average; however, the relative weights for Lake Barkley have been exceptional through time. Even at their lowest, the relative weights are at or very near 90, which is considered good condition and indicative of fast growth. Mean length of the age-0 cohort was lower than in 2010 (5.5 in; Table 33), but in line with the ten-year average. Previous years have shown consistently strong numbers of age-0 largemouth bass (mean=34.93 fish/hr). This year's values are below average (18.60 fish/hr) but the majority of the fish were greater than 5.0 in (13.40 fish/hr). Year-class-strength tends to be related to the relative size of age-0 fish during the fall of their first year. Years where CPUE of age-0 bass is low may be the result of density dependence in the population.

Trap nets were fished for crappie in Little River and Donaldson Creek embayments for 80 net-nights (nn) from 25 October to 4 November 2011. One thousand three hundred ninety one crappie were collected at a rate of 17.39 fish/nn (Table 34). This sample is lower than the exceptional values reported in 2010, but above the average catch rate since 1985 (mean=13.48 fish/nn). White crappie accounted for 78% of the total catch, and were collected at a rate of 13.61 fish/nn. Black crappie were collected at a rate of 3.78 fish/nn. In contrast to the previous two years, the CPUE of harvestable-size (≥10.0 in) crappie (0.95 fish/nn) was below the ten year average of 1.73 fish/nn (Table 35). In twenty-three years of sampling, this value has ranged from 0.55-3.37 fish/nn. The CPUE of quality-size (≥8.0 in) crappie was 3.64 fish/nn, which is below the management objective (4.00 fish/nn) set in the BLFMP.

In 2011, the PSD (26) and RSD_{10} (7) of white crappie were well below the average values recorded since 1985 (Table 36). The 20-year average PSD and RSD_{10} values of white crappie are 56 and 26, respectively. The PSD (20) and RSD_{10} (5) values of black crappie are also lower than the 20-year averages of 57 and 20. On the surface, the low PSD and RSD values suggest gloom for the crappie fishing outlook. However, as a measure of the proportion of small fish to larger fish, these values overlook an important aspect of the population for the past two sampling seasons. The low values represent low catch rates of larger fish relative to the higher number of young-of-year fish that were captured. Despite higher catch rates of larger fish, a near record catch of young fish pushed the PSD and RSD values down. It should be expected that drastic increases in both values will occur in coming years as the exceptional 2010 and 2011 year classes mature.

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

White crappie	Log_{10} (weight) = -3.2439 + 2.8557 x Log_{10} (length)
Black crappie	Log_{10} (weight) = -3.6205 + 3.3335 x Log_{10} (length)

Age frequency was estimated combining catch data from 2011 with age and growth data from 2010. The catch of black crappie was dominated by age-1 fish (Table 37) while older black crappie were very rare (N=17) in the catch. The catch of age-0 white crappie (9.01 fish/nn) comprised 66% of the total catch of white crappie (Table 38). Age-1 white crappie comprised 31% of the catch with a catch rate of 4.23 fish/nn. Few fish were captured above age-2 (N=5).

Assessment of the crappie population yielded a rating of "excellent" at Lake Barkley in 2011 (Table 39). This is the second time a rating of "excellent" has been recorded since 1999. Improvements that contributed to the higher ranking include higher CPUE of age-1 and older crappie, CPUE of age-1 crappie, CPUE of age-0 crappie, and excellent growth.

Lake Beshear

Largemouth bass were collected by diurnal electrofishing during May at Lake Beshear. One hundred eighty five largemouth bass were collected at a rate of 92.50 fish/hr (Table 40). This sampling was completed as the lake elevation was falling after record flooding. However, sampling during the same conditions in 2010 yielded a slightly lower catch rate of 82.67 fish/hr. Despite the higher overall catch rate in 2011, there was a much higher catch (26.33 fish/hr) of largemouth bass 6.0-10.0 inches in 2010 than in 2011 (15.00 fish/hr). The catch rate of harvestable-size (≥12.0 in) largemouth bass was 32.50 fish/hr. One objective in the Lake Beshear Fish Management Plan (LBFMP) is to maintain a catch rate of 40.00 fish/hr for harvestable-size largemouth bass. Lower catch rates observed in previous years appeared to be a factor of poor sampling conditions rather than a declining fishery. Other objectives are to maintain a high catch rate of bass ≥15.0 and ≥20.0 in (Table 41). Ideally, these catch rates should be greater than 30.00 and 4.00 fish/hr, respectively. The catch rate for the number of largemouth bass ≥15.0 in was 47.50 fish/hr, while the catch rate for the larger (≥20.0 in) bass was 5.50 fish/hr. Lake Beshear continues to have a quality bass fishery with high numbers of bass ≥15.0 in. The fishery has rated "Good" for the past several years.

Largemouth bass were collected by diurnal electrofishing in October. The catch rate (95.60 fish/hr) was slightly higher than that of the spring sample, but the same as the 2010 fall catch rate (Table 40). The length frequency in both 2010 and 2011 fall samples were almost identical. During the most recent fall sample there was a higher catch rate of smaller bass (< 8.0 in) as compared to the spring sample.

Likewise, 70% of the spring sample was ≥ 12.0 in, while only 19% of the fall sample was in this size range. This would be expected since adult bass are more concentrated along the shoreline in May in preparation for spawning activity. 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 87 for all sizes of bass. The length-weight equation for largemouth bass at Lake Beshear is:

$$\text{Log}_{10}\,(\text{weight}) = -3.61863 + 3.25475 \times \text{Log}_{10}\,(\text{length})$$

Otoliths were removed from a subsample of largemouth bass ≤ 8.0 in to determine the mean fall length of the age-0 cohort and their catch rate. The catch rate for this year class was 41.60 fish/hr (Table 42). The average length of the age-0 bass was 5.0 in. Spring flooding likely contributed to the strong success of this year class and above average growth.

Lake Pennyrile

Electrofishing for all species of sportfish was conducted on 21 April 2011. One hundred forty-two largemouth bass were captured at a rate of 113.60 fish/hr (Table 43). This value is well below the long term average, but closer to the value that is preferred in the management objectives. The goal is higher catch rates of certain size classes of largemouth bass, but lower overall catch rates. The majority of largemouth bass are still below 15.0 in, and only one fish over 20.0 in was captured in this year's sample, moving the catch rate of fish over 15.0 in (1.60 fish/hr) below the ten year average (Table 44). Only six percent of the bluegill captured were above 8.0 in, despite a higher overall catch rate (85.60 fish/hr; Table 45). Catch rates for 6.0-7.9 in and >8.0 in length groups of bluegill are at or near the long-term average, suggesting a stable population of bluegill. The catch rate of smaller bluegill was below average, but these values show high variability with changing sampling conditions. Only 69 redear sunfish were captured at a rate of 55.25 fish/hr, but half of those fish were larger than 8.0 in (Table 45). Overall, catch rates for redear sunfish are well below average for all size classes. PSD and RSD values for largemouth bass are near the ten-year-average (Table 46). PSD's and RSD's are above average for bluegill and redear as well, but well below historical highs from the late 1990's.

Otoliths were collected from 59 largemouth bass to make age and growth determinations. The population is characterized as slow growth with the mean age at five years of 12.2 in (Table 47). The population is dominated by bass 2 years old or younger, with few representatives older than two (less than 25%; Table 48). A lake specific assessment has not been possible in recent years without recent age and growth estimates. In 2011, the largemouth bass popululation was rated as "Fair" (Table 49). Our ability to assess the bluegill (Table 50) and redear sunfish (Table 51) populations effectively is limited without recent age and growth information. This information will be collected in 2012.

Table 1. 2011 yearly summary of sampling conditions by waterbody, species sampled and date.

Water body	Location	Species	Date	Time (hr)	Gear	Weather	Water temp.	Water level	Secchi (in)	Water Conditions	Pertinent sampling comments
Barkley	Donaldson	black bass	5/10/2011	0.5	electrofisher	warm	72.0	369.0		calm	lake 10 feet above summer pool. Sample numbers low, No more spring sampling as a result.
Barkley	Eddy Creek	black bass	10/11/2011	2.5	electrofisher	sunny	68.0	355.5	20	calm	good sample
Barkley	Little River	bass	10/10/2011	2.5	electrofisher	sunny	68.0	355.6	18	calm	decreased visibility
Barkley	Little River	crappie	10/24/2011	40 nn	trapnet	overcast, rainy	57.0	354.9		normal	good sample
Barkley	Donaldson	crappie	10/31/2011	40 nn	trapnet	overcast cool	56.0	354.0		normal	good sample
Pennyrile		All	4/21/2011	2.0	electrofisher	N wind cloudy		high		above normal	water high
Beshear		black bass	5/9/2011	2.0	electrofisher	calm/sunny	71.8	normal	37	calm	water was falling due to recent high flooding, water level almost back to normal
Beshear		black bass	10/5/2001	2.5	electrofisher	calm/sunny	67.0	low	32	calm	water color was black but very clear near ramp, up the arms there was better water color
Kentucky	Blood River	black bass	5/24/2011	2.0	electrofisher	overcast	67.8	359.3	24	calm/falling	lake has been at flood stage, water falling, poor sample
Kentucky	Jonathan	black bass	5/26/2011	1.5	electrofisher	post rain/windy	73.5	359.0	22	rough/falling	lake has been at flood stage, water falling, poor sample
Kentucky	Jonathan	black bass	10/18/2011	2.5	electrofisher	overcast/c.front	64.0	355.1	25	rough/muddy	good sample, high density of shad might have impeded dipping small bass
Kentucky	Blood River	black bass	10/17/2011	3.0	electrofisher	sunny/cool	64.0	355.0	38	choppy	good sample
Kentucky	Big Bear	black bass	10/21/2011	2.0	electrofisher	sunny/light frost	57.0	355.0	36	calm	good sample
Kentucky	Jonathan	crappie	10/24/2011	40 nn	trapnet	overcast, rainy	60.9	355.1	30	choppy /stable	most of the week windy, overcast with cold front, fair sample
Kentucky	Blood River	crappie	10/31/2011	40 nn	trapnet	overcast/cool	57.5	355.3	30	calm/stable	calm early in week with rain later in week with cold front, fair sample

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 3.5 hours (7 x 30-minute runs) of diurnal electrofishing at Kentucky Lake during May 2011. Record flooding postponed sampling and only a few sites were sampled with poor results. Because sampling was conducted later than normal it should not be considered standardized with pervious years sampling.

	Inch class																			
Area	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Blood River																					
Smallmouth bass										1									1	0.50	0.50
Spotted bass								1											1	0.50	0.50
Largemouth bass		1	6	1	3	1	5	14	16	29	19	9	4	1	5	1	1	1	117	58.50	12.28
Jonathan Creek																					
Smallmouth bass	1				1	1													3	2.00	2.00
Spotted bass		3	1	1						2									7	4.67	4.67
Largemouth bass	1	3	4	2	3	2	6	13	28	18	9	2	1		3	1		1	97	64.67	9.82
TOTAL																					
Smallmouth bass	1				1	1				1									4	1.14	0.86
Spotted bass		3	1	1				1		2									8	2.29	1.97
Largemouth bass	1	4	10	3	6	3	11	27	44	47	28	11	5	1	8	2	1	2	214	61.14	7.65

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Table 3. Lake specific assessment for largemouth bass collected at Kentucky Lake from 2000 - 2011. 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).

	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
2000[A]	13.9	23.25	19.05	22.48	1.52			0.576	43.8
Score	4	1	2	3	1	11	F		
2001	14.4	73.90	12.80	12.60	0.40			0.633	46.9
Score	4	4	1	1	1	11	F		
2002	13.7	35.50	21.80	13.10	0.90			0.873	58.2
Score	4	2	2	1	1	10	F		
2003[A]	13.7	30.12	43.62	15.62	0.95			0.728	51.7
Score	4	2	3	2	1	12	G		
2004[A]	13.7	12.14	22.70	18.10	1.30			0.697	50.2
Score	4	1	2	2	1	10	F		
2005	13.8	28.70	46.50	23.60	0.80			0.639	47.2
Score	4	2	3	3	1	13	G		
2006[A]	13.8	31.79	23.60	20.90	0.60			0.666	48.6
Score	4	2	2	3	1	12	G		
2007[A]	13.8	22.16	28.75	26.08	1.25			0.560	32.2
Score	4	1	2	4	1	12	G		
2008[A]	13.8	73.08	19.05	24.19	1.90			0.575	43.7
Score	4	4	2	3	2	15	G		
2009[A]	13.8	27.92	24.34	13.52	1.38			0.429	34.9
Score	4	2	2	1	1	10	F		
2010			42.87	12.43	1.30				
Score			3	1	1				
2011*	12.9	7.43	34.00	8.57	0.86				
Score	3	1	2	1	1	8	F		
Average	13.8	35.86	27.73	18.42	1.12			0.638	45.7

Data from 1985 to 1999 is listed in previous years reports.

[A] age and growth data was not collected. Previous year's data used for age estimates.
Since age data had not been collected in 5 years, then estimates based on age were not calculated.

2011* sample was hampered by high water levels during flooding, sample was later than normal; overall a poor sample and not all embayments were sampled.

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

(Kentucky Bass Database.xls)

Table 4. PSD and RSD_{15} values calculated for largemouth bass collected during diurnal electrofishing at Kentucky Lake during May 2011; 95% confidence limits are in parentheses.

Area	Species	No. fish ≥8.0 in	PSD	(+/- 95%)	RSD_{15}	(+/- 95%)
Blood River	Largemouth bass	109	78	(+/- 7)	20	(+/-8)
Jonathan Creek	Largemouth bass	87	72	(+/- 9)	9	(+/- 6)
TOTAL	Largemouth bass	196	76	(+/- 6)	15	(+/- 5)

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Table 5. Mean back-calculated length (in) at each annulus of largemouth bass including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Kentucky Lake in the spring 2011.

		Age									
Year-class	N	1	2	3	4	5	6	7	8	9	9
2010	28	6.9									
2009	12	6.1	10.5								
2008	9	6.8	10.3	12.1							
2007	9	8.7	11.6	13.0	14.3						
2006	4	7.2	11.6	13.4	14.6	15.5					
2005	3	9.2	13.3	16.1	17.7	18.8	19.5				
2004	3	7.1	11.4	13.5	15.3	16.1	17.1	18.0			
2002	2	7.3	11.4	13.5	14.4	15.4	15.9	16.4	17.0	17.5	
2001	1	7.7	11.9	14.6	16.8	17.7	18.6	19.7	20.1	20.8	21.2
Mean		7.3	11.2	13.2	14.8	16.5	17.8	17.7	18.0	18.6	21.2
Smallest		3.2	8.5	10.5	12.2	14.8	15.6	16.1	16.9	17.5	21.2
Largest		11.8	14.9	16.9	18.3	19.4	20.2	19.7	20.1	20.8	21.2
Std Err		0.2	0.2	0.2	0.3	0.4	0.6	0.6	1.0	1.1	
Low 95% CI		6.9	10.9	12.7	14.3	15.7	16.7	16.5	16.0	16.5	
High 95% CI		7.7	11.6	13.7	15.4	17.4	18.9	19.0	20.1	20.7	

* Intercept = 0.

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Table 6. Age frequency and CPUE (fish/hr) of largemouth bass collected during 3.5 hours of shoreline electrofishing on Kentucky Lake during May 2011. Otoliths were collected this year to make age and growth, and age frequency estimates.

	Inch class																					
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	%	CPUE	Std err
1	1	4	10	3	5	3													26	12	7.43	1.56
2					1		11	15	4										31	14	8.86	1.67
3								12	22	9									43	20	12.29	1.44
4									18	38	19	11	1		4				91	42	26.00	4.40
5											9		3						12	6	3.43	0.97
6																1	1		2	1	0.57	0.33
7													1		4	1	1		7	3	2.00	0.62
9														1					1	0	0.29	0.29
10																		2	2	1	0.57	0.37
Total	1	4	10	3	6	3	11	27	44	47	28	11	5	1	8	2	2	2	215		61.43	
%	0	2	5	1	3	1	5	13	20	22	13	5	2	0	4	1	1	1		100		

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Table 7. Species composition, relative abundance and CPUE (fish/hr) of black bass collected during 8.0 hours (16- 30-minute runs) of diurnal electrofishing at Kentucky Lake during October 2011.

	Inch class																					
Area / Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Blood River																							
Smallmouth bass		1	13	11	7	1					2		2		1						38	12.67	4.97
Spotted bass		1	4	4	1				2		1										13	4.33	2.03
Largemouth bass		8	45	59	52	26	7	3	6	9	9	19	35	17	14	3	5	1	1	1	320	106.67	16.73
Jonathan																							
Smallmouth bass			2	10	5			1	1		1			1							21	8.40	6.49
Spotted bass		1	6	2	1	1			1		1	3									16	6.40	3.66
Largemouth bass		24	45	56	49	25	9	7	15	17	22	38	30	26	19	11	2	1	1	2	399	159.60	14.74
Big Bear																							
Smallmouth bass		4	6	5				2				1									18	9.00	6.45
Spotted bass			1	2									2								5	2.50	0.82
Largemouth bass	3	2	36	51	33	29	10	6	10	13	9	16	20	18	6	2	3	2	2		271	135.50	24.25
TOTAL																							
Smallmouth bass		5	21	26	12	1		3	1		3	1	2	1	1						77	10.27	3.19
Spotted bass		2	11	8	2	1			3		2	3	2								34	4.53	1.45
Largemouth bass	3	34	126	166	134	80	26	16	31	39	40	73	85	61	39	16	10	4	4	3	990	132.00	11.45

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Table 8. Number of bass and relative weight (Wr) for each length group of black bass collected at Kentucky Lake during October 2011. Standard errors are 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	Blood River	25	100	(3)	93	94	(1)	42	98	(1)
	Jonathan Creek	58	94	(1)	105	93	(1)	49	89	(2)
	Big Bear	39	96	(2)	45	95	(1)	33	100	(2)
	Total	112	98	(1)	198	94	(1)	137	97	(1)

		Length group								
		7.0-10.9 in			11.0-13.9 in			≥14.0 in		
Species	Area	No.	Wr		No.	Wr		No.	Wr	
Spotted bass	Blood River	2	93	(5)	1	111				
	Jonathan Creek	2	103	(6)	4	93	(1)			
	Big Bear							1	103	
	Total	4	98	(4)	5	96	(4)	1	103	
Smallmouth bass	Blood River	1	89		2	76	(1)	3	82	(4)
	Jonathan Creek	2	91	(2)	1	82		1	87	
	Big Bear	2	81	(6)	1	80				
	Total	5	87	(3)	4	79	(1)	4	83	(3)

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Table 9. 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.

Year Class	Age 0[A] mean length	Std err	Age 0[A] CPUE	Std err	Age 0 ≥5.0 in[A] CPUE	Std err	Age 1[B] CPUE	Std err
2001	5.6	0.08	23.20	4.80	18.40	3.66	35.50	5.26
2002	5.7	0.12	36.20	9.62	23.40	4.13	30.90	0.00
2003	4.9	0.08	30.67	5.57	15.67	2.01	11.99[C]	0.00
2004	4.6	0.09	26.00	6.16	9.83	1.66	28.70[C]	5.60
2005	5.0	0.14	17.80	4.07	10.00	1.71	31.79	6.69
2006	4.8	0.13	19.00	3.77	8.80	1.72	22.16[C]	3.95
2007	7.1	0.06	122.20	26.51	106.40	24.60	73.05[C]	8.57
2008	5.8	0.08	33.80	6.94	27.20	4.81	27.92[C]	5.03
2009	5.0	0.09	30.91	5.42	16.73	2.83	34.43[C]	5.90
2010	5.7	0.09	24.25	4.87	17.38	2.63	7.43*	1.56
2011	5.7	0.05	75.87	8.34	54.13	6.44		
Average	5.5		39.99		27.99		32.73	

[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. In 2011 bass up to 10.0 in were collected for analysis.

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

[C] Age data was not collected, this is an estimate based off previous years age data.

*2011 Spring data was a poor sample due to high water levels.

Data from 1990 to 2000 is listed in previous years reports.

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Table 10. Species composition, relative abundance, and CPUE (fish/nn) of crappie collected by trap nets fished during 80 net-nights in two embayments of Kentucky Lake during October - November 2011.

		Inch class															
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	Std err
Blood River	White Crappie	13	89	77	7	2	9	20	14	14	8		1		254	6.35	1.73
	Black Crappie	28	13	8	22	48	83	82	125	83	18	11	6		527	13.18	1.53
Jonathan Cr.	White Crappie	5	4	4	11	28	29	29	27	32	8	7	2		186	4.65	0.76
	Black Crappie	26	11	2	33	120	116	194	222	52	15	11	3	1	806	20.15	3.59
TOTAL	White Crappie	18	93	81	18	30	38	49	41	46	16	7	3		440	5.50	0.95
	Black Crappie	54	24	10	55	168	199	276	347	135	33	22	9	1	1,333	16.66	1.98

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Table 11. Crappie population parameters used to manage the population at Kentucky Lake, with values determined from fall trap netting.

Year	Total CPUE (fish/nn) excluding age-0			CPUE (fish/nn) age-0			Mean length (in) age-2 at capture			CPUE (fish/nn) for crappie ≥8.0 in			CPUE (fish/nn) age-1			CPUE (fish/nn) for crappie ≥10.0 in		
	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2001	4.69	22.59	27.28	26.76	24.52	51.28	10.8	9.3	9.8	2.21	12.55	14.76	2.34	9.67	12.01	1.29	3.17	4.46
2002	3.90	15.14	19.04	0.71	3.06	3.77	10.8	9.9	10.4	2.74	8.60	11.34	3.30	9.80	13.10	0.68	4.21	4.89
2003 [A]	3.75	20.33	24.08	10.46	5.40	15.86	10.8	9.9	10.4	2.55	6.20	8.75	2.34	15.52	17.86	1.35	1.76	3.11
2004	7.47	32.46	39.93	0.65	0.98	1.63	10.8	9.2	9.7	2.71	11.67	14.38	6.20	18.60	24.80	1.09	2.99	4.08
2005 [A]	3.91	22.75	26.66	2.29	1.92	4.21	10.8	9.2	9.7	2.45	13.78	16.23	2.55	10.31	12.86	1.12	3.42	4.54
2006 [A]	2.62	16.07	18.69	1.24	1.18	2.42	10.8	9.2	9.7	1.60	11.86	13.46	1.68	6.60	8.28	1.10	2.78	3.88
2007	1.50	13.59	15.09	0.48	1.88	2.36	11.2	10.2	10.7	1.50	11.73	13.23	0.85	7.21	8.06	0.74	5.50	6.24
2008 [A]	0.36	14.92	15.28	0.35	1.43	1.78	11.2	10.2	10.7	0.36	12.95	13.31	0.16	6.15	6.31	0.21	8.25	8.46
2009	2.03	14.17	16.20	1.35	2.03	3.38	11.5	10.4	10.6	1.63	11.95	13.58	1.83	3.02	4.85	0.29	10.09	10.38
2010 [A]	5.20	13.48	18.68	9.14	3.70	12.84	11.5	10.4	10.6	2.68	5.73	8.41	4.08	8.96	13.04	1.90	3.29	5.19
2011	3.15	15.60	18.75	2.34	1.06	3.40	10.5	9.6	10.0	2.03	10.29	12.31	2.32	6.69	9.01	0.90	2.50	3.40
Average	3.51	18.28	22.09	5.07	4.29	9.95	11.0	9.8	10.2	2.04	10.66	12.74	2.51	9.32	11.83	0.97	4.36	5.33

[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 2000 is listed in previous years reports.

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 (80 net-nights) at Kentucky Lake during October 2011. 95% confidence interval is in parentheses.

Location	Species	N	PSD	RSD_{10}
Blood River	White crappie	75	76 (± 10)	31 (± 11)
	Black crappie	478	68 (± 4)	25 (± 4)
Jonathan Creek	White crappie	173	61 (± 7)	28 (± 76)
	Black crappie	767	65 (± 3)	11 (± 2)
Total	White crappie	248	65 (± 6)	29 (± 6)
	Black crappie	1,245	66 (± 3)	16 (± 2)

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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 in the fall 2011.

		Age						
Year-class	N	1	2	3	4	5	6	7
2010	82	4.6						
2009	30	4.0	7.8					
2008	12	3.9	8.1	10.9				
2004	1	4.4	9.2	11.0	12.2	12.6	12.9	13.1
Mean		4.4	7.9	10.9	12.2	12.6	12.9	13.1
Smallest		2.8	6.3	9.8	12.2	12.6	12.9	13.1
Largest		6.8	9.5	11.8				
Std Err		0.1	0.1	0.2				
Low 95% CI		4.3	7.7	10.6				
High 95% CI		4.6	8.1	11.2				

* 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 in the fall 2011.

		Age							
Year-class	N	1	2	3	4	5	6	7	8
2010	59	4.2							
2009	50	4.1	7.5						
2008	37	3.7	7.3	9.7					
2007	19	4.2	7.8	10.1	11.4				
2006	4	4.2	8.8	10.6	11.8	12.6			
2005	2	4.8	7.9	10.3	11.7	12.5	13.4		
2003	2	4.2	6.8	8.5	9.6	11.2	11.9	12.3	12.8
Mean		4.1	7.5	9.8	11.3	12.2	12.7	12.3	12.8
Smallest		2.7	5.4	8.4	9.4	11.1	11.7	12.0	12.4
Largest		6.6	10.4	11.8	12.6	12.8	13.7	12.7	13.3
Std Err		0.1	0.1	0.1	0.2	0.2	0.4	0.4	0.4
Low 95% CI		4.0	7.4	9.6	11.0	11.8	11.8	11.6	12.0
High 95% CI		4.2	7.7	10.0	11.6	12.7	13.5	13.0	13.7

* Intercept = 0.

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Table 15. Age frequency and CPUE (fish/nn) of white crappie collected in trap nets fished for 80 net-nights in Kentucky Lake during October 2011. Otoliths were collected this year to make age and growth, and age frequency estimates.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	13	Total	%	CPUE	Std err
0	18	93	68	9									188	43	2.34	0.81
1			13	9	30	38	49	30	15	1			185	42	2.32	0.33
2								11	31	10			52	12	0.66	0.09
3										5	7	2	14	3	0.17	0.06
7												1	1	0	0.01	0.01
Total	18	93	81	18	30	38	49	41	46	16	7	3	440		5.50	
%	4	21	18	4	7	9	11	9	10	4	2	1		100		

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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 during October 2011. Otoliths were collected this year to make age and growth, and age frequency estimates.

	Inch class																
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	%	CPUE	Std err
0	54	24	7											85	6	1.06	0.25
1			3	55	168	178	110	15	6					535	40	6.69	1.05
2						21	166	318	45	1	5			556	42	6.95	0.86
3								14	73	26	5	1		119	9	1.49	0.17
4									11	6	10	3		30	2	0.38	0.05
5											1	3		4	0	0.05	0.01
6												1	1	2	0	0.03	0.01
7											1	1		2	0	0.03	0.00
Total	54	24	10	55	168	199	276	347	135	33	22	9	1	1,333		16.66	
%	4	2	1	4	13	15	21	26	10	2	2	1	0		100		

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Table 17. Lake specific assessment for crappie collected at Kentucky Lake from 2001-2011. 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
2001	27.28	12.01	51.28	14.76	9.8			0.836	56.7
Score	3	2	4	4	3	16	G		
2002	19.04	13.10	3.77	11.34	10.4			0.673	49
Score	2	2	1	3	4	12	F		
2003	24.08	17.86	15.86	8.75	10.4			0.709	50.8
Score	3	3	2	2	4	14	G		
2004	39.93	24.80	1.63	14.38	9.7			0.649	47.7
Score	4	4	1	4	3	16	G		
2005	26.66	12.86	4.21	16.24	9.7			0.788	54.5
Score	3	2	1	4	3	13	G		
2006	18.69	8.28	2.42	13.46	9.7			0.729	51.7
Score	2	1	1	4	3	11	F		
2007	15.08	8.06	2.36	13.23	10.7			0.872	58.2
Score	2	1	1	3	4	11	F		
2008	15.28	6.31	1.78	13.31	10.7			0.440	35.6
Score	2	1	1	4	4	12	F		
2009	16.23	4.85	3.38	13.58	10.6			0.758	53.1
Score	2	1	1	4	4	12	F		
2010	18.67	13.04	12.84	8.41	10.6			0.556	42.6
Score	2	2	1	2	4	11	F		
2011	18.75	9.01	3.40	12.31	10.0			0.9156	60.0
Score	2	2	1	3	3	11	F		
Average	21.79	11.83	9.36	12.71	10.21				50.9

Rating

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

Kentucky Lake Crappie Database

Table 18. Fishery statistics derived from a creel survey at Kentucky Lake (51,000 a) from 17 February through 13 November 2011.

Fishing Trips			
	No. of fishing trips (per acre)	228,393	(4.5)
Fishing Pressure			
	Total angler-hours (S.E.)	982,665	(33,631)
	Angler-hours/acre	19.3	
Catch / Harvest			
	No. of fish caught (S.E.)	1,658,284	(153,020)
	No. of fish harvested (S.E.)	609,456	(71,287)
	Lb of fish harvested	385,500	
Harvest Rates			
	Fish/hour	0.54	
	Fish/acre	11.95	
	Pounds/acre	7.56	
Catch Rates			
	Fish/hour	1.59	
	Fish/acre	32.52	
Miscellaneous Characteristics (%)			
	Male	88.86	
	Female	11.14	
	Resident	59.10	
	Non-resident	40.90	
Method (%)			
	Still fishing	26.31	
	Casting	46.99	
	Trolling	1.47	
	Fly Rod	0.15	
	Spider Rig	7.25	
	Crappie Casting	6.07	
	Crappie Still fishing	10.42	
	Crappie Trolling	1.34	
	Crappie Anglers Only		
	Spider Rig	28.90	
	Casting	24.22	
	Still fishing	41.53	
	Trolling	5.35	
Mode (%)			
	Boat	88.69	
	Bank	9.13	
	Dock	2.18	

Table 19. Length distribution for each species of fish harvested or released (lengths of released fish are estimated) at Kentucky Lake (51,000 a) from the 17 February to 13 November 2011 creel survey.

		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									7,745	30,253	36,022	15,334	5,354	1,559	468										
	R		148	6,410	7,544	14,003	13,658	14,003	18,687	2,219	1,134	789	197	493	592											
Black crappie	H			169	297	1,144	1,567	4,702	4,151	762	424	508	169	127	85	42										
	R									3,092	6,709	8,124	9,394	996	156											
Largemouth bass	H														17,425	13,213	5,362	2,234	1,340	894	447	383	63			
	R							5,925	1,232	14,901	6,277	69,399	96,208	209,781	47,987	34,846	15,077	8,037	2,581	3,754	997	704	528	175		
Smallmouth bass	H														569	512	569	341	341	171	170					
	R							1,090	218	2,943	654	4,523	2,125	2,725	1,199	1,090	763	163	218	381	54	54	56			
Spotted bass	H											58	115	115	173	56										
	R									228	1,062	986	1,213	303	152	75										
Bluegill	H			157	2,426	23,479	146,824	122,719	2,661	78																
	R		1,402	20,148	72,844	124,063	23,543	5,904	148																	
Redear sunfish	H					337	3,706	12,043	23,833	26,191	5,053	83														
	R		77	852	1,007	2,943	4,879	1,084	155	232	77	79														
Longear sunfish	H			196	131	327	131	64																		
	R			2,854	9,037	2,557	178																			
Warmouth	H							88																		
	R				98	244	98	389																		
Green sunfish	H																									
	R				180	300	59																			
Channel catfish	H					64		129		257	257	1,672	1,029	2,122	2,573	2,380	2,444	1,736	1,222	1,222	322	1,093	772	515	579	386
	R					168	56	112	112	783	224	1,063	56	392	671	280	56	392	56	336	56	224	56	448		112
Blue catfish	H							79	275	157	79	39	79	983	1,377	629	787	315	354	157	236	157	315	236	275	39
	R			152	266	684	152	456	76	38		76		38					76					114		38
Flathead catfish	H											71						212	70							
	R							35							530					35						
White bass	H								606	2,992	2,916	2,083	1,515	2,083	379	189										
	R			197		1,539	1,065	2,131	829	2,604	197	592	158	710	197											
Striped bass	H																48	143								
	R							48							143	333	381	238						48	47	
Hybrid striped bass	H																									
	R					301		301		376		38		36												
Yellowbass	H					45	3,040	12,660	6,852	2,360	181															
	R		48	1,890	4,748	20,494	21,657	25,775	6,928	2,568	97	242														
Sauger	H																	70								
	R							62	308	492	246	123	246	123												
Yellowperch	H					90	90	895	358	446																
	R			123	369	800	308	677	123	185	62	121														
Pickerel	H																81									
	R							53				53		53				106						54		
Drum	H						68	68	136	68	136														68	
	R				109	875	219	1,751	547	1,860	164	2,134	875	1,532	1,149	1,258	711	1,258	164	1,751	219	1,039	821	1,641	383	383
Skipjack herring	H											37														
	R				58	1,737	868	110	579	1,679	58	174		56												
Gar	R																							55		
Blacknose Crappie	R					163																				
Illegal Black bass	H									54	54	108	162	1,671												
Illegal B.Crappie	H								36																	
Illegal W.Crappie	H								163																	

Table 19 (cont'd). Length distribution for each species of fish harvested or released (lengths of released fish are estimated) at Kentucky Lake (51,000 a) from the 17 February to 13 November 2011 creel survey.

Species		Inch class																							Total
		27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	44	45	46	47	48	49	50	
White crappie	H																								96,735
	R																								79,877
Black crappie	H																								14,147
	R																								28,471
Largemouth bass	H																								41,361
	R																								518,409
Smallmouth bass	H																								2,673
	R																								18,256
Spotted bass	H																								517
	R																								4,019
Bluegill	H																								298,344
	R																								248,052
Redear sunfish	H																								71,246
	R																								11,385
Longear sunfish	H																								849
	R																								14,626
Warmouth	H																								88
	R																								829
Green sunfish	H																								0
	R																								539
Channel catfish	H	515	386	64			127																		21,866
	R	56	56	56	54																				5,875
Blue catfish	H	39	79				119																		6,805
	R	38					39																		2,243
Flathead catfish	H																								353
	R		35																						635
White bass	H			46																					12,809
	R																								10,219
Striped bass	H																								191
	R																								1,238
Hybrid striped bass	H																								0
	R																								1,052
Yellow bass	H																								25,138
	R																								84,447
Sauger	H																								70
	R																								1,600
Yellow perch	H																								1,879
	R																								2,768
Pickerel	H																								81
	R																								319
Drum	H																								544
	R	109	109	55	111																				21,227
Skipjack herring	H																								37
	R																								5,319
Gar	R										164													54	273
Blacknose Crappie	R																								163
Illegal B. bass	H																								2,049
Illegal B.Crappie	H																								36
IllegalW.Crappie	H																								163

Table 20. Fish harvest statistics derived from a creel survey at Kentucky Lake (51,000 a) from 17 February to 13 November 2011.

	Black bass group	Largemouth bass	Smallmouth bass	Spotted bass	**Crappie group**	White crappie	Black crappie	Blackmose crappie	**Catfish group**	Channel catfish	Flathead catfish	Blue catfish	Bullhead	**Panfish group**	Bluegill	Redear sunfish	Longear sunfish	Warmouth	Green sunfish
No. caught	**585,238**	559,771	20,930	4,537	**216,396**	176,613	39,620	163.2	**37,981**	27,743	990	9,048	200	**645,962**	546,397	82,632	15,476	917	840
(per acre)	**(11.48)**	(10.98)	(0.41)	(0.09)	**(4.24)**	(3.46)	(0.78)	(0.00)	**(0.74)**	(0.54)	(0.02)	(0.18)	t	**(12.67)**	(10.71)	(1.62)	(0.30)	(0.02)	(0.01)
No. harvested	**44,552**	41,362	2,673	518	**122,207**	96,736	25,472		**29,127**	21,867	354	6,805	101	**370,529**	298,344	71,247	850	88	
(per acre)	**(0.87)**	(0.81)	(0.05)	(0.01)	**(2.40)**	(1.90)	(0.50)		**(0.57)**	(0.43)	(0.01)	(0.13)	t	**(7.27)**	(5.85)	(1.40)	(0.02)	t	
%of total no. harvested	**7.31**	6.79	0.44	0.09	**20.05**	15.87	4.18		**4.78**	3.59	0.06	1.12	0.02	**60.80**	48.95	11.69	0.14	0.01	
Lb. harvested	**97,234**	90,011	6,564	658	**104,047**	79,991	24,057		**52,177**	38,947	736	12,422	73	**112,354**	74,042	38,179	102	31	
(per acre)	**(1.91)**	(1.76)	(0.13)	(0.01)	**(2.04)**	(1.57)	(0.47)		**(1.02)**	(0.76)	(0.01)	(0.24)	t	**(2.20)**	(1.45)	(0.75)	t	t	
%of total lb. harvested	**25.22**	23.35	1.70	0.17	**26.99**	20.75	6.24		**13.54**	10.10	0.19	3.22	0.02	**29.15**	19.21	9.90	0.03	0.01	
Mean length (in)		16.0	17.3	13.9		11.8	11.7			17.6	16.8	18.0	12.5		7.1	8.9	5.7	8.0	
Mean weight (lb)		2.13	2.50	1.12		0.80	0.89			1.77	2.00	2.16	0.74		0.23	0.49	0.12	0.35	
No. of fishing trips for that species	**97,573**				**55,676**				**9,696**					**47,684**					
%of all trips	**42.7**				**24.4**				**4.2**					**20.9**					
Hours fished for that species	**419,810**				**239,548**				**41,718**					**205,161**					
(per acre)	**(8.23)**				**(4.70)**				**(0.82)**					**(4.02)**					
No. harvested fishing for that species	**42,803**				**114,180**				**16,169**					**342,156**					
Lb harvested fishing for that species	**93,123**				**97,223**				**31,607**					**103,665**					
No./hour harvested fishing for that species	**0.08**				**0.51**				**0.53**					**1.81**					
%success fishing for that species	**17.3**				**50.4**				**36.2**					**66.5**					

t = <0.005

Table 20 (continued). Fish harvest statistics derived from a creel survey at Kentucky Lake (51,000 a) from 17 February to 13 November 2011.

	Sauger	Yellow perch	Morone Group	White bass	Striped bass	Yellow bass	Hybrid Striped bass	Pickerel	Drum	Skipjack herring	Gar	Bowfin	Buffalo	Sucker	Illegal bass	Illegal Bl. Crappie	Illegal Wh. Crappie	Anything
No. caught	1,671	4,649	135,098	22,982	1,476	109,587	1,052	401	21,772	6,348	273	82	85	43	2049	36	164	
(per acre)	(0.03)	(0.09)	(2.65)	(0.45)	(0.03)	(2.15)	(0.02)	(0.01)	(0.43)	(0.12)	(0.01)	t	t	t	(0.04)	t	t	
No. harvested	71	1,880	38,139	12,763	238	25,139		82	544	38					2049	36	164	
(per acre)	t	(0.04)	(0.75)	(0.25)	t	(0.49)		t	(0.01)	t					(0.04)	t	t	
%of total no. harvested	0.01	0.31	6.26	2.09	0.04	4.12		0.01	0.09	0.01					0.3362	0.01	0.03	
Lb. harvested	129	535	15,764	8,801	1,054	5,910		103	411	16					2640.9	11.5	61.1	
(per acre)	t	(0.01)	(0.31)	(0.17)	(0.02)	(0.12)		t	(0.01)	t					(0.05)	t	t	
%of total lb. harvested	0.03	0.14	4.09	2.28	0.27	1.53		0.03	0.11	0.00					0.6851	t	0.02	
Mean length (in)	18.0	8.8		11.6	22.7	8.4		17.0	13.5	12.0					13.706	9.0	9.0	
Mean weight (lb)	1.83	0.32		0.70	5.29	0.23		1.26	1.75	0.43					1.3074	0.32	0.37	
No. of fishing trips for that species			4,117															13,647
%of all trips			1.8															6.0
Hours fished for that species			17,711															58,717
(per acre)			(0.35)															(1.15)
No. harvested fishing for that species			18,804															
Lb harvested fishing for that species			9,922															
No./hour harvested fishing for that species			1.35															
%success fishing for that species			54.5															17.2

t = <0.005

Table 21. Monthly crappie angling success at Kentucky Lake during the 17 February to 13 November 2011 creel survey.

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
Feb	14,562	9,134	2,007	8,637	14,475	1.67	9,082	1.05
Mar	38,809	23,430	11,427	49,167	37,871	0.80	22,706	0.48
Apr	70,343	48,147	26,547	114,220	68,793	0.60	47,331	0.41
May	10,210	8,009	1,594	6,860	6,425	0.70	4,753	0.52
Jun	21,058	13,613	2,470	10,626	18,860	2.00	11,557	1.23
Jul	897	748	213	916	838	1.39	718	1.19
Aug	3,729	853	628	2,700	2,148	0.67	663	0.21
Sept	14,275	3,036	2,423	10,427	13,228	1.38	2,964	0.31
Oct	21,993	7,936	6,684	28,759	21,502	0.78	7,860	0.28
Nov	20,520	7,301	1,682	7,236	18,128	3.18	6,546	1.15
Total	216,396	122,207	55,676	239,548	202,268		114,180	
Mean						0.92		0.51

Table 22. Crappie catch and harvest statistics derived from the 17 February to 13 November 2011 creel survey at Kentucky Lake (51,000 a).

	White Crappie				Black Crappie				Blacknose Crappie			
	Harvested	Released		Total	Harvested	Released		Total	Harvested	Released		Total
	≥ 10.0 in	< 10.0 in	≥ 10.0 in		≥ 10.0 in	< 10.0 in	≥ 10.0 in		≥ 10.0 in	< 10.0 in	≥ 10.0 in	
Total no. of crappie	96,736	74,453	5,424	176,613	25,472	12,030	2,118	39,620		163		163
% of crappie harvested by number	79.2				20.8							
Total weight of crappie (lb)	79,991	13,197	963	94,151	24,057	3,684	648	28,389		16		16
% of crappie harvested by weight	76.9				23.1							
Mean length (in)	11.8				11.7							
Mean weight (lb)	0.80				0.89							
Rate (fish/hr)	0.11				0.03							

Table 23. Monthly black bass angling success at Kentucky Lake during the 17 February to 13 November 2011 creel survey.

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	826	18	257	1,106	527	0.48	0	0.00
Mar	45,071	4,303	10,110	43,499	43,409	0.92	4,132	0.09
Apr	114,655	14,526	24,263	104,391	106,903	0.96	14,036	0.13
May	143,023	8,713	17,539	75,462	129,996	1.49	8,097	0.09
Jun	139,251	9,217	14,767	63,535	137,619	1.70	9,004	0.11
Jul	32,775	1,047	4,225	18,176	30,083	1.29	1,017	0.04
Aug	25,030	885	3,452	14,852	24,176	1.44	821	0.05
Sept	26,273	542	5,235	22,522	25,730	0.99	506	0.02
Oct	40,585	4,043	11,796	50,751	38,395	0.66	3,931	0.07
Nov	17,750	1,259	5,931	25,516	17,121	0.61	1,259	0.04
Total	585,238	44,552	97,573	419,810	553,959		42,803	
Mean						1.11		0.08

Table 24. Black bass catch and harvest statistics derived from the 17 February to 13 November 2011 creel survey at Kentucky Lake (51,000 a).

	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	41,362	375,388	114,686	559,771	2,673	9,373	3,979	20,940	518	3,261	531	4,537
% of bass harvested by number	92.8				6.0				1.2			
Total weight of bass (lb)	90,011	502,925	153,651	784,549	6,564	9,776	4,149	25,604	658	3,161	514.7	4,555
% of bass harvested by weight	92.6				6.8				0.7			
Mean length (in)	16.0				17.3				13.9			
Mean weight (lb)	2.13				2.50				1.12			
Rate (fish/hr)	0.038				0.003				0.001			

Table 25. Panfish catch and harvest statistics derived from the 17 February to 13 November 2011 creel survey at Kentucky Lake (51,000 a).

	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	298,344	147,606	6,053	546,397	71,247	7,822	1,627	82,632
% of panfish harvested by number	80.5				19.2			
Total weight of panfish (lb)	74,042	17,087	702	102,757	38,179	1,539	320	40,418
% of panfish harvested by weight	65.9				34.0			
Mean length (in)	7.1				8.9			
Mean weight (lb)	0.23				0.49			
Rate (fish/hr)	0.22				0.05			

Table 26. Monthly panfish angling success at Kentucky Lake during the 17 February to 13 November 2011 creel survey.

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	1,491	341						
Apr	46,596	23,339	3,581	15,406	21,626	1.83	14,934	1.26
May	480,644	299,863	33,900	145,853	462,072	3.37	289,477	2.11
Jun	59,274	25,028	6,020	25,901	52,324	3.17	22,617	1.37
Jul	16,447	7,446	1,473	6,339	13,307	2.75	6,698	1.38
Aug	9,039	3,887	569	2,447	4,455	1.83	2,338	0.96
Sept	12,070	3,722	606	2,607	4,227	1.77	1,445	0.61
Oct	11,715	4,761	1,270	5,465	4,119	1.24	3,136	0.95
Nov	8,686	2,140	266	1,143	5,665	5.63	1,511	1.50
Total	645,962	370,529	47,684	205,161	567,795		342,156	
Mean						3.04		1.81

Table 27. Catfish catch and harvest statistics derived from the 17 February to 13 November 2011 creel survey at Kentucky Lake (51,000 a).

	Channel Catfish				Blue Catfish			
	Harvested	Released		Total	Harvested	Released		Total
		12.0-14.9 in	≥ 15.0 in			12.0-14.9 in	≥ 15.0 in	
Total no. of catfish	21,867	1,511	2,910	27,743	6,805	114	305	9,048
% of catfish harvested by number	75.1				23.4			
Total weight of catfish (lb)	38,947	1,722	3,315	45,643	12,422	136	363	15,101
% of catfish harvested by weight	74.6				23.8			
Mean length (in)	17.6				18.0			
Mean weight (lb)	1.77				2.16			
Rate (fish/hr)	0.02				0.01			

Table 28. Monthly catfish angling success at Kentucky Lake during the 17 February to 13 November 2011 creel survey.

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	53	35						
Mar	809	596	362	1,559	511	0.45	511	0.45
Apr	4,978	3,917	1,543	6,641	653	0.12	653	0.12
May	13,642	11,442	1,802	7,755	4,841	0.71	4,841	0.71
Jun	4,183	3,191	1,646	7,084	1,489	0.29	1,489	0.29
Jul	1,226	778	834	3,589	628	0.40	628	0.28
Aug	3,792	2,623	1,040	4,472	2,465	0.88	2,465	0.62
Sept	5,493	3,686	1,260	5,422	3,289	1.07	3,289	0.74
Oct	3,552	2,607	1,119	4,815	2,041	0.69	2,041	0.69
Nov	252	252	89	381	252	0.33	252	0.33
Total	37,981	29,127	9,696	41,718	16,169		16,169	
Mean						0.65		0.53

Table 29. Morone catch and harvest statistics derived from the 17 February to 13 November 2011 creel survey at Kentucky Lake (51,000 a).

	White Bass				Yellow Bass				Striped Bass			
	Harvest	Release		Total	Harvest	Release		Total	Harvest	Release		Total
		12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in			12.0-14.9 in	≥15.0 in	
Total no. of Morone	12,763	1,460	197	22,982	25,139	243	109,587		238		1,191	1,476
% of Morone harvested by number	33.5				65.9				0.6			
Total weight of Morone (lb)	8,801	594	81	12,957	5,910	34	18,062		1,054		2305	3,451
% of Morone harvested by weight	55.8				37.5				6.7			
Mean length (in)	11.6				8.4				22.7			
Mean weight (lb)	0.70				0.23				5.29			
Rate (fish/hr)	0.020				0.033				0.000			

Table 30. Monthly *Morones* angling success at Kentucky Lake during the 17 February to 13 November 2011 creel survey.

Month	Total no. of *Morones* caught	Total no. of *Morones* harvested	No. of *Morones* fishing trips	Hours fished by *Morones* anglers	*Morones* caught by *Morones* anglers	*Morones* caught/ hour by *Morones* anglers	*Morones* harvested by *Morones* anglers	*Morones* harvested/ hour by *Morones* anglers
Feb	2,916	123						
Mar	4,047	383	66	283	213	1.32	43	0.26
Apr	35,498	5,468						
May	12,410	4,841	485	2,088	1,936	2.32	1,936	2.32
Jun	8,225	2,056	515	2,214	3,404	2.94	2,056	1.78
Jul	15,311	7,057	888	3,819	11,215	2.58	6,161	1.41
Aug	7,838	2,781	510	2,194	4,582	2.70	2,560	1.51
Sept	9,505	3,036	267	1,147	1,301	1.41	795	0.86
Oct	35,824	12,017	1,210	5,205	6,160	1.43	5,253	1.22
Nov	3,525	378						
Total	135,098	38,139	4,117	17,711	28,811		18,804	
Mean						2.15		1.35

Table 31. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 5 hours of diurnal electrofishing (10- 0.50-hour runs) for black bass in each area of Lake Barkley on 10 and 11 October 2011.

	Inch class																				
Area/Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Middle																						
Eddy Creek																						
Largemouth bass	1	11	14	12	1	5	21	35	25	29	40	19	18	6	5	2	3	1	1	249	83.00	17.57
Spotted bass																				0		
Smallmouth bass					1		1	2							1					5	1.67	0.95
Lower																						
Little River																						
Largemouth bass	2	12	20	18	6	2	7	24	22	13	32	23	10	10	1	5	1	3		211	84.40	14.66
Spotted bass		1	1								1									3	1.20	1.20
Smallmouth bass								1						1	1					3	1.20	0.80
Total																						
Largemouth bass	3	23	34	30	7	7	28	59	47	42	72	42	28	16	6	7	4	4	1	460	83.64	11.11
Spotted bass		1	1								1									3	0.55	0.55
Smallmouth bass					1		1	3						1	2					8	1.45	0.61

(w fdw rb.d11)

Table 32. Number of fish and the relative weight (W_r) values for each length group of largemouth collected at Lake Barkley during 5.0 hours (10- 0.50-hour runs) of diurnal electrofishing on 10 and 11 October 2011.

		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	Eddy Creek	86	90	(1)	88	90	(1)	36	97	(2)
	Little River	55	88	(1)	68	91	(1)	30	98	(2)
	Total	141	89	(1)	156	90	(1)	66	98	(1)

		Length group								
		7.0-10.9 in			11.0-13.9 in			≥14.0 in		
Species	Area	No.	Wr		No.	Wr		No.	Wr	
Spotted bass	Eddy Creek									
	Little River				1	91				
	Total				1	91				
Smallmouth bass	Eddy Creek	4	93	(3)				1	83	
	Little River	1	76					2	77	(10)
	Total	5	90	(4)				3	79	(6)

wfdwrb.d11

Table 33. Age-0 CPUE (fish/hr) and mean length (in) of largemouth bass collected in the fall and CPUE of age-1 largemouth bass collected the following spring during diurnal electrofishing at Lake Barkley.

	Age-0[A]		Age-0[A]		Age-0 ≥5.0 in[A]		Age-1[B]	
Year-class	Mean length	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2001	5.4		21.20	4.00	16.00		32.60	3.40
2002	5.3		26.70	2.40	10.10		59.00	6.40
2003	5.1		35.20	4.40	20.90		29.20	2.40
2004	5.4	0.80	39.80	5.75	30.40	4.27	42.50	5.40
2005	5.4	0.14	5.40	1.20	4.80	1.20	18.43	2.35
2006	4.8	0.15	9.33	1.73	4.00	1.29	6.69	0.68
2007	6.8	0.09	68.68	11.78	59.40	10.70	28.80	3.00
2008	6.2	0.05	55.60	6.74	50.20	6.31	69.16	7.35
2009	5.6	0.06	37.60	4.83	29.20	3.44	17.1	1.84
2010	6.5	0.06	46.00	7.78	42.00	6.93	*	
2011	5.5	0.06	18.60	2.68	13.40	2.37		

[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.

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

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

wfdwrb.dxx, wfdpsdb.dxx

Table 34. Length frequency and CPUE (fish/nn) of each inch class of white and black crappie collected by trap nets (80 net-nights) at Lake Barkley from 25 October-4 November 2011.

		Inch class															Std
Location	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	err
Little River																	
	White crappie	45	93	8	62	388	69	50	69	24	7	6	2	1	824	20.60	2.07
	Black crappie	4	29	2	7	79	47	15	9	5	2				199	4.98	0.88
Donaldson Creek																	
	White crappie	5	12	5	43	80	40	30	26	14	6	4			265	6.63	0.96
	Black crappie	2	1	1	9	42	27	8	8	3	2				103	2.58	0.44
Total																	
	White crappie	50	105	13	105	468	109	80	95	38	13	10	2	1	1,089	13.61	1.38
	Black crappie	6	30	3	16	121	74	23	17	8	4				302	3.78	0.51

(wfdtpntb.d11)

Table 35. Crappie population parameters used to manage the population at Lake Barkley, with values determined from fall trap netting.

	Total CPUE (fish/nn) excluding age-0			CPUE (fish/nn) age-0			Mean length (in) age-2 at capture			CPUE (fish/nn) for crappie ≥8.0 in			CPUE (fish/nn) age-1			CPUE (fish/nn) for crappie ≥10.0 in		
Year	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2001	1.14	2.11	3.25	28.43	8.23	36.66	11.3	10.2	10.8	1.08	1.55	2.63	0.69	0.88	1.57	0.94	1.03	1.96
2002	2.73	3.12	5.85	0.91	0.99	1.90	10.4	10.0	10.2	2.56	2.74	5.30	1.49	2.13	3.62	1.10	0.64	1.74
2003	2.94	4.39	7.33	9.89	2.14	12.03	11.1	10.3	10.7	2.26	1.63	3.89	1.84	2.96	4.80	1.09	1.13	2.21
2004 [A]	6.48	2.70	9.18	1.73	1.50	3.23	11.1	10.3	10.7	5.47	1.82	7.29	5.15	1.17	6.32	1.04	0.74	1.78
2005	4.33	2.24	6.57	7.37	1.16	8.53	11.3	10.8	11.1	3.80	1.40	5.20	1.7	1.42	3.12	2.75	0.62	3.37
2006	2.74	4.85	7.59	0.09	0.14	0.23	10.7	10.5	10.6	2.68	0.96	3.64	3.77	2.21	5.98	0.96	0.38	1.34
2007 [A]	2.32	1.46	3.78	1.55	0.44	1.99	10.7	10.5	10.6	1.82	1.44	3.26	0.93	0.68	1.61	1.38	0.49	1.82
2008	1.07	1.73	2.80	3.99	0.86	4.85	11.3	11.3	11.3	1.65	1.08	2.73	0.63	1.36	1.99	0.65	0.36	1.01
2009 [A]	1.33	0.95	2.28	3.79	1.47	5.26	11.3	11.3	11.3	1.65	0.91	2.56	1.06	0.65	1.71	0.67	0.34	1.01
2010	4.09	3.11	7.20	19.22	4.24	23.46	11.6	10.5	11.0	3.10	2.14	5.24	3.53	2.53	6.06	1.34	0.45	1.79
2011 [A]	4.61	2.78	7.39	9.01	1.00	10.01	11.6	10.5	11.1	2.99	0.65	3.64	4.23	2.56	6.79	0.80	0.15	0.95
Average	3.07	2.68	5.58	7.82	2.02	9.81	11.1	10.6	10.8	2.64	1.48	4.13	2.27	1.69	3.96	1.16	0.58	1.73

[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 2000 is listed in previous years reports.

Lake Barkley Crappie Database

Table 36. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected by trap-nets (80 net-nights) at Lake Barkley from 25 October - 4 November 2011. Numbers in parentheses represent 95% confidence intervals.

Location	Species	N	PSD	RSD_{10}
Little River	White crappie	678	23 (3)	6 (2)
	Black crappie	164	19 (6)	4 (3)
Donaldson	White crappie	243	33 (6)	10 (4)
	Black crappie	99	21 (8)	5 (1)
Total	White crappie	921	26 (3)	7 (2)
	Black crappie	263	20 (5)	5 (2)

(w fdtpntb.d11)

Table 37. Age frequency and CPUE (fish/nn) of black crappie collected during 80 net-nights of trap-netting at Lake Barkley from 25 October - 4 November 2011.

	Inch class													
Age	2	3	4	5	6	7	8	9	10	11	Total	Percent	CPUE	Std. err.
0	6	30	3	14	13	13	1				80	26	1.00	0.18
1				2	108	57	20	15	2		204	68	2.56	0.35
2						4	2	2	5	3	16	5	0.20	0.04
3									1		1	1	0.02	0.01
Total	6	30	3	16	121	74	23	17	8	3	301	100.00		
%	2	10	1	5	40	25	8	6	3	1	100			

(w fdtpntb.d11) (w fdtnagb.d10)

Table 38. Age frequency and CPUE (fish/nn) of white crappie collected during 80 net-nights at Lake Barkley from 25 October - 4 November 2011.

	Inch class																
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	Percent	CPUE	Std err
0	50	105	13	99	369	78	6							721	66.0	9.01	1.03
1				6	99	31	69	95	35	5				338	31.0	4.23	0.41
2							6		3	8	7			24	2.0	0.30	0.06
3											1			1		0.02	0.01
4											1			1		0.02	0.01
6												2		2		0.03	0.02
7													1	1		0.01	0.01
Total	50	105	13	105	468	109	80	95	38	13	10	2	1	1,089	100		
%	5	10	1	10	43	10	7	9	3	1	1	0	0	100			

(w fdtpntb.d11) (w fdtnagb.d10)

Table 39. Lake specific assessment for crappie collected at Lake Barkley from 1999 - 2011. 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
1999	4.01	1.71	3.60	2.92	9.8			1.06	65.3
Score	2	1	3	2	1	9	F		
2000	6.45	5.28	1.34	3.89	10.9			0.94	60.8
Score	2	3	1	3	4	13	G		
2001	3.25	1.57	36.66	2.63	10.4			0.83	56.3
Score	1	1	4	2	2	10	F		
2002	5.85	3.62	1.90	5.30	10.2			1.10	66.7
Score	2	2	2	4	2	12	F		
2003	7.33	4.80	12.03	3.89	10.7			1.23	70.8
Score	3	3	4	3	3	16	G		
2004	9.18	6.32	3.23	7.29	10.7			1.51	77.8
Score	4	4	2	4	3	17	G		
2005	6.50	3.10	8.60	5.20	10.7			1.42	75.8
Score	2	2	4	4	3	15	G		
2006	7.60	6.00	0.20	3.60	10.6			1.49	77.5
Score	3	3	1	2	3	12	F		
2007	3.78	1.80	2.00	3.20	10.6			0.91	59.9
Score	1	2	2	2	3	10	F		
2008	2.80	1.99	4.85	2.73	11.3			0.87	58.0
Score	1	2	3	2	4	12	F		
2009	2.30	1.71	5.26	2.56	11.3			1.33	73.6
Score	1	1	3	2	4	11	F		
2010	7.20	6.29	23.25	5.24	10.9			1.19	69.5
Score	3	4	4	3	4	18	E		
2011	7.39	6.79	10.01	3.64	10.90			1.12	67.5
Score	3	4	4	2	4	17	E		
Average	5.52	3.68	8.58	4.04	10.68				

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

(Barkley_Crappie_Database.xls)

Table 40. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during diurnal electrofishing at Lake Beshear during 2011.

		Inch class																					
Season	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
Spring	Largemouth bass	1	11	6	5	4	6	10	5	7	9	12	14	7	16	25	20	16	7	3	1	185	92.50	10.34
Fall	Largemouth bass	4	41	51	9	28	32	17	8	3	6	8	8	3	3	12	5		1			239	95.60	16.02

w fdpsdlb.d11 and w fdw rlb.d11

Table 41. Lake specific assessment for largemouth bass collected at Lake Beshear from 2001 - 2011. 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).

	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
2001[A]	14.1	1.00	10.50	15.50	1.50			0.803	55.2
Score	4	1	2	1	1	9	F		
2002[A]	14.1	5.50	28.00	36.50	3.50			0.547	54.7
Score	4	1	4	3	2	14	G		
2003[A]	14.1	6.40	8.00	25.60	2.00			0.430	34.9
Score	4	1	1	2	1	9	F		
2004[A]	14.1	6.40	9.60	42.40	2.80			0.547	54.7
Score	4	1	1	4	2	12	G		
2005	13.8	38.80	7.20	44.40	3.60			0.430	34.9
Score	4	4	1	4	2	15	G		
2006	13.8	24.80	7.20	34.00	4.80			0.262	23.0
Score	4	3	1	3	3	14	G		
2007[A]	13.8	25.00	15.00	35.33	4.67			0.344	29.1
Score	4	3	2	3	3	15	G		
2008[A]	13.8	10.40	11.20	20.80	3.60			0.316	27.1
Score	4	2	2	2	2	12	G		
2009[A]	13.8	5.20	6.00	29.60	4.40			0.142	13.2
Score	4	1	1	3	3	12	G		
2010[A]	13.8	22.33	11.33	39.67	3.67			0.297	25.7
Score	4	3	2	3	2	14	G		
2011	13.3	11.67	17.50	47.50	5.50			0.194	17.6
Score	3	2	3	4	3	15	G		
Average	13.9	14.32	11.96	33.75	3.64				33.6

Data from 1985 to 2000 is listed in previous years reports.

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

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

Lake Beshear Bass Data Base

Table 42. 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
2001	4.5	0.2	4.40	1.60	0.80	0.49	15.00	2.94
2002	4.2	0.2	5.00	1.29	0.00		13.50	1.33
2003	3.3	0.1	24.00	4.76	0.50	0.5	4.32	1.94
2004	3.8	0.1	17.60	4.12	0.00		38.80	1.80
2005	4.4	0.1	21.00	7.68	0.00		37.04	9.50
2006	4.2	0.1	23.00	7.51	3.00	1.91	25.00	4.24
2007	4.8	0.1	21.60	3.49	9.60	2.32	10.00	1.42
2008	4.3	0.1	12.40	1.17	2.00	0.89	4.80	1.59
2009	3.6	0.1	24.80	5.31	2.00	0.63	22.33	4.90
2010	4.9	0.1	54.00	4.60	22.00	4.52	11.7	2.19
2011	5.0	0.1	41.60	14.77	23.60	7.63		

[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, 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 43. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass, bluegill and redear sunfish collected during 1.25 hours (5- 15-minute runs) of diurnal electrofishing at Lake Pennyrile on 21 April, 2011.

	Inch class																								
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Largemouth bass			2	16	15	7		19	21	24	21	10	4	1		1					1		142	113.60	18.27
Bluegill	1	1	9	17	20	16	36	7															107	85.60	35.66
Redear Sunfish				7	5	7	15	21	10	3		1											69	55.20	21.41

wfdpsdp.d11

Table 44. Spring, diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Pennyrile Lake from 2000-2011.

	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
2000[A]	46.00	4.00	87.00	5.00	11.00	7.00	3.00	3.00	3.00	3.00	147.00	1.00
2001[A]	54.00	0.00	138.00	10.00	12.00	4.00	5.00	1.00	2.00	0.00	209.00	15.00
2002	132.30	24.20	116.20	14.70	30.80	5.40	5.40	3.30	0.77	0.77	284.00	36.90
2003	96.60	17.60	118.80	9.40	24.80	4.80	0.90	0.90	0.00	0.00	241.00	27.30
2004	27.50	7.10	63.70	10.70	26.40	4.70	2.20	1.40	0.00	0.00	119.80	14.40
2005	101.10	11.60	127.50	21.00	25.30	5.80	6.60	2.60	3.30	1.55	260.40	22.90
2006	81.00	21.60	105.00	11.80	26.00	5.03	6.00	2.58	1.00	1.00	218.00	30.31
2007	41.33	2.46	66.00	3.97	14.00	2.25	2.67	1.33	0.67	0.67	124.00	5.20
2008	38.87	5.09	62.99	11.96	13.28	2.82	1.96	1.24	0.00	0.00	117.11	14.48
2009						Did Not Sample						
2010	46.43	9.34	64.29	10.71	12.50	3.34	7.14	1.63	4.46	1.79	130.36	17.00
2011	32.00	10.35	68.00	7.69	12.00	2.53	1.60	0.98	0.80	0.80	113.60	18.27
Mean	63.38		92.50		18.92		3.86		1.45		178.57	

[A] Data collected by spring, nocturnal electrofishing.

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Date from 1990 to 1999 is listed in previous year reports.

Table 45. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Lake Pennyrile during May from 2000-2011.

		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											
	2000	80.80	9.00	95.80	18.00	65.90	12.00	9.00	3.00	251.50	35.90
	2001	0.00	0.00	21.00	3.00	65.90	53.90	3.00	3.00	89.80	53.90
	2002	77.60	22.90	98.40	32.00	29.60	7.30	1.60	1.10	207.20	52.10
	2003	27.70	5.20	80.00	14.50	18.50	5.20	12.30	5.20	138.50	8.80
	2004	3.10	3.10	38.50	10.60	23.10	11.90	6.20	4.50	70.80	21.70
	2005	51.70	20.00	262.60	64.00	45.10	13.40	1.10	1.10	360.40	72.30
	2007	4.00	1.79	35.33	8.60	23.33	7.55	1.33	0.84	64.00	15.87
	2008	38.09	19.90	136.23	42.97	93.19	42.72	11.32	4.71	278.82	85.42
	2009	Did Not Sample									
	2010	3.57	1.86	81.25	17.20	40.18	6.23	6.25	2.73	131.25	17.03
	2011	1.60	0.98	36.80	20.21	41.60	14.18	5.60	1.60	85.60	35.66
	Mean	28.82		88.59		44.64		5.77		167.79	
Redear sunfish											
	2000	3.00	3.00	41.90	18.00	24.00	0.0	134.70	68.90	206.60	50.90
	2001	0.00	0.00	21.00	15.00	12.00	6.00	9.00	3.00	44.90	21.00
	2002	0.00	0.00	59.20	11.40	49.20	9.90	53.80	20.90	162.30	27.30
	2003	0.00	0.00	55.40	12.70	26.20	3.10	21.50	2.90	103.10	13.00
	2004	0.00	0.00	20.00	12.80	40.00	17.10	9.20	2.90	69.20	31.10
	2005	1.10	1.10	37.40	12.80	27.50	10.70	23.10	5.30	89.00	28.70
	2007	2.00	1.37	21.33	7.91	16.67	8.09	10.67	1.69	50.67	16.35
	2008	2.65	1.76	20.98	9.19	12.75	6.34	41.03	25.14	77.40	40.35
	2009	Did Not Sample									
	2010	0.00	0.00	3.57	1.86	8.93	2.31	17.86	5.00	30.36	5.36
	2011			9.60	4.49	17.60	8.09	28.00	11.87	55.20	21.41
	Mean	0.97		29.04		23.49		34.89		88.87	

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Table 46. PSD and RSD values obtained for largemouth bass, bluegill and redear sunfish collected during 1.25 hours of diurnal electrofishing (5 runs; each 900s) at Lake Pennyrile on 21 April 2011.

Species	N	PSD (+/- 95% CI)	RSD* (+/- 95% CI)
Largemouth bass	102	17 (8)	2 (3)
Bluegill	105	56 (9)	7 (5)
Redear sunfish	69	72 (11)	20 (9)

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

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Table 47. 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 Pennyrile Lake in the spring of 2011.

		Age						
Year-class	N	1	2	3	4	5	6	7
2010	20	5.7						
2009	16	6.5	9.2					
2008	10	6.2	9.5	10.8				
2007	7	6.3	9.9	11.5	12.5			
2006	5	5.9	9.3	10.7	11.4	12.0		
2004	1	5.6	9.4	11.5	12.3	13.0	13.4	13.8
Mean		6.1	9.4	11.0	12.1	12.2	13.4	13.8
Smallest		3.8	6.5	9.1	10.8	11.4	13.4	13.8
Largest		9.0	11.4	13.3	15.3	13.6	13.4	13.8
Std Err		0.1	0.1	0.2	0.3	0.4		
Low 95% CI		5.9	9.1	10.7	11.4	11.4		
High 95% CI		6.3	9.7	11.4	12.8	12.9		

* Intercept = 0.

wfdlbagp.d11

Table 48. Age frequency and CPUE (fish/hr) of largemouth bass collected at Pennyrile Lake on 21 April 2011.

	Inch class														
Age	4	5	6	7	8	9	10	11	12	13	14	Total	Percent	CPUE	Std err
0	16	15	7									38	27.0	30.40	10.32
1				17	19	3						39	28.0	31.00	4.48
2				2		21	8	1				33	23.0	26.05	4.35
3					2		8	4				14	10.0	11.59	1.32
4							1	3	3		1	8	6.0	6.32	1.85
5							3	3		1		6	5.0	5.04	1.26
7									1			1	1.0	0.80	0.37
Total	16	15	7	19	21	24	21	10	4	1	1	139			
%	12	11	5	14	15	17	15	7	3	1	1				

(wfdlbagp.d11) (wfdpsdp.d11)

Table 49. Lake specific assessment for largemouth bass collected at Pennyrile Lake from 2004 - 2011. 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	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
2004	13.10	26.40	2.20	0.00					
Score	1	2	1	1		5	P		
2005	85.70	25.30	6.60	3.30	10.0				
Score	4	2	2	3	1	12	G		
2006	68.30	26.00	6.00	0.00					
Score	3	2	2	0		7	F		
2007	33.10	14.00	2.70	0.67					
Score	2	1	1	1		5	P		
2008	27.92	13.28	1.96	0.00					
Score	1	2	2	0		5	P		
2009				Did not sample					
Score									
2010	36.10	12.30	7.10	4.50					
Score	2	2	4	4	1	13	G		
2011	31.00	12.00	1.60	0.80	11.70			0.49	38.6
Score	1	2	1	1	4	9	F		
Average	42.17	18.47	4.02	1.32	10.85				

Rating

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

Table 50. Lake specific assessment for bluegill collected at Pennyrile Lake from 2004 - 2011. This table includes the parameter estimates and the individual scores as well as the total scores and assessment ratings.

Year	Years to 6.0 in	CPUE ≥6.0 in	CPUE ≥8.0 in	Mean length age-2 at capture	Total score	Assessment rating
2004	4.00	29.23	46.20	2.9		
Score	2	2	3	1	8	F
2005	4.00	46.20	1.10	2.9		
Score	2	3	1	1	7	P
2006*						
Score						
2007	4.00	24.70	1.30	2.9		
Score	2	2	1	1	6	P
2008	4.00	104.51	11.32	2.9		
Score	2	4	4	1	11	F
2009*						
Score						
2010	4.00	40.18	6.25	2.9		
Score	2	3	2	1	8	F
2011	4.00	47.20	5.60	2.90		
Score	2	3	2	1	8	F
Average	4.00	48.67	11.96	2.90		

* Did not collect samples

Rating

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

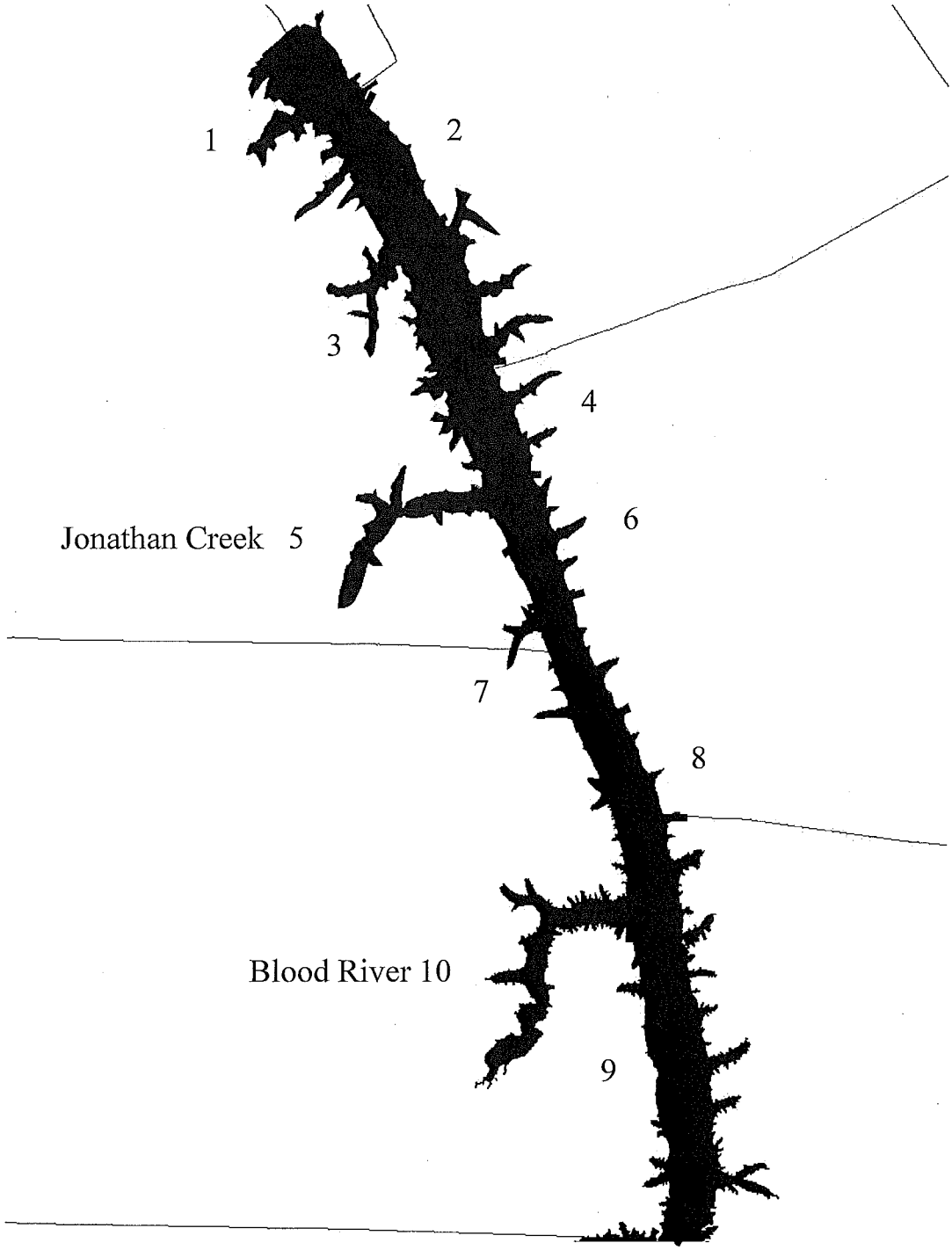
Table 51. Lake specific assessment for redear sunfish collected at Pennyrile Lake from 2004 - 2011. This table includes the parameter estimates and the individual scores as well as the total scores and assessment ratings.

Year	Years to 8.0 in	CPUE ≥8.0 in	CPUE ≥10.0 in	Mean length age-3 at capture	Total score	Assessment rating
2004	5.00	9.20	0.00	5.4		
Score	2	1	0	1	4	P
2005		23.10	0.00			
Score	2	1	0	1	4	P
2006		10.70	0.00			
Score	2	1	0	1	4	P
2007		41.00	2.00			
Score	2	2	3	1	8	F
2008		41.03	1.96			
Score	2	2	3	1	8	F
2009						
Score			Did not sample			
2010		17.86	6.25			
Score	2	1	4	1	8	F
2011		28.00	3.20			
Score	2	1	4	1	8	F
Average	5.00	24.41	1.92	5.40		

Rating

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

Appendix A. Map of Creel Survey areas of Kentucky Lake



Appendix B. KENTUCKY LAKE ANGLER ATTITUDE SURVEY 2011

1. Have you been surveyed this year? Yes - stop survey No – continue **(N = 202)**

2. Name _____ Zip code _____

3. Have you ever fished at Kentucky Lake before? **(N = 192)** Yes **90%** No **10%**
If NO, go to question 12.

4. How many times do you fish Kentucky Lake a year? **(N = 177)**
1 to 4 **27%** 5 to 10 **13%** More than 10 **60%**

5. Which species of fish do you fish for at Kentucky Lake (**check all that apply**)?
Crappie **49%** Black bass **59%** Bluegill **32%** Redear **24%** Catfish **10%** White bass / Striped bass **4%** Sauger **2%**

6. Which one species do you fish for most at Kentucky Lake (**check only one**)? **(N = 179)**
Crappie **28%** Black bass **53%** Bluegill **12%** Redear **4%** Catfish **2%** White bass **1%** Sauger **1%**

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

Crappie Anglers

7. In general, what level of satisfaction do you have with crappie fishing at Kentucky Lake? **(N = 98)**
Very satisfied **29%** Somewhat satisfied **48%** Neutral **11%** Somewhat dissatisfied **11%** Very dissatisfied **1%** No opinion **0%**

7a. If you responded with somewhat or very dissatisfied in question (7) – what is the single most important reason for your dissatisfaction? **(N = 14)**
Number of fish **43%** Size of fish **0%** Inexperienced, can't catch them **21%**
Too much pressure and boat traffic **21%** Poor Habitat **0%** Muddy Water **14%**

Black Bass Anglers

8. In general, what level of satisfaction do you have with black bass fishing at Kentucky Lake? **(N = 121)**
Very satisfied **68%** Somewhat satisfied **30%** Neutral **2%** Somewhat dissatisfied **1%** Very dissatisfied **0%** No opinion **0%**

8a. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction?
Number of fish **0%** Size of fish **0%** Inexperienced, can't catch them **1%**
Too much pressure and boat traffic **0%** Poor Habitat **0%**

Bluegill Anglers

9. In general, what level of satisfaction do you have with bluegill fishing at Kentucky Lake? **(N = 68)**
Very satisfied **43%** Somewhat satisfied **56%** Neutral **2%** Somewhat dissatisfied **0%** Very dissatisfied **0%** No opinion **0%**

Redear Anglers

10. In general, what level of satisfaction do you have with redear fishing at Kentucky Lake? **(N = 52)**

Very satisfied **27%** Somewhat satisfied **56%** Neutral **14%** Somewhat dissatisfied **4%** Very dissatisfied **0%** No opinion **0%**

10a. If you responded with somewhat or very dissatisfied in question (10) – what is the single most important reason for your dissatisfaction? **(N = 2)**

Number of fish **0%** Size of fish **0%** Inexperienced, can't catch them **2%**
Too much pressure and boat traffic **0%** Poor Habitat **0%**

All Anglers

11. Are you satisfied with the current size and creel limits on all sport fish at Kentucky Lake? **(N = 186)**

Yes **93%** No **7%**

If NO:

11a. If not, which species are you dissatisfied with and what size and creel limits would you prefer? **(Suggestion – Frequency Mentioned)**

Largemouth bass	Smallmouth bass	Crappie	Bluegill	Redear
13"-15" slot (1) 14" (1) 15"-18" slot (1)	18" (3)	11" (3)		10 (1)
Keep one under size (1)		15 fish	30 fish	

12. Did you use live fish as bait anywhere in Kentucky last year? **(N = 200)** Yes **47% (go to 13)** No **53% (go to 18)**

13. How many days last year did you fish in Kentucky? **(N = 101) (Days – Percent)** 0-1%, 3-3%, 4-6%, 5-3%, 6-4%, 10-5%, 12-2%, 15-3%, 25-3%, 30-8%, 40-4%, 45-2%, 50-9%, 60-13%, 70-1%, 75-1%, 80-1%, 100-4%, 104-1%, 105-1%, 110-1%, 120-1%, 125-1%, 150-9%, 160-1%, 200-4%, 280-1%, 300-1%

14. Of the day(s) you fished in Kentucky last year, how many days did you use live fish as bait? **(N = 100)** 0-6%, 1-10%, 2-3%, 3-5%, 4-9%, 5-8%, 6-5%, 8-3%, 10-15%, 12-1%, 14-2%, 15-6%, 20-11%, 30-1%, 40-1%, 50-3%, 60-6%, 75-2%, 90-1%, 180-1%, 230-1%

15. Do you ever collect your own live fish to use as bait? **(N = 93)** Yes **12% (go to 16)** No **88% (go to 18)**

16. How many of the days that you used live fish for bait last year did you collect your own? **(N = 15)** 0-33%, 1-7%, 4-7%, 8-7%, 10-13%, 14-13%, 15-13%, 30-7%

17. When you collected live fish for bait last year, how many days did you collect them in one water body and fish with them in another? **(N = 8)** 0-75%, 5-13%, 10-13%

18. Would you support or oppose a regulation where fish that are collected and used as live bait can **only** be used in the water body from which they were taken? This would not include bait purchased from a live bait dealer. **(N = 199)**

Support **86%** Neutral **4%** Oppose **4%** Don't know **6%**

19. Are you aware that Asian carp are invading Kentucky's waters? **(N = 194)** Yes **81%** No **19%**

If the answer to question 18 was Neutral, Oppose, or don't know then ask the following:

20. Asian Carp are hard to separate from shad when collecting live bait. As a result, Asian carp can be unintentionally introduced into new waters by anglers which can result in declines in sportfish populations in those waters. Given this information, would you support or oppose a regulation where fish that are collected and used as live bait can **only** be used in the water body from which they were taken. **(N = 22)**

Support **91%** Oppose **5%** Don't know **5%**

21. What other fishing or boating related issues should the Department be aware of on Kentucky Lake? **(Issue – Frequency)**

Concern of Asian Carp (3)
Boating Safety Education (3)
Buoys need replacing (1)
No Wake Zone and idle speed – enforcement (8)
DUI – enforcement (1)
Creel and size limits - enforcement – general (3)
Higher fall water levels – (2)
Too many tournaments (3)
Too many jet skis – to close to fishing (4)
More boat access – Blood River and KY Dam (2)
Lighting at boat access (1)
Limited parking at ramps (5)
Ban spider rigging for crappie (3)
Poor weather (2)
Smallmouth bass number down (1)
Catfish numbers down (1)
White bass numbers down (1)
Crappie numbers down (1)
Crappie are small (1)
16" bass length limit for tournaments (1)
Gill nets in lake (1)

22. Would you be in favor of a creel limit on bluegill at Kentucky Lake? **(N = 181)** Yes **38%** No **62%**

22a. If yes, what creel limit would you prefer? **(N = 69)**

20 **36%** 30 **55%** 50 **9%**

NORTHWESTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Table 1 presents a summary of conditions encountered while sampling at state-owned lakes and ACOE reservoirs during the 2011 field season.

Nolin River Lake

Black Bass Sampling

Spring electrofishing to monitor the black bass population at Nolin River Lake could not be conducted in 2011 due to the high lake level throughout the sampling period. On May 7th pool elevation crested at 559.70 feet, the highest in the history of the lake, 0.3 in from moving into the emergency spillway.

Fall electrofishing to determine condition and CPUE and mean length of age 0 largemouth bass (Tables 2-4) was conducted in October 2011. Mean length of age 0 and CPUE of age 0 largemouth ≥ 5.0 in both increased compared to all surveys since 2001, which should lead to a strong year class of age 1 fish in 2012.

Crappie Sampling

Trap netting was conducted in October 2011 to assess Nolin River Lake's crappie population (Tables 5-9). A total of 641 crappie (7.9 % black) were collected in 80 net-nights. Catch rates were lower in 2011 than those collected over the last several years. Anecdotal reports from conservation officers and anglers indicate anglers harvested more and larger fish in 2011 than in many years, indicating a strong 2008 year class. However, it did not produce an expected increase in the catch rate of crappie ≥ 8.0 in during trap net sampling in 2010 or 2011. Growth rate is excellent with crappie reaching 10.9 in at age 2 + at capture. The length-weight equation is log W = -3.67 + 3.36 (log L). The objectives in the Nolin River Lake SMP for crappie of a CPUE ≥ 5.00 fish/nn for age 1 fish and mean length of age 2+ fish at capture of 9.6 in were the only objectives met in 2011.

White Bass Sampling

White bass were gill netted in November to assess their population parameters (Tables 10-14). Catch rates in 2011 were down somewhat compared to the last few years, but were still excellent. Mean length at age and condition parameters are good and consistent with previous collections. Age frequency data indicates recruitment is highly variable, but overall this is a very stable fishery. The log 10 length weight equation is log W = -3.41 + 3.07 (Log L). The Nolin Lake SMP objectives for white bass management states: a CPUE ≥ 20.00 fish/nn for age 1 and older fish, a mean length ≥ 13.0 in for fish age 2+ at capture, a CPUE ≥ 10.00 fish/nn for fish ≥ 12.0 in, and a CPUE ≥ 10.00 fish/nn for age 1 fish. All management objectives were met in 2011.

Walleye Sampling

Gill netting to assess the walleye population was conducted during November in conjunction with white bass sampling (Tables 15-19). Although catch rates in 2011 were significantly lower than when last surveyed in 2009, catch rates in 2009 were exceptional. Walleye catch rates have been erratic at Nolin due in part to both sampling inefficiencies and survival of stocked fingerlings. Growth rate and condition continue to be good, but there are few fish in the population greater than age 3. The log 10 length weight equation is log W = -3.52 + 3.04 (log L). The Nolin Lake SMP objectives state: a CPUE ≥ 4.00 fish/nn for age 1 and older fish, a mean length ≥ 17.0 in for age 2+ fish, a CPUE ≥ 0.75 fish/nn for fish ≥ 20.0 in, and a CPUE ≥ 1.50 fish/nn for age 1 fish. The management objective for CPUE of fish ≥ 20.0 in has yet to be met from 1991 to present. No management objectives were met in 2011.

Rough River Lake

Black Bass Sampling

Spring electrofishing to assess the black bass population at Rough River Lake could not be completed in 2011 due to the high lake level throughout the sampling period. On May 4th pool elevation crested at 527.36, with a little over three feet of water moving through the emergency spillway. This marked the first occurrence in the history of Rough River Lake and the Louisville District ACOE that water passed through an emergency spillway. Coincidently, 2011 also happened to be the 50th Anniversary of Rough River Lake.

Fall sampling for length-weight data and mean length and CPUE of age 0 fish was conducted in October (Tables 20-22). Length-weight data is good and similar to past collections as is the mean length and CPUE of age 0 data. The catch rate of age 0 fish ≥ 5.0 in was much higher in 2011 indicating there should be good over winter survival and a strong year class of age 1 fish in 2012.

Crappie Sampling

Trap netting to evaluate Rough River Lake's crappie population was conducted the first week of November (Tables 23-27). Crappie catch rates in 2011 continue to be above average due to very successful year classes in 2008-2010. Age data collected in 2011 indicate this abundance of smaller fish has negatively impacted growth. Mean length has decreased approximately 1.5 in at each age and for mean length of age 2+ fish at capture. The number of 10.0 in or greater fish in the population will probably decline until these age classes move through the population. Although not captured in trap nets, anecdotal reports from anglers indicate many 14.0-18.0 in crappie were harvested in 2011. We will be working with anglers to gather age data on these larger fish in 2012.

The log 10 length weight equation is log W = -3.77 + 3.48 (log L). Rough River Lake SMP objectives for white crappie management state: a CPUE (excluding age 0 fish) ≥ 10.00 fish/nn, a CPUE ≥ 7.00 fish/nn for age 1 fish, a CPUE ≥ 3.00 fish/nn for age 0 fish, a CPUE ≥ 6.00 fish/nn for white crappie ≥ 8.0 in, and a mean length at age 2 + at capture of at least 10.0 in. The objectives for CPUE age 0 fish, CPUE of fish ≥ 8.0 in, and mean length at capture for age 2 + fish were not met in 2011.

Lake Malone

Largemouth Bass Sampling

Electrofishing data for the largemouth bass population assessment was collected in April 2011 (Tables 28-31). Catch rates in 2011 are similar to those collected for the last several years. Overall Lake Malone's largemouth population has been fairly stable, but the number of largemouth ≥ 20.0 in has declined somewhat from the early 2000's and age data collected in 2010 indicate growth has slowed from the early 2000's. Lake Malone was again electrofished in October for relative weight and mean length and CPUE of age 0 fish (Tables 32-34). Relative weights have also been slowly declining and are somewhat less than desirable.

Lake Malone was not fertilized in 2010 for the first time in approximately 30 years. Growth rate determined in 2010 will be compared to future growth rates to document any effects of discontinuing the fertilization program.
Lake Malone SMP objectives for management of largemouth bass state: a mean length ≥ 12.0 in at age 3 at capture, a CPUE ≥ 20.00 fish/hr for age 1 fish, a CPUE ≥ 35.00 fish/hr for 12.0-14.9 in fish, a CPUE ≥ 40.00 fish/hr for ≥ 15.0 in fish, and a CPUE ≥ 6.00 fish/hr for ≥ 20.0 in fish. The objectives for catch rates of ≥ 15.0 and ≥ 20.0 in fish were not quite met in 2011.

Bluegill/Redear Sunfish Sampling

Electrofishing to determine bluegill and redear sunfish population statistics at Lake Malone was conducted in May 2011 (Tables 35-38). The 2011 catch rate follows a multi-year trend of increasing CPUE's of 3.0-5.0 in bluegill and decreasing CPUE's of larger bluegill. The Lake Malone SMP objectives for bluegill management state a CPUE ≥ 50.00 fish/hr for ≥ 6.0 in fish, and a CPUE of at least 1.00 fish/hr for ≥ 8.0 in fish. The objective for CPUE of ≥ 8.0 in fish was not met.

Creel Survey

A random, stratified, roving, 5-day per week creel survey was conducted at Lake Malone from April 18 – October 31, 2011 to estimate angler pressure and catch/harvest statistics (Tables 39-43). Days were divided into two time periods (morning and afternoon) each with equal probability and 6 hours in length. Weekend day probability was 2.5x week day probability. The lake was divided into 3 "sub-areas" of approximately equal size in which the creel clerk would spend 2 of the 6 hour time period counting and interviewing before moving to the next sub-area.

Excluding the panfish group (bluegill) pressure, catch and harvest statistics were very similar to estimates obtained in 2006 and in 1998, the last two surveys conducted on Lake Malone. Black bass was the most sought after group in 2011 followed by the "anything", panfish, crappie and catfish groups. The estimated total man-hours at Lake Malone declined from 80,141 in 2006 to 64,130 in 2011. The majority of this decline is due to the decrease in man-hours expended for panfish which declined from 23,592 in 2006 to 10,647 in 2011. Slight declines were observed for the black bass, crappie, and catfish groups. The man-hours expended by "anything" group anglers increased from 9,495 in 2006 to 10,719 in 2011.

The estimated total catch (70,121) and total harvest (35,383) of fish at Lake Malone in 2011 is a dramatic decrease from the 2006 total catch (109,937) and harvest (57,801) estimates. Catch and harvest estimates for black bass, crappie, and channel catfish groups in 2011 were very similar to estimates from 2006. The number of largemouth bass caught in 2011 is nearly identical to the number caught in 2006, but anglers harvested 4,372 largemouth in 2011 versus 3,526 in 2006 and mean length at harvest increased from 13.5 inches in 2006 to 14.1 inches in 2011. The estimated panfish catch and harvest declined from 67,970 caught and 38,623 harvested in 2006 to 28,992 caught and 16,611 harvested in 2011, accounting for most all of the drop in total catch and harvest.

An angler attitude survey was conducted in conjunction with the creel survey. In general anglers seem satisfied with their fishing experience at Lake Malone. Survey questions and results are as follows:

LAKE MALONE ANGLER ATTITUDE SURVEY 2011 (N =426)

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

13. Name _____ Zip code _____

14. Have you ever fished at Lake Malone before? **N = 421** Yes **93.8%** No **6.2%**
If NO, go to question 13.

15. How many times do you fish Lake Malone a year? **N = 397**
1 to 4 **25.7%** 5 to 10 **21.9%** More than 10 **52.4%**

16. Which species of fish do you fish for at Lake Malone (**check all that apply**)?
Bass **64.3%** Crappie **28.4%** Bluegill **31.9%** Redear Sunfish **2.8%** Channel Catfish **24.1%** Other 0%

17. Which one species do you fish for most at Lake Malone (**check only one**)? **N = 395**
Bass **59.5%** Crappie **8.9%** Bluegill **18.5%** Redear Sunfish **0%** Channel Catfish **13.2%** Other **0%**

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

Bass Anglers

18. In general, what level of satisfaction do you have with bass fishing at Lake Malone? **N = 268**
Very satisfied **47.4%** Somewhat satisfied **44.0%** Neutral **5.6%** Somewhat dissatisfied **2.6%**
Very dissatisfied **0.4%** No opinion **0%**

7a. If you responded with somewhat or very dissatisfied in question (7) – what is the single most important reason for your dissatisfaction? **N = 8**
Number of fish **75%** Size of fish **12.5%** Not happy with regulations **0%** Too many anglers **12.5%** Other **0%**

Crappie Anglers

19. In general, what level of satisfaction do you have with crappie fishing at Lake Malone? **N = 111**
Very satisfied **38.7%** Somewhat satisfied **44.1%** Neutral **12.6%** Somewhat dissatisfied **4.5%**
Very dissatisfied **0%** No opinion **0%**

8a. If you responded with somewhat or very dissatisfied in question (8) – what is the single most important reason for your dissatisfaction? **N = 5**
Number of fish **40%** Size of fish **60%** Not happy with regulations **0%** Too many anglers **0%** Other **0%**

Bluegill Anglers

20. In general, what level of satisfaction do you have with bluegill fishing at Lake Malone? **N = 132**
Very satisfied **86.4%** Somewhat satisfied **9.8%** Neutral **3.8%** Somewhat dissatisfied **0%**
Very dissatisfied **0%** No opinion **0%**

9a. If you responded with somewhat or very dissatisfied in question (9) – 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 Other

Redear Sunfish Anglers

21. In general, what level of satisfaction do you have with redear sunfish fishing at Lake Malone? **N = 12**
Very satisfied **33.3%** Somewhat satisfied **41.7%** Neutral **25.0%** Somewhat dissatisfied **0%**
Very dissatisfied **0%** No opinion **0%**

10a. If you responded with somewhat or very dissatisfied in question (10) – 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 Other

Channel Catfish Anglers

22. In general, what level of satisfaction do you have with channel catfish fishing at Lake Malone? **N = 80**

Very satisfied **80.0%** Somewhat satisfied **17.5%** Neutral **2.5%** Somewhat dissatisfied **0%**

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

11a. If you responded with somewhat or very dissatisfied in question (11) – 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 Other

All Anglers

23. Are you satisfied with the current size and creel limits on all sport fish at Lake Malone? **N = 391** Yes **95.4%** No **4.6%**

If NO:

12a. If not, which species are you dissatisfied with and what size and creel limits would you prefer?

	Size **N = 7**	Creel **N = 3**
Bass	13 – 15" (1) 13" (1) 14" (1) 15 – 18" (1) 15" (1) 18" (2)	1 (1) 1 > 21" (1) 6 (1)

	Size **N = 12**	Creel **N =11**
Crappie	9" (6) 10" (5) 14 " (1)	7 (2) 20 (2) 30 (7)

	Size **N = 1**	Creel
Bluegill	10" (1)	

	Size **N = 1**	Creel
Redear Sunfish	10" (1)	

	Size	Creel **N = 1**
Channel Catfish		2-3 (1)

13. Did you use live fish as bait anywhere in Kentucky last year? **N = 420** Yes **20.2%** (go to 14) No **79.8%** (go to 19)

14. How many days last year did you fish in Kentucky? **N = 96** **Range 2 – 300 days**

15. Of the day(s) you fished in Kentucky last year, how many days did you use live fish as bait? **N = 81** **Range 2 – 150 days**

16. Do you ever collect your own live fish to use as bait? **N = 81** Yes **11.0%** (go to 17) No **89%** (go to 19)

17. How many of the days that you used live fish for bait last year did you collect your own? **N = 7** **Range 0 – 75 days**

18. When you collected live fish for bait last year, how many days did you collect them in one water body and fish with them in another? **N = 2** **Range 1 – 5 days**

19. Would you support or oppose a regulation where fish that are collected and used as live bait can **only** be used in the water body from which they were taken? This would not include bait purchased from a live bait dealer. **N = 419**

Support **95.5%** Neutral **1.9%** Oppose **0.7%** Don't know **1.9%**

20. Are you aware that Asian carp are invading Kentucky's waters? **N = 405** Yes **93.6%** No **6.4%**

If the answer to question 19 was Neutral, Oppose, or Don't know then ask the following:

21. Asian Carp are hard to separate from shad when collecting live bait. As a result, Asian carp can be unintentionally introduced into new waters by anglers which can result in declines in sportfish populations in those waters. Given this information, would you support or oppose a regulation where fish that are collected and used as live bait can **only** be used in the water body from which they were taken. **N = 19**

Support **31.6%** Neutral **21.1%** Oppose **0%** Don't know **47.4%**

Mauzy Lake

Mauzy Lake was drawn down in October 2008 to replace the leaking water control structure. The lake remained 6-10 feet below normal pool until September-October 2009 when it was lowered to 13 feet below normal pool to replace the structure. Repair work was completed in November 2009 and the lake reached full pool in May 2010. Low water level prevented sampling in 2009. Normally scheduled sampling was conducted in 2011.

Largemouth Bass Sampling

Electrofishing to assess the largemouth bass population at Mauzy was conducted in April (Tables 30, 44-46). Largemouth bass catch rates at Mauzy have been erratic the last few years as the population reacts to multiple drawdowns to repair the water control structure. The catch rate for bass less than 12.0 in decreased while the catch rate for bass greater than 12.0 in increased in 2011 as a strong year class moved through the size ranges.

Bluegill Redear Sunfish Sampling

Electrofishing to assess the bluegill and redear sunfish populations was conducted in May (Tables 37, 46-50). Bluegill catch rates have been highly variable the last few years as well. Flooded terrestrial vegetation present before the lake reached full pool hampered sampling in 2010 and reduced the CPUE. As with the largemouth bass population, the bluegill population is still reacting to multiple drawdowns and will take a few years to stabilize. The 2011catch rate of bluegill $\geq$ 6.0 in was higher than previously recorded and should lead to an increase in harvestable fish in 2012.

Redear sunfish were stocked in Lake Mauzy in 2004 and 2005 following renovation in 2003. Few redear sunfish were collected prior to 2007. In 2010, 169 fish were collected giving hope that the redear sunfish population may finally develop into a viable fishery. Catch rates in 2011 declined back to 2007 levels, with the exception of redear $\geq$ 8.0 in, suggesting limited recruitment. A stable water level the next few years should indicate the future of redear at Mauzy.

Carpenter Lake

Largemouth Bass

Largemouth bass were electrofished at Carpenter Lake in April to document population statistics (Tables 30, 51-53). The general trend at Carpenter Lake the last few years has been increasing numbers of bass < 12.0 in along with decreasing numbers of bass $\geq$ 12.0 in. Age data collected in 2010 indicated growth rates have slowed and few fish are reaching 12.0 in prior to age 5.

Spring 2010 and 2011 both proved to be banner years for largemouth bass spawning at several NWFD lakes. The 2011 catch rate of bass < 8.0 in was the highest on record at Carpenter. 2011 data also showed a significant increase in the CPUE of bass $\geq$ 12.0 in and a slight decrease in 8.0-11.0 in bass. A shad kill will be attempted in 2012 to increase sportfish growth rates. Largemouth bass were electrofished in October to determine mean length and CPUE data for age 0 fish (Tables 54-55). Carpenter Lake SMP objectives for largemouth bass management state: a mean length $\geq$ 11.5 in at age 3 at capture, a CPUE $\geq$ 46.00 fish/hr for age 1 fish, a CPUE $\geq$ 35.00 fish/hr for 12.0-14.9 in fish, a CPUE $\geq$ 20.00 fish/hr for $\geq$ 15.0 in fish and a CPUE $\geq$ 1.00 fish/hr for $\geq$ 20.0 in fish. Since otoliths were not collected in 2011, the CPUE for $\geq$ 15.0 in fish was the only objective not met in 2011.

Bluegill Redear Sunfish Sampling

Electrofishing to assess the bluegill/redear sunfish populations was conducted in May (Tables 37, 56-58). The catch rate of 3.0-5.0 in bluegill increased dramatically in 2011. Bluegill catch rates at Carpenter Lake are historically variable, due in part to habitat conditions and sampling inefficiencies. Although the catch rate of bluegill $\geq$ 6.0 in increased in 2011, since gizzard shad were first collected in Carpenter Lake in 2006, the trend has been an increasing catch rate of bluegill < 6.0 in and a decreasing catch rate of bluegill $\geq$ 6.0 in. Age data collected in 2010 is similar to age data last collected in 2007, but both indicate growth rate has slowed from age data collected in 2002.

Carpenter Lake SMP bluegill management objectives state: a mean length of ≥ 5.0 in at age 2 at capture, 2-2+ years to reach 6.0 in, a CPUE of at least 50.00 fish/hr for bluegill ≥ 6.0 in, and a CPUE of at least 15.00 fish/hr for bluegill ≥ 8.0 in. The CPUE objective for bluegill ≥ 8.0 in was not met in 2011.

New Kingfisher Lake

Old and New Kingfisher Lakes are highly eutrophic and have experienced periodic late summer oxygen declines leading to fish kills for several years. Both Old and New Kingfisher are scheduled to be drained and renovated during 2012-2013. The lakes will be dredged to deepen and re-contour some shoreline areas. The resulting material will be used to construct fishing jetties and widen shoreline areas to increase bank access. Habitat such as Christmas trees, pallet attractors, and other materials will be added to the lake while it is down. Sampling will be suspended for the next few years at these lakes.

Largemouth Bass Sampling

The largemouth bass population was sampled at New Kingfisher Lake in April (Tables 30, 59-61). New Kingfisher Lake's largemouth bass population has historically been dominated by an abundance of slow-growing 8.0-11.0 in fish. While catch rates of bass ≤ 12.0 in are higher than desired they still fall short of pre-2008 data. The major fish kill in 2008 significantly reduced numbers of bass ≥ 8.0 in but catch rates are progressing toward previous highs.

Bluegill Sampling

The bluegill population was sampled in May 2011 (Tables 37, 62-64). The overall catch rate in 2011 was the highest on record with a fair number of 6.0-8.0 in fish.

Washburn Lake

Largemouth Bass

Electrofishing to assess largemouth bass population parameters at Washburn Lake was completed in April (Tables 30, 65-67). Largemouth bass at Washburn Lake are slow-growing with few reaching 12.0 in. Age data collected in 2010 indicate mean length at age 3 is 10.7 in and few fish in the population are greater than age 3.

A fertilization program was initiated in 2004 and growth rate increased. In 2008 a phytoplankton bloom could not be achieved and a subsequent alkalinity test indicated an alkalinity of 40 ppm. The lake was limed with approximately 50 tons of agricultural lime and fertilizer applications in 2009 again produced plankton blooms. In 2010 phytoplankton blooms dissipated approximately one to two weeks following fertilizer applications. In 2011 the alkalinity decreased to 40 ppm and a phytoplankton bloom could not be achieved. In July 2011 the lake was limed with 100 tons of agricultural lime and by December the alkalinity had increased to 60 ppm. As of March 2011, alkalinity had decreased to 54 ppm. Fertilization, and liming as necessary, will continue in an effort to increase growth rates.

Bluegill Sampling

Sampling to assess Washburn Lake's bluegill population was conducted in May (Tables 37, 68-70). Bluegill catch rates in 2011 are similar to prior collections. Age data collected in 2009 indicate growth rates have declined in recent years. The slower growth rate and older fish in the population indicate few fish are reaching a harvestable size and being removed from the population. The slow bluegill growth rate is most likely the result of low fertility as well.

Peabody WMA

SCUBA transects to assess fish populations at Musky Lake on Peabody WMA were conducted in June (Table 71-72). Transects could not be conducted at Goose Lake and Bottom Lake in 2011 due to poor visibility from heavy spring rains. Musky Lake could not be surveyed during 2008 or 2009 due to property boundary issues. Those issues have been settled and Musky Lake is again a component of Peabody WMA. Observations of largemouth bass, bluegill and redear sunfish at Musky Lake are similar to prior surveys and indicate a balanced, stable population of each species. Monitoring will continue in 2012 to document any future population shifts.

Channel Catfish Sampling

Channel catfish were sampled with tandem hoop net sets in April to determine length distribution and growth rate to assess stocking rates at South, Rob's, and Jack's Lakes on Peabody WMA (Tables 73-76). Goose Lake was also sampled, but is not currently stocked. Baited, tandem hoop net sets (3 nets in series) were fished for 3 days at each lake. Although Jack's Lake is stocked every other year, nets were unable to be set effectively and few fish were collected due to the steep slope of the shoreline, and excessive aquatic vegetation. Otoliths were removed from catfish collected at Rob's and South Lakes (Tables 77-78). Growth rate at both lakes is good, but slower than non-mine lakes. Age-growth and length distribution data indicate stocked channel catfish are being well utilized at both Rob's and South lakes. The presence of age 1,3, and 5 fish at South Lake indicate contributions to the population from natural reproduction or from Green River ingress during spring flooding, either of which is possible.

Table 1. Annual summary of sampling conditions by waterbody, species sampled and date for NWFD lakes during 2011.

Water body	Species	Date	Time (24hr)	Gear	Weather [a]	Water temp. F	Water level	Secchi (in)	Conditions [b]	Pertinent sampling comments
Nolin River Lake	LMB	Spring								Water level too high to sample
Nolin River Lake	LMB	10/11,12/11	1000	Shock	Mostly sunny/cloudy, 60s	70°	514-513.88	44-46	Good	Lots of fish deeper (8-10) in big rocks
Nolin River Lake	WB/WE	11/8 - 10/11	1000	Gill Net	Sunny, cloudy, rainy, windy, 40-50s	56-60°	503.4-502.5	32-40	Good	Water murky and choppy
Nolin River Lake	Crappie	10/24-28/11		Trap Net	Sunny, cloudy, rainy,windy, 45-65	58-65°	509.1-507.8	40	Poor/Fair	Pulling very little water, fish shallow and not moving
Rough River Lake	LMB	Spring								Water level too high to sample
Rough River Lake	LMB	10/5,6/11	1000	Shock	Sunny, calm, 60s	66-68°	Pool	30-37	Good	Water clear and fish deeper in Laurel Branch and Cave Creek
Rough River Lake	Crappie	10/31-11/4/11		Trap Net	Sunny, cloudy, breezy, 50-60s	54-60°	490-488.8	18-20	Good	North Fork fish mostly in deeper sets all week
Lake Malone	LMB	4/18/11	900	Shock	Sunny, windy	62°	Pool + 1.5'	26	Fair	Lake choppy, low conductivity, small fish not hit very well
Lake Malone	BG	5/11/2011	900	Shock	Sunny, 80's	76°	Pool + 1.0"	27	Good	Fish very shallow, hard to get to at times
Lake Malone	LMB	10/4/11	900	Shock	Sunny, cool	68°	Pool	32	Good	
Mauzy Lake	LMB	4/13/11	900	Shock	Sunny, 60s	65°	Pool + 1.0"	24	Good	
Mauzy Lake	BG	5/12/11	900	Shock	Cloudy, 80s	77°	Pool	26	Good	Fish shallow in backs of coves
Carpenter Lake	LMB	4/14/11	900	Shock	Sunny, light breeze, 60s	65°	Pool	29	Good	
Carpenter Lake	BG	5/31/2011	900	Shock	Sunny, humid, 80s	79°	Pool	22	Good	
Carpenter Lake	LMB	10/16/11	900	Shock	Cloudy	68°	Pool + 6"	22	Good	10-12" fish skinny, blue green algae bloom
New Kingfisher Lake	LMB	4/14/11	1100	Shock	Sunny, light breeze, 60s	64°	Pool	42	Good	
New Kingfisher Lake	BG	5/31/11	900	Shock	Partly cloudy, humid, 80s	83°	Pool	30	Good	
Washburn Lake	LMB	4/7/11	900	Shock	Sunny, wind 7-10, 65	58°	Pool	18	Good	Water murky
Washburn Lake	BG	5/18,23/2011	900	Shock	Cloudy, calm, 80s	73°	Pool	72+	Poor	Water clear, fish running from boat
Goose Lake (PWMA)	ALL	7/28/2011	1100	SCUBA	Sunny, 89	88°	Pool	168	Poor	Low visibility
Musky Lake (PWMA)	ALL	6/30/2011	1200	SCUBA	Sunny, 90	82°	Pool	204	Good	
Goose Lake (PWMA)	CC	5/3-6/11		Hoop Net	Cloudy, windy, 50s	62°	Pool + 1.5'	72-96	Fair	Water murky, cheese did not break down/still in chunks
Rob's Lake (PWMA)	CC	4/26-29/11		Hoop Net	Cloudy, windy, 50s	63°	Pool + 1.0"	48	Fair	Water murky, cheese did not break down/still in chunks
Jack's Lake (PWMA)	CC	4/26-29/11		Hoop Net	Cloudy, windy, 50s	63°	Pool + 1.0"	24	Fair	Water murky, cheese did not break down/still in chunks, bad veg.
South Lake (PWMA)	CC	4/26-29/11		Hoop Net	Cloudy, windy, 50s	64°	Pool + 1.0"	48	Fair	Water murky, cheese did not break down/still in chunks, bad veg.

Table 2. Species composition, length frequency, and CPUE (fish/hr) of black bass collected during 4.5 hours of 30-minute diurnal electrofishing runs at Nolin River Lake in October 2011.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	Total	CPUE	Std. error
Upper	Largemouth bass		48	97	63	44	31	14	27	67	58	50	39	32	8	11	2	2		1	594	237.60	28.90
	Spotted bass	1	14	16	8			3	1	1	5	8	1	1							59	23.60	5.71
Lower	Largemouth bass		4	22	22	17	25	11	19	110	66	48	56	48	32	16	9	3	1		509	254.50	13.57
	Spotted bass			1	2	1	2	5	16	16	6	11	13	1							74	37.00	2.65
Total	Largemouth bass		52	119	85	61	56	25	46	177	124	98	95	80	40	27	11	5	1	1	1103	245.11	16.48
	Spotted bass	1	14	17	10	1	2	8	17	17	11	19	14	2							133	29.56	3.97

nw d1lmb.d11

Table 3. Number of fish and relative weight (Wr) for length groups of largemouth bass collected at Nolin River Lake during October 2011. Standard errors are 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	Upper	43	88 (1)	40	87 (1)	24	85 (2)
Largemouth Bass	Lower	23	87 (1)	18	87 (2)	33	87 (3)
Largemouth Bass	Total	66	88 (1)	58	87 (1)	57	86 (2)

nwd1lmb.d11

Table 4. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in fall electrofishing samples at Nolin River Lake 2001-2011.

		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
2011	Total	5.5	0.07	89.33	16.06	51.33	8.11		
2010	Total	5.0	0.08	107.33	21.31	46.22	9.12	n/d*	
2009	Total	3.6	0.06	128.75	47.37	20.50	3.18	n/d*	
2008	Total	3.6	0.04	139.33	45.55	16.67	4.08	29.15	5.61
2007	Total	4.1	0.07	66.44	14.34	12.89	2.81	49.67	7.78
2006	Total	4.9	0.07	84.00	22.97	40.22	7.47	51.63	9.65
2005	Total	5.0	0.08	92.00	34.94	41.78	15.36	17.04	2.67
2004	Total	4.1	0.07	41.30	11.20	9.60	1.60	26.22	4.70
2003	Total	4.4		28.40	4.90	14.20	2.60	22.89	1.57
2002	Total	4.5		28.60	11.80	14.40	1.40	11.33	3.11
2001	Total	3.0		76.00	29.20	7.30	0.90	3.78	1.10

*Not able to electrofish spring 2010 or 2011
nwd1lmb.d11

Table 5. Length frequency and CPUE (fish/nn) for each species of crappie collected in 80 net-nights of sampling at Nolin River Lake during October 2011.

	Inch class													
Species	2	3	4	5	6	7	8	9	10	11	12	Total	CPUE	Std. error
White crappie		81	48	2	66	110	90	95	59	34	5	590	7.38	1.09
Black crappie	5	15		2	4	12	6	6	1			51	0.63	0.15

nwd1tn.d11

Table 6. PSD and RSD_{10} values calculated for crappie collected in trap nets from Nolin River Lake during October 2011; 95% confidence limits are in parentheses.

Lake/Species	No.	PSD	RSD_{10}
Nolin River Lake			
White crappie	461	61 (+/- 4)	21 (+/- 4)
Black crappie	31	42 (+/- 17)	3 (+/- 6)

nwd1tn.d11

Table 7. Mean back calculated lengths (in) at each annulus for white crappie collected at Nolin River Lake in October 2011.

Year class	No.	Age 1	2	3
2010	40	4.9		
2009	14	4.9	8.9	
2008	11	5.0	8.1	9.7
Mean		4.9	8.5	9.7
No.		65	25	11
Smallest		3.8	6.6	7.2
Largest		7.7	10.4	10.9
Std error		0.1	0.2	0.4
95% CI (±)		0.1	0.3	0.7

nwd1wca.d11

Table 8. Age-frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 80 net-nights at Nolin River Lake in October 2011.

	Inch class													
Age	3	4	5	6	7	8	9	10	11	12	Total	Age %	CPUE	Std. error
0	81	48	2								131	22.2	1.64	
1				66	110	81	86	10			353	59.8	4.42	0.66
2							9	38	15	2	64	10.8	0.80	0.16
3						9		11	19	3	42	7.1	0.52	0.11
Total	81	48	2	66	110	90	95	59	34	5	590	100		
(%)	13.7	8.1	<0.1	11.1	18.6	15.2	16.1	10.0	5.8	0.1				

nw d1tn.d11, nw d1w ca.d11

Table 9. Population assessment for white crappie based on fall trapnetting at Nolin River Lake from 2001-2011 (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
2011	5.74 (2)	4.42 (2)	1.64 (1)	3.54 (2)	10.9 (4)	1.274	72.3	11	Fair
2010	6.73 (2)			6.02 (3)					
2009	14.14 (3)	11.65 (3)	1.22 (1)	8.92 (3)	10.4 (4)	1.638	80.6	14	Good
2008	6.03 (2)	3.45 (2)	2.35 (1)	4.79 (2)	10.4 (4)	0.976	62.3	11	Fair
2007	7.43 (2)	3.71 (2)	0.38 (1)	6.14 (3)	10.4 (4)	0.882	58.6	12	Fair
2006	5.91 (2)	3.20 (2)	2.02 (1)	4.37 (2)	9.7 (4)	0.876	58.3	11	Fair
2005	8.76 (2)	3.64 (2)	1.42 (1)	7.41 (3)	9.7 (4)	0.749	52.7	12	Fair
2004	8.56 (2)	4.15 (2)	5.09 (2)	6.93 (3)	9.7 (4)	0.630	46.7	13	Good
2003	13.23 (3)	8.00 (3)	2.04 (1)	8.65 (3)	9.8 (4)	1.107	66.9	14	Good
2002	11.99 (2)	10.02 (3)	4.26 (2)	8.78 (3)	9.5 (3)	1.571	79.2	13	Good
2001	10.21 (2)	4.82 (2)	2.62 (1)	3.87 (2)	9.1 (3)	0.910	59.7	10	Fair

Table 10. Length frequency and CPUE (fish/nn) for white bass collected in 14 net-nights of sampling at Nolin River Lake during November 2011.

	Inch class												
Species	6	7	8	9	10	11	12	13	14	15	Total	CPUE	Std. error
White bass	2	43	29	4	4	52	59	89	82	15	380	27.14	3.59

nw d1gn.d11

Table 11. Mean back calculated lengths (in) at each annulus for white bass collected at Nolin River Lake in November 2011.

Year		Age					
class	No.	1	2	3	4	5	6
2010	26	8.8					
2009	8	8.3	11.9				
2008	14	7.5	11.6	13.0			
2007	3	8.1	11.8	13.1	13.8		
2006	8	6.5	10.2	12.2	13.1	14.0	
2005	1	6.1	8.4	10.4	11.8	13.1	14.8
Mean		8	11.3	12.7	13.2	13.9	14.8
No.		60	34	26	12	9	1
Smallest		5.2	8.4	10.4	11.8	13.1	14.8
Largest		10.4	12.7	14.1	14.7	15.1	14.8
Std error		0.2	0.2	0.2	0.3	0.2	
95% CI (±)		0.3	0.3	0.4	0.6	0.5	

nwd1wba.d11

Table 12. Age-frequency and CPUE (fish/nn) of white bass gill netted for 14 net-nights at Nolin River Lake in November 2011.

	Inch class													
Age	6	7	8	9	10	11	12	13	14	15	Total	Age %	CPUE	Std. error
0	2	43	29	4							78	20.5	5.57	
1					4	52	42	7			106	27.9	7.54	1.26
2							13	22	13		48	12.6	3.39	0.57
3							4	53	38		95	25.0	6.71	1.15
4								7	6	3	16	4.2	1.16	0.21
5									25	10	35	9.2	2.52	0.48
6										2	2	0.0	0.18	0.07
Total	2	43	29	4	4	52	59	89	82	15	380			
(%)	0.0	11.3	7.6	0.0	0.0	13.7	15.5	23.4	21.6	3.9				

nwd1wba.d11, nwd1gn.d11

Table 13. Number of fish and the relative weight (Wr) for each length group of white bass collected at Nolin River Lake during November 2011. 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
54	95 (1)	35	93 (1)	106	95 (1)

nwd1gn.d11

Table 14. Population assessment for white bass based on fall gill netting at Nolin River Lake from 1996-2011 (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
2011	21.57 (4)	13.1 (4)	17.50 (4)	7.54 (3)	0.504	39.6	15	Excellent
2009	33.21 (4)	13.2 (4)	19.36 (4)	15.59 (4)	0.629	46.7	16	Excellent
2007	37.90 (4)	13.9 (4)	26.60 (4)	15.98 (4)	0.717	51.2	16	Excellent
2006	7.93 (2)	13.3 (4)	4.27 (2)	5.38 (3)	1.134	67.8	11	Good
2003	18.70 (3)	13.4 (4)	6.21 (3)	15.27 (4)	1.387	75.1	14	Excellent
2002	10.23 (3)	13.3 (4)	5.25 (3)	5.20 (3)			13	Good
2001	2.50 (1)	13.6 (4)	1.60 (1)	1.10 (1)			7	Fair
2000	3.90 (1)	13.8 (4)	2.80 (2)	1.10 (1)			8	Fair
1998	27.40 (4)	12.0 (3)	22.00 (4)	7.50 (3)			14	Excellent
1996	26.10 (4)	13.3 (4)	14.80 (4)	15.10 (4)			16	Excellent

Table 15. Length frequency and CPUE (fish/nn) for walleye collected in 14 net-nights of gill netting at Nolin River Lake during November 2011.

	Inch class																
Species	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std. error
Walleye	1	4	1		3	13	10	11	5	4	5	2		1	60	4.29	0.84

nw d1gn.d11

Table 16. Mean back calculated lengths (in) at each annulus for walleye collected at Nolin River Lake in November 2011.

Year class	No.	Age 1	2	3	4	5	6	7	8
2010	21	10.1							
2009	17	9.8	13.9						
2008	11	10.5	14.3	16.5					
2007	2	10.0	14.6	16.9	17.9				
2006	2	8.2	12.8	15.2	16.8	18			
2003	1	5.7	9.1	11.3	13	14.7	15.8	17.3	18.4
Mean		10.0	13.9	16.1	16.5	16.9	15.8	17.3	18.4
No.		54	33	16	5	3	1	1	1
Smallest		5.7	9.1	11.3	13.0	14.7	15.8	17.3	18.4
Largest		13.2	15.5	18.7	18.7	18.2	15.8	17.3	18.4
Std error		0.2	0.2	0.5	1.0	1.1			
95% CI (±)		0.3	0.5	0.9	2.1	2.1			

nwd1wea.d11

Table 17. Age-frequency and CPUE (fish/nn) of walleye gill netted for 14 net-nights at Nolin River Lake in November 2011.

	Inch class															
Age	9	10	11	12	13	14	15	16	17	18	19	20	No.	CPUE	Std. error	Age %
0	1	4	1										6	0.43		10.2
1					3	11	5	1					20	1.46	0.41	33.9
2						2	4	6	4	1			17	1.21	0.25	28.8
3							1	4	1	2	1	2	11	0.78	0.19	18.6
4										1	1		2	0.15	0.06	3.4
5										1	1		2	0.15	0.06	3.4
8											1		1	0.09	0.04	1.7
Total	1	4	1		3	13	10	11	5	5	4	2	59			
(%)	1.7	6.8	1.7		5.1	22.0	16.9	18.6	8.5	8.5	6.8	3.4				

nwd1gn.d11, nwd1wea.d11

Table 18. Number of fish and the relative weight (Wr) for each length group of walleye collected at Nolin River Lake during November 2011. 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
26	92 (1)	38	90 (1)	3	85 (1)

nwd1gn.d11

Table 19. Population assessment for walleye based on fall gill netting at Nolin River Lake from 1991-2011 (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
2011	3.78 (2)	16.3 (2)	0.14 (1)	1.46 (2)	0.543	41.9	7	Fair
2009	7.57 (4)	16.6 (2)	0.50 (2)	3.68 (4)	0.599	45.1	12	Good
2007	1.99 (1)	15.9 (1)	0.18 (1)	1.02 (2)	0.532	41.3	5	Poor
2006	6.27 (4)	16.6 (2)	0.00 (0)	1.71 (2)	1.152	68.4	8	Fair
2003	1.85 (1)	16.9 (2)	0.57 (2)	0.40 (1)			6	Fair
2002	2.56 (2)	17.5 (3)	0.42 (1)	0.33 (1)			7	Fair
2001	1.00 (1)	17.8 (3)	0.25 (1)	0.00 (0)			5	Poor
2000	1.25 (1)	16.2 (2)	0.13 (1)	0.75 (1)			5	Poor
1998	6.28 (4)	15.5 (1)	0.00 (0)	1.71 (2)			7	Fair
1996	3.00 (2)	15.0 (1)	0.00 (0)	2.08 (3)			6	Fair
1991	5.70 (3)	15.8 (1)	0.50 (2)	2.20 (3)			9	Fair

Table 20. Species composition, length frequency, and CPUE (fish/hr) of black bass collected during 4.5 hours of 30-minute diurnal electrofishing runs at Rough River Lake in October 2011.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	Total	CPUE	Std. error
Upper	Largemouth bass	71	110	19	20	30	54	26	14	37	27	28	27	15	21	18	9	9	1	1	2	539	215.60	30.32
	Spotted bass		7	1		1	1	2	3	5	7	7	3	1								38	15.20	4.92
Low er	Largemouth bass	5	5	4	17	14	36	11	18	43	18	20	17	17	9	5	6	1	1	1		248	124.00	14.02
	Spotted bass	1	2			1	3	7	6	5	5	4	6									40	20.00	3.65
Total	Largemouth bass	76	115	23	37	44	90	37	32	80	45	48	44	32	30	23	15	10	2	2	2	787	174.89	23.39
	Spotted bass	1	9	1		2	4	9	9	10	12	11	9	1								78	17.33	3.11

nw d2lmb.d11

Table 21. Number of fish and relative weight (Wr) for length groups of largemouth bass collected at Rough River Lake during October 2011. Standard errors are 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	Upper	41	91 (1)	37	87 (1)	43	95 (1)
Largemouth Bass	Lower	30	90 (1)	24	88 (1)	20	88 (4)
Largemouth Bass	Total	71	90 (1)	61	87 (1)	63	93 (2)

nwd2lmb.d11

Table 22. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in fall electrofishing samples at Rough River Lake 2001 - 2011.

		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
2011	Total	4.9	0.09	89.11	21.50	41.56	5.36		
2010	Total	4.8	0.09	51.33	9.00	22.44	4.00	*n/d	
2009	Total							*n/d	
2008	Total	5.1	0.11	56.90	13.49	28.70	7.85		
2007	Total	4.2	0.07	37.11	7.33	9.11	2.43	*n/d	
2006	Total	4.9	0.09	64.00	18.70	30.20	7.40	27.06	3.33
2005	Total	4.3	0.08	72.40	10.40	22.40	4.40	21.98	2.82
2004	Total	4.0	0.06	100.40	18.57	24.22	5.94	28.04	5.91
2003	Total	4.8		34.90	3.20	20.00	2.90	32.82	3.85
2002	Total	5.0		60.50	18.30	34.30	2.60	44.30	5.61
2001	Total	4.0		38.60	3.90	29.30	0.90	7.93	1.70

*Water level too high to sample
nwd2lmb.d11

Table 23. Length frequency and CPUE (fish/nn) for each species of crappie collected in 80 net-nights of sampling at Rough River Lake during November 2011.

	Inch class														
Species	2	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	Std. error
White crappie	1	56	24	104	600	155	152	148	72	15	1	1	1329	16.61	1.93
Black crappie		8		15	6	7	4	2	1				43	0.54	0.12

nw d2tn.d11

Table 24. PSD and RSD_{10} values calculated for crappie collected in trap nets from Rough River Lake during November 2011; 95% confidence limits are in parentheses.

Lake/Species	No.	PSD	RSD_{10}
Rough River Lake			
White crappie	1,248	31 (+/- 3)	7 (+/- 1)
Black crappie	35	20 (+/- 13)	3 (+/- 6)

nwd2tn.d11

Table 25. Mean back calculated lengths (in) at each annulus for white crappie collected at Rough River Lake in November 2011.

Year class	No.	Age 1	2	3	4	5	6	7	8
2010	29	4.2							
2009	28	4.8	7						
2008	12	4.5	7.5	9.5					
2007	1	6.6	9.6	11.1	12.2				
2003	1	4.6	7.3	8.3	8.9	9.4	9.7	10.2	10.6
Mean		4.5	7.2	9.5	10.5	9.4	9.7	10.2	10.6
No.		71	42	14	2	1	1	1	1
Smallest		3.5	5.5	7	8.9	9.4	9.7	10.2	10.6
Largest		6.6	9.6	11.2	12.2	9.4	9.7	10.2	10.6
Std error		0.1	0.1	0.4	1.6				
95% CI (±)		0.1	0.2	0.7	3.1				

nwd2wca.d11

Table 26. Age-frequency and CPUE (fish/nn) of white crappie trap netted for 80 net-nights at Rough River Lake in November 2011.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	13	No.	CPUE	Std. error	Age %
0	1	56	24										81	1.01		6.1
1				104	600	78	46						828	10.35	1.25	62.3
2						62	91	148	58				359	4.49	0.72	27.0
3						16	15		14	13	1		59	0.74	0.11	4.4
4												1	1	0.01	0.01	0.0
8										1			1	0.01	0.01	0.0
Total	1	56	24	104	600	155	152	148	72	14	1	1	1,329	16.61	1.93	
(%)	0.0	4.2	1.8	7.8	45.1	11.7	11.4	11.1	5.4	1.0	0.0	0.0				100

nw d2tn.d11, nw d2w ca.d11

Table 27. Population assessment for white crappie based on fall trapnetting at Rough River Lake from 2000-2011 (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
2011	15.60 (3)	10.34 (3)	1.01 (1)	4.85 (2)	9.2 (3)	1.230	70.9	12	Fair
2010	10.19 (2)	5.81 (2)	1.90 (1)	3.40 (2)					
2009	28.10 (4)	26.10 (4)	12.39 (4)	7.79 (3)	10.8 (4)	2.040	87.1	19	Excellent
2008	4.64 (2)	3.10 (2)	20.00 (4)	4.31 (2)	10.7 (4)	1.030	64.3	14	Good
2006	8.16 (2)	7.52 (3)	2.33 (1)	3.89 (2)	10.7 (4)	2.180	88.7	12	Fair
2005	4.64 (2)	3.50 (2)	4.61 (2)	3.25 (2)	10.4 (4)	0.869	58.1	12	Fair
2004	8.22 (2)	5.50 (2)	1.80 (1)	7.10 (3)	10.4 (4)	0.734	52.0	12	Fair
2003	13.10 (3)	10.80 (3)	18.85 (4)	9.92 (3)	10.6 (4)	1.066	65.5	17	Good
2002	8.40 (3)	4.46 (2)	4.50 (2)	7.30 (3)	10.3 (4)	0.871	58.5	14	Good
2000	4.03 (1)	1.36 (1)	2.12 (1)	3.07 (2)	9.2 (3)	1.160	68.7	8	Fair

Table 28. Length frequency and CPUE (fish/hr) of largemouth bass collected during 2.5 hours of 30-minute diurnal electrofishing runs at Lake Malone in April 2011.

	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. error
Largemouth bass	3	36	40	22	13	45	36	34	25	31	32	25	26	22	19	6	3	6	3	1	428	171.20	26.75

nw d3psd.d11

Table 29. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Lake Malone 1999-2011.

	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.
2011	45.60	10.34	56.00	7.27	35.20	7.66	34.40	6.76	4.00	1.10	171.20	26.75
2010	37.20	8.78	49.60	5.04	49.60	5.42	62.00	7.07	3.60	1.60	198.40	16.29
2009	10.00	1.41	29.60	4.40	51.20	7.55	37.20	3.56	5.60	0.40	128.00	11.71
2008	18.80	6.47	78.80	6.59	77.20	4.96	43.60	8.06	6.40	1.47	218.40	12.35
2007	29.20	3.98	80.40	10.40	30.80	1.96	37.60	10.34	3.60	1.33	178.00	17.80
2006	31.60	3.71	81.60	14.33	22.40	2.14	28.00	5.87	5.20	1.62	163.60	19.82
2005	32.40	4.83	69.20	14.31	32.00	8.74	53.60	5.71	8.40	1.17	187.20	30.12
2004	28.40	3.87	53.60	5.74	26.40	4.17	53.20	3.93	6.00	1.55	161.60	12.75
2003	57.00	3.32	76.50	6.75	35.00	5.00	57.50	4.86	9.50	2.75	226.00	12.08
2002*	8.57	3.32	43.43	4.97	43.43	8.48	41.71	7.55	8.00	3.02	137.14	17.45
2001*	18.00	8.05	66.00	12.03	50.00	7.98	31.33	6.32	0.67	0.67	165.33	15.55
2000*	13.33	3.37	46.00	4.23	51.33	7.83	24.00	4.00	2.00	0.89	134.67	14.52
1999*	n/d		48.67	9.82	61.33	6.98	23.33	4.89	2.67	1.33	133.33	12.72

*Nocturnal sample

nwd3psd.d11

Table 30. 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 2011; 95% confidence intervals are in parentheses.

Lake	Species	No. ≥8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
Malone	Largemouth	314	55 (+/- 5)	27 (+/- 5)
Mauzy	Largemouth	90	82 (+/- 8)	33 (+/- 10)
Carpenter	Largemouth	187	33 (+/- 6)	4 (+/- 3)
New Kingfisher	Largemouth	63	24 (+/- 10)	10 (+/- 7)
Washburn	Largemouth	53	6 (+/- 7)	4 (+/- 6)

nwd3psd.d11
nwd4psd.d11
nwd5psd.d11
nwd6psd.d11
nwd8psd.d11

Table 31. Population assessment for largemouth bass based on spring electrofishing at Lake Malone from 2001-2011 (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
2011		41.20 (2)	35.20 (3)	34.40 (4)	4.00 (4)				
2010	10.4 (2)	15.10 (1)	49.60 (3)	62.00 (4)	3.60 (3)	0.397	32.7	13	Good
2009	10.3 (2)	8.80 (1)	51.20 (4)	37.20 (4)	5.60 (4)	0.293	25.4	15	Good
2008	10.3 (2)	16.40 (2)	77.20 (4)	43.60 (4)	6.40 (4)	0.357	30.0	16	Good
2007	10.3 (2)	29.20 (2)	30.80 (2)	37.60 (4)	3.60 (3)	0.330	28.1	13	Good
2006	11.5 (4)	20.20 (2)	22.40 (2)	28.00 (3)	5.20 (4)	0.526	40.9	15	Good
2005	11.5 (4)	19.00 (2)	32.00 (2)	53.60 (4)	8.40 (4)	0.387	32.0	16	Good
2004	11.5 (4)	19.00 (2)	26.40 (2)	53.20 (4)	6.00 (4)	0.365	31.1	16	Good
2003	11.5 (4)	35.00 (2)	35.00 (3)	48.00 (4)	8.50 (4)	0.416	34.1	17	Excellent
2002	11.5 (4)	6.00 (1)	43.43 (3)	41.71 (4)	8.00 (4)			16	Good
2001	12.9 (4)	14.00 (1)	50.00 (4)	31.33 (4)	0.67 (1)			14	Good

Table 32. Length frequency and CPUE (fish/hr) of largemouth bass collected during 2.0 hours of 30-minute diurnal electrofishing runs at Lake Malone in October 2011.

		Inch class																			
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std. error
Total	Largemouth bass	34	56	17	4	32	70	37	29	44	25	25	14	16	14	10	6	6	439	219.50	12.04

nw d3lmb.d11

Table 33. Number of fish and relative weight (Wr) for length groups of largemouth bass collected at Lake Malone during October 2011. Standard errors are in parentheses.

Species	Location	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	Wr	No.	Wr	No.	Wr
Largemouth Bass	Malone	62	81 (1)	43	80 (1)	51	85 (1)

nwd3lmb.d11

Table 34. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in fall electrofishing samples at Lake Malone 2002-2011.

		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
2011	Total	4.3	0.06	54.00	15.68	9.00	1.91		
2010	Total	4.8	0.06	76.40	13.08	30.00	3.22	41.20	3.74
2009	Total	4.1	0.14	12.00	4.43	2.00	0.63	15.10	4.14
2008	Total	4.6	0.12	14.80	4.76	6.00	2.37	8.80	1.02
2007	Total	4.5	0.17	30.40	7.36	11.20	2.58	16.40	7.14
2006	Total	5.2	0.07	65.60	5.15	42.40	3.71	29.20	3.98
2005	Total	4.9	0.09	50.00	10.00	25.50	5.00	20.20	2.08
2004	Total	4.1	0.07	49.20	10.73	8.40	1.72	19.00	3.48
2003	Total	3.1		103.20		2.40		19.00	2.88
2002*	Total	4.3		39.20		14.40		35.00	5.12

*Nocturnal sample
nwd3lmb.d11

Table 35. Length frequency and CPUE (fish/hr) for bluegill and redear sunfish collected in 1.25 hours of electrofishing at Lake Malone in May 2011.

	Inch class												
Species	2	3	4	5	6	7	8	9	10	11	Total	CPUE	Std. error
Bluegill	38	221	208	136	68	22					693	554.40	53.61
Redear sunfish			1	3	6		3	8	6	1	28	22.40	7.43

nwd3bg.d11

Table 36. Spring electrofishing CPUE (fish/hr) for each length group of bluegill (1999 - 2011) and redear sunfish (2003 - 2011) collected at Lake Malone.

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.
2011	30.40	7.89	452.00	41.25	72.00	11.62	0.00		0.00		554.40	53.61
2010	54.40	12.89	481.60	56.35	51.20	14.12	0.00		0.00		587.20	52.97
2009	24.80	6.36	177.60	35.01	52.00	16.62	0.00		0.00		254.40	44.31
2008	70.40	17.15	343.20	34.39	100.00	19.71	0.80	0.80	0.00		514.40	44.49
2007	75.20	17.12	324.00	28.85	90.40	9.77	0.00		0.00		489.60	39.89
2006	48.00	18.51	320.00	36.19	92.80	13.76	0.80	0.80	0.00		461.60	57.01
2005	27.69	8.21	376.92	44.63	46.15	10.76	0.00		0.00		450.77	54.06
2004	16.15	9.62	300.77	49.90	73.08	15.44	0.00		0.00		390.00	56.47
2003	25.38	6.49	173.08	24.06	22.31	6.22	0.00		0.00		220.77	25.54
2002	16.67	6.21	331.67	40.59	59.17	10.50	0.00		0.00		407.50	50.54
2001	7.33	2.17	222.00	30.51	46.67	8.98	0.67	0.67	0.00		276.67	34.54
2000	21.33	5.23	130.67	21.95	50.67	15.79	2.00	0.89	0.00		204.67	30.51
1999	53.33	14.30	20.67	4.31	0.67	0.67	0.00		0.00		74.67	18.03

nwd3bg.d11

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.
2011	0.00		3.20	2.44	4.80	3.41	14.40	4.74	5.60	2.40	22.40	7.43
2010	0.00		2.40	1.71	0.80	0.80	14.40	6.73	3.20	1.77	17.60	8.16
2009	0.00		0.00		0.80	0.80	12.00	4.17	5.60	2.08	12.80	4.33
2008	0.00		3.20	1.77	7.20	3.86	17.60	4.89	7.20	2.78	28.00	8.11
2007	0.00		4.80	3.99	9.60	4.74	16.80	4.84	12.00	4.50	31.20	9.35
2006	0.00		4.80	2.13	1.60	1.60	5.60	3.38	2.40	2.40	12.00	6.56
2005	0.00		0.77	0.77	3.08	1.26	9.23	3.59	4.62	2.61	13.08	3.98
2004	0.00		1.54	1.03	0.77	0.77	2.31	1.64	0.77	0.77	4.62	2.05
2003	0.00		0.00		0.77	0.77	4.62	1.7	1.54	1.03	5.38	2.00

nwd3bg.d11

Table 37. PSD and RSD_a values obtained for bluegill and redear sunfish collected in spring electrofishing samples at NWFD state-owned lakes during May 2011; 95% confidence intervals are in parentheses.

Lake	Species	No.	PSD (+/- 95%)	RSD[a] (+/- 95%)
Malone	Bluegill	655	14 (+/- 2)	0
	Redear sunfish	28	64 (+/- 18)	54 (+/- 20)
Mauzy	Bluegill	665	32 (+/- 3)	11 (+/- 2)
	Redear sunfish	46	83 (+/- 11)	0
Carpenter	Bluegill	363	31 (+/- 5)	0
	Redear sunfish	46	37 (+/- 15)	11 (+/- 9)
New Kingfisher	Bluegill	282	55 (+/- 6)	0
Washburn	Bluegill	99	29 (+/- 9)	4 (+/- 4)

[a] Bluegill = RSD_8, Redear = RSD_9

nwd3bg.d11
nwd4bg.d11
nwd5bg.d11
nwd6bg.d11
nwd8bg.d11

Table 38. Population assessment for bluegill based on spring electrofishing at Lake Malone from 2000-2011 (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
2011			72.00 (3)	0.00 (0)				
2010			51.20 (3)	0.00 (0)				
2009	4.9 (3)	3-3+ (3)	52.00 (3)	0.00 (0)	0.957	61.6	8	Fair
2008	4.4 (2)	3-3+ (3)	100.80 (4)	0.80 (2)	0.599	45.0	11	Good
2007	4.4 (2)	3-3+ (3)	90.40 (4)	0.00 (0)	0.573	43.6	9	Fair
2006	4.4 (2)	3-3+ (3)	93.60 (4)	0.80 (2)	0.452	36.4	11	Good
2005	3.9 (2)	3-3+ (3)	48.00 (2)	0.00 (0)			7	Fair
2004	3.9 (2)	3-3+ (3)	73.08 (3)	0.00 (0)			8	Fair
2003	3.9 (2)	3-3+ (3)	7.75 (1)	0.00 (0)	1.028	64.2	6	Poor
2002	3.9 (2)	3-3+ (3)	56.80 (3)	0.00 (0)			8	Fair
2001	3.9 (2)	3-3+ (3)	47.33 (2)	0.67 (2)			9	Fair
2000	3.9 (2)	3-3+ (3)	52.67 (3)	2.00 (2)			10	Fair

Table 39. Fishery statistics derived from a creel survey at Lake Malone (767 acres) from 18 April through 31 October 2011.

Fishing trips		
No. of fishing trips (per acre)	13,439	(16.27)
Fishing pressure		
Total man-hours (S.E.)[a]	64,130	(1390.95)
Man-hours/acre	77.6	
Catch/harvest		
No. of fish caught (S.E.)	70,121	(5258.62)
No. of fish harvested (S.E.)	35,838	(3506.41)
Lbs. of fish harvested	16,984	
Harvest rates		
Fish/hour	53	
Fish/acre	43.39	
Lb/acre	20.56	
Catch rates		
Fish/hour	1.07	
Fish/acre	84.49	
Miscellaneous characteristics (%)		
Male	86.28%	
Female	13.72%	
Resident	95.57%	
Non-resident	4.43%	
Method (%)		
Still fishing	48.19%	
Casting	49.34%	
Fly fishing	0.62%	
Trolling	0.62%	
Trotline	0.44%	
Jugging	0.44%	
Spider Rig	0.35%	
Mode (%)		
Boat	87.08%	
Bank	6.7%	
Dock	6.2%	

$t < 0.5\%$

[a]S.E. = standard error

Table 40. Fish harvest statistics derived from a creel survey at Lake Malone (767 acres) during 18 April through 31 October 2011.

	Bullhead	Channel Catfish	Green Sunfish	Longear Sunfish	Warmouth	Redear Sunfish	Bluegill	Largemouth bass	White Crappie	Black Crappie	Black bass Group	Catfish Group	Panfish Group	Crappie Group	Illegal Bass	Illegal Catfish	Anything Group
No. caught	106.12	6,254.32	48.93	102.90	166.72	471.72	28,202.24	20,763.78	13,860.68	25.15	20,763.78	6,368.36	28,992.50	13,885.82	110.96	7.92	
(per acre)	0.13	7.57	0.06	0.12	0.20	0.57	34.14	25.14	16.78	0.03	25.14	7.71	35.10	16.81	0.13	0.01	
No. harvested	59.68	4,715.82	8.02	70.17	114.48	285.93	16,132.85	4,372.23	9,934.41	25.15	4,372.23	4,783.43	16,611.46	9,959.56	110.96	7.92	
(per acre)	0.07	5.71	0.01	0.09	0.14	0.35	19.53	5.29	12.03	0.03	5.29	5.79	20.11	12.06	0.13	0.01	
%of total no. harvested	0.17	13.16	0.02	0.20	0.32	0.80	45.02	12.20	27.72	0.07	12.20	13.35	46.35	27.79	0.31	0.02	
Lb harvested	21.90	4,671.10	1.10	6.50	19.50	76.80	2,328.30	6,411.30	3,321.90	13.30	6,411.30	4,693.00	2,432.20	3,335.20	111.90		
(per acre)	0.03	5.66	0.00	0.01	0.02	0.09	2.82	7.76	4.02	0.02	7.76	5.68	2.94	4.04	0.14		
%of total lb harvested	0.13	27.50	0.01	0.04	0.11	0.45	13.71	37.75	19.56	0.08	37.75	27.63	14.32	19.64	0.66		
Mean length (in)	9.17	14.55	6.00	5.67	6.13	7.43	6.04	14.11	9.32	10.00					12.76	9.00	
Mean weight (lb)	0.37	0.99	0.14	0.12	0.16	0.29	0.14	1.48	0.36	0.53					1.05		
No. of fishing trips for that species											5,928.95	1,194.59	2,231.19	1,837.74			2,246.11
%of all trips											44.12	8.89	16.60	13.68			16.71
Hours fished for that species											28,293.59	5,700.72	10,647.46	8,769.87			10,718.66
(per acre)											34.25	6.90	12.89	10.62			12.98
No. harvested fishing for that species											3,889.00	3,254.00	13,514.00	8,799.00			
Lb harvested fishing for that species											6,231.50	3,344.30	2,007.20	2,994.90			
No./hour harvested fishing for that species											0.10	0.53	1.46	1.17			
%success fishing for that species											15.00	45.06	48.10	55.92			20.29

Table 41. Length distribution for each species of fish harvested or released at Lake Malone (767 acres) during 18 April - 31 October 2011.

	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	33
Bullhead																									
Harvested							17	34			9														
Released								33	13																
Channel catfish																									
Harvested											406	1,320	1,352	428	517	207	231	95	56	40	8	8	32	8	7
Released				8	8		8	229	426	450	103	158	79	8	32	8			8					5	
Green sunfish																									
Harvested					8																				
Released			41																						
Longear sunfish																									
Harvested				62		8																			
Released				33																					
Warmouth																									
Harvested					82	32																			
Released				22	22	8																			
Redear																									
Harvested				42	65	65	24	57	33																
Released			57	113				16																	
Bluegill																									
Harvested	17		107	2,711	8,942	4,165	174	17																	
Released		25	3,481	7,085	1,389	65	16		8																
Largemouth Bass																									
Harvested							45	180	790	997				458	691	628	350	81	27	72	36	9	8		
Released							1,153	1,748	3,814	2,444	2,150	2,019	1,222	480	410	364	286	132	62	46	46	8			
White Crappie																									
Harvested				73	145	154	1,989	4,232	2,779	327	118	91	18	8											
Released			70	287	679	1,315	784	331	165	174	87	26		8											
Black Crappie																									
Harvested									25																
Released																									
Illegal Bass																									
Harvested											55	40	16												
Illegal Catfish																									
Harvested								8																	

Table 42. Monthly black bass angling success at Lake Malone (767 acres) from 18 April - 31 Oct. 2011 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
Apr	2,741.00	956.00	953.00	4,546.00	2,540	0.47	880	0.16
May	3,521.00	1,099.00	962.00	4,591.00	3,136	0.58	874	0.16
Jun	2,662.00	404.00	735.00	3,508.00	2,301	0.64	351	0.98
Jul	2,861.00	832.00	841.00	4,014.00	2,616	0.55	785	0.17
Aug	3,174.00	385.00	671.00	3,203.00	3,019	0.75	335	0.08
Sep	2,581.00	478.00	814.00	3,882.00	2,534	0.60	471	0.11
Oct	3,224.00	219.00	953.00	4,550.00	3,135	0.53	193	0.33
Total	20,764.00	4,372.00	5,929.00	28,294.00	19,281	0.59	3,889	0.10
Mean						0.59		0.28

Table 43. Black bass catch and harvest statistics derived from a creel survey at Lake Malone (767 acres) from 18 April - 31 October 2011.

	Largemouth bass						
	Harvest			Catch and release			
	<11.9 in	≥15.0 in	Total	<11.9 in	12.0-14.9 in	≥15.0 in	Total
Total no. of bass	2,012	2,360	4,372	9,159	5,391	1,841	16,391
% of black bass harvested by no.							
Total weight of fish (lb)			6,411.30				
% of bass harvested by weight							
Mean length			14.11				
Mean weight			1.48				
Rate (f/hr)			0.06				

Table 44. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.75 hour of diurnal electrofishing runs at Mauzy Lake in April 2011.

	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. error
Largemouth bass	3	2	11	10	10	10	3		3	20	13	11	6	3	4	5	4	4	4	126	168.00	8.00

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Table 45. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Mauzy Lake during spring 1999-2011.

	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.
2011	48.00	11.55	21.33	3.53	58.67	2.67	40.00	4.62	10.67	3.53	168.00	8.00
2010	26.67	3.53	78.67	13.13	21.33	2.67	44.00	10.07	17.33	8.11	170.67	26.67
2009[a]												
2008	104.00	31.37	147.00	16.28	21.00	5.00	83.00	9.29	7.00	1.91	355.00	48.23
2007	46.00	5.29	49.00	12.26	40.00	2.83	64.00	17.51	0.00		199.00	31.0
2006	68.00	14.05	40.00	4.00	24.00	4.00	60.00	4.62	0.00		192.00	21.17
2005	52.00	8.64	25.00	6.61	147.00	11.47	21.00	7.90	4.00	1.63	245.00	22.29
2004	20.00	9.24	132.00	2.31	5.33	1.33	6.67	1.33	0.00		164.00	10.58
2003[b]	98.61	18.69	163.19	31.92	73.61	6.05	20.83	6.36	2.78	2.78	356.25	58.72
2002[c]	36.00	14.05	169.33	40.55	9.33	1.33	6.67	2.67	1.33	1.33	221.33	45.39
2001[c]	12.00	2.31	246.67	53.53	26.67	10.67	4.00	2.31	0.00		289.33	64.18
2000[c]	37.33	5.81	224.00	20.53	2.67	1.33	5.33	3.53	0.00		269.33	25.33
1999[c]	n/d		165.33	8.74	17.33	5.35	4.00	2.31	1.33	1.33	186.67	14.11

[a]Lake drawn down for repairs in 2009

[b]Lake renovated in 2003

[c]Nocturnal sample

nwd4psd.d11

Table 46. Population assessment for largemouth bass based on spring electrofishing at Mauzy Lake from 2001-2011 (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
2011		61.33 (3)	56.67 (4)	40.00 (4)	10.67 (4)				
2010			21.33 (2)	44.00 (4)	17.33 (4)				
2009*									
2008	12.2 (4)	99.00 (4)	21.00 (2)	83.00 (4)	7.00 (4)	0.466	37.3	18	Excellent
2007	12.2 (4)	21.00 (2)	40.00 (3)	64.00 (4)	0.00 (0)	0.374	31.2	13	Good
2006	10.3 (2)	24.00 (2)	24.00 (2)	60.00 (4)	0.00 (0)	0.755	53.0	10	Fair
2005	10.3 (2)	34.00 (2)	147.00 (4)	21.00 (3)	4.00 (4)			15	Good
2004	10.3 (2)	2.67 (1)	5.33 (1)	6.67 (2)	0.00 (0)	0.884	58.7	6	Poor
2003**	10.3 (2)	86.81 (4)	73.61 (4)	20.83 (3)	2.78 (3)			16	Good
2002	10.3 (2)	25.33 (2)	9.33 (1)	6.67 (2)	1.33 (2)			9	Fair
2001	10.3 (2)	5.33 (1)	26.67 (2)	4.00 (2)	0.00 (0)			7	Poor

*Lake drawn down for repairs in 2009

**Lake renovated in 2003

Table 47. Length frequency and CPUE (fish/hr) for bluegill and redear sunfish collected during 0.625 hours of electrofishing at Mauzy Lake in May 2011.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	Total	CPUE	Std. error
Bluegill	3	111	140	241	73	56	79	67	9	779	1246.40	195.02
Redear sunfish		2	1	3	1	4	16	22		49	78.40	65.31

nwd4bg.d11

Table 48. Spring electrofishing CPUE (fish/hr) for each length group of bluegill (2000 - 2011) and redear sunfish (2007 - 2011) 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.
2011	182.40	72.86	726.40	144.08	216.00	51.35	121.60	43.33	0.00		1246.40	195.02
2010	238.40	76.54	280.00	41.03	97.60	33.98	0.00		0.00		616.00	74.40
2009*												
2008*												
2007	101.33	11.06	621.33	39.61	38.67	8.86	0.00		0.00		761.33	44.51
2006	96.00	27.90	614.00	137.73	10.00	7.57	0.00		0.00		720.00	163.43
2005	289.74	45.54	596.15	101.27	14.10	5.76	0.00		0.00		900.00	86.60
2004	101.10	18.03	84.62	17.53	64.84	11.97	1.10	1.10	0.00		251.65	36.11
2003**												
2002	9.33	3.53	94.67	19.64	125.33	29.24	1.33	1.33	0.00		230.67	48.02
2001	5.33	3.53	65.33	16.22	137.33	27.94	1.33	1.33	0.00		209.33	40.68
2000	1.33	1.33	52.00	4.00	73.33	5.33	4.00	2.31	0.00		130.67	10.91

nwd4bg.d11

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.
2011	3.20	1.96	8.00	6.20	32.00	32.00	35.20	26.36	0.00		78.40	65.31
2010	0.00		16.00	10.12	240.00	48.33	14.40	7.33	0.00		270.40	61.00
2009*												
2008*												
2007	2.67	1.69	41.33	13.13	14.67	3.82	6.67	5.23	0.00		65.33	12.64

*Lake drawn down for repairs in 2008-2009

**Lake renovated in 2003

nwd4bg.d11

Table 49. Population assessment for bluegill based on spring electrofishing at Mauzy Lake from 2001-2011 (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
2011			337.60 (4)	121.60 (4)				
2010			97.60 (4)	0.00 (0)				
2009*								
2008*								
2007	3.3 (1)	4-4+ (1)	38.67 (2)	0.00 (0)	0.642	35.8	4	Poor
2006	3.7 (2)	4-4+ (1)	10.00 (1)	0.00 (0)	0.755	53.0	4	Poor
2005	4.3 (2)	2-2+ (4)	14.10 (1)	0.00 (0)			7	Fair
2004	4.3 (2)	2-2+ (4)	65.94 (3)	1.10 (2)			11	Good
2003**								
2002	4.3 (2)	2-2+ (4)	126.66 (4)	1.33 (2)			12	Good
2001	4.3 (2)	2-2+ (4)	138.66 (4)	1.33 (2)			12	Good

*Lake drawn down for repairs in 2009

**Lake renovated in 2003

Table 50. Population assessment for redear sunfish based on spring electrofishing at Mauzy Lake from 2007-2011 (scoring based on statewide assessment).

Year	Mean length age 2+ 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
2011			35.20 (4)	0.00 (0)				
2010			14.40 (3)	0.00 (0)				
2009*								
2008*								
2007	5.7 (2)	2-2+ (4)	6.67 (2)	0.00 (0)	0.790	54.6	8	Fair

*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 runs at Carpenter Lake in April 2011.

	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 bass	7	48	63	19	6	19	43	57	44	7	4	1	1			2	1	1	1	324	432.00	30.20

nw d5psd.d11

Table 52. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carpenter Lake 1999-2011.

	Length group									
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2011	182.67	15.38	166.67	9.61	73.33	13.13	9.33	3.53	432.00	30.20
2010	73.33	19.37	198.67	39.62	10.67	5.81	12.00	4.62	294.67	34.74
2009	102.67	18.67	166.67	26.26	18.67	4.81	8.00	2.31	296.00	27.23
2008	136.00	17.66	229.00	28.82	9.00	2.52	11.00	4.12	385.00	50.32
2007	45.33	7.42	128.00	24.33	12.00	2.31	10.67	3.53	196.00	31.75
2006	97.33	12.00	134.67	8.74	24.00	1.33	9.33	2.31	265.33	55.44
2005	157.33	3.53	165.33	48.57	30.67	3.53	2.67	1.33	356.00	54.60
2004	80.00	16.65	128.00	28.00	22.67	3.53	21.33	8.74	252.00	47.72
2003	181.33	49.33	97.33	11.39	18.67	4.81	36.00	12.22	333.33	63.43
2002*	12.00	4.62	52.00	4.62	12.00	0.00	21.33	3.53	97.33	4.81
2001*	14.67	8.74	29.33	5.33	90.67	9.33	66.67	2.67	201.33	17.64
2000*	2.67	1.33	45.33	7.06	48.00	2.31	0.00		96.00	8.33
1999*	1.33	1.33	142.67	18.52	29.33	13.53	1.33	1.33	174.67	31.01

*Nocturnal sample

nwd5psd.d11

Table 53. Population assessment for largemouth bass based on spring electrofishing at Carpenter Lake from 2001-2011 (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
2011		182.67 (4)	73.33 (4)	9.33 (2)	4.00 (4)				
2010	10.1 (2)	72.00 (4)	10.67 (1)	12.00 (2)	2.67 (3)	0.438	35.5	12	Good
2009	10.3 (2)	97.87 (4)	18.67 (1)	8.00 (2)	0.00 (0)			9	Fair
2008	10.3 (2)	120.30 (4)	9.00 (1)	11.00 (2)	1.00 (2)	0.561	42.9	11	Good
2007	10.3 (2)	39.87 (2)	12.00 (1)	10.67 (2)	1.33 (2)	0.560	42.9	9	Fair
2006	11.6 (4)	78.67 (4)	24.00 (2)	9.33 (2)	0.00 (0)	1.160	68.7	12	Good
2005	11.6 (4)	132.00 (4)	30.67 (2)	2.67 (1)	0.00 (0)			11	Fair
2004	11.6 (4)	56.00 (4)	22.67 (2)	21.33 (3)	2.67 (3)	1.155	68.5	16	Good
2003	11.6 (4)	162.67 (4)	54.67 (4)	36.00 (4)	1.33 (2)	0.943	61.1	18	Excellent
2002	11.6 (4)	12.00 (1)	12.00 (1)	21.33 (4)	0.00 (0)			9	Fair
2001	11.6 (4)	8.00 (1)	90.67 (4)	66.67 (4)	1.33 (2)			15	Good

Table 54. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.75 hour of 15-minute diurnal electrofishing runs at Carpenter Lake in October 2011.

	Inch class																				
Species	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	6	2	1	18	21	9	15	31	22	9	7	2	1	2	1		1	150	200.00	46.88

nw d5lmb.d11

Table 55. Number of fish and relative weight (Wr) for length groups of largemouth bass collected at Carpenter Lake during October 2011. Standard errors are in parentheses.

Species	Location	Length group					
		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
		No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Carpenter	59	80 (1)	34	83 (1)	7	89 (2)

nwd5lmb.d11

Table 56. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected during 0.625 hour of electrofishing at Carpenter Lake in May 2011.

	Inch class												
Species	2	3	4	5	6	7	8	9	10	11	Total	CPUE	Std. error
Bluegill	10	76	115	59	76	37					373	596.80	214.40
Redear sunfish		2	14	4	11	7	5	3	1	1	48	76.80	43.13

nwd5bg.d11

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

	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.
2011	16.00	10.43	400.00	157.48	180.80	50.51	0.00		0.00		596.80	214.40
2010	10.67	6.42	100.00	18.56	101.33	19.01	0.00		0.00		212.00	30.76
2009	17.33	9.56	124.00	24.42	140.00	17.86	0.00		0.00		281.33	42.85
2008	0.00		88.00	18.76	150.00	50.74	0.00		0.00		238.00	68.54
2007	2.67	2.67	61.33	17.73	168.00	38.53	1.33	1.33	0.00		233.33	9.10
2006	1.33	1.33	57.33	10.00	102.67	12.12	0.00		0.00		161.33	21.31
2005	12.09	9.77	190.11	17.09	98.90	6.80	18.68	9.02	0.00		319.78	23.07
2004	12.31	4.62	26.15	7.13	46.15	11.41	1.54	1.54	0.00		86.15	20.41
2003	7.69	2.81	102.56	22.96	47.44	13.24	3.85	1.72	0.00		161.54	34.11
2002	2.30		8.05		17.24		1.15		0.00		28.74	0.00
2001			198.67	74.7	152.00	22.74	41.33	12.72	0.00		392.00	108.89
2000			4.00	2.31	10.67	4.81	12.00	6.11	0.00		26.67	9.61
1999			10.67	2.57	82.67	10.91	12.00	8.00	0.00		105.33	17.99

nwd5bg.d11

Table 58. Population assessment for bluegill based on spring electrofishing at Carpenter Lake from 2001-2011 (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
2011			180.80 (4)	0.00 (0)				
2010	4.9 (3)	3-3+ (3)	101.33 (4)	0.00 (0)	0.615	45.9	10	Fair
2009	4.6 (3)	3-3+ (3)	140.00 (4)	0.00 (0)			10	Fair
2008	4.6 (3)	3-3+ (3)	150.00 (4)	0.00 (0)	0.571	43.9	10	Fair
2007	4.6 (3)	3-3+ (3)	169.33 (4)	1.33 (2)	0.386	32.0	12	Good
2006	5.6 (4)	2-2+ (4)	84.61 (4)	0.00 (0)	1.657	80.9	12	Good
2005	5.6 (4)	2-2+ (4)	117.58 (4)	18.68 (4)			16	Excellent
2004	5.6 (4)	2-2+ (4)	47.69 (2)	1.54 (2)			12	Good
2003	5.6 (4)	2-2+ (4)	53.33 (3)	4.00 (2)	1.427	76.0	13	Good
2002	5.6 (4)	2-2+ (4)	18.39 (1)	1.15 (1)			10	Fair
2001		2-2+ (4)	145.67 (4)	41.33 (4)				

Table 59. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.375 hour of 7.5-minute diurnal electrofishing runs at New Kingfisher Lake in April 2011.

	Inch class																	
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE	Std. error
Largemouth bass	11	47	14	8	18	14	8	8	7		2	3	1		2	143	381.33	99.63

nw d6psd.d11

Table 60. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at New Kingfisher Lake during spring samples 1999-2011.

	Length group									
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2011	213.33	75.94	128.00	28.10	24.00	4.62	16.00	8.00	381.33	99.63
2010	178.67	48.52	112.00	25.52	34.67	9.61	16.00	8.00	341.33	84.20
2009	109.33	37.33	24.67	2.67	21.33	2.67	0.00		165.33	37.33
2008**	282.67	37.33	240.00	33.31	56.00	9.24	0.00		578.67	71.75
2007	98.67	27.84	392.00	92.72	21.33	2.67	2.67	2.67	514.67	112.79
2006	189.33	14.11	333.33	46.26	10.67	2.67	0.00		533.33	62.88
2005	287.18	97.44	428.21	53.54	41.03	6.78	12.82	5.13	769.23	141.21
2004	161.54	45.07	243.59	45.58	12.82	6.78	2.56	2.56	420.51	92.45
2003	105.56	28.19	425.00	55.49	8.33	4.81	0.00		538.89	59.77
2002*	116.28		258.14		4.65		0.00		379.07	
2001*	89.74		364.10		20.51		2.56		476.91	
2000*	137.78		493.33		24.44		6.67		662.22	
1999*	n/d		315.56		17.78		2.22		335.56	

*Nocturnal samples

**Major fish kill 9/5/08

nwd6psd.d11

Table 61. Population assessment for largemouth bass based on spring electrofishing at New Kingfisher Lake from 2001-2011 (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
2011		192.00 (4)	24.00 (2)	16.00 (2)	0.00 (0)				
2010			34.67 (2)	16.00 (2)	0.00 (0)				
2009	10.5 (2)	77.33 (4)	21.33 (2)	0.00 (0)	0.00 (0)			8	Fair
2008	10.5 (2)	250.67 (4)	56.00 (4)	0.00 (0)	0.00 (0)	0.562	43.0	10	Fair
2007	10.5 (2)	96.00 (4)	21.33 (2)	2.67 (1)	0.00 (0)	0.608	39.2	9	Fair
2006	11.0 (3)	149.33 (4)	10.67 (1)	0.00 (0)	0.00 (0)	1.335	73.7	8	Fair
2005	11.0 (3)	248.72 (4)	41.03 (3)	12.82 (2)	0.00 (0)			12	Good
2004	11.0 (3)	94.87 (4)	12.82 (1)	2.56 (1)	0.00 (0)	1.230	70.8	9	Fair
2003	11.0 (3)	100.00 (4)	8.33 (1)	0.00 (0)	0.00 (0)	1.330	73.6	8	Fair
2002	11.0 (3)	116.28 (4)	4.65 (1)	0.00 (0)	0.00 (0)			8	Fair
2001	11.0 (3)	89.74 (4)	20.51 (2)	2.56 (1)	0.00 (0)			10	Fair

Table 62. Length frequency and CPUE (fish/hr) of bluegill collected in 0.375 hour of electrofishing at New Kingfisher Lake in May 2011.

Species	Inch class 1	2	3	4	5	6	7	Total	CPUE	Std. error
Bluegill	1	2	4	33	90	138	17	285	760.00	92.26

nw d6bg.d11

Table 63. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at New Kingfisher Lake during spring 1999-2011.

	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.
2011	8.00	4.62	338.67	37.33	413.33	97.58	0.00		0.00		760.00	92.26
2010	130.67	27.06	274.67	30.75	80.00	21.17	0.00		0.00		485.33	47.18
2009	194.67	21.33	338.67	35.28	74.67	30.05	0.00		0.00		608.00	53.27
2008	42.67	5.33	242.67	65.54	37.33	14.85	0.00		0.00		322.67	85.21
2007	5.33	2.67	69.33	26.26	45.33	5.33	0.00		0.00		120.00	33.31
2006	16.00	13.47	104.00	33.78	14.00	2.00	0.00		0.00		134.00	43.98
2005	0.00		53.85	7.69	12.82	6.78	10.26	6.78	0.00		76.92	8.88
2004	0.00		15.38	8.88	23.08	11.75	0.00		0.00		38.46	4.44
2003	12.82	6.78	56.41	2.56	15.38	7.69	5.13	2.56	0.00		89.74	5.13
2002			9.30		62.79		6.98		0.00		79.07	0.00
2001			61.54		66.67		7.69		0.00		135.90	0.00
2000			31.11		66.67		11.11		0.00		108.99	0.00
1999			6.67		20.00		4.44		0.00		31.11	0.00

nw d6bg.d11

Table 64. Population assessment for bluegill based on spring electrofishing at New Kingfisher Lake from 2001-2011 (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
2011			413.33 (4)	0.00 (0)				
2010			80.00 (4)	0.00 (0)				
2009	4.3 (2)	3-3+ (3)	74.67 (3)	0.00 (0)			7	Fair
2008	4.3 (2)	3-3+ (3)	37.33 (2)	0.00 (0)	2.140	88.2	7	Fair
2007	4.3 (2)	3-3+ (3)	45.33 (2)	0.00 (0)	0.574	42.6	7	Fair
2006	5.7 (4)	2-2+ (4)	14.00 (1)	0.00 (0)	1.587	79.5	9	Fair
2005	5.7 (4)	2-2+ (4)	23.08 (1)	10.26 (3)			12	Good
2004	5.7 (4)	2-2+ (4)	23.08 (1)	0.00 (0)			9	Fair
2003	5.7 (4)	2-2+ (4)	21.62 (1)	5.40 (2)	0.865	57.9	11	Good
2002	5.7 (4)	2-2+ (4)	69.77 (3)	6.98 (2)			13	Good
2001	5.7 (4)	2-2+ (4)	64.44 (3)	6.67 (2)			13	Good

Table 65. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.375 hour of 7.5-minute diurnal electrofishing runs at Washburn Lake in April 2011.

	Inch class																	
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE	Std. error
Largemouth bass	1	18	42	16	5	22	13	10		1				1	1	130	346.67	78.56

nw d8psd.d11

Table 66. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Washburn Lake* during spring samples 2001-2011.

	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.
2011	205.33	44.86	133.33	35.28	2.67	2.67	5.33	2.67	0.00		346.67	78.56
2010	96.00	28.10	80.00	16.65	5.33	5.33	2.67	2.67	2.67	2.67	184.00	45.49
2009	104.00	60.04	82.67	39.82	0.00		10.67	5.33	0.00		197.33	104.34
2008	170.67	42.92	61.33	21.83	16.00	0.00	13.33	9.61	0.00		261.33	59.57
2007	133.33	35.28	80.00	4.62	16.00	4.62	21.33	9.61	0.00		250.67	30.75
2006	96.00	9.24	98.67	39.28	64.00	0.00	18.67	5.33	2.67	2.67	277.33	25.44
2005	43.59	11.18	146.15	16.01	28.21	5.13	2.56	2.56	2.56	2.56	220.51	25.25
2004	46.15	4.44	353.85	49.45	0.00		0.00		0.00		400.00	51.22
2003	123.08	33.53	438.46	49.45	0.00		0.00		0.00		561.54	52.36
2002	50.00		321.43		0.00		0.00		0.00		371.43	0.00
2001	260.00		8.00		0.00		0.00		0.00		268.00	0.00

*Washburn Lake renovated summer 1999 and restocked spring 2000

nw d8psd.d11

Table 67. Population assessment for largemouth bass based on spring electrofishing at Washburn Lake 2003-2011 (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
2011			2.67 (1)	5.33 (2)	0.00 (0)				
2010	10.7 (2)	96.00 (4)	5.33 (1)	0.00 (0)	0.00 (0)	0.819	55.9	7	Poor
2009	13.1 (4)	99.73 (4)	0.00 (0)	10.67 (2)	0.00 (0)			10	Fair
2008	13.1 (4)	165.87 (4)	16.00 (1)	13.33 (2)	0.00 (0)	1.117	67.3	11	Fair
2007	13.1 (4)	131.20 (4)	16.00 (1)	21.33 (3)	0.00 (0)	0.944	61.1	12	Good
2006	11.2 (3)	94.67 (4)	64.00 (4)	18.67 (3)	2.67 (3)	0.669	48.8	17	Excellent
2005	11.2 (3)	41.03 (3)	28.21 (2)	2.56 (1)	2.56 (3)			12	Good
2004	11.2 (3)	48.29 (3)	0.00 (0)	0.00 (0)	0.00 (0)			6	Poor
2003	11.2 (3)	131.62 (4)	0.00 (0)	0.00 (0)	0.00 (0)			7	Poor

**Washburn Lake renovated and restocked spring 2000

Table 68. Length frequency and CPUE (fish/hr) for bluegill collected in 0.75 hour of electrofishing at Washburn Lake in May 2011.

Species	Inch class 2	3	4	5	6	7	8	Total	CPUE	Std. error
Bluegill	18	31	23	16	4	21	4	117	156.00	19.57

nwd8bg.d11

Table 69. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Washburn Lake during spring samples 2001-2011.

	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.
2011	24.00	10.73	93.33	16.48	33.33	10.41	5.33	2.67	0.00		156.00	19.57
2010	53.33	16.22	152.00	57.87	32.00	0.00	0.00		0.00		237.33	41.65
2009	60.00	15.14	80.00	19.04	138.00	10.00	0.00		0.00		278.00	20.75
2008	2.67	2.67	152.00	37.81	168.00	48.66	0.00		0.00		322.67	69.49
2007	58.67	14.11	245.33	37.05	40.00	12.22	0.00		0.00		344.00	54.45
2006	58.67	50.67	138.67	39.28	32.00	16.00	0.00		0.00		229.33	81.63
2005	161.54	31.87	155.77	18.94	9.62	3.68	0.00		0.00		326.92	39.29
2004	80.77	7.36	48.08	3.68	11.54	4.97	21.15	10.59	0.00		161.54	12.95
2003	7.69	3.14	71.15	12.71	113.46	39.89	0.00		0.00		192.31	39.85
2002			46.51		102.33		0.00		0.00		148.84	0.00
2001			28.00		64.00		4.00		0.00		96.00	0.00

*Washburn Lake renovated summer 1999 and restocked spring 2000

nw d8bg.d11

Table 70. Population assessment for bluegill based on spring electrofishing at Washburn Lake 2003-2011 (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
2011			38.67 (2)	5.33 (2)				
2010			32.00 (2)	0.00 (0)				
2009	4.7 (3)	3-3+ (3)	138.00 (4)	0.00 (0)	0.599	45.1	10	Fair
2008	5.3 (4)	2-2+ (4)	168.00 (4)	0.00 (0)	2.046	87.1	12	Good
2007	5.3 (4)	2-2+ (4)	40.00 (2)	0.00 (0)	1.050	65.0	10	Good
2006	5.3 (4)	2-2+ (4)	32.00 (2)	0.00 (0)			10	Good
2005	5.4 (4)	2-2+ (4)	9.62 (1)	0.00 (0)			9	Fair
2004	5.4 (4)	2-2+ (4)	32.69 (2)	22.00 (4)			14	Excellent
2003	5.4 (4)	2-2+ (4)	118.00 (4)	0.00 (0)			12	Good

**Washburn Lake renovated and restocked spring 2000

Table 71. Relative abundance, composition, and number per hour of fish observed during 1.50 hours of 30-minute scuba transects swam at Goose Lake (Peabody WMA) in June 2005-2010.

		Length groups						
Species	Year	5.0-7.9 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	Total	No./hr	Std. error
Largemouth bass	2005	14	29	15	9	67	44.67	8.17
	2006	18	28	8	2	56	37.33	8.21
	2007	7	14	8	3	32	21.33	1.45
	2008	24	23	12	1	60	40.00	3.21
	2010	20	30	13	1	64	42.66	4.26
	2011*							

		Length groups						
		3.0-4.9 in	5.0-7.9 in	8.0-9.9 in	≥ 10.0 in	Total	No./hr	Std. error
Bluegill	2005	141	62	12	0	215	143.33	42.10
	2006	181	106	1	0	288	192.00	23.06
	2007	135	106	11	2	254	169.33	23.79
	2008	114	72	4	0	190	126.67	9.49
	2010	37	103	5	0	145	96.67	1.86
	2011*							
Redear sunfish	2005	0	0	8	0	8	5.33	2.67
	2006	5	23	3	0	32	20.67	1.45
	2007	6	19	17	1	43	28.67	3.18
	2008	21	35	8	0	64	42.67	6.96
	2010	17	74	5	1	97	64.67	7.86
	2011*							

*Visibility too low to sample

Table 72. Relative abundance, composition, and number per hour of fish observed during 1.00 hour of 20-minute scuba transects swam at Musky Lake (Peabody WMA) in June 2005-2011.

		Length groups						
Species	Year	5.0-7.9 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	Total	No./hr	Std. Error
Largemouth bass	2005	9	26	18	7	60	60.00	
	2006	27	44	26	13	110	110.00	8.00
	2007	13	26	18	2	59	59.00	5.17
	2010	31	28	20	7	86	86.00	8.19
	2011	26	26	12	12	76	76.00	4.48

		Length groups						
		3.0-4.9 in	5.0-7.9 in	8.0-9.9 in	≥ 10.0 in	Total	No./hr	Std Error
Bluegill	2005	91	55	13	0	159	159.00	
	2006	320	125	10	0	455	455.00	7.84
	2007	431	91	8	2	532	532.00	22.81
	2010	153	476	8	0	637	637.00	105.27
	2011	160	275	17	0	452	452.00	74.62
Redear sunfish	2005	33	38	15	0	86	86.00	
	2006	17	44	18	2	81	81.00	6.56
	2007	7	41	12	4	64	64.00	1.76
	2010	44	91	25	6	166	166.00	28.47
	2011	14	49	20	3	86	86.00	7.53

Table 73. Length frequency of channel catfish collected during 3 nights of tandem (3 sets with 3 nets each) hoop net sampling at Jack's Lake (Peabody WMA) during April 2011.

	Inch class																		
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total
Channel catfish	1			2										1					4

nw d10hn.d11

Table 74. Length frequency of channel catfish collected during 3 nights of tandem (2 sets with 3 nets each) hoop net sampling at Rob's Lake (Peabody WMA) during April 2011.

	Inch class																		
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total
Channel catfish	1	2	4	4	1	1				2	4	1		1			1		22

nw d11hn.d11

Table 75. Length frequency of channel catfish collected during 3 nights of tandem (3 sets with 3 nets each) hoop net sampling at South Lake (Peabody WMA) during April 2011.

	Inch class																		
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Channel catfish	1	5	4	10	3	4		2	1	3	1	1	1	1		1			38

nw d12hn.d11

Table 76. Length frequency of channel catfish collected during 3 nights of tandem (3 sets with 3 nets each) hoop net sampling at Goose Lake (Peabody WMA) during May 2011.

	Inch class																		
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total
Channel catfish									1	1		1							3

nw d13hn.d11

Table 77. Mean length (in) at capture for each age of channel catfish collected from South Lake (Peabody WMA) in April 2011.

	Age				
	1	2	3	4	5
Mean length	7.7	10.2	12.6	16.1	18.7
No.	2	27	2	12	1
Smallest	7.2	8.5	12.3	14.0	18.7
Largest	8.2	13.3	12.9	19.0	18.7

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Table 78. Mean length (in) at capture for each age of channel catfish collected from Rob's Lake (Peabody WMA) in April 2011.

	Age			
	1	2	3	4
Mean length		10.8		19.1
No.	0	13	0	2
Smallest		8.5		18.5
Largest		13.6		19.6

nwd11cca.d11

SOUTHWESTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Lake sampling conditions are summarized in Table 1.

Barren River Lake (10,000 acres)

Black Bass

Black bass were not collected in spring 2011 due to flooding from mid-March through mid-July. Fall diurnal black bass sampling on 21 September (Tables 2-3) indicated a slightly below average catch rate (175.50 fish/hr) of young-of-the-year largemouth bass. Mean size for age-0 bass was 4.5 in; this exceeds the 10-year average of 4.1 in. Similarly, age-0 largemouth catch rate $\geq$ 5.0 in (65.67 fish/hr) was well above the 10-year average (46.73 fish/hr; Table 3). Enhanced growth rate of age-0 largemouth bass was likely tied to the prolonged high water levels. Weight data was not collected due to early sample time, prohibiting the calculation of length-weight equations.

Crappie

Trap netting for crappie resulted in the collection of 616 total crappie (324 black crappie and 292 white crappie) in 59 net-nights (Tables 4-12). Most black crappie (55%) fell within the 8.0–10.0 in classes. Most white crappie (87%) fell within the 6.0-9.0 in classes. The crappie population appears to have shifted from a black crappie (83% in 2010) dominated population to a more even mixture of black and white crappie (53 and 47 percent, respectively) in 2011. This shift is due to a strong 2010 year class of white crappie, which made up 90% of the white crappie collected in 2011 (Table 9). Black crappie reached harvestable size (9.0 in) in 3.3 years and 10.0 inches in 4.0 years (calculated from Von Bertalanffy equation FAST 3.0). White crappie reached harvestable size (9.0 in) in 2.3 years and 10.0 inches in 2.8 years (calculated from Von Bertalanffy equation FAST 3.0). The assessment rating remained "Fair" for both black crappie and white crappie (Tables 10-11). The combined crappie assessment was "Fair" as it has been for many years (Table 12). The length-weight equations for black crappie (n=235) and white crappie (n=267) are:

$$\text{Black Crappie } \text{Log}_{10}(\text{weight}) = -3.630+3.381 * \text{Log}_{10}(\text{Length})$$
$$\text{White Crappie } \text{Log}_{10}(\text{weight}) = -3.853+3.562 * \text{Log}_{10}(\text{Length})$$

Four of the 6 objectives of the BRLSMP 2010 were met for crappie: maintain a fall CPUE of $\geq$ 6.00 fish/net-night (nn) for all crappie excluding age-0, maintain a fall CPUE of $\geq$ 4.00 fish/nn for age-1 crappie, maintain a fall CPUE of $\geq$ 3.00 fish/nn for $\geq$ 8.0 in crappie and maintain a total fall crappie CPUE of 7.00 fish/nn. The goal for maintaining a mean length age-2 at capture of 9.8 in was not reached due to a low percentage of age-2 white crappie. The mean length of age-2 black crappie at capture was 9.0 in, while the mean length of age-2 white crappie was 10.9 in. The goal of maintaining a fall CPUE of $\geq$ 1.00 fish /nn for age-0 fish was not met this year, though age-0 CPUE has been an inconsistent predictor of year class strength for crappie.

White Bass / Hybrid Striped Bass

A complete sample was not collected for white bass and hybrid striped bass in 2011 due to weather and poor timing (backend of fall turnover).

Briggs Lake (18 acres)

Black Bass

Nocturnal electrofishing samples for largemouth bass were collected on 18 April 2011 (Tables 13-17). The largemouth bass catch rate (470.00 fish/hr) well exceeded the goal of 300.00 fish/hr set in the 2009 Briggs Lake Strategic Management Plan (BRGSMP). Total largemouth CPUE has been elevated the past 5 years with an average of 414.00 fish/hr from 2007-2011 compared to an average of 243.20 fish/hr from 2002-2006. The PSD (9) value was low, yet these population parameters for largemouth bass are desired for accomplishing the sunfish management goals set in the BRGSMP. Mean length at capture of age-3 largemouth bass was 11.0 in, which is considered "Good" according to the statewide assessment. Growth of largemouth bass was better than expected given the very high proportion of small fish in the lake. Since the lake is managed for bluegill-redear, the bass population assessment table was not included.

Sunfish

The sunfish population was sampled by diurnal electrofishing on the 9 May 2011 (Tables 18-23). Bluegill CPUE for fish ≥6.0 in (84.00 fish/hr) fell below the BRGSMP goal of 100.00 fish/hr (Table 19). The catch rate of bluegill ≥8.0 inches in 2011 (24.00 fish/hr) was less than half that of 2010 (52.80 fish/hr), yet still exceeded the BRGSMP goal of 20.00 fish/hr (Tables 19 and 22). The BRGSMP goal of maintaining a total CPUE of 220.00 fish/hr of sunfish ≥6.0 in was not met (152.00 fish/hr).

CPUE of redear sunfish ≥8.0 in (17.60 fish/hr) and >10.0 in (12.00 fish/hr) both exceeded the objectives set in the BRGSMP (10.50 fish/hr and 1.80 fish/hr, respectively; Tables 20 and 23). This was the highest CPUE of redear sunfish ≥8.0 in recorded since 2003 and the highest CPUE of redear sunfish ≥10.0 in on record for Briggs Lake. Numbers of 6.0-7.9 in redear have decreased somewhat steadily since 2006, reaching a 6-year low (outside of 2008 which appears to have been an unrepresentative sample) of 14.00 fish/hr in 2011 (Table 20). The decrease in 6.0-7.9 in redear could be related to the elevated numbers of largemouth bass during the past 5 years, though bluegill have not shown similar declines.

Spurlington Lake (25 acres)

Black Bass

Results of nocturnal largemouth bass electrofishing are shown in Tables 24 - 29. Catch rates for largemouth bass ≥15.0 in (86.00 fish/hr) and largemouth bass ≥20.0 in (18.00 fish/hr) in 2011 were the highest on record for those length groups (Tables 25 and 29). Largemouth bass PSD was high (71) due to the unusually high numbers of large fish collected in 2011 (Table 26). All five objectives from the Spurlington Strategic Management Plan (SPLSMP) were achieved. A statewide assessment rating of "excellent" was achieved for the first time for largemouth bass at Spurlington Lake due to CPUE of age-1 fish. Mean length at capture of age-3 largemouth bass was 11.2 in, which is considered "Good" according to the statewide assessment.

Sunfish

Results of bluegill and redear diurnal sampling on 19 May 2011 are shown in Tables 30-34. CPUE of bluegill ≥6.0 in was 164.80 fish/hr (Tables 31 and 34) exceeding the objective from the SPLSMP (75.00 fish/hr). The catch rate of bluegill ≥8.0 in was 8.00 fish/hr which did not meet the SPLSMP objective of (15.00 fish/hr). Catch rates of bluegill ≥6.0 in have been elevated since 2008 with a 4-year average of 143.00 fish/hr compared to an average of 62.50 fish/hr from 2004-2007. Catch rates of bluegill ≥8.0 in have been below average from 2010-2011. The catch rate of bluegill 3.0-5.9 in (1057.60 fish/hr) was more than double the average from previous years (452.20 fish/hr) and was the highest catch rate on record for this size group. The bluegill size structure in Spurlington Lake appears to be shifting to one dominated by large numbers of small fish and decreasing numbers of large fish. Bluegill size structure was down from 2009 (PSD = 23) and 2010 (PSD = 18) to a PSD of 13 in 2011, further demonstrating some shift in population size structure (Table 33).

The highest total CPUE for redear sunfish (113.60 fish/hr) in Spurlington Lake was recorded in 2011 (Table 32). While the catch rate of redear sunfish ≥8.0 in (11.20 fish/hr) was down from previous years, catch rates of 3.0-5.9 in fish and 6.0-7.9 in fish were both at their highest point since stocking began in 2007 (Table 32). The first redear sunfish ≥10.0 in was caught in 2011. Redear age data will be collected in 2012.

Channel Catfish

Channel catfish were sampled with 6 sets of tandem baited hoop nets with 3 days of soak time (Tables 35 -36). The population was dominated by recently stocked fish (age-1+) which made up 73 % of the total catch, while age-2+ fish made up about 18 % of the total catch. Otolith age data (n=45) indicated that on average, channel catfish reached 15.0 in by age-3. The age sample included fish from ages 1-5+ and one age-9+ fish

Marion County Lake (25 acres)

Black Bass

Largemouth bass sampling was not conducted due to weather and clarity issues from rainfall and an unusual algal bloom.

Sunfish

Diurnal electrofishing results for bluegill and redear are presented in Tables 37- 42. Bluegill CPUE (695.00 fish/hr) was the highest seen in the last 10 years; however, heavy contribution of 1.0-2.0 in fish greatly skewed this number. CPUE ≥ 6.0 in (73.14 fish/hr) and CPUE ≥ 8.0 in (14.86 fish/hr) met or exceeded MCLSMP goals (75.00 fish/hr and 5.00 fish/hr). Significant reduction of vegetation stands by stocked grass carp may have contributed to better accessibility of small fish to collection.

CPUE of redear (136.00 fish/hr) was the highest noted in the past 10 years. CPUE ≥ 8.0 in (74.30 fish/hr) likewise was the highest seen in the last 10 years and well eclipsed the MCLSMP goal of 25.00 fish/hr. The other MCLSMP goal for CPUE ≥ 10.0 in (3.00 fish/hr) was met in 2011 (4.60 fish/hr). The redear population assessment achieved an "Excellent" rating due to the increased CPUE of ≥ 10.0 in fish.

Channel Catfish

Channel catfish were sampled for the first time with 6 sets of tandem baited hoop nets with 3 days of soak time (Tables 43-44) for a CPUE of 5.20 fish/set-night (n=31). The population was evenly distributed despite receiving three times its normal stocking in 2008 (3875 fish) due to a truck breakdown. Fish stocked (n=294; 10/acre) in July made up 52% (n=16) of the total catch. Limited otolith data (n=15) across a wide span of years (3+ to 8+) prevented significant age calculations.

Shanty Hollow Lake (136 acres)

Black Bass

Nocturnal bass sampling results are shown in Tables 45–49. Overall CPUE of largemouth bass (283.00 fish/hr) was similar to previous years. The size structure index (PSD = 38) was similar to last year (PSD = 34); however, poor recruitment to larger size classes (15.0-in plus) remains enigmatic. Age-1 CPUE (77.50 fish/hr) was exceptional as was CPUE of 12.0-14.9 in fish (66.50 fish/hr); however, CPUE of ≥ 15.0- in (11.00 fish/hr) and ≥ 20.0-in (1.00 fish/hr) fish failed to meet SHLSMP objectives (12.00 fish/hr and 2.50 fish/hr) for these length groups. Due to these chronic shortcomings, the largemouth bass population assessment remained "Good". Chronic low water levels (6-12-ft reductions) from late-summer through fall may be overtaxing the forage base (bluegill) and not supplying enough larger prey items to support larger bass. Early-winter Wr sampling (Table 49) revealed a condition factor of 88 for fish ≥ 15.0 in (n=10).

Sunfish

Sunfish (bluegill and redear) sampling was attempted on three separate occasions, but not completed due to reduced water clarity from an unusual algal bloom, high water levels and a late sampling date.

Green River Lake (8,210 Acres)

Muskie

Diurnal muskellunge sampling results are shown in Tables 50 – 52. All but one of the muskellunge fixed-station sample sites were sampled despite high water conditions (well above summer pool levels) with an overall CPUE (11.76 fish/hr) being similar to historic data. Though water levels were atypical, water clarity was similar to historical conditions (stained water, Table 1) prior to 2003. Overall, muskie length-group catch rates were similar to historic averages (Table 51) and met all management objectives outlined in the GRLSMP. CPUE of 40.0-in plus fish (0.56 fish/hr) returned to the historic average and management objective of 0.50 fish/hr. Difficulty of holding this larger size group with the electrofishing gear combined with low overall encounters (older fish and/or less room for error) make catch rates of this size group more variable.

The length-weight equation for muskie is: Log_{10} (weight) = -4.37981 + 3.51853 x Log (length); which is similar to previous years. Though muskie PSD (65, Table 52) jumped markedly from 2010 (35), the change is attributed to recruitment of the good 2008 year class to the lower 30.0-in size ranges, not a general buildup of larger (36.0-in plus) fish from the recent (2010) length limit change.

Black Bass

Nocturnal black bass sampling was foiled for the second consecutive year due to high water levels (10-ft plus) from mid-April to early-June. However, angler feedback on bass fishing has never been better in the 15 years current personnel have worked the lake (E. Cummins personnel communication).

Fall YOY sampling (Tables 53-54) yielded an average overall CPUE (28.80 fish/hr), however, mean length (3.9 in) and CPUE $\geq$ 5.0 in (5.83 fish/hr) of age-0 largemouth bass were well below average. Rapid rising and fluctuating lake levels may have compromised much of early spawned production (lower numbers overall) and led to higher contribution of later spawned fish (poorer growth). These indices suggest a poorer 2011 year class. Age-0 spotted bass followed similar trends as largemouth, with fewer numbers and smaller-sized fish.

Crappie

Results from trap netting for white crappie are presented in Tables 55 - 58. The stronger year classes of 2005, 2008 and 2010, plus the moderate year class of 2007 have yielded a stable, but slower growing fishery. Age-2+ mean length (7.9 in) in 2011 was well below the GRLSMP objective of 9.0 in. Since 2008, growth to age-2+ has been just under 8.0 in; whereas, age-2+ crappie in previous years were typically 9.0-in or better. All other management objectives were met. The crappie population assessment remained "Fair" due to high CPUE's of age-1 fish and older year classes which eclipsed management objectives of 12.00 fish/nn > age-0 and 7.00 fish/nn $\geq$ 8.0-in fish.

YOY CPUE remains an unreliable predictor of year class strength as 2010 age-0 CPUE (1.27 fish/nn) suggested a sub-par contribution; however, CPUE at age-1+ (8.34 fish/nn) suggests at least a moderate-strong year class. The length-weight equation for white crappie in 2011 was:

$$\text{Log}_{10} \text{(weight)} = -3.811861 + 3.48920 \text{ x Log (length)}$$

Walleye/White bass

Results of the experimental gill net sampling for white bass and walleye are shown in Tables 59 - 62. White bass restocking efforts (started in 2010) have put them back in the picture as CPUE rose to 2.60 fish/nn, with age-1+ fish accounting for 97% of the total catch. Age-0 white bass were poorly represented in gill net catch, suggesting poor stocking success in 2011. Unlike white crappie, age-0 white bass CPUE has been a reliable indicator of year class strength in Green River Lake historically.

Age-1+ white bass averaged 13.2 inches in length, which historically took until age-2+ to achieve a similar length.

Overall walleye CPUE (2.62 fish/nn) continued its two year slide due to continued low numbers of the 2010 year class (age-1+ fish). Walleye growth rate remains excellent with fish reaching 19.3 in by age-2+ (n=17). The walleye population assessment dipped to "Fair" due to the poor success of the 2010 year class (age-1+ CPUE = 0.42 fish/nn) which fell well short of the 1.00 fish/nn management objective. The length-weight equation for walleye is:

$$\text{Log}_{10}\,(\text{weight}) = -3.86425 + 3.34231 \times \text{Log}_{10}\,(\text{length})$$

this is similar to previous years.

Metcalfe County Lake (22 acres)

Results of the diurnal bluegill sampling are presented in Tables 63 - 66. Size structure and length group CPUE's remained similar to previous samples, except for the dip in CPUE of ≥ 6.0 in to 194.00 fish/hr (568.00 fish/hr in 2007 and 366.00 fish/hr in 2005). Similarly, PSD (18) fell significantly from previous years (39 in 2007 and 32 in 2005). Age data from 2007 revealed bluegill needed at least 4 years to achieve 6.0 inches in length. Despite this slower growth rate, the bluegill population had maintained decent size structure (PSD > 30) until recently. The bluegill population assessment remained "Fair".

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

Mill Creek Lake (109 acres)

Bass sampling results are presented in Tables 67-69. The largemouth bass size structure remains diverse and has improved dramatically (PSD = 66) since 2006 (PSD = 35) even though the bass population appears slower growing.

The lake is moderately productive (summer secchi depth ranges from 40 – 60 in) but has historically supported a good smallmouth bass fishery according to conservation officer and bass club information.

Fagan Branch Lake (135 acres)

Trout sampling results are presented in Table 70. Holdover trout condition sampled by hook and line was generally poor (Wr ≤ 76) throughout summer and even into late fall sample (diurnal electrofishing).

Largemouth bass condition was also assessed in late fall concurrent with trout sampling (Table 71). Although trout have been stocked since early-winter 2010, bass condition (Wr = 77 for 12.0-14.9 in and Wr = 82 for ≥ 15.0 in) has not improved as has been noted in other systems where trout are stocked.

The lake is infertile (summer secchi depth range from 12 – 26 feet), with substantial aquatic vegetation in areas ≤ 15-ft in depth.

Table 1. Lake sampling conditions in the Southwestern Fisheries District in 2011.

Lake	Date	Species	Weather	Surface water temp.(F)	Conductivity (umhos)	Secchi (in.)	Comments
Barren River	9/21	YOY bass	Partly cloudy	74-77		22-30	0.19 -ft above summer pool
	10/18	Crappie		62-68		18-30	3.0-ft below summer pool & falling 0.5-ft. per day
	11/1	Morones		61			8-ft below summer pool & falling 0.4-ft. per day
Green River	2/3	Muskie	Partly sunny	37-41	70	4-18"	1.5-ft above winter pool
	3/1	Muskie		43		6-18"	6-ft above winter pool
	3/2	Muskie		45-47	110	22"	8-ft above winter pool
	3/3	Muskie		43-47	100	30-48"	8.5-ft above winter pool
	9/20	YOY bass		71	130-140	42-78	0.5-ft below summer pool
	11/15	Crappie		54-55		6-38	1-ft below summer pool & steady
	10/25	Walleye-White bass		61-68		42-48	1-ft below summer pool & steady, borderline DO's
	12/20	Walleye-White bass		45-48		24-36	winter pool (668)
Briggs	4/18	Bass	Clear	65	180	54	
	5/9	Bluegill & redear	Partly sunny	73-76	160-175	48	
Marion Co.	5/19	Bluegill & redear		68	90	20	
	9/22	Channel catfish		72		70	
Spurlington	5/10	Bass	Partly cloudy	72-74		34	
	5/19	Bluegill	Sunny	63	120	44	
	9/29	Channel catfish		69		36	
Shanty Hollow	5/9	Bass	Clear	73	70-75	60	
	12/12	Bass W_r	Partly cloudy	45-48		39	1-ft below normal
Fagan Branch	11/29	Bass & Trout W_r	Cloudy	53		72	
Mill Creek	5/16	Bass	Cloudy	64-65	160	38	
Metcalfe Co.	5/12	Bluegill	Sunny	81	190	30	

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of diurnal electrofishing at Barren River Lake in September 2011.

		Inch class																				
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std err
Peninsula	Smallmouth bass																		1	1	0.67	0.67
	Spotted bass	2			3	9	4	2	1	1	1	1	2	2	1					29	19.33	3.53
	Largemouth bass	18	10	6	15	10	11	27	17	12	9	10	7	1	5	4	4	4		170	113.33	20.95
Beaver Creek	Smallmouth bass																			0	0.00	0.00
	Spotted bass		1					1												2	1.33	0.67
	Largemouth bass	58	135	34	29	49	48	8	8	20	14	11	11	4	5	2	1	1	1	439	292.67	42.92
Peter Creek	Smallmouth bass																			0	0.00	0.00
	Spotted bass		6	1						1			1							9	6.00	6.00
	Largemouth bass	16	31	8	24	42	35	7	8	9	4	10	4	2	2	4		3	2	211	140.67	26.84
Walnut Creek	Smallmouth bass																			0	0.00	0.00
	Spotted bass	5	11	2		1								1						20	13.33	5.70
	Largemouth bass	109	181	53	34	57	40	2	5	6	10	3	1	1		2				504	336.00	5.03
TOTAL	Smallmouth bass																		1	1	0.17	0.17
	Spotted bass	7	18	3	3	10	4	3	1	2	1	1	3	3	1					60	10.00	2.83
	Largemouth bass	201	357	101	102	158	134	44	38	46	37	34	23	8	12	12	5	8	3	1324	220.67	31.06

sw dbrlyy.D11

Table 3. 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	171.67	25.76	34.17	4.06	26.90	3.71
2003	4.4	0.04	198.00	30.81	84.00	18.74	44.90	13.25
2004	3.7	0.04	108.44	22.20	20.78	3.85	11.20	2.51
2005	3.7	0.04	160.67	25.63	25.33	4.20	17.50	3.63
2006	3.4	0.02	299.67	87.22	21.83	5.62	18.00	4.78
2007	4.2	0.06	61.50	12.80	14.00	2.47	13.79	1.49
2008	3.8	0.03	307.53	46.86	59.67	10.53	18.92	4.39
2009	3.2	0.02	401.32	76.11	36.83	8.59	35.73	5.18
2010	5.7	0.05	166.57	19.06	105.00	18.74	ND	
2011	4.5	0.05	175.50	33.73	65.67	10.75	NA	
Average	4.1		205.09		46.73		23.37	

[A] Data collected by fall (September-October) diurnal electrofishing. Mean lengths were determined by analysis of otolith, removed 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 (April/May) diurnal electrofishing sample.

sw dbrlbb.D02 - D10

sw dbrlag. D02 - D10

sw dbrlyy. D02 - D11

Table 4. Length frequency and CPUE (fish/nn) of each inch class of white and black crappie collected by trap net (59 net-nights) at Barren River Lake from 17-19 October 2011.

		Inch class													Std.
Location	Species	2	3	4	5	6	7	8	9	10	11	12	Total	CPUE	error
Beaver Creek															
	White crappie		3		8	53	9	33	13	2	3	1	125	4.31	0.89
	Black crappie	7	3	8	57	31	6	25	54	37			228	7.86	1.98
Walnut Creek															
	White crappie	1	10			10	35	65	36	5	4	1	167	5.57	1.33
	Black crappie		3	3	15	7	4	15	27	20	2		96	3.20	0.72
Total															
	White crappie	1	13		8	63	44	98	49	7	7	2	292	4.95	0.80
	Black crappie	7	6	11	72	38	10	40	81	57	2		324	5.49	1.08

sw dbrltn.d11

Table 5. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected by trap nets (59 net-nights) at Barren River lake from 17-19 October 2011. Numbers in parentheses represent 95% confidence intervals

Location	Species	Number ≥5.0 in	PSD	RSD_{10}
Barren River Lake				
	White crappie	278	59 (6)	6 (3)
	Black crappie	300	60 (6)	20 (5)

sw dbrltn.D11

Table 6. Mean back-calculated length (in) at each annulus of black crappie collected by trap-netting and gillnetting at Barren River Lake from 17-19 October 2011, including the range in length of black crappie at each age and the 95% conf

		Age					
Year-class	N	1	2	3	4	5	6
2010	67	4.5					
2009	29	4.2	7.1				
2008	75	4.7	6.9	9.1			
2005	1	4.3	7.2	9.2	10.8	11.8	12.5
Total N	172						
Mean		4.5	7.0	9.1	10.8	11.8	12.5
Smallest		3.3	5.4	7.2	10.8	11.8	12.5
Largest		6.5	9.5	11.5	10.8	11.8	12.5
Std. error		0.0	0.1	0.1			
Low 95% CI		4.4	6.8	8.9			
High 95% CI		4.6	7.1	9.2			

Otoliths were used to make age determinations. Intercept = 0.

Otoliths collected from anglers were also used (n=3)

sw dbrlag.d11

Table 7. Age frequency and CPUE (fish/nn) of black crappie collected during 59 net-nights at Barren River Lake from 17-19 October 2011.

	Inch class													Std.
Age	2	3	4	5	6	7	8	9	10	11	Total	Percent	CPUE	error
0	7	6									13	4	0.22	0.07
1			11	72	38	7	4	5			137	42	2.32	0.74
2						3	23	18	2		45	14	0.76	0.14
3							14	58	55	2	129	40	2.19	0.38
Total	7	6	11	72	38	10	40	81	57	2	324	100		
%	2	2	3	22	12	3	12	25	18	1	100			

2011 age file includes fish taken from hybrid striped bass gill nets in 2011
sw dbrltn.d11; sw dbrlag.d11

Table 8. Mean back-calculated length (in) at each annulus of white crappie collected by trap-netting and gillnetting at Barren River Lake from October-November fall 2011, including the range in length of white crappie at each age and the 95% conf

		Age		
Year-class	N	1	2	3
2010	120	5.2		
2009	3	5.2	9.4	
2008	11	5.2	8.9	10.6
Total N	134			
Mean		5.2	9.0	10.6
Smallest		3.8	6.1	8.2
Largest		7.1	10.1	11.7
Std. error		0.1	0.3	0.3
Low 95% CI		5.1	8.5	10.0
High 95% CI		5.3	9.6	11.2

Otoliths were used to make age determinations. Intercept = 0.
Otoliths collected from anglers were also used (n=2)
sw dbrlag.d11

Table 9. Age frequency and CPUE (fish/nn) of white crappie collected during 59 net-nights at Barren River Lake from 17-19 October 2011.

	Inch class														Std.
Age	2	3	4	5	6	7	8	9	10	11	12	Total	Percent	CPUE	error
0	1	13										14	5	0.24	0.11
1				8	63	44	98	47	4			264	90	4.47	0.74
2									1	2		3	1	0.05	0.02
3								2	2	5	2	11	4	0.19	0.07
Total	1	13		8	63	44	98	49	7	7	2	292	100		
%	0	4		3	22	15	34	17	2	2	1	100			

2011 age file includes fish taken from hybrid striped bass gill nets in 2011

sw dbrltn.d11; sw dbrlag.d11

Table 10. Black crappie assessment from trap netting at Barren River Lake from 1985-2011 (scoring based on statewide assessment).

	Black crappie											
	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	3.53	1	0.72	1	0.33	1	0.78	1	7.4	1	5	P
1986	10.72	2	6.94	3	3.83	2	2.80	2	8.7	2	11	F
1987	3.27	1	1.90	1	2.82	1	1.34	1	9.6	4	8	F
1988	6.18	2	5.68	2	0.10	1	0.44	1	9.3	3	9	F
1989	9.19	2	1.48	1	7.51	3	5.90	3	8.2	1	10	F
1990	29.12	4	26.11	4	0.10	1	1.92	1	8.8	2	12	F
1991	3.53	1	0.95	1	0.86	1	3.55	2	7.6	1	6	F
1992	9.20	2	3.49	2	0.07	1	4.24	2	7.7	1	8	F
1993	12.61	2	1.06	1	0.29	1	9.13	3	8.1	1	8	F
1994	0.74	1	0.10	1	0.82	1	0.70	1	8.8	2	6	P
1995	7.39	2	6.54	2	1.29	1	0.53	1	8.9	2	8	F
1996	9.03	2	0.79	1	0.48	1	4.16	2	7.8	1	7	P
1997	9.12	2	1.45	1	0.87	1	5.98	3	7.6	1	8	F
1998	1.71	1	0.12	1	1.79	1	1.56	1	8.2	1	5	P
1999	4.66	1	3.82	2	0.26	1	0.85	1	8.6	2	7	P
2000	1.81	1	0.18	1	0.22	1	0.65	1	7.8	1	5	P
2001	5.72	2	0.33	1	0.41	1	4.47	2	7.6	1	7	P
2002	4.58	1	1.02	1	3.09	2	3.34	2	8.7	2	8	F
2003	2.37	1	1.19	1	5.35	2	0.89	1	9.7	4	9	F
2004	6.90	2	4.36	2	0.65	1	2.20	2	9.2	3	10	F
2005*	6.40	2	2.30	1	2.00	1	4.40	2	9.1	3	9	F
2006*	2.70	1	1.40	1	0.60	1	1.30	1	8.9	3	7	P
2007	6.59	2	3.23	2	0.16	1	1.30	1	8.5	2	8	F
2008*	1.77	1	0.19	1	1.43	1	1.58	1	9.7	4	8	F
2009*	5.88	2	4.31	2	0.35	1	0.64	1	8.0	1	7	P
2010	5.65	2	1.44	1	0.83	1	3.60	2	8.7	2	8	F
2011	5.27	2	2.32	1	0.22	1	3.05	2	9.0	3	9	F

* Age assessment data extrapolated from previous age data

sw dbrltn.D85 - D11

Table 11. White crappie assessment from trap netting at Barren River Lake from 1985 - 2011 (scoring based on statewide assessment)

	White crappie											
	CPUE excluding age 0		CPUE age 1		CPUE age 0		CPUE ≥8.0 in		Mean length age 2 at capture			
Year	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Total score	Rating
1985	30.98	4	24.40	4	0.42	1	2.20	2	9.4	3	14	G
1986	13.56	3	3.61	2	1.91	1	8.87	3	9.0	2	11	F
1987	3.99	1	1.26	1	0.41	1	2.48	2	10.8	4	9	F
1988	3.07	1	2.49	1	0.24	1	2.48	2	11.1	4	9	F
1989	4.15	1	1.69	1	3.25	2	2.56	2	11.0	4	10	F
1990	22.83	4	20.80	4	0.50	1	13.38	4	10.8	4	17	G
1991	30.98	4	0.52	1	0.98	1	8.86	3	9.8	4	13	G
1992	6.82	2	5.09	2	0.07	1	4.04	2	11.5	4	11	F
1993	5.77	2	0.59	1	0.04	1	5.22	3	10.0	4	11	F
1994	0.66	1	0.11	1	0.65	1	0.44	1	10.6	4	8	F
1995	7.95	2	7.69	3	0.64	1	5.47	3	11.5	4	13	G
1996	6.34	2	0.80	1	1.40	1	5.59	3	9.7	4	11	F
1997	6.71	2	5.12	2	1.04	1	5.16	3	10.2	4	12	F
1998	1.22	1	0.68	1	2.03	1	0.93	1	10.9	4	8	F
1999	6.48	2	5.91	2	0.54	1	2.93	2	10.9	4	11	F
2000	2.50	1	0.32	1	0.03	1	2.38	2	9.3	3	8	F
2001	1.58	1	0.51	1	0.21	1	1.34	1	10.5	4	8	F
2002	1.41	1	0.29	1	1.16	1	0.80	1	10.7	4	8	F
2003	1.37	1	1.02	1	0.43	1	1.05	1	11.5	4	8	F
2004	1.55	1	0.88	1	0.16	1	1.29	1	11.1	4	8	F
2005*	0.70	1	0.60	1	0.01	1	0.70	1	11.0	4	8	F
2006*	0.30	1	0.20	1	0.00	0	0.20	1	10.6	4	7	P
2007	0.37	1	0.32	1	0.80	1	0.29	1	11.2	4	8	F
2008	0.03	1	0.01	1	0.18	1	0.03	1	10.8	4	8	F
2009*	4.44	1	4.03	2	0.02	1	3.95	2	10.2	4	10	F
2010	0.70	1	0.30	1	0.60	1	0.71	1	10.9	4	8	F
2011	4.71	1	4.45	2	0.24	1	2.76	2	10.9	4	10	F

* Age Assessment data extrapolated from previous age data

sw dbrltn.D85 - D11

Table 12. Population assessment for all crappie from Barren River Lake trap net data collected from 2001-2011 (scoring based on statewide assessment).

	2006		2007		2008		2009		2010		2011	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Population Density (CPUE age-1 and older)	2.90	1	6.96	2	1.80	1	10.32	2	6.35	2	9.98	2
Recruitment (CPUE age-1)	1.60	1	3.58	2	0.20	1	8.34	3	1.74	1	6.77	2
Recruitment (CPUE age-0)	0.60	1	0.96	1	1.61	1	0.37	1	1.43	1	0.46	1
Size Structure (CPUE ≥8.0 in)	1.50	1	1.59	1	1.61	1	4.59	2	4.31	2	5.81	3
Growth (Mean length age-2 at capture)	10.2	4	8.6	2	9.8	4	9.1	3	8.9	2	9.0	2
Instantaneous mortality (Z)			-1.586									
Annual mortality (A)%			79.9									
Total score:		8		8		8		11		8		10
Assessment rating:		Fair		Fair		Fair		Fair		Fair		Fair

sw dbrltn.D06 - D11

Table 13. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.5 hours (4- 0.125 hour runs) of nocturnal electrofishing at Briggs Lake on 18 April 2011.

	Inch class																			
Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Largemouth bass	7	23	36	5	27	64	58	8	2	2				1		1	1	235	470.00	11.49

sw dbrgbb.D11

Table 14. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Briggs Lake during late-April to early May 2000-2011.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2000	27.94	8.10	92.63	19.12	64.71	12.01	10.29	2.82	NA		195.60	35.97
2001	120.59	21.57	73.53	10.87	41.18	9.30	5.88	4.16	1.47	1.47	241.00	24.96
2002	27.45	10.38	109.80	8.55	39.22	7.07	21.57	5.19	NA		202.00	17.48
2003	28.85	13.82	175.00	39.02	19.23	4.97	26.92	4.97	NA		260.00	51.07
2004	11.54	4.97	117.30	3.68	51.92	10.59	7.69	3.14	1.92	1.92	196.00	20.26
2005	46.00	6.83	194.00	21.26	28.00	5.16	26.00	5.03	6.00	3.83	294.00	27.40
2006	56.00	4.38	171.20	9.67	25.60	4.66	11.20	5.43	3.20	1.96	264.00	12.13
2007	38.00	6.83	412.00	32.41	18.00	2.00	2.00	2.00	NA		470.00	31.39
2008	154.00	16.12	286.00	19.70	36.00	6.93	14.00	6.83	8.00	5.66	490.00	30.88
2009	108.00	21.41	168.00	16.59	44.80	12.29	6.40	2.99	1.60	1.60	328.00	16.78
2010	34.00	10.52	236.00	29.66	32.00	8.00	10.00	5.03	NA		312.00	24.22
2011	132.00	14.79	308.00	20.00	24.00	3.27	6.00	3.83	4.00	2.31	470.00	11.49

sw dbrgbb.D00 - D11

Table 15. PSD and RSD_{15} values obtained for largemouth bass collected during 0.5 hours (4 - 0.125-hour runs) of spring nocturnal electrofishing at Briggs Lake on 18 April 2011. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD (± 95% CI)	RSD_{15} (± 95% CI)
Largemouth bass	169	9 (4)	2 (2)

sw dbrgbb.D11

Table 16. Mean back-calculated length (in) at each annulus of largemouth bass collected by nocturnal electrofishing at Briggs Lake on 18 April 2011, including the range in length at each age and the 95% confidence interval

		Age					
Year-class	N	1	2	3	4	5	6
2010	30	6.7					
2009	15	6.1	9.4				
2008	13	6.5	9.0	11.0			
2007	14	7.3	10.3	11.3	12.3		
2006	2	6.1	9.4	11.4	12.3	12.9	
2005	2	6.2	9.3	11.3	13.1	14.1	15.3
Mean		6.6	9.5	11.2	12.3	13.5	15.3
Smallest		4.4	8.1	9.7	10.5	11.6	12.4
Largest		8.6	11.8	12.9	14.9	16.6	18.1
Std. error		0.1	0.1	0.1	0.3	1.1	2.9
Low 95% CI		6.4	9.3	10.9	11.8	11.4	9.7
High 95% CI		6.8	9.8	11.4	12.9	15.6	20.8

Otoliths were used to make age determinations. Intercept = 0.

sw dbrgag.d11

Table 17. Age frequency and CPUE (fish/hr) of largemouth bass collected during nocturnal electrofishing at Briggs Lake 18 April 2011.

	Inch class														Std.
Age	5	6	7	8	9	10	11	12	13	14	18	Total	Percent	CPUE	error
1	7	23	36	3								69	30	138.00	14.90
2				2	27	19						48	21	96.40	9.43
3						32	46					78	34	156.80	12.91
4						13	12	6	1	2		34	14	67.24	4.26
5								1	1			2	1	3.78	0.74
6								1			1	2	1	3.78	2.10
Total	7	23	36	5	27	64	58	8	2	2	1	233	100		
%	3	10	15	2	12	27	25	3	1	1	0	100			

sw dbrgbb.d11; sw dbrgag.d11

Table 18. Length frequency and CPUE (fish/hr) of bluegill and redear collected by diurnal electrofishing at Briggs Lake on 9 May 2011.

Species	Inch class											Total	CPUE	Std. error
	1	2	3	4	5	6	7	8	9	10	11			
Bluegill	15	18	13	23	11	11	19	11	1			122	244.00	60.71
Redear				2		2	5	4	4	4	2	23	46.00	14.38
Warmouth			1	3	4	7	5	1				21	42.00	8.25
Sunfish total CPUE													332.00	

sw dbrgbg.D11

Table 19. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Briggs Lake from early-mid May 2005-2011. Standard errors are in parentheses.

Year	Length group				Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	
2005	14.00	80.00	84.00	18.00	196.00
	(14.00)	(16.33)	(14.79)	(8.25)	(12.44)
2006	4.00	86.00	100.00	52.00	242.00
	(2.31)	(33.53)	(42.90)	(14.00)	(72.07)
2007	8.00	83.20	84.80	25.60	201.60
	(4.38)	(9.93)	(26.12)	(9.93)	(33.70)
2008	288.00	106.00	70.00	16.00	384.00
	(175.00)	(31.22)	(18.87)	(5.66)	(96.23)
2009	19.20	137.60	17.60	19.20	193.60
	(10.31)	(19.50)	(6.88)	(6.50)	(21.53)
2010	20.80	94.40	153.60	52.80	321.60
	(14.22)	(37.98)	(81.01)	(41.85)	(159.31)
2011	66.00	94.00	60.00	24.00	244.00
	(15.10)	(39.24)	(19.73)	(3.27)	(60.71)

sw dbrgbg.D05 - D11

Table 20. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Briggs Lake durng early-mid May 2005-2011. 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
2005	*	14.00	2.00	4.00	*	20.00
		(8.87)	(2.00)	(4.00)		(6.93)
2006	4.00	2.00	70.00	22.00	2.00	98.00
	(2.31)	(2.00)	(8.25)	(6.00)	(2.00)	(10.52)
2007	*	8.00	62.40	12.80	1.60	83.20
		(3.60)	(13.00)	(6.50)	(1.60)	(16.90)
2008	1.60	3.20	*	4.00	*	8.00
	(1.60)	(1.96)		(2.31)		(3.58)
2009	1.60	8.00	54.40	17.60	4.80	81.60
	(1.60)	(6.20)	(14.84)	(11.97)	(3.20)	(25.10)
2010	*	9.60	16.00	17.60	1.60	43.20
		(3.92)	(7.16)	(9.60)	(1.60)	(19.86)
2011	*	4.00	14.00	28.00	12.00	46.00
		(4.00)	(2.00)	(10.58)	(4.00)	(14.38)

* No fish of sufficient size were collected during sampling.
sw dbrgbg.D05 - D11

Table 21. Proportional stock density (PSD) and relative stock density (RSD_8) of bluegill and redear collected by diurnal electrofishing at Briggs lake on 9 May 2011. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_8
Bluegill	89	47 (10)	13 (7)
Redear	23	83 (16)	43 (11)

sw dbrgbg.D11

Table 22. Bluegill population assessment for Briggs Lake 2006 - 2011 (scoring based on statewide assessment).

	Year											
	2006		2007		2008		2009		2010		2011	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Growth Mean length age-2 at capture	4.9*	3	4.9	3	4.9*	3	4.9*	3	4.9*	3	4.9*	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
Size Structure CPUE ≥6.0 in	152.00	4	110.40	4	86.00	4	36.80	2	206.40	4	84.00	4
Size Structure CPUE ≥8.0 in	52.00	4	25.60	4	16.00	4	19.20	4	52.80	4	24.00	4
Instantaneous mortality (z)			-0.53									
Annual mortality (A)%			41.1									
Total score:		15		15		15		13		15		15
Assessment rating:		Excellent		Excellent		Excellent		Good		Excellent		Excellent

*No age data collected, values carried over from 2007

sw dbrgbg.D06 - D11

Table 23. Redear population assessment for Briggs Lake 2006 - 2011 (scoring based on statewide assessment).

	Year											
	2006		2007		2008		2009		2010		2011	
Parameter	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
Growth												
Years to 8.0 in	2.7*	4	2.7	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4
Size Structure												
CPUE ≥8.0 in	22.00	4	12.80	3	4.00	1	17.60	4	17.60	4	28.00	4
Size Structure												
CPUE ≥10.0 in	2.00	2	1.60	2	0.00	1	4.80	3	1.60	2	12.00	4
Instantaneous mortality (z)												
Annual mortality (A)%												
Total score:	14		13		10		15		14		16	
Assessment rating:	Excellent		Good		Fair		Excellent		Excellent		Excellent	

*No age data collected, values carried over from 2007

swdbrgbg.D06 - D11

Table 24. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.50 hours (4- 0.125-hour runs) of nocturnal electrofishing at Spurlington Lake on 10 May 2011.

Species	Inch class																				Total	CPUE	Std err
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
Largemouth bass	3	4	12	6	1	12	17	19	31	29	16	11	10	7	4	2	2	2	3	1	1	193	386.00	43.86

sw dsplbb.D11

Table 25. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Spurlington Lake during early March / April / May since 2002.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2002	21.60	3.90	145.10	14.10	174.50	22.10	35.30	3.40	2.94	2.94	384.00	32.80
2003	61.50	14.40	233.90	29.20	123.10	11.40	12.30	3.10	1.54	1.54	448.00	47.20
2004	28.90	6.60	200.00	40.60	109.60	10.60	19.23	5.00	1.92	1.92	372.00	39.80
2005	42.00	13.20	130.00	26.20	146.00	12.40	20.00	2.30	2.00	2.00	338.00	23.20
2006	30.40	11.70	168.00	26.90	137.60	22.70	28.80	7.40	4.80	3.20	364.80	19.70
2007	12.00	5.16	92.00	6.93	66.00	6.00	14.00	3.83	2.00	2.00	184.00	3.27
2008	46.00	20.75	150.00	26.00	164.00	15.49	32.00	7.30	2.00	2.00	392.00	46.65
2009	6.00	6.00	128.00	9.80	118.00	26.20	58.00	10.00	2.00	2.00	310.00	45.30
2010	10.00	7.60	136.00	20.66	68.00	12.44	34.00	6.00	4.00	2.30	247.00	24.00
2011	50.00	16.12	98.00	21.01	152.00	4.62	86.00	13.22	18.00	5.03	386.00	43.86
Avg.	30.84		148.10		125.88		33.96		4.12		342.58	

sw dsplbb. D02 - D11

Table 26. PSD and RSD_{15} values obtained for largemouth bass collected during 0.50 hour (4- 0.125-hour runs) of spring nocturnal electrofishing at Spurlington Lake on 20 May 2011. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD (± 95% CI)	RSD_{15} (± 95% CI)
Largemouth bass	168	71 (7)	26 (7)

swdsplbb.D11

Table 27. Mean back-calculated length (in) at each annulus of largemouth bass collected by diurnal electrofishing at Spurlington Lake on 10 May 2011, including the range in length at each age and the 95% confidence interval.

		Age									
Year-class	N	1	2	3	4	5	6	7	8	9	10
2010	20	6.1									
2009	21	5.4	9.7								
2008	16	5.5	9.2	11.4							
2007	20	5.6	9.7	12.0	13.4						
2006	6	5.6	10.2	12.3	13.7	14.5					
2005	12	5.2	9.3	12.2	13.7	15.0	16.0				
2004	6	5.3	9.2	11.9	13.7	15.0	16.0	16.9			
2003	2	3.6	7.2	10.1	11.6	12.9	13.6	14.2	15.1		
2001	1	5.1	8.6	10.5	11.7	13.0	14.3	15.2	16.2	16.8	17.1
Mean		5.5	9.4	11.8	13.5	14.7	15.7	16.1	15.5	16.8	17.1
Smallest		2.9	6.2	8.3	9.8	11.2	12.3	13.1	14.5	16.8	17.1
Largest		8.7	12.6	14.9	16.0	16.5	17.5	18.3	16.2	16.8	17.1
Std. error		0.1	0.1	0.1	0.2	0.3	0.3	0.5	0.5		
Low 95% CI		5.3	9.2	11.5	13.1	14.2	15.1	15.0	14.5		
High 95% CI		5.7	9.7	12.1	13.8	15.2	16.3	17.1	16.4		

Otoliths were used to make age determinations. Intercept = 0.

swdsplag.d11

Table 28. Age frequency and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Spurlington Lake 10 May 2011.

	Inch class																	Std.
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	Percent	CPUE	error
1	4	12	4												20	11	39.20	15.60
2			2	1	11	12									26	15	52.60	11.64
3					1	5	15	10	3						35	19	69.07	9.75
4							4	17	20	8		1			51	28	101.50	2.65
5								3	3	3	2	1			13	7	25.61	2.97
6									3	3	4	6	4		19	11	37.96	7.12
7											4	1	2	4	11	6	22.86	5.55
8										2	2				3	2	6.87	2.40
10													1		1	1	2.33	0.64
Total	4	12	6	1	12	17	19	31	29	16	11	10	7	4	179	100		
%	2	7	3	1	7	9	11	17	16	9	6	6	4	2	100			

sw dsplbb.d11; sw dsplag.d11

Table 29. Population assessment of largemouth bass based on spring sampling at Spurlington Lake from 2003-2011 (scoring based on statewide assessment).

	2003		2004		2005		2006		2007		2008		2009		2010		2011	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture	10.5*	2	10.5	2	10.5*	2	10.5*	2	10.5*	2	11.2*	3	11.2*	3	11.2*	3	11.2	3
Spring CPUE age-1	8.00**	1	0.00	1	32.00**	2	6.40**	1	2.00**	1	38.00**	2	4.00**	1	6.00**	1	46.00	3
Spring CPUE 12.0-14.9 in	123.10	4	109.62	4	146.00	4	137.60	4	66.00	4	164.00	4	118.00	4	68.00	4	152.00	4
Spring CPUE ≥15.0 in	12.30	2	19.23	3	20.00	3	28.80	3	14.00	2	32.00	4	58.00	4	34.00	4	86.00	4
Spring CPUE ≥20.0 in	1.54	2	1.92	2	2.00	3	4.80	4	2.00	3	2.00	3	2.00	3	4.00	4	18.00	4
Instantaneous mortality (z)																	-0.62	
Annual mortality (A)%																	46.2	
Total score		11		12		14		14		12		16		15		16		18
Assessment rating		Fair		Good		Good		Good		Good		Good		Good		Good		Excellent

*No age data collected, value carried over from closest year with age data

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

sw dsplbb.D03-D11

sw dsplag.D04, D11

Table 30. Length frequency and CPUE (fish/hr) of bluegill collected by diurnal electrofishing at Spurlington Lake on 19 May 2011.

	Inch class												Std.
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	219	227	262	231	168	67	31	5			1210	1936.0	256.1
Redear		2	6	6	13	31	6	5	1	1	71	113.60	34.26
Warmouth		3	6	8	14	14	2	1			48	76.80	9.33

sw dsplbg.d11

Table 31. Diurnal spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Spurlington Lake from 2005-2011. 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	66.00	216.00	50.00	16.00	348.00
	(14.38)	(45.72)	(15.79)	(8.64)	(68.90)
2006	138.00	302.00	46.00	14.00	482.00
	(47.71)	(54.69)	(8.87)	(2.00)	(100.18)
2007	496.00	606.00	50.00	4.00	1156.00
	(85.23)	(73.49)	(18.29)	(4.00)	(137.39)
2008	198.00	550.00	120.00	14.00	882.00
	(38.42)	(145.60)	(43.20)	(14.00)	(236.25)
2009	246.40	571.20	156.80	14.40	988.80
	(37.64)	(82.78)	(30.21)	(7.76)	(119.60)
2010	310.00	468.00	100.00	2.00	880.00
	(134.00)	(75.72)	(42.14)	(2.00)	(195.70)
2011	713.60	1057.60	156.80	8.00	1936.00
	(111.09)	(187.33)	(54.41)	(3.58)	(256.10)
Average	309.71	538.69	97.09	10.34	953.26

sw dsplbg.D05 - D11

Table 32. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Spurlington Lake durng early-mid May 2009-2011. Standard errors are in parentheses.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
2009	1.60	6.40	28.80	24.00	*	60.80
	(1.60)	(2.99)	(12.55)	(11.03)		(22.43)
2010	24.00	18.00	10.00	12.00	*	64.00
	(12.65)	(10.52)	(5.03)	(5.16)		(27.13)
2011	3.20	40.00	59.20	11.20	1.60	113.60
	(3.20)	(10.12)	(22.57)	(9.33)	(1.60)	(34.26)

* No fish of sufficient size were collected during sampling.
sw dsplbg.D11

Table 33. Proportional stock density (PSD) and relative stock density (RSD_8) of bluegill and redear sunfish collected by diurnal electrofishing at Spurlington Lake on 19 May 2011. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_8
Bluegill	764	13 (2)	1 (1)
Redear	63	21 10)	3 (4)

* No fish of sufficient size were collected during sampling.

sw dsplbg.d11

Table 34. Bluegill population assessments from 2003 - 2011 at Spurlington Lake (scoring based on statewide assessment).

	Year																	
	2003		2004		2005		2006		2007		2008		2009		2010		2011	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-2 at capture	3.8*	2	3.8*	2	3.8*	2	3.8*	2	3.8*	2	3.8	2	3.8*	2	3.8*	2	3.8*	2
Years to 6.0 in	3.2*	3	3.2*	3	3.2*	3	3.2*	3	3.2*	3	3.2	3	3.2*	3	3.2*	3	3.2*	3
CPUE ≥6.0 in	58.67	3	70.00	3	66.00	3	60.00	3	54.00	3	134.00	4	171.20	4	102.00	4	164.80	4
CPUE ≥8.0 in	16.00	4	22.00	4	16.00	4	14.00	3	4.00	2	14.00	3	14.40	3	2.00	2	8.00	3
Instantaneous mortality (z)	ND		ND		ND		ND		ND		-1.091		ND		ND		ND	
Annual mortality (A)											66.4							
Total score:		12		12		12		11		10		12		12		11		12
Assessment rating		Good		Good		Good		Good		Fair		Good		Good		Good		Good

ND - no age data collected

*No age data, values carried over from 2008 age data

sw dsplag.d08

sw dsplbg.D03 - D11

Table 35. Length frequency and CPUE (fish/set-night) of channel catfish collected during 3 nights of tandem (3 sets with 3 nets each) hoop net sampling at Spurlington Lake from 26 - 29 September 2011.

	Inch class																			
Species	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	Std err
Channel catfish	1	2	8	21	11	9	4	6	1	1	1		1		1		1	68	22.67	7.86

sw dsplcc.d11

Table 36. Mean length (in) at capture for each age of channel catfish collected from Spurlington Lake on 29 September 2011.

	Age								
Channel catfish	1+	2+	3+	4+	5+	6+	7+	8+	9+
Mean length	12.6	14.7	17.6	20.6	17.0				24.2
Total #	29	10	1	3	1				1
Smallest	11.0	12.7	17.6	18.6	17.0				24.2
Largest	15.7	15.9	17.6	22.9	17.0				24.2

Otoliths w ere used to make age determinations.

sw dsplca.d11

Table 37. Length frequency and CPUE (fish/hr) of each inch class of bluegill and redear collected by diurnal electrofishing (0.875 hrs., 7 runs, 450 seconds each) at Marion Co. Lake on 19 May 2011.

	Inch class												Std.
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	222	215	53	18	23	35	29	13			608	694.86	126.48
Redear		1		2	11	19	21	45	16	4	119	136.00	39.50

sw dmclbg.D11

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

Year	Length group				Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	>8.0 in	
2002	57.14	152.00	78.86	16.00	304.00
	(30.26)	(40.49)	(6.40)	(3.49)	(67.16)
2003	164.00	212.00	118.67	5.33	500.00
	(33.86)	(34.05)	(23.86)	(3.96)	(60.43)
2004	303.00	255.00	35.00	1.00	594.00
	(58.99)	(38.68)	(10.02)	(1.00)	(85.91)
2005	102.00	210.00	63.00	3.00	378.00
	(18.56)	(31.88)	(16.66)	(2.10)	(53.08)
2006	77.33	501.33	25.33	4.00	608.00
	(15.13)	(25.52)	(7.57)	(2.73)	(34.07)
2007	73.00	291.00	39.00	3.00	406.00
	(22.75)	(39.54)	(7.47)	(1.46)	(50.05)
2008	60.00	73.00	130.00	11.00	274.00
	(31.57)	(13.56)	(14.64)	(3.98)	(45.12)
2009	48.00	109.71	58.29	1.14	217.14
	(22.15)	(20.93)	(10.58)	(1.14)	(35.41)
2010	55.00	72.00	25.00	5.00	157.00
	(27.73)	(10.47)	(9.13)	(2.10)	(25.79)
2011	499.43	107.43	73.14	14.86	694.86
	(112.42)	(16.27)	(10.68)	(2.72)	(126.48)

sw dmclbg.D02 - D11

Table 39. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Marion Co. Lake. Standard errors are in parentheses.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
2002	1.14	51.43	11.43	57.14	0.00	121.14
	(1.14)	(11.29)	(4.22)	(13.00)		(19.16)
2003	5.33	46.67	9.33	28.00	2.67	89.33
	(2.67)	(9.33)	(4.81)	(10.68)	(2.67)	(15.38)
2004	2.00	40.00	18.00	7.00	1.00	67.00
	(2.00)	(15.12)	(7.05)	(3.84)	(1.00)	(16.28)
2005	0.00	34.00	30.00	25.00	3.00	89.00
		(5.81)	(9.77)	(7.32)	(1.46)	(16.45)
2006	0.00	17.33	17.33	24.00	2.67	58.67
		(6.67)	(6.98)	(6.20)	(1.69)	(12.84)
2007	0.00	21.00	7.00	11.00	1.00	39.00
		(6.22)	(2.36)	(6.58)	(1.00)	(11.85)
2008	1.00	37.00	9.00	28.00	6.00	75.00
	(1.00)	(15.63)	(3.18)	(9.07)	(3.30)	(16.12)
2009	0.00	52.57	34.29	17.14	2.29	104.00
		(10.16)	(6.92)	(5.36)	(2.29)	(14.81)
2010	7.00	20.00	20.00	15.00	0.00	62.00
	(7.00)	(6.05)	(6.93)	(2.80)		(12.54)
2011	1.14	14.86	45.71	74.29	4.57	136.00
	(1.14)	(5.90)	(10.72)	(23.40)	(4.57)	(39.50)

sw dmclbg.D02 - D11

Table 40. Bluegill population assessments from 2002 - 2011 at Marion County Lake (scoring based on statewide assessment).

	Year																			
	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-2 at capture	4.7	3	4.7*	3	4.7*	3	4.7*	3	4.7*	3	3.7	2	3.7*	2	3.7*	2	3.7*	2	3.7*	2
Years to 6.0 in	2.9	4	2.9*	4	2.9*	4	2.9*	4	2.9*	4	3.7	3	3.7*	3	3.7*	3	3.7*	3	3.7*	3
CPUE ≥6.0 in	94.86	4	124.00	4	36.00	2	67.00	3	29.33	2	42.00	2	141.00	4	59.43	3	30.00	2	88.00	4
CPUE ≥8.0 in	16.00	4	5.33	2	1.00	2	3.00	2	4.00	2	3.00	2	11.00	3	1.14	2	5.00	2	14.86	3
Instantaneous mortality (z)	-0.67										-1.03									
Annual mortality (A)	49										64.2									
Total score:		15		13		11		12		11		9		12		10		9		12
Assessment rating		Excellent		Good		Good		Good		Good		Fair		Good		Fair		Fair		Good

*No age data, values carried over from years w ith age data
sw dmclag.D02 & sw dmclag.D07
sw dmclbg.D02 - D11

Table 41. Proportional stock density (PSD) and relative stock density (RSD_8) of bluegill and redear collected by diurnal electrofishing at Marion Co. Lake on 19 May 2011. Numbers in parentheses represent 95% confidence intervals

Species	N	PSD	RSD_8
Bluegill	171	45 (7)	8 (4)
Redear	118	73 (8)	17 (7)

sw dmclbg.D11

Table 42. Redear population assessments from 2002 - 2011 at Marion County Lake (scoring based on statewide assessment).

	Year																			
	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture	6.5	4	6.5*	4	6.5*	4	6.5*	4	6.5*	4	7.7	4	7.7*	4	7.7*	4	7.7*	4	7.7*	4
Years to 8.0 in	4.3	3	4.3*	3	4.3*	3	4.3*	3	4.3*	3	4.4	3	4.4*	3	4.4*	3	4.4*	3	4.4*	3
CPUE ≥8.0 in	57.14	4	28.00	4	7.00	2	25.00	4	24.00	4	11.00	3	28.00	4	17.14	4	15.00	4	74.29	4
CPUE ≥10.0 in	0.00	1	2.67	3	1.00	2	3.00	3	2.67	3	1.00	2	6.00	4	2.29	2	0.00	1	4.57	3
Instantaneous mortality (z) Annual mortality (A)	NA		ND		ND		ND		ND		NA		ND		ND		ND		ND	
Total score:		12		14		11		14		14		12		15		13		12		14
Assessment rating		Good		Excellent		Good		Excellent		Excellent		Good		Excellent		Good		Good		Excellent

*No age data, values carried over from years w ith age data

sw dmclag.D02 & sw dmclag.D07

sw dmclbg.D02 - D11

Table 43. Length frequency and CPUE (fish/set-night) of channel catfish collected during 6 nights of tandem (3 sets with 3 nets each) hoop net sampling at Marion County Lake from 19 - 26 September 2011.

	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	Total	CPUE	Std err
Channel catfish				1	1	3	8	1	2	1	4	3		1	3	1			1				1	31	5.17	2.88
Redear sunfish	1	8	21	36	21	7																		94	15.67	3.96

sw dmclcc.d11

Table 44. Mean length (in) at capture for each age of channel catfish collected from Marion County Lake on 22 and 26 September 2011.

	Age								
Channel catfish	1+	2+	3+	4+	5+	6+	7+	8+	18+
Mean length	11.6		17.7	16.0	17.3			23.5	15.5
Total #	13		4	5	2			3	1
Smallest	10.5		16.1	14.2	16.4			20.1	15.5
Largest	13.4		19.2	19.5	18.2			27.4	15.5

Otoliths w ere used to make age determinations.

sw dmclca.d11

Table 45. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected during 2.00 hours (8 runs;each 0.25 hours) of nocturnal electrofishing at Shanty Hollow Lake on 9 May 2011.

	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 err
Largemouth bass	13	32	74	35	10	68	104	75	83	39	11	5	6	2	4	3	1		1	566	283.00	5.22

sw dshlbb.D11

Table 46. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Shanty Hollow Lake during mid-late April / May, 2001-2011.

	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	17.14	3.35	49.14	7.34	45.14	8.63	21.71	3.58	1.71	0.81	133.14	6.52
2002	20.00	4.09	52.00	7.95	69.71	6.16	16.00	2.62	1.14	0.74	157.71	11.07
2003	17.71	3.99	125.14	12.49	76.57	6.73	32.00	5.01	8.00	1.95	251.43	18.02
2004	19.43	3.64	133.71	9.67	36.57	4.97	24.00	2.76	3.43	0.57	213.71	16.99
2005	76.67	10.75	174.00	18.15	44.67	3.78	16.00	3.58	1.33	1.33	311.33	27.95
2006	86.00	15.76	214.67	11.44	30.00	3.06	11.33	3.78	5.33	1.98	342.00	26.66
2007	8.00	2.39	124.50	16.77	13.00	3.09	8.50	1.40	4.00	1.07	154.00	20.95
2008	30.00	6.89	204.50	13.45	57.50	4.72	5.50	1.50	1.00	0.65	297.50	12.28
2009	21.14	3.97	140.57	8.70	88.00	5.66	12.00	3.90	2.86	1.68	261.71	11.38
2010	26.00	5.24	165.00	12.44	74.50	4.66	11.50	2.67	1.50	0.73	277.00	15.34
2011	77.00	8.51	128.50	9.05	66.50	5.07	11.00	2.36	1.00	0.65	283.00	5.22

swdshlbb.D00 - D11

Table 47. PSD and RSD_{15} values from spring nocturnal electrofishing (2.00 hours; 8 runs; 0.25 hours each) for largemouth bass at Shanty Hollow Lake on 9 May 2011. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD (± 95% CI)	RSD_{15} (± 95% CI)
Largemouth bass	412	38 (5)	5 (2)

swdshlbb.D11

Table 48. Population assessment of largemouth bass based on nocturnal spring sampling at Shanty Hollow Lake from 2002-2010 (scoring based on statewide criteria).

	Year																	
	2002***		2003		2004		2005		2006		2007		2008		2009		2010		2011	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture	11.1	3	11.1*	3	11.4	3	11.4*	3	11.4*	3	11.4*	3	11.4*	3	12.1	4	12.1*	4	12.1*	4
Spring CPUE age-1	20.00	2	17.71**	2	17.71	2	76.67**	4	86.00**	4	8.00**	1	25.00**	2	20.00	2	14.00**	1	77.50	4
Spring CPUE 12.0-14.9 in	69.71	4	76.57	4	36.57	3	44.67	3	30.00	2	13.00	1	57.50	4	88.00	4	74.50	4	66.50	4
Spring CPUE ≥15.0 in	16.00	2	32.00	4	24.00	3	16.00	2	11.33	2	8.50	2	5.50	2	12.00	2	11.50	2	11.00	2
Spring CPUE ≥20.0 in	1.14	2	8.00	4	3.43	3	1.33	2	5.33	4	4.00	4	1.00	2	2.86	3	1.50	2	1.00	2
Instantaneous mortality (z)					-0.346										-0.6817					
Annual mortality (A)%					29.3										49.4					
Total score	13		17		14		14		15		11		13		15		13		16	
Assessment rating	Good		Excellent		Good		Good		Good		Fair		Good		Good		Good		Good	

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

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

***Only 1 netter used

ND = no age data collected

sw dshlag.d04 & 09

sw dshlbb.D02-D10

Table 49. Relative weight (Wr) for each length group of largemouth bass collected by diurnal electrofishing at Shanty Hollow Lake from 12 December 2011. Standard errors are in parentheses.

	Length group		
	8.0-11.9 in	12.0-14.9 in	≥15.0 in
Wr	83 (1)	82 (1)	88 (3)
N	79	39	10

sw dshlw r.D11

Table 50. Length frequency and CPUE (fish/hr) of muskellunge collected with diurnal electrofishing (12.5 hours; 50 runs; 0.25 hours each) during late-winter/early spring (Feb. - March) at Green River Lake in 2011.

	Inch class																										
	11	13	14	15	16	21	22	23	24	25	26	27	28	30	31	32	33	34	35	37	38	40	41	44	45	Total	CPUE	Std err
Muskellunge	2	1	26	21	4	1	1	2	4	7	9	4	5	1	10	12	11	5	5	3	4	2	2	3	2	147	11.76	1.11

sw dgrlmy.d11

Table 51. Muskellunge population assessment for Green River Lake diurnal late-winter/early spring electrofishing from 1990-2011 (scoring based on statewide assessment).

	CPUE age-1		CPUE ≥20.0 in		CPUE ≥30.0 in		CPUE ≥36.0 in		CPUE ≥40.0 in		Total	
Year	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	assessment	Rating
1990	12.68	4	7.04	3	2.11	2	1.17	3	0.00	0	12	G
1991	10.19	4	3.86	3	1.38	1	0.38	1	0.15	1	10	F
1992	2.25	2	6.13	3	1.71	2	0.65	2	0.09	1	10	F
1993	13.37	4	6.98	3	4.36	4	1.26	3	0.55	3	17	E
1994	4.11	3	8.94	3	3.9	3	2.25	4	0.93	4	17	E
1995	15.73	4	6.95	3	2.78	3	0.82	2	0.44	3	15	G
1996	5.16	3	16.01	4	3.54	3	0.84	2	0.24	2	14	G
1997	5.80	3	13.03	4	6.81	4	1.18	3	0.53	3	17	E
1998	9.24	4	9.01	3	5.05	4	1.94	4	0.47	3	18	E
1999	8.75	3	9.83	3	4.81	4	1.42	3	0.34	3	16	G
2000	2.57	2	7.64	3	4.18	4	2.03	4	0.78	3	16	G
2001	10.76	4	6.41	3	4.48	4	1.45	3	0.55	3	17	E
2002	5.83	3	10.63	4	4.46	4	2.86	4	0.91	4	19	E
2003	4.49	3	9.88	3	6.20	4	1.71	4	0.82	4	18	E
2004	6.52	3	8.26	3	5.16	4	1.81	4	0.19	1	15	G
2005	2.40	2	7.20	3	4.80	4	1.92	4	0.96	4	17	E
2006	4.74	3	5.48	3	4.30	4	2.22	4	0.74	4	18	E
2007	3.76	3	4.24	2	1.65	2	1.41	4	0.94	4	15	G
2008*	0.91	1	6.36	3	3.36	3	1.27	3	0.36	3	13	G
2009	9.45	4	4.12	2	3.33	3	0.90	3	0.18	1	13	G
2010**	6.13	3	7.73	3	2.67	3	1.60	4	0.13	1	14	G
2011	4.32	3	7.44	3	4.80	4	1.28	3	0.56	3	16	G

* - muskie creel limit changed from 2 fish to 1 fish per day

** - muskie size limit changed from 30-inch to 36-inch

sw dgrlmy.d90 - d11

Table 52. Proportional stock density (PSD) and relative stock density (RSD_{10}) of muskellunge collected by diunral electrofishing at Green River Lake from early-February to early-March 2011. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_{10}
Muskellunge	93	65 (10)	14 (7)

sw dgrlmy.D11

Table 53. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12 runs;each 0.50 hours) of diurnal electrofishing at Green River Lake on 20 September 2011.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std err
Green River Arm																							
Homles Bend	Smallmouth bass		1	1							1										3	2.00	1.15
	Spotted bass		11	17	1		2	1	6	8	2	1	1								50	3.33	7.51
	Largemouth bass	5	52	16	15	3		2	7	7	3		2			1	1				114	76.00	5.29
Ramp 1	Smallmouth bass	1	2			1		2				1	1								8	5.33	1.76
	Spotted bass		1	1	2	8	9	16	7	4	1	1	1	1							52	34.67	12.67
	Largemouth bass		2	1	2	2	7	5	7	4	1			1	2	2	1		2		39	26.00	2.00
Robinson Creek Arm																							
Smith Ridge	Smallmouth bass									1											1	0.67	0.67
	Spotted bass	3	36	20	5		7	18	7	5	3	2		1	1						108	72.00	29.14
	Largemouth bass	8	30	15	7	5	4	5	13	16	5	3	2	1	1			2		1	118	78.67	9.40
Lone Valley	Smallmouth bass		2						1	3			3		1						10	6.67	1.76
	Spotted bass	19	8	2	6	7	14	17	18	7	6	11	2	2	1						120	80.00	10.39
	Largemouth bass	7	2		2		1	2	2			1	3	2			1		2		25	16.67	5.81
TOTAL	Smallmouth bass	1	5	1		1		2	1	4	1	1	4		1						22	3.67	0.95
	Spotted bass	22	56	40	14	15	32	52	38	24	12	15	4	4	2						330	55.00	9.71
	Largemouth bass	20	86	32	26	10	12	14	29	27	9	4	7	4	3	3	3	2	4	1	296	49.33	8.91

swdgrlyy.d11

Table 54. Largemouth bass mean length (in) at age-0 and catch rates at age 0 and age 1 collected at Green River Lake since 2002.

	Age 0[A]		Age 0[A]		Age 0 ≥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	0.07	32.67	9.70	5.33	1.16	7.25	1.58
2003	3.9	0.08	32.83	9.69	5.50	1.23	11.87	2.09
2004	5.0	0.07	60.83	8.97	28.00	3.62	65.33	7.66
2005	5.2	0.09	31.67	7.44	16.83	4.33	14.33	2.36
2006	4.3	0.13	13.50	3.41	3.67	1.20	3.83	1.03
2007	4.2	0.11	21.83	5.31	5.83	2.18	22.83	9.49
2008	4.8	0.11	23.67	5.75	11.50	3.56	7.17	1.78
2009	3.7	0.05	66.83	9.82	11.50	3.85	ND	
2010	4.8	0.07	45.00	8.07	18.33	4.86	ND	
2011	3.9	0.08	28.83	7.51	5.83	1.53		

[A] Data collected by fall (Sept/October) diurnal electrofishing. Mean lengths were determined by otolith taken from a subsample of LMB <9.0 inches and extrapolated to the entire catch of the fall sample.

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

sw dgrlbb.D02 - D09

sw dgrlag. D02 - D11

sw dgrlyy. D02 - D11

Table 55. Length frequency and CPUE (fish/nn) for each inch class of crappie collected by trap net (47 net-nights) at Green River Lake from November 15-18 2011.

	Inch class														Std.
Species	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	error
White crappie	66	55	25	380	198	170	177	112	11			1	1195	25.43	5.84
Black crappie						1							1	0.02	0.02

sw dgrltn.d11

Table 56. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white crappie collected by trap nets (47 net-nights) at Green River Lake from mid November 2011. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD_{10}
White crappie	1074	44 (3)	12 (2)

sw dgrltn.D11

Table 57. White crappie assessment from trap net samples at Green River Lake from 1986 - 2011 (scoring based on statewide assessment).

	White crappie													
	CPUE excluding age 0		CPUE age 1		CPUE age 0		CPUE ≥8.0 in		Mean length age-2 at capture		Mortality			
Year	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	Value	Assessment	Instantaneous (z)	Annual (A)	Assessment	Rating
1986	16.87	3	3.23	2	1.23	1	3.99	2	7.9	1	-0.911053	59.8	9	F
1987	15.43	3	4.06	2	19.16	4	5.16	3	8.1	1	-1.118361	67.3	13	G
1988	15.87	3	8.87	3	18.62	4	4.52	2	8.0	1	-0.854265	57.4	13	G
1989	26.30	4	20.24	4	1.29	1	6.38	3	9.6	4	-1.022316	64	16	G
1990	12.61	2	5.87	2	0.42	1	7.57	3	9.2	3	-0.924447	60.3	11	F
1991	8.68	2	2.93	2	6.88	2	6.15	3	9.3	3	-0.565581	43.2	12	F
1992	28.34	4	24.48	4	1.84	1	8.54	3	10.0	4	-0.9219538	70.4	16	G
1993	24.81	4	6.99	3	1.22	1	15.53	4	9.0	2	-0.949191	61.3	14	G
1994	8.65	2	2.47	1	11.78	3	6.08	3	9.3	3	-0.767229	53.6	12	F
1995	16.18	3	11.12	3	13.22	3	10.74	3	10.0	4	-1.055474	65.2	16	G
1996	13.36	3	6.51	2	3.17	2	5.96	2	9.2	3	-0.895818	59.2	12	F
1997	14.08	3	3.94	2	1.89	1	8.11	3	8.7	2	-1.121453	67.4	11	F
1998	9.21	2	2.48	1	3.78	2	8.01	3	9.3	3	-0.850455	57.3	11	F
1999	7.38	2	5.21	2	0.99	1	2.86	1	9.9	4	ND		10	F
2000	6.29	2	1.45	1	0.01	1	5.17	2	9.7	4	-0.824828	56.2	10	F
2001	4.27	1	0.15	1	10.78	3	4.17	2	9.5	3	-1.09953	66.7	10	F
2002	10.87	2	9.69	3	0.53	1	4.11	2	9.8	4	-0.759078	53.2	12	F
2003	12.95	3	5.08	2	3.30	2	6.80	3	9.1	3	-1.075599	65.9	13	G
2004	17.67	3	9.60	3	3.84	2	7.93	3	8.4	1	-1.53876	78.5	12	F
2005*	13.82	3	3.00	2	1.70	1	8.00	3	8.4	1	ND		10	F
2006	16.39	3	10.21	3	1.42	1	6.46	3	9.7	4	-1.090892	66.4	14	G
2007*	15.90	3	10.45	3	4.39	2	6.66	3	9.1	3	ND		14	G
2008	9.00	2	0.70	1	0.86	1	4.67	2	7.8	1	-0.728739	51.7	7	P
2009	20.05	3	4.12	2	0.89	1	9.67	3	7.9	1	ND		10	F
2010	17.78	3	0.67	1	1.27	1	11.08	4	7.8	1	-1.10117	66.8	10	F
2011	22.85	4	8.34	3	2.57	1	10.02	3	7.9	1	NA		12	F

* Age assessment data extrapolated from previous years age data

sw dgltn.D86 - D11

sw dgrlag.d86-11

Table 58. Age frequency and CPUE of white crappie collected during 47 net-nights at Green River Lake during mid-November 2011.

	Inch class															Std.
Age	3	4	5	6	7	8	9	10	11	12	13	14	Total	Percent	CPUE	error
0	66	55											121	10.0	2.57	1.47
1			25	331	26	9							391	33.0	8.34	2.00
2				25	46	14	6	3					94	8.0	2.00	0.44
3				25	73	80	108	49	1				336	28.0	7.15	1.38
4					20	24	46	26	6				122	10.0	2.57	0.47
5						5		20	2			1	27	2.0	0.58	0.13
6					33	38	17	13	3				104	9.0	2.22	0.44
Total	66	55	25	381	198	170	177	111	12			1	1195			
%	6	5	2	32	17	14	15	9	1			0	100			

* 2011 age file includes fish taken from white bass gill nets in 2011

swdgrltn.d11; swdgrlag.d11

Table 59. Length frequency and CPUE (fish/nn) for white bass and walleye collected by experimental gillnets (24 net-nights) on October 25-26 and December 19-21 at Green River Lake, KY 2011.

	Inch class																						
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	CPUE	Std. error
White bass	1	1			3	17	26	10												58	2.42	0.57
Walleye		2	8	8	2		1	3	3		6	4	7	9	2	5	1	1	1	63	2.62	0.38

sw dgrlgn.d11

Table 60. Age frequency and CPUE (fish/nn) of walleye collected from experimental gillnets during October and December at Green River Lake, 2011.

	Inch class																					Std.
Age	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	Percent	CPUE	error
0	2	8	8	2															20	32.0	0.83	0.21
1						1	3	3		3									10	16.0	0.42	0.15
2										3	2	6	6						17	27.0	0.71	0.16
3											2	1	2	1	3				9	14.0	0.36	0.07
4													1	1					2	3.0	0.07	0.02
5																1	1	1	3	5.0	0.13	0.07
6														1	1				2	3.0	0.07	0.02
7															1				1	2.0	0.04	0.02
Total	2	8	8	2		1	3	3		6	4	7	9	3	5	1	1	1	63	100.0		
%	3	13	13	3		2	5	5		10	6	11	14	3	8	2	2	2	100			

sw dgrlgn.D11, sw dgrlag.D11

Table 61. Relative weight (Wr) for each length group of walleye collected by gill nets (24 net-nights) at Green River Lake on October 25 and December 20-21, 2011. Standard errors are in parentheses.

	Length group		
	10.0-14.9 in	15.0-19.9 in	≥20.0 in
Wr	90	94	100
N	12	20	19

sw dgrlgn.D11

Table 62. Walleye population assessment from experimental gillnetting at Green River Lake 1996-2011 (scoring based on statewide assessment).

	CPUE ≥ 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	1.81	1	18.5	4	0.12	1	1.44	2	NA		8	F
1997	0.75	1	17.3	3	0.19	1	0.44	1	NA		6	F
1998	0.50	1	17.6	3	0.06	1	0.29	1	NA		6	F
1999	3.20	2	17.3	3	0.13	1	1.67	2	NA		8	F
2000	5.04	3	18.1	4	0.17	1	4.07	4	-0.684	49.6	12	G
2001	5.75	3	17.8	3	0.00	1	5.03	4	NA		11	G
2002	2.57	2	17.8	3	0.39	1	0.74	1	-0.778	54.1	7	F
2003	2.12	2	18.3	4	0.50	2	1.62	2	NA		10	G
2004	1.13	1	16.4	2	0.00	1	0.75	1	NA		5	P
2005	0.63	1	17.8	3	0.13	1	0.50	1	NA		6	F
2006	2.29	2	17.9	3	0.14	1	1.64	2	-0.489	38.7	8	F
2007	6.75	4	18.6	4	0.75	2	3.88	4	-0.689	49.8	14	E
2008	3.67	2	19.6	4	0.93	2	1.07	2	-0.357	30.0	10	G
2009	4.06	3	19.6	4	1.13	3	2.31	3	-0.657	48.2	13	G
2010	3.56	2	18.8	4	1.00	3	1.69	3	-0.566	43.2	12	G
2011	1.79	1	19.3	4	0.79	2	0.42	1	-0.409	33.5	8	F

NA - catch data not amenable to mortality estimates

sw dgrlgn.d96-10

sw dgrlag.d96-10

Table 63. Length frequency and CPUE (fish/hr) of bluegill collected by diurnal electrofishing (0.5 hours; 4- 450-second runs) at Metcalfe County Lake on 12 May 2011 .

Species	Inch class 1	2	3	4	5	6	7	Total	CPUE	Std. error
Bluegill	14	37	140	200	176	93	4	664	1328.00	196.88

sw dmetbg.D11

Table 64. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Metcalfe County Lake from 2005-2011. Standard error in parentheses.

Year	Length group <3.0 in	3.0-5.9 in	6.0-7.9 in	>8.0 in	Total
2005	66.83 (9.42)	807.69 (113.51)	366.15 (61.76)	0.00	1240.66 (165.06)
2007	108.00 (33.07)	886.00 (171.69)	568.00 (132.79)	0.00	1562.00 (270.10)
2011	102.00 (25.59)	1032.00 (156.73)	194.00 (39.11)	0.00	1328.00 (196.88)

sw dmetbg.D05, D07, D11

Table 65. PSD and RSD_{15} values obtained for bluegill collected during 0.5 hours (4 - 0.125 hour runs) of spring diurnal electrofishing at Metcalfe Co. Lake on 12 May 2011. 95% confidence intervals are in parentheses.

Species	No. ≥3 in	PSD (± 95% CI)	RSD_8 (± 95% CI)
Bluegill	613	16 (3)	*

sw dmetbb.D11

*No fish greater than 8.0 in collected

Table 66. Bluegill population assessments from 2005 - 2011 at Metcalfe County Lake (scoring based on statewide assessment).

Parameter	2005 Value	2005 Score	2007 Value	2007 Score	2011 Value	2011 Score
Mean length age-2 at capture	4.4*	2	4.4	2	4.4*	2
Years to 6.0 in	3.6*	3	3.6	3	3.6*	3
CPUE ≥6.0 in	366.15	4	568.00	4	194.00	4
CPUE ≥8.0 in	0.00	0	0.00	0	0.00	0
Instantaneous mortality (z)			1.07			
Annual mortality (A)			66.0			
Total score:		9		9		9
Assessment rating		Fair		Fair		Fair

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

sw dmetag.D07

sw dmetbg.D05 - D11

Table 67. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected during 1.5 hours (6 runs;each 0.25 hours) of nocturnal electrofishing at Mill Creek Lake on 16 May 2011.

Species	Inch class 3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Spotted bass	1	14	15	7	14	41	21	15	3	1		2									134	89.33	14.00
Largemouth bass	1	3	21	12	26	13	12	25	24	17	18	14	14	18	29	20	8	5	1	1	282	188.00	9.58

sw dmilbb.D11

Table 68. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Mill Creek Lake during mid-late April / May, 2006-2011.

	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
2006	42.67	6.75	124.00	6.77	36.67	3.78	29.33	8.43	6.00	2.68	232.67	16.47
2007	ND											
2008	ND											
2009	ND											
2010	ND											
2011	42.00	9.28	49.33	4.34	32.67	3.78	64.00	9.63	4.67	1.23	188.00	9.58

sw dmilbb.D06, D11

ND = no data collected

Table 69. PSD and RSD_{15} values from spring nocturnal electrofishing (1.5 hours; 6 runs; 0.25 hours each) for largemouth bass at Mill Creek Lake on 16 May 2011. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD (± 95% CI)	RSD_{15} (± 95% CI)
Spotted bass	97	6 (5)	2 (3)
Largemouth bass	219	66 (6)	44 (7)

swdmilbb.D11

Table 70. Relative weight (Wr) for each length group of holdover rainbow trout collected by hook and line and by diurnal electrofishing at Fagan Branch Reservoir throughout summer and fall 2011. Standard errors are in parentheses

Date	n	Mean TL	Mean W_r
3-Jun-11*	10	11.4	74 (2)
4-Aug-11*	25	11.3	74 (1)
14-Sep-11*	16	11.6	66 (1)
29-Nov-11**	7	11.1	76 (4)

*Sampled from 13-27 feet deep using hook and line.

**Sampled using diurnal electrofishing

sw dfbrrj.D11

sw dfbrra.D11

sw dfbrrs.D11

sw dfbrsn.D11

Table 71. Relative weight (Wr) for each length group of largemouth bass collected by diurnal electrofishing at Fagan Branch Reservoir from 29 November 2011. Standard errors are in parentheses.

	Length group		
	8.0-11.9 in	12.0-14.9 in	≥15.0 in
Wr	82 (1)	77 (1)	82 (2)
N	26	23	6

sw dlclw r.D11

CENTRAL FISHERIES DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Lake sampling conditions for 2011 are summarized in Table 1.

Taylorsville Lake (3,050 acres)

No spring largemouth bass sampling was completed in 2011 on Taylorsville Lake due to prolonged flood conditions. Lake water elevations reached historical levels (592.17 ft msl) at Taylorsville Lake in 2011. The spillway elevation at Taylorsville Lake is 592 msl, therefore it was the first time in the history of Taylorsville Lake that water levels exceeded the spillway elevation. Water levels were elevated at the lake from mid April through early June in 2011.

Length frequency, relative weight (Wr), and age 0 and age 1 year class strength of largemouth bass based on September electrofishing are presented in Tables 2–4. Average body weights for largemouth bass were acceptable, with bass ≥15.0 in having the highest weight ratio (Table 3). Catch rates of age 0 largemouth bass in 2011 (40.44 fish/hr) declined slightly from catch rates in 2010 (45.15 fish/hr). Additionally, catch rate of age 0 largemouth bass in 2011 (40.44 fish/hr) was almost equal to the 10-year average of 41.69 fish/hr. The year class strength model indicated slightly below-average recruitment for young-of-the-year largemouth bass in 2011. Fingerling (4.0-4.5 in) largemouth bass were stocked in September at a rate of 9.8 fish/acre, totaling 30,012 (left pelvic 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 efforts for crappie (Table 5) resulted in the collection of 80 white crappie and 157 black crappie. Crappie were sampled with trap nets during 48 net-nights. Age and growth determinations for black and white crappie were completed using otoliths (Tables 7 and 10). Age studies indicated that the majority of white and black crappie reached 9.0 in between age 2 and 3. The crappie population assessment scores (Tables 16 and 19) were 8 ("Fair") for both white and black crappie. The crappie population is very cyclic at Taylorsville Lake with peaks occurring every 7 to 9 years. In an effort to help recruitment on the lake, 30,710 (10.1 fish/acre) white crappie (2.7 in) were stocked in 2009, 35,985 (11.7 fish/acre) white crappie (2.5-4.7 in) were stocking in 2010, and 20,892 (6.8 fish/acre) white crappie (3.0 in) were stocked in 2011 in Taylorsville Lake. Stocked crappie made up 58% of the age 1 and older white crappie sampled in the fall of 2011. Average weights of white and black crappie in the fall of 2011 were acceptable at Taylorsville Lake (Table 13). See the Black Bass Investigation (F-40) Annual Performance Report for further information concerning the crappie stockings at Taylorsville Lake.

Fall gill netting for hybrid striped bass and white bass was conducted in October 2011 (Tables 14–22). A total of 94 hybrid striped bass were collected in 2011 compared to 51 in 2010 and 112 in 2009. Hybrid striped bass were captured in 8 net-nights (4 nets for 2 nights) for a CPUE of 11.75 (± 5.74) 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. Annual stocking rates for hybrid striped bass have been about 20 fish/acre (1.4 to 2.0 in) for the last 14 years. Age and growth studies were completed for hybrid striped bass using otoliths (Tables 15 and 16). Additionally, hybrid striped bass were differentiated from white bass due to being marked with oxytetracycline (OTC) at the fish hatchery. Studies indicate hybrid striped bass continue to reach harvestable size (15.0 in) between age 2 and 3, typical growth at Taylorsville Lake. The relative weight (Wr) index for hybrid striped bass (86) shows below average body weight for hybrid striped bass; however it is almost equal to the lake average of 85.9. The population assessment for hybrid striped bass was rated at "Good"; an improvement from the last three years rating of "Fair". A total of 60,210 (19.7 fish/acre; OTC) hybrid striped bass (1.5 in) were stocked in Taylorsville Lake in 2011.

Data for white bass collected during fall 2011 gillnetting studies are presented in Tables 14 and 19-22. White bass comprised about 72% of the *Morones* sampled, compared to 80% in 2010, 34% in 2009, 69% in 2008 and 39% in 2007. Age and growth studies indicated white bass reach 12.0 in between age 2 and 3. Relative weight values revealed acceptable body weights, with good weights for smaller fish and decreasing body condition for larger, older fish (Table 21). The white bass population assessment rated "Good", the same as 2010 (Table 22).

See the Black Bass Investigation (F-40) Annual Performance Report for channel catfish and blue catfish sampling data. A total of 23,500 (7.7 fish/acre) blue catfish (8.0-16.0 in) were stocked in Taylorsville Lake in 2011.

Herrington Lake (2,410 acres)

Diurnal electrofishing studies were completed in May 2011 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 23. Largemouth bass dominated the black bass fishery, with spotted bass comprising 7.5% of the bass sampled. No smallmouth bass were collected in 2011. The catch rate of <8.0 in largemouth bass (24.53 fish/hr) was significantly lower than last year (41.47 fish/hr) and the 15-year average (32.99 fish/hr) catch rates. Additionally, numbers of bass 8.0-11.9 in (22.67 fish/hr) were substantially lower than last year (34.00 fish/hr) and the 15-year average (41.30 fish/hr). Numbers of 12.0–14.9 in (10.93 fish/hr) and ≥15.0 in (10.80 fish/hr) largemouth bass decreased from last year and were less than the 15-year averages (28.01 fish/hr and 19.26 fish/hr), respectively (Table 24). The PSD for largemouth bass was 49 compared to 61 in 2010, 73 in 2009, and 56 in 2008. The RSD_{15} was 24 compared to 29 in 2010, 30 in 2009, and 24 in 2008 (Table 25). Growth rates indicated most bass are reaching harvestable size (12.0 in) between age 2 and 3 (Table 27). Most bass (75%) were age 2 or younger (≤12.0 in, Table 27). The population assessment based on spring electrofishing data indicated a "Fair" population (Table 29). Fall electrofishing evaluated largemouth bass relative weight index and index of year class strength (Tables 30-32). Average body weights for largemouth bass were acceptable, with bass 8.0-11.9 in continuing to have the highest weight ratio (Table 31). The year class strength model for Herrington Lake indicated above average recruitment for young-of-year largemouth bass in 2011. CPUE of age-0 bass (54.53 fish/hr) increased from last year (22.00 fish/hr), while their mean length remained the same (Table 32). Age-0 CPUE was above the lake average (34.54 fish/hr); therefore, largemouth bass were not stocked in 2011.

Diurnal electrofishing studies were completed in March 2011 to monitor the crappie population. Upper, middle, and lower lake sections were sampled for a total of 4.5 hours (1.5 hours per section). This year, a total of 409 crappie were collected, compared to 225 in 2010, 99 in 2009, 108 in 2008, 81 in 2007, 84 in 2006, and 367 in 2005 (Table 33). Catch was dominated by black crappie in the lower section of the lake, while white crappie dominated the mid and upper sections of the lake. However, the overall catch was dominated by white crappie, which made up 86% of the crappie sampled at Herrington Lake in 2011. Age and growth studies of white crappie indicated they reach 9.0 in between age 2 and age 3, and 11.0 in by age 3 (Table 35). Age frequency of white crappie showed that their populations were dominated by age-2 fish (Table 36). A population assessment was developed for spring electrofishing of white and black crappie at Herrington Lake. The population assessment for white crappie indicated a "Good" population for 2011 (Table 37). Age and growth studies also showed that black crappie reached 9.0 in. by age 2 (Table 38). Age-2 and age-3 fish dominated the black crappie sample (Table 39) indicating good spawns in 2008 and 2009. The population assessment for black crappie indicated a "Fair" population for 2011 (Table 40), the same as last year.

Gill netting for hybrid striped bass and white bass was completed in October 2011. During the 12 net-night sampling period, 95 hybrid striped bass and 177 white bass were collected (Table 41). Otoliths were taken from both species for age and growth determinations. Results of these studies indicated excellent growth rates both hybrids (Tables 42-43) and white bass (Tables 46-47). Hybrid striped bass continue to reached 15.0 in between age 1 and 2 (Table 42), as they have historically. Of the hybrid striped bass sampled, 79% were age 1+ or younger (Table 43). The population assessment for hybrid striped bass indicated a "Good" population, the same as last year's assessment (Table 45). White bass age and growth determinations showed they reach 9.0 in by age 1 and 12.0 in by age 2 (Table 46). Of the white bass sampled, 86% were age 2+ or younger (Table 47). There is a very strong 2009 year class that is providing an excellent opportunity for some quality white bass fishing. The white bass population assessment indicated a "Good" population, the same as last year's assessment (Table 49). Herrington Lake was stocked with 50,760 (20.8 fish/acre; 1.6-1.8 in) hybrid striped bass in June 2011.

Guist Creek Lake (317 acres)

Spring electrofishing studies were completed for length frequency, CPUE, age frequency and population assessment for largemouth bass in May 2011 (Table 50). Total largemouth bass catch rate (all sizes) increased from the last year, except for catch rates of < 8.0 in (Table 51). The PSD for largemouth bass was 56 compared to 74 in 2010, 70 in 2009, and 85 in 2008 (Table 52). The RSD_{15} was 33 compared to 44 in 2010, 46 in 2009, and 54 in 2008. Over 37% of the bass collected were ≥13.0 in, whereas 22% were ≥16.0 in, and 11% were ≥18.0 in. The population assessment gave a rating of "Good", the same as the last five years (Table 53). Fall sampling was conducted for relative weight and index for year class strength at age 0 and age 1 (Tables 54–56). Relative weights indicated very good body condition for bass, especially for bass over 15.0 in. Mean length of age-0 largemouth bass (4.4 in) slightly decreased from last year (4.9 in); additionally, their catch rate decreased from 2010 (41.33 fish/hr to 34.67 fish/hr). The year class strength model indicated a below average recruitment for young-of-year largemouth bass in 2010. Therefore, fingerling (5.0 in) largemouth bass were stocked in October at a rate of 10.0 fish/acre, totaling 3,170 (left pelvic clip). Additionally, Guist Creek Lake was stocked with 623 largemouth bass (2.0 fish/acre; 9.0-13.0 in) that were removed from Beaver Lake in an effort to reduce the crowded largemouth bass population at that lake.

Gill netting was completed in November for hybrid striped bass (Table 57). Four nets were fished for two nights (8 net-nights) in similar sites as in past years. A total of 50 hybrid striped bass were captured compared to 32 in 2010 and 26 in 2009. Age and growth studies were completed using otoliths. Calculations indicated hybrid striped bass continued to reach 15.0 in between age 2 and age 3, and 20.0 in between age 3 and age 4 (Table 58). Relative weights of these hybrid striped bass continue to be below average in weight for their size (Table 60). The population assessment indicated a rating of "Fair", an increase from the "Poor" rating in 2010 (Table 61). Guist Creek Lake was stocked with 19,024 (60.0 fish/acre; 1.7 in) hybrid striped bass in June 2011.

Results of the fifth year of channel catfish sampling at Guist Creek Lake with baited tandem hoop nets by the Black Bass Research Section are presented in their Annual Performance Report. Guist Creek Lake was stocked with 3,067 (9.7 fish/acre; 5.0-12.0 in) channel catfish in July 2011.

A roving daytime angler creel survey was conducted at Guist Creek Lake from mid March through October. The last creel survey conducted at this lake was in 2005. Table 62 provides descriptive statistical parameters of the lake fishery during the present survey and the last 2 surveys (2005 and 1997). The number of fishing trips in 2011 (4,325) slightly increased from 2005 (3,965). Fishing pressure (man-hours) has declined gradually since 1997; however, the number of fish caught has slightly increased during this same time frame. Additionally, numbers and pounds of fish harvested increased, as well as catch rates (fish/hr and fish/acre). Other parameters such as gender, residency, method and mode were similar to surveys completed in past years.

Numbers of largemouth bass caught in 2011 increased by over 3,500 from numbers seen in 2005 (Tables 63 and 64), while numbers of largemouth bass harvested declined slightly. Mean length of largemouth bass harvested increased slightly from 14.9 inches in 2005 to 15.0 inches in 2011. The number of fishing trips for black bass in 2011 was 1,876, a slight increase from 1,778 trips in 2005. Black bass continued to be the most sought-after group fished for in Guist Creek Lake. Catch rate of bass by bass fishermen increased from 0.42 fish/hr in 2005 to 0.94 fish/hr in 2011. Bass angler success rate (11.87%) was essentially the same as 2005 (11.7%). Black bass catch, harvest and monthly angling success are shown in Tables 65 and 66.

Crappie were the second most sought-after group at Guist Creek Lake in 2011. Numbers of crappie caught significantly increased from 643 fish caught in 2005 to 2,925 in 2011. Additionally, the number of crappie harvested increased from 280 fish in 2005 to 1,773 in 2011. Mean length of crappie harvested was 8.9 in, an increase from 7.7 inches in 2005. The number of fishing trips for crappie also increased from 130 in 2005 to 367 in 2011. Harvest rate by crappie anglers increased from 0.300 fish/hr to 0.761 fish/hr. Percent success of crappie anglers increased from 25% in 2005 to 74% in 2011. Crappie catch, harvest and monthly angling success are shown in Tables 69 and 70.

Panfish (bluegill) were the third most sought after fish group at Guist Creek Lake in 2011. The number of panfish caught in 2011 (13,619 fish) declined from the number of panfish caught in 2005 (18,075 fish). Pounds harvested in 2011 were more than that seen in 2005, increasing from 423 lbs (1.33 lbs/acre) in 2005 to 728 lbs (2.30 lbs/acre) in 2011.

The average length of bluegill harvested was 5.3 in, almost an inch less than the average size caught in 2005 (6.0 in). Trips for panfish decreased from 316 trips in 2005 to 287 trips in 2011. The harvest rate for panfish was 1.557 fish/hr (1.162 fish/hr in 2005). The percentage of successful panfish anglers was 53% while in 2005 it was 46%. Panfish catch, harvest and monthly angling success are shown in Tables 71 and 72.

The fourth most sought-after group was the catfish with 248 trips by catfish anglers compared to 315 trips in 2005. Catfish numbers (2,207 fish) caught remained about the same as those seen in 2005 (2,453 fish), however, they were slightly lower. Pounds of catfish harvested, however, significantly increased from 401 lbs in 2005 to 1,325 lbs in 2011. Mean length of channel catfish harvested by catfish anglers was 13.4 in (13.7 in 2005). Harvest rate by catfish anglers increased from 0.191 fish/hr to 0.575 fish/hr over the same period. Success rate for catfish anglers increased from 25% in 2005 to 60% in 2011. Catfish catch, harvest and monthly angling success are shown in Tables 73 and 74.

The number of hybrid striped bass (HSB) caught decreased from 1,128 fish in 2005 to 462 in 2011. However, the number of hybrid striped bass harvested slightly increased from 102 in 2005 to 182 in 2011. Pounds of HSB harvested in 2011 totaled 427 lbs (1.35 lbs/acre), whereas in 2005 it was 432 lbs (1.36 lbs/acre). Mean length of HSB harvested in 2011 was 17.2 in while in 2004 it was 20.3. The number of trips for *Morones* decreased slightly from 291 trips in 2005 to 225 trips in 2011. Hours spent fishing for these fish also decreased from 1,580 hrs (4.98 hrs/acre) in 2005 to 1,093 hrs (3.45 hrs/acre) in 2011. Harvest rate for *Morone* fishermen increased from 0.061 fish/hr in 2005 to 0.139 fish/hr in 2011. Success rate for these anglers increased from 12% in 2005 to 24% in 2011. *Morone* catch, harvest and monthly angling success are shown in Tables 67 and 68.

An angler attitude survey was conducted at Guist Creek Lake during the creel survey. Surveys were completed in the field by the creel clerk. A total of 67 surveys were completed by anglers (359 surveys in 2005). The attitude survey reflected anglers' fishing preference did not change much from the 2005 angler attitude survey. However, anglers did express a decrease in satisfaction for their species of preference from the 2005 survey. The majority of anglers (71%) are satisfied with the current regulations on Guist Creek Lake.

Beaver Lake (158 acres)

In April, an effort was made to reduce the crowded largemouth bass population at Beaver Lake. Eight hundred ninety-seven (897) largemouth bass were removed from Beaver Lake and transported to Guist Creek and Boltz lakes. Largemouth bass ranging in size from 8.0 to 13.0 in ($\leq$10.0 in = 337; 11.0 in = 197; 12.0 in = 261; 13.0 in = 102) were removed from Beaver Lake. Beaver Lake was sampled for largemouth bass in May 2011 (Table 75). The CPUE for all sizes was 156.50 fish/hr compared to 238.22 fish/hr in 2010 and 249.00 fish/hr in 2009 (Table 76). As expected, catch rates for bass in length group less than 12.0 in significantly decreased from the earlier largemouth bass removal. However, numbers of bass in other length groups (12.0-14.9 in, and $\geq$15.0 in) increased from last year. The PSD and RSD_{15} for largemouth bass respectively, were 58 and 5, compared to 38 and 2 in 2010 and 38 and 1 in 2009 (Table 77). The population assessment score indicated a "Fair" bass population (Table 78), compared to "Good" in 2010. Fall electrofishing was conducted for relative weights and the index of age 0 year class strength of largemouth bass at Beaver Lake (Tables 79- 81). The relative weight index continues to reflect below-average weights for all three length groups, however, there were slight improvements from past years. Mean length and catch rate of age 0-bass increase in 2011 compared to 2010 (Table 81). The catch rate of age- 0 bass was well above the lake's average (106.0 fish/hr). Therefore, largemouth bass were not stocked in 2011. Finally, no shad were observed at Beaver Lake in 2011.

Bluegill and redear sunfish were sampled in May 2011 for CPUE, PSD, age and growth, and age frequency (Tables 82-93). Length frequency results showed the majority of bluegill are in the 3.0-4.0 in range, with most redear sunfish between 8.0 and 9.0 in (Table 82). The PSD for bluegill was 16 compared to 17 in 2010 and 41 in 2009. The RSD_8 was 1 compared to 3 in 2010 and 2 in 2009. Redear sunfish PSD and RSD_9 respectively were 62 and 28 (Table 83). CPUE for all size groups of bluegill were higher than last year (Table 84). Age and growth studies indicated bluegill reached 6.0 in between age 2 and 3 and 8.0 in. between age 6 and 7 (Table 85). The population assessment for bluegill indicated a "Good" population rating, an increase from the "Fair" ratings seen over the past several years (Table 88). The catch rate of redear sunfish $\geq$8.0 in was 23.20 fish/hr compared to 33.60 fish/hr in 2010 (Table 89). Overall, catch rates for all sizes were lower than the last several years.

Age and growth studies continued to show redear sunfish reaching 6.0 in between age 2 and 3, and 8.0 between age 3 and 4 (Table 90). Four redear sunfish ≥10.0 in were collected in 2011, the second straight year that ≥10 in redear sunfish were sampled. Age frequency (Table 91) indicated a good number of redear sunfish through age 4 in the fishery. Redear sunfish numbers have increased since the gizzard shad and grass carp removal, which resulted in an increase in aquatic vegetation. The population assessment indicated a "Good" redear sunfish fishery (Table 93). Relative weight data for redear sunfish continued to show average weights for all length groups, however, there was a significant decline in the body condition of bluegill at Beaver Lake in 2011 (Table 94). For additional information on Beaver Lake panfish, consult the Lake Fisheries Research Investigation (F-40) Annual Performance Report.

One application of an aquatic herbicide (Aquathol Super K, Dipotassium salt of endothall) was made along the entire shoreline of Beaver Lake on March 30th and 31st to control curly-leafed pondweed (*Potomogeton crispus*). Aquatic vegetation was significantly reduced in shallow areas of the lake during 2011. A few patches of native vegetation (coontail and naiads) were observed during the summer, but were not problematic. No liquid fertilizer applications have been made since 2001.

Boltz Lake (92 acres)

Spring electrofishing for largemouth bass length frequency, CPUE, PSD, age frequency and population assessment was done in May 2011 (Table 95). Results indicated a decrease in bass numbers from last year (Table 96). Growth rates indicated most bass are reaching harvestable size (12.0 in) between age 3 and 4 (Table 98). Most bass (76%) were age 4 or younger (≤15.0 in, Table 99). The population assessment indicated a "Fair" bass population, a decline from last year's rating of "Good" (Table 101). Electrofishing for largemouth bass relative weight and YOY data was conducted in September (Tables 102-104). Relative weights indicated very good body condition of larger (≥12.0 in) largemouth bass, however, below average weight of fish less than 12.0 in (Table 103). Fall sampling indicated above average numbers of age 0 bass, (60.70 fish/hr; average= 49.90 fish/hr); however, the average size decreased slightly from 2010 (Table 104). Currently, Boltz Lake does not contain a population of gizzard shad. Additionally, Boltz Lake was stocked with 274 largemouth bass (3.0 fish/acre; 8.0-13.0 in) that were removed from Beaver Lake in an effort to reduce the crowded largemouth bass population.

Spring electrofishing for bluegill was conducted in May 2011 (Tables 105). Catch rates for all sizes of bluegill increased in 2011 (Table 107). Age and growth data indicated bluegill reached 6.0 in by age 3, similar to growth rates in 2010 (Table 108). The majority (82%) of bluegill collected was age 1 through age 3 (Table 109), similar to 2011. The population assessment for bluegill indicated a "Good" population present, the same as last year's rating (Table 111).

A total of 29 common carp were removed from Boltz Lake in June, 2011. In total, 506 common carp (estimated 4,100 lb) have been removed from Boltz Lake since 2008.

Boltz Lake has been a blue catfish study lake (Black Bass Research Project) since 1998. Results of the channel catfish and blue catfish sampling at Boltz Lake by the Black Bass Research Project are presented in their Annual Performance Report. Boltz Lake was stocked with 425 (4.6 fish/acre; 6.0-18.0 in) blue catfish in August and 1,726 (18.7 fish/acre; 6.0-12.0 in) channel catfish in July 2011.

Bullock Pen Lake (134 acres)

Bullock Pen Lake was electrofished in May 2011 for largemouth bass length frequency, CPUE, age frequency and population assessment (Table 113). Overall, the bass catch rate (135.00 fish/hr) was slightly higher than last year's catch rate (132.25 fish/hr), and lower than the 15 year average (139.20 fish/hr) (Table 114). The PSD for largemouth bass was 65 and RSD_{15} was 38 in 2011 (Table 115). The 2011 population assessment for largemouth bass indicated a "Fair" population present, the same as last year's rating (Table 119). Electrofishing was conducted in September to determine the relative weights and YOY year class strength for largemouth bass (Table 120). Relative weights indicated excellent body condition for bass, particularly larger fish (Table 121). CPUE for both age-0 and age-0 ≥5.0 in decreased from last year (Table 122). Age-0 CPUE (38.00 fish/hr) was significantly greater than the lake average (21.00 fish/hr); therefore, largemouth bass were not stocked into Bullock Pen Lake in 2011. Bullock Pen Lake has hosted a population of gizzard shad for decades.

Bullock Pen Lake has been a blue catfish study lake (Black Bass Research Project, F-40) since 1998. Bullock Pen Lake was stocked with 732 (5.4 fish/acre; 6.0-18.0 in) blue catfish and 2,928 (21.9 fish/acre; 6.0-12.0 in) channel catfish in July 2011.

Corinth Lake (96 acres)

Corinth Lake was electrofished in May 2011 to collect largemouth bass length frequency, CPUE, PSD, age frequency and population assessment information (Table 123). The catch rate for largemouth bass increased from last year for all length groups of largemouth bass (Table 124). The PSD for largemouth bass was 28, slightly lower than the last two years' value of 33 (Table 125). The RSD_{15} decreased from 22 in 2009 and 23 in 2010 to 13 in 2011. Growth rates indicated most bass are reaching harvestable size (12.0 in) between age 3 and 4 (Table 126). Most bass (78%) were age 3 or younger (≤12.0 in, Table 127). The population assessment for largemouth bass was rated "Excellent", an increase from last year's rating of "Good" (Table 129). Fall electrofishing for largemouth bass was conducted to determine year class strength and relative weight (Tables 130). Relative weights of largemouth bass continue to be below average (Table 131). Largemouth bass mean length at age 0 and catch rates of all age 0 sizes declined from last year (Table 132). Age-0 CPUE (116.67 fish/hr) was significantly greater than the lake average (99.24 fish/hr), therefore, largemouth bass were not stocked into Corinth Lake in 2011.

Electrofishing for bluegill and redear sunfish was completed in May 2011 to obtain length frequency, CPUE, age and growth, age frequency and population assessment data (Table 133). Most bluegill were 3.0-4.0 in (Table 133). The bluegill PSD was 21 compared to 52 in 2009 and 30 in 2010 (Table 134). Age and growth studies showed that bluegill reach 6.0 in between age 3 and 4 (Table 136). The population assessment indicated a "Fair" population, identical to the last seven years (Table 139). Redear sunfish numbers and quality increased in 2011 to more average numbers. Redear sunfish PSD was 46 compared to 85 in 2009 and 58 in 2010. Catch rate for redear sunfish ≥8.0 in increased from 12.00 fish/hr in 2010 to 20.00 fish/hr in 2011 (Table 140). No ≥10.0 in redear sunfish were collected in 2011, therefore, it has been since 2004 since significant numbers of ≥10.0 in redear sunfish have been observed at Corinth Lake. Age and growth studies show redear sunfish reaching 8.0 in between age 5 and 6 (Table 141). The population assessment for redear sunfish continued to be rated "Good" (Table 144). Relative weights for bluegill and redear sunfish were collected in the fall. Relative weights indicated average body condition for bluegill and redear sunfish, except that body condition of 6.0-7.9 in bluegill was poor (Table 145).

Channel catfish were sampled in October using tandem hoop nets at Corinth Lake in 2011. Length frequency results for channel catfish showed a good size distribution between 9.0-15.0 in (Table 146). The largest channel catfish sampled was 21.0 in. The PSD and RSD_{24} for channel catfish were 5 and 0, respectively (Table 147). Relative weights indicated average condition for channel catfish (Table 148). Corinth Lake was stocked with 1,945 (20.3 fish/acre; 6.0-12.0 in) channel catfish in July 2011.

Elmer Davis Lake (149 acres)

Elmer Davis Lake was sampled for largemouth bass in May 2011. Length frequency, CPUE, PSD, age and growth, age frequency and population assessment data were collected (Table 149). Catch rates of largemouth bass were similar to last year for all sizes (Table 150). Numbers of bass in the protected slot (12.0-15.0 in) and bass ≥15.0 in were essentially the same as last year. The PSD for largemouth bass was 38 compared to 35 in 2009 and 39 in 2010 (Table 151). The RSD_{15} was 9 compared to 9 in 2009 and 10 in 2010. Population assessment data indicated a "Good" population, the same as last year (Table 152). Fall electrofishing for relative weights and year class strength of largemouth bass was completed in September 2011 (Table 153). Relative weights indicated an improvement in the body condition of largemouth bass at Elmer Davis Lake (Table 154). Studies indicated that numbers of age 0 bass in the fall of 2011 (74.00 fish/hr) were significantly less than the lake's average (145.00 fish/hr); however, largemouth bass were not stocked into Elmer Davis Lake (Table 155).

Electrofishing for length frequency, CPUE, age and growth, age frequency and population assessment was conducted for bluegill and redear sunfish in May 2011 (Table 156). Overall bluegill catch rates increased in 2011 (Tables 158). The PSD value for bluegill was 20 compared to 38 in 2009 and 17 in 2010 (Table 157). The RSD_8 increased to 2 compared to 1 in 2009 and 0 in 2010. Age and growth studies on bluegill showed that they reached 6.0 in between age 2 and 3 (Table 159). Most bluegill (84%) were age 2 and less (Table 160). The population assessment for bluegill was found to be "Good", an increase in last year's rating of "Fair" (Table 162).

Overall catch rates of redear sunfish increased from 2010 (Table 163). The PSD for redear sunfish was 92 compared to 42 in 2009 and 51 in 2010. The RSD_9 was 41 compared to 8 in 2009 and 11 in 2010 (Table 157). Age and growth studies indicated good growth rates with redear sunfish reaching 6.0 in between age 1 and 2 and 8.0 in between age 2 and 3 (Table 164). The redear sunfish population assessment indicated an "Excellent" population, an increase from last year's rating of "Good" (Table 167). Relative weight results for bluegill and redear sunfish indicated excellent body conditions for both species (Table 168). Gizzard shad removal efforts were conducted in 1994 and 1997 with success. However, a source for gizzard shad invasions can be attributed to the city of Owenton's water supply reservoir, Lower Thomas Lake, located in the drainage of Elmer Davis Lake. Gizzard shad have again become established due to overflow from Lower Thomas Lake during spring high water events. For additional information on Elmer Davis Lake panfish, consult the Lake Fisheries Research Investigation (F-40) Annual Performance Report.

One application of an aquatic herbicide (Aquathol Super K, Dipotassium salt of endothall) was made along portions of the shoreline (2.7 mi) at Elmer Davis Lake on May 5th to control curly-leafed pondweed (*Potomogeton crispus*). Aquatic vegetation was significantly reduced in shallow areas of the lake.

Results of the channel catfish sampling at Elmer Davis Lake by the Black Bass Research Section are presented in their Annual Performance Report. Elmer Davis Lake was stocked with 3,288 (22.1 fish/acre; 6.0-12.0 in) channel catfish in July 2011.

Kincaid Lake (183 acres)

Spring electrofishing studies were conducted in May 2011 for PSD, length frequency, age frequency and CPUE for largemouth bass (Table 169). Total catch rate increased from 217.50 fish/hr in 2010 to 242.00 fish/hr in 2011, above the lake average of 216.29 fish/hr (Table 170). The largemouth bass PSD and RSD_{15}, respectively, were 72 (64 in 2010) and 45 (34 in 2010) in 2011 (Table 171). The population assessment indicated a "Good" bass population, consistent with the past decade at Kincaid Lake (Table 172). Fall electrofishing for relative weight and index of year class strength at age 0 was conducted in September (Table 173). Relative weights of largemouth bass length groups were about average, except for 8.0-11.9 in bass which were slightly below average (Table 174). CPUE for age-0 largemouth bass increased from last year (Table 175). Age-0 CPUE (74.67 fish/hr) was greater than the lake average (38.38 fish/hr), therefore, largemouth bass were not stocked into Kincaid Lake in 2011. Kincaid Lake has hosted a population of gizzard shad for decades.

Channel catfish were sampled in October using tandem hoop nets (3 sets of 3 tandem nets) at Kincaid Lake in 2011. Length frequency results for channel catfish showed a good size distribution between 8.0-18.0 in (Table 176). The PSD and RSD_{24} for channel catfish were 6 and 0, compared to 16 and 0 in 2010 (Table 177). Relative weights indicated average condition for channel catfish (Table 178). Kincaid Lake was stocked with 3,800 (20.8 fish/acre; 6.0-8.0 in) channel catfish in March 2011.

McNeely Lake (51 acres)

McNeely Lake was electrofished for largemouth bass population analysis in May 2011. Data for length frequency, CPUE, PSD, age frequency and population assessment were collected (Table 179). Overall, catch rates of largemouth bass increased slightly in 2011 (Table 180). Largemouth bass PSD was 39, an increase from last year, and the RSD_{15} increased slightly from 12 last year to 14 in 2011 (Table 181). The population assessment rebounded back to "Good" from the "Fair" in 2010 (Table 182). Electrofishing for largemouth bass in September 2011 was completed to collect relative weight and the index of year class strength at age 0 (Table 183). Relative weights were slightly below average in 2011 for largemouth bass (Table 184). CPUE for age-0 (116.00 fish/hr) declined from last year (Table 185), but was still slightly above the lake average (113.92 fish/hr) for the last twelve years. Therefore, largemouth bass were not stocked into McNeely Lake in 2011. Currently, McNeely Lake does not contain a population of gizzard shad.

Bluegill and redear sunfish were sampled in May 2011 for length frequency, CPUE, age and growth, age frequency and population assessment (Table 186). Catch rates for bluegill (486.40 fish/hr) increased in 2011 above the lakes average catch rate of 329.97 fish/hr (Table 188). The bluegill PSD was 33 compared to 48 in 2010 (Table 187). RSD_8 was 0.3 in 2011, compared to 0 in 2010. Age and growth studies on bluegill showed that bluegill continue to reach 6.0 in between age 2 and 3 (Table 189).

The majority (82%) of bluegill collected were age 1 to age 3 (Table 190). The population assessment for bluegill continues to be "Good" (Table 192). Catch rates for redear sunfish rebounded in 2011, where overall catch rates (60.00 fish/hr) improved to above the lake average (50.02 fish/hr) (Table193). The PSD for redear sunfish was 58 compared to 41 last year, and the RSD_9 increased to 8 from 7 (Table 187). Age and growth studies indicated good growth rates with redear sunfish reaching 6.0 in between age 1 and 2, and 8.0 in by age 3 (Table 194). The redear sunfish fishery was rated "Good", the same as in 2010 (Table 197). Relative weight data for bluegill and redear sunfish were collected in the fall (Table 198). Good body condition was exhibited by both redear sunfish and bluegill during the fall of 2011.

Results of the channel catfish sampling at McNeely Lake by the Black Bass Research Section are presented in their Annual Performance Report. Elmer Davis Lake was stocked with 1,275 (25.0 fish/acre; 7.0-9.0 in) channel catfish in July 2011.

One application of an aquatic herbicide (Aquathol Super K, Dipotassium salt of endothall) was made along the entire shoreline of McNeely Lake on March 28th to control curly-leafed pondweed (*Potomogeton crispus*). Aquatic vegetation was significantly reduced in shallow areas of the lake during 2011. A few patches of native vegetation (naiads) were observed during the summer, but were not problematic.

Williamstown Lake

Williamstown Lake was electrofished for largemouth bass population analysis in May 2011. Data for length frequency, CPUE, PSD, age frequency and population assessment were collected (Table 199). Overall, catch rates for all sizes of largemouth bass decreased slightly from 2010 (Table 200). Largemouth bass PSD and RSD_{15} was 44 and 22, respectively (Table 201). The population assessment was "Fair" in 2011, the same as the last three years (Table 202). Electrofishing for largemouth bass in September 2011 was conducted to collect relative weight and the index of year class strength at age 0 (Table 203). The relative weights indicated average body condition for largemouth bass (Table 204). Year class strength indices significantly declined from last year, however age-0 CPUE (15.33 fish/hr) only slightly declined below the lakes average of 17.87 fish/hr (Table 205).

Sympson Lake

Relative abundance and CPUE of largemouth bass collected in the spring are shown in Table 206. 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. Catch rate of largemouth bass (134.00 fish/hr) increased from the past two years where the catch rate was 112.00 fish/hr in 2010 and 113.50 fish/hr in 2009. Fall electrofishing for length frequency and CPUE of largemouth bass was completed (Table 207).

Doe Run Lake

Length frequency, relative abundance and CPUE of fish collected by electrofishing at Doe Run Lake (Kenton Co.) in April 2011 are shown in Table 208. A successful gizzard shad removal was conducted in January 2006, however gizzard shad were observed in the fall of 2011. The fish are expected to have reoccurred due to an illegal stocking by anglers. Fall electrofishing for length frequency and CPUE of largemouth bass and bluegill was completed (Table 209).

Willisburg Lake

Relative abundance and CPUE of largemouth bass collected in the spring are shown in Table 210. All sizes of largemouth bass were represented with good numbers of bass above the 12.0-in size limit. Largemouth bass up to 20.0 in were collected. The catch rate of largemouth bass continued to decrease from 131.00 fish/hr in 2009 and 114.00 fish/hr in 2010 to 98.00 fish/hr in 2011. Fall electrofishing for length frequency and CPUE of largemouth bass was completed (Table 211).

Lake Jericho

Length frequency and CPUE of largemouth bass collected in May 2011 at Lake Jericho are presented in Table 212. All sizes of largemouth bass were represented with good numbers of bass above the 15.0-in size limit. Largemouth bass up to 20.0 in were collected.

Jacobson Park Lake

Length frequency and CPUE of largemouth bass collected in April 2011 at Jacobson Park Lake are presented in Table 213. All sizes of largemouth bass were represented; however, numbers of bass are significantly limited at this lake. Largemouth bass up to 19.0 in were collected. Jacobson Park Lake will be incorporated into the Fishing in Neighborhoods (FINS) program in 2012.

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

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Herrington	Crappie	4/6	1000	shock	Mostly sunny, windy	54 M	735.6 ft	15	fair	Fair sample; murky to muddy conditions
		4/6	1000	shock	Mostly sunny, windy	51 L		72	good	good sample
		4/11	1000	shock	Mostly cloudy	55U		15	fair	fair sample; murky water conditions; high water
Jacobson	LMB	4/13	1100	shock	sunny	53	above normal	10	fair	fair sample;
McNeely	LMB	4/18	1000	shock	sunny/windy	60	normal	36	good	good sample
Beaver	LMB	5/9	1000	shock	sunny	68	normal		good	good sample
Elmer Davis	LMB	5/9	1100	shock	sunny/breezy	64	normal	24	good	good sample
Williamstown	LMB	5/10	1100	shock	partly cloudy	66	above normal	18	good	good sample
Sympson	LMB	5/10	1100	shock	partly sunny	69	normal	20	good	good sample
Boltz	LMB	5/10	2000	shock	partly cloudy / warm	69	normal	23	good	good sample
Corinth	LMB	5/10	2030	shock	partly cloudy	72	normal	36	good	good sample
Guist Creek	LMB	5/11	0900	shock	partly cloudy	72	normal	30	good	good samples
Bullock Pen	LMB	5/12	2000	shock	clear / calm	79	normal	32	good	good sample
Kincaid	LMB	5/12	2030	shock	Cloudy	76	normal	23	fair	fair sample; sample a month later than usual; lake conditions were murky
Herrington	LMB	5/12	1100	shock	sunny / warm	75 L	747.0	44 L	fair	fair sample; lake very dark / murky
		5/12	1100	shock	mostly sunny	74M	747.0	15 M	poor	fair sample; muddy conditions
		5/16	1000	shock	cloudy / cool	68U	744.0	32U	fair	fair sample; muddy to murky water conditions
Beaver	BG/RESF	5/16	1100	shock	cloudy / breezy / cool	65	normal	84	good	good sample
Willisburg	LMB	5/17	1000	shock	cloudy	63	normal		good	good sample
Elmer Davis	BG/RESF	5/17	1030	shock	Cloudy/ cool	60	normal	48	good	good sample; vegetation dying
Corinth	BG/RESF	5/18	1000	shock	cloudy		normal		good	good samples
		5/20	1100	shock	sunny		normal			
Jericho	LMB	5/19	1030	shock			normal		good	good sample
Boltz	BG	5/23	1000	shock	sunny / breezy	74	normal	35	good	good sample
McNeely	BG/RESF	5/23	1030	shock	sunny	75	normal	36	good	good sample
Doe Run	LMB/BG	5/24	1100	shock	cloudy	71	normal	12	fair	fair sample/ muddy to murky water condtions
Lake Shelby	LMB	6/13	1030		sunny / light breeze	82	normal		good	good sample
Taylorsville	LMB	9/12	1000	shock	sunny	74 V	547.3	36 V	good	good sample
		9/12	1000	shock	sunny	75 A	547.3	39 A		V = Van Buren Area; B = Big Beech and A = Ashes Creeks
		9/13	1000	shock	sunny	75 B	547.2	36 B		
Herrington	LMB	9/13	1030	shock	sunny	75 U	737.8	24U	good	good samples
		9/14	1030	shock	sunny	75 M	737.7	48 M		9/14 – lower section; 9/14 – mid section; 9/13 – upper section
						75L	737.7			
Guist Creek	LMB	9/16	1000	shock	sunny / windy	69	below normal	18	good	good sample
Beaver	LMB/BG/RESF	9/19	1000	shock	cloudy / light rain	69	normal	24	good	good sample
Boltz	LMB/BG/RESF	9/20	1000	shock	cloudy	68	normal	36	good	good sample;
Corinth	LMB/BG/RESF	9/20	1000	shock	cloudy	68	normal	24	good	good sample
McNeely	LMB/BG/RESF	9/21	1100	shock	cloudy	71	normal	22	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
Elmer Davis	LMB/BG/RESF	9/22	1000	shock	Sunny / warm	69	normal	18	good	good sample
Bullock Pen	LMB	9/22	1100	shock	mostly cloudy	71	Normal	35	good	good sample
Sympson	LMB	9/27	1030	shock	sunny / windy	69	normal	32	good	good sample
Kincaid	LMB	9/27	1100	shock	sunny	68	normal	40	good	good sample
Willisburg	LMB	9/28	1000	shock	partly sunny	66	below normal	18	good	good sample
Williamstown	LMB	9/29	1030	shock	sunny	68	1.5 ft below normal	36	good	good sample
Kincaid	Channel catfish	10/3	1100	hoop net	sunny / cool	62	normal		good	good sample
Doe Run	LMB/BG	10/6	1100	shock	sunny	65	normal		good	good sample
Corinth	Channel catfish	10/10	1000	hoop net	cloudy	63	normal		good	good sample
Guist Creek	Morones	10/11 10/12	1000 1000	gillnet	mostly sunny cloudy	64 64	below normal (29)		good	good sample
Herrington	Morones	10/18 10/19	1000 1000	gillnet	partly cloudy rain / cool		734.1 733.6		good	good sample
Taylorsville	Morones/ Crappie	10/25 10/26 10/27 10/28	1000 1000 1000 1000	gillnet trapnet	Mostly cloudy rain rain / cool cold	60	547.4 547.4 548.0 548.1		good	good sample

Table 2. 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 2011: numbers in parentheses are standard errors.

	Inch class																			
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Van Buren																				
Largemouth bass		11	19	18	15	1	4	30	13	11	10	8	5	2	2	4			162	108.00 (10.88)
Ashes Creek																				
Largemouth bass	4	18	24	11	12	1	9	17	13	20	11	8	6	1	1	1		1	158	105.33 (9.83)
Big Beech Creek																				
Largemouth bass		8	18	18	6	1	9	20	22	26	10	4	5	1	2	3			153	102.00 (15.82)
Total																				
Largemouth bass	4	37	61	47	33	3	22	67	48	66	31	20	16	4	5	8	0	1	473	105.11 (6.78)

Dataset = cfdwrtvl.d11

Table 3. Numbers of fish and the relative weight (Wr) for each length group of largemouth bass collected at Taylorsville Lake on 12 and 13 September 2011. 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	Van Buren	67	95 (1)	23	97 (2)	8	102 (3)	98	96 (1)
	Ashes	59	90 (1)	25	93 (2)	4	95 (8)	88	91 (1)
	Big Beech	77	92 (1)	19	91 (3)	6	100 (4)	102	92 (1)
	Total	203	93 (1)	67	94(1)	18	100 (2)	288	93 (1)

Dataset = cfdwrtvl.d11

Table 4. 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 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	63.60	11.70	13.30	1.00	34.80	4.30
2002	Total	5.3	0.1	29.10	4.80	18.70	3.50	21.20	2.80
2003	Total	5.4	0.1	32.20	5.40	19.10	3.40	14.90	2.50
2004	Total	4.4	0.1	50.00	6.20	15.10	3.60	38.30	6.20
2005	Total	4.9	0.1	31.80	4.20	15.30	2.50	17.50	3.80
2006	Total	4.9	0.1	54.70	4.90	25.80	2.90	10.30	2.00
2007	Total	4.4	0.1	22.40	3.20	6.70	1.80	12.18	2.61
2008	Total	5.5	0.1	20.89	3.91	16.67	3.46	14.62	3.12
2009	Total	4.9	0.1	90.22	14.46	39.78	6.48	49.53	8.69
2010	Total	5.2	0.1	45.15	4.90	27.66	3.28	*	*
2011	Total	4.8	0.1	40.44	2.82	17.78	1.56		

Dataset = cfdwrtvl.d11

Table 5. Length distribution and CPUE (fish/nn) of each species of crappie collected at Taylorsville Lake in 48 net-nights during October 2011.

Species	Inch class 3	4	5	6	7	8	9	10	11	Total	CPUE	Std. error
White crappie												
natural	25	15	6		3	2	8	1		60	1.25	0.29
2009								1	3	4	0.08	0.04
2010				1	3	5	7			16	0.33	0.10
Total	25	15	6	1	6	7	15	2	3	80	1.67	0.34
Black crappie	87	34			14	4	10	6	2	157	3.27	0.69

Dataset = cfdtntvl.d11

Table 6. PSD and RSD_{10} values calculated for crappie collected at Taylorsville Lake in 48 net-nights during October 2011.

Species	No. ≥5.0 in	PSD	RSD_{10}
White crappie	40	68 (± 15)	13 (± 10)
Black crappie	36	61 (± 16)	22 (± 14)

Dataset = cfdtntvl.d11

Table 7. Mean back calculated lengths (in) at each annulus for otoliths from white crappie trap netted at Taylorsville Lake in 2011.

		Age	
Year class	No.	1	2
2010	30	5.2	
2009	4	5.1	9.8
Mean	34	5.2	9.8
Smallest		3.5	9.2
Largest		7.9	10.3
Std Error		0.2	0.2
95% ConLo		4.9	9.3
95% ConHi		5.5	10.3

Intercept value = 0.00
Dataset = cfdagtvl.d11

Table 8. Age frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 48 net-nights at Taylorsville Lake in 2011.

	Inch class												Std
Age	3	4	5	6	7	8	9	10	11	Total	%	CPUE	err
0+	25	15	6							46	58	0.96	0.30
1+				1	6	7	15	1		30	38	0.63	0.13
2+								1	3	4	5	0.08	0.04
Total	25	15	6	1	6	7	15	2	3	80	100	1.67	0.34
(%)	31	19	8	1	8	9	19	3	4	100			

Dataset = cfdtntvl.d11 and cfdagtvl.d11
CPUE of ≥8.0 in white crappie = 0.56 ± 0.13 fish/nn; ≥10.0 in = 0.10 ± 0.04 fish/nn

Table 9. Population assessment for white crappie collected during fall trap netting at Taylorsville Lake from 2000-2011 (scoring based on statewide assessment). An asterisk represents years where no age-2 white crappie were sampled.

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
2011	Value	0.71	11.0	0.56	0.63	0.96		
	Score	1	4	1	1	1	8	Fair
2010	Value	0.42	9.5	0.31	0.35	0.98		
	Score	1	3	1	1	1	7	Poor
2009	Value	0.02	9.6*	0.02	0.02	0.17		
	Score	1	4	1	1	1	8	Fair
2008	Value	0.08	9.6*	0.08	0.08	0.06		
	Score	1	4	1	1	1	8	Fair
2007	Value	0.25	9.6*	0.25	0.00	0.04		
	Score	1	4	1	0	1	7	Poor
2006	Value	0.91	9.6	0.90	0.00	0.04		
	Score	1	4	1	0	1	7	Poor
2005	Value	3.19	9.6	1.54	2.65	0.00		
	Score	1	4	1	1	0	7	Poor
2004	Value	1.65	10.3	0.96	1.43	1.40		
	Score	1	4	1	1	1	8	Fair
2003	Value	1.81	10.1*	1.73	1.68	0.48		
	Score	1	4	1	1	1	8	Fair
2002	Value	1.59	10.1	1.53	0.60	0.73		
	Score	1	4	1	1	1	8	Fair
2001	Value	4.52	9.4	4.25	2.55	0.10		
	Score	1	3	2	1	1	8	Fair
2000	Value	6.50	8.6	6.25	0.46	0.54		
	Score	2	2	3	1	1	9	Fair

Table 10. Mean back calculated lengths (in) at each annulus for otoliths from black crappie trap netted at Taylorsville Lake in 2011.

		Age		
Year class	No.	1	2	3
2010	21	5.3		
2009	11	5.6	8.7	
2008	2	5.3	8.7	9.9
Mean	34	5.4	8.7	9.9
Smallest		4.3	7.3	9.8
Largest		6.8	10.0	10.0
Std Error		0.1	0.2	0.1
95% ConLo		5.2	8.3	9.7
95% ConHi		5.6	9.0	10.1

Intercept value = 0.00
Dataset = cfdagtvl.d11

Table 11. Age frequency and CPUE (fish/nn) per inch class of black crappie trap netted for 48 net-nights at Taylorsville Lake in 2011.

	Inch class												Std
Age	3	4	5	6	7	8	9	10	11	Total	%	CPUE	err
0+	87	34								121	77	2.52	0.65
1+					13	4	5			22	14	0.46	0.14
2+					1		5	4	2	12	7	0.24	0.08
3+								2		2	2	0.05	0.03
Total	87	34			14	4	10	6	2	157	100	3.27	0.69
%	55	22			9	3	6	4	1	100			

Dataset = cfdtntvl.d11 and cfdagtvl.d11

CPUE of ≥8.0 in black crappie = 0.46 ± 0.15 fish/nn; ≥10.0 in = 0.17 ± 0.08 fish/nn

Table 12. Population assessment for black crappie collected during fall trap netting at Taylorsville Lake from 2000-2011 (scoring based on statewide assessment). An asterisk represents years where no age-2 black crappie were sampled.

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
2011	Value	0.75	9.8	0.46	0.46	2.52		
	Score	1	4	1	1	1	8	Fair
2010	Value	3.23	8.4	1.29	3.08	0.50		
	Score	1	1	1	2	1	6	Poor
2009	Value	0.23	9.8*	0.13	0.21	0.42		
	Score	1	4	1	1	1	8	Fair
2008	Value	0.56	9.8	0.54	0.16	0.42		
	Score	1	4	1	1	1	8	Fair
2007	Value	1.73	9.2	0.96	1.42	0.02		
	Score	1	3	1	1	1	7	Poor
2006	Value	3.33	9.5	3.29	0.13	0.48		
	Score	1	3	2	1	1	8	Fair
2005	Value	5.79	9.0	4.48	1.33	0.04		
	Score	2	2	2	1	1	8	Fair
2004	Value	12.04	9.3	1.17	11.73	1.17		
	Score	2	3	1	3	1	10	Fair
2003	Value	1.31	10.3	1.06	0.97	1.25		
	Score	1	4	1	1	1	8	Fair
2002	Value	2.24	10.2	1.63	1.75	0.14		
	Score	1	4	1	1	1	8	Fair
2001	Value	1.79	10.1	1.48	1.51	0.13		
	Score	1	4	1	1	1	8	Fair
2000	Value	0.79	9.6	0.73	0.45	0.15		
	Score	1	4	1	1	1	8	Fair

* Age data not collected

Table 13. Number of fish and the relative weight (Wr) for each length group of crappie at Taylorsville Lake in October 2011.

Species	Area	Length group						Total	
		5.0–7.9 in		8.0–9.9 in		≥10.0 in			
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
White crappie	Total	13	86 (2)	22	95 (1)	5	102 (2)	40	93 (1)
Black crappie	Total	14	82 (5)	14	99 (2)	8	94 (3)	36	91 (3)

Dataset = cfdtntvl.d11

Table 14. 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 2011: numbers in parentheses are standard errors.

	Inch class																
Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
White bass	11	75	10	4	37	62	25	14	1							239	29.88 (17.18)
Hybrid striped bass		2					30	25	12	6	10	6	1	1	1	94	11.75 (5.74)

Dataset = cfdgntvl.d11

Table 15. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Taylorsville Lake in 2011.

		Age		
Year class	No.	1	2	3
2010	62	8.6		
2009	28	8.6	13.8	
2008	1	10.7	15.5	18.2
Mean	91	8.6	13.9	18.2
Smallest		6.4	11.5	18.2
Largest		12.9	17.0	18.2
Std Error		0.1	0.2	
95% ConLo		8.4	13.4	
95% ConHi		8.9	14.4	

Intercept Value = 0.00
Dataset = cfdagtvl.d11

Table 16. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 8 net-nights at Taylorsville Lake in 2011.

	Inch class																	Std
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	%	CPUE	err
0+	2														2	2	0.25	0.16
1+						30	25	8							63	67	7.93	4.63
2+								4	6	10	6	1		1	28	29	3.45	1.85
3+													1		1	1	0.13	0.13
Total	2					30	25	12	6	10	6	1	1	1	94	100	11.75	5.74
%	2					32	27	13	6	11	6	1	1	1	100			

Dataset = cfdagtvl.d11 and cfdgntvl.d11

Table 17. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Taylorsville Lake in October 2011.

		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	0		67	85 (1)	25	89 (1)	92	86 (1)

Dataset = cfdgntvl.d11

Table 18. Population assessment for hybrid striped bass collected during fall gill netting at Taylorsville Lake from 2000-2011 (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
2011	Value	11.50	16.4	3.13	7.93	-	-		
	Score	3	2	2	3			10	Good
2010	Value	3.75	16.7	1.00	2.85	-	-		
	Score	1	2	1	2			6	Fair
2009	Value	11.38	15.7	0.88	10.38	1.104	66.9%		
	Score	3	1	1	4			9	Fair
2008	Value	0.56	17.1	0.38	0.19	0.370	30.9%		
	Score	1	3	1	1			6	Fair
2007	Value	16.75	16.2	10.75	6.00	0.798	55.0%		
	Score	3	2	4	3			12	Good
2006	Value	8.50	16.8	0.75	8.00	1.262	71.7%		
	Score	2	2	1	3			8	Fair
2005	Value	1.06	15.2	0.40	0.56	0.437	35.4%		
	Score	1	1	1	1			4	Poor
2004	Value	4.60	16.0	1.00	3.60	0.964	61.9%		
	Score	1	2	1	2			6	Fair
2003	Value	9.40	16.6	6.60	2.60	1.522	78.2%		
	Score	2	2	3	2			9	Fair
2002	Value	22.80	15.8	10.10	12.40	0.658	48.2%		
	Score	4	1	4	4			13	Good
2001	Value	13.30	16.0	2.00	11.10	1.437	76.2%		
	Score	3	2	1	4			10	Good
2000	Value	9.90	15.9	5.90	3.10	1.263	71.1%		
	Score	2	1	3	2			8	Fair

Table 19. Mean back calculated lengths (in) at each annulus for otoliths from white bass gill netted at Taylorsville Lake in 2011.

		Age			
Year class	No.	1	2	3	4
2010	70	7.3			
2009	67	6.8	10.3		
2008	6	7.4	11.4	12.6	
2007	1	6.3	10.8	12.3	12.9
Mean	144	7.1	10.4	12.6	12.9
Smallest		4.8	8.3	11.8	12.9
Largest		9.6	12.6	13.3	12.9
Std Error		0.1	0.1	0.2	
95% ConLo		6.9	10.2	12.3	
95% ConHi		7.3	10.6	12.9	

Intercept Value = 0.00
Dataset = cfdagtvl.d11

Table 20. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 8 net-nights at Taylorsville Lake in 2011.

	Inch class												*Std*
Age	6	7	8	9	10	11	12	13	14	Total	%	CPUE	*err*
0+	11	75	6							92	38	11.50	*7.67*
1+			4	4	33	24	6			71	30	8.92	*4.80*
2+					4	38	18	9		68	29	8.53	4.26
3+							1	4	1	6	3	0.79	0.46
4+								1		1	0	0.13	0.08
Total	11	75	10	4	37	62	25	14	1	239	100	29.88	17.18
%	5	31	4	2	15	26	10	6	0	100			

Dataset = cfdagtvl.d11 and cfdgntvl.d11

Table 21. Number of fish and the relative weight (Wr) for each length group of white bass collected at Taylorsville Lake in October 2011.

Species	Area	Length group						Total	
		6.0–8.9 in		9.0–11.9 in		≥12.0 in			
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
White bass	Total	96	101 (2)	103	93 (1)	40	85 (1)	239	96 (1)

Dataset = cfdgntvl.d11

Table 22. Population assessment for white bass collected during fall gill netting at Taylorsville Lake from 2000-2011 (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
2011	Value	18.38	11.9	5.00	8.92	1.506	77.8		
	Score	3	2	3	3			11	Good
2010	Value	11.00	12.1	1.75	7.78	1.920	85.3		
	Score	3	3	1	3			10	Good
2009	Value	1.30	NS	0.10	1.10	1.030	64.3		
	Score	1	0	1	1			3	Poor
2008	Value	2.00	12.1	0.30	1.60	1.157	68.6		
	Score	1	3	1	1			6	Fair
2007	Value	6.40	11.7	0.80	4.60	1.102	66.8		
	Score	2	2	1	2			7	Fair
2006	Value	4.30	11.7	0.80	3.00	1.040	64.6		
	Score	1	2	1	2			6	Fair
2005	Value	5.00	11.6	1.20	1.80	1.054	65.2		
	Score	2	2	1	1			6	Fair
2004	Value	8.60	11.4	0.10	7.30	2.030	86.9		
	Score	2	2	1	3			8	Fair
2003	Value	6.90	11.7	2.00	3.50	0.944	61.1		
	Score	2	2	1	2			7	Fair
2002	Value	5.90	11.8	1.30	2.60	1.113	67.1		
	Score	2	2	1	2			7	Fair
2001	Value	23.50	12.1	6.80	14.91	0.971	62.1		
	Score	4	3	3	4			14	Excellent
2000	Value	20.80	12.2	8.10	7.40	0.766	53.5		
	Score	4	3	3	3			13	Good

Table 23. 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 2011; numbers in parentheses are standard errors.

	Inch class																				
Location/Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Upper																					
Largemouth bass		1		6	13	10	13	5	12	14	8	4	6	10	5	3	1			111	44.40 (5.25)
Spotted bass																				0	0.00 (0.00)
Middle																					
Largemouth bass			2	10	11	20	17	4	10	33	12	11	11	12	11	7	7	2	2	182	72.40 (4.71)
Spotted bass				3	4	1	4	2	4	4	3	3	1							29	11.60 (2.42)
Lower																					
Largemouth bass	1		2	26	49	33	17	9	20	16	15	10	5	3	4	7	5	2		224	89.60 (8.60)
Spotted bass				1			1	3		3	5									13	5.20 (2.07)
Largemouth bass																					
Natural	1	1	2	32	64	62	47	18	42	63	35	25	22	25	20	17	13	4	2	495	66.00 (4.60)
2010			2	10	9	1														22	2.93 (0.74)
Total																					
Largemouth bass	1	1	4	42	73	63	47	18	42	63	35	25	22	25	20	17	13	4	2	517	68.93 (4.96)
Spotted bass				4	4	1	5	5	4	7	8	3	1							42	5.60 (1.35)

Dataset = cfdpsher.d11

Table 24. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Herrington Lake from 1994-2011; 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	4.90 (0.90)	30.10 (4.40)	21.50 (2.60)	17.90 (1.80)	2.13 (0.50)	74.40	(5.40)
1995	8.80 (2.30)	20.00 (4.40)	25.60 (4.00)	20.40 (1.40)	3.20 (0.73)	74.80	(9.60)
1996	9.50 (2.40)	24.40 (3.90)	20.30 (2.80)	26.50 (2.60)	3.07 (0.68)	80.90	(6.70)
1997	15.60 (2.30)	19.90 (3.40)	27.30 (2.60)	22.00 (1.70)	2.93 (0.60)	84.80	(6.10)
1998	37.20 (3.80)	45.30 (4.10)	30.90 (2.50)	21.30 (2.20)	1.87 (0.57)	134.80	(7.20)
1999	43.20 (5.20)	69.07 (6.65)	40.40 (3.90)	21.60 (2.40)	1.07 (0.33)	174.27	(14.27)
2000	15.60 (3.90)	53.50 (6.60)	26.93 (2.19)	12.27 (1.36)	0.27 (0.19)	108.30	(10.80)
2001	37.10 (6.70)	40.10 (6.30)	34.13 (4.53)	12.53 (1.48)	0.53 (0.25)	123.90	(15.30)
2002	19.50 (2.60)	32.10 (4.70)	25.47 (3.54)	24.00 (2.18)	1.60 (0.53)	101.10	(9.70)
2003	20.80 (4.40)	23.90 (2.40)	30.10 (2.80)	17.90 (1.70)	1.20 (0.44)	92.70	(4.20)
2004	29.60 (5.50)	64.80 (12.20)	38.70 (5.70)	29.70 (3.40)	1.47 (0.41)	162.80	(23.90)
2005	70.90 (9.70)	59.60 (7.10)	23.50 (3.00)	22.30 (3.40)	0.80 (0.35)	176.30	(15.40)
2006	24.70 (4.80)	36.70 (4.80)	38.40 (3.80)	19.30 (1.80)	0.40 (0.22)	119.10	(9.20)
2007	78.10 (10.40)	68.80 (7.30)	20.00 (2.50)	17.30 (2.30)	0.53 (0.32)	184.30	(17.10)
2008	31.33 (2.90)	39.73 (4.57)	29.47 (3.00)	22.13 (3.05)	1.47 (0.45)	122.67	(8.61)
2009	5.25 (1.20)	9.38 (1.14)	15.25 (2.20)	10.75 (1.43)	0.38 (0.21)	40.63	(4.40)
2010	41.47 (4.40)	34.00 (4.43)	28.67 (3.18)	25.07 (2.30)	0.93 (0.31)	129.20	(10.23)
2011	24.53 (3.69)	22.67 (2.01)	10.93 (1.30)	10.80 (1.48)	0.27 (0.19)	68.93	(1.35)

Dataset = cfdpsher.d11 - .d94

Table 25. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in each area of Herrington Lake in 2011; confidence intervals are in parentheses.

Area	Species	No. ≥8.0 in	PSD	RSD_{15}
Lower	Largemouth bass	113	45 (± 9)	19 (± 7)
Middle	Largemouth bass	138	54 (± 8)	29 (± 8)
Upper	Largemouth bass	82	46 (± 11)	24 (± 9)
Total	Largemouth bass	333	49 (± 5)	24 (± 5)

Dataset = cfdpsher.d11

Table 26. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected from Herrington Lake in 2011.

		Age										
Year	No.	1	2	3	4	5	6	7	8	9	10	11
2010	47	6.9										
2009	36	7.1	10.9									
2008	17	7.3	12.0	13.8								
2007	8	8.1	11.7	13.9	15.3							
2006	9	7.2	11.8	13.8	15.2	16.3						
2005	1	10.1	14.1	16.6	18.7	19.3	20.0					
2004	2	6.3	11.5	13.7	14.6	15.3	16.0	16.7				
2001	1	10.0	14.1	15.3	15.9	16.5	17.0	17.6	18.2	18.8	19.4	
2000	1	8.2	12.5	14.6	15.0	15.5	16.0	16.5	16.9	17.4	17.9	18.4
Mean	122	7.2	11.5	13.9	15.4	16.3	17.0	16.8	17.6	18.1	18.7	18.4
Smallest		2.8	8.2	12.4	13.3	14.3	15.6	16.5	16.9	17.4	17.9	18.4
Largest		11.1	14.1	16.6	18.7	19.3	20.0	17.6	18.2	18.8	19.4	18.4
Std Error		0.1	0.2	0.2	0.3	0.4	0.8	0.3	0.6	0.7	0.7	
95% ConLo		6.9	11.2	13.6	14.8	15.6	15.5	16.3	16.3	16.8	17.2	
95% ConHi		7.5	11.8	14.3	15.9	17.0	18.5	17.4	18.8	19.5	20.1	

Intercept value = 0.00
Dataset = cfdagher.d11

Table 27. Age frequency and CPUE (fish/hr) per inch class of largemouth bass collected during 7.50 hours of electrofishing at Herrington Lake during April 2011. Fish were collected in 15-minute runs.

	Inch class																					Std
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	%	CPUE	err
1	1	1	4	42	73	63	38	6												228	45	30.46	3.93
2							9	12	42	63	25	3								154	30	20.47	1.80
3											10	18	16	7						50	10	6.65	0.79
4												5	3	11	4	4				27	5	3.61	0.46
5													3	7	8	13	4			35	7	4.72	0.66
6																			2	2	0	0.27	0.19
7															8					8	2	1.07	0.25
8																				0	0	0.00	0.00
9																				0	0	0.00	0.00
10																	4			4	1	0.58	0.14
11																	4			4	1	0.58	0.14
Total	1	1	4	42	73	63	47	18	42	63	35	25	22	25	20	17	13	0	2	513	100	68.93	1.35
%	0	0	1	8	14	12	9	4	8	12	7	5	4	5	4	3	3	0	0	100			

Dataset = cfdpsher.d11 and cfdagher.d11

Table 28. Electrofishing catch rate (fish/hr) of each age of largemouth bass collected from Herrington Lake from 2000-2011.

	Year				
Age	2000	2001	2003	2007	2011
1	14.10	20.50	21.20	10.30	18.65
2	12.40	26.70	46.10	27.70	12.53
3	17.70	24.80	26.30	37.20	4.07
4	10.80	12.50	12.60	8.40	2.21
5	7.70	16.60	5.90	9.50	2.89
6	6.90	9.70	2.90	3.30	0.16
7	4.50	4.80	0.70	0.40	0.65
8	1.50	1.70	0.50	0.00	
9	0.90	1.50	1.30	0.30	
10	0.20	0.30			0.35
11	0.50	0.20			0.35
12	0.30	0.30			

Table 29. Population assessment for largemouth bass collected during spring electrofishing at Herrington Lake from 2000-2011 (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
2011	Value	13.8	18.65	10.93	10.80	0.27	0.539	41.7%		
	Score	4	1	1	2	2			10	Fair
2010	Value	13.7*	49.64^	28.67	25.07	0.93				
	Score	4	3	3	4	2			16	Good
2009	Value	13.7*	6.20^	15.25	10.75	0.38				
	Score	4	1	2	2	2			11	Fair
2008	Value	13.7*	34.57^	29.47	22.13	1.47				
	Score	4	2	3	4	2			15	Good
2007	Value	13.7	96.50	20.00	17.30	0.53	0.485	38.4%		
	Score	4	4	2	3	2			15	Good
2006	Value	13.7*	25.10^	38.40	19.30	0.40				
	Score	4	2	4	3	2			15	Good
2005	Value	13.7*	72.10^	23.50	22.30	0.80				
	Score	4	4	2	4	2			16	Good
2004	Value	13.7*	33.50^	38.70	29.70	1.50				
	Score	4	2	4	4	2			16	Good
2003	Value	13.7	20.90	30.10	17.90	1.20	0.498	39.2%		
	Score	4	2	3	3	2			14	Good
2002	Value	11.7*	16.70^	25.47	24.00	1.60				
	Score	3	1	3	4	3			14	Good
2001	Value	11.7	28.20	34.13	12.53	0.53	0.455	36.6%		
	Score	3	2	3	3	2			13	Good
2000	Value	11.0	13.10	26.93	12.27	0.27	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 30. Length distribution and CPUE (fish/hr) of black bass collected in 4.5 hours of 15-minute electrofishing runs in Herrington Lake in September 2011; numbers in parentheses are standard errors.

	Inch class																		
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE
Lower																			
Largemouth bass	6	2	3	12	19		6	4	2		1	6	1		1			63	42.00 (10.67)
Spotted bass	2								1	1	1							5	3.33 (1.23)
Middle																			
Largemouth bass	8		5	12	38	14	2	2	6	3	3		1	1	1			96	64.00 (11.55)
Spotted bass	1					2	3			2								8	5.33(1.69)
Upper																			
Largemouth bass	1	9	17	41	44	20	1	1	7	9	3	7	4		2	1	2	169	112.67 (8.73)
Spotted bass		1	1	1						3		1						7	4.67 (1.91)
Total																			
Largemouth bass	15	11	25	65	101	34	9	7	15	12	7	13	6	1	4	1	2	328	72.89(9.11)
Spotted bass	3	1	1	1		2	3		1	6	1	1						20	4.44 (0.91)

Dataset = cfdwrher.d11

Table 31. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Herrington Lake on 13 and 14 September 2011. 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	Lower	12	93 (1)	8	88 (3)	1	89 (0)	21	91 (1)
	Middle	13	101 (3)	4	94 (1)	2	99 (1)	19	99 (2)
	Upper	18	94 (2)	14	93 (2)	5	93 (4)	37	94 (1)
	Total	43	96 (1)	26	92 (2)	8	94 (2)	77	94 (1)

Dataset = cfdwrher.d11

Table 32. 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 Herrington 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 (Natural) CPUE	Age 1 (Natural) Std. error
2001	Total	4.5	0.1	18.30	2.90	5.90	0.90	16.70	2.20
2002	Total	4.6	0.2	9.80	2.00	4.90	1.20	20.90	4.30
2003	Total	4.6	0.1	51.10	6.00	27.30	5.30	33.50	6.00
2004	Total	4.9	0.1	15.60	3.00	9.00	2.10	72.10	9.50
2005	Total	5.3	0.1	24.20	5.10	16.90	4.50	25.10	4.90
2006	Total	4.8	0.1	40.90	5.80	20.40	4.30	96.50	11.60
2007	Total	5.1	0.1	8.00	2.50	5.30	1.90	34.57	3.00
2008	Total	5.1	0.1	25.78	4.94	13.78	3.69	6.20	1.22
2009	Total	4.7	0.1	109.78	16.16	55.11	15.45	49.64	5.37
2010	Total	5.8	0.1	22.00	3.38	17.56	3.28	26.64	3.57
2011	Total	5.8	0.1	54.53	7.78	43.79	6.73		

Table 33. Species composition, relative abundance, and CPUE (fish/hr) of crappie collected in 4.5 hours of 15-minute electrofishing runs in Herrington Lake, March 2011; numbers in parentheses are standard errors.

	Inch class											
Location/Species	4	5	6	7	8	9	10	11	12	13	Total	CPUE
Upper												
White crappie		1		12	55	23	5	3	7		106	70.67 (9.45)
Black crappie					1	1	4	3			9	6.00 (2.25)
Middle												
White crappie		4		29	115	80	11	6			245	163.33 (49.58)
Black crappie	1	2		2	5	4	6	4	1	1	26	17.33 (1.69)
Lower												
White crappie						1	1				2	1.33 (1.33)
Black crappie						4	12	5			21	14.00 (12.43)
Total												
White crappie		5		41	170	104	17	9	7		353	78.44 (22.56)
Black crappie	1	2		2	6	9	22	12	1	1	56	12.44 (4.15)

Dataset = cfdpsher.d11

Table 34. PSD and RSD_{10} values calculated for crappie electrofished from Herrington Lake during March 2011.

Species	No. ≥5.0 in	PSD	RSD_{10}
White crappie	353	87 (± 45)	9 (± 3)
Black crappie	55	93 (± 7)	65 (± 13)

Dataset = cfdpsher.d11

Table 35. Mean back calculated lengths (in.) at each annulus for otoliths from white crappie electrofished at Herrington Lake in 2011.

		Age				
Year class	No.	1	2	3	4	5
2009	33	4.7	8.4			
2008	12	5.6	9.6	11.0		
2007	2	5.4	10.1	11.5	12.3	
2006	2	4.3	8.5	10.6	11.6	12.4
Mean	49	5.0	8.8	11.0	11.9	12.4
Smallest		3.3	5.0	10.1	11.3	12.3
Largest		7.0	13.6	11.8	12.4	12.5
Std Error		0.1	0.2	0.1	0.2	0.1
95% ConLo		4.7	8.3	10.7	11.5	12.2
95% ConHi		5.2	9.2	11.2	12.4	12.6

Intercept value = 0.00
Dataset = cfdagher.d11

Table 36. Age frequency and CPUE (fish/hr) per inch class of white crappie electrofished at Herrington Lake in 2011.

	Inch class											Std
Age	5	6	7	8	9	10	11	12	Total	%	CPUE	err
1									0	0	0.00	0.00
2	5		41	170	104	8			328	93	72.79	21.58
3						9	9		18	5	4.10	1.14
4								4	4	1	0.78	0.43
5								4	4	1	0.78	0.43
Total	5		41	170	104	17	9	8	353	100	78.44	22.56
(%)	1		12	48	29	5	3	2	100			

Dataset = cfdpsher.d11 and cfdagher.d11
CPUE of ≥8.0 in white crappie = 68.22 ± 19.33 fish/hr; ≥10.0 in = 7.33 ± 1.75 fish/hr

Table 37. Population assessment for white crappie collected during spring electrofishing at Herrington Lake from 2003-2011 (scoring based on lake-specific assessment).

Year		Total CPUE	Mean length age-2 at capture	Spring CPUE ≥8.0 in	Spring CPUE ≥10.0 in	CPUE age-2	Total score	Assessment rating
2011	Value	78.44	8.3	68.22	7.33	72.79		
	Score	4	1	4	3	4	16	Good
2010	Value	27.11	9.1	14.89	8.00	8.43		
	Score	2	3	1	3	1	10	Fair
2009	Value	17.00	9.1	17.00	9.50	7.60		
	Score	1	3	2	4	1	11	Fair
2008	Value	15.80	9.3	15.60	5.30	12.50		
	Score	1	4	1	2	1	9	Fair
2007	Value	6.90	9.2	6.20	3.10	3.80		
	Score	1	4	1	1	1	8	Fair
2006	Value	11.60	8.9	11.30	10.20	0.70		
	Score	1	3	1	4	1	10	Fair
2005	Value	34.20	8.9	29.60	7.80	28.40		
	Score	2	3	2	3	2	12	Fair
2004	Value	27.60	8.4	21.10	5.80	23.10		
	Score	2	1	2	2	2	9	Fair
2003	Value	10.20	8.7	7.70	5.00	4.00		
	Score	1	2	1	2	1	7	Poor

Table 38. Mean back calculated lengths (in.) at each annulus for otoliths from black crappie electrofished at Herrington Lake in 2011.

		Age			
Year class	No.	1	2	3	4
	1	4.3			
2009	22	5.4	8.8		
2008	20	5.2	9.5	11.1	
2007	1	4.4	9.8	12.0	13.1
Mean	44	5.3	9.1	11.1	13.1
Smallest		3.7	5.8	10.2	13.1
Largest		7.6	11.5	12.1	13.1
Std Error		0.1	0.2	0.1	
95% ConLo		5.0	8.8	10.9	
95% ConHi		5.5	9.5	11.4	

Intercept value = 0.00
Dataset = cfdagher.d11

Table 39. Age frequency and CPUE (fish/hr) per inch class of black crappie collected during 4.0 hours of electrofishing at Herrington Lake in 2011.

	Inch class													Std
Age	4	5	6	7	8	9	10	11	12	13	Total	%	CPUE	err
1	1										1	2	0.22	0.22
2		2		2	6	9	8				27	49	6.10	2.06
3							14	12	1		27	47	5.90	2.39
4										1	1	2	0.22	0.22
Total	1	2		2	6	9	22	12	1	1	56	100	12.44	4.15
%	2	4		4	11	16	39	21	2	2	100			

Dataset = cfdpsher.d11 and cfdagher.d11

CPUE of ≥8.0 in black crappie = 11.33 ± 4.12 fish/hr; ≥10.0 in = 8.00 ± 3.28 fish/hr

Table 40. Population assessment for black crappie collected during spring electrofishing at Herrington Lake from 2003-2011 (scoring based on lake-specific assessment).

Year		Total CPUE	Mean length age-2 at capture	Spring CPUE ≥8.0 in	Spring CPUE ≥10.0 in	CPUE age-2	Total score	Assessment rating
2011	Value	12.44	8.8	11.33	8.00	6.10		
	Score	2	3	2	3	1	11	Fair
2010	Value	22.89	8.1	13.11	3.56	19.70		
	Score	2	1	2	1	2	8	Fair
2009	Value	7.80	9.1	7.50	4.50	3.10		
	Score	1	3	1	2	1	8	Fair
2008	Value	8.20	9.5	8.20	4.00	5.00		
	Score	1	4	1	2	1	9	Fair
2007	Value	11.10	9.4	10.20	4.40	8.70		
	Score	2	4	2	2	2	12	Good
2006	Value	7.10	9.2	6.70	5.80	1.00		
	Score	1	3	1	2	1	8	Fair
2005	Value	47.30	8.9	39.30	13.80	45.00		
	Score	4	3	4	4	4	19	Excellent
2004	Value	6.70	9.0	6.10	5.20	1.30		
	Score	1	3	1	2	1	8	Fair
2003	Value	3.00	8.0	2.20	1.70	1.00		
	Score	1	1	1	1	1	5	Poor

Table 41. 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 2011: numbers in parentheses are standard errors.

	Inch class																
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
White bass	8	22	13	14	10	31	43	29	6	1						177	14.75 (1.36)
Hybrid striped bass	4	3	12	10	2				1	24	19	4	8	6	2	95	7.92 (2.61)

Dataset = cfdgnher.d11

Table 42. Mean back calculated lengths (in.) at each annulus for otoliths from hybrid striped bass gill netted at Herrington Lake in 2011.

		Age	
Year class	No.	1	2
2010	40	13.0	
2009	20	12.4	17.8
Mean	60	12.8	17.8
Smallest		10.3	15.9
Largest		14.6	19.4
Std Error		0.1	0.2
95% ConLo		12.6	17.4
95% ConHi		13.0	18.1

Intercept Value = 0.00
Dataset = cfdagher.d11

Table 43. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 15 net-nights at Herrington Lake in 2011.

	Inch class																		Std
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	%	CPUE	err
0+	4	3	12	10	2											31	33	2.58	1.22
1+									1	24	19					44	46	3.67	0.77
2+												4	8	6	2	20	21	1.67	0.53
Total	4	3	12	10	2	0	0	0	1	24	19	4	8	6	2	95	100	7.92	2.61
%	4	3	13	11	2	0	0	0	1	25	20	4	8	6	2	100			

Dataset = cfdagher.d11 and cfdgnher.d11

Table 44. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Herrington Lake in October 2011.

		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	27	95 (1)	0		64	96 (1)	91	96 (1)

Dataset = cfdgnher.d11

Table 45. Population assessment for hybrid striped bass collected during fall gill netting at Herrington Lake from 2000-2011 (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
2011	Value	5.34	19.7	5.33	3.67	-	-		
	Score	2	4	3	2			11	Good
2010	Value	5.27	20.0	4.67	4.93	1.211	70.2		
	Score	2	4	2	2			10	Good
2009	Value	2.67	19.3	2.67	2.06	1.109	66.3		
	Score	1	4	2	1			8	Fair
2008	Value	6.00	20.2	6.00	3.56	0.912	59.8		
	Score	2	4	3	2			11	Good
2007	Value	6.19	20.6	4.94	5.63	1.122	67.4		
	Score	2	4	2	3			11	Good
2006	Value	1.31	21.4	1.25	4.00	0.633	46.9		
	Score	1	4	1	2			8	Fair
2005	Value	0.42	19.5	0.42	0.25	NA	NA		
	Score	1	4	1	1			7	Fair
2004	Value	2.50	20.8	2.17	0.11	NA	NA		
	Score	1	4	1	1			7	Fair
2003	Value	3.06	19.8	2.94	1.13	0.601	45.2		
	Score	1	4	2	1			8	Fair
2002	Value	8.17	20.8	7.00	3.60	0.770	53.7		
	Score	2	4	3	2			11	Good
2001	Value	4.70	20.1	4.70	0.80	NA	NA		
	Score	1	4	2	1			8	Fair
2000	Value	8.88	18.9	8.90	5.50	1.282	72.3		
	Score	2	4	3	3			12	Good

Table 46. Mean back calculated lengths (in.) at each annulus for otoliths from white bass gill netted at Herrington Lake in 2011.

		Age					
Year class	No.	1	2	3	4	5	6
2010	50	9.5					
2009	48	9.0	12.5				
2008	17	9.2	12.1	13.5			
2007	1	5.6	11.7	13.4	14.3		
2006	4	9.7	12.7	13.9	14.5	15.0	
2005	1	8.3	11.9	13.6	14.3	14.9	15.4
Mean	121	9.2	12.4	13.6	14.5	15.0	15.4
Smallest		5.1	7.9	9.9	13.9	14.2	15.4
Largest		11.3	13.8	15.0	15.6	16.0	15.4
Std Error		0.1	0.1	0.2	0.3	0.3	
95% ConLo		9.0	12.2	13.2	14.0	14.3	
95% ConHi		9.4	12.5	14.0	15.0	15.6	

Intercept Value = 0.00
Dataset = cfdagher.d11

Table 47. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 12 net-nights at Herrington Lake in 2011.

	Inch class													Std
Age	7	8	9	10	11	12	13	14	15	16	Total	%	CPUE	err
0+	8	22	11	6							47	27	3.96	1.16
1+			2	6	9	26	9				52	30	4.36	0.78
2+					1	5	30	16			52	29	4.34	0.85
3+				1			4	10	4		19	11	1.59	0.41
4+								1			1	1	0.08	0.03
5+								2	1	1	4	2	0.33	0.14
6+									1		1	1	0.08	0.03
Total	8	22	13	14	10	31	43	29	6	1	177	100	14.75	1.36
%	5	12	7	8	6	18	24	16	3	1	100			

Dataset = cfdagher.d11 and cfdgnher.d11

Table 48. Number of fish and the relative weight (Wr) for each length group of white bass collected at Herrington Lake in October 2011.

		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	30	98 (2)	37	97 (1)	110	100 (1)	177	99 (1)

Dataset = cfdgnherl.d11

Table 49. Population assessment for white bass collected during fall gill netting at Herrington Lake from 2000-2011 (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
2011	Value	10.79	13.7	9.17	4.36	0.877	58.4		
	Score	3	4	3	2			12	Good
2010	Value	7.87	13.6	4.00	6.20	1.351	74.1		
	Score	2	4	2	3			11	Good
2009	Value	3.44	13.1	2.33	2.67	0.900	59.3		
	Score	1	4	1	2			8	Fair
2008	Value	6.72	13.3	5.83	2.06	0.717	51.2		
	Score	2	4	3	1			10	Good
2007	Value	5.60	13.6	3.81	2.94	0.722	51.4		
	Score	2	4	2	2			10	Good
2006	Value	1.88	13.9	1.31	0.88	*	*		
	Score	1	4	1	1			7	Fair
2005	Value	2.08	13.5	2.00	0.17	0.371	31.0		
	Score	1	4	1	1			7	Fair
2004	Value	10.06	13.9	6.72	9.20	0.726	51.6		
	Score	3	4	3	3			13	Good
2003	Value	2.50	14.1	1.94	0.56	0.381	31.7		
	Score	1	4	1	1			7	Fair
2002	Value	2.90	14.1	2.42	2.02	0.841	56.9		
	Score	1	4	1	1			7	Fair
2001	Value	1.90	14.0	1.80	1.06	0.418	34.2		
	Score	1	4	1	1			7	Fair
2000	Value	3.50	13.9	2.75	2.00	0.741	52.4		
	Score	1	4	2	1			8	Fair

Table 50. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 3.0 hours of 15-minute electrofishing runs in Guist Creek Lake, May 2011; 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
Largemouth bass	10	28	18	47	72	51	34	46	46	34	25	25	37	27	27	19	10	5	562	187.33 (9.71)

Dataset = cfdpsgcl.d11

Table 51. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Guist Creek Lake from 1992-2011. 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	12.00 (2.10)	16.80 (2.70)	38.40 (5.20)	41.20 (4.70)	3.20 (1.00)	108.40 (7.20)
1993	22.70 (2.60)	25.50 (2.70)	23.80 (2.70)	51.60 (5.00)	5.47 (1.07)	123.60 (9.10)
1994	19.20 (2.70)	29.80 (3.70)	19.60 (2.60)	40.20 (3.90)	2.00 (0.54)	108.80 (8.60)
1995	18.20 (3.00)	40.60 (3.80)	23.20 (2.40)	47.20 (5.50)	5.00 (1.33)	129.20 (9.20)
1996	32.60 (5.50)	28.80 (3.60)	44.80 (2.80)	58.20 (5.20)	5.80 (1.10)	164.40 (10.60)
1997			NS			
1998	20.30 (3.10)	45.30 (4.90)	18.70 (3.50)	72.70 (12.30)	5.00 (1.31)	157.00 (14.50)
1999	53.50 (6.90)	56.80 (10.20)	41.70 (6.30)	51.30 (3.40)	7.95 (1.30)	203.30 (19.40)
2000	26.70 (6.10)	19.30 (2.40)	23.00 (2.90)	41.30 (5.40)	3.00 (1.00)	110.30 (7.60)
2001	39.00 (5.30)	42.00 (3.60)	17.30 (2.70)	46.30 (5.20)	1.67 (0.59)	144.70 (10.10)
2002	43.30 (9.90)	32.30 (7.70)	23.30 (3.10)	41.30 (7.80)	2.00 (1.35)	134.30 (18.60)
2003	27.70 (6.70)	96.70 (9.90)	31.00 (4.60)	49.70 (4.00)	2.67 (0.90)	205.00 (19.70)
2004	30.70 (6.00)	62.70 (6.50)	58.00 (7.00)	54.30 (5.90)	3.67 (1.04)	205.70 (17.00)
2005	84.30 (12.20)	67.00 (6.30)	63.00 (5.60)	70.30 (7.50)	4.67 (1.38)	284.70 (25.60)
2006	30.00 (6.60)	69.30 (8.20)	30.30 (3.30)	68.70 (6.40)	3.33 (1.46)	198.30 (19.00)
2007	23.30 (3.00)	59.30 (6.30)	42.00 (4.30)	58.00 (5.50)	3.67 (1.15)	182.70 (11.60)
2008	24.00 (3.62)	19.67 (2.28)	41.33 (5.56)	73.00 (10.31)	4.67 (1.46)	158.00 (12.89)
2009	12.00 (2.65)	23.33 (4.69)	19.33 (3.65)	35.67 (5.96)	4.33 (1.04)	90.33 (11.33)
2010	46.83 (4.07)	25.33 (2.57)	26.33 (2.86)	47.33 (4.59)	3.00 (0.77)	145.83 (8.43)
2011	34.33 (2.63)	67.67 (7.01)	35.00 (3.88)	50.33 (4.71)	5.33 (1.58)	187.33 (9.71)

Dataset = cfdpsgcl.d11 – d92

Table 52. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Guist Creek Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	459	56 (± 4)	33 (± 4)

Dataset = cfdpsgcl.d11

Table 53. Population assessment for largemouth bass collected during spring electrofishing at Guist Creek Lake from 2000-2011 (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
2011	Value	11.0*	16.44	34.67	50.67	5.67				
	Score	3	2	2	4	4			15	Good
2010	Value	11.0*	31.50^	26.33	47.33	3.00				
	Score	3	2	2	4	3			14	Good
2009	Value	11.0	6.67	19.33	35.67	4.33	0.341	28.9		
	Score	3	1	1	4	4			13	Good
2008	Value	11.5*	8.13^	41.33	73.00	4.67				
	Score	4	1	3	4	4			16	Good
2007	Value	11.5*	15.50^	42.00	58.00	3.67				
	Score	4	1	3	4	3			15	Good
2006	Value	11.5*	15.20^	30.30	68.70	3.33				
	Score	4	1	2	4	3			14	Good
2005	Value	11.5	21.37	63.00	70.33	4.67	0.510	40.0		
	Score	4	2	4	4	4			18	Excellent
2004	Value	10.2*	22.10^	58.00	54.33	3.67				
	Score	2	2	4	4	3			15	Good
2003	Value	10.2*	16.30^	31.00	49.67	2.67				
	Score	2	2	2	4	3			13	Good
2002	Value	10.2*	23.80^	23.30	41.30	2.00				
	Score	2	2	2	4	3			13	Good
2001	Value	10.2	25.70	17.30	46.30	1.70	0.289	25.1		
	Score	2	2	1	4	2			11	Fair
2000	Value	10.0	16.80	23.00	41.30	3.00	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

Table54. 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 2011: 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	1	12	28	11	1	12	33	18	25	24	18	16	7	12	9	9	6	3	245	163.33 (12.28)

Dataset = cfdwrgcl.d11

Table 55. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Guist Creek Lake on 16 September 2011. 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	100	96 (1)	41	96 (2)	39	102 (1)	180	97 (1)

Dataset = cfdwrgcl.d11

Table 56. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in the fall in electrofishing samples at Guist Creek Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2000	Total	3.6	0.1	19.50	4.00	0.00		25.70	5.30
2001	Total	3.9	0.1	65.30	14.00	1.00	0.50	23.80	6.70
2002	Total	4.7	0.1	47.30	7.60	19.30	2.80	16.30	3.30
2003	Total	4.0	0.1	30.70	8.20	6.00	2.00	22.10	4.80
2004	Total	4.0	0.1	40.70	6.00	0.70	0.70	21.40	4.20
2005	Total	4.5	0.1	24.50	4.40	5.00	2.00	15.20	4.50
2006	Total	3.9	0.1	50.70	8.50	10.00	4.20	15.50	2.20
2007	Total	3.8	0.2	12.70	4.20	2.70	1.70	8.13	1.99
2008	Total	3.2	0.1	139.33	23.58	0.67	0.67	6.67	2.38
2009	Total	3.7	0.1	51.33	9.77	0.67	0.67	31.50	3.13
2010	Total	4.9	0.1	41.33	4.22	18.67	1.98	16.44	1.60
2011	Total	4.4	0.1	34.67	13.17	7.33	3.92		

Table 57. Length distribution and CPUE (fish/nn) of hybrid striped bass collected during 8 net-nights of gill netting in Guist Creek Lake in November 2011: numbers in parentheses are standard errors.

	Inch class														
Species	11	12	14	15	16	17	18	19	20	21	22	25	27	Total	CPUE
Hybrid striped bass	1	1	1	4	3	16	14	5	1	1	1	1	1	50	6.25 (1.51)

Dataset = cfdgngcl.d11

Table 58. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Guist Creek Lake in 2011.

		Age					
Year class	No.	1	2	3	4	5	6
2010	2	7.7					
2009	42	8.1	13.5				
2008	4	9.3	13.8	18.0			
2007	1	8.5	14.5	21.3	23.5		
2006							
2005	1	11.5	16.9	21.5	24.3	25.8	26.2
Mean	50	8.3	13.6	19.1	23.9	25.8	26.2
Smallest		6.8	11.7	15.9	23.5	25.8	26.2
Largest		11.5	16.9	21.5	24.3	25.8	26.2
Std Error		0.1	0.1	0.9	0.4		
95% ConLo		8.0	13.3	17.4	23.0		
95% ConHi		8.4	13.9	20.9	24.8		

Intercept Value = 0.00
Dataset = cfdaggcl.d11

Table 59. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 8 net-nights at Guist Creek Lake in 2011.

	Inch class																Std
Age	11	12	14	15	16	17	18	19	20	21	22	25	27	Total	%	CPUE	err
1+	1	1												2	4	0.25	0.25
2+			1	4	3	16	14	4						42	84	5.27	1.31
3+								1	1	1	1			4	8	0.48	0.22
4+												1		1	2	0.13	0.13
5+														0	0	0.00	0.00
6+													1	1	2	0.13	0.13
Total	1	1	1	4	3	16	14	5	1	1	1	1	1	50	100	6.25	1.51
%	2	2	2	8	6	32	28	10	2	2	2	2	2	100			

Dataset = cfdaggcl.d11 and cfdgngcl.d11

Table 60. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Guist Creek Lake in October 2011.

		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	1	86	2	75 (2)	47	84 (1)	50	83 (1)

Dataset = cfdgngcl.d11

Table 61. Population assessment for hybrid striped bass collected during fall gill netting at Guist Creek Lake from 2000-2011 (scoring based on statewide assessment).

Year		CPUE (excluding age 0)	Mean length age-2+ at capture	CPUE ≥15.0 in	CPUE age 1+	Total score	Assessment rating
2011	Value	6.25	17.6	5.88	0.25		
	Score	2	3	3	1	9	Fair
2010	Value	4.00	13.2	1.00	2.88		
	Score	1	1	1	2	5	Poor
2009	Value	2.00	18.5	2.00	1.25		
	Score	1	4	1	1	7	Fair
2008	Value	0.88	16.8	0.75	0.13		
	Score	1	2	1	1	5	Poor
2007	Value	8.75	18.4	8.25	0.50		
	Score	2	4	3	1	10	Good
2006	Value	3.38	17.1	3.13	0.25		
	Score	1	3	2	1	7	Fair
2005	Value	3.25	14.9	2.88	0.25		
	Score	1	1	2	1	5	Poor
2004	Value	3.63	17.4	2.50	0.88		
	Score	1	3	2	1	7	Fair
2003	Value	3.50	18.0	3.25	0.25		
	Score	1	4	2	1	8	Fair
2002	Value	4.25	17.2	3.50	0.75		
	Score	1	3	2	1	7	Fair
2001	Value	2.25	17.1	1.50	0.75		
	Score	1	3	1	1	6	Fair
2000	Value	15.63	17.2	9.00	6.38		
	Score	3	3	3	3	12	Good

Table 62. Fishery statistics derived from a daytime creel survey at Guist Creek Lake (317 acres) during 19 March through 30 October 2011.

	2011 (3/19 to 10/30)		2005 (4/7 to 10/31)		1997 (3/1 to 11/01)	
Fishing Trips						
No. of fishing trips (per acre)	4,325	(13.64)	3,965	(12.51)	7,655	(24.2)
Fishing Pressure						
Total man-hours (S.E.)[a]	21,036	(581)	21,550	(691)	39,422	(940)
Man-hours/acre	66.36		67.98		124.4	
Catch / Harvest						
No. of fish caught (S.E.)	30,379	(2,450)	28,802	(2,794)	16,919	(25,875.61)
No. of fish harvested (S.E.)	12,351	(1,247.36)	4,577	(705)	1,357	(11,915.95)
Lb of fish harvested	3,954		2,521		2,349	
Harvest Rates						
Fish/hour	0.62		0.21		0.04	
Lb/hour	0.52		0.30		0.07	
Fish/acre	38.96		14.44		4.28	
Lb/acre	12.47		7.95		7.41	
Catch Rates						
Fish/hour	1.53		1.33		0.45	
Fish/acre	95.83		90.86		53.4	
Miscellaneous Characteristics						
Male	89.45		89.82		85.6	
Female	10.55		10.18		14.4	
Resident	99.89		97.92		96.3	
Non-resident	0.11		2.08		3.7	
Method (%)						
Still fishing	51.88		44.94		54.5	
Casting	42.63		48.25		45.2	
Fly	0.54		0.58		0.2	
Trolling	4.95		6.23		0.1	
Mode (%)						
Boat	82.02		79.96		78.6	
Bank	16.25		19.00		19.1	
Dock	1.72		1.04		2.3	

[a] S.E. = Standard Error

Table 63. Fish harvest derived from a creel survey on Guist Creek Lake (317 acres) from 19 March to 30 October 2011.

	Black bass group	Largemouth bass	Crappie group	White crappie	Black crappie	Catfish group	Channel catfish	Bullhead catfish	Morone group	Hybrid striped bass	Yellow bass	Drum
No. caught	8,708.98	8,708.98	2,924.99	2,909.84	15.15	2,207.43	2,129.18	78.25	2,776.41	461.50	2,314.90	141.50
(per acre)	(27.47)	(27.47)	(9.23)	(9.18)	(0.05)	(6.96)	(6.72)	(0.25)	(8.76)	(1.46)	(7.30)	(0.44)
No. harvested	527.90	527.90	1,773.31	1,758.16	15.15	1,653.05	1,646.49	6.56	848.11	182.39	665.72	114.24
(per acre)	(1.67)	(1.67)	(5.59)	(5.55)	(0.05)	(5.21)	(5.19)	(0.02)	(2.68)	(0.58)	(2.10)	(0.36)
% of total no. harvested	4.27	4.27	14.36	14.24	0.12	13.38	13.33	0.05	6.87	1.48	5.39	0.92
Lb harvested	881.7	881.7	535.1	531.2	3.9	1,325.2	1,322.9	2.3	468.5	427.2	41.3	16.3
(per acre)	(2.78)	(2.78)	(1.69)	(1.68)	(0.01)	(4.18)	(4.17)	(0.01)	(1.48)	(1.35)	(0.13)	(0.05)
% of total lb harvested	22.30	22.30	13.53	13.43	0.10	33.51	33.45	0.06	11.84	10.80	1.04	0.41
Mean length (in)		15.0		8.9	8.0		13.4	13.2		17.2	5.6	6.4
Mean weight (lb)		1.84		0.31	0.25		0.78	0.75		2.79	0.07	0.14
No. of fishing trips for that species	1,876.46		367.32			247.59			224.74			
% of all trips	43.39		8.49			5.72			5.20			
Hours fished for that species	9,126.43		1,786.53			1,204.21			1,093.06			
(per acre)	(28.79)		(5.64)			(3.80)			(3.45)			
No. harvested fishing for that species	480		1,448			902			174			
Lb harvested fishing for that species	842.4		462.3			751.4			417.7			
No./hour harvested fishing for that species	0.053		0.761			0.575			0.139			
% success fishing for that species	11.84		73.56			60.00			23.64			

Table 63 (cont).

	Panfish group	Bluegill	Green sunfish	Warmouth	Longear sunfish	Anything
No. caught	13,619.31	11,726.50	1,875.56	9.09	8.16	
(per acre)	(42.96)	(36.99)	(5.92)	(0.03)	(0.03)	
No. harvested	7,434.27	6,706.41	727.86			
(per acre)	(23.45)	(21.16)	(2.30)			
% of total no. harvested	60.19	54.30	5.89			
Lb harvested	727.6	644.7	82.9			
(per acre)	(2.30)	(2.03)	(0.26)			
% of total lb harvested	18.40	16.30	2.10			
Mean length (in)		5.3	5.7			
Mean weight (lb)		0.10	0.12			
No. of fishing trips for that species	287.49					1,321.53
% of all trips	6.65					30.55
Hours fished for that species	1,398.26					6,427.43
(per acre)	(4.41)					(20.28)
No. harvested fishing for that species	2,336					
Lb harvested fishing for that species	227.3					
No./hour harvested fishing for that species	1.557					
% success fishing for that species	52.94					41.36

Table 64. Length distribution (length of released fish are estimated) for each species of fish harvested at Guist Creek Lake (317 acres) from 19 March to 30 October 2011.

	Inch class																									
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Largemouth bass																										
Harvested											117	134	92	34	67	42	8	8	8			8	10			
Released							1,764	143	4,250	151	840	202	302	160	202	67	34	17	34			15				
White crappie																										
Harvested					92	345	376	376	307	92	115	15	31		9											
Released				62	518	526	39			7																
Black crappie																										
Harvested							15																			
Channel catfish																										
Harvested											598	382	343	78	127	29	29		29	10	10		11			
Released							44	35	290	18	61	9			9				9						9	
Bullhead catfish																										
Harvested								7																		
Released							16	8	48																	
Hybrid striped bass																										
Harvested									22		22	7	15	36	7	15	7	7	7	7	15		7			8
Released							7		88		95	7	51	15	7				9							
Yellow bass																										
Harvested			25	346	261	34																				
Released			38	707	859	45																				
Bluegill																										
Harvested			447	3,904	2,204	151																				
Released		31	3,083	1,472	349		15			70																
Green sunfish																										
Harvested	53			136	523	8	8																			
Released			59	252	807	30																				
Warmouth																										
Released					9																					
Longear sunfish																										
Released				8																						
Drum																										
Harvested					73	41																				
Released					27																					

Table 65. Black bass catch and harvest statistics derived from a creel survey at Guist Creek Lake (317 acres) for black bass caught and released by all anglers from 19 March to 30 October 2011.

		Largemouth bass Catch and Release		
	Harvest	12.0 – 14.9 in	≥15.0 in	Total
Total no of bass	528	1,344	529	8,709
% of black bass harvested by no.	100.0			
Total weight of fish (lbs)	882	758	298	5,495
% of black bass harvest by weight	100.0			
Mean length	15.0			
Mean weight	1.84			
Rate (fish/h)	0.026			

Table 66. Monthly black bass angling success at Guist Creek Lake during the 2011 creel survey.

Month	Total no. of black bass caught by all anglers	Total no. of black bass harvested by anglers	No. of fishing trips for black bass	Hours fished by black bass anglers	Black bass caught by black bass anglers	Black bass caught/hr by black bass anglers	Black bass harvested by black bass anglers	Black bass harvested/hr by black bass anglers
March	726	35	297.65	1,447.64	726	0.59	35	0.03
April	845	155	277.59	1,350.11	809	0.52	136	0.09
May	1,036	106	273.91	1,332.18	1,004	0.73	90	0.07
June	2,281	17	313.22	1,523.41	2,248	1.44	17	0.01
July	853	66	162.79	791.74	814	1.01	66	0.08
August	991	41	156.19	759.67	975	1.10	41	0.05
September	646	21	172.76	840.22	625	0.89	14	0.02
October	1,330	89	222.36	1,081.46	1,278	0.95	81	0.06
Total	8,709	528	1,876.46	9,126.43	8,479		480	
Mean						0.94		0.05

t = < 0.01

Table 67. Temperate bass (*Morones*) catch and harvest statistics derived from a creel survey at Guist Creek Lake (317 acres) from 19 March to 30 October 2011.

	Hybrid striped bass				Yellow bass			
		Catch and Release				Catch and Release		
	Harvest	12.0 – 14.9 in	≥15.0 in	Total	Harvest	12.0 – 14.9 in	≥15.0 in	Total
Total no of *Morones*	182	153	31	462	666			2,315
% of *Morones* harvested by no.	21.5%				78.5%			
Total weight of fish (lbs)	427	142	27	684	41			149
% of *Morones* harvest by weight	91.2%				8.8%			
Mean length	17.2				5.6			
Mean weight	2.79				0.07			
Rate (fish/h)	0.010				0.032			

Table 68. Monthly *Morone* angling success at Guist Creek Lake during the 2011 creel survey.

Month	Total no. of Morones caught by all anglers	Total no. of Morones harvested by all anglers	No. of fishing trips for Morones	Hours fished by Morones anglers	Morones caught by Morone anglers	Morones caught/hr by Morone anglers	Morones harvested by Morone anglers	Morones harvested/hr by Morone anglers
April	291	273	-	-	-	-	-	-
May	498	228	17	83.26	8	0.06	-	-
June	654	126	54	262.66	67	0.29	25	0.11
July	426	20	58	280.41	151	0.42	20	0.06
August	203	8	19	90.44	32	0.30	8	0.07
September	386	119	35	168.04	112	0.60	84	0.45
October	318	74	32	157.30	74	0.38	37	0.19
Total	2,776	848	225	1,093.06	444		174	
Mean						0.36		0.14

Table 69. Crappie catch and harvest statistics derived from a creel survey at Guist Creel Lake (317 acres) for crappie caught and released by all anglers from 19 March to 30 October 2011.

	White crappie				Black crappie			
		Catch and Release				Catch and Release		
	Harvest	<9.0 in	≥9.0 in	Total	Harvest	<9.0 in	≥9.0 in	Total
Total no of crappie	1,758	1,145	7	2,910	15			15
% of crappie harvested by no.	99.1				0.9			
Total weight of fish (lbs)	531	119	2	652	4			4
% of crappie harvest by weight	99.3				0.07			
Mean length	8.9				8.0			
Mean weight	0.31				0.25			
Rate (fish/hr)	0.093				0.0008			

Table 70. Monthly crappie angling success at Guist Creek Lake during the 2011 creel survey.

Month	Total no. of crappie caught by all anglers	Total no. of crappie harvested by all anglers	No. of fishing trips for crappie	Hours fished by crappie anglers	Crappie caught by crappie anglers	Crappie caught/hr by crappie anglers	Crappie harvested by crappie anglers	Crappie harvested/hr by crappie anglers
April	345	336	73	386	327	0.89	327	0.89
May	1,028	318	73	354	784	2.40	188	0.58
June	67	50		-	-	-	-	-
July	118	66	14	66	72	1.22	39	0.67
August	57	32	7	36	24	0.60	24	0.60
September	829	527	61	299	752	1.48	478	0.94
October	480	443	133	649	414	0.70	392	0.66
Total	2,925	3,045	367	1,787	2,373		1,448	
Mean						1.24		0.76

Table 71. Panfish catch and harvest statistics derived from a creel survey at Guist Creel Lake (317 acres) for panfish caught and released by all anglers from 19 March to 30 October 2011.

	Bluegill				Green sunfish				Longear sunfish				Warmouth			
		Catch and Release				Catch and Release				Catch and Release				Catch and Release		
	Harvest	6.0–9.9 in	≥10.0 in	Total	Harvest	6.0–9.9 in	≥10.0 in	Total	Harvest	6.0–9.9 in	≥10.0 in	Total	Harvest	6.0–9.9 in	≥10.0 in	Total
Total no	6,706	364	70	11,727	728	837	-	1,876	-	-	-	8	-	9	-	9
% of panfish harvested by no.	90.2				9.8				-				-			
Total weight of fish (lbs)	645	22	4	949	83	101	-	222	-	-	-	1	-	2	-	2
% of panfish harvest by weight	88.6				11.4				-				-			
Mean length	5.3				5.7				-				-			
Mean weight	0.12				0.12				-				-			
Rate (fish/h)	0.342				0.039				-				-			

Table 72. Monthly panfish angling success at Guist Creek Lake during the 2011 creel survey.

Month	Total no. of panfish caught by all anglers	Total no. of panfish harvested by all anglers	No. of fishing trips for panfish	Hours fished by panfish anglers	Panfish caught by panfish anglers	Panfish caught/hr by panfish anglers	Panfish harvested by panfish anglers	Panfish harvested/hr by panfish anglers
March	138	-	-	-	-		-	-
April	527	427	26	127.37	209	1.64	209	1.64
May	2,831	1,673	68	333.04	1,020	3.01	351	1.04
June	4,236	2,919	70	341.45	1,166	3.23	797	2.21
July	2,368	1,004	51	247.42	695	3.21	334	1.55
August	1,567	853	56	271.31	925	2.48	617	1.65
September	1,272	330	4	18.67	28	2.00	28	2.00
October	680	229	12	58.99	236	4.00	-	-
Total	13,619	7,434	287	1,398.26	4,279		2,336	
Mean						2.90		1.56

Table 73. Catfish catch and harvest statistics derived from a creel survey at Guist Creek Lake (317 acres) for catfish caught and released by all anglers from 19 March to 30 October 2011.

	Channel catfish				Bullhead catfish			
		Catch and Release				Catch and Release		
	Harvest	12.0-14.9 in	≥15.0 in	Total	Harvest	12.0-14.9 in	≥15.0 in	Total
Total no of catfish	1,646	70	26	2,129	7	-	-	78
% of catfish harvested by no.	99.6%				0.4%			
Total weight of fish (lbs)	1,323	27	11	1,514	2	-	-	30
% of catfish harvest by weight	99.8%				0.2%			
Mean length	13.4				9.0			
Mean weight	0.78				0.35			
Rate (fish/h)	0.068				0.0004			

Table 74. Monthly catfish angling success at Guist Creek Lake during the 2011 creel survey.

Month	Total no. of catfish caught by all anglers	Total no. of catfish harvested by all anglers	No. of fishing trips for catfish	Hours fished by catfish anglers	Catfish caught by catfish anglers	Catfish caught/hr by catfish anglers	Catfish harvested by catfish anglers	Catfish harvested/hr by catfish anglers
March	484	414	88	425.78	450	0.76	415	0.71
April	300	136	42	203.79	227	1.14	118	0.59
May	188	188	-	-	-	-	-	-
June	453	394	32	157.59	201	0.77	193	0.74
July	242	151	34	164.95	125	0.78	66	0.41
August	219	154	15	72.35	32	0.31	32	0.31
September	225	134	12	56.01	56	0.80	56	0.80
October	96	81	4	19.66	22	0.86	22	0.83
Total	2,207	1,653	248	1,204.21	1,113		902	
Mean						0.76		0.57

GUIST CREEK LAKE ANGLER ATTITUDE SURVEY 2011

(based on 67 surveys)

24. Have you been surveyed this year? Yes - stop survey No – continue
25. Name _____ and Phone number _____ **(Optional)**

26. Have you ever fished Guist Creek Lake before?
Yes **91.5%** No **8.5%**

27. How many times do you fish Guist Creek Lake a year?
1-4 times **40.3%** 5-10 times **19.4%** More than 10 times **40.3%**

28. Which species of fish do you fish for at Guist Creek Lake (**check all that apply**)?
Bass **71.6%** Crappie **64.2%** Bluegill **62.7%** Channel catfish **35.8%** Hybrid Striped Bass **22.4%** White Catfish **1.5%**

29. Which one species do you fish for most at Guist Creek Lake (**check only one**)?
Bass **53.3%** Bluegill **23.3%** Crappie **13.3%** Channel Catfish **6.7%** Hybrid Striped Bass **3.3%**

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

Bass Anglers (60 responses)

30. In general, what level of satisfaction do you have with bass fishing at Guist Creek Lake?
Very satisfied **8.3%** Somewhat satisfied **31.3%** Neutral **18.8%** Somewhat dissatisfied **33.3%** Very dissatisfied **8.3%**
No opinion **0.0%**

7a. If you responded with somewhat or very dissatisfied in question (5) – what is the single most important reason for your dissatisfaction?

Not Happy with regulations **32.0%** Number of fish **28.0%** Size of fish **24.0%** Too many anglers **8.0%** Too many tournaments **8.0%**

Crappie Anglers (43 responses)

31. In general, what level of satisfaction do you have with the crappie fishing at Guist Creek Lake?

Very satisfied **0.0%** Somewhat satisfied **46.5%** Neutral **37.2%** Somewhat dissatisfied **16.3%** Very dissatisfied **0.0%**

8a. If you responded with somewhat or very dissatisfied in question (10) – what is the single most important reason for your dissatisfaction?
Size of fish **66.7%** Too many anglers **22.2%** Not Happy with regulations **11.1%**

Bluegill (43 responses)

32. In general, what level of satisfaction do you have with the bluegill fishing at Guist Creek Lake?

Very satisfied **23.3%** Somewhat satisfied **32.6%** Neutral **30.2%** Somewhat dissatisfied **14.0%** Very dissatisfied **0.0%** No opinion **0.0%**

9a. If you responded with somewhat or very dissatisfied in question (12) – what is the single most important reason for your dissatisfaction?

Size of fish **83.3%** Not Happy with regulations **16.7%**

Hybrid Striped Bass Anglers (15 responses)

33. In general, what level of satisfaction do you have with the bluegill fishing at Guist Creek Lake?

Very satisfied **6.7%** Somewhat satisfied **13.3%** Neutral **40.0%** Somewhat dissatisfied **33.3%** Very dissatisfied **6.7%**
No opinion **0.0%**

7a. If you responded with somewhat or very dissatisfied in question (10) – what is the single most important reason for your dissatisfaction?
Number of fish **50.0%** Size of fish **33.3%** Not happy with regulations **33.3%**

Channel catfish Anglers (22 responses)

34. In general, what level of satisfaction do you have with the channel catfish fishing at Guist Creek Lake?

Very satisfied **31.8%** Somewhat satisfied **50.0%** Neutral **18.2%** Somewhat dissatisfied **0.0%** Very dissatisfied **0.0%** No opinion **0.0%**

11a. If you responded with somewhat or very dissatisfied in question (12) – what is the single most important reason for your dissatisfaction?

None

All Anglers

12. Are you satisfied with the current size and creel limits on all sport fish at Guist Creek Lake?

Yes **71.0%** No **29.0%**

13. Did you use live fish as bait anywhere in Kentucky last year?

Yes **34.8%** No **65.2%**

14. How many days last year did you fish in Kentucky?

0 days **2.9%** 1-10 days **5.9%** 11-20 days **11.8%** 21-50 days **29.4 %** 50-100 days **23.5%** 100-200 days **20.6%** Many **5.9%**

15. Of the day(s) you fished in Kentucky last year, how many days did you use live fish as bait?

0 days **20.0%** 1 day **5.0 %** 7 days **5.0%** 10 days **20.0%** 15 **30.0%** 50 **10.0%** 100 **5.0%** Many **5.0%**

16. Do you ever collect you own live fish to use as bait?

Yes **30.4%** No **69.6%**

17. How many of the days that you used live fish for bait last year did you collect your own?

0 days **27.3%** 1 day **9.1 %** 5 days **36.4%** 10 days **18.2%** Most **9.1%**

18. When you collect live bait last year, how many days did you collect them in one water body and fish with them in another?

0 days **50.0%** 1 day **12.5 %** 7 days **12.5%** 10 days **12.5%** Most **12.5%**

19. Would you support or oppose a regulatioin where live bait can only be used in the water body from which they were taken?

Support **55.6%** Neutral **28.9%** Oppose **8.9%** Don't know **6.7%**

20. Are you aware that Asian carp are invading Kentucky waters?

Yes **82.6%** No **17.4%**

21. Would you support or oppose a regulation where live bait can only be used in the water body from which they were taken since Asian carp are hard to identify?

Support **72.2%** Neutral **19.4%** Oppose **2.8%** Don't know **5.6%**

Table 75. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute electrofishing runs in Beaver Lake, May 2011; numbers in parentheses are standard errors.

Species	Inch class																		Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Largemouth bass	3	15	11	5	7	6	19	32	19	42	74	43	24	8	3	0	1	1	313	156.50 (13.74)

Dataset = cfdpsbvr.d11

Table 76. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Beaver Lake from 1992-2011; 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	7.10 (2.10)	105.30 (8.60)	4.90 (1.10)	19.10 (4.80)	9.33 (3.27)	136.40 (5.60)
1993	22.50 (3.90)	59.50 (5.30)	76.00 (7.90)	13.00 (4.30)	8.50 (2.77)	171.00 (12.20)
1994	22.50 (2.80)	5.50 (2.50)	41.50 (3.30)	28.50 (4.50)	6.50 (2.82)	96.50 (6.90)
1995	73.00 (8.40)	37.50 (5.90)	10.00 (3.80)	34.00 (7.00)	6.00 (2.27)	154.50 (9.90)
1996	81.00 (11.60)	47.00 (6.30)	8.00 (2.00)	37.50 (2.90)	3.00 (0.65)	173.50 (17.80)
1997	84.50 (12.20)	99.50 (16.70)	8.50 (2.10)	42.50 (9.60)	6.00 (3.21)	235.00 (34.10)
1998	36.00 (4.20)	206.50 (17.60)	14.50 (4.80)	30.50 (6.60)	5.50 (1.68)	287.50 (22.80)
1999	42.00 (11.00)	71.50 (7.30)	17.00 (2.60)	22.00 (3.50)	7.50 (1.59)	152.50 (18.10)
2000	56.00 (7.70)	26.50 (5.60)	28.50 (2.20)	24.50 (2.90)	3.00 (1.25)	137.00 (9.80)
2001	142.50 (8.60)	66.50 (8.60)	25.50 (1.50)	39.00 (6.10)	4.00 (1.51)	273.50 (17.10)
2002	55.50 (10.80)	97.00 (13.60)	16.00 (2.10)	32.00 (4.90)	2.50 (1.05)	200.50 (26.80)
2003	142.50 (9.10)	131.50 (12.90)	20.00 (3.00)	18.00 (2.40)	2.00 (0.76)	312.00 (20.40)
2004	154.50 (5.50)	198.00 (15.10)	48.00 (7.50)	17.00 (3.70)	2.00 (0.76)	417.50 (20.30)
2005	68.50 (11.40)	298.00 (22.70)	42.00 (7.70)	15.00 (3.50)	4.50 (1.40)	423.50 (21.60)
2006	115.00 (11.30)	217.50 (36.50)	40.00 (3.70)	10.00 (2.30)	2.50 (1.05)	382.50 (34.90)
2007	30.50 (4.80)	176.50 (31.10)	42.50 (9.60)	10.00 (2.70)	3.00 (1.00)	259.50 (40.40)
2008	44.50 (6.61)	203.50 (22.40)	61.00 (5.99)	8.50 (1.76)	2.00 (0.76)	317.50 (29.37)
2009	14.50 (2.82)	146.50 (28.53)	84.50 (15.57)	3.50 (2.06)	0.50 (0.50)	249.00 (45.32)
2010	76.67 (6.84)	99.78 (8.51)	58.89 (4.53)	2.89 (0.71)	0.22 (0.22)	238.22 (14.25)
2011	23.50 (5.83)	56.00 (8.18)	70.50 (5.90)	6.50 (1.50)	0.00 (0.00)	156.50 (13.74)

Dataset = cfdpsbvr.d11 - .d92

Table 77. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Beaver Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	266	58 (± 6)	5 (± 2)

Dataset = cfdpsbvr.d11

Table 78. Population assessment for largemouth bass collected during spring electrofishing at Beaver Lake from 2000-2011 (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
2011	Value	10.7*	23.43	70.50	6.50	0.00				
	Score	2	2	4	2	0			10	Fair
2010	Value	10.7	76.67	58.89	2.89	0.22	0.293	25.4		
	Score	2	4	4	1	1			12	Good
2009	Value	10.3*	3.00^	84.50	3.50	0.50				
	Score	2	1	4	1	1			9	Fair
2008	Value	10.3*	23.00^	61.00	8.50	2.00				
	Score	2	2	4	2	3			13	Good
2007	Value	10.3	2.00	42.50	10.00	3.00	0.622	46.3		
	Score	2	1	3	2	3			11	Fair
2006	Value	10.7*	108.33^	40.00	10.00	2.50				
	Score	2	4	3	2	3			14	Good
2005	Value	10.7*	38.72^	42.00	15.00	4.50				
	Score	2	2	3	2	4			13	Good
2004	Value	10.7*	97.61^	48.00	17.00	2.00				
	Score	2	4	3	3	3			15	Good
2003	Value	10.7	133.17	20.00	18.00	2.00	0.540	41.7		
	Score	2	4	2	3	3			14	Good
2002	Value	11.7*	35.39^	16.00	32.00	2.50				
	Score	4	2	1	4	3			14	Good
2001	Value	11.7	47.78	25.50	39.00	4.00				
	Score	4	3	2	4	4			17	Excellent
2000	Value	10.7*	31.50^	30.00	24.50	3.00				
	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 79 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 2011: numbers in parentheses are standard errors.

	Inch class																		
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE
Largemouth bass	2	85	99	24	3	9	20	29	17	16	23	19	16	5	7	1	1	376	250.67 (24.45)

Dataset = cfdwrbvr.d11

Table 80. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Beaver Lake on 19 September 2011. 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	78	85 (1)	57	85 (1)	14	88 (2)	149	85 (1)

Dataset = cfdwrbvr.d11

Table 81. 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 Beaver 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	3.7	0.1	127.30	32.90	6.70	2.20	47.80	5.70
2001	Total	4.6	0.1	139.30	28.10	40.70	13.90	35.40	8.90
2002	Total	4.4	0.1	104.00	7.50	19.30	4.60	133.20	9.30
2003	Total	3.7	0.1	117.30	22.00	0.00		97.60	5.00
2004	Total	3.7	0.1	86.70	17.10	3.30	1.60	38.70	10.70
2005	Total	4.0	0.03	199.30	26.30	18.70	4.10	108.30	10.20
2006	Total	4.3	0.1	8.00	2.70	0.00		2.00	1.10
2007	Total	4.6	0.1	175.30	31.20	46.70	4.60	23.50	4.37
2008	Total	3.4	0.1	21.33	11.94	0.00		4.50	1.40
2009	Total	5.0	0.1	112.67	21.89	56.67	10.65	76.67	6.84
2010	Total	4.0	0.1	38.67	14.11	4.67	2.17	23.43	5.41
2011	Total	4.2	0.05	142.00	23.86	18.00	4.10		

Table 82. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 2.50 hours of 7.5-minute electrofishing runs in Beaver Lake, May 2011; numbers in parentheses are standard errors.

Species	Inch class									Total	CPUE
	2	3	4	5	6	7	8	9	10		
Bluegill	171	354	332	62	42	87	13			1,061	424.40 (70.41)
Redear sunfish		6	9	19	15	13	26	28	4	120	48.00 (6.30)

Dataset = cfdpsbvr.d11

Table 83. PSD and RSD values calculated for sunfish collected during 2.50 hours of electrofishing at Beaver Lake during May 2011. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	890	16 (± 3)	1 (± 1)
Redear sunfish	114	62 (± 9)	28 (± 8)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpsbvr.d11

Table 84. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Beaver Lake from 1992-2011; numbers in parentheses are standard errors.

	Length group				
Year	<3.0 in	3.0–5.9 in	6.0-7.9 in	≥8.0 in	Total
1992	1.30 (0.90)	54.20 (10.20)	80.90 (15.10)	0.00	136.40 (24.00)
1993	2.50 (1.10)	47.00 (6.20)	79.50 (10.00)	0.00	129.00 (12.60)
1994	2.50 (1.10)	130.00 (21.00)	20.00 (4.00)	0.00	152.50 (24.20)
1995	2.00 (1.10)	174.00 (18.40)	16.50 (4.70)	0.00	192.50 (17.30)
1996	0.50 (0.50)	184.50 (27.30)	65.50 (11.50)	0.00	250.50 (34.50)
1997	2.50 (1.10)	58.00 (12.60)	86.50 (14.40)	0.50 (0.50)	147.50 (27.40)
1998	0.50 (0.50)	28.00 (4.30)	88.00 (15.00)	0.50 (0.50)	117.00 (19.00)
1999	14.00 (4.50)	13.00 (5.50)	10.50 (3.00)	0.00	37.50 (8.30)
2000	50.00 (12.70)	322.00 (23.10)	32.00 (13.60)	7.50 (3.80)	411.50 (41.20)
2001	19.00 (5.10)	211.50 (16.00)	122.00 (15.20)	0.00	352.50 (20.20)
2002	5.60 (1.70)	175.20 (22.90)	152.80 (27.70)	0.00	333.60 (44.70)
2003	33.60 (6.40)	141.60 (17.50)	128.80 (21.90)	0.00	304.00 (30.10)
2004	36.00 (16.00)	118.40 (32.40)	143.20 (29.30)	0.00	297.60 (56.40)
2005	21.60 (4.50)	109.60 (14.60)	97.60 (19.30)	4.00 (2.20)	232.80 (19.70)
2006	20.10 (4.90)	60.90 (8.60)	55.70 (13.50)	8.30 (2.90)	145.10 (24.70)
2007	12.00 (2.60)	34.40 (4.60)	53.60 (9.50)	2.40 (1.70)	102.40 (10.40)
2008	69.60 (11.14)	112.40 (13.25)	38.00 (6.25)	4.00 (1.36)	224.00 (24.60)
2009	17.20 (5.10)	60.40 (9.99)	40.40 (5.88)	1.60 (0.94)	119.60 (15.26)
2010	35.60 (8.18)	134.80 (10.61)	24.40 (5.85)	4.40 (1.48)	199.20 (17.54)
2011	68.40 (20.28)	299.20 (47.80)	51.60 (8.14)	5.20 (1.86)	424.40 (70.41)

Dataset = cfdpsbvr.d11 - .d92

Table 85. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected from Beaver Lake in 2011.

		Age							
Year class	No.	1	2	3	4	5	6	7	8
2010	8	3.2							
2009	32	2.2	4.7						
2008	12	1.9	4.5	6.6					
2007	7	2.4	4.0	6.3	7.4				
2006	3	2.0	4.3	6.3	7.3	7.8			
2005	3	1.8	3.5	6.0	6.8	7.4	7.9		
2004	1	2.8	5.7	6.7	7.0	7.4	7.8	8.1	
2003	1	1.9	3.8	6.2	6.7	7.3	7.6	8.1	8.4
Mean	67	2.3	4.5	6.4	7.2	7.5	7.8	8.1	8.4
Smallest		1.3	2.9	5.1	6.4	6.9	7.5	8.1	8.4
Largest		4.5	6.9	7.5	7.9	8.0	8.1	8.1	8.4
Std Error		0.1	0.1	0.1	0.1	0.1	0.1	0.0	
95% ConLo		2.1	4.3	6.2	7.0	7.3	7.6	8.0	
95% ConHi		2.5	4.7	6.6	7.4	7.8	8.0	8.1	

Intercept value = 0.00
Dataset = cfdagbvr.d11

Table 86. Age frequency and CPUE (fish/hr) per inch class of bluegill collected during 2.50 hours of electrofishing at Beaver Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class										Std
Age	2	3	4	5	6	7	8	Total	%	CPUE	err
1	171	118	28					317	30	126.67	29.07
2		236	304	52	9			602	57	240.85	38.11
3				10	28	27		64	6	25.72	4.34
4					5	40		45	4	17.93	2.87
5						13	3	16	2	6.39	1.07
6						7	5	12	1	4.76	0.99
7							3	3	0	1.04	0.37
8							3	3	0	1.04	0.37
Total	171	354	332	62	42	87	13	1,061	100	424.40	70.41
%	16	33	31	6	4	8	1	100			

Dataset = cfdagbvr.d11 and cfdpsbvr.d11

Table 87. Electrofishing catch rate (fish/hr) of each age of bluegill collected from Beaver Lake from 2002-2011.

	Year									
Age	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	10.20	31.10	31.70	13.60	6.90	10.70	63.80	25.33	69.60	126.67
2	70.40	100.10	102.20	63.20	45.10	22.40	103.29	55.81	96.00	240.85
3	201.70	26.40	17.90	62.00	33.80	29.30	18.53	16.54	12.62	25.72
4	49.50	119.60	50.60	37.80	36.20	27.50	11.44	10.16	10.18	17.93
5	1.80	26.80	79.90	32.30	11.90	3.70	10.45	8.16	3.36	6.39
6			15.30	15.80	0.90	7.40	7.79	2.53	2.48	4.76
7					10.30	0.30	3.09	0.53	3.20	1.04
8						1.10	1.95	0.00	0.88	1.04
9							3.66	0.53	0.88	

Table 88. Population assessment for bluegill collected during spring electrofishing at Beaver Lake from 2001-2011 (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
2011	Value	4.7	2-2+	56.80	5.20	0.834	55.6		
	Score	3	4	3	2			12	Good
2010	Value	4.5	3-3+	28.80	4.40	0.594	44.8		
	Score	3	3	2	1			9	Fair
2009	Value	4.8	3-3+	42.00	1.60	0.723	51.5		
	Score	3	3	2	1			9	Fair
2008	Value	4.2	3-3+	42.00	4.00	0.497	39.2		
	Score	2	3	2	1			8	Fair
2007	Value	3.7	3-3+	56.00	2.40	0.666	48.6		
	Score	2	3	3	1			9	Fair
2006	Value	3.4	3-3+	64.07	8.33	*	*		
	Score	1	3	3	2			9	Fair
2005	Value	4.0	3-3+	101.60	4.00	0.340	28.8		
	Score	2	3	4	1			10	Fair
2004	Value	3.9	3-3+	143.20	0.00	*	*		
	Score	2	3	4	0			9	Fair
2003	Value	3.9	3-3+	128.80	0.00	*	*		
	Score	2	3	4	0			9	Fair
2002	Value	3.9	2-2+	152.80	0.00	*	*		
	Score	2	4	4	0			10	Fair
2001	Value	4.5	2-2+	122.00	0.00	*	*		
	Score	3	4	4	0			11	Good

Table 89. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Beaver Lake from 1992-2011; 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	0.40 (0.40)	10.20 (2.80)	90.20 (12.90)	1.80 (1.00)	0.40 (0.40)	102.70 (13.20)
1993	0.00	2.00 (1.50)	57.00 (10.70)	5.00 (2.00)	0.00	64.00 (12.20)
1994	0.00	6.50 (1.80)	8.00 (2.60)	2.50 (1.30)	0.00	17.00 (4.10)
1995	0.00	2.00 (1.10)	12.50 (3.60)	7.00 (2.70)	0.00	21.50 (5.20)
1996	0.00	6.00 (2.00)	5.50 (2.50)	8.00 (2.60)	0.00	19.50 (5.10)
1997	0.00	13.00 (1.80)	9.00 (2.10)	8.00 (1.70)	0.00	30.00 (1.50)
1998	0.00	3.50 (1.20)	9.00 (2.00)	9.50 (4.60)	0.00	22.00 (5.70)
1999	0.00	0.00	0.50 (0.50)	7.50 (1.80)	2.00 (1.10)	8.00 (2.00)
2000	1.00 (0.70)	5.50 (2.00)	3.50 (1.80)	6.00 (2.00)	1.50 (1.10)	16.00 (3.70)
2001	0.50 (0.50)	34.50 (6.90)	30.00 (6.80)	8.50 (2.90)	0.50 (0.50)	73.50 (10.50)
2002	0.00	49.60 (11.10)	77.60 (18.10)	7.20 (3.90)	0.80 (0.80)	134.40 (27.80)
2003	0.80 (0.80)	21.60 (6.10)	87.20 (15.00)	7.20 (3.30)	0.00	116.80 (20.00)
2004	0.00	38.40 (9.00)	44.00 (8.70)	26.40 (7.40)	0.00	108.80 (17.10)
2005	1.60 (1.10)	46.40 (7.00)	80.80 (12.40)	62.40 (10.80)	0.00	191.20 (22.60)
2006	0.40 (0.40)	46.10 (6.20)	82.20 (6.20)	35.70 (5.70)	0.00	164.40 (13.80)
2007	0.00	25.20 (6.10)	74.00 (13.50)	32.40 (6.60)	0.00	125.30 (23.20)
2008	10.00 (2.71)	15.20 (2.46)	58.40 (12.15)	90.40 (16.50)	0.00	174.00 (26.78)
2009	0.80 (0.55)	23.60 (4.77)	26.80 (4.76)	29.60 (5.75)	0.00	80.80 (11.47)
2010	0.40 (0.40)	21.60 (3.90)	27.60 (4.40)	33.60 (6.95)	1.20 (0.88)	83.20 (10.53)
2011	0.00	13.60 (3.39)	11.20 (2.04)	23.20 (4.89)	0.00	48.00 (6.30)

Dataset = cfdpsbvr.d11 – .d92

Table 90. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected from Beaver Lake in 2011.

		Age						
Year	No.	1	2	3	4	5	6	7
2010	7	3.5						
2009	23	2.9	5.8					
2008	12	2.3	5.5	7.6				
2007	10	2.9	4.9	7.7	8.8			
2006	5	2.5	5.3	7.1	8.9	9.5		
2005	3	2.5	5.0	7.0	8.3	9.2	9.9	
2004	3	2.5	4.9	6.7	7.8	8.5	9.1	9.5
Mean	63	2.8	5.4	7.4	8.6	9.1	9.5	9.5
Smallest		1.8	3.7	5.6	6.7	7.5	8.3	8.8
Largest		4.5	7.1	8.9	9.6	9.9	10.2	10.2
Std Error		0.1	0.1	0.1	0.1	0.2	0.3	0.4
95% ConLo		2.7	5.2	7.2	8.3	8.8	9.0	8.7
95% ConHi		2.9	5.7	7.7	8.9	9.5	10.0	10.3

Intercept value = 0.00
Dataset = cfdagbvr.d11

Table 91. Age frequency and CPUE (fish/hr) per inch class of redear sunfish collected during 2.50 hours of electrofishing at Beaver Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class											Std
Age	3	4	5	6	7	8	9	10	Total	%	CPUE	err
1	5	2							7	6	2.96	0.84
2	1	7	19	12	3				41	34	16.47	3.52
3				3	9	12			24	20	9.42	1.38
4					1	12	11		24	20	9.51	2.05
5							11		11	9	4.31	1.13
6							4	2	6	5	2.52	0.64
7						3	2	2	7	6	2.82	0.60
Total	6	9	19	15	13	26	28	4	120	100	48.00	6.30
%	5	8	16	13	11	22	23	3	100			

Dataset = cfdagbvr.d11 and cfdpsbvr.d11

Table 92. Electrofishing catch rate (fish/hr) of each age of redear sunfish collected from Beaver Lake from 2002-2011.

	Year									
Age	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	0.30	2.40	8.80	0.00	0.40	16.30	11.54	1.47	2.41	2.96
2	37.90	18.30	28.50	23.60	27.30	44.20	11.86	26.33	30.27	16.47
3	61.70	37.80	14.00	97.10	41.10	48.40	23.18	13.59	23.43	9.42
4	30.80	58.30	57.50	9.90	71.80	21.80	21.68	8.18	11.15	9.51
5	2.90			54.10	0.00	0.70	37.44	21.59	4.29	4.31
6	0.80			5.00	14.00	0.20	61.45	8.24	8.15	2.52
7					9.90		1.75	1.40	3.53	2.82
8							5.09			

Table 93. Population assessment for redear sunfish collected during spring electrofishing at Beaver Lake from 2001-2011 (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
2011	Value	7.6	3-3+	23.20	1.60	0.398	32.8		
	Score	4	4	4	1			13	Good
2010	Value	7.5	4-4+	33.60	1.20	0.435	35.3		
	Score	4	3	4	1			12	Good
2009	Value	6.7	4-4+	29.60	0.00	0.413	33.9		
	Score	4	3	4	0			11	Good
2008	Value	6.3	4-4+	90.40	0.00	0.243	21.6		
	Score	3	3	4	0			10	Fair
2007	Value	6.4	4-4+	32.40	0.00	0.898	59.3		
	Score	3	3	4	0			10	Fair
2006	Value	5.7	4-4+	35.67	0.00	0.410	33.6		
	Score	2	3	4	0			9	Fair
2005	Value	6.4	4-4+	62.40	0.00	0.373	31.1		
	Score	3	3	4	0			10	Fair
2004	Value	6.6*	4-4+*	26.40	0.00				
	Score	4	3	4	0			11	Good
2003	Value	6.6	4-4+	7.20	0.00				
	Score	4	3	2	0			9	Fair
2002	Value	6.4*	3-3+*	7.20	0.80				
	Score	3	4	2	1			10	Fair
2001	Value	6.4	3-3+	8.50	0.50				
	Score	3	4	2	1			10	Fair

* Age data not collected

Table 94. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Beaver Lake on 19 September and 6 October, 2011. Standard errors are in parentheses.

Species	Length group								Total	
	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	81	87 (2)	50	82 (1)	3	74 (6)			134	85 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	0		34	97 (3)	32	95 (1)	14	93 (2)	80	96 (1)

Dataset = cfdwrbvr.d11

Table 95. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute electrofishing runs in Boltz Lake, May 2011; numbers in parentheses are standard errors.

Species	Inch class																		Total	CPUE
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Largemouth bass	1	8	7	10	25	40	19	27	30	19	17	8	11	6	3	3	4	2	1	241	120.50 (7.35)

Dataset = cfdpsbol.d11

Table 96. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Boltz Lake from 1991-2011; 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		43.60 (4.90)	10.80 (2.00)	6.50 (1.20)	0.00 (0.00)	60.80 (6.60)
1993	25.20 (6.40)	70.00 (4.80)	12.00 (2.30)	7.30 (2.20)	0.67 (0.67)	114.80 (8.90)
1994	48.40 (9.50)	45.00 (5.70)	32.40 (6.50)	3.60 (1.40)	1.00 (0.65)	129.60 (9.60)
1995	155.20 (10.80)	50.00 (3.30)	31.50 (3.90)	6.00 (1.70)	1.50 (1.05)	242.40 (10.40)
1997	34.80 (8.60)	183.60 (29.40)	36.80 (4.60)	14.40 (2.20)	1.78 (0.97)	268.80 (38.60)
1998	43.20 (6.00)	172.00 (18.80)	22.40 (3.30)	9.60 (2.20)	2.50 (0.73)	247.20 (24.80)
1999	87.20 (16.60)	369.60 (42.40)	90.40 (16.00)	12.80 (6.80)	4.80 (2.33)	560.00 (31.20)
2000	92.00 (30.40)	148.00 (7.70)	226.40 (18.40)	8.80 (2.90)	0.80 (0.80)	475.20 (16.80)
2001	24.00 (5.20)	212.80 (15.80)	133.60 (13.00)	9.60 (3.50)	0.00 (0.00)	380.00 (26.30)
2002	5.60 (2.70)	101.60 (20.10)	67.20 (11.40)	45.60 (9.20)	0.80 (0.80)	220.00 (27.30)
2003	10.70 (2.90)	39.30 (10.40)	61.30 (12.90)	40.00 (5.00)	0.00 (0.00)	151.30 (25.10)
2004	64.00 (12.90)	38.50 (4.90)	19.50 (4.40)	25.50 (5.90)	2.00 (0.76)	147.50 (22.90)
2005	69.00 (10.10)	39.50 (4.00)	21.00 (2.40)	20.00 (6.20)	0.00 (0.00)	149.50 (8.40)
2006	11.50 (1.40)	48.00 (4.70)	17.00 (3.70)	18.00 (2.90)	1.00 (0.65)	94.50 (9.90)
2007	28.50 (3.80)	37.00 (2.40)	17.00 (3.90)	20.00 (3.90)	1.00 (0.65)	102.50 (11.80)
2008	19.00 (2.24)	43.50 (7.27)	18.50 (2.13)	17.50 (3.02)	4.00 (1.51)	98.50 (7.09)
2009	10.00 (2.51)	39.50 (3.16)	22.00 (3.93)	29.50 (5.12)	4.00 (1.51)	101.00 (8.10)
2010	50.50 (5.63)	51.00 (4.88)	32.50 (4.37)	24.50 (2.44)	4.00 (1.31)	148.50 (10.70)
2011	13.00 (3.84)	55.50 (4.56)	33.00 (5.74)	19.00 (4.19)	3.50 (1.18)	120.50 (7.35)

Dataset = cfdpsbol.d11 - .d91

Table 97. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Boltz Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	215	48 (± 7)	18 (± 6)

Dataset = cfdpsbol.d11

Table 98. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected from Boltz Lake in 2011.

		Age											
Year	No.	1	2	3	4	5	6	7	8	9	10	11	12
2010	16	6.0											
2009	21	4.9	8.3										
2008	22	5.4	8.7	10.7									
2007	18	5.9	8.8	11.1	12.6								
2006	9	6.1	9.5	11.4	12.9	14.1							
2005	7	6.3	10.0	12.5	14.0	15.2	16.3						
2004	2	5.2	9.0	12.2	13.8	15.2	15.9	16.5					
2003	1	5.1	10.0	12.1	13.4	14.6	16.0	16.8	17.0				
2002	2	6.2	9.9	12.4	15.1	16.2	17.0	17.9	18.4	19.1			
2000	1	6.6	9.2	12.6	14.4	15.8	16.9	17.9	18.9	20.0	20.7	20.9	
1999	3	6.1	11.1	13.4	14.8	15.4	16.3	16.8	17.3	17.8	18.4	18.9	19.4
Mean	102	5.7	9.0	11.4	13.3	14.9	16.3	17.1	17.8	18.6	18.9	19.4	19.4
Smallest		2.5	4.7	8.9	10.9	11.8	12.2	12.6	13.0	13.4	13.8	14.2	14.7
Largest		8.5	12.7	15.5	17.0	17.8	19.2	19.8	20.3	20.9	21.4	22.0	22.3
Std Error		0.1	0.1	0.2	0.2	0.3	0.4	0.7	0.9	1.1	1.7	1.8	2.4
95% ConLo		5.4	8.7	11.0	12.8	14.3	15.5	15.7	16.1	16.5	15.5	16.0	14.7
95% ConHi		5.9	9.2	11.7	13.8	15.5	17.2	18.5	19.5	20.7	22.4	22.8	24.0

Intercept value = 0.00
Dataset = cfdagbvr.d11

Table 99. Age frequency and CPUE (fish/hr) per inch class of largemouth bass collected during 2.00 hours of electrofishing at Boltz Lake during May 2011. Fish were collected in 15-minute runs.

	Inch class																				Std
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	%	CPUE	err
1	1	8	7	1																17	7	8.56	2.73
2				9	25	16														50	21	24.94	2.55
3						24	17	11	17											69	29	34.51	2.62
4							2	16	9	10	9	2								46	19	23.15	2.80
5									4	10	3	3	3							23	9	11.28	1.75
6											3	2	8	3	2					17	7	8.59	2.39
7												2			2					3	1	1.55	0.49
8														3						3	1	1.50	0.82
9																3				3	1	1.50	0.73
10																							
11																	4			4	2	2.00	1.31
12											3							2	1	6	2	2.92	0.64
Total	1	8	7	10	25	40	19	27	30	19	17	8	11	6	3	3	4	2	1	241	100	120.50	7.35
%	0	3	3	4	10	17	8	11	12	8	7	3	5	2	1	1	2	1	0	100			

Dataset = cfdagbol.d11 and cfdpsbol.d11

Table 100. Electrofishing catch rate (fish/hr) of each age of largemouth bass collected from Boltz Lake from 2000-2011.

	Year						
Age	2000	2001	2002	2003	2006	2010	2011
1	55.00	0.80	0.80	0.00	7.00	16.73	8.56
2	52.60	29.60	11.20	16.10	28.70	38.66	24.94
3	50.80	115.30	101.80	23.80	22.90	26.92	34.51
4	115.00	81.60	27.20	47.00	14.30	32.91	23.15
5	132.00	42.30	18.80	16.50	1.20	16.69	11.28
6	62.20	55.30	18.10	15.40	6.30	3.58	8.59
7	5.20	41.90	23.00	20.90	5.00	2.50	1.55
8	1.60	10.10	12.00	8.20	3.50	1.25	1.50
9	0.80	3.20	7.00	2.60	3.50	0.00	1.50
10				0.80	1.50	0.00	
11					0.50	2.25	2.00
12						3.50	2.92
13						1.25	
14						1.75	
15						0.50	

Table 101. Population assessment for largemouth bass collected during spring electrofishing at Boltz Lake from 2000-2011 (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
2011	Value	10.7	8.56	33.00	19.00	3.50	0.378	31.5		
	Score	2	1	2	3	3			11	Fair
2010	Value	10.3	16.73	32.50	24.50	4.00	0.290	25.2		
	Score	2	2	2	3	4			13	Good
2009	Value	10.3*	3.50^	22.00	29.50	4.00				
	Score	2	1	2	3	4			12	Good
2008	Value	10.3*	4.00^	18.50	17.50	4.00				
	Score	2	1	1	3	4			11	Fair
2007	Value	10.3*	20.50^	17.00	20.00	1.00				
	Score	2	2	1	3	2			10	Fair
2006	Value	10.3	7.00	17.00	18.00	1.00	0.358	30.1		
	Score	2	1	1	3	2			9	Fair
2005	Value	10.6*	15.50^	21.00	20.00	0.00				
	Score	2	1	2	3	0			8	Fair
2004	Value	10.6*	51.00^	19.50	25.50	2.00				
	Score	2	3	1	3	3			12	Good
2003	Value	10.6	0.00	61.30	40.00	0.00	0.377	31.4		
	Score	2	0	4	4	0			10	Fair
2002	Value	10.7	0.80	67.20	45.60	0.80	0.334	28.4		
	Score	2	1	4	4	1			12	Good
2001	Value	9.0	0.80	133.60	9.60	0.00	0.349	29.5		
	Score	1	1	4	2	0			8	Fair
2000	Value	10.4	55.00	226.40	8.80	0.80	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 102. 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 2011: 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	19	37	30	9	18	41	25	18	17	17	12	10	2	2		2	2	1	1	263	175.33 (11.29)

Dataset = cfdwrbol.d11

Table 103. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Boltz Lake on 20 September 2011. 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	85	85 (1)	39	92 (3)	10	106 (3)	134	89 (1)

Dataset = cfdwrbol.d11

Table 104. 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.

Year class	No. of fish	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
1997	145	4.2	(0.04)	96.70	(11.30)	6.70	(1.70)	25.90	(4.40)
1998	147	5.0	(0.05)	98.00	(12.00)	48.00	(5.80)	77.70	(31.00)
1999	170	5.2	(0.07)	113.30	(16.20)	68.70	(13.00)	55.00	(24.70)
2000	19	3.0	(0.27)	12.70	(6.70)	1.30	(1.30)	0.80	(0.80)
2001	46	3.2	(0.09)	30.70	(6.90)	0.70	(0.70)	0.80	(0.80)
2002	50	3.7	(0.10)	28.60	(7.40)	1.70	(1.20)	0.00	(0.00)
2003*	27	3.7	(0.15)	18.00	(4.50)	1.30	(0.80)	7.00	(2.20)
2004*	80	4.1	(0.07)	53.30	(7.10)	6.70	(2.70)	15.00	(3.40)
2005*	34	3.9	(0.11)	22.70	(5.00)	1.30	(0.80)	4.00	(1.10)
2006	90	4.6	(0.06)	60.00	(7.50)	18.70	(3.70)	20.50	(3.60)
2007	17	4.2	(0.21)	11.30	(2.60)	2.00	(0.90)	4.00	(3.58)
2008	108	3.6	(0.07)	72.00	(11.91)	5.33	(1.69)	3.50	(1.59)
2009	51	4.6	(0.13)	34.00	(8.87)	13.33	(1.98)	16.73	(3.58)
2010	54	4.9	(0.11)	36.00	(5.84)	18.00	(5.24)	8.56	(2.73)
2011	91	4.7	(0.08)	60.67	(6.73)	23.33	(4.18)		

*Only includes wild largemouth bass CPUE for age-1 year class, stocked largemouth bass were marked by fin clip and removed from dataset.

Table 105. Species composition, relative abundance, and CPUE (fish/hr) of bluegill collected in 1.25 hour of 7.5-minute electrofishing runs in Boltz Lake, May 2011; numbers in parentheses are standard errors.

	Inch class								
Species	1	2	3	4	5	6	7	Total	CPUE
Bluegill	30	384	206	63	28	166	39	916	732.80 (78.36)

Dataset = cfdpsbol.d11

Table 106. PSD and RSD_8 values calculated for bluegill collected during 1.25 hour of electrofishing at Boltz Lake during May 2011. Fish were collected in 7.5-minute runs.

Species	No. ≥3.0 in	PSD	RSD_8
Bluegill	502	41 (± 5)	0 (± 0)

Dataset = cfdpsbol.d11

Table 107. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Boltz Lake from 1992-2011; numbers in parentheses are standard errors.

	Length group				
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	Total
1991	0.50 (0.50)	60.80 (8.50)	10.80 (2.10)		72.40 (9.60)
1993	15.20 (7.40)	57.20 (15.80)	10.00 (5.20)		82.80 (24.00)
1994	26.00 (7.30)	131.60 (17.60)	30.50 (5.10)	0.50 (0.50)	188.40 (25.60)
1995	50.00 (9.80)	232.50 (31.70)	57.60 (12.80)	1.50 (0.70)	347.60 (46.00)
1997	91.50 (16.90)	43.00 (7.50)	39.20 (7.00)	5.40 (2.00)	179.20 (19.90)
1998	886.90 (210.80)	94.60 (13.80)	53.10 (7.70)	13.10 (2.30)	1047.70 (216.90)
1999	144.60 (30.70)	140.00 (51.50)	35.40 (6.90)	6.90 (3.10)	326.20 (62.30)
2000	1799.20 (73.50)	393.80 (19.40)	10.80 (3.20)	0.80 (0.80)	2204.60 (63.80)
2001	167.80 (51.50)	257.70 (40.00)	11.50 (3.80)	0.80 (0.80)	437.70 (60.00)
2002	174.60 (26.80)	396.20 (45.60)	16.90 (3.60)		587.70 (62.40)
2003	156.90 (49.40)	373.10 (26.30)	51.50 (16.50)		581.50 (47.70)
2004	313.30 (29.90)	261.10 (27.20)	31.80 (12.00)		606.20 (58.80)
2005	131.50 (16.00)	205.40 (34.30)	15.40 (5.40)		352.30 (35.80)
2006	229.00 (42.00)	367.00 (41.60)	39.00 (12.00)		635.00 (63.50)
2007	208.80 (29.90)	135.20 (23.10)	30.40 (8.20)		374.40 (44.30)
2008	202.40 (28.50)	263.20 (33.72)	41.60 (5.82)		507.20 (54.21)
2009	5.60 (1.71)	165.60 (29.36)	44.80 (12.58)		216.00 (34.48)
2010	73.60 (18.70)	84.80 (15.37)	100.80 (23.56)		259.20 (32.16)
2011	331.20 (46.25)	237.60 (34.03)	164.00 (42.37)		732.80 (78.36)

Dataset = cfdpsbol.d1

Table 108. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected from Boltz Lake in 2011.

		Age						
Year	No.	1	2	3	4	5	6	7
2010	23	2.8						
2009	16	2.7	4.7					
2008	5	3.0	5.0	6.0				
2007	12	3.2	5.1	6.1	6.7			
2006	6	2.9	4.6	5.9	6.6	7.0		
2005	1	2.3	4.4	5.1	5.7	6.1	6.3	
2004	1	2.9	4.7	5.7	6.0	6.5	6.7	7.0
Mean	64	2.9	4.8	6.0	6.6	6.8	6.5	7.0
Smallest		1.3	3.8	5.0	5.5	6.1	6.3	7.0
Largest		3.9	5.7	6.6	7.2	7.4	6.7	7.0
Std Error		0.1	0.1	0.1	0.1	0.2	0.2	
95% ConLo		2.7	4.7	5.8	6.3	6.5	6.1	
95% ConHi		3.0	4.9	6.2	6.8	7.1	6.9	

Intercept value = 0.00
Dataset = cfdagbvr.d11

Table 109. Age frequency and CPUE (fish/hr) per inch class of bluegill collected during 1.25 hours of electrofishing at Boltz Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class										Std
Age	1	2	3	4	5	6	7	Total	%	CPUE	err
1	30	384	206					620	68	496.00	68.01
2				63	15			78	9	62.62	17.09
3					8	37		45	5	35.62	9.97
4					5	74	21	100	11	80.11	19.97
5						37	14	51	6	40.86	9.95
6						18		18	2	14.76	4.35
7							4	4	0	2.84	0.58
Total	30	384	206	63	28	166	39	916	100		
%	3	42	22	7	3	18	4	100			

Dataset = cfdagbol.d11 and cfdpsbol.d11

Table 110. Electrofishing catch rate (fish/hr) of each age of bluegill collected from Boltz Lake from 2002-2011.

	Year									
Age	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	165.6	207.7	321.7	154.8	537.0	267.0	240.58	5.60	128.00	496.00
2	173.8	197.8	186.6	156.4	41.8	66.7	200.75	155.04	18.74	62.62
3	238.7	81.2	48.0	27.4	16.1	34.2	49.36	22.56	76.99	35.62
4	7.5	94.8	24.3	6.5	32.4		4.88	24.16	27.59	80.11
5	2.2		8.7	3.3	6.7		7.55	4.32	7.88	40.86
6				4.0	1.0		4.08	4.32		14.76
7										2.84

Table 111. Population assessment for bluegill collected during spring electrofishing at Boltz Lake from 2000-2011 (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
2011	Value	4.7	2-2+	164.00	0.00	0.522	40.7		
	Score	3	4	4	0			11	Good
2010	Value	4.5	2-2+	100.80	0.00	*	*		
	Score	3	4	4	0			11	Good
2009	Value	4.2	3-3+	44.80	0.00	0.904	59.5		
	Score	2	3	2	0			7	Fair
2008	Value	4.0	3-3+	41.60	0.00	1.095	66.6		
	Score	2	3	2	0			7	Fair
2007	Value	4.8	2-2+	30.40	0.00	NA	NA		
	Score	3	4	2	0			9	Fair
2006	Value	4.7	3-3+	39.00	0.00	0.830	56.4		
	Score	3	3	2	0			8	Fair
2005	Value	4.3	4-4+	16.00	0.00	1.097	66.6		
	Score	2	2	1	0			5	Poor
2004	Value	4.1	4-4+	18.34	0.00	1.012	63.7		
	Score	2	2	1	0			5	Poor
2003	Value	4.1	3-3+	53.60	0.00	0.379	31.5		
	Score	2	3	3	0			8	Fair
2002	Value	3.5	3-3+	11.28	0.00	1.640	80.6		
	Score	2	3	1	0			6	Poor
2001	Value	3.8	3-3+	12.80	0.80	1.794	83.4		
	Score	2	3	1	1			7	Fair
2000	Value	4.8	2-2+	10.91	0.73	1.593	79.7		
	Score	3	4	1	1			9	Fair

Table 112. Number of fish and the relative weight (Wr) for each length group of bluegill collected at Boltz Lake on 20 September 2011. Standard errors are in parentheses.

Species	Length group								Total	
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in					
Bluegill	74	89 (2)	12	79 (2)					86	88 (2)

Dataset = cfdwrbol.d11

Table 113. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute nocturnal electrofishing runs in Bullock Pen Lake, May 2011; numbers in parentheses are standard errors.

	Inch class																		
Location/Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Natural	3	6	7	20	16	18	19	21	17	21	24	19	26	26	10	3	1	257	128.50 (11.40)
2009 stocked			4	4	3													11	5.50 (0.73)
2007 stocked								1						1				2	1.00 (0.00)
Total																			
Largemouth bass	3	6	11	24	19	18	19	22	17	21	24	19	26	27	10	3	1	270	135.00 (11.18)

Dataset = cfdpsbpl.d11

Table 114. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Bullock Pen Lake from 1991-2011; 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		36.60	22.80	16.40	1.71 (0.69)	75.20
1994	10.00 (2.30)	17.50 (2.80)	37.60 (3.60)	40.00 (9.90)	2.50 (1.05)	104.00 (12.40)
1995	7.00 (1.60)	36.40 (4.70)	33.20 (4.40)	40.80 (5.60)		117.60 (9.90)
1996	10.50 (2.50)	26.50 (4.60)	26.00 (6.00)	30.50 (6.10)		93.60 (11.60)
1997	18.00 (3.50)	71.60 (8.70)	34.40 (3.30)	34.40 (6.10)	2.00 (0.89)	158.40 (17.30)
1998	18.00 (4.40)	43.60 (4.80)	39.60 (9.20)	33.20 (7.20)	3.50 (1.59)	139.20 (19.20)
1999	14.00 (3.60)	40.40 (4.00)	35.20 (4.00)	38.40 (12.00)	0.50 (0.50)	128.00 (14.00)
2000	14.50 (4.80)	35.50 (5.00)	21.00 (3.10)	42.40 (9.80)	0.50 (0.50)	113.50 (6.50)
2001	9.00 (3.20)	33.50 (4.30)	38.50 (7.20)	66.00 (15.20)	2.50 (1.05)	147.20 (16.40)
2002	6.50 (1.70)	29.50 (3.00)	41.50 (7.20)	54.50 (10.40)	1.50 (0.73)	132.00 (16.50)
2003	9.00 (2.50)	19.50 (2.30)	32.50 (4.10)	56.50 (8.80)	0.50 (0.50)	117.50 (9.80)
2004	6.50 (1.30)	31.50 (3.70)	45.00 (8.50)	57.50 (11.40)	2.50 (1.50)	140.50 (13.40)
2005	9.50 (1.30)	17.00 (2.60)	38.00 (5.80)	63.00 (13.70)	3.50 (1.40	127.50 (15.50)
2006	13.50 (4.30)	35.50 (6.00)	25.50 (3.90)	62.50 (8.40)	1.00 (0.65)	137.00 (8.70)
2007	17.50 (3.50)	44.50 (6.70)	32.00 (2.80)	44.00 (8.10)	0.50 (0.50)	138.00 (6.10)
2008	9.50 (2.92)	47.50 (5.78)	75.00 (5.74)	62.50 (9.32)	1.50 (1.05)	194.50 (11.68)
2009	5.50 (1.99)	45.50 (7.44)	42.50 (5.01)	54.00 (5.35)	7.50 (1.18)	147.50 (13.82)
2010	33.00 (7.05)	26.75 (3.74)	28.25 (3.36)	44.25 (6.21)	1.75 (0.63)	132.25 (13.90)
2011	22.00 (4.28)	39.00 (5.39)	31.00 (3.27)	43.00 (6.36)	0.50 (0.50)	135.00 (11.18)

Dataset = cfdpsbpl.d11 – .d91

Table 115. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Bullock Pen Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	226	65 (± 7)	38 (± 6)

Dataset = cfdpsbpl.d11

Table 116. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected from Bullock Pen Lake in 2011.

		Age										
Year	No.	1	2	3	4	5	6	7	8	9	10	11
2010	9	5.3										
2009	24	4.2	7.5									
2008	35	5.4	8.5	10.5								
2007	29	5.6	9.6	11.8	13.5							
2006	6	5.9	9.7	12.3	13.9	15.2						
2005	1	8.4	12.0	14.7	16.3	17.5	18.2					
2004	4	5.2	9.9	12.5	14.5	16.0	17.2	18.1				
2003	1	5.7	12.3	15.5	17.6	18.1	18.7	19.4	19.8			
2002	2	6.5	10.0	12.8	14.9	15.4	16.0	16.9	17.5	18.1		
2000	1	9.7	12.4	14.9	15.6	17.2	18.2	18.9	19.4	19.7	20.0	20.3
Mean	112	5.3	8.9	11.5	13.9	15.9	17.3	18.0	18.5	18.6	20.0	20.3
Smallest		3.0	5.8	7.4	9.8	12.6	15.3	16.0	16.7	17.3	20.0	20.3
Largest		9.7	12.4	15.5	17.6	18.1	18.7	19.4	19.8	19.7	20.0	20.3
Std Error		0.1	0.1	0.2	0.2	0.4	0.4	0.5	0.7	0.7		
95% ConLo		5.1	8.6	11.1	13.5	15.2	16.5	17.2	17.2	17.2		
95% ConHi		5.5	9.1	11.8	14.3	16.6	18.1	18.9	19.9	20.0		

Intercept value = 0.00
Dataset = cfdagbpl.d11

Table 117. Age frequency and CPUE (fish/hr) per inch class of largemouth bass collected during 2.00 hours of electrofishing at Bullock Pen Lake during May 2011. Fish were collected in 15-minute runs.

	Inch class																				Std
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	%	CPUE	err
1		3	5	2															10	4	5.07	1.55
2			1	5	18	10	3												38	15	18.80	5.65
3					2	6	13	19	21	2	5								67	26	33.42	4.49
4							2			14	16	22	8	9					70	27	34.87	2.93
5										2		2	11	9	13				37	14	18.51	2.52
6																3			3	1	1.25	0.45
7														9		5	2		15	6	7.58	1.67
8																	2		2	1	0.75	0.37
9															13	3			16	6	7.75	1.73
10																			0	0	0.00	0.00
11																		1	1	0	0.50	0.50
Total	0	3	6	7	20	16	18	19	21	17	21	24	19	26	26	10	3	1	257	100	135.00	11.18
%	0	1	2	3	8	6	7	7	8	7	8	9	7	10	10	4	1	0	100			

Dataset = cfdpsbpl.d11 and cfdagbpl.d11

Table 118. Electrofishing catch rate (fish/hr) of each age of largemouth bass collected from Bullock Pen Lake from 2002-2011.

	Year			
Age	2002	2003	2006	2011
1	0.50	1.80	2.50	5.07
2	11.40	14.60	23.10	18.80
3	32.90	13.80	19.10	33.42
4	14.30	18.40	20.50	34.87
5	35.50	21.10	10.10	18.51
6	13.60	16.40	13.20	1.25
7	11.30	15.90	11.20	7.58
8	6.60	5.80	11.30	0.75
9	2.70	5.20	14.50	7.75
10	1.40	1.20	5.60	
11		2.80		0.50
12	0.70	0.60	0.30	
13			5.30	

Table 119. Population assessment for largemouth bass collected during spring electrofishing at Bullock Pen Lake from 2000-2011 (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
2011	Value	10.5	5.07	31.00	43.00	0.50	0.422	34.4		
	Score	2	1	2	4	1			10	Fair
2010	Value	10.2*	6.40^	28.25	44.25	1.75				
	Score	2	1	2	4	2			11	Fair
2009	Value	10.2*	0.80^	42.50	54.00	7.50				
	Score	2	1	3	4	4			14	Good
2008	Value	10.2*	2.10^	75.00	62.50	1.50				
	Score	2	1	4	4	2			13	Good
2007	Value	10.2*	3.40^	32.00	44.00	0.50				
	Score	2	1	2	4	1			10	Fair
2006	Value	10.2	2.50	25.50	62.50	1.00	0.238	21.2		
	Score	2	1	2	4	2			11	Fair
2005	Value	10.7*	1.30^	38.00	63.00	3.50				
	Score	2	1	3	4	3			13	Good
2004	Value	10.7*	0.00^	45.00	57.50	2.50				
	Score	2	0	3	4	3			12	Good
2003	Value	10.7	1.80	32.50	56.50	0.50	0.323	27.6		
	Score	2	1	2	4	1			10	Fair
2002	Value	10.9	0.50	41.50	54.50	1.50	0.375	31.2		
	Score	3	1	3	4	2			13	Good
2001	Value	10.0	0.00	38.50	66.00	2.50	0.174	16.0		
	Score	1	0	3	4	3			11	Fair
2000	Value	9.3	6.80	21.00	42.40	0.50	0.186	17.0		
	Score	1	1	2	4	1			9	Fair

* Age data not collected
^Calculations based on age data gathered in previous years
-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 120. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.5 hours of 15-minute electrofishing runs for black bass in Bullock Pen Lake in September 2011: 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	10	24	15	8	7	21	25	17	24	22	19	14	9	18	17	20	9	14	4	297	198.00 (7.21)

Dataset = cfdwrblp.d11

Table 121. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Bullock Pen Lake on 22 September 2011. 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	88	88 (1)	42	93 (1)	82	105 (1)	212	95 (1)

Dataset = cfdwrblp.d11

Table 122. 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 Bullock Pen 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
1997	Total	3.6	(0.1)	34.00	(11.90)	0.70	(0.70)	3.00	(1.70)
1998	Total	3.5	(0.1)	28.00	(8.40)	1.30	(1.30)	4.00	(0.90)
1999	Total	3.7	(0.1)	30.00	(6.10)	2.00	(1.40)	6.80	(2.60)
2000	Total	3.8	(0.3)	6.30	(1.50)	0.00		0.00	
2001	Total	3.6	(0.2)	12.00	(2.70)	1.30	(0.80)	0.50	(0.50)
2002	Total	3.1	(0.1)	17.30	(4.60)	0.00		1.80	(0.70)
2003	Total	3.3	(0.1)	22.00	(8.10)	0.00		0.00	
2004	Total	4.1	(0.2)	16.00	(3.70)	4.00	(1.50)	*	
2005	Total	3.5	(0.1)	28.00	(8.10)	2.00	(0.90)	2.50	(1.30)
2006	Total	4.2	(0.2)	4.00	(1.50)	0.00		3.40	(1.10)
2007	Total	4.1	(0.2)	6.70	(2.00)	0.70	(0.70)	2.10	(1.13)
2008	Total	4.1	(0.2)	20.67	(5.60)	5.33	(1.69)	0.80	(0.52)
2009	Total	4.5	(0.4)	8.67	(2.40)	4.67	(1.91)	3.70	(1.41)
2010	Total	4.8	(0.1)	42.67	(8.04)	20.00	(3.72)	5.07	(1.55)
2011	Total	3.8	(0.1)	38.00	(4.23)	5.33	(1.98)		

*Largemouth bass were stocked, and were not able to be distinguished from the wild age-1 largemouth bass

Table 123. 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 2011; 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	22	Total	CPUE
Largemouth bass	1	33	113	33	14	84	114	142	42	21	11	8	7	9	7	18	10	6	1	674	337.00 (19.33)

Dataset = cfdpscor.d11

Table 124. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Corinth Lake from 1992-2011; 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	31.00 (9.30)	22.50 (5.30)	5.00 (2.60)	0.00 (0.00)	0.00 (0.00)	58.50 (9.80)
1993	34.00 (8.20)	111.30 (11.50)	7.30 (2.40)	2.00 (1.40)	0.00 (0.00)	154.70 (13.50)
1996	53.50 (10.10)	174.50 (16.70)	14.50 (2.00)	4.50 (1.60)	0.00 (0.00)	247.00 (18.10)
1998	15.50 (3.20)	111.50 (9.80)	19.00 (3.00)	4.00 (1.70)	0.50 (0.50)	150.00 (14.40)
1999	137.00 (14.20)	56.50 (5.20)	24.50 (4.30)	3.50 (1.20)	1.00 (0.65)	221.50 (16.40)
2000	312.80 (47.00)	136.00 (18.20)	22.40 (6.50)	4.80 (2.30)	1.60 (0.98)	476.00 (63.70)
2001	127.20 (16.60)	231.20 (8.00)	20.80 (5.10)	9.60 (3.20)	0.00 (0.00)	388.80 (13.50)
2002	40.70 (8.10)	153.30 (21.70)	13.30 (2.90)	16.70 (2.80)	1.33 (1.33)	224.00 (28.70)
2003	58.00 (13.60)	146.00 (16.40)	23.30 (3.80)	6.00 (2.00)	0.67 (0.67)	233.30 (28.20)
2004	23.00 (4.80)	77.50 (5.00)	40.00 (4.30)	5.00 (1.50)	1.00 (1.00)	145.50 (8.00)
2005	45.50 (3.90)	115.00 (9.30)	72.00 (10.00)	20.50 (3.00)	2.50 (1.30)	253.00 (16.00)
2006	15.00 (2.70)	74.50 (6.80)	29.00 (1.30)	34.50 (4.70)	1.50 (0.73)	153.00 (8.80)
2007	88.50 (14.80)	106.00 (7.00)	21.50 (3.40)	22.50 (3.50)	5.50 (2.38)	238.50 (17.60)
2008	52.00 (9.74)	199.00 (16.97)	69.50 (4.84)	37.50 (3.85)	7.50 (1.92)	358.00 (25.15)
2009	30.00 (8.04)	82.50 (11.24)	17.50 (4.47)	27.50 (4.37)	6.00 (2.14)	157.50 (23.41)
2010	77.50 (7.01)	60.00 (8.28)	8.50 (1.59)	21.00 (4.94)	4.00 (1.31)	167.00 (13.64)
2011	90.00 (9.83)	177.00 (11.15)	37.00 (5.22)	33.00 (3.91)	8.50 (2.06)	337.00 (19.33)

Dataset = cfdpscor.d11 – .d92

Table 125. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Corinth Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	494	28 (± 4)	13 (± 3)

Dataset = cfdpscor.d11

Table 126. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected from Corinth Lake in 2011.

		Age									
Year	No.	1	2	3	4	5	6	7	8	9	10
2010	30	6.5									
2009	21	5.7	9.4								
2008	19	6.0	8.9	11.1							
2007	6	6.7	9.6	10.8	12.5						
2006	18	6.0	10.3	11.7	12.9	14.2					
2005	7	6.7	10.7	13.2	14.5	15.6	16.6				
2004	2	7.1	11.3	12.8	13.7	15.2	16.2	17.2			
2003	4	5.4	9.6	11.5	13.1	14.7	16.1	17.4	18.1		
2001	1	8.0	13.3	15.8	16.9	17.6	18.3	18.9	19.6	20.3	20.7
Mean	108	6.2	9.7	11.7	13.3	14.7	16.5	17.5	18.4	20.3	20.7
Smallest		3.8	7.0	8.0	11.0	12.2	13.9	15.2	16.1	20.3	20.7
Largest		8.2	13.3	15.8	16.9	18.2	19.0	18.9	19.7	20.3	20.7
Std Error		0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7		
95% ConLo		6.0	9.5	11.4	12.8	14.2	15.6	16.5	17.1		
95% ConHi		6.4	10.0	12.0	13.7	15.3	17.4	18.6	19.8		

Intercept value = 0.00
Dataset = cfdagcor.d11

Table 127. Age frequency and CPUE (fish/hr) per inch class of largemouth bass collected during 2.00 hours of electrofishing at Corinth Lake during May 2011. Fish were collected in 15-minute runs.

	Inch class																			Std
Age	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	%	CPUE	err
1	33	113	33	1													180	27	90.20	9.79
2				11	76	49											136	20	68.21	6.15
3				1	8	65	118	16									208	31	104.13	8.89
4							24	11	4	1							39	6	19.52	2.16
5								16	14	10	5		3				47	7	23.59	3.37
6									4		3	2	3	4	6		22	3	10.77	1.34
7												2		4			6	1	2.92	0.67
8												2	3		12		17	3	8.67	1.33
9																	0	0	0.00	0.00
10																10	10	2	5.00	1.65
Total	33	113	33	14	84	114	142	42	21	11	8	7	9	7	18	10	666	100	337.00	19.33
%	5	17	5	2	13	17	21	6	3	2	1	1	1	1	3	2	100			

Dataset = cfdagcor.d11 and cfdpscor.d11

Table 128. Electrofishing catch rate (fish/hr) of each age of largemouth bass collected from Corinth Lake from 2000-2011.

	Year						
Age	2000	2001	2002	2003	2006	2010	2011
1	55.00	0.80	0.80	0.00	7.00	16.73	90.20
2	52.60	29.60	11.20	16.10	28.70	38.66	68.21
3	50.80	115.30	101.80	23.80	22.90	26.92	104.13
4	115.00	81.60	27.20	47.00	14.30	32.91	19.52
5	132.00	42.30	18.80	16.50	1.20	16.69	23.59
6	62.20	55.30	18.10	15.40	6.30	3.58	10.77
7	5.20	41.90	23.00	20.90	5.00	2.50	2.92
8	1.60	10.10	12.00	8.20	3.50	1.25	8.67
9	0.80	3.20	7.00	2.60	3.50	0.00	0.00
10				0.80	1.50	0.00	5.00
11					0.50	2.25	
12						3.50	
13						1.25	
14						1.75	
15						0.50	

Table 129. Population assessment for largemouth bass collected during spring electrofishing at Corinth Lake from 2000-2011 (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
2011	Value	11.1	90.20	37.00	33.00	8.50	0.515	40.2		
	Score	3	4	3	4	4			18	Excellent
2010	Value	11.1*	46.17^	8.50	21.00	4.00				
	Score	3	3	1	3	4			14	Good
2009	Value	11.1*	21.80^	17.50	27.50	6.00				
	Score	3	2	1	3	4			13	Good
2008	Value	11.1*	47.70^	69.50	37.50	7.50				
	Score	3	3	4	4	4			18	Excellent
2007	Value	11.1	86.70	21.50	22.50	5.50	0.498	39.3		
	Score	3	4	2	3	4			16	Good
2006	Value	10.1*	11.11^	29.00	34.50	1.50				
	Score	2	1	2	4	2			11	Fair
2005	Value	10.1*	32.44^	72.00	20.50	2.50				
	Score	2	2	4	3	3			14	Good
2004	Value	10.1*	21.06^	40.00	5.00	1.00				
	Score	2	2	3	2	2			11	Fair
2003	Value	10.1*	54.30^	23.33	6.00	0.67				
	Score	2	3	2	2	1			10	Fair
2002	Value	10.1	35.30	13.33	16.67	1.33	0.688	49.7		
	Score	2	2	1	2	2			9	Fair
2001	Value	8.7	63.40	20.80	9.60	0.00	0.805	55.3		
	Score	1	3	2	2	0			8	Fair
2000	Value	9.1	293.20	22.40	4.80	1.60	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 130. 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 20 September 2011: 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	5	62	75	25	8	5	48	36	19	17	8	6	4	1	0	0	0	0	1	320	213.33 (25.71)

Dataset = cfdwrcor.d11

Table 131. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Corinth Lake on 20 September 2011. 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	120	83 (1)	18	87 (2)	2	94 (3)	140	83 (1)

Dataset = cfdwrcor.d11

Table 132. 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 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	74.00	12.30	8.00	2.90	293.20	46.00
2000	Total	4.3	0.1	35.30	7.40	3.30	1.90	63.40	10.90
2001	Total	4.6	0.1	112.70	15.60	32.00	6.80	35.30	7.40
2002	Total	4.6	0.1	163.30	13.70	42.00	4.50	54.30	13.40
2003	Total	4.1	0.1	73.70	9.20	4.60	1.80	21.06	5.10
2004	Total	4.0	0.1	74.00	6.20	2.70	1.30	32.44	4.20
2005	Total	4.4	0.1	41.30	2.70	4.70	1.20	11.11	2.70
2006	Total	4.9	0.1	176.50	15.20	78.00	9.940	86.67	14.30
2007	Total	5.1	0.04	152.70	31.20	89.30	28.80	47.67	9.06
2008	Total	5.1	0.1	112.67	14.95	66.00	12.89	21.83	5.36
2009	Total	4.5	0.1	17.33	2.46	2.00	1.37	39.67	3.30
2010	Total	5.9	0.04	140.00	9.91	134.00	8.18	90.20	9.79
2011	Total	4.3	0.06	116.67	21.99	22.00	3.69		

Table 133. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 2.50 hours of 7.5-minute electrofishing runs in Corinth Lake, May 2011; numbers in parentheses are standard errors.

Species	Inch class								Total	CPUE
	2	3	4	5	6	7	8	9		
Bluegill	80	184	300	73	132	18			787	314.80 (27.01)
Redear sunfish	4	8	5	52	51	41	47	3	211	84.40 (7.99)

Dataset = cfdpscor.d11

Table 134. PSD and RSD values calculated for sunfish collected during 3.50 hours of electrofishing at Corinth Lake during May 2011. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	707	21 (± 3)	0 (± 0)
Redear sunfish	199	46 (± 6)	2 (± 1)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpscor.d11

Table 135. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Corinth Lake from 1992-2011; numbers in parentheses are standard errors.

	Length group				
Year	<3.0 in	3.0–5.9 in	6.0-7.9 in	≥8.0 in	Total
1992	3.00 (1.70)	36.00 (24.90)	49.00 (8.50)	10.00 (5.50)	98.00 (30.40)
1993	2.70 (1.30)	42.00 (13.10)	54.00 (10.90)	20.70 (5.20)	119.30 (26.20)
1996	6.00 (3.90)	75.00 (12.00)	54.50 (14.50)	1.50 (0.70)	137.00 (25.90)
1998	2.00 (1.10)	80.00 (19.40)	50.50 (10.30)	3.00 (1.00)	135.50 (23.70)
1999	42.00 (17.10)	113.00 (16.50)	32.50 (7.20)	17.00 (5.80)	204.50 (26.60)
2000	8.80 (2.50)	270.40 (20.10)	100.80 (12.00)	20.80 (3.60)	400.80 (25.90)
2001	7.20 (4.00)	185.60 (18.00)	140.00 (14.80)	5.60 (2.10)	338.40 (23.50)
2002	2.40 (1.20)	140.00 (16.70)	56.80 (12.10)	0.00	199.20 (26.60)
2003	14.20 (6.20)	164.40 (14.10)	91.60 (10.70)	0.90 (0.90)	271.10 (23.30)
2004	17.60 (4.90)	174.40 (15.90)	61.60 (10.90)	0.00	253.60 (22.70)
2005	12.00 (4.20)	262.40 (32.70)	82.40 (22.20)	0.00	356.80 (47.80)
2006	40.40 (6.00)	211.20 (17.90)	32.80 (6.40)	0.00	284.40 (14.70)
2007	13.20 (2.60)	148.80 (12.10)	98.00 (10.20)	0.00	260.00 (17.90)
2008	4.80 (1.22)	180.40 (13.65)	105.20 (12.41)	0.40 (0.40)	290.80 (18.82)
2009	9.20 (4.03)	151.60 (15.26)	166.80 (19.43)	0.00	327.60 (30.64)
2010	9.43 (2.57)	126.57 (11.13)	55.14 (6.85)	0.00	191.14 (15.54)
2011	32.00 (6.89)	222.80 (16.36)	60.00 (10.49)	0.00	314.80 (27.01)

Dataset = cfdpscor.d11

Table 136. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected from Corinth Lake in 2011.

		Age					
Year	No.	1	2	3	4	5	6
2010	15	2.8					
2009	19	2.0	4.4				
2008	6	1.9	3.8	5.5			
2007	12	2.3	4.6	5.9	6.6		
2006	7	2.4	4.6	5.8	6.5	7.0	
2005	3	2.2	4.2	5.5	6.0	6.5	6.8
Mean	62	2.3	4.4	5.7	6.5	6.8	6.8
Smallest		1.3	3.1	4.9	5.7	6.3	6.6
Largest		3.7	5.2	6.3	7.2	7.3	7.0
Std Error		0.1	0.1	0.1	0.1	0.1	
95% ConLo		2.2	4.2	5.6	6.3	6.6	6.6
95% ConHi		2.4	4.5	5.9	6.7	7.0	7.0

Intercept value = 0.00
Dataset = cfdagcor.d11

Table 137. Age frequency and CPUE (fish/hr) per inch class of bluegill collected during 3.50 hours of electrofishing at Corinth Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class									Std
Age	2	3	4	5	6	7	Total	%	CPUE	err
1	80	117					197	25	78.84	10.35
2		67	275	29			371	47	148.44	10.89
3			25	29	13		67	9	26.96	2.20
4				15	66	8	89	11	35.51	5.29
5					26	8	35	4	13.83	2.65
6					26	2	28	4	11.21	1.88
Total	80	184	300	73	132	18	787	100	314.80	27.01
%	10	23	38	9	17	2	100			

Dataset = cfdagcor.d11 and cfdpscor.d11

Table 138. Electrofishing catch rate (fish/hr) of each age of bluegill collected from Corinth Lake from 2000-2011.

	Year										
Age	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	11.50	2.40	14.20	23.30	12.00	47.70	29.50	8.12	47.42	14.89	78.84
2	167.50	108.40	153.80	142.00	200.80	168.30	123.60	149.70	68.32	80.68	148.44
3	140.90	71.80	47.80	33.60	98.30	27.20	22.40	45.38	88.27	37.85	26.96
4	1.50	16.60	22.10	20.60	34.20	40.40	74.30	24.16	114.30	51.14	35.51
5	3.90		33.20	34.20	11.50	0.70	10.20	39.44	4.65	6.33	13.83
6								24.00	4.65	0.00	11.21
7										0.00	
8										0.25	

Table 139. Population assessment for bluegill collected during spring electrofishing at Corinth Lake from 2000-2011 (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
2011	Value	4.4	3-3+	60.00	0.00		
	Score	2	3	3	0	8	Fair
2010	Value	4.0	3-3+	55.14	0.00		
	Score	2	3	3	0	8	Fair
2009	Value	4.8	3-3+	166.80	0.00		
	Score	3	3	4	0	10	Fair
2008	Value	4.3	3-3+	105.60	0.40		
	Score	2	3	4	1	10	Fair
2007	Value	4.6	3-3+	98.00	0.00		
	Score	3	3	4	0	10	Fair
2006	Value	4.1	3-3+	32.80	0.00		
	Score	2	3	2	0	7	Fair
2005	Value	4.0	3-3+	82.40	0.00		
	Score	2	3	4	0	9	Fair
2004	Value	4.1	2-2+	61.60	0.00		
	Score	2	4	3	0	9	Fair
2003	Value	4.3	2-2+	92.44	0.89		
	Score	2	4	4	1	11	Good
2002	Value	4.2	2-2+	56.80	0.00		
	Score	2	4	3	0	9	Fair
2001	Value	4.3	2-2+	145.60	5.60		
	Score	2	4	4	2	12	Good
2000	Value	5.3	2-2+	121.60	20.80		
	Score	4	4	4	4	16	Excellent

Table 140. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Corinth Lake from 1992-2011; 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	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
1993	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	2.00 (2.00)	1.30 (1.30)	2.00 (2.00)
1996	0.50 (0.50)	7.00 (2.80)	5.50 (2.70)	10.50 (3.50)	4.00 (1.70)	23.50 (3.90)
1998	0.00 (0.00)	4.00 (0.80)	0.50 (0.50)	19.00 (4.30)	15.50 (3.30)	23.50 (4.00
1999	0.00 (0.00)	3.70 (1.60)	2.70 (1.10)	5.30 (1.50)	3.20 (1.10)	21.50 (3.50)
2000	0.00 (0.00)	14.40 (4.10)	33.60 (15.80)	52.80 (6.60)	16.80 (4.20)	100.80 (21.90)
2001	1.60 (1.10)	20.80 (5.00)	54.40 (9.20)	72.80 (10.00)	44.00 8.70)	149.60 (15.60)
2002	0.00 (0.00)	4.00 (1.80)	6.40 (2.00)	82.40 (15.40)	52.00 (8.70)	92.80 (15.90)
2003	0.90 (0.90)	11.60 (3.60)	11.60 (2.40)	28.40 (5.20)	24.90 (5.60)	52.40 (6.10)
2004	0.80 (0.80)	13.60 (1.70)	17.60 (5.20)	19.20 (5.20)	14.40 (3.30)	51.20 (6.80)
2005	0.00 (0.00)	38.40 (4.40)	28.80 (6.40)	31.20 (11.10)	3.20 (1.80)	98.40 (17.30)
2006	0.00 (0.00)	19.60 (3.90)	54.00 (6.60)	7.60 (1.50)	0.40 (0.40)	81.20 (7.20)
2007	0.00 (0.00)	5.20 (1.30)	37.60 (7.10)	21.20 (5.50)	0.00 (0.00)	64.00 (11.70)
2008	0.00 (0.00)	10.40 (2.18)	33.60 (4.48)	27.60 (5.01)	0.00 (0.00)	71.60 (7.90)
2009	0.00 (0.00)	2.40 (1.02)	65.20 (7.60)	38.00 (7.47)	0.40 (0.40)	105.60 (14.10)
2010	0.86 (0.48)	7.14 (1.45)	18.86 (2.97)	12.00 (2.49)	0.00 (0.00)	38.86 (4.97)
2011	1.60 (0.73)	26.00 (4.49)	36.80 (3.04)	20.00 (3.04)	0.00 (0.00)	84.40 (7.99)

Dataset = cfdpscor.d11

Table 141. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected from Corinth Lake in 2011.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2010	16	3.3							
2009	31	2.7	5.9						
2008	19	3.3	6.1	7.8					
2007	3	3.4	6.4	8.0	8.7				
2006	2	3.5	6.3	7.9	8.5	8.9			
2005									
2004									
2003	2	3.1	5.5	6.5	7.2	7.8	8.3	8.9	9.3
Mean	73	3.0	6.0	7.7	8.2	8.3	8.3	8.9	9.3
Smallest		1.8	4.6	6.4	7.1	7.8	8.2	8.7	9.0
Largest		4.5	7.1	8.4	9.0	9.4	8.4	9.1	9.5
Std Error		0.1	0.1	0.1	0.3	0.4	0.1	0.2	0.3
95% ConLo		2.9	5.8	7.5	7.7	7.6	8.2	8.5	8.8
95% ConHi		3.2	6.1	7.9	8.8	9.1	8.4	9.3	9.7

Intercept value = 0.00
Dataset = cfdagcor.d11

Table 142. Age frequency and CPUE (fish/hr) per inch class of redear sunfish collected during 3.50 hours of electrofishing at Corinth Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class											Std
Age	2	3	4	5	6	7	8	9	Total	%	CPUE	err
1	4	8	3						15	7	5.94	2.36
2			2	52	48	7			109	51	43.43	4.51
3					3	34	31		69	33	27.56	3.57
4							12		12	6	4.70	0.76
5							4	1	5	2	1.97	0.32
6									0	0	0.00	0.00
7									0	0	0.00	0.00
8								2	2	1	0.80	0.44
Total	4	8	5	52	51	41	47	3	211	100	84.40	7.99
%	2	4	2	25	24	19	22	1	100			

Dataset = cfdagcor.d11 and cfdpscor.d11

Table 143. Electrofishing catch rate (fish/hr) of each age of redear sunfish collected from Corinth Lake from 2002-2011.

	Year									
Age	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	0.8	2.2	2.8	5.2	1.2	5.20	39.14	14.64	3.08	5.94
2	7.2	10.0	14.3	41.9	17.7	10.31	7.42	68.67	11.92	43.43
3	50.7	26.5	25.1	40.8	51.1	17.41	7.74	2.62	10.58	27.56
4	32.3	12.1	7.7	7.3	10.8	27.70	15.13	7.02	12.14	4.70
5				3.2		3.37	2.17	11.77	0.38	1.97
6								0.88	0.38	0.00
7									0.38	0.00
8										0.80

Table 144. Population assessment for redear sunfish collected during spring electrofishing at Corinth Lake from 2002-2011 (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
2011	Value	7.8	3-3+	20.00	0.00		
	Score	4	4	4	0	12	Good
2010	Value	7.1	3-3+	12.00	0.00		
	Score	4	4	3	0	11	Good
2009	Value	7.7	3-3+	38.00	0.40		
	Score	4	4	4	1	13	Good
2008	Value	8.0	3-3+	27.60	0.00		
	Score	4	4	4	0	12	Good
2007	Value	7.6	3-3+	21.20	0.00		
	Score	4	4	4	0	12	Good
2006	Value	7.3	3-3+*	7.60	0.40		
	Score	4	4	2	1	11	Good
2005	Value	7.6	3-3+	31.20	3.20		
	Score	4	4	4	2	14	Excellent
2004	Value	9.1*	2-2+*	19.20	14.40		
	Score	4	4	4	4	16	Excellent
2003	Value	9.1*	2-2+*	28.44	24.89		
	Score	4	4	4	4	16	Excellent
2002	Value	9.1	2-2+	82.40	52.00		
	Score	4	4	4	4	16	Excellent

* Age data not collected

Table 145. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Corinth Lake on 20 September and 5 October, 2011. Standard errors are in parentheses.

Species	Length group								Total	
	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	120	101 (2)	57	86 (1)					177	97 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish			90	95 (1)	63	95 (1)	2	92 (6)	155	95 (1)

Dataset = cfdwrcor.d11

Table 146. Length composition, relative abundance, and CPUE (fish/set-night) of channel catfish at Corinth Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 10 October 2011. 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		
Channel catfish	7	66	53	56	15	19	24	11	3	1	0	1	0	1	257	85.67 (59.37)

Dataset = cfdhncor.d11

Table 147. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Corinth Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	131	5 (± 1.0)	0 (± 0)

Dataset = cfdhncor.d11

Table 148. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Corinth Lake in October 2011. 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	91	90 (1)	6	99 (5)	0		97	91 (1)

Dataset = cfdhncor.d11

Table 149. 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, May 2011; 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	4	28	35	26	9	62	58	83	102	66	45	28	16	6	9	6	2	5	592	296.00 (30.91)

Dataset = cfdpselm.d11

Table 150. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Elmer Davis Lake from 1996-2011; 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	102.00 (15.30)	163.50 (19.50)	37.00 (6.20)	9.50 (3.40)	4.50 (1.40	312.00 (32.70)
1997	113.50 (20.10)	252.00 (27.20)	39.00 (5.60)	19.00 (3.70)	5.50 (1.84)	423.50 (43.90)
1998	52.50 (9.50)	93.30 (6.80)	16.80 (2.30)	7.50 (1.70)	3.20 (1.05)	170.10 (15.10)
1999	253.50 (32.92)	47.00 (8.34)	36.00 (6.93)	17.50 (5.45)	2.50 (1.05)	354.00 (45.36)
2000	134.50 (14.70)	136.50 (11.00)	31.50 (6.00)	29.00 (4.40)	2.00 (1.31)	331.50 (21.30)
2001	121.00 (17.00)	220.00 (21.20)	18.50 (2.40)	21.00 (4.10)	0.50 (0.50)	380.50 (24.90)
2002	99.00 (16.30)	124.00 (12.30)	4.00 (1.30)	10.00 (2.70)	0.50 (0.50)	237.00 (26.20)
2003	96.00 (10.20)	189.50 (16.50)	14.50 (3.90)	15.00 (2.70)	3.50 (1.59)	315.00 (25.10)
2004	107.50 (10.00)	123.50 (10.00)	22.00 (3.50)	15.00 (1.70)	3.50 (1.59)	268.00 (17.40)
2005	93.00 (10.60)	197.00 (11.20)	60.00 (10.40)	15.00 (2.40)	3.50 (1.18)	365.00 (27.20)
2006	74.50 (11.50)	123.50 (12.20)	40.50 (7.90)	6.50 (1.80)	1.00 (0.65)	245.00 (15.40)
2007	32.50 (5.80)	137.00 (16.40)	41.50 (10.30)	8.00 (2.80)	1.00 (0.65)	219.00 (28.90)
2008	149.00 (17.85)	188.00 (20.72)	45.00 (5.64)	14.50 (4.00)	2.00 (1.31)	396.50 (35.19)
2009	36.00 (6.00)	192.50 (18.98)	76.00 (9.04)	28.00 (3.78)	6.50 (2.26)	332.50 (30.20)
2010	41.00 (5.00)	147.50 (17.85)	71.50 (12.27)	24.00 (5.01)	3.00 (1.25)	284.00 (33.52)
2011	51.00 (6.22)	152.50 (20.44)	69.50 (8.10)	23.00 (4.46)	3.50 (1.18)	296.00 (30.91)

Dataset = cfdpselm.d11 – .d96

Table 151. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Elmer Davis Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	490	38 (± 4)	9 (± 3)

Dataset = cfdpselm.d11

Table 152. Population assessment for largemouth bass collected during spring electrofishing at Elmer Davis Lake from 2000-2010 (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
2011	Value	9.8*	32.43	69.50	23.00	3.50				
	Score	1	2	4	3	3			13	Good
2010	Value	9.8*	29.00^	71.50	24.00	3.00				
	Score	1	2	4	3	3			13	Good
2009	Value	9.8*	18.50^	76.00	28.00	6.50				
	Score	1	2	4	3	4			14	Good
2008	Value	9.8	127.50	45.00	14.50	2.00	0.489	38.6		
	Score	1	4	3	2	3			13	Good
2007	Value	10.5*	26.90^	41.50	8.00	1.00				
	Score	2	2	3	2	2			11	Fair
2006	Value	10.5*	68.10^	40.50	6.50	1.00				
	Score	2	3	3	2	2			12	Good
2005	Value	10.5*	78.10^	60.00	15.00	3.50				
	Score	2	4	4	2	3			15	Good
2004	Value	10.5	94.40	22.00	15.00	3.50	0.481	38.2		
	Score	2	4	2	2	3			13	Good
2003	Value	10.3*	57.50^	14.50	15.00	3.50				
	Score	2	3	1	2	3			11	Fair
2002	Value	10.3*	80.60^	4.00	10.00	0.50				
	Score	2	4	1	2	1			10	Fair
2001	Value	10.3	52.80	18.50	21.00	0.50	0.516	40..3		
	Score	2	3	1	3	1			10	Fair
2000	Value	10.7	73.80	31.50	29.00	2.00	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 153. 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 2011: 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	17	40	32	18	5	17	57	34	50	28	32	18	5	3	5	4	2	1	0	1	369	246.00 (26.39)

Dataset = cfdwrelm.d11

Table 154. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Elmer Davis Lake on 22 September 2011. 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	168	93 (5)	55	86 (1)	16	96 (2)	239	92 (4)

Dataset = cfdwrelm.d11

Table 155. 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 Elmer Davis 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)	269.60	(33.20)	14.40	(2.00)	52.80	(9.70)
2001	Total	4.5	(0.1)	210.70	(25.00)	47.30	(3.00)	80.60	(13.30)
2002	Total	4.3	(0.1)	67.30	(10.00)	13.30	(3.20)	57.50	(7.90)
2003	Total	4.2	(0.1)	179.00	(32.00)	27.00	(10.00)	94.40	(9.90)
2004	Total	4.3	(0.03)	180.00	(38.50)	24.70	(4.30)	78.10	(9.90)
2005	Total	4.4	(0.04)	190.00	(29.60)	33.30	(5.30)	68.10	(10.20)
2006	Total	3.7	(0.04)	166.00	(17.40)	8.00	(2.50)	26.90	(6.10)
2007	Total	4.3	(0.05)	114.00	(24.60)	17.30	(5.40)	127.50	(16.40)
2008	Total	3.9	(0.1)	73.33	(9.61)	0.67	(0.67)	18.50	(3.70)
2009	Total	4.2	(0.1)	108.00	(14.24)	20.00	(4.95)	29.00	(5.33)
2010	Total	4.7	(0.1)	108.00	(14.12)	34.67	(3.21)	32.43	(3.86)
2011	Total	4.0	(0.1)	74.00	(13.81)	14.67	(3.21)		

Table 156. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 2.50 hours of 7.5-minute electrofishing runs in Elmer Davis Lake, May 2011; numbers in parentheses are standard errors.

Species	Inch class									Total	CPUE
	2	3	4	5	6	7	8	9	10		
Bluegill	281	280	221	64	38	87	14			985	394.00 (36.20)
Redear sunfish	12	48	7	1	6	11	75	64	6	230	92.00 (10.34)

Dataset = cfdpselm.d11

Table 157. PSD and RSD values calculated for sunfish collected during 2.50 hours of electrofishing at Elmer Davis Lake during May 2011. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	704	20 (± 3)	2 (± 1)
Redear sunfish	170	92 (± 3)	41 (± 7)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpselm.d11

Table 158. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Elmer Davis Lake from 1994-2011; 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	1.00 (0.70)	12.00 (3.00)	29.00 (5.70)	1.50 (1.10)	43.50 (6.00)
1995			NS		
1996	42.00 (7.90)	75.00 (9.70)	55.00 (11.20)	20.00 (5.40)	192.00 (22.50)
1997	0.50 (0.50)	79.50 (12.50)	59.00 (16.30)	5.50 (2.10)	144.50 (28.60)
1998	2.70 (1.10)	17.10 (4.50)	7.70 (1.60)	2.90 (1.10)	30.40 (5.80)
1999	579.50 (74.50)	502.00 (65.40)	23.00 (7.60)	5.00 (3.40)	1,109.50 (130.90)
2000			NS		
2001	1.50 (0.80)	109.50 (28.00)	157.00 (23.50)	0.50 (0.50)	268.50 (49.60)
2002	33.60 (11.80)	78.40 (19.30)	272.80 (55.30)	0.80 (0.80)	385.60 (78.20)
2003	17.60 (4.70)	89.60 (12.90)	151.20 (30.10)	2.40 (1.70)	260.80 (37.10)
2004	40.00 (8.70)	100.80 (13.70)	119.20 (29.80)	8.80 (3.90)	268.80 (44.70)
2005	38.40 (11.40)	92.80 (16.10)	59.20 (9.80)	8.80 (3.00)	199.20 (23.90)
2006	162.40 (35.90)	115.20 (20.10)	42.40 (8.50)	16.00 (4.50)	336.00 (43.80)
2007	7.60 (1.80)	81.20 (7.40)	42.80 (9.70)	9.20 (2.40)	140.80 (14.90)
2008	34.40 (5.66)	133.20 (24.68)	58.80 (9.31)	6.80 (2.34)	233.20 (32.99)
2009	8.80 (1.81)	58.13 (6.52)	33.87 (3.71)	1.07 (0.50)	101.87 (7.30)
2010	51.60 (12.75)	126.80 (16.16)	26.80 (4.07)	0.00 (0.00)	205.20 (23.39)
2011	112.40 (19.56)	226.00 (18.87)	50.00 (7.25)	5.60 (2.54)	394.00 (36.20)

Dataset = cfdpselm.d11

Table 159. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected from Elmer Davis Lake in 2011.

		Age						
Year	No.	1	2	3	4	5	6	7
2010	17	2.7						
2009	23	2.3	4.4					
2008	15	2.3	4.6	6.4				
2007	13	2.5	4.5	6.6	7.5			
2006	3	2.0	4.4	6.0	7.2	8.0		
2005	1	2.7	4.9	6.4	6.9	7.4	8.0	
2004	3	2.0	4.2	6.0	6.8	7.2	7.6	7.9
Mean	75	2.4	4.5	6.4	7.3	7.6	7.7	7.9
Smallest		1.2	3.0	4.9	6.0	6.8	7.2	7.6
Largest		4.5	6.3	7.5	8.2	8.3	8.0	8.1
Std Error		0.1	0.1	0.1	0.1	0.2	0.2	0.2
95% ConLo		2.3	4.3	6.2	7.1	7.2	7.4	7.6
95% ConHi		2.5	4.7	6.6	7.6	8.0	8.0	8.2

Intercept value = 0.00
Dataset = cfdagelm.d11

Table 160. Age frequency and CPUE (fish/hr) per inch class of bluegill collected during 2.50 hours of electrofishing at Elmer Davis Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class										Std
Age	2	3	4	5	6	7	8	Total	%	CPUE	err
1	281	140						421	43	168.40	23.22
2		140	221	38				399	41	159.76	13.40
3				26	30	25		80	8	32.01	4.43
4					8	50	5	63	6	25.36	3.74
5						6	4	10	1	3.89	0.85
6							2	2	0	0.70	0.32
7						6	4	10	1	3.89	0.85
Total	281	280	221	64	38	87	14	985	100	394.00	36.20
%	29	28	22	6	4	9	1	100			

Dataset = cfdagelm.d11 and cfdpselm.d11

Table 161. Electrofishing catch rate (fish/hr) of each age of bluegill collected from Elmer Davis Lake from 2001-2011.

	Year										
Age	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	2.60	35.80	21.20	43.10	21.20	237.80	2.50	61.91	11.73	61.93	168.40
2	45.40	69.40	75.90	95.00	97.20	41.60	82.10	76.36	47.31	111.79	159.76
3	212.90	20.00	34.60	45.40	47.40	26.90	24.40	69.15	19.31	21.73	32.01
4	7.60	246.30	21.30	29.60	12.20	19.80	18.30	16.98	23.51	8.62	25.36
5		14.20	107.80	7.80	6.00	9.90	8.00	3.16		1.13	3.89
6				46.80	5.00		3.50	1.75			0.70
7				1.10	3.90		2.00	0.00			3.89
8								2.33			
9								0.58			
10								0.58			

Table 162. Population assessment for bluegill collected during spring electrofishing at Elmer Davis Lake from 2001-2011 (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
2011	Value	4.4	2-2+	55.60	5.60				
	Score	2	4	3	2			11	Good
2010	Value	4.3	2-2+	26.80	0.00	1.471	77.0		
	Score	2	4	2	0			8	Fair
2009	Value	4.4	2-2+	34.93	1.07	*	*		
	Score	2	4	2	1			9	Fair
2008	Value	4.1	2-2+	65.60	6.80	0.748	52.7		
	Score	2	4	3	2			11	Good
2007	Value	4.1	2-2+	52.00	9.20	0.718	51.2		
	Score	2	4	3	2			11	Good
2006	Value	5.1	2-2+	58.40	16.00	0.464	37.1		
	Score	4	4	3	4			15	Excellent
2005	Value	4.2	2-2+	68.00	8.80	0.729	51.7		
	Score	2	4	3	2			11	Good
2004	Value	4.3	2-2+	128.00	8.80	*	*		
	Score	2	4	4	2			12	Good
2003	Value	4.5	2-2+	153.60	2.40	*	*		
	Score	3	4	4	1			12	Good
2002	Value	4.5	2-2+	273.60	0.80	*	*		
	Score	3	4	4	1			12	Good
2001	Value	4.2	2-2+	157.50	0.50	*	*		
	Score	2	4	4	1			11	Good

Table 163. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Elmer Davis Lake from 1994-2011; 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
1994	0.00	0.50 (0.50)	0.50 (0.50)	2.50 (2.00)	1.50 (1.50)	3.50 (1.90)
1995			NS			
1996		7.50 (1.60)	23.50 (3.30)	4.00 (1.10)	1.00 (0.70)	35.00 (4.60)
1997	0.00	1.00 (1.00)	0.50 (0.50)	13.00 (3.80)	0.50 (0.50)	14.50 (4.60)
1998	0.00	0.30 (0.30)	0.00	0.00	0.00	0.30 (0.30)
1999	0.00	19.00 (4.40)	13.00 (2.20)	20.50 (5.30)	0.00	52.50 (7.50)
2000			NS			
2001	0.00	3.50 (2.10)	21.00 (5.10)	3.50 (1.60)	1.00 (0.70)	28.00 (4.80)
2002	0.80 (0.80)	4.00 (1.80)	8.80 (4.70)	15.20 (4.20)	0.80 (0.80)	28.80 (6.10)
2003	1.60 (1.10)	7.20 (5.50)	31.20 (7.40)	19.20 (6.20)	0.80 (0.80)	59.20 (13.50)
2004	4.00 (2.70)	8.00 (3.40)	66.40 (18.40)	24.80 (9.70)	3.20 (2.40)	103.20 (29.10)
2005	0.00	11.20 (2.40)	54.40 (16.70)	63.20 (18.60)	4.80 (1.80)	128.80 (26.90)
2006	0.00	12.80 (4.00)	4.80 (1.80)	30.40 (6.50)	4.00 (1.30)	51.20 (10.00)
2007	0.40 (0.40)	1.60 (0.70)	18.00 (3.50)	15.60 (3.40)	2.00 (1.10)	35.60 (5.60)
2008	1.20 (0.66)	13.20 (2.74)	40.80 (9.16)	17.60 (5.27)	2.80 (1.45)	72.80 (14.68)
2009	0.80 (0.59)	5.60 (1.28)	18.67 (3.24)	6.40 (1.82)	1.87 (0.74)	31.47 (4.29)
2010	1.20 (0.88)	3.20 (1.35)	23.60 (2.69)	13.20 (2.92)	0.80 (0.55)	41.20 (4.72)
2011	4.80 (1.68)	22.40 (4.52)	6.80 (1.95)	58.00 (8.49)	2.40 (1.31)	92.00 (10.34)

Dataset = cfdpselm.d11

Table 164. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected from Elmer Davis Lake in 2011.

		Age				
Year	No.	1	2	3	4	5
2010	23	3.4				
2009	20	3.2	6.6			
2008	15	3.1	6.7	8.7		
2007	9	3.9	7.0	8.9	9.9	
2006	1	2.5	6.4	8.3	9.0	9.6
Mean	68	3.3	6.7	8.8	9.8	9.6
Smallest		2.1	4.4	8.2	9.0	9.6
Largest		5.3	7.9	9.5	10.3	9.6
Std Error		0.1	0.1	0.1	0.2	
95% ConLo		3.2	6.5	8.6	9.5	
95% ConHi		3.5	6.9	8.9	10.1	

Intercept value = 0.00
Dataset = cfdagelm.d11

Table 165. Age frequency and CPUE (fish/hr) per inch class of redear sunfish collected during 2.50 hours of electrofishing at Elmer Davis Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class												Std
Age	2	3	4	5	6	7	8	9	10	Total	%	CPUE	err
1	12	48	5							65	28	26.00	4.84
2			2	1	6	11				20	9	8.00	2.21
3							75	32		107	47	42.80	6.04
4								24	6	30	13	12.00	2.60
5								8		8	3	3.20	0.49
Total	12	48	7	1	6	11	75	64	6	230	100	92.00	10.34
%	5	21	3	0	3	5	33	28	3	100			

Dataset = cfdagelm.d11 and cfdpselm.d11

Table 166. Electrofishing catch rate (fish/hr) of each age of redear sunfish collected from Elmer Davis Lake from 2002-2011.

	Year									
Age	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	0.00	7.20	7.20	0.00	16.00	0.40	6.80	1.07	3.20	26.00
2	1.60	34.40	78.80	61.30	4.80	20.20	45.12	20.44	22.23	8.00
3	8.74	4.10	8.70	53.60	23.40	6.70	17.52	7.52	12.97	42.80
4	3.58	13.50	8.50	10.10	7.00	6.70	1.03	0.57	1.60	12.00
5	14.48			1.00		1.70	1.40	0.00	0.40	3.20
6	0.40			2.80			0.93	0.67	0.00	
7								1.20	0.40	
8									0.40	

Table 167. Population assessment for redear sunfish collected during spring electrofishing at Elmer Davis Lake from 2001-2011 (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
2011	Value	8.7	2-2+	58.00	2.40		
	Score	4	4	4	2	14	Excellent
2010	Value	8.4	2-2+	13.20	1.20		
	Score	4	4	3	1	12	Good
2009	Value	8.0	3-3+	6.40	1.90		
	Score	4	4	2	2	12	Good
2008	Value	8.8	2-2+	17.60	2.80		
	Score	4	4	4	3	15	Excellent
2007	Value	8.6	2-2+	15.60	2.00		
	Score	4	4	4	2	14	Excellent
2006	Value	8.8	2-2+	30.40	4.00		
	Score	4	4	4	3	15	Excellent
2005	Value	8.7	2-2+	63.20	4.80		
	Score	4	4	4	3	15	Excellent
2004	Value	9.0*	2-2+*	24.80	3.20		
	Score	4	4	4	2	14	Excellent
2003	Value	9.0	2-2+	19.20	0.80		
	Score	4	4	4	1	13	Good
2002	Value	6.5*	4-4+*	15.20	0.80		
	Score	4	3	4	1	12	Good
2001	Value	6.5	4-4+	3.50	1.00		
	Score	4	3	1	1	9	Fair

* Age data not collected

Table 168. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Elmer Davis Lake on 22 September and 7 October 2011. Standard errors are in parentheses.

Species	Length group								Total	
	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	91	106 (3)	69	99 (1)	3	88 (3)			163	102 (2)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	2	150 (19)	47	105 (2)	25	105 (1)	21	105 (1)	95	106 (1)

Dataset = cfdwrelm.d11

Table 169. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 2.0 hours of 15-minute electrofishing runs in Kincaid Lake, May 2011; 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	22	Total	CPUE
Spotted bass								4	2	1	1									8	4.00 (1.31)
Largemouth bass	2	8	7	27	35	24	31	34	50	43	25	36	37	45	31	20	18	8	3	484	242.00 (16.89)

Dataset = cfdpskin.d11

Table 170. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Kincaid Lake from 1992-2011; 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	4.00 (0.00)	34.00 (3.10)	13.30 (1.80)	53.30 (4.10)	11.33 (1.76)	104.70 (3.50)
1995	27.50 (3.40)	38.50 (4.50)	17.50 (2.90)	65.00 (6.50)	13.50 (3.02)	148.50 (11.90)
1997	13.50 (2.90)	59.00 (6.20)	53.00 (4.20)	92.00 (14.30)	16.00 (3.70)	217.50 (18.00)
1999	15.00 (4.30)	60.00 (8.60)	55.00 (3.70)	94.00 (6.80)	16.50 (3.42)	224.00 (8.60)
2000	15.30 (5.70)	64.50 (7.00)	36.50 (5.50)	70.00 (7.80)	6.50 (1.05)	186.00 (16.30)
2001	16.00 (2.90)	99.30 (13.70)	35.30 (5.80)	102.70 (10.60)	8.00 (1.03)	253.30 (23.50)
2002	10.00 (4.50)	35.30 (9.40)	36.70 (8.40)	110.00 (14.80)	6.67 (1.98)	192.00 (29.20)
2003	23.40 (5.80)	70.30 (12.10)	32.60 (4.00)	94.90 (15.80)	7.43 (2.03)	221.10 (22.80)
2004	7.00 (2.90)	76.00 (12.50)	38.50 (5.00)	71.00 (10.00)	9.50 (1.50)	192.50 (16.50)
2005	22.00 (3.70)	56.00 (8.20)	69.50 (9.30)	113.00 (18.50)	15.00 (2.80)	260.50 (30.70)
2006	14.50 (3.50)	82.00 (8.30)	43.00 (5.00)	112.50 (9.80)	16.50 (4.17)	252.00 (14.90)
2007	21.50 (5.30)	50.50 (6.10)	47.50 (5.30)	96.00 (6.70)	15.50 (2.44)	215.50 (13.60)
2008	16.00 (3.38)	92.50 (11.50)	48.00 (6.37)	112.00 (15.21)	12.00 (3.63)	268.50 (31.87)
2009	15.50 (2.44)	72.50 (13.72)	70.00 (9.59)	107.00 (10.97)	13.50 (1.50)	265.00 (24.36)
2010	14.75 (1.89)	72.00 (4.86)	61.50 (5.20)	69.25 (4.27)	7.75 (1.44)	217.50 (9.27)
2011	22.00 (3.21)	62.00 (7.89)	59.00 (8.41)	99.00 (4.88)	14.50 (2.13)	242.00 (16.89)

Dataset = cfdpskin.d11 - .d92

Table 171. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Kincaid Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	440	72 (± 4)	45 (± 5)

Dataset = cfdpskin.d11

Table 172. Population assessment for largemouth bass collected during spring electrofishing at Kincaid Lake from 2000-2011 (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
2011	Value	9.9*	5.00	59.00	99.00	14.50				
	Score	1	1	4	4	4			14	Good
2010	Value	9.9*	1.33^	61.50	69.25	7.75				
	Score	1	1	4	4	4			14	Good
2009	Value	9.9	2.50	70.00	107.00	13.50	0.401	33.1		
	Score	1	1	4	4	4			14	Good
2008	Value	10.5*	1.00^	48.00	112.00	12.00				
	Score	2	1	3	4	4			14	Good
2007	Value	10.5*	0.00^	47.50	96.00	15.50				
	Score	2	0	3	4	4			13	Good
2006	Value	10.5*	1.50^	43.00	112.50	16.50				
	Score	2	1	3	4	4			14	Good
2005	Value	10.5	0.00	69.50	113.00	15.00	0.344	29.1		
	Score	2	0	4	4	4			14	Good
2004	Value	10.5*	1.00^	38.50	71.00	9.50				
	Score	2	1	3	4	4			14	Good
2003	Value	10.5	0.00	32.57	94.86	7.43	0.389	32.2		
	Score	2	0	2	4	4			12	Good
2002	Value	10.4	0.00	36.70	110.00	6.67	0.308	26.5		
	Score	2	0	3	4	4			13	Good
2001	Value	9.0	0.00	35.30	102.70	8.00	0.261	23.0		
	Score	1	0	3	4	4			12	Good
2000	Value	9.5	1.50	36.50	70.00	6.50	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 173. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.5 hours of 15-minute electrofishing runs for largemouth bass in Kincaid Lake in September 2011: 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	18	39	43	11	8	30	43	26	35	22	17	16	17	7	9	4	7	5	1	358	238.67 (60.35)

Dataset = cfdwrkin.d11

Table 174. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Kincaid Lake on 27 September 2011. 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	97	88 (1)	50	91 (1)	33	101 (1)	180	91 (1)

Dataset = cfdwrkin.d11

Table 175. 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 Kincaid Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	No. of fish	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1999	25	3.1	(0.2)	16.70	(5.70)	0.00		1.50	(1.10)
2000	11	3.1	(0.2)	4.70	(1.60)	0.00		0.00	
2001	36	2.9	(0.1)	20.60	(6.70)	0.00		0.00	
2002	76	2.6	(0.1)	43.40	(10.60)	0.00		0.00	
2003	33	2.8	(0.1)	22.00	(4.70)	0.00		1.00	(0.70)
2004	19	3.0	(0.1)	12.70	(4.30)	0.00		0.00	
2005	259	2.5	(0.03)	129.50	(19.30)	0.00		1.50	(0.70)
2006	64	2.7	(0.1)	42.70	(11.90)	0.00		0.00	
2007	29	3.2	(0.1)	19.30	(4.80)	0.70	(0.70)	1.00	(0.65)
2008	42	3.3	(0.1)	28.00	(2.07)	0.00		2.50	(1.14)
2009	47	2.7	(0.04)	31.33	(8.16)	0.00		1.33	(0.46)
2010	80	4.2	(0.1)	53.33	(11.99)	14.00	(3.39)	5.00	(1.65)
2011	112	3.8	(0.08)	74.67	(28.82)	7.33	(4.18)		

Dataset = cfdwrkin.d11

Table 176. Length composition, relative abundance, and CPUE (fish/set-night) of channel catfish at Kincaid Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 3 October 2011. 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		
Channel catfish	11	63	24	23	15	3	3	1	1	1	1	146	48.67 (23.33)

Dataset = cfdhnkin.d11

Table 177. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Kincaid Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	48	6 (± 7)	0 (± 0)

Dataset = cfdhnkin.d11

Table 178. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Kincaid Lake in October 2011. 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	45	93 (2)	3	111 (14)	0		48	94 (2)

Dataset = cfdhnkin.d11

Table 179. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 1.50 hours of 15-minute electrofishing runs in McNeely Lake, May 2011; 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		6	47	46	15	11	24	27	35	19	13	9	5	7	1	3	2	4		274	182.67 (18.81)

Dataset = cfdpsmcl.d11

Table 180. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from McNeely Lake from 1996-2011; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	Total
1996	77.30 (9.20)	6.70 (2.00)	18.00 (3.40)	23.30 (2.80)	0.00 (0.00)	125.30 (11.00)
1998	80.00 (11.10)	134.70 (18.60)	7.30 (2.20)	14.00 (3.40)	0.67 (0.67)	236.00 (26.00)
1999	71.00 (10.60)	161.00 (4.40)	27.00 (7.40)	22.00 (5.30)	2.00 (1.15)	281.00 (7.50)
2000	44.70 (5.00)	144.70 (13.40)	104.70 (13.80)	20.70 (2.20)	4.00 (1.46)	314.70 (24.70)
2001	71.30 (10.10)	144.00 (6.40)	97.70 (16.40)	31.30 (3.80)	2.67 (1.33)	346.00 (28.10)
2002	28.70 (3.00)	48.00 (12.50)	43.30 (4.80)	9.30 (1.70)	0.00 (0.00)	129.30 (30.30)
2003	44.70 (8.20)	96.00 (12.40)	56.00 (10.70)	27.30 (3.20)	1.33 (0.84)	224.00 (19.70)
2004	27.30 (4.30)	58.00 (8.90)	23.30 (4.30)	28.00 (3.90)	2.67 (1.33)	136.70 (15.60)
2005	23.30 (6.30)	76.70 (5.90)	46.00 (4.90)	30.00 (6.20)	1.33 (0.84)	176.00 (8.60)
2006	56.00 (5.60)	72.70 (12.10)	37.30 (6.50)	24.00 (2.50)	1.33 (0.84)	190.00 (14.60)
2007	14.70 (1.70)	98.00 (11.90)	46.70 (13.10)	40.00 (8.90)	1.33 (1.33)	199.30 (30.80)
2008	127.30 (6.50)	124.00 (14.60)	58.70 (6.60)	20.70 (4.60)	1.33 (0.84)	330.70 (21.50)
2009	66.67 (12.29)	73.33 (10.86)	28.00 (7.66)	12.00 (3.27)	1.33 (0.84)	180.00 (17.19)
2010	49.33 (2.23)	92.67 (11.52)	14.67 (1.98)	14.00 (3.54)	1.33 (0.84)	170.67 (12.84)
2011	76.00 (14.86)	64.67 (14.47)	27.33 (4.18)	14.67 (2.67)	2.67 (1.98)	182.67 (18.81)

Dataset = cfdpsmcl.d11

Table 181. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in McNeely Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	160	39 (± 8)	14 (± 5)

Dataset = cfdpsmcl.d11

Table 182. Population assessment for largemouth bass collected during spring electrofishing at McNeely Lake from 2000-2011 (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
2011	Value	11.4*	71.96	27.33	14.67	2.67				
	Score	3	3	2	2	3			13	Good
2010	Value	11.4*	50.84^	14.67	14.00	1.33				
	Score	3	3	1	2	2			11	Fair
2009	Value	11.4*	67.83^	28.00	12.00	1.33				
	Score	3	3	2	2	2			12	Good
2008	Value	11.4	130.00	58.67	20.67	1.33	0.527	40.9		
	Score	3	4	4	3	2			16	Good
2007	Value	11.0*	5.33^	46.67	40.00	1.33				
	Score	3	1	3	4	2			13	Good
2006	Value	11.0*	50.67^	37.33	24.00	1.33				
	Score	3	3	3	3	2			14	Good
2005	Value	11.0*	12.67^	46.00	30.00	1.33				
	Score	3	1	3	4	2			13	Good
2004	Value	11.0	24.67	23.33	28.00	2.67	0.319	27.3		
	Score	3	2	2	3	3			13	Good
2003	Value	9.8*	20.00^	56.00	27.33	1.33				
	Score	1	2	4	3	2			12	Good
2002	Value	9.8*	23.33^	43.33	9.33	0.00				
	Score	1	2	3	2	0			8	Fair
2001	Value	9.8	70.00	99.33	31.33	2.67	0.392	32.4		
	Score	1	3	4	4	3			15	Good
2000	Value	10.4*	40.67^	104.67	20.67	4.00				
	Score	2	2	4	3	4			15	Good

* Age data not collected

^Calculations based on age data gathered in previous years

-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 183. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.25 hours of 15-minute electrofishing runs for black bass in McNeely Lake in September 2011: 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	39	79	24	4	56	92	22	28	21	16	9	8	3	7	8	1		2	420	336.00 (21.65)

Dataset = cfdwrmcl.d11

Table 184. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at McNeely Lake on 21 September 2011. 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	94	84 (1)	33	91 (1)	21	93 (4)	148	87 (1)

Dataset = cfdwrmcl.d11

Table 185. 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 McNeely Lake.

Year class	Area	Age 0 Mean length	Age 0 Std. error	Age 0 CPUE	Age 0 Std. error	Age 0 ≥5.0 in CPUE	Age 0 ≥5.0 in Std. error	Age 1 CPUE	Age 1 Std. error
2000	Total	3.8	(0.1)	87.30	(16.10)	10.00	(2.30)	70.00	(9.40)
2001	Total	4.1	(0.9)	20.70	(1.60)	2.00	(1.40)	23.30	(2.40)
2002	Total	4.7	(0.1)	24.00	(5.80)	10.70	(3.80)	20.00	(2.50)
2003	Total	4.1	(0.1)	56.00	(14.00)	7.00	(1.90)	24.70	(3.50)
2004	Total	4.0	(0.1)	49.00	(2.40)	3.50	(0.90)	12.70	(2.40)
2005	Total	4.7	(0.1)	193.30	(17.20)	88.00	(12.10)	50.70	(7.20)
2006	Total	4.5	(0.1)	108.70	(23.30)	33.30	(5.70)	5.30	(1.70)
2007	Total	5.2	(0.04)	174.40	(49.00)	116.00	(28.30)	130.00	(6.66)
2008	Total	4.6	(0.1)	300.00	(34.53)	97.60	(16.62)	67.83	(11.67)
2009	Total	4.5	(0.04)	68.00	(5.66)	11.33	(1.23)	50.84	(2.15)
2010	Total	5.2	(0.04)	169.60	(15.10)	106.40	(12.17)	71.96	(14.23)
2011	Total	4.3	(0.05)	116.00	(12.84)	20.80	(6.62)		

Table 186. 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 2011; numbers in parentheses are standard errors.

Species	Inch class 2	3	4	5	6	7	8	9	Total	CPUE
Bluegill	12	111	211	76	110	86	2		608	486.40 (43.49)
Redear sunfish	1	8	5	13	10	11	22	5	75	60.00 (9.02)

Dataset = cfdpsmcl.d11

Table 187. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at McNeely Lake during May 2011. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	596	33 (± 4)	0.3 (± 5)
Redear sunfish	66	58 (± 12)	8 (± 6)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpsmcl.d11

Table 188. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from McNeely Lake from 1994-2011; 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	17.60 (3.70)	303.20 (59.60)	13.60 (2.40)	0.00	334.40 (59.10)
1996	2.70 (1.30)	187.30 (52.60)	95.30 (20.50)	0.00	285.30 (68.30)
1998	0.00	72.00 (31.80)	68.70 (15.40)	0.00	140.70 (44.80)
1999	8.00 (4.30)	108.00 (20.60)	108.00 (27.70)	0.00	224.00 (44.80)
2000	2.00 (0.90)	204.70 (36.60)	110.00 (23.30)	0.00	316.70 (46.30)
2001	73.60 (23.80)	152.00 (17.00)	200.80 (29.10)	1.60 (1.10)	428.00 (35.20)
2002	53.60 (11.70)	270.40 (33.20)	335.20 (33.80)	0.80 (0.80)	660.00 (41.90)
2003	12.00 (2.20)	132.00 (31.90)	30.40 (10.60)	0.00	174.40 (40.90)
2004	4.00 (1.80)	181.60 (25.20)	74.40 (8.60)	0.00	260.00 (27.30)
2005	22.00 (3.30)	159.00 (16.70)	174.00 (27.60)	0.00	355.00 (33.50)
2006	47.00 (11.10)	145.00 (23.70)	101.00 (27.60)	0.00	293.00 (40.60)
2007	8.80 (2.80)	114.40 (18.60)	118.40 (22.50)	0.00	241.60 (30.80)
2008	98.40 (11.81)	184.00 (17.77)	206.40 (21.53)	0.00	488.80 (37.70)
2009	4.80 (3.20)	152.80 (28.43)	225.60 (20.27)	0.80 (0.80)	384.00 (37.70)
2010	7.20 (2.22)	104.00 (17.53)	96.00 (12.28)	0.00	207.20 (27.62)
2011	9.60 (3.11)	318.40 (39.42)	156.80 (26.96)	1.60 (1.60)	486.40 (43.49)

Dataset = cfdpsmcl.d11

Table 189. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected from McNeely Lake in 2011.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2010	13	2.8							
2009	29	2.2	4.5						
2008	8	2.7	4.9	6.4					
2007	8	2.6	4.9	6.1	6.8				
2006	3	2.9	5.3	6.5	6.9	7.1			
2003	1	1.7	3.2	4.6	5.2	5.6	6.3	6.9	7.5
Mean	62	2.5	4.7	6.2	6.7	6.7	6.3	6.9	7.5
Smallest		1.1	3.2	4.6	5.2	5.6	6.3	6.9	7.5
Largest		4.8	6.3	7.1	7.7	7.3	6.3	6.9	7.5
Std Error		0.1	0.1	0.1	0.2	0.4			
95% ConLo		2.3	4.5	6.0	6.3	6.0			
95% ConHi		2.7	4.9	6.5	7.1	7.5			

Intercept value = 0.00
Dataset = cfdagelm.d11

Table 190. Age frequency and CPUE (fish/hr) per inch class of bluegill collected during 1.25 hours of electrofishing at McNeely Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class										Std
Age	2	3	4	5	6	7	8	Total	%	CPUE	err
1	12	40						52	9	41.89	10.44
2		71	211	70				351	58	281.04	32.89
3					86	9		94	15	75.32	12.91
4				6	24	43		74	12	59.02	9.53
5						26	2	28	5	22.24	5.53
6								0	0	0.00	0.00
7								0	0	0.00	0.00
8						9		9	1	6.88	1.49
Total	12	111	211	76	110	86	2	608	100	486.40	43.49
%	2	18	35	13	18	14	0	100			

Dataset = cfdagmcl.d11 and cfdpsmcl.d11

Table 191. Electrofishing catch rate (fish/hr) of each age of bluegill collected from McNeely Lake from 2002-2011.

	Year									
Age	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	53.60	27.40	5.50	29.10	82.40	10.40	175.94	19.76	14.40	41.89
2	244.70	39.20	79.30	103.30	110.80	128.70	88.02	107.80	76.00	281.04
3	128.00	96.60	108.30	79.40	33.60	71.10	150.44	178.84	85.60	75.32
4	186.10	9.50	64.90	111.40	22.80	20.50	17.78	17.42	20.80	59.02
5	14.90	0.50		31.80	38.10	7.30	29.96	33.24	4.80	22.24
6	32.60	0.50			5.40		0.00	0.00	5.60	
7		0.90	2.00			3.60	0.00	0.00		
8							26.67	26.93		6.88

Table 192. Population assessment for bluegill collected during spring electrofishing at McNeely Lake from 2001-2011 (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
2011	Value	4.5	2-2+	158.40	1.60	1.001	63.3		
	Score	3	4	4	1			12	Good
2010	Value	4.7	2-2+*	96.00	0.00	0.610	46.0		
	Score	3	4	4	0			11	Good
2009	Value	4.9*	2-2+*	226.40	0.80	0.763	53.4		
	Score	3	4	4	1			12	Good
2008	Value	4.9	2-2+	206.40	0.00				
	Score	3	4	4	0			11	Good
2007	Value	4.8	2-2+	118.40	0.00	0.963	61.8		
	Score	3	4	4	0			11	Good
2006	Value	5.1	3-3+	101.00	0.00	0.597	45.0		
	Score	4	3	4	0			11	Good
2005	Value	4.0	3-3+	174.00	0.00				
	Score	2	3	4	0			9	Fair
2004	Value	3.9	3-3+	74.40	0.00	1.111	67.1		
	Score	2	3	3	0			8	Fair
2003	Value	3.9	3-3+	30.40	0.00	1.117	67.3		
	Score	2	3	2	0			7	Fair
2002	Value	4.2	2-2+	336.00	0.80				
	Score	2	4	4	1			11	Good
2001	Value	4.8	2-2+	202.40	1.60	0.926	60.4		
	Score	3	4	4	1			12	Good

* Age and growth data was not collected. Previous year's data was used for value

Table 193. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from McNeely Lake from 1998-2011; 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	0.00	0.70 (0.70)	5.30 (2.20)	1.30 (1.30)	0.00	7.80 (3.40)
1999	0.00	10.00 (3.80)	3.00 (1.90)	1.00 (1.00)	0.00	14.00 (3.50)
2000	0.00	3.30 (2.60)	14.70 (2.50)	0.70 (0.70)	0.00	18.70 (3.40)
2001	2.40 (1.70)	8.80 (3.00)	15.20 (4.80)	8.00 (4.80)	0.00	34.40 (7.80)
2002	1.60 (1.10)	49.60 (10.60)	22.40 (5.80)	6.40 (2.00)	0.00	80.00 (13.40)
2003	0.80 (0.50)	5.20 (1.20)	20.40 (3.80)	2.40 (1.20)	0.00	28.80 (5.40)
2004	0.00	4.80 (1.80)	24.80 (6.50)	25.60 (7.00)	0.00	55.20 (9.90)
2005	1.00 (1.00)	25.00 (5.90)	16.00 (6.60)	33.00 (11.80)	0.00	75.00 (17.00)
2006	1.00 (1.00)	15.00 (3.80)	20.00 (4.00)	16.00 (2.60)	0.00	52.00 (6.20)
2007	0.00	2.40 (1.70)	29.60 (6.80)	6.40 (2.30)	0.00	38.40 (8.80)
2008	6.40 (2.87)	22.40 (4.43)	38.40 (3.83)	36.00 (4.81)	1.60 (1.07)	103.20 (9.42)
2009	0.00	4.80 (3.20)	55.20 (11.28)	38.40 (9.53)	2.40 (1.22)	98.40 (21.83)
2010	0.00	9.60 (4.10)	16.00 (4.13)	8.80 (3.26)	0.80 (0.80)	34.40 (6.43)
2011	0.80 (0.80)	20.80 (5.87)	16.80 (3.03)	21.60 (4.63)	0.00	60.00 (9.02)

Dataset = cfdpsmcl.d11

Table 194. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected from McNeely Lake in 2011.

		Age			
Year	No.	1	2	3	4
2010	8	3.6			
2009	16	3.2	5.9		
2008	21	3.3	6.3	8.0	
2007	7	3.4	6.3	8.0	8.8
Mean	52	3.3	6.2	8.0	8.8
Smallest		2.4	5.2	6.7	8.1
Largest		5.0	7.2	9.0	9.4
Std Error		0.1	0.1	0.1	0.2
95% ConLo		3.2	6.0	7.8	8.5
95% ConHi		3.5	6.3	8.2	9.1

Intercept value = 0.00
Dataset = cfdagelm.d11

Table 195. Age frequency and CPUE (fish/hr) per inch class of redear sunfish collected during 1.25 hours of electrofishing at McNeely Lake during May 2011. Fish were collected in 7.5-minute runs.

	Inch class											Std
Age	2	3	4	5	6	7	8	9	Total	%	CPUE	err
1	1	8	5						14	19	11.20	3.81
2				13	9				22	29	17.26	4.65
3					1	11	15	1	28	38	22.68	4.34
4							7	4	11	15	8.87	2.22
Total	1	8	5	13	10	11	22	5	75	100	60.00	9.02
%	1	11	7	17	13	15	29	7	100			

Dataset = cfdagmcl.d11 and cfdpsmcl.d11

Table 196. Electrofishing catch rate (fish/hr) of each age of redear sunfish collected from McNeely Lake from 2001-2011.

	Year								
Age	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	3.60	0.80	1.00	14.00	0.00	26.40	1.60	6.08	11.20
2	8.80	15.20	39.30	15.90	28.30	40.80	58.40	18.56	17.26
3	16.40	39.20	20.60	18.50	7.80	27.30	18.55	5.76	22.68
4			7.40	3.60	2.20	5.98	13.45	2.40	8.87
5			4.00			1.12	4.00	0.80	
6			2.70			1.60	2.40	0.80	
7									
8									

Table 197. Population assessment for redear sunfish collected during spring electrofishing at McNeely Lake from 2001-2011 (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
2011	Value	8.0	3-3+	21.60	0.00		
	Score	4	4	4	0	12	Good
2010	Value	8.1	2-2+	8.80	0.80		
	Score	4	4	2	1	11	Good
2009	Value	8.5*	2-2+*	38.40	2.40		
	Score	4	4	4	2	14	Excellent
2008	Value	8.5	2-2+	36.00	1.60		
	Score	4	4	4	1	13	Good
2007	Value	8.0	3-3+	6.40	0.00		
	Score	4	4	2	0	10	Fair
2006	Value	7.9	3-3+	16.00	0.00		
	Score	4	4	4	0	12	Good
2005	Value	8.3	3-3+	33.00	0.00		
	Score	4	4	4	0	12	Good
2004	Value	7.7*	4-4+*	25.60	0.00		
	Score	4	3	4	0	11	Good
2003	Value	7.7	4-4+*	2.40	0.00		
	Score	4	3	1	0	8	Fair
2002	Value	6.7*	4-4+*	6.40	0.00		
	Score	4	3	2	0	9	Fair
2001	Value	6.7	4-4+	8.00	0.00		
	Score	4	3	2	0	9	Fair

Table 198. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at McNeely Lake on 21 September 2011. Standard errors are in parentheses.

Species	Length group							
	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in		Total	
Bluegill	79	106 (11)	38	84 (2)			117	99 (7)
	4.0–6.9 in		7.0–8.9 in		≥9.0 in		Total	
Redear sunfish	60	98 (3)	20	97 (1)	8	82 (11)	88	96 (2)

Dataset = cfdwrmcl.d11

Table 199. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.00 hours of 15-minute electrofishing runs in Williamstown Lake, May 2011; numbers in parentheses are standard errors.

Species	Inch class																Total	CPUE
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Largemouth bass	3	4	14	8	13	10	15	26	12	7	7	8	7	5	3	2	144	72.00 (7.09)

Dataset = cfdpswil.d11

Table 200. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Williamstown Lake from 2007-2011; 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
2007	13.00 (4.26)	38.00 (7.01)	14.50 (2.82)	7.50 (1.40)		73.00 (10.84)
2008	17.00 (4.19)	42.50 (7.21)	29.00 (6.54)	7.00 (2.10)	0.50 (0.50)	95.50 (15.67)
2009	27.00 (5.06)	23.00 (4.12)	16.00 (2.62)	12.00 (2.51)	0.00 (0.00)	78.00 (10.11)
2010	15.33 (3.48)	28.33 (4.42)	25.67 (2.85)	10.67 (1.42)	0.00 (0.00)	80.00 (10.13)
2011	14.50 (2.92)	32.00 (2.93)	13.00 (1.81)	12.50 (3.96)	0.00 (0.00)	72.00 (7.09)

Dataset = cfdpswil.d11 – d07

Table 201. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Williamstown Lake in 2011; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	115	44 (± 9)	22 (± 8)

Dataset = cfdpswil.d11

Table 202. Population assessment for largemouth bass collected during spring electrofishing at Williamstown Lake from 2008-2011 (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
2011	Value	11.6*	9.00*	13.00	12.50	0.00		
	Score	4	1	1	2	0	8	Fair
2010	Value	11.6*	9.00*	25.67	10.67	0.00		
	Score	4	1	2	2	0	9	Fair
2009	Value	11.6*	24.50	16.00	12.00	0.00		
	Score	4	2	1	2	0	9	Fair
2008	Value	11.6	12.50	29.00	7.00	0.50		
	Score	4	1	2	2	1	10	Fair

* Age data not collected, use previous year's data

Table 203. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.50 hours of 15-minute electrofishing runs for black bass in Williamstown Lake in September 2011: 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	Total	CPUE
Largemouth bass	14	8	1	10	16	19	16	13	10	9	4	3	3	2	2	1	131	87.33 (8.22)

Dataset = cfdwrwil.d11

Table 204. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Williamstown Lake on 29 September 2011. 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	63	88 (1)	23	92 (2)	11	106 (1)	97	91 (1)

Dataset = cfdwrwil.d11

Table 205. 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 Williamstown 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
2007	Total	4.7	(0.3)	7.33	(1.61)	2.67	(1.33)	12.50	(3.58)
2008	Total	4.7	(0.2)	24.67	(6.06)	12.00	(3.27)	24.50	(4.81)
2009	Total	4.1	(0.2)	2.67	(0.84)	0.00		9.00	(3.16)
2010	Total	5.1	(0.1)	39.33	(11.66)	21.33	(5.33)	10.00	(1.85)
2011	Total	4.9	(0.1)	15.33	(3.00)	6.00	(1.37)		

Table 206. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.00 hours of electrofishing in Sympson Lake, April 2011; 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
Largemouth bass	3	2	2	12	20	22	23	19	16	20	17	29	24	25	24	4	5	1	268	134.00 (18.84)

Dataset = cfdpssym.d11

Table 207. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 1.50 hours of electrofishing in Sympson Lake, September 2011; 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	17	19	11	7		2	4	14	17	14	9	3	3	6	4	7	3	4	2	146	97.33 (7.28)

Dataset = cfdwrsym.d11

Table 208. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass and bluegill collected in 1.00 hours of electrofishing in Doe Run Lake, April 2011; 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
Bluegill	16	16	26	53	56	4															171	171.00 (65.63)
Largemouth bass			2	5		1	6	12	8	6	4	4	2	1	2	1	6	2		1	63	63.00 (10.88)

Dataset = cfdpsdoe.d11

Table 209. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass and bluegill collected in 0.75 hours of electrofishing in Doe Run Lake, September 2011; 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
Bluegill	2	1	1	4	4																12	16.00 (10.07)
Largemouth bass		2	6	16	4	4	14	4	4	1	2	6	2	3	3				1	1	75	100.00 (11.55)

Dataset = cfdwrdoe.d11

Table 210. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.00 hours of electrofishing in Willisburg Lake, May 2011; 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	11	5	3	23	11	16	8	13	21	17	11	6	8	13	17	5	6	2	196	98.00 (9.62)

Dataset = cfdpswlb.d11

Table 211. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 1.50 hours of electrofishing in Willisburg Lake, September 2011; numbers in parentheses are standard errors.

	Inch class																		
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Largemouth bass	3	7	10	1	2	22	32	20	10	11	11	5	8	6	4	5	6	3	166	110.67 (10.00)

Dataset = cfdwrwlb.d11

Table 212. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.00 hours of electrofishing in Jericho Lake, May 2011; 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	3	16	5	6	12	20	12	15	16	16	23	34	31	24	15	15	10	2	275	137.50 (9.10)

Dataset = cfdpsjer.d11

Table 213. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 0.75 hours of electrofishing in Jacobson Park Lake, April 2011; numbers in parentheses are standard errors.

	Inch class																
Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE
Largemouth bass	1	1		2		3	1	2		2	1	2	1	2	1	19	25.33 (7.06)

Dataset = cfdpsjac.d11

NORTHEASTERN FISHERY DISTRICT

Project 1: Lake and Tailwaters Fishery Surveys

FINDINGS

All sampling conditions can be found in Table 1.

Cave Run Lake (8,720a)

Muskellunge Sampling

Muskellunge were sampled on 04-06 April for 6 hours in each section of the lake (18 total hours). Overall, a total of 135 fish were captured, resulting in catch rate of 7.50 fish per hour (fish/hr). Fish ranged in size from 13.0 to 46.0 in (Table 2). Fish captured by section were fairly similar (43 fish in the upper, 44 in the middle and 48 in the lower); size ranges were also consistent, with the exception that the largest fish in the upper unit only measured 40.0 in, while those in the other sections reached 46.0 in. With the recent changes in both the size limit (increased to 36.0 inches in 2009) and creel limits (decreased to 1 fish a day in 2006) there is some concern of the possibility of a drop in weights of the fish with additional individuals in the system. Relative weights (W_r) should aid in detecting a drop in weights if it will occur. In 2011, all length groups (except the $\leq$ 20.0 and 20.1-30.0 in fish) showed a drop in the mean W_r when compared to 2010. However, when standard errors surrounding these means are considered these drops are not statistically significant (Table 3). When the means (and resulting standard errors) from 2011 are compared to 2009 the 20.1-30.0 and $\geq$ 38.1 in groups both show statistically significant drops (Table 3). It should be noted that the W_r for all size classes fell within the errors surrounding the mean from 2003 to 2011, with the exception of the $\leq$ 20.0 in fish which can be heavily affected by hatchery influences (most $\leq$ 20.0 in muskellunge are age-1 fish which were stocked around 6 months prior to our sampling). The overall assessment rating of the muskellunge population at Cave Run Lake fell one point but is still considered to be "Good" (Table 4). Rating values for the catches of $\geq$ 20.0, $\geq$ 30.0 and $\geq$ 36.0 in groups were unchanged, but ratings for the catches of fish over 40.0 in increased while the catches of age-1 fish fell. The drop in the catch of age-1 fish is most likely attributed to the high water level at the time of the sampling. High water prevents the electrofishing boat from sampling near the shoreline, where the majority of age-1 fish were captured. Management objectives for catches of $\geq$ 20.0, 30.0, 36.0 and 40.0 in fish were all met this year, while objectives for catches of age-1 fish were not met.

Age-1 muskellunge continued to be fin clipped to mark year classes prior to their fall stocking. The clipping rotation is given in the table below:

Year	Fin clipped	Number stocked	Date stocked	Average length
2011	Right Pelvic	2,800	9/26-9/27	12.8 in
2010	Left Pectoral	2,811	9/20-9/21, 10/25	12.5 in

Black Bass Sampling (Spring)

For a third year in a row spring black bass sampling was attempted on Cave Run Lake, but high water prevented a quality sample from being obtained. On 05 May, the lake reached an all time high of 759.65 mean sea level, which is 29.65 feet higher than normal summer pool (730 msl). In spite of the lack of sampling from 2009 to 2011, the population assessment of largemouth bass is shown in Table 5.

Black Bass Sampling (Fall)

On 19-21 September, Cave Run Lake was sampled for black bass for a total of 6 hours (2 hours in each section; 12-30 minute runs). In total, 1,602 black bass were captured; of these 66.9% (1,072 individuals, 178.67 fish/hr) were largemouth bass, 32.3% were spotted bass (517 individuals, 86.17 fish/hr) and the remainder was smallmouth bass (0.8%; 13 individuals, 2.17 fish/hr; Table 6). Largemouth bass ranged in size from 2.0-17.0 in and, as typical, more individuals were sampled in the upper section (46.2%) than the middle (30.0%) and lower (23.8%) sections. Spotted bass and smallmouth bass ranged in size from 2.0-14.0 in and 2.0-20.0 in, respectively.

These two species showed the typical trend of higher numbers in the lower sections of the lake. W_r was also examined and showed that largemouth bass condition was higher in 2011than 2010, reaching 95% for fish ≥ 15.0 in (Table 7). This trend held true for smallmouth bass, but for spotted bass, fish condition in 2010 and 2011 was similar. It could be that the lack of vegetation on the lake in 2011 (due to the flood waters in the spring) exposed a significant amount of forage that the bass took advantage of, and exhibited good growth for the year. The primary objective in the fall black bass sampling is to evaluate the current year's spawn, index this spawn and decide if the lake needs supplemental stocking to offset a perceived poor spawn. For 2011, the spawn was down from 2010; however, the lake did not need supplemental stocking (Table 8).

Crappie Trap Netting

From 31 October-04 November, trap nets were run on the upper portion of Cave Run Lake for assessment of the crappie population. As is typical, the majority of the fish captured were white crappie (88.5% of total) and not enough black crappie were sampled to make accurate assessments of the population. In total, 714 fish were captured which was up from the 400 fish captured in 2010 (Table 9). Of those 714, 632 were white crappie (10.53 fish per net night (fish/nn)) and 82 were black crappie (1.37 fish/nn; Table 9). Although the overall numbers of white crappie captured were up in 2011 when compared to 2010, the percentage of fish that were over 8.0 inches ("quality" size for white crappie) was lower. This fact is illustrated by the significant drops in PSD and RSD_{10} values (Table 10). However, since the assessment of white crappie is built upon capturing high numbers of smaller and younger fish, the overall assessment score remained "poor" which is in line with the mean since 2001 (Table 11). In spite of the assessment rating of "poor", relatively few angler complaints are received concerning the crappie population. Most likely, this low score is reflective of the difficulty of sampling crappie on Cave Run Lake not the overall population status. Management objectives for total catch (excluding age-0), catch of age-1 and catch of fish ≥ 8.0 in were all met, while objectives for catch of age-0 fish were not met.

White Bass Gill Netting

From 17-19 October, gill nets were run (60 total net nights) on Cave Run Lake for assessment of the white bass fishery. In total, 232 fish were captured for a catch rate of 23.20 fish/nn (Table 12). This was almost double the number of fish captured in 2008. W_r was also examined with these samples and showed that there was a statistical increase from the 2007 to the 2008 samples (Table 13). This increase in weight indices was probably due to the same factors that caused an increase in the largemouth bass weights: lack of vegetation exposing forage to predators. During this sample period, an attempt was made to capture 10 fish from each inch class to assess growth rates. Data showed that white bass reached quality size (9.0 in) at age-1, preferred size (12.0 in) by age-2 to age-3 and memorable size (15.0 in) by age-4 to age-5 (Table 14). When compared to 2008, little change was observed with the exception of the smaller fish, which grew past 9.0 inches in their first year in 2011, but took an additional year in 2008. Age frequency showed that the majority of the fish were 2 years old and ranged in size from 10.0-14.0 in (Table 15). The overall assessment scores for white bass returned to the mid-90's and early-2000's range of "good" (Table 16). This increase was attributed to increase in catch of larger fish (as demonstrated by the high CPUE of ≥ 12.0 in and age-1 and older fish). Management objectives for catch of age-1 and older fish and catch of ≥ 12.0 in fish were met, while catch of age-1 fish was not met.

Miscellaneous

In the winter of 2011 around 150 recycled Christmas trees were used to refresh (1) and create (2) fish attractor sites in the lake. In addition, two of the Christmas tree sites were converted to plastic pallet sites (6 units at each site). During the fall, 2,800 muskellunge which averaged 12.8 in were stocked into the lake.

Grayson Lake (1,512a)

Black Bass Sampling (Spring)

High water at the time of spring black bass sampling prevented a quality sample from being obtained again in 2011. In spite of the lack of sampling during the last two years, the population assessment of largemouth bass is shown in Table 17. Management objectives for largemouth bass could not be determined for 2011.

Black Bass Sampling (Fall)

On 14-16 September, Grayson Lake was nocturnally sampled for black bass species for a total of 4.5 hours (3- 30 minute runs in each section). In total, 1,001 fish were captured across all 3 sections. Only largemouth bass and

spotted bass were collected and the sample was dominated by largemouth bass (72% of the catch). Of the three sections sampled, 50% of the total largemouth bass collected came from the middle section while the lower section produced 62% of the total spotted bass collected (Table 18). Relative weights showed an increase for all largemouth bass length groups as well as for those spotted bass 7.0-10.9 in, but dropped significantly for spotted bass 11.0-13.9 in (Table 19). Examination of the year class strength of largemouth bass showed an increase in the catch of both age-0 fish and age-0 fish $\geq$ 5.0 in when compared to the mean for the lake. These results were used to determine that Grayson Lake did not need to receive supplemental stockings of YOY largemouth bass in 2011 (Table 20).

Crappie Electrofishing (Fall)
On 10 October, Grayson Lake was diurnally electrofished for examination of the population characteristics of black and white crappie. The upper section of the lake continues to be the only section sampled. In total, 146 fish were captured in 3.0 hours of sampling. Of these, the majority was white crappie (133 fish or 91%; Table 21). Catch rates continue to demonstrate that capture success of crappie within Grayson Lake is extremely variable from year to year. The PSD and RSD_{10} values remain consistently below acceptable stock density index ranges for white crappie (Table 22). Data associated with the white crappie assessment is shown in Table 23. A final rating for the population assessment was not included due to lack of age and growth data.

Hybrid Striped Bass
In 2009 a hybrid striped bass stocking program began at the lake and during 25-28 October 2011, five experimental gill nets (125 feet long, consisting of five 25-foot panels) were set within the area between Bruin Creek and the dam in order to assess the hybrid striped bass population. An overall assessment for hybrid striped bass is presented in Table 24, but must be read with caution as the sample nets used on Grayson Lake do not meet standardized requirements. During 20 net-nights, 73 hybrids were collected for a CPUE of 3.65 fish/nn (Table 25). Hybrids ranged in size from 7.0-27.0 in. Age and growth determinations can be found in Table 26. As was the case the last time age and growth determinations were made in 2002, hybrids reach harvestable size (15.0 in) by age 2+. Those fish age 1+ and 2+ represented 86.3% of the total catch (Table 27). Relative weight values were generally low except for those fish $\geq$15.0 in (Table 28). The higher value seen in this category can be attributed to the collection of eight fish ranging in length from 24.0-27.0 in which were stocked during the initial stocking program from 1998-2003.

Miscellaneous
In 2011, 15,057 hybrid striped bass were stocked into Grayson Lake with an average length of 1.9 in.

Lake Carnico (114a)

Black Bass Electrofishing (Spring)
On 21 April, the shoreline of Lake Carnico (Nicholas County) was nocturnally electrofished for black bass. A total of 119 (130 in 2010, 143 in 2009, 54 in 2008, and 292 in 2007) largemouth bass were captured ranging in size from 4.0-19.0 in (Table 29). The population assessment rating for the bass fishery remains "Fair" (Table 30). However, due to the lack of collecting any fish $\geq$20.0 in, this dropped the scoring to within one point of a "poor" rating. Catch rates by length group are shown in Table 31. PSD and the RSD_{15} values compared to past years can be found in Table 32.

Bluegill / Redear Sunfish Sampling
On 17 May, the shoreline of Lake Carnico was diurnally electrofished for sunfish species. A total of 884 fishes were captured. Fish sampled included 519 bluegill, 17 redear sunfish and the remainder was green sunfish and longear sunfish (Table 33). CPUE for various length groups of bluegill and redear sunfish can be found in Table 34. Bluegill PSD values remain well below the desired level (Table 35). The bluegill population assessment rated this fishery as being "Poor" (Table 36). Efforts will be underway during the summer of 2012 to evaluate whether or not the magnitude of the aquatic vegetation present could be playing a role in the declining bluegill population.

Black Bass Electrofishing (Fall)
On 28 September, the shoreline of Lake Carnico was nocturnally electrofished for black bass. In total 167 largemouth bass were sampled ranging in size from 3.0-17.0 in (Table 37). Relative weight values (Table 38) increased slightly among all length groups.

Miscellaneous
The lake received a supplemental stocking of 1,501 remedial bass during October 2011.

Clear Creek Lake (40a)

Black bass electrofishing (Spring)
The Lake could not be sampled due to high water levels experience during the spring of 2011.

Bluegill/Redear Sunfish electrofishing
On 20 May, the shoreline of Clear Creek Lake (Bath Co.) was diurnally electrofished (4- 7.5 minutes runs) for bluegill and redear sunfish. A total of 349 (690 in 2010, 206 in 2009, 281 in 2008, 112 in 2007, and 351in 2006) bluegill and 230 (318 in 2010, 234 in 2009, 127 in 2008, 130 in 2007, and 94 in 2006) redear sunfish were collected (Table 39). Table 40 shows the CPUE for each length group of bluegill and redear sunfish collected. The PSD value for bluegill was within the lower end of the desirable range (Table 41). The bluegill assessment rated the fishery as "Fair" (Table 42). However, catch rate for ≥6.0 in bluegill (54.00 fish/hr) has been on the increase since 2009. The redear sunfish population was assessed to be "Fair" and catch rates for fish ≥8.0 in (38.00 fish/hr) improved over those obtained during 2010 (6.00 fish/hr) and can be found in Table 43.

Black bass electrofishing (Fall)
The lake could not be sampled due to an over abundance of aquatic vegetation.

Greenbo Lake (181a)

Black bass electrofishing (Spring)
The shoreline of Greenbo Lake (Greenup Co.) was nocturnally electrofished on 20 April. A total of 303 largemouth bass were collected resulting in a CPUE of 202.00 fish/hr (Table 44). Of the total number of largemouth bass collected only 10 stocked fish were found, comprising 3.3% of the catch (Table 45). Catch rates for stocked fish were only slightly better than those from previous years (7 fish collected during both 2010 and 2009). During 2007, 2008 and 2010, a total of 6,340 bass were stocked and to date only 0.4% of the stocked fish have been collected. Catch rates for largemouth bass by length groups can be found in Table 46. It should be noted, low catch rates experienced in 2008 may be attributed to a malfunctioning electrofishing boat. Only one management objective for catch rate exceeded the objectives specified in the lake management plan for all length group categories: 12.0-14.9 in bass (objective = ≥40.00 fish/hr, actual = 58.00 fish/hr), ≥15.0 in bass (objective = 10.00 fish/hr, actual = 6.67 fish/hr), ≥20.00 in bass (objective = 2.00 fish/hr, actual = 1.33 fish/hr). Largemouth bass PSD remained within the desired range with a value in 2011 of 41 (40 = 2010, 2009 = 53, 2008 = 51, 2007 = 46, 2006 = 51, 2005 = 41) (Table 47). Electrofishing catch rates for each age of largemouth bass from 2000 through 2011 are shown in Table 48.

Bluegill/Redear Sunfish electrofishing (Spring)
Daytime electrofishing for bluegill and redear sunfish was conducted on 25 May. A total of 1,357 bluegill and 18 redear sunfish were collected (Table 50). Of the total number of bluegill collected, 1,083 were ≤3.0 in. Catch rate by length group of bluegill and redear sunfish can be found in Table 51. Bluegill PSD was 13 which showed a dramatic decrease from 2010 (34), 2009 (17), 2008 (19), 2007 (22) and 2006 (26) (Table 52). A final rating for the population assessment found in Table 53 has been included but results for length at age and years to 6.0 in are based on age and growth data collected in 2008. Only 18 redear sunfish (ranging in size from 1.0-9.0 in) were sampled in 2011 compared to 35 in 2010, 5 in 2009, 19 in 2008 and 30 in 2007. Too few redear sunfish were collected to make accurate population assessments. During 2003-2005, 181,500 1.0-in redear sunfish were stocked into the lake.

Black bass electrofishing (Fall)
On 22 September, the shoreline of Greenbo Lake was nocturnally electrofished for largemouth bass relative weight and length frequency. A total of 218 largemouth bass were collected in 1.5 hours of electrofishing (6- 15 minute runs; Table 54). Relative weight values compared to past years can be found in Table 55. Largemouth bass indices of year class strength at age 0 and age 1 are found in Table 56. Due to these indices, Greenbo Lake was stocked with 2,700 YOY largemouth bass that averaged 4.7 inches in the fall of 2011. Poor spawning success during 2010,

2008 and 2007 also warranted the supplemental stocking of 3.0-5.0 in bass (2,724 in 2010, 2,715 in 2008 and 925 in 2007).

Miscellaneous
Grass carp are still being observed and two (31.0 and 32.0 in) were collected during routine sampling in the spring. The grass carp were stocked in 1989. Rainbow trout and channel catfish continue to be stocked in the lake.

Lake Reba (76a)

Black bass electrofishing (Spring)
On 18 April, the shoreline of Lake Reba (Madison Co.) was nocturnally electrofished (1.5 hours; 6- 15-minute runs) for black bass population assessment. Overall, 459 largemouth bass were captured ranging in size from 3.0 – 21.0 in (Table 57). Of these, 50 fish were stocked fish from the 2010 (42 fish) and 2009 (8 fish) stockings (Table 58). Closer examination of the catch of age-1 fish showed that about 50% of the fish captured were stocked fish even though less than 5% of the fish stocked were re-captured. This trend did not hold true for the age-2 fish where only 7% of the fish captured were stocked fish and less than 1% of the fish stocked were recaptured. Overall, the 2011 catch rates stayed within the range exhibited for the last several years. That being said, the catch rate of fish ≥ 20.0 in was the highest since 1998 (Table 59). PSD and RSD_{15} were significantly higher than recent years (Table 60). PSD values exceeded any other value since 2000 and RSD_{15} values were the highest since 2005. The overall assessment score was a 16, the highest score since the lake has been sampled (Table 61). This score was driven higher by the increased catch of fish over 20.0 in. Management objectives for catch rates of 12.0 – 14.9, ≥ 15.0 and ≥ 20.0 in fish were all met, but the objective for catch rates of age-1 fish were not met this season.

Sunfish electrofishing
On 23 of May, the lake was diurnally electrofished (1.0 hours; 8- 7.5 minute runs) for assessment of the sunfish populations. In total 3,738 fish were captured. This was dominated by bluegill (3,178 fish, 85.3%) followed by redear sunfish (387 fish, 10.4%), and the remainder was green sunfish, warmouth and hybrid sunfish (Table 62). The catches of bluegill were substantially higher in 2011 than most any other year, but the majority of the sample was fish ≤ 3.0 in (2,160 fish or 68.0%; Table 63). The incredible variability in catch of fish ≤ 3.0 in can be attributed to the water temperature at the time of sample, the locations the electrofishing boat is able to sample and spawning process the fish are in. The trends observed in this length group of fish are highly confounded by variables other than the actual population numbers of fish and for the most part should be considered with caution. If those fish are removed from the analysis, the overall population numbers fall closer in line with other years, but are still on the higher side. 2011 was the first year a bluegill over 8.0 in was sampled within the lake. PSD and RSD_8 values continue to be on the low end and show the stunting of the population (Table 64). That being said, the increase in the catch of fish ≥ 6.0 and ≥ 8.0 in might be an indication that the population is starting to rebound (Table 65). Redear sunfish population numbers followed similar trends to that of bluegill. Values for catches of fish ≤ 3.0, 6.0 – 7.9, ≥ 6.0, and ≥ 8.0 in all showed an increase in 2011 (Table 66). PSD and RSD_{10} both showed a marked increase over previous years (Table 67) and assessment scores for catches of fish ≥ 8.0 in were the highest ever (Table 68). All management objectives for bluegill (catch of ≥ 6.0 and ≥8.0 in fish) and redear sunfish (catch of ≥8.0 and ≥ 9.0 in fish) were met in 2011. These increases could be attributed to the increase in the frequency and area of vegetation that is chemically treated for removal, or the increase in the numbers of grass carp that were stocked into the lake and impacting the vegetation. The next few seasons of sunfish sampling could be telling with respect to whether the vegetation removal program is helping alleviate the stunting of these sunfish populations.

Black bass electrofishing (Fall)
On 15 September, the lake was nocturnally electrofished (1.45 hours; 5- 15 minute runs and 1- 12.5 minute run) for assessment of the age-0 class strength and relative weights of largemouth bass. Overall, 714 largemouth bass were sampled ranging in size from 2.0 – 19.0 in (Table 69). Relative weights increased (Table 70) as did the indices of year class strength (Table 71). With the increase in the indices, the lake was not stocked this fall.

Rebel Trace Lake (19a)

Black bass electrofishing (Spring)
The lake could not be sampled due to an over abundance of aquatic vegetation.

Bluegill/Redear sunfish electrofishing
On 20 May, Rebel Trace Lake (Menifee Co.) was diurnally electrofished for sunfish. Length frequency of sunfish collected is found in Table 72 and CPUE for selected length groups of bluegill and redear sunfish is presented in Table 73. Catch rate for bluegill 6.0-7.9 in decreased from 2010 findings but remains above the average catch rate from 2006-2009. The bluegill PSD value of 26 (37 in 2010, 13 in 2009 and 5 in 2008) remained within the desirable range (Table 74). A final rating for the bluegill and redear sunfish population assessments is found in Tables 75 and 76, respectively. Values, in those categories pertaining to age and growth, were determined by using age data collected from 2009.

Black bass electrofishing (Fall)
For the fifth consecutive year, fall sampling for largemouth bass could not be accomplished due to the extensive coverage of aquatic vegetation. Eurasian watermilfoil was the dominant species during 2007-2009, however during 2010, watermilfoil densities decreased measurably and watershield had increased in abundance. This trend continued in 2011. Approximately 75 surplus grass carp from Minor Clark Fish Hatchery have been stocked (2007-2008) in attempts to remedy the watermilfoil situation. Whether the disappearance of the watermilfoil can be attributed to grass carp or high water experienced during the spring is unknown. Approximately 33% of the shoreline around this 19-acre lake can no longer be sampled due to increased sediment loading. Rebel Trace was originally built for flood control and sediment retention and continues to fulfill this purpose.

Smoky Valley Lake (36a)

Black bass electrofishing (Spring)
On 04 May, Smoky Valley Lake (Carter Co.) was nocturnally electrofished for assessment of the largemouth bass population for 0.80 hours (3– 15 minute runs and 1– 2.4 minute run). In total, 183 fish were captured ranging in size from 3.0 – 14.0 in (Table 77). With the exception of the ≤ 8.0 in length group, all other groups remained well below the mean from 1990 – 2010 (Table 78). The majority of the fish continue to be well below what is considered to be preferred and quality sizes (Table 79) and the assessment is still "poor" for the lake (Table 80). The continuation of the poor population at Smoky Valley is due to the fact that there continues to be no larger fish within the lake. The majority of the fish on this lake are below 12.0 in and this lake might be an excellent candidate for the division's idea of "active management" by conducting a removal project similar to what was done in the Central Fishery District. With the exception of the catch of age-1 fish, none of the management objectives were met with the spring sampling.

Sunfish electrofishing
On 02 June, Smoky Valley Lake was diurnally electrofished (0.89 hours, 3– 15 minute runs and 1- 8.4 minute run) for assessment of the sunfish populations. In total, 1,035 sunfish were captured. This was dominated by bluegill (860 fish, 83.1%), followed by green sunfish and longear sunfish (Table 81). Similar to Lake Reba, the majority of the bluegill captured were ≤ 3.0 in. The overall CPUE for bluegill was 118.00 fish/hr if the ≤ 3.0 in fish are removed (Table 82). This number falls in line with the prior bluegill sampling years, and if examined by length groups, all but the 6.0 – 7.9 in length group remained unchanged. The majority of the bluegill are still below preferred and quality size (Table 83) and this lack of large fish shows in the low assessment numbers (Table 84). Neither of the objectives for management of the bluegill population were met this summer.

Black bass electrofishing (Fall)
On 27 September, the lake was nocturnally electrofished (0.89 hours; 3- 15 minute runs and 1- 8.4 minute run) for assessment of the relative weights of largemouth bass. In total, 263 fish were captured ranging in size from 3.0 – 15.0 in (Table 85). Concerning management objectives for relative weights, none of the size classes met their goal of ≥ 90% (Table 86). In fact, the weights struggled to meet 80% in some cases. These numbers, while not collected at the most optimum time, are worrisome. They are indicative of a poor prey population in the lake or increased competition amongst predator populations. Given the low variability of the numbers (as shown by the low standard

errors of the mean), it is most likely that all individuals are impacted equally, meaning that the problem is most likely due to a low prey population. Correcting this could happen with the implementation of an active management project.

Creel Survey

From April to October, a fixed point creel survey was conducted on Smoky Valley Lake. A total of 1,128 trips and 3,568 man hours were spent on the lake this past season (Table 87). The majority of the anglers were male residents (88% in 2011 and 96% in 1990) who split fishing from boat and bank and still fishing and casting. The majority of the fish caught were panfish, followed by catfish and black bass (Table 88). The converse was true when it came to what species was fished for most often (black bass followed by catfish and panfish), although the most success came when fishing for panfish. Bass angler harvest varied by size, with significant harvest percentages for fish 11.0 in and above, but low harvest (10%) of 8.0-in fish (Table 89). The highest catch rates for black bass and panfish and the most fishing for panfish took place in May, while the majority of the fishing for black bass took place in July (Table 90). The majority of the trips for and fish caught for catfish took place in April, while July was the best month, in terms of trips for and numbers caught, for crappie (Table 91).

Angler Attitude Survey

In conjunction with the creel survey an angler attitude survey was conducted on Smoky Valley Lake (Table 92). This survey showed that most anglers have fished the lake before (79.1%) and tend to fish it between 1 and 4 times a year (56.3%). The primary species of fish fished for on the lake was bass (55.0%). Concerning bass anglers, 38.8% were satisfied with bass fishing, but 34.7% were unsatisfied. The remainder was neutral. Those who were dissatisfied were not happy with the size of the fish. For panfish anglers and catfish anglers the vast majority were happy with the fishing (73.8 and 82.2%, respectively) and the majority of the anglers were happy with the size and creel limits on the lake (96.5%). Those few who were not happy with size limits wanted to see the size limit on the bass changed. Smoky Valley currently has a no minimum size limit regulation on the lake and several questions were asked surrounding the ability of anglers to keep any sized fish. The majority of anglers said they would not keep bass less than 12.0 in long, even if they are allowed too (70.5%) and almost one half of those anglers wouldn't do so because they are too small to eat (46.2%). The remainder of those who wouldn't keep fish under 12.0 in didn't do so because they felt as if it hurts the population (18.3%) or because they wouldn't keep bass of any size (35.5%).

Lake Wilgreen (169a)

Black bass electrofishing (Spring)

On 19 April, Lake Wilgreen was nocturnally electrofished for largemouth bass for 1.5 hours (6- 15 minute runs). In total, 326 fish (217.30 fish/hr) were captured ranging in size from 3.0-21.0 in (Table 93). Overall numbers have dropped since the 1990's and early 2000's and this trend holds true for the 8.0-11.9 and 12.0-14.9 in groups but the $\geq$ 15.0 and $\geq$ 20.0 in groups have increased over the same time periods (Table 94). The increases in the $\geq$ 15.0 and $\geq$ 20.0 in groups show up in the PSD and RSD_{15} values (Table 95). The assessment values also continue to demonstrate these trends: drops in the 12.0-14.9 in group and increases in the $\geq$ 15.0 and $\geq$ 20.0 in groups (Table 96). This has allowed the assessment scores to remain fairly constant through the years with the changes the lake has undergone. Management objectives for the catch of age-1, $\geq$ 15.0 in and $\geq$ 20.0 in fish groups were all met, but the objectives for the catch of 12.0 – 14.9 in fish was not met.

Sunfish electrofishing

On 24 May, the lake was diurnally electrofished (1.25 hours; 10- 7.5 minute runs) for sunfish species. In total, 1,777 fish were captured. The majority of the fish were bluegill (1,499 fish, 84%) while redear sunfish were of lesser significance (49 fish, 2%; Table 97). Other species captured included: green sunfish, warmouth and hybrid sunfish. Overall catches of bluegill were back up from 2010 and back on track with the 2009 sample and this trend held true for the 6.0 – 8.0 in, $\geq$ 6.0 in, and $\geq$ 8.0 in groups. However, the results from the 3.0 – 5.9 in length group were significantly higher (Table 98). The proportion of preferred and quality sized fish is still low when compared to previous years (Table 99) and the assessment showed some increases in the $\geq$ 6.0 in category but a drop in the $\geq$ 8.0 in category (Table 100). For redear sunfish, the catches seemed to hold steady across all groups (Table 101), while the PSD and RSD_{10} values and assessments continue to be variable across the years (Table 102 and 103). The management objective for catch of bluegill over 6.0 in was met, but the objective for catch of bluegill over 8.0 in was not met this season.

Black bass electrofishing (Fall)

On 26 September, the lake was nocturnally electrofished (1.5 hours; 6- 15 minute runs) for black bass species. In total, 574 largemouth bass were captured ranging in size from 2.0-21.0 in (Table 104). Relative weights remained in the excellent range for fish of all size classes (Table 105). Management objectives for relative weight were met for the $\geq$ 15.0 and 12.0-14.9 in groups, but were not met for the fish between 8.0 and 11.9 in.

Miscellaneous

Lake Wilgreen was stocked with 1,350 blue catfish in 2011.

Table 1: Yearly summary of sampling conditions by waterbody, species sampled and date.

Water body	Species	Date 2011	Time 24hr	Gear	Weather	Water Temp (°F)	Water level	Secchi (in)	Conditions	Pertinent sampling comments[a]
Cave Run Lake	Muskie	4/4	900	electro	w indy/w arm	54.50	733.09	42	lake high	
Cave Run Lake	Muskie	4/5	900	electro	overcast/cool	48.80	733.59	7	lake high	
Cave Run Lake	Muskie	4/6	900	electro	sunny/w indy	49.40	735.09	36	lake high	
Cave Run Lake	LMB	*No spring sample for LMB - high water*								
Cave Run Lake	LMB	9/19	2030	electro		70.8	729.75	36	good	conductivity = 189.9 µS/m
Cave Run Lake	LMB	9/20	2030	electro	cloudy/calm	74.7	729.66	93	good	conductivity = 160.4 µS/m
Cave Run Lake	LMB	9/21	2035	electro		71.90	729.40	108	good	conductivity = 110.3 µS/m
Cave Run Lake	WB	10/18	830	Expt. Gill	clear/calm	63.70	727.78		good	
Cave Run Lake	WB	10/19	830	Expt. Gill	rain/cooler	64.10	728.02		good	
Cave Run Lake	WC/BC	11/1	915	Trap Net	sunny/calm	51.70	726.29		good	
Cave Run Lake	WC/BC	11/2	910	Trap Net	cool/clear	50.40	726.23		good	
Cave Run Lake	WC/BC	11/3	905	Trap Net	overcast	49.90	726.13		good	
Cave Run Lake	WC/BC	11/4	900	Trap Net	cloudy/w armer	51.60	726.11		good	
Grayson Lake	LMB	*No spring sample for LMB - high water*								
Grayson Lake	LMB	9/12	2022	electro	clear/calm	73.50	645.00	22	good	conductivity = 187.4; D.O. = 6.52
Grayson Lake	LMB	9/13	2030	electro	w arm/clear	76.00	645.00	48	good	conductivity = 181.4; D.O. = 6.79
Grayson Lake	LMB	9/14	2000	electro	overcast/w arm	77.40	645.00	54	good	conductivity = 173.8; D.O. = 6.65
Grayson Lake	WC/BC	10/10	900	elect/tr. boat	sunny/calm	62.90	normal		good	conductivity = 176.8; D.O. = 8.33
Grayson Lake	HSB	10/25	900	Expt. Gill	sunny/clear	60.60	645.79		good	
Grayson Lake	HSB	10/26	900	Expt. Gill	cloudy/calm	60.00	645.79		good	
Grayson Lake	HSB	10/27	900	Expt. Gill	cloudy/rain	59.70	645.79		good	
Grayson Lake	HSB	10/28	900	Expt. Gill	cloudy	57.30	645.79		good	
Lake Carnico	LMB	4/21	2030	electro	cool/clear		normal	24	good	conductivity = 229.0; D.O. = 8.00
Lake Carnico	BG/RE	5/17	930	electro	overcast	64.40	normal	36	good	
Lake Carnico	LMB	9/28	2005	electro	clear/calm	66.50	normal	30	good	conductivity = 186.5; D.O. = 5.23
Clear Creek	LMB	*No spring sample for LMB - high water*								
Clear Creek	BG/RE	5/20	1000	electro	sunny/calm	60.50	normal	36	fair	
Clear Creek	LMB	density of aquatic vegetation prevented sampling								
Greenbo Lake	LMB	4/20	2030	electro	clear/cool	53.70	normal	63	fair	conductivity = 76.2; D.O. = 8.7
Greenbo Lake	BG/RE	5/25	915	electro	sunny/calm	72.00	normal		good	conductivity = 71.7; D.O. = 7.72
Greenbo Lake	LMB	9/22	2020	electro	clear/cool	73.50	normal	180	good	conductivity = 72.3; D.O. = 6.72, H_2O clearer than normal
Mill Creek Lake	LMB									
Mill Creek Lake	BG/RE	*Mill Creek Lake was not sampled in 2011*								
Mill Creek Lake	LMB									

Table 1 cont.

Water body	Species	Date	Time	Gear	Weather	Water	Water	Secchi	Conditions	Pertinent sampling comments
Lake Reba	LMB	4/18	2030	electro	overcast/warm	60.20	normal	42	good	conductivity = 271.0 µS/m
Lake Reba	BG/RE	5/23	1020	electro	windy/overcas	72.68	normal	24	good	conductivity = 234.4 µS/m
Lake Reba	LMB	9/15	2030	electro	cool/clear	70.20	down ~ 2'	18	fair	conductivity = 204.67 µS/m; low water hinderance
Rebel Trace Lake	LMB	density of aquatic vegetation prevented sampling								
Rebel Trace Lake	BG/RE	5/20	809	electro	sunny/calm	59.50	normal	36	fair	conductivity = 54.6; D.O. = 6.67, vegetation problem
Rebel Trace Lake	LMB	density of aquatic vegetation prevented sampling								
Smoky Valley	LMB	5/4	2030	electro	cold/clear	54.70	normal	34	good	conductivity = 211.9 µS/m
Smoky Valley	BG/RE	5/19	1000	electro	overcast	56.80	normal	48	good	conductivity = 241.0 µS/m
Smoky Valley	LMB	9/27	2030	electro	clear/cool	68.30	normal		good	conductivity = 309.4 µS/m
Lake Wilgreen	LMB	4/19	2030	electro	warm/chn. rain	58.40	slt. high	30	good	conductivity = 349.0 µS/m
Lake Wilgreen	BG/RE	5/24	1030	electro	cloudy	71.10	normal	34	good	
Lake Wilgreen	LMB	9/26	2030	electro	cool/clear	68.40	normal	28	good	conductivity = 333.4 µS/m

Table 2. Relative abundance and CPUE (fish/hr) of muskellunge collected in the upper, middle and lower sections during 6 hours (18 hours total) of 30 minute runs in each area of Cave Run Lake (4, 5, 6 April 2011).

		Inch class																																				
Species	Area	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	Total	CPUE	se
Muskellunge	Upper	2		5	1	1	1	1	3	2	2	3	1		2		5	1	6	1	1		1		1		2		1							43	7.17	1.85
	Middle	1	6	7				1			2	1		1			2		3	2	2		3		4	2	2	1	1	1			1		1	44	7.33	1.52
	Lower	3	4	3		1		2			2							2	2	2		1	2	2	3	2	2	4	5	2	1				3	48	8.00	1.67
	Total	6	10	15	1	2	1	4	3	2	6	4	1	1	2	0	7	3	11	5	3	1	6	2	8	4	6	5	7	3	1		1		4	135	7.50	0.95

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Table 3. Number of fish and mean relative weight (W_r) values for length groups of muskellunge collected across all lake units in Cave Run Lake from 2003 to present. Standard errors are in parentheses.

	Length group													
	≤ 20.0 in			20.1 - 30.0 in			30.1 - 38.0 in			≥ 38.1 in			Total	
Year	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)
2011	23	83	(2)	29	93	(1)	40	91	(1)	27	88	(2)	119	89	(1)
2010	19	79	(1)	64	92	(1)	52	94	(2)	18	90	(1)	153	91	(1)
2009	12	88	(4)	11	97	(1)	36	93	(1)	23	93	(1)	82	93	(1)
2008	27	76	(1)	40	114	(17)	48	94	(1)	11	89	(1)	126	96	(6)
2007	35	84	(1)	9	102	(4)	18	95	(3)	14	92	(2)	76	90	(1)
2006	17	75	(1)	13	88	(2)	26	89	(1)	13	87	(1)	69	85	(1)
2005	26	81	(4)	23	91	(1)	38	89	(1)	22	85	(2)	109	87	(1)
2004	10	79	(2)	10	90	(3)	32	87	(1)	15	80	(1)	67	85	(1)
2003	22	82	(3)	16	96	(3)	33	92	(2)	9	87	(2)	80	90	(1)

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Table 4. Muskellunge assessment for Cave Run Lake spring electrofishing from 1995 to present.

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
2011	Value	1.89	5.33	3.72	2.17	0.89	15	Good
	Score	1	3	3	4	4		
2010	Value	7.67	7.44	3.89	1.94	0.56	16	Good
	Score	3	3	3	4	3		
2009	Value	4.67	3.89	3.28	1.67	0.67	16	Good
	Score	3	2	3	4	4		
2008	Value	2.72	5.50	3.28	1.28	0.28	14	Good
	Score	2	3	3	3	3		
2007	Value	3.61	2.50	1.78	1.17	0.39	12	Good
	Score	3	1	2	3	3		
2006	Value	2.44	2.89	2.17	1.22	0.44	11	Fair
	Score	2	1	2	3	3		
2005	Value	2.87	5.53	4.00	2.00	0.80	17	Excellent
	Score	2	3	4	4	4		
2004	Value	1.28	3.17	2.61	1.28	0.44	12	Good
	Score	1	2	3	3	3		
2003	Value	1.94	3.22	2.33	1.00	0.33	11	Fair
	Score	1	2	2	3	3		
2002	*Lake flooded, muddy water, too few muskellunge collected for comparison purposes*							
2001	Value	2.32	4.41	3.07	1.51	0.64	15	Good
	Score	2	2	3	4	4		
2000	Value	1.72	2.78	1.78	0.94	0.28	10	Fair
	Score	1	1	2	3	3		
1999	Value	1.64	3.15	2.30	0.67	0.24	9	Fair
	Score	1	2	2	2	2		
1998	Value	3.75	2.82	2.82	1.04	0.25	13	Good
	Score	3	3	2	3	2		
1997	*Lake flooded, muddy water, too few muskellunge collected for comparison purposes*							
1996	Value	5.23	4.16	2.36	0.83	0.42	12	Good
	Score	3	2	2	2	3		
1995	Value	2.87	4.52	2.83	1.56	0.55	14	Good
	Score	2	2	3	4	3		

nedmuscr.d11-09; nedMS2cr.d08; nedMK1cr.d07; nedmuscr.d06-95

Table 5. Population assessment of largemouth bass based on samples collected at Cave Run Lake since the implementation of the slot limit (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)%
2011*	Value									
	Score									
2010*	Value									
	Score									
2009*	Value									
	Score									
2008	Value	12.4	24.88	8.33	3.50	0.50	9	Fair	0.786	54.40%
	Score	3	2	1	1	2				
2007	Value	12.4	66.50	19.90	7.90	0.33	13	Good	0.703	51.00%
	Score	3	4	2	2	2				
2006	Value	12.4	49.20	14.70	10.20	0.17	10	Fair	0.799	55.00%
	Score	3	3	1	2	1				
2005	Value	12.4	43.00	14.70	7.25	0.67	11	Fair	0.897	59.00%
	Score	3	3	1	2	2				
2004	Value	12.4	28..1	26.00	14.70	0.33	13	Good	0.846	57.00%
	Score	3	2	3	3	2				
2003	Value	12.4	39.80	24.80	20.20	0.75	14	Good		
	Score	3	3	2	4	2				
2002*	Value									
	Score									
2001	Value	10.7	15.10	27.60	12.60	0.25	10	Fair		
	Score	1	1	3	3	2				
2000	Value	10.3	35.50	26.80	9.00	0.42	10	Fair		
	Score	1	2	3	2	2				
1999	Value	11.0	50.20	21.60	8.60	0.00	9	Fair		
	Score	1	4	2	2	0				
1998	Value	10.7	10.80	20.60	6.90	0.00	6	p		
	Score	1	1	2	2	0				
1997	Value	10.8	23.80	24.60	4.40	0.08	7	Fair		
	Score	1	1	2	2	1				
1996	Value	11.1	50.80	15.20	4.00	0.00	9	Fair		
	Score	2	4	2	1	0				

* = Lake was not sampled due to high water

Table 6. Length frequency and CPUE (fish/hr) of black bass collected in 6.0 hours (2 hours in each area; 12- 30-min. runs) of nocturnal electrofishing in Cave Run Lake on 19 - 21 September 2011.

	Inch class																				Std.
Area\Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	error
Upper Lake																						
Smallmouth bass																				0	0.00	0.00
Spotted bass		4	2			1	1		1											9	4.50	1.71
Largemouth bass	57	186	45	19	1	10	40	48	17	18	21	14	10	5	1	3				495	247.50	30.02
Middle Lake																						
Smallmouth bass									1		2			1	1					5	2.50	0.96
Spotted bass	1	56	27	1	2	24	39	24	16	8	6		2							206	103.00	13.82
Largemouth bass		35	51	38	6	1	22	51	27	32	30	16	7	1	5					322	161.00	17.18
Lower Lake																						
Smallmouth bass	1	2			1					1	1		1						1	8	4.00	1.15
Spotted bass	20	59	5	3	38	66	45	30	25	11										302	151.00	53.00
Largemouth bass	5	27	12	22	6	1	13	51	43	30	13	9	10	1	4	7	1			255	127.50	39.91
Total																						
Smallmouth bass	1	2			1				1	1	3		1	1	1				1	13	2.17	0.67
Spotted bass	21	119	34	4	40	91	85	54	42	19	6		2							517	86.17	24.72
Largemouth bass	62	248	108	79	13	12	75	150	87	80	64	39	27	7	10	10	1			1072	178.67	22.04

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Table 7. 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. se = standard error.

Species	Area	Length group								
		8.0 - 11.9 in			12.0 - 14.9 in			≥ 15.0 in		
		No.	W_r	se	No.	W_r	se	No.	W_r	se
Laregmouth bass	Lower	137	89	2	32	84	2	13	99	2
	Middle	132	86	1	53	84	1	6	88	3
	Upper	123	85	1	45	88	2	9	95	2
	Total	392	86	1	130	85	1	28	95	1
		7.0 - 10.9 in			11.0 - 13.9 in			≥ 14.0 in		
		No.	W_r	se	No.	W_r	se	No.	W_r	se
Spotted bass	Lower	166	93	1	11	91	1			
	Middle	103	98	1	14	90	2	2	102	1
	Upper	2	91	4						
	Total	271	95	1	25	91	1	2	102	1
		7.0 - 10.9 in			11.0 - 13.9 in			≥ 14.0 in		
		No.	W_r	se	No.	W_r	se	No.	W_r	se
Smallmouth bass	Lower				2	79	3	2	83	5
	Middle	1	79		2	82	4	2	84	9
	Upper									
	Total	1	79		4	80	2	4	83.3	4

Table 8. 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.

		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
2011	Total	4.0	0.04	85.00	20.57	15.33	2.43		
2010	Total	4.5	0.04	91.67	27.71	24.67	4.22	*	*
2009	Total	4.6	0.04	70.17	12.16	26.33	4.10	*	*
2008	Total	4.6	0.04	76.50	28.15	26.33	8.13	*	*
2007	Total	4.7	0.06	50.50	19.00	20.30	7.70	24.88	5.86
2006	Total	4.8	0.05	68.50	26.20	31.50	13.10	66.50	7.10
2005	Total	4.1	0.07	51.50	19.40	10.80	3.50	49.20	9.90
2004	Total	5.3	0.06	86.00	26.30	53.50	14.00	63.40	9.90
2003	Total	4.7	0.04	70.70	19.00	23.50	6.40	28.10	3.00

* No data collected, water too high to sample
nedwrscr.d11 - 03; nedpsdcr.d08 - d04
nedaagcr.d03, 07

Table 9. Length frequency and CPUE for each species of crappie collected at Cave Run Lake (upper section only) in 60 net-nights during 31 October - 04 November 2011.

	Inch class															Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	error
White crappie	8	32	20	227	144	107	60	14	10	3	3	3	1	632	10.53	1.27
Black crappie	1	16	3	9	21	25	6	1						82	1.37	0.29

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Table 10. PSD and RSD_{10} values for crappie collected in trap nets on Cave Run Lake; 95% confidence limits are in parentheses.

Species	No. fish ≥ stock size	PSD	(± 95%)	RSD_{10}	(± 95%)
White crappie	572	16	(± 3)	3.50	(± 2)
Black crappie	62	11	(± 8)		

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Table 11. Population assessment of white crappie based on samples collected at Cave Run Lake in 2011 compared to previous years (scoring based on statewide assessment).

Year		Overall CPUE excluding age-0	Fall CPUE age-1	Fall CPUE age-0	Fall CPUE ≥ 8.0 in	Mean length age-2 at capture	Total score	Assessment rating	Instantaneous mortality(z)	Annual mortality (A)%
2011	Value	9.67	4.84	0.87	1.57	7.7	7	Poor		
	Score	2	2	1	1	1				
2010	Value	3.60	0.88	2.53	1.38	7.7	5	Poor	-1.220	70.50%
	Score	1	1	1	1	1				
2009	Value	106.4	59.18	56.00	3.25	7.7	15	Good	-1.490	77.50%
	Score	4	4	4	2	1				
2008	Value	2.01	0.64	1.30	0.56	7.7	5	Poor	0.588	45.50%
	Score	1	1	1	1	1				
2007	Value	2.80	0.74	0.55	0.60	7.7	5	Poor	1.410	75.50%
	Score	1	1	1	1	1				
2006	Value	6.89	5.14	3.75	0.65	7.9	8	Fair	0.951	66.30%
	Score	2	2	2	1	1				
2005	Value	2.20	0.70	1.70	0.90	7.9	5	Poor	0.572	43.60%
	Score	1	1	1	1	1				
2004	Value	9.30	4.20	6.40	3.00	7.9	10	Fair	0.762	53.30%
	Score	2	2	3	2	1				
2003	Value	1.60	0.22	0.11	0.70	7.8	5	Poor	0.391	32.30%
	Score	1	1	1	1	1				
2002	Value	4.39	1.09	0.56	0.79	7.3	5	Poor		
	Score	1	1	1	1	1				
2001	Value	1.70	0.60	0.05	0.35	6.9	5	Poor		
	Score	1	1	1	1	1				

nedctncr.d01-11; nedaagcr.d01,02,03,04,07

Table 12. Length frequency and CPUE for white bass collected in 10 net-nights of sampling at Cave Run Lake from 17 - 19 October 2011.

	Inch class												
Species	7	8	9	10	11	12	13	14	15	16	Total	CPUE	Std. error
White bass	14	5	3	6	31	83	58	21	9	2	232	23.20	4.44

nedwtbcr.d11

Table 13. Number of fish and relative weight (Wr) for each length group of white bass collected at Cave Run Lake in 2011. se = standard error.

	Length group								
	6.0 - 8.9 in			9.0 - 11.9 in			≥ 12.0 in		
Year	No.	W_r	se	No.	W_r	se	No.	W_r	se
2011	19	89	2	40	109	20	173	96	1
2008	22	93	2	19	90	2	94	92	1
2007	4	95	4	16	88	2	49	93	1

Table 14. Mean back calculated lengths (in) at each annulus for white bass collected from Cave Run Lake in October 2011, including size range at each age and 95% confidence intervals.

		Age						
Year	No.	1	2	3	4	5	6	7
2011	0							
2010	19	7.6						
2009	20	7.9	11.2					
2008	14	8.0	11.9	13.6				
2007	4	7.9	12.2	14.2	15.1			
2006	3	8.5	12.0	13.6	14.5	15.1	15.3	
2005	2	7.9	11.6	13.6	14.6	15.2	15.6	
2004	1	8.6	11.5	12.7	13.7	14.3	14.8	15.2
Mean		7.9	11.6	13.7	14.7	15.0	15.3	15.2
Number	63	63	44	24	10	6	3	1
Smallest		5.8	10.0	12.7	13.7	14.3	14.8	15.2
Largest		9.3	13.0	15.0	15.8	15.9	16.1	15.2
Std. Error		0.1	0.1	0.1	0.2	0.2	0.3	
95% CI (±)		0.4	0.4	0.5	0.8	0.9	1.2	

nedaagcr.d11

Table 15. Age frequency and CPUE (fish/nn) of white bass sampled using gill nets for 10 net-nights at Cave Run Lake from 17 - 19 October 2011.

	Inch class													Std.
Age	7	8	9	10	11	12	13	14	15	16	Total	%	CPUE	error
0	14	5									19	8	1.90	0.74
1			3	6	25						34	15	3.38	0.86
2					6	83	52	2			143	61	14.25	2.95
3							6	19	2		27	12	2.75	0.84
4									3	1	4	2	0.37	0.16
5									3		3	1	0.27	0.14
6									1	1	2	1	0.19	0.08
7									1		1	0	0.09	0.05
Total	14	5	3	6	31	83	58	21	9	2	232	100		
%	6	2	1	3	13	36	25	9	4	1	100			

nedwtbcr.d11; nedaagcr.d11

Table 16. Population assessment for white bass based on fall sampling from 1993 through 2011 at Cave Run Lake (scoring based on statewide assessment).

Year		CPUE ≥age-1	Mean length age-2 at capture	CPUE ≥12.0 in	CPUE age-1	Total score	Assessment rating	Instantaneous Mortality (z)	Annual Mortality (A) %
2011	Value	21.40	11.6	17.30	3.38	12	Good		
	Score	4	2	4	2				
2008	Value	9.00	12.9	7.83	2.25	9	Fair	-0.446	36.00%
	Score	2	3	3	1				
2007	Value	4.31	12.9	3.06	1.13	7	Fair	-1.83	84.00%
	Score	1	3	2	1				
2005	Value	13.30	12.9	7.50	5.10	12	Good	0.816	55.80%
	Score	3	3	3	3				
2003	Value	17.90	13.6	4.90	15.10	13	Good		
	Score	3	4	2	4				
1998	Value	13.60	13.4	9.30	4.40	12	Good		
	Score	3	4	3	2				
1993	Value	10.00	13.0	6.80	3.10	12	Good		
	Score	3	4	3	2				

nedwtbcr.d11, d07, d05, d03, d98, d93; nedaagcr.d11, d07, d07, d05, d03

Table 17. Population assessment of largemouth bass based on samples collected at Grayson Lake from 1996-2011 (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)%
2011*	Value									
	Score									
2010*	Value									
	Score									
2009	Value	11.6	19.93	17.00	12.67	0.83	10	Fair	-0.361	30.30%
	Score	2	1	2	3	2				
2008	Value	11.6	21.30	11.50	3.67	0.33	7	Poor	-0.445	35.90%
	Score	2	1	1	1	2				
2007	Value	10.7	45.90	16.00	5.00	0.17	9	Fair	-0.538	41.60%
	Score	1	3	2	2	1				
2006	Value	10.7	17.30	23.67	5.33	0.30	8	Fair	-5.350	41.50%
	Score	1	1	2	2	2				
2005	Value	10.7	46.80	25.11	2.89	0.20	10	Fair	-0.731	51.90%
	Score	1	3	3	1	2				
2004	Value	10.7	40.40	12.89	2.89	0.33	8	Fair		
	Score	1	3	1	1	2				
2003	Value	10.7	125.23	6.33	2.17	0.67	9	Fair		
	Score	1	4	1	1	2				
2002	Value	10.7	127.20	4.83	3.00	0.83	9	Fair		
	Score	1	4	1	1	2				
2001	Value	10.7	218.11	6.67	2.22	0.22	9	Fair		
	Score	1	4	1	1	2				
2000	Value	10.5	130.80	13.44	6.67	0.33	10	Fair		
	Score	1	4	1	2	2				
1999	Value	10.7	167.02	24.11	4.56	0.22	11	Fair		
	Score	1	4	2	2	2				
1998	Value	10.4	145.57	20.20	4.62	0.17	10	Fair		
	Score	1	4	2	2	1				
1997	Value	10.8	87.60	19.90	3.10	0.59	10	Fair		
	Score	1	4	2	1	2				
1996	Value	10.7	56.13	13.20	3.20	0.30	9	Fair		
	Score	1	4	1	1	2				

nedpsdgl.d96-d09; nedaaggl.d03,d08

* No sample due to high water

Table 18. Length frequency and CPUE (fish/hr) of black bass collected in 4.5 hours (1.5 hours in each area) of nocturnal electrofishing (9-30-min runs) for black bass in Grayson Lake on 14 - 16 September 2011.

	Inch class																			Std.
Area/Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20	Total	CPUE	error
Lower																					
Spotted bass	8	52	12	14	19	25	23	13	7	1	2								176	117.33	21.49
Largemouth bass	13	41	29	8	1	8	13	18	13	7	5			5		2	1		164	109.33	32.03
Middle																					
Spotted bass	7	47	8	4	9	6	5	8	2										96	64.00	15.01
Largemouth bass	24	99	42	14	6	35	51	26	25	12	9	5	4		3	1		1	357	238.00	31.75
Upper																					
Spotted bass	3	1	2		1		2	2		1									12	8.00	1.15
Largemouth bass	4	27	47	26		5	30	19	16	5	5	2	4	3	1		2		196	130.67	10.35
Total																					
Spotted bass	18	100	22	18	29	31	30	23	9	2	2								284	63.11	17.51
Largemouth bass	41	167	118	48	7	48	94	63	54	24	19	7	8	8	4	3	3	1	717	159.33	23.97

nedwrsgl.d11

Table 19. Number of fish and mean relative weight (W_r) values for length groups of black bass collected in Grayson Lake. Standard errors are in parentheses.

Species	Area	Length group					
		8.0-11.9 in		12.0-14.9 in		≥ 15.0 in	
		No.	W_r (se)	No.	W_r (se)	No.	W_r (se)
Largemouth bass	Lower	51	83 (1)	5	81 (6)	8	87 (3)
	Middle	114	85 (1)	18	86 (1)	5	100 (2)
	Upper	70	86 (1)	11	87 (4)	6	91 (1)
	Total	235	85 (1)	34	86 (2)	19	92 (2)
		7.0-10.9 in		11.0-13.9 in			
		No.	W_r (se)	No.	W_r (se)		
Spotted bass	Lower	68	93 (1)	3	60 (12)		
	Middle	21	92 (2)				
	Upper	4	99 (2)	1	103 (-)		
	Total	93	93 (1)	4	71 (14)		

nedwrsgl.d11

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.

		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
2011	Total	4.0	0.04	83.56	15.03	11.11	2.58		
2010	Total	4.8	0.04	98.22	17.32	42.00	6.91	*	*
2009	Total	4.1	0.06	33.11	5.66	4.22	1.35	*	*
2008	Total	4.1	0.04	66.00	16.42	8.67	2.77	19.93	3.79
2007	Total	4.3	0.07	44.90	9.20	12.90	2.80	29.80	9.99
2006	Total	4.1	0.04	87.10	17.94	12.00	2.58	45.90	8.00
2005	Total	4.0	0.04	72.30	17.01	11.70	2.23	17.30	2.80
2004	Total	4.3	0.08	40.40	5.74	11.30	2.08	46.80	7.80
2003	Total	4.3	0.03	59.10	6.82	10.40	1.72	158.90	21.73

* No sample collected due to high water
nedwrsgl.d03 - d11; nedpsdgl.d09 - d04
nedaaggl.d03, d08

Table 21. Length frequency and CPUE (fish/hr) for each species of crappie collected at Grayson Lake while electrofishing 3.0h (12- 15-minute runs) on 10 October 2011.

	Inch class													
Species	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	Std. error
White crappie	1	4	39	57	18	4	3	4	1	1	1	133	50.33	10.45
Black crappie			1	9	2		1					13	4.33	1.59

nedcwrgl.d11

Table 22. PSD and RSD_{10} values for crappie collected while electrofishing Grayson Lake; 95% confidence limits are in parentheses.

	No.≥5.0 in	PSD (± 95%)	RSD_{10} (± 95%)
White crappie	132	24 (± 7)	8 (± 5)
Black crappie	13	23 (± 23)	8 (± 11)

nedcwrgl.d11

Table 23. Population assessment for white crappie based on samples collected during the fall at Grayson Lake from 2005-2011 (scoring based on lake-specific assessment).

Year		Mean length age-2 at capture	CPUE age-0	CPUE age-1	CPUE ≥age -1	CPUE ≥8.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2011	Value	6.6	0.00	0.33	44.00	13.38	6	Poor	-0.442	35.70%
	Score	1	0	1	2	2				
2010	Value	6.6	0.67	13.50	124.00	24.67	12	Fair	-0.425	34.60%
	Score	1	1	3	4	3				
2009	Value	6.4	0.50	16.80	69.30	10.30	10	Fair	-0.384	56.60%
	Score	1	1	3	3	2				
2008	Value	6.4	1.70	27.60	104.60	16.00	12	Fair	-0.754	53.00%
	Score	1	1	4	4	2				
2007	Value	5.6	0.30	1.30	21.60	6.00	5	Poor	-0.900	59.30%
	Score	1	1	1	1	1				
2006	Value	5.6	39.60	83.30	228.80	42.40	17	Excellent	-1.185	69.40%
	Score	1	4	4	4	4				
2005	Value	5.1	1.30	9.90	41.30	16.70	8	Fair	-0.233	20.80%
	Score	1	1	2	2	2				

nedcwrgl.d05-d11; nedaaggl.d05, d06, d08, d10

Note: assessment values for age-1 reported in 2011 are based mean back calculated lengths determined during 2010.

Table 24. Population assessment for hybrid striped bass based on samples collected during the fall at Grayson Lake during 2011 (scoring based on statewide assessment).

Year		CPUE ≥age -1	Mean length age-2+ at capture	CPUE ≥15.0 in	CPUE age-1	Total score	Assessment rating
2011*	Value	3.55	16.5	2.15	1.45	5	Poor
	Score	1	2	1	1		

nedhybgl.d11; nedaaggl.d11

* Sampling began in 2011 for hybrid striped bass

Table 25. Length frequency and CPUE (fish/nn) of hybrid striped bass collected during 20 net-nights of gill netting 25-28 October at Grayson Lake.

	Inch class															Std.
Species	7	11	12	13	14	15	16	17	18	24	25	26	27	Total	CPUE	error
Hybrid striped bass	2	3	12	13	1	10	11	11	2	2	4	1	1	73	3.65	1.03

nedhybgl.d11

Table 26. Mean back-calculated lengths (in) at each annulus for hybrid striped bass collected from Grayson Lake in October 2011, including size range at each age and 95% confidence intervals.

		Age												
Year	No.	1	2	3	4	5	6	7	8	9	10	11	12	13
2011	0													
2010	25	8.8												
2009	34	8.4	13.5											
2003	5	9.5	16.5	19.5	21.9	23.5	24.1	24.6	24.9					
2000	1	7.5	14.8	17.7	19.5	20.8	22.1	23.2	24.1	24.3	24.8	25.1		
1998	2	8.7	13.3	16.4	18.4	20.3	21.7	23.1	23.8	24.5	24.9	25.2	25.5	25.8
Mean		8.6	13.9	18.5	20.7	22.3	23.2	24.1	24.5	24.4	24.8	25.1	25.5	25.8
Number		67	42	8	8	8	8	8	8	3	3	3	2	2
Smallest		6.7	12.2	15.4	17.6	19.5	20.8	22.3	22.9	23.7	24.1	24.4	24.6	24.9
Largest		10.6	17.1	19.9	22.5	24.4	25.1	25.7	26.1	25.3	25.6	26	26.3	26.7
Std Error		0.1	0.2	0.6	0.6	0.6	0.5	0.4	0.3	0.5	0.4	0.5	0.8	0.9
95% CI (±)		0.1	0.4	1.1	1.3	1.2	1.0	0.7	0.6	1.0	0.9	0.9	1.7	1.8

Otoliths were used for age determination; Intercept = 0

nedaaggl.d11

Table 27. Age frequency and CPUE (fish/nn) of hybrid striped bass collected from Grayson Lake in 20 gill net-nights from 25-28 October 2011

	Inch class																Std
Age	7	11	12	13	14	15	16	17	18	24	25	26	27	Total	%	CPUE	error
0+	2													2	3	0.10	0.07
1+		3	12	13	1									29	40	1.45	0.44
2+						10	11	11	2					34	47	1.70	0.54
8+										2	2	1		5	7	0.25	0.12
11+											1			1	1	0.05	0.02
13+											1		1	2	3	0.10	0.05
Total	2	3	12	13	1	10	11	11	2	2	4	1	1	73	100		
%	3	4	16	18	1	14	15	15	3	3	5	1	1	100			

nedaaggl.d11, nedhybgl.d11

Table 28. Number of fish and relative weight (W_r) for each length group of hybrid striped bass captured at Grayson Lake .

	Length group					
Species	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	N	W_r (se)	N	W_r (se)	N	W_r (se)
Hybrid striped bass	4	72 (4)	26	81(1)	43	85 (1)

nedhybgl.d11

Table 29. 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 21 April 2011.

	Inch class																		Std.
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	error
Largemouth bass	12	7	6	8	7	10	6	13	15	13	8	7	2	1	3	1	119	79.33	8.85

nedpsdlc.d11

Table 30. Population assessment of largemouth bass based on samples collected at Lake Carnico from 2004-2011 (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)%
2011	Value	11.0	9.33	24.00	9.33	0.00	8	Fair	-0.419	34.20%
	Score	3	1	2	2	0				
2010	Value	11.0	18.67	28.00	12.00	1.33	11	Fair	-0.552	42.50%
	Score	3	2	2	2	2				
2009	Value	11.0	18.00	18.67	8.67	1.33	10	Fair	-0.599	45.10%
	Score	3	2	1	2	2				
2008	Value	11.0	2.70	9.30	8.00	1.30	9	Fair	-0.673	49.00%
	Score	3	1	1	2	2				
2007	Value	12.2	39.50	31.30	14.70	1.30	12	Fair	-0.679	49.30%
	Score	4	2	2	2	2				
2006	Value	12.2	27.50	18.00	9.30	0.70	10	Fair	-0.505	39.60%
	Score	4	2	1	2	1				
2005	Value	12.2	23.20	24.70	14.00	0.70	11	Fair	-0.511	40.00%
	Score	4	2	2	2	1				
2004	Value	12.2	54.10	36.00	19.30	0.70	14	Good	-0.631	46.90%
	Score	4	3	3	3	1				

nedpsdlc.d04-d11; nedaaglc.d03,d08

Table 31. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Carnico from 2000 to 2011.

	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.
2011	22.00	3.69	24.00	5.84	24.00	2.31	9.33	1.98			79.33	8.85
2010	20.00	5.93	26.67	3.96	28.00	4.73	12.00	3.43	1.33	0.84	86.67	9.16
2009	38.67	6.98	29.33	5.23	18.67	2.86	8.67	1.61	1.33	0.84	95.33	10.75
2008	2.67	0.84	16.00	4.5	9.33	2.46	8.00	2.07	1.33	0.84	36.00	7.30
2007	40.00	8.07	108.67	8.97	31.33	3.92	14.67	2.46	1.33	1.33	194.67	10.26
2006	28.67	5.10	41.33	8.56	18.00	3.69	9.33	2.86	0.67	0.67	97.33	18.12
2005	24.00	5.56	64.67	8.48	24.67	3.33	14.00	1.71	0.67	0.67	127.33	12.62
2004	56.67	13.36	121.33	15.62	36.00	5.16	19.33	3.00	0.67	0.67	233.33	34.71
2003	42.67	9.50	47.67	6.25	34.00	4.70	13.33	4.09	1.33	0.84	164.67	15.78
2002	49.00	9.43	51.00	17.08	30.00	7.75	9.00	1.91		-	139.00	29.59
2001	35.00	5.00	51.00	8.54	28.00	5.89	6.00	2.58		-	123.00	11.31
2000	28.00	6.32	41.00	3.00	16.00	5.66	9.00	3.00	1.00	1.00	94.00	15.87

nedpsdlc.d11 - d00

Table 32. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Carnico; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD (±95%)	RSD_{15} (±95%)
2011	86	58 (± 10)	16 (± 8)
2010	100	60 (± 19)	18 (± 15)
2009	85	48 (± 11)	15 (± 8)
2008	50	52 (± 14)	24 (± 12)
2007	232	30 (± 6)	10 (± 4)
2006	103	40 (± 10)	14 (± 7)
2005	155	37 (± 8)	14 (± 6)
2004	265	31 (± 6)	11 (± 4)
2003	183	39 (± 7)	11 (± 5)
2002	90	43 (± 10)	10 (± 6)
2001	85	40 (± 11)	7 (± 6)
2000	66	38 (± 12)	14 (± 8)

nedpsdlc.d11-d00

Table 33. Length frequency and CPUE (fish/hr) for sunfish collected in 1.0 hour of diurnal electrofishing (8- 7.5-minute runs) at Lake Carnico on 17 May 2011.

Species	Inch class							Total	CPUE	Std. error
	1	2	3	4	5	6	7			
Bluegill	149	189	72	59	46	4		519	519.00	35.60
Green sunfish	55	98	83	24	20	8		288	288.00	103.82
Longear sunfish	2	20	14	17	7			60	60.00	14.10
Redear sunfish		3	5	3	4	1	1	17	17.00	10.41

nedsunlc.d11

Table 34. Spring electrofishing CPUE (fish/hr) for various length groups of sunfish collected at Lake Carnico in 2003, 2006-2011.

		Length group									
		<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		Total	
Species	Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
Bluegill	2011	338.00	49.52	177.00	37.87	4.00	4.00			519.00	35.60
	2010	446.00	71.37	520.00	65.40	60.00	26.14			1026.00	121.90
	2009	214.00	42.60	109.00	23.20	59.00	20.90			382.00	79.90
	2008	292.00	42.06	58.00	14.90	7.00	2.80			357.00	38.04
	2007	140.80	27.41	54.40	14.00	0.80	0.80	0.80	0.80	196.00	38.33
	2006	540.00	73.10	382.40	31.00	47.20	11.20			969.60	93.57
	2003	160.80	23.81	134.40	22.43	24.00	6.85			319.20	39.45
Redear sunfish	2011	3.00	2.10	12.00	7.41	2.00	2.00			17.00	10.41
	2010	3.00	1.46	8.00	4.00	4.00	2.14			15.00	3.84
	2009			2.00	1.31	5.00	2.10	2.00	2.00	9.00	4.88
	2008			1.00	1.00	3.00	2.10	2.00	1.31	6.00	2.90
	2007			4.00	1.79	1.60	1.07			5.60	2.40
	2006	2.40	1.22	4.80	2.72	8.80	3.86			22.86	5.90
	2003	0.80	0.80	0.80	0.80	0.80	0.80			4.00	1.79

nedsunlc.d11-d06, d03

Table 35. Bluegill PSD and RSD_8 values from spring electrofishing at Lake Carnico; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD (±95%)	RSD_8 (±95%)
2011	181	2 (± 2)	
2010	580	10 (± 5)	
2009	168	35 (± 7)	
2008	65	11 (± 8)	
2007	245	15 (± 5)	
2006	537	11 (± 3)	
2003	198	28 (± 6)	0.4 (± 0.8)

nedsunlc.d11-d06, d03

Table 36. Population assessment for bluegill based on samples collected at Lake Carnico from 2006-2011 (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)%
2011	Value	4.1	3+	4.00	0.00	6	Poor	-1.221	70.50%
	Score	2	3	1	0				
2010	Value	4.1	3+	60.00	0.00	8	Fair	-1.088	66.30%
	Score	2	3	3	0				
2009	Value	5.3	3+	59.00	0.00	10	Fair	-0.506	39.70%
	Score	4	3	3	0				
2008	Value	5.3	3+	7.00	0.00	8	Fair	-0.759	53.20%
	Score	4	3	1	0				
2007	Value	5.3	4+	0.80	0.00	7	Fair	-0.561	42.90%
	Score	4	2	1	0				
2006	Value	5.3	4+	47.20	0.00	8	Fair	-0.037	31.10%
	Score	4	2	2	0				

nedsunlc.d06-11; nedaaglc.d06, d10

Table 37. Length frequency and CPUE (fish/hour) for largemouth bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Lake Carnico on 28 September 2011.

	Inch class																	
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE	Std.error
Largemouth bass	16	30	7	11	31	20	8	7	10	8	6	7	2	3	1	167	111.33	14.06

nedwrslc.d11

Table 38. Number of fish and relative weight (W_r) for each length group of largemouth bass captured at Lake Carnico.

	Length group					
Species	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	N	W_r (se)	N	W_r (se)	N	W_r (se)
Largemouth bass	45	90 (1.49)	21	90 (1.34)	6	99 (2.26)

nedwrslc.d11

Table 39. Length frequency and CPUE (fish/hr) of sunfish collected in 0.50 hour of electrofishing (4- 7.5-minute runs) for sunfish at Clear Creek Lake on 20 May 2011.

	Inch class											Std.
Species	1	2	3	4	5	6	7	8	9	Total	CPUE	error
Bluegill	170	77	56	9	10	7	20			349	698.00	151.2
Redear sunfish	1	7	7	17	14	85	80	18	1	230	460.00	124.34
Longear sunfish				1	2					3	6.00	3.83
Warmouth	1	14	12	6	22	13				68	136.00	77.77
Green sunfish		1	6	4	2	3	1			17	34.00	31.39
Hybrids sunfish		1		2	9	3				15	30.00	6.83

nedsuncc.d11

Table 40. Spring electrofishing CPUE (fish/hr) for each length group of sunfish collected at Clear Creek Lake.

		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	2011	494.00	161.84	150.00	36.13	54.00	22.24			698.00	151.20
	2010	1132.00	565.84	210.00	42.13	38.00	30.18			1380.00	585.12
	2009	121.60	44.57	174.40	43.04	33.6	13.48			329.60	54.16
	2008	378.00	162.76	112.00	33.15	72.00	69.36			562.00	138.15
	2007			122.00	16.50	102.00	33.84			224.00	50.28
	2006	164.00	83.40	268.00	54.60	32.00	18.60	2.70	1.70	561.60	139.70
Redear sunfish	2011	16.00	9.80	76.00	19.73	330.00	78.48	38.00	32.72	460.00	124.34
	2010	12.00	5.16	260.00	62.44	358.00	86.86	6.00	3.83	636.00	146.44
	2009	4.80	1.96	238.40	37.81	129.60	68.42	1.60	1.60	374.40	98.81
	2008	58.00	29.64	17.00	26.81	22.00	9.45	4.00	2.31	254.00	43.74
	2007			112.00	14.97	104.00	35.33	44.00	6.93	260.00	52.51
	2006	60.80	18.70	60.80	18.00	24.00	10.40	4.80	2.00	150.40	23.40

nedsuncc.d06-d11

Table 41. PSD and RSD_8 values obtained from bluegill collected at Clear Creek Lake during May 2011 compared to past years; confidence intervals are in parenthesis.

Year	No. ≥3.0 in	PSD (± 95%)	RSD_8 (± 95%)
2011	102	26 (± 9)	*
2010	124	15 (± 6)	*
2009	130	16 (± 6)	*
2008	92	39 (± 10)	*
2007	112	45 (± 9)	*

* = No 8.0 in fish captured to caculate RSD_8

nedsuncc.d07 - d11

Table 42. Population assessment of bluegill based on samples collected at Clear Creek Lake from 2006-2011 (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)%
2011	Value	3.4	3-3+	54.00	0.00	7	Fair	-0.947	61.20%
	Score	1	3	3	0				
2010	Value	3.4	3-3+	38.00	0.00	6	Poor	-1.309	73.00%
	Score	1	3	2	0				
2009	Value	3.4	4-4+	33.60	0.00	5	Poor	-0.786	54.40%
	Score	1	2	2	0				
2008	Value	5.1	3-3+	72.00	0.00	10	Good	-1.660	80.90%
	Score	4	3	3	0				
2007	Value	5.1	3-3+	102.00	0.00	11	Good	-1.770	83.00%
	Score	4	3	4	0				
2006	Value	5.1	3-3+	35.60	1.30	11	Good	-1.930	86.00%
	Score	4	3	2	2				

nedsuncc.d06-11; nedaagcc.d09, d02

Table 43. Population assessment of redear sunfish based on samples collected at Clear Creek Lake in 2011 (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)%
2011	Value	6.1	6-6+	38.00	0.00	8	Fair	*	*
	Score	3	1	4	0				
2010	Value	6.1	6-6+	6.00	0.00	6	Poor	*	*
	Score	3	1	2	0				
2009	Value	6.1	5-5+	1.60	0.00	6	Poor	-1.495	77.60%
	Score	3	2	1	0				

nedsuncc.d09-11; nedaagcc.d09

* Age spread too unnatural for proper determination.

Table 44. Length frequency and CPUE (fish/hr) of black bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) for black bass at Greenbo Lake (Greenup Co.) on 20 April 2011.

	Inch class																						Std.
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	error
Largemouth bass	8	23	20	6	12	30	27	39	41	46	31	10	4	1	1		2		1	1	303	202.00	14.81

nedpsdgb.d11

Table 45. Length frequency and CPUE (fish/hr) of stocked and wild largmouth bass collected in 1.5 hours of nocturnal electrofishing at Greenbo Lake on 20 April 2011.

		Inch class																						Std.
Species	Type	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	error
Largemouth bass	Wild	8	16	18	6	12	30	27	39	40	46	31	10	4	1	1		2	1		1	293	195.33	14.36
	Stocked		7	2						1												10	8.00	3.10

nedwldgb.d11, nedstkgb.d11

Table 46. 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	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2011	46.00	13.09	91.33	9.32	58.00	8.93	6.67	3.21	1.33	0.84	202.00	14.81
2010	78.00	12.85	87.33	3.49	45.33	9.28	13.33	5.81	2.00	1.37	224.00	11.27
2009	44.67	9.43	60.00	8.70	50.00	7.98	18.00	3.39	2.67	1.33	172.67	16.70
2008	24.0	7.23	27.33	5.79	19.33	2.81	9.33	3.04	2.67	1.33	80.00	15.21
2007			39.33	11.84	48.67	13.32	8.67	2.40	1.33	1.33	164.67	21.45
2006	28.00	5.27	66.00	12.17	50.00	7.78	18.67	4.70	7.33	2.40	162.67	19.83
2005	42.00	20.34	58.67	9.56	28.00	3.43	13.33	3.53	3.33	1.23	142.00	22.46
2004	14.00	2.88	116.80	9.87	58.80	7.45	16.80	2.97	4.00	1.03	206.40	14.09
2003	101.33	20.57	76.00	18.68	45.33	4.34	10.67	3.37	2.00	0.89	233.33	41.37
2002					*No data collected*							
2001	79.00	8.06	64.00	3.27	42.00	8.08	5.00	1.00	1.00	1.00	190.00	4.76
2000	41.00	9.00	90.00	15.71	26.00	2.58	4.00	1.63			161.00	24.84
1999	88.00	14.33	84.00	5.66	26.00	8.08	6.00	3.83	3.00	3.00	204.00	17.44
1998	77.00	26.65	119.00	16.68	57.00	8.06	7.00	2.52	1.00	1.00	260.00	27.18

nedpsdgb.d11 - d98

Malfunctioning electrofishing boat in 2008

Table 47. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Greenbo Lake; confidence limits are in parentheses.

Year	No. ≥ 8.0 in	PSD (± 95%)	RSD_{15} (± 95%)
2011	234	41 (± 6)	4 (± 3)
2010	88	40 (± 13)	9 (± 8)
2009	192	53 (± 7)	14 (± 5)
2008	84	51 (± 11)	9 (± 8)
2007	188	47 (± 7)	7 (± 4)

nedpsdgb.d11 - d07

Malfunctioning electrofishing boat in 2008

Table 48. Electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Greenbo Lake from 2000 - 2011.

	Year										
Age	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	52.87	83.87	105.33	33.63	46.71	35.64	2.10	0.98	3.17	5.33	9.46
2	66.13	34.13	31.33	87.17	19.96	35.69	50.35	18.05	50.01	79.63	48.91
3	29.00	56.00	71.33	28.80	51.33	50.67	42.73	18.22	35.65	61.02	60.84
4	6.00	6.67	9.78	26.67	7.11	14.22	27.22	10.97	23.71	28.05	33.56
5	4.00	5.33	7.56	17.73	6.89	8.44	16.04	7.91	23.89	13.27	18.00
6	2.00	1.00	3.33	3.20	2.67	6.67	6.09	3.47	8.23	6.57	5.90
7	1.00	1.00	2.67	5.20	4.00	3.33	4.13	2.40	6.67	5.47	3.33
8							0.67	0.67	2.00	0.67	

nedpsdgb.d11 - d00

nedaaggb.d07,03

Note: Did not sample in 2002 due to lake draw down; malfunctioning electrofishing boat in 2008.

Table 49. Population assessment of largemouth bass based on samples collected at Greenbo Lake from 2004-2011 (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)%
2011	Value	10.7	40.00	58.00	6.67	1.33	11	Fair		
	Score	2	2	3	2	2				
2010	Value	10.7	5.33	45.33	13.33	2	11	Fair	-0.597	45.00%
	Score	2	1	3	2	3				
2009	Value	10.7	3.17	50.00	18.00	2.67	13	Good	-0.415	34.00%
	Score	2	1	4	3	3				
2008	Value	10.7	0.98	19.33	9.33	2.67	9	Fair	-0.642	47.40%
	Score	2	1	1	2	3				
2007	Value	10.7	16.00	48.70	8.70	1.30	11	Fair	-0.687	49.70%
	Score	2	2	3	2	2				
2006	Value	11.7	35.60	50.00	18.70	7.30	17	Excellent	-0.521	40.70%
	Score	4	2	4	3	4				
2005	Value	11.7	46.70	28.00	13.30	3.30	14	Good	-0.493	39.00%
	Score	4	3	2	2	3				
2004	Value	11.7	33.60	58.80	16.80	4.00	16	Good	-0.557	42.70%
	Score	4	2	4	2	4				

nedpsdgb.d04-d11; nedaaggl.d07

Malfunctioning electrofishing boat in 2008

Table 50. Species composition, relative abundance and CPUE (fish/hr) of sunfish collected in 1.25 hours of electrofishing (10- 7.5-minute runs) in Greenbo Lake on 25 May 2011.

Species	Inch class									Total	CPUE	Std. error
	1	2	3	4	5	6	7	8	9			
Bluegill	266	601	216	133	77	16	31	17		1357	1085.60	164.18
Longear sunfish	28	252	119	59	32	6				496	396.80	55.40
Redear sunfish		1			4	6	2	3	2	18	14.40	4.10
Green sunfish	2	12	12	8	4	4	1			43	34.40	4.63

nedsungb.d11

Table 51. Spring electrofishing CPUE (fish/hr) for each length group of sunfish collected at Greenbo Lake.

		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	2011	693.60	115.60	340.80	60.24	37.60	7.16	13.60	4.78			1085.60	164.18
	2010	721.60	226.24	176.80	40.43	68.00	10.00	24.00	6.31			990.40	255.77
	2009	103.20	35.91	194.40	35.60	35.20	9.56	5.60	2.68			338.40	76.81
	2008	80.00	15.23	196.80	51.28	40.80	7.58	6.40	2.00			324.00	56.61
	2007	286.40	50.78	191.20	47.35	45.60	15.09	7.20	2.78			530.40	80.36
	2006	94.40	28.01	159.20	37.27	46.40	5.03	9.60	3.92			309.60	61.57
	2005	116.00	25.53	44.40	59.22	46.40	8.83	3.20	1.77			580.00	89.33
	2003	366.00	41.71	187.00	29.41	11.00	4.73	11.00	5.00	1.00	1.00	575.00	26.10
Redear sunfish	2011	0.80	0.80	3.20	1.77	6.40	2.00	4.00	2.46			14.40	4.10
	2010	4.80	2.13	11.20	4.17	8.00	2.39	4.00	2.15	0.80	0.80	28.00	7.28
	2009	0.80	0.80	0.80	0.80	2.40	1.22					4.00	1.79
	2008			7.20	3.67	5.60	3.38	0.80	0.80			13.60	5.73
	2007	2.40	1.17	12.00	6.11	1.60	1.07					16.00	6.85
	2006	15.20	4.04	7.20	2.78	0.80	0.80	0.80	0.80			24.00	5.84
	2005	2.40	1.71	2.40	1.22	1.60	1.07	4.80	3.20			11.20	3.99
	2003	9.00	5.26	1.00	1.00							10.00	5.77

nedsungb.d11-d05, d03

Table 52. Bluegill PSD and RSD_8 values from spring electrofishing at Greenbo Lake ; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD (± 95%)	RSD_8 (± 95%)
2011	490	13 (± 3)	3 (± 2)
2010	336	34 (± 10)	9 (± 6)
2009	294	17 (± 4)	2 (± 2)
2008	305	19 (± 4)	2 (± 2)
2007	305	22 (± 5)	3 (± 2)

nedpsdgb.d11 - d07

Table 53. Population assessment of bluegill based on samples collected at Greenbo Lake from 2005-2011 (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)%
2011	Value	4.9	3.00	51.20	13.60	12	Good	-1.150	68.30%
	Score	3	3	3	3				
2010	Value	4.9	3.00	92.00	24.00	14	Excellent	-1.064	65.50%
	Score	3	3	4	4				
2009	Value	4.9	3.00	40.80	5.60	10	Fair	-1.390	75.10%
	Score	3	3	2	2				
2008	Value	4.9	3.00	47.20	6.40	10	Fair	-0.865	57.90%
	Score	3	3	2	2				
2007	Value	5.2	3.00	52.80	7.20	12	Good	-1.350	74.20%
	Score	4	3	3	2				
2006	Value	5.2	3.00	28.00	4.80	11	Good	-1.310	73.20%
	Score	4	3	2	2				
2005	Value	5.2	3.00	49.60	3.20	11	Good	-1.270	71.90%
	Score	4	3	2	2				

nedsungb.d06-11; nedaaggb.d08

Table 54. Length frequency and CPUE (fish/hr) of black bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) for black bass at Greenbo Lake on 22 September 2011.

	Inch class																					Std.
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	error
Largemouth bass	1	30	15	11	5	9	23	19	12	9	28	31	11	4	3	2	1	2	2	218	145.33	14.45

nedwrsgb.d11

Table 55. Number of fish and mean relative weight (W_r) values for length groups of black bass collected in Greenbo Lake by nocturnal electrofishing. Standard error in parentheses.

Year	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	No.	W_r (se)	No.	W_r (se)	No.	W_r (se)
2011	67	100 (12)	46	86 (1)	10	90 (3)
2010	83	87 (2)	36	85 (1)	7	93 (5)
2009	52	82 (1)	24	108 (24)	10	88 (1)
2008	34	85 (1)	23	84 (2)	8	124 (38)
2007	30	88 (2)	29	88 (1)	5	96 (5)

nedwrsgb.d11 - d07

Table 56. 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 Greenbo Lake.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2011	3.5	0.15	44.00	11.91	6.00	1.71		
2010	3.9	0.14	40.67	9.15	8.67	2.62	9.46	2.82
2009	5.1	0.16	48.00	6.02	26.00	4.82	5.33	0.44
2008	3.5	0.06	82.00	7.57	2.00	1.37	3.17	1.26
2007	3.9	0.09	44.70	11.29	3.33	1.19	0.98	0.87
2006	3.6	0.10	45.30	9.16	2.67	1.69	2.10	1.03
2005	3.8	0.12	32.00	7.00	4.00	1.03	35.60	5.45
2004	3.6	0.17	20.00	6.02	2.67	1.33	46.70	21.20
2003	4.4	0.12	45.00	7.72	14.00	3.46	33.60	2.11

nedwrsgb.d11 - d03; nedpsdgb.d11 - 04; and nedaaggb.d03,07
Age break = 6.5 in

Table 57. Length frequency and CPUE (fish/hr) for largemouth bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Lake Reba (Madison Co.) on 18 April 2011.

	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	15	10	47	10	17	34	32	36	61	56	55	48	19	11		2	3	1	2	459	306.00	35.82

nedpsdlr.d11

Table 58. Length frequency and CPUE (fish/hr) of stocked* and wild largemouth bass collected in 1.5 hours of nocturnal electrofishing at Lake Reba.

Type	Inch class																			Total	CPUE	Std. error
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Wild	15	3	12	10	17	32	27	35	61	56	55	48	19	11		2	3	1	2	409	272.67	33.35
Stocked		7	35			2	5	1												50	33.33	5.43

nedwldlr.d11; nedstklr.d11

*Stocked in 2009 and 2010 as part of the LMB stocking initative

Table 59. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Reba from 1995-2011.

	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.
2011	66.00	11.44	108.67	16.79	106.00	18.58	25.33	6.08	2.00	1.37	306.00	35.82
2010	67.68	8.08	118.26	19.39	57.68	8.01	6.75	1.66	0.67	0.67	246.00	26.83
2009	47.33	7.55	238.67	12.89	92.67	7.33	26.00	3.22	0.67	0.67	404.67	23.38
2008	77.33	18.44	208.00	28.36	34.00	6.26	12.67	2.62	0.00		332.00	47.08
2007	134.67	20.93	216.67	45.87	60.67	5.21	18.67	4.09	0.67	0.67	430.67	52.20
2006	189.33	18.87	70.67	13.45	26.00	4.93	6.00	2.25	0.00		292.00	27.07
2005	53.33	9.33	57.33	8.11	45.33	4.34	13.33	2.23	0.67	0.67	169.33	16.35
2004	30.00	8.93	125.33	21.46	51.33	9.20	6.67	2.23	0.00		213.33	26.02
2003	110.00	17.85	126.00	10.92	52.00	6.11	8.00	2.53	0.67	0.67	296.00	27.34
2002	138.00	33.57	140.00	31.28	31.00	6.61	5.00	1.00	0.00		314.00	66.98
2001	196.00	24.98	32.00	15.14	9.33	5.33	4.00	2.31	0.00		241.33	32.36
2000	104.06	17.30	35.08	6.64	4.58	0.58	8.00	3.27	0.00		151.72	11.27
1999	122.67	29.42	10.00	3.54	8.00	2.07	18.00	4.70	0.67	0.67	158.67	27.26
1998	76.00	23.66	10.00	2.58	23.00	5.51	21.00	3.42	2.00	1.15	130.00	28.54
1997												
1996	104.00	32.17	7.00	3.42	15.00	5.74	14.00	2.58	0.00		140.00	28.75
1995	160.00	52.89	21.00	7.72	74.00	7.39	3.00	1.91	0.00		258.00	61.46

nedpsdlr.d95 - Present

Table 60. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Reba; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD	(± 95%)	RSD_{15}	(± 95%)
2011	360	55	(± 5)	11	(± 3)
2010	270	35	(± 6)	4	(± 2)
2009	536	33	(± 4)	7	(± 2)
2008	382	18	(± 4)	5	(± 2)
2007	444	27	(± 4)	6	(± 2)
2006	154	31	(± 7)	6	(± 4)
2005	174	51	(± 7)	11	(± 5)
2004	275	32	(± 6)	4	(± 2)
2003	279	32	(± 5)	4	(± 2)
2002	176	20	(± 6)	3	(± 2)
2001	33	30	(± 16)	9	(± 10)
2000	43	28	(± 14)	19	(± 12)
1999	98	72	(± 12)	50	(± 13)
1998	26	81	(± 10)	39	(± 13)
1997					
1996	54	96	(± 8)	62	(± 19)
1995	54	79	(± 8)	3	(± 3)

nedpsdlr.d11 - d98, d96 - d95

Table 61. Population assessment of Largemouth bass based on samples collected at Lake Reba from 1995 - 2011 (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)%
2011	Value		52.67	106.00	25.33	2.00	16	Good		
	Score	3	3	4	3	3				
2010	Value	11.4	47.12	57.68	6.75	0.67	13	Good	-1.019	63.90%
	Score	3	3	4	2	1				
2009	Value		65.33	92.67	26.00	0.67	14	Good	-0.162	15.00%
	Score	3	3	4	3	1				
2008	Value		113.00	34.00	12.67	0.00	11	Fair	-1.030	64.30%
	Score	3	4	2	2	0				
2007	Value		183.67	60.67	18.67	0.67	15	Good	-1.040	65.00%
	Score	3	4	4	3	1				
2006	Value	11.2	192.00	26.00	6.00	0.00	11	Fair	-0.790	55.00%
	Score	3	4	2	2	0				
2005	Value		41.20	45.33	13.33	0.67	10	Fair	-0.250	22.00%
	Score	2	2	3	2	1				
2004	Value		23.20	51.33	6.67	0.00	10	Fair	-0.290	25.00%
	Score	2	2	4	2	0				
2003	Value		52.13	52.00	8.00	0.67	12	Good	-0.500	39.00%
	Score	2	3	4	2	1				
2002	Value		105.80	31.00	5.00	0.00	10	Fair		
	Score	2	4	2	2	0				
2001	Value	10.1	186.93	9.33	4.00	0.00	9	Fair		
	Score	2	4	1	2	0				
2000	Value	8.8	99.66	4.58	8.00	0.00	8	Fair		
	Score	1	4	1	2	0				
1999	Value		89.73	8.00	18.00	0.67	10	Fair		
	Score	1	4	1	3	1				
1998	Value		67.00	23.00	21.00	2.00	12	Good		
	Score	1	3	2	3	3				
1997	Value	–	–	–	–	–	–			
	Score									
1996	Value		62.20	15.00	14.00	0.00	7	Poor		
	Score	1	3	1	2	0				
1995	Value		151.00	74.00	3.00	0.00	10	Fair		
	Score	1	4	4	1	0				

Table 62. Length frequency and CPUE (fish/hr) for sunfish collected in 1 hour of diurnal electrofishing (8- 7.5-minute runs) at Lake Reba on 23 May 2011.

Species	Inch class									Total	CPUE	Std. error
	1	2	3	4	5	6	7	8	9			
Bluegill	386	1783	669	180	70	84	14	1		3187	3187.00	448.67
Redear sunfish	1	30	46	35	65	143	61	5	1	387	387.00	48.68
Warmouth	4	16	37	10	15	25	22	2		131	131.00	14.81
Hybrid sunfish		7	4	3	2		1			17	17.00	3.53
Green sunfish	1	4	6	2		3				16	16.00	8.55

nedsunlr.d11

Table 63. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Lake Reba from 1995 - 2011.

	Length group											
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥ 6.0 in		≥ 8.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2011	2169.00	361.14	919.00	141.70	98.00	26.52	99.00	26.70	1.00	1.00	3187.00	448.67
2010	514.40	138.51	375.20	35.47	21.60	4.78	21.60	4.78			911.20	144.80
2009	527.00	92.98	200.00	19.71	22.00	6.37	22.00	6.37			749.00	100.50
2008	188.00	41.90	194.00	41.09	71.00	11.60	71.00	11.60			453.00	59.10
2007			73.00	10.84	29.00	7.70	29.00	7.70			102.00	10.88
2006	843.20	140.65	228.80	22.88	79.20	20.32	79.20	20.32			1151.20	158.54
2005	279.20	37.00	308.00	42.74	97.60	19.41	97.60	19.41			684.80	74.40
2004	199.20	39.38	187.20	26.96	23.20	7.00	23.20	7.00			409.60	58.24
2003	178.40	27.87	356.00	49.65	49.50	20.06	49.50	20.06			584.00	75.25
2002	266.00	39.68	703.00	101.96	29.00	10.38	29.00	10.38			998.00	138.32
2001			1210.67	207.62	89.33	16.71	89.33	16.71			1300.00	220.30
2000	7.00	4.73	1181.33	152.34	303.46	12.96	303.46	12.96			1327.00	124.50
1999	74.00	74.00	700.00	120.00	48.00	16.00	48.00	16.00			822.00	30.00
1998			1032.00		4.00		4.00				1036.00	0.00
1997												
1996	16.00	12.00	722.00	110.00	22.00	18.00	22.00	18.00			760.00	140.00
1995			338.00	54.00	32.00	0.00	32.00	0.00			1370.00	54.00

nedsunlr.d11 - d98, d96 - d95

Table 64. Bluegill PSD and RSD_8 values from spring electrofishing at Lake Reba; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	(±95%)	RSD_8	(±95%)
2011	1018	10	(± 2)	0	(± 0)
2010	496	5	(± 2)	0	(± 0)
2009	222	10	(± 4)	0	(± 0)
2008	265	27	(± 5)	0	(± 0)
2007	102	28	(± 9)	0	(± 0)
2006	385	26	(± 4)	0	(± 0)
2005	507	24	(± 4)	0	(± 0)
2004	263	11	(± 4)	0	(± 0)
2003	507	12	(± 3)	0	(± 0)
2002	732	4	(± 1)	0	(± 0)
2001	975	7	(± 2)	0	(± 0)
2000	1320	21	(± 2)	0	(± 0)
1999	374	6	(± 2)	0	(± 0)
1998	259	0	(± 1)	0	(± 0)
1997					
1996	372	3	(± 2)	0	(± 0)
1995	685	2	(± 1)	0	(± 0)

nedsunlr.d11 - d98, d96 - d95

Table 65. Population assessment of bluegill based on samples collected at Lake Reba from 1995 - 2011 (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)%
2011	Value			99.00	1.00				
	Score			4	1				
2010	Value			21.60	0.00				
	Score			1	0				
2009	Value			22.00	0.00				
	Score			1	0				
2008	Value	4.0	3	71.00	0.00	8	Fair	-0.719	51.30%
	Score	2	3	3	0				
2007	Value			29.00	0.00				
	Score			2	0				
2006	Value			79.20	0.00				
	Score			4	0				
2005	Value			97.60	0.00				
	Score			4	0				
2004	Value			23.20	0.00				
	Score			1	0				
2003	Value	4.1	3	49.60	0.00	7	Fair	-0.422	34.40%
	Score	2	3	2	0				
2002	Value			29.00	0.00				
	Score			2	0				
2001	Value			89.33	0.00				
	Score			4	0				
2000	Value	5.0	4	303.46	0.00	10	Fair		
	Score	4	2	4	0				
1999	Value			48.00	0.00				
	Score			2	0				
1998	Value			4.00	0.00				
	Score			1	0				
1997	Value								
	Score								
1996	Value			22.00	0.00				
	Score			1	0				
1995	Value			32.00	0.00				
	Score			2	0				

nedsunlr.d11 - d98, d96 - d95

Table 66. Spring electrofishing CPUE (fish/hr) for various length groups of redear sunfish collected at Lake Reba from 1995 - 2011.

	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	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2011	31.00	12.60	146.00	19.64	204.00	57.77	210.00	59.40	6.00	3.30			387.00	48.68
2010	14.40	5.82	101.60	19.16	28.00	7.38	28.80	7.93	0.80	0.80			144.80	28.21
2009	184.00	52.92	150.00	22.92	60.00	4.54	60.00	4.54					394.00	65.74
2008	10.00	4.96	134.00	18.31	225.00	17.98	226.00	18.50	1.00	1.00			370.00	32.98
2007			122.00	16.34	33.00	5.94	35.00	5.00	2.00	1.31			157.00	20.28
2006	111.20	30.74	121.60	17.19	205.60	44.67	206.40	44.75	0.80	0.80			439.20	51.54
2005	16.80	5.90	39.20	5.52	196.00	33.38	196.00	33.38					252.00	30.74
2004	17.60	4.59	59.20	18.33	67.20	13.71	67.20	13.71					144.00	30.38
2003	13.60	5.73	119.20	19.82	178.40	68.83	178.40	68.83					311.20	82.91
2002	11.00	1.91	424.00	124.10	151.00	47.93	152.00	48.74	1.00	1.00			587.00	160.31
2001			220.00	46.13	84.00	32.74	85.33	32.36	1.33	1.33			305.33	39.35
2000			125.82	39.34	134.90	39.57	134.90	39.57					245.00	74.89
1999	2.00	2.00	92.00	36.00	122.00	22.00	122.00	22.00					216.00	60.00
1998			80.00		44.00		44.00						124.00	0.00
1997														
1996			44.00	20.00	14.00	10.00	14.00	10.00					58.00	30.00
1995														

nedsunlr.d11 - d98, d96 - d95

Table 67. Redear sunfish PSD and RSD_9 values from spring electrofishing at Lake Reba; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	(±95%)	RSD_9	(±95%)
2011	310	22	(± 5)	0	(± 1)
2010	118	8	(± 5)		
2009	175	4	(± 3)		
2008	342	11	(± 3)		
2007	141	10	(± 5)		
2006	297	49	(± 6)		
2005	264	19	(± 5)		
2004	146	4	(± 3)		
2003	359	4	(± 2)		
2002	452	6	(± 2)		
2001	158	9	(± 4)		
2000	216	29	(± 6)		
1999	91	4	(± 4)		
1997	27				
1998		4	(± 7)		
1996	28	4	(± 7)		
1995					

**No RE over 9.0 in sampled from 1995 - 2010 to be able to determine RSD_9*

nedsunlr.d11 - d98, d96 - d95

Table 68. Population assessment of redear sunfish based on samples collected at Lake Reba from 1995 - 2011 (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)%
2011	Value			6.00	0.00				
	Score			2	0				
2010	Value			0.80	0.00				
	Score			1	0				
2009	Value			0.00	0.00				
	Score			0	0				
2008	Value	6.3	>7	1.00	0.00	5	Poor	-0.810	55.70%
	Score	3	1	1	0				
2007	Value			2.00	0.00				
	Score			1	0				
2006	Value			0.80	0.00				
	Score			1	0				
2005	Value			0.00	0.00				
	Score			0	0				
2004	Value			0.00	0.00				
	Score			0	0				
2003	Value	6.5	>6	0.00	0.00	5	Poor	-0.322	27.90%
	Score	4	1	0	0				
2002	Value			1.00	0.00				
	Score			1	0				
2001	Value			1.33	0.00				
	Score			1	0				
2000	Value			0.00	0.00				
	Score			0	0				
1999	Value			0.00	0.00				
	Score			0	0				
1998	Value			0.00	0.00				
	Score			0	0				
1997	Value								
	Score								
1996	Value								
	Score								
1995	Value								
	Score								

nedsunlr.d11 - d98, d96 - d95

Table 69. Length frequency and CPUE (fish/hr) for largemouth bass collected in 1.45 hours of nocturnal electrofishing (5, 15 and 1-12.5-minute runs) at Lake Reba on 15 September 2010.

	Inch class																				
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std. error
Largemouth bass	11	143	211	104	17	18	29	25	24	36	38	27	15	6	3	3	3	1	714	492.63	34.79

nedwrslr.d11

Table 70. Number of fish and relative weight (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		
Year	No.	W_r	se	No.	W_r	se	No.	W_r	se
2011	114	93	1	80	89	1	16	94	2
2010	191	90	3	116	86	1	12	86	7
2009	91	86	1	31	84	1	2	88	11
2008	219	84	1	32	86	1	1	81	
2007	142	91	5	17	83	2	8	93	3
2006	243	91	1	75	93	1	18	101	2
2005	134	90	1	27	90	3	9	92	3
2004	186	87	1	73	90	1	10	95	2
2003	65	85	1	28	87	2	2	83	3
2002	67	92	2	12	87	3	1	93	
2001	92	94	1	53	92	1	12	99	2
2000	60	97	1	13	95	3	9	98	3
1999	56	90	1	6	92	3	3	96	4
1998	9	93	3	3	94	5	3	103	5
1997	25	94	2	6	98	1	9	101	2
1996									
1995	12	99	3	27	99	3	10	107	3
1994	37	92	2	56	95	1	3	104	6

nedwrslr.d11 - d97, d95 - d94

Table 71. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass while nocturnal electrofishing at Lake Reba

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2011	Total	4.4	0	334.89	44.80	84.44	19.50		
2010	Total	3.9	0.1	58.67	18.87	10.67	4.81	57.33	10.52
2009	Total	4.0	0.1	58.67	15.55	11.33	8.13	47.12	6.99
2008	Total	4.2	0.1	58.67	15.55	11.33	8.13	65.33	7.06
2007	Total	4.3	0.1	44.00	11.20	5.30	2.20	113.00	27.17
2006	Total	4.3	0.0	175.30	35.90	30.00	8.70	183.70	22.10
2005	Total	5.2	0.1	225.00	48.60	133.00	30.20	192.00	19.50
2004	Total	4.2	0.1	76.70	9.60	15.30	1.90	61.00	10.40
2003	Total	3.7	0.2	23.30	4.80	0.67	0.67	47.30	14.00

nedwrslr.d11 - d03, nedpsdlr.d11-d02

Table 72. Length frequency and CPUE (fish/hr) of sunfish collected in 0.375 hours of electrofishing (3- 7.5-min runs) for sunfish at Rebel Trace on 20 May 2011.

	Inch class										Std.
Species	1	2	3	4	5	6	7	8	Total	CPUE	error
Bluegill	102	83	38	12	25	21	6		287	765.33	83.82
Redear sunfish	1	16	14	12	19	28	18	1	109	290.67	58.67
Warmouth	2		2	5	6	4	1		20	53.33	7.06
Green sunfish		2							2	5.33	5.33

nedsunrt.d11

Table 73. Spring electrofishing CPUE (fish/hr) for each length group of sunfish collected at Rebel Trace.

		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	2011	493.33	49.39	200.00	46.88	72.00	16.65					765.33	83.82
	2010	86.00	35.38	208.00	53.17	116.00	28.00	4.00	4.00			414.00	70.46
	2009	538.00	214.60	460.00	188.54	70.00	30.53					1068.00	394.96
	2008	518.40	41.21	337.60	49.15	16.00	7.16					872.00	62.38
	2007			348.00	89.10	40.00	13.50					388.00	101.20
	2006	124.00	27.00	246.00	72.80	50.00	34.60					420.00	87.70
Redear sunfish	2011	45.33	18.67	120.00	32.33	122.67	11.62	2.67	2.67			290.67	58.67
	2010	4.00	2.31	124.00	41.63	166.00	38.70	24.00	14.24	2.00	2.00	318.00	65.59
	2009	34.00	17.40	172.00	76.56	24.00	10.83	2.00	2.00			232.00	91.62
	2008	70.40	11.14	432.40	47.63	41.60	12.50					574.40	41.83
	2007			544.00	107.80	84.00	14.10	4.00	2.30			632.00	99.10
	2006	172.00	60.30	282.00	53.70	22.00	19.40	18.00	6.80			494.00	47.80

nedsunrt.d11 - 06

Table 74. PSD and RSD_8 values obtained for bluegill collected at Rebel Trace; 95% confidence intervals are in parentheses.

Species	No. ≥3.0 in	PSD (±95%)	RSD_8 (±95%)
Bluegill	102	26 (± 9)	

nedsunrt.d11

Table 75. Population assessment of bluegill based on samples collected at Rebel Trace Lake from 2006-2011 (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)%
2011	Value	3.8	4 - 4+	72.00	0.00	7	Fair	-0.715	51.10%
	Score	2	2	3	0				
2010	Value	3.8	4 - 4+	120.00	4.00	11	Good	-0.443	35.80%
	Score	2	2	4	3				
2009	Value	3.8	4 - 4+	70.00	0.00	7	Fair	-0.760	53.30%
	Score	2	2	3	0				
2008	Value	4.3	3 - 3+	16.00	0.00	6	Poor	-1.919	85.30%
	Score	2	3	1	0				
2007	Value	4.3	3 - 3+	40.00	0.00	7	Fair	-1.360	74.30%
	Score	2	3	2	0				
2006	Value	4.3	3 - 3+	50.00	0.00	8	Fair	-1.216	70.40%
	Score	2	3	3	0				

nedsunrt.d11-06; nedaagrt.d09, 02

Table 76. Population assessment of redear sunfish based on samples collected at Rebel Trace Lake in 2011 (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)%
2011	Value	6.0	4 - 4+	2.67	0.00	7	Fair	-0.252	22.30%
	Score	3	3	1	0				
2010	Value	6.0	4 - 4+	24.00	2.00	12	Good	-0.323	27.60%
	Score	3	3	4	2				
2009	Value	6.0	6 - 6+	2.00	0.00	5	Poor	-1.328	73.50%
	Score	3	1	1	0				

nedsunrt.d11; nedaagrt.d09

Table 77. Length frequency and CPUE (fish/hr) for largemouth bass collected in 0.79 hours of nocturnal electrofishing (3- 15-minute runs and 1- 2.4-minute runs) at Smoky Valley Lake (Carter Co.) on 04 May 2011.

	Inch class															
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	Std. error
Largemouth bass		21	39	35	17	1	20	17	11	12	7	1	2	183	229.50	31.76

nedpsdsv.d11

Table 78. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Smoky Valley Lake from 1990-2011.

	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.
2011	150.00	33.97	69.00	8.70	10.00	6.22					229.50	31.76
2010	47.73	9.25	65.89	7.81	3.29	1.13	1.00	1.00			117.91	15.25
2009	97.00	6.61	145.00	23.74	14.00	2.58	1.00	1.00			383.00	153.39
2008	155.00	23.29	199.00	34.42	46.00	7.75					607.00	260.17
2007	119.00	21.75	229.00	32.51	37.00	6.40	2.00	1.15			573.00	223.44
2006	112.00	12.75	256.00	33.78	62.00	8.72	4.00	1.63			633.50	234.35
2005	54.40	10.17	190.40	22.65	63.20	9.07	0.80	0.80			397.60	90.90
2004												
2003												
2002												
2001	117.33	11.62	180.00	14.05	46.67	12.72	2.67	2.67			346.67	11.62
2000	68.00	12.96	218.00	22.06	69.00	13.70	1.00	1.00			356.00	46.79
1999												
1998	135.00	32.22	132.00	25.46	75.00	15.09	3.00	1.00			546.00	264.87
1997	46.00	8.87	63.00	5.97	39.00	4.12	3.00	1.91			151.00	3.79
1996	30.00	5.77	77.00	11.47	50.00	7.75	3.00	1.91			160.00	14.33
1995	41.00	14.36	104.00	21.85	84.00	17.66	2.00	2.00			231.00	43.65
1994	72.00	5.89	104.00	14.51	94.00	10.52	7.00	1.91	1.00	1.00	277.00	13.20
1993	34.67	18.27	58.67	28.62	24.67	13.87	4.00	4.00			122.00	63.13
1992	43.41	8.88	96.13	10.89	94.00	6.8.	7.34	3.47	1.78	1.04	261.00	36.78
1991	18.00	2.58	129.00	17.08	18.00	2.00	6.00	1.15	1.00	1.00	171.00	16.92
1990	58.71	9.65	109.18	21.81	34.14	1.16	18.56	5.80	2.43	1.23	352.00	158.04

nedpsdsv.d11, d09-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

Table 79. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Smoky Valley Lake; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD	(± 95%)	RSD_{15}	(± 95%)
2011	70	14	(± 8)		
2010	67	6	(± 6)	1	(± 3)
2009	160	9	(± 5)	1	(± 1)
2008	245	19	(± 5)		(± 0)
2007	268	15	(± 4)	1	(± 1)
2006	322	20	(± 4)	1	(± 1)
2005	318	25	(± 5)	0	(± 1)
2004					
2003					
2002					
2001	172	22	(± 6)	1	(± 2)
2000	288	24	(± 5)	0	(± 1)
1999					
1998	210	37	(± 7)	1	(± 2)
1997	105	40	(± 9)	3	(± 3)
1996	130	41	(± 8)	2	(± 3)
1995	190	45	(± 7)	1	(± 1)
1994	205	49	(± 7)	3	(± 2)
1993	131	33	(± 8)	5	(± 4)
1992	213	51	(± 7)	4	(± 3)
1991	153	16	(± 6)	4	(± 3)
1990	194	30	(± 6)	11	(± 4)

nedpsdsv.d11, d09-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

Table 80. Population assessment of largemouth bass based on samples collected at Smoky Valley lake from 1990-2011 (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)%
2011	Value		150.50	10.00	0.00	0.00	6	Poor		
	Score	1	4	1	0	0				
2010	Value	9.6	34.92	3.29	1.00	0.00	5	Poor	-0.787	54.50%
	Score	1	2	1	1	0				
2009	Value		9.00	14.00	1.00	0.00	4	Poor	-0.223	20.00%
	Score	1	1	1	1	0				
2008	Value		56.00	46.00	0.00	0.00	7	Poor	-0.550	22.50%
	Score	1	3	3	0	0				
2007	Value	9.6	7.00	37.00	2.00	0.00	6	Poor	-0.513	40.10%
	Score	1	1	3	1	0				
2006	Value		70.07	62.00	4.00	0.00	12	Good	-0.579	43.90%
	Score	3	3	4	2	0				
2005	Value		19.09	36.20	8.00	0.00	10	Fair	-0.353	29.80%
	Score	3	2	3	2	0				
2004	Value									
	Score									
2003	Value									
	Score									
2002	Value									
	Score									
2001	Value	11.0	23.07	46.67	2.67	0.00	9	Fair		
	Score	3	2	3	1	0				
2000	Value		44.00	69.00	1.00	0.00	10	Fair		
	Score	3	2	4	1	0				
1999	Value									
	Score									
1998	Value		51.00	75.00	3.00	0.00	11	Fair		
	Score	3	3	4	1	0				
1997	Value		19.00	39.00	3.00	0.00	9	Fair		
	Score	3	2	3	1	0				
1996	Value		3.00	50.00	3.00	0.00	9	Fair		
	Score	3	1	4	1	0				
1995	Value	10.8	5.00	84.00	2.00	0.00	9	Fair		
	Score	3	1	4	1	0				

Table 80 cont.

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)%
1994	Value		15.00	94.00	7.00	1.00	11	Fair		
	Score	2	1	4	2	2				
1993	Value	10.2	9.33	24.67	4.00	0.00	7	Poor		
	Score	2	1	2	2	0				
1992	Value	12.4	44.47	94.00	7.34	1.78	14	Good		
	Score	4	2	4	2	2				
1991	Value	10.6	18.80	18.00	6.00	1.00	9	Fair		
	Score	2	2	1	2	2				
1990	Value	9.1	64.26	34.14	18.56	2.43	12	Good		
	Score	1	3	2	3	3				

nedpsdsv.d11, d09-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

Table 81. Length frequency and CPUE (fish/hr) for sunfish collected in 1 hour of diurnal electrofishing (4- 15-min runs) at Smoky Valley Lake on 19 May 2011.

Species	Inch class 1	2	3	4	5	6	7	8	Total	CPUE	Std. error
Bluegill	316	426	76	19	10	7	5	1	860	860.00	60.02
Green sunfish	9	33	24	23	16	11			116	116.00	28.14
Longear sunfish	1	18	10	13	10	6	1		59	59.00	14.18

nedsunsv.d11

Table 82. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Smoky Valley Lake from 1990-2011.

	Length group											
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥ 6.0 in		≥ 8.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2011	742.00	78.12	105.00	23.74	12.00	5.89	13.00	6.61	1.00	1.00	860.00	60.02
2010	216.90	69.35	166.95	36.82	28.60	6.01	29.60	5.60	1.00	1.00	384.00	97.38
2009	203.00	34.54	214.00	44.32	24.00	10.71	25.00	11.70	1.00	1.00	442.00	64.36
2008			53.00	14.36	31.00	13.70	31.00	13.70			84.00	22.74
2007			89.14	17.14	10.29	5.20	11.43	5.20	1.14	1.14	67.43	13.25
2006	464.00	116.54	88.00	15.19	16.00	4.28	16.00	4.28			464.50	125.80
2005	164.00	41.49	169.00	30.33	38.00	8.91	42.00	8.91	4.00	3.02	307.00	70.10
2004	24.79	6.79	139.32	22.00	25.64	4.82	26.50	4.82	0.85	0.85	190.60	27.31
2003	200.00	61.11	102.00	30.30	107.00	34.02	111.00	34.02	4.00	2.14	345.00	106.90
2002												
2001			152.00	12.86	48.00	12.72	53.33	12.72	5.33	3.53	205.33	11.62
2000			128.00	44.63	66.00	20.29	67.00	20.29	1.00	1.00	195.00	61.02
1999												
1998			116.00	4.00	90	2.00	90.00	2.00			206.00	6.00
1997			98.00	46.00	86	42.00	90.00	42.00	4.00	4.00	188.00	88.00
1996												
1995			78.00	2.00	58.00	4.00	60.00	4.00	2.00	2.00	138.00	2.00
1994			190.00	10.00	52.00	12.00	56.00	12.00	4.00	4.00	246.00	22.00
1993	97.00	37.00	68.00	16.00	19.00	8.00	20.00	8.00	1.00	1.00	370.00	90.00
1992	144.00	96.77	105.33	13.53	46.67	17.02	54.67	17.02	8.00	2.31	304.00	76.14
1991	6.00	2.00	98.00	2.00	46.00	34.00	50.00	34.00	4.00	4.00	154.00	34.00
1990	76.00	20.00	642.00	154.00	182.00	32.00	184.00	32.00	2.00	2.00	902.00	206.00

nedsunsv.d11-d03; nedpsdsv.d01-d00; nedsunsv.d98-d97; d95-d90

Table 83. Bluegill PSD and RSD_8 values from spring electrofishing at Smoky Valley Lake; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	(± 95%)	RSD_8	(± 95%)
2011	118	11	(± 6)	1	(± 2)
2010	185	15	(± 5)	1	(± 1)
2009	239	10	(± 4)	0	(± 1)
2008	84	37	(± 10)		
2007	88	11	(± 7)	1	(± 2)
2006	104	15	(± 7)		
2005	211	20	(± 5)	2	(± 2)
2004	194	16	(± 5)	1	(± 1)
2003	213	52	(± 7)	2	(± 2)
2002					
2001	154	26	(± 7)	3	(± 3)
2000	195	34	(± 7)	1	(± 1)
1999					
1998	103	44	(± 10)		
1997	94	48	(± 10)	2	(± 3)
1996					
1995	69	43	(± 12)	1	(± 3)
1994	123	23	(± 7)	2	(± 2)
1993	88	23	(± 9)	1	(± 2)
1992	120	34	(± 9)	5	(± 4)
1991	74	34	(± 11)	3	(± 4)
1990	413	22	(± 4)	0	(± 0)

nedsunsv.d11-d03; nedpsdsv.d01-d00; nedsunsv.d98-d97; d95-d90

Table 84. Population assessment of bluegill based on samples collected at Smoky Valley Lake from 1990 - 2011 (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)%
2011	Value			13.00	1.00				
	Score			1	1				
2010	Value			29.60	1.00				
	Score			2	1				
2009	Value			25.00	1.00				
	Score			2	1				
2008	Value	3.9	4-4+	31.00	0.00	6	Poor	-0.722	51.50%
	Score	2	2	2	0				
2007	Value			11.43	1.14				
	Score			1	1				
2006	Value			16.00	0.00				
	Score			1	0				
2005	Value			42.00	4.00				
	Score			2	1				
2004	Value			26.50	0.85				
	Score			2	1				
2003	Value	3.2	4-4+	111.00	4.00	8	Fair	-0.523	40.70%
	Score	1	2	4	1				
2002	Value								
	Score								
2001	Value	4.7	4-4+	53.33	5.33	10	Fair		
	Score	3	2	3	2				
2000	Value			67.00	1.00				
	Score			3	1				
1999	Value								
	Score								
1998	Value			90.00	0.00				
	Score			4	0				
1997	Value			90.00	4.00				
	Score			4	1				
1996	Value								
	Score								
1995	Value	4.3	4-4+	60.00	2.00	8	Fair		
	Score	2	2	3	1				

Table 84 cont.

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)%
1994	Value			56.00	4.00				
	Score			3	1				
1993	Value	4.7	3-3+	20.00	1.00	8	Fair		
	Score	3	3	1	1				
1992	Value	4.4	4-4+	54.67	8.00	9	Fair		
	Score	2	2	3	2				
1991	Value			50.00	4.00				
	Score			3	1				
1990	Value			184.00	2.00				
	Score			4	1				

nedsunsv.d11-d03; nedpsdsv.d01-d00; nedsunsv.d98-d97; d95-d90

Table 85. Length frequency and CPUE (fish/hr) for largemouth bass collected in 0.89 hours of nocturnal electrofishing (3- 15-minute runs and 1- 8.4-minute run) at Smoky Valley Lake on 27 September 2011.

Species	Inch class													Total	CPUE	Std. error
	3	4	5	6	7	8	9	10	11	12	13	14	15			
Largemouth bass	8	38	17	3	55	61	26	15	16	13	9	1	1	263	295.94	44.88

nedwrssv.d11

Table 86. Number of fish and relative weight (W_r) for each length group of largemouth bass captured at Smoky Valley Lake

	Length group								
	8.0-11.9 in			12.0-14.9 in			≥15.0 in		
Year	No.	W_r	se	No.	W_r	se	No.	W_r	se
2011	117	87	1	23	78	3	1	81	
2010	90	81	1	12	82	2			
2009	80	83	1	9	86	2	1	89	
2008	104	83	1	20	81	1			
2007	99	85	1	10	87	3			
2006									
2005									
2004	108	85	1	43	84	1			
2003									
2002	111	83	0	25	83	1			
2001	129	83	1	27	84	1			
2000	70	82	1	32	83	2	1	88	
1999									
1998	92	91	1	37	87	1	1	85	
1997									
1996	93	87	1	34	81	1	5	79	5
1995									
1994	57	86	1	40	82	1	4	84	7
1993	81	91	2	67	86	1	5	93	1
1992	83	87	1	54	81	1	3	72	8
1991	85	86	1	58	81	1	5	76	3
1990	150	89	1	33	85	1	11	92	2

nedwrssv.d11-d07, d04, d02-d00, d98, d96, d94-d90

Table 87. Fishery statistics derived from a daytime creel survey at Smoky Valley Lake during 2011 creel (April through October) as compared to findings from 1990.

	2011	1990
Fishing trips		
No. of fishing trips	1,128	2812
(per acre)	(31.34)	(78.00)
Fishing pressure		
Total man-hours (S.E.)	3,568 (138.71)	10,806 (1,608)
Man hours/acre	99.12	300.00
Catch/harvest		
No. of fish caught (S.E.)	6,653 (991.12)	11,945 (3,049)
No. of fish harvested (S.E.)	4,399 (711.98)	10,002 (2,541)
Lbs. of fish harvested	1,728	1,762
Harvest rate		
Fish/hour	1.25	0.93
Fish/acre	122.19	277.83
Lbs/acre	47.99	48.94
Catch rates		
Fish/hour	1.93	1.11
Fish/acre	184.79	331.81
Misc. characteristics (%)		
Male	88.26	90.00
Female	11.74	10.00
Resident	96.36	92.00
Non-resident	3.64	8.00
Method (%)		
Still fishing	42.51	33.00
Casting	55.47	66.00
Fly fishing	1.62	t
Trolling	t	
Mode (%)		
Boat	58.30	75.00
Bank	41.70	25.00

(S.E.) = Standard error
t < 0.5%

Table 88. Fish harvest statistics derived from the 2011 creel survey at Smoky Valley Lake.

	Longear sunfish	Warmouth	Rock bass	Bluegill	Panfish Group	Flathead catfish	Channel catfish	Catfish Group	Spotted bass	Largemouth bass	Black Bass Group	Crappie Group	Anything
Number caught	19.34	27.48	36.54	3905.94	3989.30	101.81	1177.42	1279.23	4.83	1141.26	1146.09	237.99	
(per acre)	0.54	0.76	1.02	108.50	110.81	2.83	32.71	35.53	0.13	31.70	31.84	6.61	
Number harvested	19.34	4.83	4.83	2487.55	2516.55	32.01	1043.00	1075.01	4.83	607.82	612.65	194.55	
(per acre)	0.54	0.13	0.13	69.10	69.90	0.89	28.97	29.86	0.13	16.88	17.01	5.40	
% of total number harvested	0.44	0.11	0.11	56.55	57.21	0.73	23.71	24.44	0.11	13.82	13.93	4.42	
Pounds harvested	1.50	1.70	0.80	436.30	440.30	23.50	658.30	681.80	4.50	518.20	522.70	82.90	
(per acre)	0.04	0.05	0.02	12.12	12.23	0.65	18.29	18.94	0.13	14.39	14.39	2.30	
% of total pounds harvested	0.09	0.10	0.05	25.25	25.48	1.36	38.10	39.46	0.26	29.99	30.25	4.80	
Mean length (in)	5.00	8.00	6.00	5.84		12.58	12.99		13.00	12.05			
Mean weight (lb)	0.08	0.35	0.16	0.13		0.79	0.72		0.93	0.90			
Number fishing trips for that species					103.63			324.12			417.09	30.55	252.90
% of all trips					9.18			28.73			36.97	2.70	22.41
Hours fished for that species					327.74			1025.05			1319.06	96.60	799.82
(per acre)					(09.10)			(28.47)			(36.64)	(02.68)	(02.71)
Number harvested fishing for that species					1,186			786			436	69	
Pounds harvested fishing for that species					199.10			792.80			357.90	13.90	
Number harvested per hour fishing for that species					3.65			0.72			0.32	0.76	
% success fishing for that species					78.26			67.16			44.83	50.00	56.14

Table 89. Length distribution (length of released fish are estimates) for each species of fish harvested (H) or released (R) at Smoky Valley Lake from April through October 2011.

Species		Inch class																					Total
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Channel catfish	H							70	5	169		437	30	104	25	154		40		5		4	1,043
	R				9	81		4		9		22		4				5					134
Flathead catfish	H											23	9										32
	R					14				21		35											70
Rock bass	H					5																	5
	R						32																32
Warmouth	H							5															5
	R			18	5																		23
Bluegill	H			149	168	871	890	410															2,488
	R	26	668	473	178	48		25															1,418
Longear sunfish	H				19																		19
	R																						0
Spotted bass	H												5										5
	R																						0
Largemouth bass	H							18	9	207	9	198	37	41	5	46	14	14	10				608
	R							160	9	256	4	65	13	17		9							533
Crappie Group	H					53	11	13	26	53	4	26	9										195
	R		25	1		8																	34

Table 90. Monthly black bass and panfish angling success at Smoky Valley Lake during the 2011 creel survey period.

	Total no. caught		Total no. harvested		Total no. of trips for		Hours fished for		Catch fishing for		Catch / hour fishing for		No. harvested fishing for		No. harvested / hour fishing for	
Month	Bass	Panfish	Bass	Panfish	Bass	Panfish	Bass	Panfish	Bass	Panfish	Bass	Panfish	Bass	Panfish	Bass	Panfish
Apr	68.34	98.71	30.37	60.74	64.37	10.73	203.56	33.93	38	45	0.16	2.00		30		1.33
May	261.04	2,479.86	207.86	1,846.60	71.84	44.90	227.20	142.00	155	1,256	0.68	7.22	131	947	0.57	5.44
Jun	202.84	529.46	72.20	199..41	55.59	21.38	175.80	67.62	137	124	0.73	2.25	58	69	0.31	1.25
Jul	208.35	579.76	77.00	267.24	92.75	9.28	293.33	29.33	172	181	0.56	6.15	59	86	0.19	2.92
Aug	226.62	210.72	115.30	99.39	53.41	11.44	168.90	36.19	194	28	0.88	1.17	95	28	0.43	1.17
Sep	43.39	52.07	26.04	17.36	14.21		44.93		39		0.95		22		0.53	
Oct	135.51	38.73	83.89	25.81	64.93	5.90	205.33	18.67	123	26	0.58	4.00	71	26	0.33	4.00
Total	1,146.09	3,989.30	612.65	2,516.55	417.09	103.63	1,319.06	327.74	858	1,660	0.64	5.15	436	1,186	0.32	3.65

Table 91. Monthly catfish and crappie angling success at Smoky Valley Lake during the 2011 creel survey period.

	Total no. caught		Total no. harvested		Total no. of trips for		Hours fished for		Catch fishing for		Catch / hour fishing for		No. harvested fishing for		No. harvested / hour fishing for	
Month	Catfish	Crappie	Catfish	Crappie	Catfish	Crappie	Catfish	Crappie	Catfish	Crappie	Catfish	Crappie	Catfish	Crappie	Catfish	Crappie
Apr	478.36		379.65		107.28		339.27		418		1.31		319		1.00	
May	188.53		188.53		26.94		85.20		73		0.91		73		0.91	
Jun	247.54	77.35	202.84	77.35	64.14		202.84		196		0.85		162		0.70	
Jul	249.12	92.83	212.88	58.45	74.20	8.55	234.67	27.05	177	48	0.78	1.40	145	24	0.64	0.70
Aug	63.61	22.65	47.71	13.59	26.70		84.45		56		0.74		44		0.58	
Sep	52.07		43.36		24.86		78.62		52		0.52		43		0.43	
Oct		45.17		45.17		5.90		18.67		45		3.50		45		3.50
Total	1,279.23	237.99	1,075.01	194.55	324.12	30.55	1,025.05	96.60	972	93	0.88	1.14	786	69	0.72	0.76

Table 92: Angler attitude survey carried out in conjunction with 2011 creel survey on Smoky Valley Lake.

3. Have you ever fished at Smoky Valley Lake before?

Yes =79.1% **No** = 20.9%

4. How many times do you fish Smoky Valley Lake a year?

1 - 4 = 56.3% **5 - 10** = 21.1% **More than 10** = 22.5%

5. Which species do you fish for at Smoky Valley Lake (check all that apply)?

Bass = 53.3%; **Catfish** = 42.4%; **Sunfish** = 33.7%; **Crappie** = 0.5%; **All** = 1.1%

6. Which species do you fish for most at Smoky Valley Lake (check only one)?

Bass = 55.0%; **Catfish** = 31.8%; **Sunfish** = 13.2%; **Crappie** = 0.8%; **All** = 1.6%

Bass Anglers

7. What level of satisfaction do you have with bass fishing at Smoky Valley Lake?

Very Satisfied = 11.2%	**Somewhat Satisfied** = 27.6%	**Total** = 38.8%
Very Dissatisfied = 20.4%	**Somewhat Dissatisfied** = 14.3%	**Total** = 34.7%
Neutral = 26.5%	**No Answer** = 86 individuals	

7a. If you responded with somewhat or very dissatisfied in question 5 - what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (34.7%)*

Size of fish	86.7%
Number of fish	10.0%
Unfamiliar with Lake	3.3%

Sunfish Anglers

8. What level of satisfaction do you have with sunfish fishing at Smoky Valley Lake?

Very Satisfied = 29.5%	**Somewhat Satisfied** = 44.3%	**Total** = 73.8%
Very Dissatisfied = 4.9%	**Somewhat Dissatisfied** = 8.2%	**Total** = 13.1%
Neutral = 11.5%	**No Answer** = 123 individuals	

8a. If you responded with somewhat or very dissatisfied in question 6 - what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (31.3%)*

Number of fish	11.1%
Size of fish	88.9%

Catfish Anglers

9. What level of satisfaction do you have with catfish fishing at Smoky Valley Lake?

Very Satisfied = 46.8%	**Somewhat Satisfied** = 35.4%	**Total** = 82.2%
Very Dissatisfied = 2.5%	**Somewhat Dissatisfied** = 2.5%	**Total** = 5.0%
Neutral = 12.7%	**No Answer** = 105 individuals	

9a. If you responded with somewhat or very dissatisfied in question 6 - what is the single most important reason for your dissatisfaction?

Note: These numbers are percentages **ONLY of those who were dissatisfied (31.3%)*

Number of fish	50.0%
Size of fish	50.0%

Table 92 cont.

All Anglers

10. Are you satisfied with the current size and creel limits on all sport fish at Smoky Valley Lake?

Yes = 96.5% **No** = 3.5% **No Response** = 43 individulas

10a. If not, which species are you dissatisfied with and what size and creel limits would you prefer?

Note: numbers below are percentages **ONLY from the anglers that answered no in number 10- 3.5%*

Bass size limit changes: 15" (1)
Bass creel limit changes: 3 (1)

11. You can keep bass of any size at Smoky Valley Lake. Do you routinely keep bass less than 12 inches from the lake?

Yes = 29.5% **No** = 70.5% **No Response** = 45 individuals

11a. If no, what is the reason you don't keep bass less than 12 inches from the lake?

Note: These numbers are percentages **ONLY of those who responded no (70.5%)*

Hurts the population	18.3%
Too small to eat	46.2%
Don't keep bass of any size	35.5%
No Answer (Individuals)	91

12. Did you use live fish as bait anywhere in Kentucky last year?

Yes = 56.9% **No** = 43.1%

13. How many days last year did you fish Kentucky?

0 = 1	**1 - 10** = 36	**11 - 20** = 31	**21 - 30** = 21
31 - 40 = 1	**41 - 50** = 15	**50 - 100** = 12	**≥ 101** = 4

14. Of the day(s) you fished in Kentucky last year, how many days did you use live fish as bait?

0 = 10	**1 - 10** = 66	**11 - 20** = 22	**21 - 30** = 7
31 - 40 = 2	**41 - 50** = 2	**50 - 100** = 1	**≥ 101** = 1
All = 3	**1/3** = 2		

15. Do you ever collect your own live fish to use as bait?

Yes = 46.6% **No** = 53.4%

16. How many of the days that you used live fish for bast last year did you collect your own?

0 = 6	**1 - 10** = 330	**11 - 20** = 8	**21 - 30** = 3
31 - 40 = 0	**41 - 50** = 0	**50 - 100** = 0	**≥ 101** = 1
All = 7	**1/2** = 4		

17. When you collected live fish for bait last year, how many days did you collect them in one water body and with them in another?

0 = 16	**1 - 10** = 19	**11 - 20** = 2	**21 - 30** = 2
31 - 40 = 0	**41 - 50** = 0	**50 - 100** = 0	**≥ 101** = 0
All = 9	**1/2** = 3		

18. Would you support or oppose a regulation where live bait can only be used in the water body from which were taken?

Support = 64.3% **Neutral** = 9.9% **Oppose** = 23.1% **Don't know** = 2.7%

Table 92 cont.

19. Are you aware that Asian Carp are invading Kentucky's waters?

Yes = 57.2% **No** = 42.8%

20. Knowing this, would you support or oppose a regulation where live bait can only be used in the water from which they were taken?

Support = 84.4% **Neutral** = 5.4% **Oppose** = 10.2%

Table 93. Length frequency and CPUE (fish/hr) for largemouth bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Lake Wilgreen (Madison Co.) on 19 April 20111.

	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	26	37	25	37	43	24	19	13	10	13	15	16	15	19	4	4	3	2	326	217.33	31.2

nedpsdlw.d11

Table 94. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Wilgreen from 1990-2011.

	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.
2011	84.00	18.04	66.00	12.85	25.33	4.09	42.00	4.70	3.30	2.17	217.33	31.24
2010	42.67	5.72	79.33	14.36	53.33	6.50	51.33	4.06	1.30	0.84	226.67	21.73
2009	19.33	5.60	76.00	14.24	52.00	12.04	50.00	9.51	1.30	0.84	197.33	26.53
2008	8.67	1.91	24.67	5.88	18.67	3.82	10.67	3.68	0.67	0.67	62.67	9.04
2007	238.67	25.94	194.67	16.12	115.33	14.95	18.67	2.23	2.67	1.33	567.33	30.63
2006	56.67	9.93	195.33	8.60	148.00	15.76	22.00	5.82	2.67	0.84	422	29.06
2005	86.67	17.88	12.00	12.76	108.67	22.99	6.00	2.68			371.33	45.3
2004												
2003	89.20	11.12	376.80	41.02	48.00	6.34	12.80	2.52	0.40	0.40	526.8	50.18
2002												
2001												
2000	361.00	50.95	274.00	10.59	58.00	12.27	6.00	1.15			699	57.02
1999	152.00	6.32	235.00	29.59	43.00	11.82	8.00	2.31	2.00	1.15	438	42.85
1998												
1997												
1996	149.00	47.82	247.00	24.84	90.00	19.77	15.00	6.19	5.00	1.00	601	73.02
1995	77.00	22.65	382.00	45.27	42.00	9.31	10.00	2.58	1.00	1.00	511	71.58
1994	298.00	79.47	427.00	50.05	46.00	7.39	24.00	4.90	2.00	1.15	795	122.01
1993												
1992	244.00	42.39	100.00	22.27	70.67	14.11	12.00	4.00	1.33	1.33	426.67	64.06
1991	72.00	6.11	206.67	16.71	58.67	5.81	5.33	1.33	1.33	1.33	342.67	18.67
1990												

nedpsdlw.d11-d05, d03, nedlmblw.d00-d99, d96-d94, d92-d91

Table 95. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Wilgreen; confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD	(± 95%)	RSD_{15}	(± 95%)
2011	200	51	(± 7)	32	(± 6)
2010	276	57	(± 6)	28	(± 5)
2009	267	57	(± 6)	28	(± 5)
2008	81	54	(± 11)	20	(± 9)
2007	493	41	(± 4)	6	(± 2)
2006	548	47	(± 4)	6	(± 2)
2005	427	40	(± 5)	2	(± 1)
2004					
2003	1094	14	(± 2)	3	(± 1)
2002					
2001					
2000	338	19	(± 4)	2	(± 1)
1999	286	18	(± 4)	3	(± 2)
1998					
1997					
1996	352	30	(± 5)	4	(± 2)
1995	434	12	(± 3)	2	(± 1)
1994	497	14	(± 3)	5	(± 2)
1993					
1992	137	45	(± 8)	7	(± 4)
1991	203	24	(± 6)	2	(± 2)
1990					

nedpsdlw.d11-d05, d03, nedlmblw.d00-d99, d96-d94, d92-d91

Table 96. Population assessment of largemouth bass based on samples collected at Lake Wilgreen from 1996-2011 (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)%
2011	Value		55.33	25.33	42.00	3.33	16	Good		
	Score	4	3	2	4	3				
2010	Value		6.00	53.30	51.33	1.33	15	Good	-0.331	28.10%
	Score	4	1	4	4	2				
2009	Value		6.00	52.00	50.00	1.33	15	Good	-0.162	15.00%
	Score	4	1	4	4	2				
2008	Value	12.6	5.33	18.67	10.67	0.67	9	Fair	-0.633	46.90%
	Score	4	1	1	2	1				
2007	Value		229.97	115.33	18.67	2.67	16	Good	-0.580	32.50%
	Score	2	4	4	3	3				
2006	Value		58.14	148.00	22.00	2.67	15	Good	-0.069	6.60%
	Score	2	3	4	3	3				
2005	Value		81.15	108.67	6.00	0.00	12	Good	-0.127	11.90%
	Score	2	4	4	2	0				
2004	Value	–	–	–	–	–				
	Score									
2003	Value	10.2	91.51	48.00	12.80	0.40	12	Good		
	Score	2	4	3	2	1				
2002	Value	–	–	–	–	–				
	Score									
2001	Value	–	–	–	–	–				
	Score									
2000	Value	10.9	54.23	58.00	6.00	0.00	12	Good		
	Score	3	3	4	2	0				
1999	Value		141.50	43.00	8.00	2.00	15	Good		
	Score	3	4	3	2	3				
1998	Value	–	–	–	–	–				
	Score									
1997	Value	–	–	–	–	–				
	Score									
1996	Value		225.83	90.00	15.00	5.00	17	Excellent		
	Score	3	4	4	2	4				
1995	Value	11.3	74.67	42.00	10.00	1.00	13	Good		
	Score	3	3	3	2	2				

Table 96 cont.

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)%
1994	Value		227.50	46.00	24.00	2.00	16	Good		
	Score	3	4	3	3	3				
1993	Value	–	–	–	–	–				
	Score									
1992	Value		193.56	70.67	12.00	1.33	15	Good		
	Score	3	4	4	2	2				
1991	Value		62.22	58.67	5.33	1.33	14	Good		
	Score	3	3	4	2	2				
1990	Value	–	–	–	–	–				
	Score									

nedpsdlw.d11-d05, d03, nedlmblw.d00-d99, d96-d94, d92-d91

Table 97. Length frequency and CPUE (fish/hr) for sunfish collected in 1.25 hours of diurnal electrofishing (10 - 7.5-min runs) at Lake Wilgreen on 24 May 2011.

Species	Inch class								Total	CPUE	Std. error
	1	2	3	4	5	6	7	8			
Bluegill	131	464	203	295	290	111	5		1499	1199.20	157.96
Green sunfish	10	41	61	59	25	8	2		206	164.80	44.35
Redear sunfish		3	9		6	26	4	1	49	39.20	13.72
Warmouth		1	3	1	3	6	5	1	20	16.00	4.30
Hybrid sunfish			1		1			1	3	2.40	1.71

nedsunlw.d11

Table 98. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Lake Wilgreen from 1990-2011.

	Length group											
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥ 6.0 in		≥ 8.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2011	476.00	58.63	630.40	90.92	92.80	24.71	92.80	24.71			1199.20	157.96
2010	464.00	14.05	380.80	28.92	57.60	14.93	57.60	14.93			484.80	43.93
2009	105.00	23.25	287.00	36.17	109.00	27.38	110.00	27.87	1.00	1.00	502.00	55.67
2008	50.00	17.02	115.00	17.10	45.00	17.30	45.00	17.30			210.00	38.83
2007			283.20	26.73	88.80	16.67	88.80	16.67			372.00	39.38
2006	279.20	51.27	409.60	34.53	64.80	20.36	67.20	20.66	2.40	1.22	756.00	79.72
2005	211.20	67.00	576.80	73.19	40.80	10.76	41.60	11.11	0.80	0.80	829.60	122.74
2004												
2003												
2002	354.40	91.56	496.80	99.20	177.60	18.62	177.60	18.62			1028.80	196.17
2001												
2000			298.00	79.64	100.00	14.33	109.00	16.36	9.00	3.00	407.00	83.19
1999			214.00	50.00	120.00	64.00	140.00	60.00	20.00	4.00	354.00	110.00
1998												
1997												
1996			128.00	32.00	202.00	86.00	212.00	84.00	10.00	2.00	340.00	116.00
1995			332.00	148.00	208.00	8.00	216.00	12.00	8.00	4.00	548.00	160.00
1994	72.00	44.00	458.00	242.00	294.00	74.00	294.00	74.00			824.00	360.00
1993												
1992	201.33	27.06	892.00	74.80	14.00	12.22	142.67	9.61	2.67	2.67	1236.00	84.32
1991	197.33	60.77	126.67	19.23	134.67	19.64	144.00	22.74	9.33	3.53	468.00	86.19
1990												

nedsunlw.d11-d05; d02; d00-99; d96-94; d91-92

Table 99. Bluegill PSD and RSD_8 values from spring electrofishing at Lake Wilgreen; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	(± 95%)	RSD_8	(± 95%)
2011	904	13	(± 2)		
2010	548	13	(± 3)		
2009	397	28	(± 4)	0	(± 0)
2008	160	28	(± 7)		
2007	465	24	(± 4)		
2006	596	14	(± 3)	1	(± 1)
2005	773	7	(± 2)	0	(± 0)
2004					
2003					
2002	843	26	(± 3)		
2001					
2000	407	27	(± 4)	2	(± 1)
1999	177	40	(± 7)	6	(± 3)
1998					
1997					
1996	170	62	(± 7)	3	(± 3)
1995	274	39	(± 6)	1	(± 1)
1994	376	39	(± 5)		
1993					
1992	776	14	(± 2)	0	(± 0)
1991	203	53	(± 7)	3	(± 3)
1990					

nedsunlw.d11-d05; d02; d00-99; d96-94; d91-92

Table 100. Population assessment of bluegill based on samples collected at Lake Wilgreen from 1990 - 2011 (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)%
2011	Value			92.80	0.00				
	Score			4	0				
2010	Value			57.60	0.00				
	Score			3	0				
2009	Value			110.00	1.00				
	Score			4	1				
2008	Value			45.00	0.00				
	Score			2	0				
2007	Value	4.8	4	88.80	0.00	9	Fair	-0.156	10.90%
	Score	3	2	4	0				
2006	Value			67.20	2.40				
	Score			3	1				
2005	Value			41.60	0.80				
	Score			2	1				
2004	Value								
	Score								
2003	Value								
	Score								
2002	Value	5.5	3	177.60	0.00	11	Good	-0.360	30.20%
	Score	4	3	4	0				
2001	Value								
	Score								
2000	Value	4.4	3	109.00	9.00	11	Good		
	Score	2	3	4	2				
1999	Value			140.00	20.00				
	Score			4	4				
1998	Value								
	Score								
1997	Value								
	Score								
1996	Value			212.00	10.00				
	Score			4	3				
1995	Value	3.90	4	216.00	8.00	10	Fair		
	Score	2	2	4	2				

Table 100 cont.

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)%
1994	Value			294.00	0.00				
	Score			4	0				
1993	Value								
	Score								
1992	Value			142.67	2.67				
	Score			4	1				
1991	Value			144.00	9.33				
	Score			4	2				
1990	Value								
	Score								

nedsunlw.d11-d05; d02; d00-99; d96-94; d91-92

Table 101. Spring electrofishing CPUE (fish/hr) for various length groups of redear sunfish collected at Lake Wilgreen from 1990-2011.

	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	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2011	2.40	1.22	12.00	5.50	24.00	8.52	24.80	8.39	0.80	0.80			39.20	13.72
2010			12.00	4.34	14.40	3.73	18.40	4.78	4.00	1.79			30.40	6.62
2009			11.00	4.77	13.00	5.64	27.00	6.58	14.00	2.51	1.00	1.00	38.00	8.52
2008	3.00	3.00	6.00	3.30	11.00	7.70	12.00	8.68	1.00	1.00			33.60	21.82
2007			0.80	0.80	15.20	4.37	16.80	4.69	1.60	1.07			22.00	4.47
2006			20.00	5.09	4.80	2.13	15.20	10.08	10.40	8.77	2.40	1.71	35.20	11.01
2005			4.00	2.46	7.20	3.67	14.40	5.69	7.20	3.47			26.29	6.46
2004														
2003														
2002			20.80	9.85	44.00	11.01	48.80	11.95	4.80	2.44			77.33	20.04
2001														
2000					5.00	2.52	18.00	12.81	13.00	10.38	3.00	1.91	18.00	12.81
1999			2.00	2.00	8.00	8.00	12.00	12.00	4.00	4.00	2.00	2.00	14.00	10.00
1998														
1997														
1996			6.00	2.00	30.00	10.00	30.00	10.00					36.00	12.00
1995			6.00	6.00	4.00	4.00	4.00	4.00					20.00	0.00
1994	2.00	2.00	8.00	4.00	8.00	4.00	12.00	4.00	4.00	0.00			22.00	10.00
1993														
1992														
1991														
1990														

nedsunlw.d11-d05; d02; d00-99; d96-94; d91-92

Table 102. Redear sunfish PSD and RSD_{10} values from spring electrofishing at Lake Wilgreen; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	(± 95%)	RSD_{10}	(± 95%)
2011	37	14	(± 11)		
2010	36	25	(± 14)		
2009	33	67	(± 16)	18	(± 13)
2008	13	31	(± 26)		
2007	22	55	(± 21)		
2006	40	38	(± 15)	20	(± 13)
2005	21	57	(± 22)	5	(± 9)
2004					
2003					
2002	81	23	(± 9)	1	(± 2)
2001					
2000	18	100	(± 0)	33	(± 22)
1999	7	57	(± 40)	14	(± 28)
1998					
1997					
1996	18	22	(± 20)		
1995	5	40	(± 48)	20	(± 39)
1994	10	30	(± 30)	10	(± 20)

nedsunlw.d11-d05; d02; d00-99; d96-94; d91-92

Table 103. Population assessment of redear sunfish based on samples collected at Lake Wilgreen from 1990 - 2011 (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)%
2011	Value			8.00	0.00				
	Score			2	0				
2010	Value			4.00	0.00				
	Score			1	0				
2009	Value			14.00	1.00				
	Score			3	1				
2008	Value			1.00	0.00				
	Score			1	0				
2007	Value	7.8	*	1.60	0.00	8	Fair		
	Score	4	3	1	0				
2006	Value			10.40	2.40				
	Score			3	2				
2005	Value			7.20	0.00				
	Score			2	0				
2004	Value								
	Score								
2003	Value								
	Score								
2002	Value			4.80	0.00				
	Score			1	0				
2001	Value								
	Score								
2000	Value			4.80	0.00				
	Score			1	0				
1999	Value			4.00	2.00				
	Score			1	2				
1998	Value								
	Score								
1997	Value								
	Score								
1996	Value			0.00	0.00				
	Score			0	0				
1995	Value			4.00	0.00				
	Score			1	0				

Table 103 cont.

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)%
1994	Value			4.00	0.00				
	Score			1	0				

* Largest fish aged was 7.9 in and was age-3. Since there has never been a fish aged that was > 8.0 in, the nedsunlw.d11-d05; d02; d00-99; d96-94; d91-92

Table 104. Length frequency and CPUE (fish/hr) for largemouth bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Lake Wilgreen on 26 September 2011.

Species	Inch class																				Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Largemouth bass	1	53	140	37	2	79	105	45	42	22	16	6	12	4	3	3	2	1		1	574	382.67	39.02

nedpsdlw.d11

Table 105. Number of fish and relative weight (W_r) for each length group of largemouth bass captured at Lake Wilgreen

	Length group								
	8.0-11.9 in			12.0-14.9 in			≥15.0 in		
Year	No.	W_r	se	No.	W_r	se	No.	W_r	se
2011	213	87	1	34	93	2	14	101	3
2010	172	84	1	44	92	1	21	98	2
2009	109	84	1	42	92	2	27	100	2
2008	203	87	4	52	89	1	9	97	4
2007	232	84	1	54	86	2	4	72	22
2006	198	90	1	86	90	1	8	96	4
2005									
2004	306	88	0	116	88	1	4	99	9
2003									
2002	119	85	1	25	83	2	3	98	4
2001									
2000									
1999									
1998									
1997	126	97	1	24	93	2	2	102	10
1996									
1995									
1994	299	96	1	25	85	1	6	93	2

nedwrslw.d11-d06, d04, d02, d97, d94

SOUTHEASTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Conditions encountered during sampling at southeastern district lakes are listed in Table 1.

Lake Cumberland (37,680 acres)

Beginning in January 2007, water levels were reduced to 680 msl to make repairs to Wolf Creek Dam. As a result, many sampling locations that were used prior to 2007 were dry and unable to be sampled. Samples from 2007-2011 were conducted in areas further downstream in the embayments. Therefore, any comparisons of the 2007-2011 data to previous results 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 2011 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. Table 7 compares the catch-per-hour by length group of black bass in Lake Cumberland to other SEFD lakes sampled in 2011.

Largemouth bass catch rates met one of the four CPUE management objectives, with the CPUE of age-1 bass exceeding the objective (Table 8). The spotted bass and smallmouth bass populations did not meet any of the four catch rate management objectives (Tables 9 and 10, respectively). Increased water levels and debris along the banks may have influenced the catch rates during the spring sampling.

Largemouth bass and smallmouth bass exhibited good size structure, with a PSD value of 58 and an RSD_{15} value of 24 for largemouth bass and a PSD value of 63 and an RSD_{14} value of 13 for smallmouth bass (Table 11). Spotted bass had a moderate size structure, with a PSD value of 29 and an RSD_{14} value of 2 (Table 11). Table 12 compares the size structure values of black bass populations in Lake Cumberland to other SEFD lakes sampled in 2011.

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). The CPUE of age-0 largemouth bass was higher in 2011 than in the previous two years. Table 15 compares the CPUE of age-0 largemouth bass in Lake Cumberland to other SEFD lakes sampled in fall 2011. 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 2011.

Crappie Sampling

Fall trap netting was conducted in the Fishing Creek and Wolf Creek embayments of Lake Cumberland during October 2011 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 2011 are shown in Tables 20 and 21, respectively. Age-1 white crappie (78%) dominated the white crappie catch (Table 22). Age-0 black crappie comprised 90% 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 white crappie assessments rated fair, and the combined assessment rated good. The crappie population met or exceeded all management objectives (Table 25). Relative weight (Wr) values for black and white crappie are shown in Table 26.

Striped Bass Sampling

Gill nets were used in December 2011 to evaluate the striped bass population in Lake Cumberland. Thirty net-nights captured 178 striped bass for a catch rate of 5.93 fish/nn. Length-frequency and CPUE of striped bass are shown in Table 27. Striped bass ranged from 12.0 to 29.0 in with the mode being the 20.0 in class (51 fish). Two of the four management objectives were met, with the CPUE of age-1 and older fish and fish ≥24.0 in exceeding the management objectives (Table 28). The age-growth data for striped bass collected during 2011 is shown in Table 29. Six year-classes were represented in the catch (Table 30). The 2009 (age 2) year class was the most abundant (55%) year class collected, which coincided with the increased (pulsed) stocking rate of 10.00 fish/acre in 2009. Mean length of age 2+ fish at capture (2009 year class) was 20.5 in, which did not meet the growth objective (21.0 in) for the striped bass fishery (Table 31). The striped bass assessment score was 9 (rating=fair; Table 31). Relative weight (Wr) values were adequate for striped bass <20.0 in, but condition values decreased as fish grew larger (Table 32). Warm water temperatures and decreased dissolved oxygen levels in the lake the last several years, coupled with the gill parasitic copepod infestation observed in 2011, have negatively affected the striped bass population.

2011 Daytime Creel Survey

A roving daytime creel survey was conducted on Lake Cumberland (50,250 acres) from 11 March-31 October 2011. The lake was split into two strata (lower and upper) and each stratum was designed as a stand-alone survey. The lower lake (Harmon Creek to Indian Creek; 25,014 acres) contained four areas, and the upper lake (Harmon Creek to the upper reaches of the lake; 25,014 acres) had eight areas. Although lake levels were reduced during the 2011 creel survey, historic acreages were used in the creel survey to allow for comparisons to past surveys. Creel data will be presented for two sections: lower lake and upper lake.

Lower Lake Cumberland Creel Survey

Results from the lower lake creel survey are shown in Tables 33-40. Fishing pressure on the lower lake declined from the 2008 survey period. Anglers made an estimated 52,770 fishing trips and expended 271,269 hours (10.84 man hours/acre) during the survey period on the lower lake in 2011. Striped bass anglers accounted for 41% of all fishing trips to the lower lake, followed by black bass (27%) and panfish (14%) anglers.

Upper Lake Cumberland Creel Survey

Results from the upper lake creel survey are shown in Tables 41-48. Fishing pressure on the upper lake portion of the lake had increased from the 2008 survey period. Anglers made an estimated 56,521 fishing trips and expended 239,335 hours (9.57 man hours/acre) during the survey period on the upper lake in 2011. Black bass anglers accounted for 34% of all fishing trips to the upper lake, followed by crappie (21%) and morone (15%) anglers.

Lower Lake Cumberland Angler Attitude Survey

An angler attitude survey was conducted in conjunction with the creel survey to gather angler opinions about the various fisheries in lower Lake Cumberland (Figure 1). A total of 191 anglers were interviewed in the lower lake. Sixty-one percent of the striped bass anglers were satisfied with the striped bass fishery in the lower lake, with the size of fish being the number one reason for angler dissatisfaction.

Fifty-two percent of the black bass anglers were satisfied with the black bass fishery in the lower lake. The most common response for angler dissatisfaction was the number of fish.

Seventy-one percent of the crappie anglers were satisfied with the crappie fishing in the lower lake. Fifty-eight percent of the responses listed number of fish as the reason for the dissatisfaction with the crappie fishery.

Sixty-two percent of the walleye anglers were satisfied with the walleye fishery in the lower lake. The most common response for angler dissatisfaction was the number of fish.

Ninety-three percent of the catfish anglers were satisfied with catfish fishing in lower Lake Cumberland.

The number of fish was the only response listed as a reason for angler dissatisfaction.

Seventy-seven percent of anglers on the lower lake would support a regulation that limits the use of angler-caught live bait to the body of water where the fish were collected from.

Upper Lake Cumberland Angler Attitude Survey
An angler attitude survey was conducted in conjunction with the creel survey to gather angler opinions about the various fisheries in upper Lake Cumberland (Figure 2). A total of 295 anglers were interviewed in the upper lake. Approximately 88% of the striped bass anglers were satisfied with striped bass fishing in the upper lake, with the size of fish being the main reason for angler dissatisfaction.

Eighty-five percent of the black bass anglers were satisfied with the black bass fishery in the upper lake, and anglers listed the number of fish being the main reason for dissatisfaction.

Eighty percent of the crappie anglers were satisfied with the crappie fishing in the upper portion of Lake Cumberland. The most common reason for angler dissatisfaction was the response not happy with regulations.

Nearly 100% of walleye anglers were satisfied with the walleye fishing in the upper lake. One-hundred percent of the catfish anglers were satisfied with the catfish fishing in the upper portion of Lake Cumberland.

Ninety-five percent of anglers on the upper lake would support a regulation that limits the use of angler-caught live bait to the body of water where the fish were collected from.

Laurel River Lake (6,060 acres)

Black Bass Sampling (Spring)
Nocturnal electrofishing sampling was conducted during April and May 2011 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 49. The catch-per-hour (by area and length group) of the three black bass species is shown in Tables 50-53. Table 7 compares the catch-per-hour by length group of black bass in Laurel River Lake to other SEFD lakes sampled in 2011.

Although the largemouth bass population met three of the four catch rate objectives, the CPUE of age-1 largemouth bass failed to meet the management objective (Table 54). Spotted bass met two of the four catch rate management objectives, with the catch rates of 11.0-13.9 in fish (7.50 fish/hr) and the CPUE of ≥14.0 in (2.00 fish/hr) exceeding the management objectives (Table 55). The smallmouth bass population met one of the four management objectives, with the CPUE of ≥17.0 in fish (0.67 fish/hr) meeting the management objective (Table 56).

Largemouth bass exhibited an excellent size structure, with a PSD value of 70 and an RSD_{15} value of 30, (Table 57). Spotted and smallmouth bass exhibited good size structure, with spotted bass having a PSD of 43 and an RSD_{14} of 9 and smallmouth bass having a PSD value of 38 and an RSD_{14} value of 24 (Table 57). Table 12 compares the size structure values of black bass populations in Laurel River Lake to other SEFD lakes sampled in 2011.

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted in the Laurel River arm during September 2011 to index largemouth bass year class strength (Tables 58 and 59). Although the CPUE of age-0 largemouth bass in 2011 was higher than catch rates observed over the last four years, the low age-0 catch rate resulted in the lake receiving a supplemental stocking of 49,480 4.0-in fingerlings in October 2011 to bolster the low year class. Relative weight (Wr) values for largemouth and spotted bass collected during September sampling

are shown in Table 60.

Walleye Sampling
Gill nets were used in November 2011 to evaluate the walleye population in Laurel River Lake. A total of 249 walleye were captured in 16 net-nights for a catch rate of 15.56 fish/nn. Length frequency and CPUE of walleye is shown in Table 61. Walleye ranged from 9.0-26.0 in with the mode being the 18.0 in class (68 fish). Two of the three catch rate management objectives for walleye were met, with the CPUE of age-1 walleye (1.21 fish/nn) failing to meet the objective of 4.0 fish/nn (Table 62). Mean length of age 2+ walleye at capture (19.1 in) surpassed the growth objective of 18.0 in (Table 62). Age-growth data for male and female walleye are shown in Tables 63 and 64, respectively. The age-growth for both sexes combined is shown in Table 65. Ten year-classes were represented in the catch, with the 2009 year class (age 2; 50%) being most abundant (Table 66). The walleye assessment score was 14 (rating=excellent; Table 67). Relative weight (Wr) values for walleye are shown in Table 68.

Dale Hollow Lake (6,746 acres; Kentucky portion)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 24 May 2011 in the Illwill Creek and Little Sulphur Creek embayments of Dale Hollow Lake to assess the black bass population. Length frequency and CPUE for the three black bass species are shown in Table 69. The catch-per-hour by length group of the three black bass species are shown in Tables 70-72. The size structure of smallmouth bass was excellent, having a PSD value of 67 (RSD_{14}=43; Table 73). Largemouth and spotted bass exhibited moderate size structure, with largemouth bass having a PSD value of 38 (RSD_{15}=14) and spotted bass having a PSD value of 23 (RSD_{14}=4; Table 73). Age-growth for largemouth bass collected during 2011 is shown in Table 74. Seven year-classes were represented, with the age-2 year class comprising 61% of the largemouth bass catch (Table 75). The largemouth bass population assessment score was 7 (rating=poor; Table 76). Age-growth for spotted bass collected during 2011 is shown in Table 77. Six year-classes were represented, with ages 1-3 comprising 91% of the spotted bass catch (Table 78). The spotted bass population assessment score was 13 (rating=good; Table 79).

Cedar Creek Lake (784 acres; Lincoln Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 16 May 2011 to assess the largemouth bass population in Cedar Creek Lake. The length-frequency and CPUE of largemouth bass is shown in Table 80. Size structure of largemouth bass was good (PSD=57, RSD_{15}=25; Table 81). The catch-per-hour (by area and length group) of largemouth bass for 2003-2011 is shown in Table 82. All of the CPUE management objectives for the largemouth bass population were exceeded (Table 83).

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted on 22 September 2011 to index the largemouth bass year-class strength (Tables 84 and 85). Catch rates of age-0 bass in 2011 had decreased over catch rates observed in 2010 (Table 85). Relative weight (Wr) values for largemouth bass are found in Table 86.

Bluegill/Redear Sunfish Sampling
Daytime electrofishing was conducted on 16 June 2011, in conjunction with the Black Bass Research (BBR) section, 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 87. The catch-per-hour (by size group) of bluegill and redear sunfish is shown in Table 88. PSD and RSD values are shown in Table 89.

Chenoa Lake (35 acres; Bell Co.)

Largemouth Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 9 May 2011 at Chenoa Lake to assess the largemouth bass population. Length frequency and CPUE for largemouth bass is shown in Table 90. Catch-per-hour (by length group) for largemouth bass is shown in Table 91. The largemouth bass size structure was good, with a PSD value of 67 (RSD_{15}=8; Table 92). Age-growth data from largemouth bass collected in 2011 is shown in Table 93. Eleven year classes were represented in the catch (Table 94). The largemouth bass assessment score was 10 (rating=fair; Table 95).

Bluegill/Redear Sunfish Sampling
Daytime electrofishing was conducted on 15 June 2011 at Chenoa Lake to assess the bluegill and redear sunfish populations. Length-frequency and CPUE for bluegill and redear sunfish is shown in Table 96. Catch-per-hour (by length group) for bluegill and redear sunfish is in Table 97. The bluegill population exhibited a fair size structure (PSD=32, RSD_8=1; Table 98). The redear sunfish population exhibited a good size structure with a PSD of 33 (RSD_9=20; Table 98).

Channel Catfish Sampling
Channel catfish sampling using tandem hoop nets was conducted at Chenoa Lake in October 2011. Sixty-eight channel catfish were collected. The length-frequency of the channel catfish is shown in Table 99.

Laurel Creek Reservoir (43 acres; McCreary Co.)

Channel Catfish Sampling
Channel catfish sampling using tandem hoop nets was conducted at Laurel Creek Reservoir in October 2011. No channel catfish were collected during sampling.

Lake Linville (358 acres; Rockcastle Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 12 May 2011 at Lake Linville to assess the black bass population. Length frequency and CPUE for the black bass populations are shown in Tables 100-102. A population assessment for largemouth bass is shown in Table 103. Two of the four catch rate management objectives were met, with the catch rates of >15.0 in and >20.0 in largemouth bass failing to meet the management objectives (Table 103). The size structure for the largemouth bass population is poor, with a PSD value of 22 (RSD_{15}=7), and the spotted bass population is also comprised of small individuals (PSD=17, RSD_{14}=2; Table 104).

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted on 3 October 2011 to index the largemouth bass year-class strength (Tables 105 and 106). Catch rates of age-0 largemouth bass in 2011 declined for the second straight year (Table 106). Table 15 compares the CPUE of age-0 largemouth bass in Lake Linville to other SEFD lakes sampled in 2011. Relative weight values for largemouth bass and spotted bass are in Table 107.

Wood Creek Lake (625 acres; Laurel Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 4 May 2011 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 108. The size structure for largemouth bass was fair, having a PSD value of 39 (RSD_{15}=16; Table 109). The spotted bass population had a poor size structure (PSD=17, RSD_{14}=0; Table 109). Catch-per-hour (by length group) for largemouth and spotted bass are shown in Tables 110 and 111, respectively.

A largemouth bass population assessment is shown in Table 112. With the exception of the CPUE of age-1 largemouth bass, the remaining catch rate management objectives were not met (Table 112). Age-growth data from spotted bass collected in 2011 is shown in Table 113. Eight year classes were represented in the catch, with age-2 spotted bass comprising 45% of the spotted bass catch (Table 114). The spotted bass assessment score was 6 (rating=poor; Table 115).

Black Bass Sampling (Fall)

Nocturnal electrofishing was conducted on 20 September 2011 in the Dam, Pump Station, and Dock areas of Wood Creek Lake to index largemouth bass year class strength (Tables 116 and 117). Catch rates of age-0 largemouth bass in 2011 were lower than 2010 (Table 117). As a result of the low age-0 catch rate, the lake received a supplemental stocking of 10,087 4.0-in fingerlings in October 2011 to bolster the low year class. Table 15 compares the CPUE of age 0 largemouth bass in Wood Creek Lake to other SEFD lakes sampled in 2011. Relative weight values for largemouth and spotted bass are in Table 118.

Table 1. Summary of sampling conditions by waterbody, species sampled, and date for the Southeastern Fisheries District in 2011.

Water body	Location	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Lake Cumberland											all 2011 samples for all species conducted under reduced water levels due to dam repairs, which altered sampling locations
	Dam	Black bass	4/20/2011	1945	shock	mostly clear, 60s	58	712	30-36	fair	lot of woody debris along shore, volunteer dipper
	Harmon Creek	Black bass	4/19/2011	1930	shock	clear, warm, windy	58	712	54	fair	water clear, open water choppy, debris along shore
	Fishing Creek	Black bass	5/19/2011	2030	shock	cloudy, upper 60s	68	716	24	fair	water brownish and slightly murky, shocked areas sampled prior to drawdown
	Lily Creek	Black bass	5/5/2011	2000	shock	clear, 60s, nice	66	726	24-48	fair	debris along bank, water murky in upper section
	Fishing Creek	Black bass	9/21/2011	1930	shock	clear, 70s, rain early in day	76	683	42	good	
	Fishing Creek	Crappie	10/24-10/27		trap net	sun, clouds, rain, 60s	61	683	-	good	
	Wolf Creek	Crappie	10/24-10/27		trap net	sun, clouds, rain, 60s	63	683	48-54	good	
	Beaver Creek	Striped bass	12/13/-12/15		gill net	cloudy, rain, windy	51	699	48-60	fair	water greenish with a slight murkiness
	Lily/Wolf/Caney	Striped bass	12/13/-12/15		gill net	cloudy, rain, windy, 50s	51	699	36	fair	lake levels falling
Laurel River Lake											
	Dam	Black bass	4/14/2011	1930	shock	clear, 70s	62	1015	120	good	water clear and calm
	Spruce Creek	Black bass	4/19/2011	2000	shock	clear, breezy, warm 70s	60	1014	36	good	murky, green
	Craig's Creek	Black bass	4/25/2011	2000	shock	70s, breezy, thin clouds	63	1013	60	good	green, clearish
	312 Bridge	Black bass	5/11/2011	2000	shock	sunny, warm 80s	79	1012	30	good	murky, brownish coffee colored but clearish
	312 Bridge	Black bass	9/13/2011	2000	shock	clear, 80s, nice	79	1009	48	good	water green and looks good
	Entire lake	Walleye	11/16-11/18		gill net	sunny, windy, cool	55	1007	-	good	rain earlier in the week
Dale Hollow											
	Illwill	Black bass	5/24/2011	2000	shock	partly cloudy	73	full	72	fair	high water, green, slightly murky, water in trees
	Little Sulphur	Black bass	5/24/2011	2015	shock	cloudy, rain early in day	74	653	48	fair	largemouth bass skinny
Cedar Creek Lake		LMB	5/16/2011	2020	shock	cloudy, clearing late, 50s	66	full	12-18	fair	water murky, coffee colored
		LMB	9/22/2011	1950	shock	cloudy, rain in the area, 70s	75	normal	48	good	
		BLG/redear	6/16/2011	900	shock	sunny, clear	76	full	24-36	fair	lots of coontail and naiads, water murky brownish green
Chenoa Lake		LMB	5/9/2011	2015	shock	clear, warm 70s	71	full	60	good	slightly murky
		BLG/redear	6/15/2011	830	shock	sunny, clear, 60s	77	full	90	fair	watershield made sampling difficult
		Catfish	10/18-10/21		hoop net	partly cloudy	61	normal	36	good	water greenish brown
Laurel Creek Reservoir		Catfish	10/4-10/7		hoop net	sunny, 60s in morning	62	normal	156	good	
Lake Linville		Black Bass	5/12/2011	2030	shock	warm, humid, upper 70s	80	full	18	fair	murky
		Black Bass	10/3/2011	1930	shock	mostly clear, 60s	63	normal	42	good	water green
Wood Creek Lake		Black bass	5/4/2011	2000	shock	mostly clear, cool	62	full	36-108	good	two crews; water slightly murky on upper end; volunteer dippers
		Black bass	9/20/2011	2000	shock	increasing clouds, 70s	73	normal	72-132	good	two crews; water clear, greenish

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.00 hours of 15-minute nocturnal electrofishing runs for black bass in Lake Cumberland during April and May 2011; standard error is in parentheses.

		Inch class																		
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	19	20	Total	CPUE
Dam	Largemouth bass			1	2	1	1		1	1		1	2	1		1	1	1	14	9.33 (4.22)
	Spotted bass	2	1	2	3	6	8	6	5	10	13	4	1	1					62	41.33 (13.77)
	Smallmouth bass			1					1										2	1.33 (0.84)
Harmon Creek	Largemouth bass			1	2	2	1	1		1		3				2			13	8.67 (3.78)
	Spotted bass	2	1	1	3	3	7	7	10	1									35	23.33 (5.21)
	Smallmouth bass			1		1					2	1							5	3.33 (1.23)
Fishing Creek	Largemouth bass		6	5	6	4	4	4	10	10	6	4	2	4	1	2			68	45.33 (21.43)
	Spotted bass				1	2	4	4	2	1									14	9.33 (3.96)
	Smallmouth bass							1											1	0.67 (0.67)
Lily Creek	Largemouth bass				2	2	1	1	1	2	3	5	5	1	5	1	2		31	20.67 (8.29)
	Spotted bass	11	5	4	1	4	10	8	2	4	1								50	33.33 (6.82)
	Smallmouth bass											1				1			2	1.33 (0.84)
Total	Largemouth bass		6	7	12	9	7	6	12	14	9	13	9	6	6	6	3	1	126	21.00 (6.33)
	Spotted bass	15	7	7	8	15	29	25	19	16	14	4	1	1					161	26.83 (4.62)
	Smallmouth bass			2		1		1	1		2	2				1			10	1.67 (0.48)

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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 2007-2011.

Species/Area	Stock					Quality					Preferred				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Largemouth bass															
Dam	7.20	14.67	6.00	20.00	6.67	6.40	11.33	4.00	14.00	4.67	4.00	8.67	1.33	9.33	2.67
Harmon Creek	4.65	2.00	2.00	16.00	5.33	4.00	1.33	2.00	10.67	3.33	3.33	0.67	2.00	5.33	1.33
Fishing Creek	154.00	138.00	74.67	102.67	31.33	111.33	106.67	46.00	47.33	12.67	42.67	43.33	20.00	16.00	4.67
Lily Creek	28.00	42.00	22.67	52.00	18.00	18.00	33.33	14.67	25.33	14.67	9.33	19.33	9.33	12.00	6.00
Mean	48.48	49.17	26.33	47.67	15.33	34.95	38.17	16.67	24.33	8.83	14.80	18.00	8.17	10.67	3.67
Spotted bass															
Dam	78.40	86.67	34.67	46.67	36.00	54.40	35.33	14.67	23.33	19.33	24.00	12.67	2.00	2.00	1.33
Harmon Creek	74.67	32.00	22.67	40.67	18.67	20.00	4.00	7.33	10.00	0.67	4.67	0.67	0.67	0.67	0.00
Fishing Creek	18.67	26.00	6.00	14.00	8.67	0.67	3.33	2.00	2.67	0.67	0.00	0.00	0.00	0.67	0.00
Lily Creek	48.00	88.00	90.00	94.00	19.33	12.67	38.67	20.00	16.00	3.33	2.00	6.67	1.33	0.00	0.00
Mean	54.93	58.17	38.33	48.83	20.67	21.93	20.33	11.00	13.00	6.00	7.68	5.00	1.00	0.83	0.33
Smallmouth bass															
Dam	36.80	16.67	4.00	12.00	0.67	12.80	7.33	0.67	6.00	0.00	2.40	4.00	0.67	5.33	0.00
Harmon Creek	22.67	8.67	3.33	17.33	2.67	9.33	7.33	2.00	12.00	2.00	3.33	6.00	1.33	9.33	0.00
Fishing Creek	0.00	0.00	0.67	0.67	0.67	0.00	0.00	0.67	0.67	0.00	0.00	0.00	0.67	0.00	0.00
Lily Creek	0.67	2.67	3.33	4.00	1.33	0.00	0.67	0.00	0.67	1.33	0.00	0.67	0.00	0.00	0.67
Mean	15.03	7.00	2.83	8.50	1.33	5.53	3.83	0.83	4.83	0.83	1.43	2.67	0.67	3.67	0.17

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 2011.

	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.
2011	5.67	2.73	6.50	2.20	5.17	1.69	3.67	1.07	0.17	0.17	21.00	6.33
2010	12.33	2.98	23.33	5.26	13.67	3.28	10.67	2.04	0.50	0.28	60.00	11.65
2009	20.33	6.46	9.67	3.45	8.50	2.76	8.17	2.25	0.50	0.28	46.67	12.52
2008	7.33	2.33	11.00	2.84	20.17	5.73	18.00	3.96	0.17	0.17	56.50	13.17
2007	8.35	3.17	14.09	4.49	20.87	7.13	15.30	4.09	0.52	0.29	58.61	18.06
2006	0.83	0.42	6.17	2.17	8.83	3.06	10.17	2.63	0.50	0.28	26.00	7.61
2005	0.80	0.45	1.60	0.68	9.87	3.60	5.47	1.25	0.00	0.00	17.73	5.21
2004	0.80	0.30	5.20	1.46	6.93	1.38	6.53	1.59	0.00	0.00	19.50	4.00
2003	2.00	0.78	5.71	1.39	6.14	1.86	8.29	1.90	0.14	0.14	22.14	4.31
2002	0.40	0.22	1.87	0.57	7.73	2.52	6.27	0.99	0.13	0.13	16.30	3.30

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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 2011.

	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.
2011	8.67	1.71	12.17	2.05	5.67	2.36	0.33	0.23	0.00	0.00	26.83	4.62
2010	28.33	3.98	26.67	5.49	12.17	2.64	0.83	0.42	0.00	0.00	68.00	9.20
2009	22.67	4.28	20.50	5.14	10.00	2.11	1.00	0.43	0.00	0.00	54.17	10.25
2008	34.67	4.49	26.67	3.67	15.33	4.03	5.00	2.14	0.00	0.00	81.67	11.08
2007	27.13	6.84	27.48	4.96	13.57	3.56	6.96	2.69	0.35	0.24	75.13	13.48
2006	12.00	2.53	16.50	2.30	13.83	2.97	8.00	2.10	0.17	0.17	50.33	7.09
2005	16.27	3.59	9.47	1.40	11.20	2.02	3.07	1.15	0.00	0.00	40.00	6.29
2004	15.60	2.69	25.47	3.91	10.53	2.08	1.87	0.66	0.00	0.00	53.50	7.80
2003	32.57	5.45	31.60	3.80	9.10	1.50	2.90	0.80	0.00	0.00	76.10	8.60
2002	8.10	1.80	10.30	1.70	5.20	1.10	1.50	0.50	0.00	0.00	25.10	3.70

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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 2011.

	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.
2011	0.50	0.37	0.33	0.23	0.67	0.31	0.17	0.17	0.17	0.17	1.67	0.48
2010	2.83	0.66	2.50	0.83	1.17	0.38	3.67	1.20	2.33	0.96	10.17	1.85
2009	3.50	1.28	1.50	0.58	0.17	0.17	0.67	0.31	0.17	0.17	5.83	1.46
2008	5.17	1.79	2.00	0.80	1.17	0.51	2.67	0.95	0.83	0.42	11.00	2.76
2007	6.78	2.64	7.13	2.35	3.83	1.29	1.39	0.60	0.52	0.38	19.13	5.43
2006	2.50	0.86	1.17	0.38	0.33	0.33	0.33	0.23	0.17	0.17	4.33	1.15
2005	2.27	0.87	0.80	0.56	1.33	0.48	3.87	1.50	1.33	0.70	8.27	2.32
2004	2.93	1.83	1.87	0.87	1.20	0.51	1.33	0.65	0.00	0.00	7.33	3.10
2003	2.14	0.95	3.86	1.14	1.57	0.56	3.43	1.12	1.00	0.44	11.00	2.70
2002	2.93	1.10	3.47	1.33	2.40	0.76	0.93	0.46	0.13	0.13	9.70	2.90

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Table 7. Catch-per-hour of black bass captured during spring electrofishing on lakes in the Southeastern Fishery District during 2011.

Species/Lake	Stock*	Quality*	Preferred*
Largemouth bass			
Lake Cumberland	15.33	8.83	3.67
Laurel River Lake	66.50	46.67	20.00
Dale Hollow Lake	16.67	6.33	2.33
Cedar Creek Lake	130.00	74.57	32.86
Chenoa Lake	107.20	72.00	8.80
Linville Lake	140.00	31.33	9.33
Wood Creek Lake	61.67	24.00	9.67
Spotted bass			
Lake Cumberland	20.67	6.00	0.33
Laurel River Lake	22.00	9.50	2.00
Dale Hollow Lake	30.33	7.00	1.33
Linville Lake	64.00	10.67	1.33
Wood Creek Lake	15.67	2.67	0.00
Smallmouth bass			
Lake Cumberland	1.33	0.83	0.17
Laurel River Lake	3.50	1.33	0.83
Dale Hollow Lake	7.00	4.67	3.00
Wood Creek Lake	0.33	0.00	0.00

*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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sedpsdlr.d11
sedpsddh.d11
bbrpsccl.d11
sedpsdcl.d11
sedpsdll.d11
sedpsdwc.d11

Table 8. Population assessment for largemouth bass based on spring electrofishing at Lake Cumberland from 1990-2011.

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	Assessement rating
Management objective		≥13.0 in	≥5.00 fish/hr	≥10.00 fish/hr	≥8.00 fish/hr	≥0.50 fish/hr		
2011	Value	13.4	6.83	5.17	3.67	0.17		
	Score	4	1	1	1	1	8	F
2010	Value	13.4	11.50	13.67	10.67	0.50		
	Score	4	1	1	2	2	10	F
2009	Value	13.4	25.67	8.50	8.17	0.50		
	Score	4	2	1	2	2	11	F
2008	Value	13.4	10.00	20.17	18.00	0.17		
	Score	4	1	2	3	1	11	F
2007	Value	13.4	10.26	20.87	15.30	0.52		
	Score	4	1	2	3	2	12	G
2006	Value	13.6	1.17	8.83	10.17	0.50		
	Score	4	1	1	2	2	10	F
2005	Value	13.6	1.20	9.90	5.50	0.00		
	Score	4	1	1	2	0	8	F
2004	Value	13.6	1.10	7.00	6.50	1.00		
	Score	4	1	1	2	2	10	F
2003	Value	13.6	3.00	6.10	8.30	0.14		
	Score	4	1	1	2	1	9	F
2002	Value	13.6	0.40	7.60	6.40	0.13		
	Score	4	1	1	2	1	9	F
2001	Value	13.5	2.90	7.70	5.20	0.27		
	Score	4	1	1	2	2	10	F
2000	Value	13.5	2.80	9.50	5.20	0.27		
	Score	4	1	1	2	2	10	F
1999	Value	13.5	9.50	13.30	11.70	0.38		
	Score	4	1	1	2	2	10	F
1997	Value	13.5	2.60	29.50	18.60	0.44		
	Score	4	1	3	3	2	13	G
1996	Value	13.5	1.70	9.60	9.60	0.46		
	Score	4	1	1	2	2	10	F
1995	Value	13.5	1.50	21.70	13.90	0.38		
	Score	4	1	2	3	2	12	G
1993	Value	13.5	1.80	20.50	4.40	0.10		
	Score	4	1	2	2	1	10	F
1992	Value	13.5	3.70	27.10	4.40	0.17		
	Score	4	1	3	2	1	11	F
1991	Value	13.5	5.70	11.80	3.90	0.13		
	Score	4	1	1	1	1	8	F
1990	Value	13.5	19.60	10.10	4.20	0.00		
	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 1990-2011.

Year		Mean length age-3 at capture	Spring CPUE age 1	Spring CPUE 11.0-13.9 in	Spring CPUE ≥14.0 in	Spring CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥9.6 in	≥4.00 fish/hr	≥7.00 fish/hr	≥2.00 fish/hr	≥0.10 fish/hr		
2011	Value	11.0	3.92	5.67	0.33	0.00		
	Score	4	2	3	3	0	12	G
2010	Value	11.0	9.67	12.17	0.83	0.00		
	Score	4	3	4	3	0	14	G
2009	Value	11.0	6.83	10.00	1.00	0.00		
	Score	4	2	4	3	0	13	G
2008	Value	11.0	8.83	15.33	5.00	0.00		
	Score	4	3	4	4	0	15	G
2007	Value	11.4	1.30	13.57	6.96	0.35		
	Score	4	2	4	4	3	17	E
2006	Value	11.4	1.83	13.83	8.00	0.17		
	Score	4	2	4	4	2	16	G
2005	Value	11.4	5.10	11.20	3.10	0.00		
	Score	4	2	4	4	0	14	G
2004	Value	11.4	6.00	10.50	1.90	0.00		
	Score	4	2	4	3	0	13	G
2003	Value	11.4	16.70	9.10	2.90	0.00		
	Score	4	3	4	4	0	15	G
2002	Value	11.4	5.10	5.20	1.50	0.00		
	Score	4	2	3	3	0	12	G
2001	Value	11.4	2.10	4.70	1.60	0.00		
	Score	4	2	3	3	0	12	G
2000	Value	11.4	1.90	5.60	1.20	0.00		
	Score	4	2	3	3	0	12	G
1999	Value	11.4	3.00	11.20	3.00	0.13		
	Score	4	2	4	4	2	16	G
1997	Value	11.4	6.00	6.70	1.90	0.00		
	Score	4	2	3	3	0	12	G
1996	Value	11.4	1.00	6.60	1.30	0.00		
	Score	4	2	3	3	0	12	G
1995	Value	11.4	1.30	2.30	0.60	0.00		
	Score	4	2	3	3	0	12	G
1993	Value	11.4	0.70	2.70	0.00	0.00		
	Score	4	1	3	0	0	8	F
1992	Value	11.4	0.70	2.70	0.40	0.00		
	Score	4	1	3	3	0	11	F
1991	Value	11.4	1.30	1.30	0.00	0.00		
	Score	4	2	2	0	0	8	F
1990	Value	11.4	3.50	1.20	0.00	0.00		
	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 1990-2011.

Year		Mean length age-3 at capture	Spring CPUE age 1	Spring CPUE 11.0-13.9 in	Spring CPUE ≥14.0 in	Spring CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥11.0 in	≥2.00 fish/hr	≥3.00 fish/hr	≥2.00 fish/hr	≥0.50 fish/hr		
2011	Value	11.3	0.00	0.67	0.17	0.17		
	Score	3	0	2	2	2	9	F
2010	Value	11.3	0.67	1.17	3.67	2.33		
	Score	3	2	3	4	4	16	G
2009	Value	12.2	1.83	0.17	0.67	0.17		
	Score	4	3	2	3	2	14	G
2008	Value	12.2	2.50	1.17	2.67	0.83		
	Score	4	4	3	4	4	19	E
2007	Value	12.2	2.61	3.83	1.39	0.52		
	Score	4	4	4	4	4	20	E
2006	Value	12.2	0.00	0.33	0.33	0.17		
	Score	4	0	2	2	2	10	F
2005	Value	12.2	0.80	1.30	3.90	1.33		
	Score	4	2	3	4	4	17	E
2004	Value	9.6	1.90	1.20	1.30	0.00		
	Score	2	3	3	4	0	12	G
2003	Value	9.6	1.30	1.60	3.40	1.00		
	Score	2	3	3	4	4	16	G
2002	Value	9.6	1.70	2.40	0.90	0.13		
	Score	2	3	3	3	2	13	G
2001	Value	9.6	0.50	0.40	0.90	0.53		
	Score	2	2	2	3	4	13	G
2000	Value	9.6	0.00	1.40	1.10	0.00		
	Score	2	0	3	4	0	9	F
1999	Value	9.6	0.50	2.60	2.50	0.75		
	Score	2	2	4	4	4	16	G
1997	Value	9.6	6.10	3.80	1.30	0.33		
	Score	2	4	4	4	3	17	E
1996	Value	9.6	0.10	3.20	2.50	0.80		
	Score	2	1	4	4	4	15	G
1995	Value	9.6	6.70	7.40	4.00	1.52		
	Score	2	4	4	4	4	18	E
1993	Value	9.6	0.70	2.20	1.10	0.19		
	Score	2	2	3	4	2	13	G
1992	Value	9.6	0.80	4.70	1.80	0.25		
	Score	2	2	4	4	3	15	G
1991	Value	9.6	3.20	5.50	2.30	0.76		
	Score	2	4	4	4	4	18	E
1990	Value	9.6	5.20	4.00	1.30	0.65		
	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 2011; 95% confidence limits are in parentheses.

Area	Species	No. ≥ stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Dam	Largemouth bass	10	70 (± 30)	40 (± 32)
	Spotted bass	54	54 (± 13)	4 (± 5)
	Smallmouth bass	1	0 (± 0)	0 (± 0)
Harmon Creek	Largemouth bass	8	63 (± 36)	25 (± 32)
	Spotted bass	28	4 (± 7)	0 (± 0)
	Smallmouth bass	4	75 (± 49)	0 (± 0)
Fishing Creek	Largemouth bass	47	40 (± 14)	15 (± 10)
	Spotted bass	13	8 (± 15)	5 (± 9)
	Smallmouth bass	1	0 (± 0)	0 (± 0)
Lily Creek	Largemouth bass	27	81 (± 15)	33 (± 18)
	Spotted bass	29	17 (± 14)	0 (± 0)
	Smallmouth bass	2	100 (± 0)	50 (± 98)
Total	Largemouth bass	92	58 (± 10)	24 (± 9)
	Spotted bass	124	29 (± 8)	2 (± 2)
	Smallmouth bass	8	63 (± 36)	13 (± 25)

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

sedpsdcb.d11

Table 12. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Lake Cumberland, Laurel River Lake, Cedar Creek Lake, Laurel Creek Reservoir, Liberty Lake, Lake Linville, Stanford Reservoir, and Wood Creek Lake during 2011; 95% confidence limits are in parentheses.

	Largemouth bass		Smallmouth bass		Spotted bass	
Lake	PSD	RSD_{15}	PSD	RSD_{14}	PSD	RSD_{14}
Lake Cumberland	58 (±10)	24 (±9)	63 (±36)	13 (±25)	29 (±8)	2 (±2)
Laurel River Lake	70 (±4)	30 (±5)	38 (±21)	24 (±19)	43 (±8)	9 (±5)
Dale Hollow Lake	38 (±14)	14 (±10)	67 (±21)	43 (±22)	23 (±9)	4 (±4)
Cedar Creek Lake	57 (±5)	25 (±4)				
Chenoa Lake	67 (±8)	8 (±5)				
Lake Linville	22 (±6)	7 (±3)			17 (±7)	2 (±3)
Wood Creek Lake	39 (±7)	16 (±5)	0 (± 0)	0 (± 0)	17 (±11)	0 (± 0)

sedpsdcb.d11
sedpsdlr.d11
sedpsddh.d11
bbrpsccl.d11
sedpsdcl.d11
sedpsdll.d11
sedpsdwc.d11

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 21 September 2011; standard error is in parentheses.

	Inch class														
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE
Largemouth bass	6	6	7	45	79	28	3	2	2	3	2	4	3	190	126.67 (29.46)
Spotted bass		2			1	4	10	2		1				20	13.33 (9.39)
Smallmouth bass							1							1	0.67 (0.67)

sedyoycb.d11

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 at 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
2011	Fishing Creek	6.1	0.08	114.67	25.12	102.00	23.18		
2010	Fishing Creek	5.8	0.11	85.33	9.39	67.33	8.35	16.67	11.47
2009	Fishing Creek	4.8	0.16	42.00	9.45	22.67	6.42	21.33	6.59
2008	Fishing Creek	5.0	0.08	166.00	40.12	80.67	31.30	81.33	13.45
2007	Fishing Creek	5.0	0.29	4.67	3.17	2.67	1.33	24.92	5.50
2006	Fishing Creek	6.3	0.17	22.00	3.06	20.67	2.40	32.00	8.20
2005	Fishing Creek	6.2	0.16	14.00	4.47	13.30	4.09	3.33	1.23
2004	Fishing Creek	6.2	0.14	50.70	8.18	41.30	7.35	4.00	2.07
2003	Fishing Creek	5.8	0.42	6.00	2.68	4.00	2.53	1.30	0.80
2002	Fishing Creek	6.0	0.07	192.70	36.67	160.70	36.32	4.00	1.46

[a] Age-1 largemouth bass CPUE based only Fishing Creek location
sedyoycb.d11

Table 15. Year class strength at age 0 and mean lengths (in) of largemouth bass collected in September and October 2011 in electrofishing samples at Lake Cumberland, Laurel River Lake, Wood Creek Lake, Cedar Creek Lake, and Lake Linville.

		Age 0		Age 0		Age 0 ≥5.0 in	
Lake	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error
Lake Cumberland	Fishing Creek	6.1	0.08	114.67	25.12	102.00	23.18
Laurel River Lake	Laurel River Arm	4.1	0.29	10.67	5.63	3.33	1.91
Cedar Creek Lake		4.2	0.10	27.14	4.04	6.00	1.07
Lake Linville		5.4	0.11	38.67	16.02	25.33	11.44
Wood Creek Lake		4.0	0.11	12.33	4.13	0.67	0.67

sedyoycb.d11
sedyoylr.d11
bbrwrccl.d11
sedyoyll.d11
sedyoywc.d11

Table 16. Number of fish and mean relative weight (Wr) for each length group of black bass collected in Fishing Creek of Lake Cumberland during 21 September 2011. 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
	7	95 (2)	9	98 (2)	0	-
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	16	97 (2)	1	93 (-)	0	-

sedyoycb.d11

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, Lake Linville, and Wood Creek Lake during September and October 2011. 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)	7	95 (2)	9	98 (2)	0	-
	Laurel River Lake (Laurel River Arm)	32	97 (2)	6	97 (2)	0	-
	Cedar Creek Lake	267	86 (0)	105	89 (1)	41	91 (2)
	Lake Linville	134	84 (1)	62	89 (1)	0	-
	Wood Creek Lake	151	86 (1)	24	85 (2)	15	93 (3)
Spotted bass		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	Lake Cumberland (Fishing Creek)	16	97 (2)	1	93 (-)	0	-
	Laurel River Lake (Laurel River Arm)	27	108 (23)	5	110 (3)	2	102 (2)
	Lake Linville	71	86 (1)	38	88 (1)	3	82 (5)
	Wood Creek Lake	47	98 (1)	10	92 (2)	0	-

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sedyoylr.d11
bbrwrccl.d11
sedyoyll.d11
sedyoywc.d11

Table 18. Length frequency and CPUE (fish/nn) for each species of crappie collected in the Wolf Creek (26 net-nights) and Fishing Creek (27 net-nights) embayments of Lake Cumberland in 53 net-nights from 25-27 October 2011.

		Inch class													
Area	Species	2	3	4	5	6	7	8	9	10	11	12	Total	CPUE	Std. error
Fishing Creek															
	White crappie		3	8	2	44	26	30	16	17	3	2	151	5.59	1.09
	Black crappie	16	86	8	37	25	2	1	1	2			178	6.59	1.86
Wolf Creek															
	White crappie					1	1	2	1	2			7	0.27	0.09
	Black crappie	362	754	6	5	11	29	10	7	14			1198	46.08	30.70
Total															
	White crappie		3	8	2	45	27	32	17	19	3	2	158	2.98	0.66
	Black crappie	378	840	14	42	36	31	11	8	16			1376	25.96	15.19

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Table 19. PSD and RSD_{10} values calculated for crappie collected in trapnets at Lake Cumberland in October 2011; 95% confidence limits are in parentheses.

Species		No.	PSD	RSD_{10}
White crappie				
	Fishing Creek	140	49 (± 8)	16 (± 6)
	Wolf Creek	7	71 (± 36)	29 (± 36)
	Lake Cumberland	147	50 (± 8)	16 (± 6)
Black crappie				
	Fishing Creek	68	6 (± 6)	3 (± 4)
	Wolf Creek	76	41 (± 11)	18 (± 9)
	Lake Cumberland	144	24 (± 7)	11 (± 5)

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Table 20. Mean back calculated lengths (in) at each annulus for white crappie collected from Lake Cumberland during 2011, including the 95% confidence interval (CI) for each mean length per age group.

		Age		
Year	No.	1	2	3
2010	30	4.8		
2009	11	4.8	8.6	
2008	2	4.7	9.4	11.5
Mean		4.8	8.7	11.5
Number		43	13	2
Smallest		3.5	7.2	11.2
Largest		6.0	9.9	11.8
Std error		0.1	0.2	0.3
95% CI ±		0.2	0.5	0.6

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 2011, including the 95% confidence interval (CI) for each mean length per age group.

		Age		
Year	No.	1	2	3
2010	30	4.2		
2009	13	4.2	7.5	
2008	2	3.9	6.8	9.0
Mean		4.2	7.4	9.0
Number		45	15	2
Smallest		3.3	6.0	8.3
Largest		5.4	8.8	9.7
Std error		0.1	0.2	0.7
95% CI ±		0.2	0.5	1.4

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 2011.

	Inch class													Std
Age	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	error
0+	3	8									11	7.0	0.21	0.08
1+			2	45	27	32	15	2			123	77.8	2.32	0.53
2+							2	17	3		22	13.9	0.42	0.14
3+										2	2	1.3	0.04	0.03
Total	3	8	2	45	27	32	17	19	3	2	158	100.0	2.98	
%	1.9	5.1	1.3	28.5	17.1	20.3	10.8	12.0	1.9	1.3				

CPUE of ≥8.0 in (quality size) crappie = 1.38 fish/nn
CPUE of ≥10.0 in (preferred size) crappie = 0.45 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 2011.

	Inch class												Std
Age	2	3	4	5	6	7	8	9	10	Total	%	CPUE	error
0+	378	840	14							1232	89.5	23.25	15.21
1+				42	36	31	6			115	8.4	2.17	0.54
2+							6	7	14	27	2.0	0.51	0.15
3+								1	2	3	0.2	0.06	0.02
Total	378	840	14	42	36	31	12	8	16	1377	100.0	25.98	
%	27.5	61.0	1.0	3.1	2.6	2.3	0.9	0.6	1.2				

CPUE of $\geq$8.0 in (quality size) crappie = 0.66 fish/nn
CPUE of $\geq$10.0 in (preferred size) crappie = 0.30 fish/nn
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Table 24. Population assessment for white, black, and white and black crappie combined from Lake Cumberland trapnet data collected in October 2011.

	Species					
	White Crappie		Black crappie		Combined	
Parameter	Assessment value	Assessment score	Assessment value	Assessment score	Assessment value	Assessment score
CPUE age-1 and older	2.77	1	2.74	1	5.51	2
CPUE age-1	2.32	1	2.17	1	4.49	2
CPUE age-0	0.21	1	23.25	4	23.46	4
CPUE $\geq$ 8.0 in	1.38	1	0.66	1	2.04	2
Mean length age-2 at capture	10.7	4	9.8	4	10.2	4
Instantaneous mortality (Z)	2.06		1.68		1.84	
Annual mortality (A)	87.2		81.3		84.1	
Total score:		8		11		14
Assessment rating:		F		F		G

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sedagcbc.d11

Table 25. Population assessment for crappie based on fall trap netting at Lake Cumberland from 1990-2011.

Year		CPUE ≥ age 1			CPUE age 1			CPUE age 0			CPUE ≥ 8.0 in			Mean length age 2 at capture			Total score	Assessement rating
		WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	WC	BC	ALL		
Management objective		≥ 5.00 fish/nn			≥ 3.00 fish/nn			≥ 3.00 fish/nn			≥ 2.00 fish/nn			≥ 9.6 in				
2011	Value	2.77	2.74	5.51	2.32	2.17	4.49	0.21	23.25	23.46	1.38	0.66	2.04	10.7	9.8	10.2		
	Score			2			2			4			2			4	14	G
2009	Value	0.80	0.68	1.48	0.80	0.57	1.37	0.59	7.28	7.87	0.57	0.30	0.87	-	-	-		
	Score			1			1			3			1			0	6	P
2007	Value	0.30	7.04	7.34	0.20	6.67	6.87	0.04	0.24	0.28	0.28	0.50	0.78	11.2	9.4	9.9		
	Score			2			2			1			1			4	10	F
2005	Value	0.53	5.20	5.72	0.09	2.84	2.95	0.22	1.15	1.36	0.51	1.35	1.85	10.6	8.1	8.8		
	Score			2			1			1			1			2	7	P
2003	Value	2.30	3.50	5.80	1.76	2.72	4.50	0.24	4.48	4.70	1.15	1.20	2.40	10.4	9.8	10.1		
	Score			2			2			2			2			4	12	F
2001	Value	0.35	0.64	0.99	0.12	0.44	0.56	0.34	4.00	4.34	0.27	0.22	0.49	10.4	9.3	9.7		
	Score			1			1			2			1			4	9	F
1998	Value	1.72	0.93	2.65	0.52	0.33	0.85	0.30	0.53	0.83	1.72	0.81	2.53	9.5	-	9.3		
	Score			1			1			1			2			3	8	F
1996	Value	3.25	0.95	4.20	0.52	0.47	0.98	2.67	0.23	2.90	1.48	0.07	1.55	8.7	6.8	8.5		
	Score			1			1			1			1			2	6	P
1995	Value	8.21	2.11	10.32	7.16	1.73	8.89	0.48		0.62	1.38	0.28	1.66	9.9	7.7	9.3		
	Score			2			3			1			1			3	10	F
1994	Value	2.80	1.20	4.00	1.59	0.71	2.30	2.00	0.41	2.41	1.73	0.28	2.01	9.7	7.6	8.9		
	Score			1			1			1			2			2	7	P
1993	Value	3.20	0.82	4.02	1.42	0.72	2.14	0.76	0.31	1.07	1.95	0.11	2.06	9.8	8.8	9.7		
	Score			1			1			1			2			4	9	F
1991	Value	3.63	1.49	5.12	2.24	0.33	2.57	1.83	0.30	2.13	2.46	1.08	3.54	9.8	8.4	9.3		
	Score			2			1			1			2			3	9	F
1990	Value	4.25	1.61	5.86	2.46	1.38	3.84	0.11	0.03	0.14	2.24	0.28	2.52	10.0	-	9.4		
	Score			2			2			1			2			3	10	F

sedtncb.d11

Table 26. Number of fish and mean relative weight (Wr) for each length group of crappie collected in Lake Cumberland in October 2011. 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	72	83 (1)	46	91 (1)	22	91 (1)
	Wolf Creek	2	86 (2)	3	86 (3)	2	80 (1)
	Lake Cumberland	74	83 (1)	49	91 (1)	24	90 (1)
Black crappie							
	Fishing Creek	64	86 (1)	2	95 (1)	2	99 (2)
	Wolf Creek	45	86 (1)	17	88 (1)	14	87 (1)
	Lake Cumberland	109	86 (1)	19	89 (1)	16	88 (2)

sedtncb.d11

Table 27. Length frequency and CPUE (fish/nn) of striped bass collected at Lake Cumberland in 30 net-nights on 13-15 December 2011.

	Inch class																		
Species	12	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total	CPUE	Std. error
Striped bass	1	1	5	9	6	11	51	31	17	11	7	8	10	7	2	1	178	5.93	0.79

sedgncbs.d11

Table 28. Population assessment for striped bass based on fall gill netting at Lake Cumberland from 1994-2011.

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	≥1.00 fish/nn	≥2.00 fish/nn		
2011	Value	5.93	20.5	1.17	0.57		
	Score	3	2	3	1	9	F
2009	Value	4.00	21.6	1.20	1.77		
	Score	3	3	3	2	11	G
2008	Value	9.15	22.1	1.50	2.70		
	Score	4	4	3	3	14	E
2007	Value	5.27	23.7	1.23	3.87		
	Score	3	4	3	4	14	E
2006	Value	3.90	22.8	1.60	1.30		
	Score	2	4	3	2	11	G
2005	Value	3.40	23.3	1.50	1.20		
	Score	2	4	3	2	11	G
2004	Value	4.40	23.4	2.10	1.80		
	Score	3	4	4	2	13	G
2003	Value	4.10	21.9	1.20	1.70		
	Score	3	3	3	2	11	G
2002	Value	3.50	22.9	1.25	1.80		
	Score	2	4	3	2	11	G
2001	Value	3.10	21.0	0.11	2.70		
	Score	2	3	1	3	9	F
2000	Value	3.40	23.3	0.70	2.50		
	Score	2	4	2	3	11	G
1999	Value	3.40	22.4	0.30	2.70		
	Score	2	4	1	3	10	G
1998	Value	5.30	21.5	0.40	4.80		
	Score	3	3	1	4	11	G
1997	Value	1.90	21.5	1.10	0.40		
	Score	1	3	3	1	8	F
1996	Value	2.70	22.2	0.90	1.00		
	Score	2	4	2	2	10	G
1995	Value	3.50	22.7	1.50	1.50		
	Score	2	4	3	2	11	G
1994	Value	4.30	21.7	0.80	2.70		
	Score	3	3	2	3	11	G

sedgncbs.d11

Table 29. Mean back calculated lengths (in) at each annulus for striped bass collected from Lake Cumberland during 2011, including the 95% confidence interval (CI) for each mean length per age group.

Year	No.	Age 1	2	3	4	5	6
2010	17	11.6					
2009	46	11.3	17.5				
2008	21	11.3	17.8	21.4			
2007	12	11.9	17.9	21.5	23.8		
2006	20	10.4	18.2	22.3	24.4	25.9	
2005	3	10.1	18.0	21.9	24.9	26.3	27.0
Mean		11.2	17.8	21.8	24.3	25.9	27.0
Number		119	102	56	35	23	3
Smallest		5.4	14.5	18.7	21.2	24.3	26.5
Largest		14.7	20.1	24.4	27.4	28.4	27.4
Std error		0.2	0.1	0.1	0.2	0.2	0.3
95% CI ±		0.4	0.3	0.3	0.4	0.4	0.6

Otoliths were used for age-growth determinations; Intercept = 0
sedagcbs.d11

Table 30. Age-frequency and CPUE (fish/nn) of striped bass gill netted for 30 net-nights at Lake Cumberland in December 2011. Standard error is in parentheses.

Age	Inch class 12	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total	%	CPUE	
1+	1	1	5	9	1												17	9.6	0.57	(0.15)
2+					5	11	48	29	4								97	54.5	3.23	(0.50)
3+							3		13	10	1						27	15.2	0.90	(0.16)
4+								2		1	5	3	2				13	7.3	0.43	(0.08)
5+											1	5	8	5	1	1	21	11.8	0.70	(0.12)
6+														2	1		3	1.7	0.10	(0.03)
Total	1	1	5	9	6	11	51	31	17	11	7	8	10	7	2	1	178	100.0	5.93	
%	0.6	0.6	2.8	5.1	3.4	6.2	28.7	17.4	9.6	6.2	3.9	4.5	5.6	3.9	1.1	0.6				

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sedagcbs.d11

Table 31. Striped bass population assessment for striped bass gill netted at Lake Cumberland in December 2011.

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	5.93	3
Growth rate (Mean length age 2+ at capture)	20.5	2
Size structure (CPUE ≥24.0 in)	1.17	3
Recruitment (CPUE age 1)	0.57	1
Instantaneous mortality (Z)	0.400	
Annual mortality (A)	33.0	
Total score		9
Assessment rating		F

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sedagcbs.d11

Table 32. Number of fish and mean relative weight (Wr) for each length group of striped bass collected in Lake Cumberland December 2011. 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
31	85 (1)	127	79 (1)	0	-

sedgncbs.d11

Table 33. Fishery statistics derived from a creel survey on lower Lake Cumberland (25,014 acres) from 12 March - 31 October 2011 and 2 April - 24 December 2008.

	2011	2008
Fishing trips		
Number of fishing trips (per acre)	52,770 (2.11)	92,076 (3.68)
Average trip length	5.14	3.88
Fishing pressure		
Total man-hours (S.E.)[a]	271,269 (6,029)	356,930 (7,849)
Man hours/acre	10.84	14.27
Catch/harvest		
Number of fish caught (S.E.)	254,775 (33,354)	249,209 (31,845)
Number of fish harvested (S.E.)	128,010 (24,693)	122,249 (20,296)
Pounds of fish harvested	146,414	270,224
Harvest rates		
Fish/hour	0.43	0.30
Fish/acre	5.12	4.89
Pounds/acre	5.85	10.80
Catch rates		
Fish/hour	0.88	0.63
Fish/acre	10.19	9.96
Miscellaneous characteristics (%)		
Male	85	88
Female	15	12
Resident	76	75
Non-resident	24	25
Method (%)		
Still fishing	49	44
Casting	23	23
Trolling	28	33
Fly	<1	-
Mode (%)		
Boat	88	90
Bank	10	9
Dock	2	1

[a]S.E. = standard error

Table 34. Fish harvest statistics derived from a creel survey at lower Lake Cumberland (25,014 acres) from 12 March - 31 October 2011.

	Black bass group	Largemouth bass	Spotted bass	Smallmouth bass	Illegal bass	Illegal smallmouth bass	Crappie group	White crappie	Black crappie	Blacknose crappie	Illegal black crappie	Morone group	Striped bass	White bass
No. caught	58,190	16,477	30,290	11,423	1,295	417	25,194	911	23,933	349	481	48,105	47,974	89
(per acre)	2.33	0.66	1.21	0.46	0.05	0.02	1.01	0.04	0.96	0.01	0.02	1.92	1.92	0.00
No. harvested	10,541	2,345	7,929	267	1,295	417	13,317	783	12,185	349	481	12,281	12,239	
(per acre)	0.42	0.09	0.32	0.01	0.05	0.02	0.53	0.03	0.49	0.01	0.02	0.49	0.49	
% of total no. harvested	8.2	1.8	6.2	tr	1.0	tr	10.4	0.6	9.5	tr	tr	9.6	9.6	
Lbs. harvested	11,908	5,422	5,706	779	1,089	-	10,366	663	9,366	337	153	87,756	87,610	
(per acre)	0.48	0.22	0.23	0.03	0.04	-	0.41	0.03	0.37	0.01	0.01	3.51	3.50	
% of total lbs harvested	8.1	3.7	3.9	0.5	0.7	-	7.1	tr	6.4	tr	tr	59.9	59.8	
Mean length (in)		16.4	11.7	18.3	10.5	16.7		12.4	10.7	12.0	9.0		26.2	
Mean weight (lb)		2.30	0.70	2.92	0.67	-		0.97	0.67	0.97	0.32		7.14	
Number of fishing trips for that species	14,344						3,892					21,535		
Percent of all trips	27.2						7.4					40.8		
Hours fished for that species	73,735						20,005					110,703		
Hours fished for that species (per acre)	2.95						0.80					4.43		
Number harvested fishing for that species	7,984						12,994					12,081		
Lb harvested fishing for that species	9,967						9,956					86,421		
No./hr harvested fishing for that species	0.10						0.69					0.09		
Percent success fishing for that species	17.3						50.0					25.2		

t < 0.005 fish/hr or < 0.5%

Table 34. Continued

	Hybrid striped bass	Illegal striped bass	Walleye	Catfish group	Channel catfish	Flathead catfish	Panfish group	Bluegill	Longear sunfish	Rock bass	Gar	Freshwater drum	Suckers
No. caught	42	331	1,674	11,234	9,403	1,831	105,626	101,887	3,514	224	340	1,846	42
(per acre)	0.00	0.01	0.07	0.45	0.38	0.07	4.22	4.07	0.14	0.01	0.01	0.07	0.00
No. harvested	42	331	753	7,630	6,240	1,390	80,070	76,728	3,342			894	
(per acre)	0.00	0.01	0.03	0.31	0.25	0.06	3.20	3.07	0.13			0.04	
% of total no. harvested	tr	tr	0.6	6.0	4.9	1.1	62.6	59.9	2.6			0.7	
Lbs. harvested	146	1,643	1,718	15,503	9,277	6,227	14,662	14,430	232			1,616	
(per acre)	0.01	0.07	0.07	0.62	0.37	0.25	0.59	0.58	0.01			0.06	
% of total lbs harvested	tr	1.1	1.2	10.6	6.3	4.3	10.0	9.9	tr			1.1	
Mean length (in)	19.0	21.8	18.6		17.0	23.0		6.7	4.7			16.5	
Mean weight (lb)	3.51	5.35	2.24		1.64	5.07		0.19	0.07			1.87	
Number of fishing trips for that species			1,747	3,878			7,375						
Percent of all trips			3.3	7.3			14.0						
Hours fished for that species			8,979	19,936			37,910						
Hours fished for that species (per acre)			0.36	0.80			1.52						
Number harvested fishing for that species			655	3,482			64,480						
Lb harvested fishing for that species			1,391	9,035			12,081						
No./hr harvested fishing for that species			0.07	0.20			2.37						
Percent success fishing for that species			22.6	29.8			46.5						

t < 0.005 fish/hr or < 0.5%

Table 35. Length distribution for each species of fish harvested and released at lower Lake Cumberland (25,014 acres) during 12 March - 31 October 2011.

	Inch class																													
	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	36
Largemouth bass																														
Harvested												782	235	938	313	77														
Released					1579		2993		3658	831	2161	831	748	416	333	499	83													
Spotted bass																														
Harvested					80	481	1361	801	2483	1121	1442	160																		
Released		81	727	161	7992	696	7831	1130	1534	696	404	484	80																
Smallmouth bass																														
Harvested															178	89														
Released					562		1124	161	1525	161	1364	1284	1926	1445	883	161	161	161	238											
Illegal bass																														
Harvested				108				108	971		108																			
Illegal smallmouth bass																														
Harvested												104		313																
White crappie																														
Harvested								196	490		97																			
Released					64	64																								
Black crappie																														
Harvested							5262	2123	3508	1015	277																			
Released			92	734	10004	734	92		92																					
Blacknose crappie																														
Harvested									349																					
Illegal black crappie																														
Harvested						481																								
Striped bass																														
Harvested																					1713	2448	3835	1387	1632	245	898	81		
Released				303			152	76	1062			3566		76	10774	228	6146	76	7587	3794	152	1214	529							
White bass																														
Released																														
Hybrid striped bass																														
Harvested																42														
Illegal striped bass																														
Harvested																	110	110		111										
Walleye																														
Harvested												84		251	84	84	84		84		82								
Released											92				829															
Channel catfish																														
Harvested				82		246	82	328	411	164	246	493	903	328	1560	328	246	82	328			413								
Released				81	324	81	406	324	649			81	406		487		81		162	81										
Flathead catfish																														
Harvested															261	174	87	87	174		261		174	172						
Released					73									294											74					
Bluegill																														
Harvested	2102	5466	26277	26487	14925	1261	210																							
Released	13266	5764	3934	1830	91	91	183																							
Longear sunfish																														
Harvested	792	2550																												
Released		173																												
Rock bass																														
Released			149				75																							
Gar																														
Released																	85				85						85			85
Freshwater drum																														
Harvested							89		89			268		179	89			89	91											
Released				87		260			260			87	87		87													84		
Suckers																														
Released								42																						

Table 36. Black bass catch and harvest statistics derived from a daytime creel survey at lower Lake Cumberland (25,014 acres) for each species of black bass caught and released by all anglers from 12 March - 31 October 2011.

	Largemouth bass				Spotted bass				Smallmouth bass			
		C&R				C&R				C&R		
	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total
Total number of bass	2,345	6,650	2,910	16,477	7,929	2,907	564	30,290	267	3,050	6,259	11,423
% of black bass harvested by number	22.2				75.2				2.5			
Total weight of fish (lb)	5,422	6,164	2,697	18,522	5,706	1,169	227	14,701	779	4,544	9,330	17,403
% of black bass harvested by weight	45.5				47.9				6.5			
Mean length (in)	16.4				11.7				18.3			
Mean weight (lb)	2.30				0.70				2.92			
Rate (fish/hour)	0.009				0.029				0.001			

Table 37. Monthly black bass angling success at lower Lake Cumberland (25,014 acres) during the 2011 creel survey period; data does not include black bass < 8.0 in.

Month	Total no. of bass caught	Total no. of bass harvested	Number of bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/hour by bass anglers
Mar	3,879	793	1,980	10,180	3,171	0.35	375	0.04
Apr	4,925	1,147	2,295	11,796	3,981	0.39	1,147	0.11
May	14,932	1,699	2,369	12,176	10,550	0.87	1,340	0.11
Jun	3,711	781	1,648	8,471	2,638	0.32	782	0.10
Jul	3,451	604	1,516	7,791	2,503	0.39	346	0.05
Aug	4,896	738	1,012	5,201	1,810	0.38	402	0.09
Sep	11,649	2,213	1,897	9,749	6,872	0.95	1,747	0.24
Oct	10,747	2,566	1,629	8,372	7,700	0.64	1,845	0.15
Total	58,190	10,541	14,346	73,736	39,225		7,984	
Mean						0.52		0.10

Table 38. Monthly crappie angling success at lower Lake Cumberland (25,014 acres) during the 2011 creel survey period.

Month	Total no. of crappie caught	Total no. of crappie harvested	Number of crappie fishing trips	Hours fished by crappie anglers	Crappie caught by crappie anglers	Crappie caught/hour by crappie anglers	Crappie harvested by crappie anglers	Crappie harvested/hour by crappie anglers
Mar	42	-	168	863	42	0.10	-	-
Apr	202	67	441	2,268	202	0.15	67	0.05
May	89	89	47	244	-	-	-	-
Jun	683	98	165	847	293	1.76	98	0.59
Jul	86	-	89	458	86	0.25	-	-
Aug	2,549	1,006	33	168	2,012	6.25	1,006	3.13
Sep	11,998	6,523	1,391	7,149	11,415	1.21	6,290	0.67
Oct	9,544	5,534	1,558	8,008	9,543	1.51	5,533	0.87
Total	25,193	13,317	3,892	20,005	23,593		12,994	
Mean						1.25		0.69

Table 39. Monthly walleye angling success at lower Lake Cumberland (25,014 acres) during the 2011 creel survey period.

Month	Total no. of walleye caught	Total no. of walleye harvested	Number of walleye fishing trips	Hours fished by walleye anglers	Walleye caught by walleye anglers	Walleye caught/hour by walleye anglers	Walleye harvested by walleye anglers	Walleye harvested/hour by walleye anglers
May	805	-	189	974	-	-	-	-
Jun	195	195	288	1,482	98	0.08	98	0.08
Jul	173	173	267	1,375	173	0.09	173	0.09
Aug	268	268	685	3,523	268	0.07	268	0.07
Sep	233	116	316	1,625	232	0.10	116	0.05
Total	1,674	752	1,745	8,979	771		655	
Mean						0.08		0.07

Table 40. Monthly striped bass angling success at lower Lake Cumberland (25,014 acres) during the 2011 creel survey period.

Month	Total no. of striped bass caught	Total no. of striped bass harvested	Number of striped bass fishing trips	Hours fished by striped bass anglers	Striped bass caught by striped bass anglers	Striped bass caught/hour by striped bass anglers	Striped bass harvested by striped bass anglers	Striped bass harvested/hour by striped bass anglers
Mar	5,131	584	1,846	9,489	3,671	0.30	584	0.05
Apr	9,040	2,226	3,354	17,240	8,973	0.42	2,159	0.10
May	5,275	1,609	2,890	14,855	5,186	0.34	1,609	0.11
Jun	6,838	2,247	3,048	15,671	6,838	0.39	2,247	0.13
Jul	6,385	2,330	2,496	12,833	6,299	0.41	2,330	0.15
Aug	2,414	738	1,240	6,375	1,878	0.27	604	0.09
Sep	9,202	1,864	2,908	14,949	9,086	0.51	1,864	0.10
Oct	3,689	642	3,753	19,291	3,690	0.18	642	0.03
Total	47,974	12,240	21,535	110,703	45,621		12,039	
Mean						0.35		0.09

Table 41. Fishery statistics derived from a creel survey on upper Lake Cumberland (25,014 acres) from 11 March - 31 October 2011 and 2 April - 24 December 2008.

	2011	2008
Fishing trips		
Number of fishing trips (per acre)	56,521 (2.26)	47,799 (1.91)
Average trip length	4.23	3.99
Fishing pressure		
Total man-hours (S.E.)[a]	239,335 (7,525)	190,849 (5,427)
Man hours/acre	9.57	7.63
Catch/harvest		
Number of fish caught (S.E.)	429,986 (54,213)	181,423 (17,182)
Number of fish harvested (S.E.)	148,623 (17,907)	90,402 (11,506)
Pounds of fish harvested	138,538	98,573
Harvest rates		
Fish/hour	0.61	0.46
Fish/acre	5.94	3.61
Pounds/acre	5.54	3.94
Catch rates		
Fish/hour	1.75	0.98
Fish/acre	17.19	7.25
Miscellaneous characteristics (%)		
Male	89	92
Female	11	8
Resident	93	93
Non-resident	7	7
Method (%)		
Still fishing	27	21
Casting	41	46
Trolling	32	33
Mode (%)		
Boat	94	97
Bank	5	1
Dock	1	2

[a]S.E. = standard error

Table 42. Fish harvest statistics derived from a creel survey at upper Lake Cumberland (25,014 acres) from 11 March - 31 October 2011.

	Black bass group	Largemouth bass	Spotted bass	Smallmouth bass	Illegal bass	Illegal smallmouth bass	Crappie group	White crappie	Black crappie	Illegal black crappie	Morone group	Striped bass	White bass	Illegal striped bass
No. caught	87,479	17,847	62,146	7,459	918	258	226,298	112,155	114,143	535	28,774	17,015	11,759	247
(per acre)	3.50	0.71	2.48	0.30	0.04	0.01	9.05	4.48	4.56	0.02	1.15	0.68	0.47	0.01
No. harvested	13,153	1,257	11,662	234	918	258	62,866	26,526	36,339	535	12,550	5,840	6,710	247
(per acre)	0.53	0.05	0.47	0.01	0.04	0.01	2.51	1.06	1.45	0.02	0.50	0.23	0.27	0.01
% of total no. harvested	8.85	0.85	7.85	tr	0.62	tr	42.30	17.85	24.45	tr	8.44	3.93	4.51	tr
Lbs. harvested	12,554	2,836	8,960	757	1,167	-	36,981	14,018	22,963	94	47,423	40,984	6,438	865
(per acre)	0.50	0.11	0.36	0.03	0.05	-	1.48	0.56	0.92	0.00	1.90	1.64	0.26	0.03
% of total lbs harvested	9.06	2.05	6.47	0.55	0.84	-	26.69	10.12	16.58	tr	34.23	29.58	4.65	0.62
Mean length (in)		16.3	12.2	19.0	13.8	13.3		10.4	10.9	6.5		26.1	13.5	19.0
Mean weight (lb)		2.30	0.78	3.24	1.33	-		0.52	0.70	0.13		7.09	0.99	3.51
Number of fishing trips for that species	19,316						11,747				8,528			
Percent of all trips	34.18						20.78				15.09			
Hours fished for that species	81,793						49,741				36,110			
Hours fished for that species (per acre)	3.27						1.99				1.44			
Number harvested fishing for that species	12,116						61,666				6,354			
Lb harvested fishing for that species	10,849						35,962				39,765			
No./hr harvested fishing for that species	0.16						1.03				0.17			
Percent success fishing for that species	13.3						54.9				28.9			

t < 0.005 fish/hr or < 0.5%

Table 42. Continued

	Walleye	Catfish group	Channel catfish	Flathead catfish	Panfish group	Bluegill	Longear sunfish	Redear sunfish	Green sunfish	Warmouth	Freshwater drum	Gar	Muskellunge	Shad	Anything group
No. caught	13,019	9,963	8,934	1,029	59,880	54,846	1,875	1,541	1,430	187	1,649	707	188	71	
(per acre)	0.52	0.40	0.36	0.04	2.39	2.19	0.07	0.06	0.06	0.01	0.07	0.03	0.01	0.00	
No. harvested	11,705	7,527	6,498	1,029	37,568	33,182	1,526	1,242	1,430	187	1,297	-	-	-	
(per acre)	0.47	0.30	0.26	0.04	1.50	1.33	0.06	0.05	0.06	0.01	0.05	-	-	-	
% of total no. harvested	7.88	5.06	4.37	0.69	25.28	22.33	1.03	0.84	0.96	tr	0.87	-	-	-	
Lbs. harvested	19,422	15,134	10,551	4,583	3,391	2,934	149	165	121	21	1,509	-	-	-	
(per acre)	0.78	0.61	0.42	0.18	0.14	0.12	0.01	0.01	0.00	0.00	0.06	-	-	-	
% of total lbs harvested	14.02	10.92	7.62	3.31	2.45	2.12	tr	tr	tr	tr	1.09	-	-	-	
Mean length (in)	17.2		17.9	22.4		5.4	5.5	5.6	5.0	5.5	14.0	-	-	-	
Mean weight (lb)	1.62		1.86	4.46		0.10	0.10	0.13	0.08	0.12	1.26	-	-	-	
Number of fishing trips for that species	7,706	1,673			1,507										6,045
Percent of all trips	13.63	2.96			2.67										10.70
Hours fished for that species	32,630	7,082			6,380										25,597
Hours fished for that species (per acre)	1.30	0.28			0.26										1.02
Number harvested fishing for that species	10,718	4,744			19,942										
Lb harvested fishing for that species	17,711	11,391			1,591										
No./hr harvested fishing for that species	0.32	0.54			3.93										
Percent success fishing for that species	38.5	65.7			73.5										36.7

t < 0.005 fish/hr or < 0.5%

Table 43. Length distribution for each species of fish harvested and released at upper Lake Cumberland (25,014 acres) during 11 March - 31 October 2011.

	Inch class																										
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Largemouth bass																											
Harvested													209	524	209		105	105									
Released						214		322		2251	3431	2787	3538	2787	536	536	107	108									
Spotted bass																											
Harvested								735	946	6724	3047	105	105														
Released				107	426	2024	213	14485	5645	20768	6390	425															
Smallmouth bass																											
Harvested																	234										
Released								198			495	594	396	1980	990	1089	1287	99			98						
Illegal bass																											
Harvested											367	551															
Illegal smallmouth bass										86	86			86													
Harvested																											
White crappie																											
Harvested								19062	4593	2182	689																
Released			2903	5183	15239	32862	29130	104	104	104																	
Black crappie																											
Harvested								23064	7425	4388	1013	225	224														
Released			657	2517	10067	30421	33376	765																			
Illegal black crappie																											
Harvested			134			401																					
Striped bass																											
Harvested																						365	2007	1642	821	821	184
Released								98						392	1176	980	3039	1961	1078	1862	490	99					
White bass																											
Harvested										1295	3061	1413	941														
Released						1165		97		874	1068	194	291	291		1069											
Illegal striped bass																											
Harvested																	247										
Walleye																											
Harvested													871	3096	3579	1741	1548	580	290								
Released												1011		202		101											
Channel catfish																											
Harvested										102	203	203	711	1624	1015	1117	609	406	102	305	101						
Released						195	487	292			682	97	97	292			294										
Flathead catfish																											
Harvested																229		229			114	114	114	114		115	
Bluegill																											
Harvested	1731	3751	14812	12792	96																						
Released	201	10431	8124	2908																							
Longear sunfish																											
Harvested			814	712																							
Released			349																								
Redear sunfish																											
Harvested			444	710	88																						
Released		200			99																						
Green sunfish																											
Harvested			1430																								
Warmouth																											
Harvested			94	93																							
Freshwater drum																											
Harvested							399			200	100	100	100	100	100		100					98					
Released										117						117	118										
Gar																											
Released																495		71		141							
Muskellunge																											
Released																		94					94				
Shad																											
Released				71																							

Table 44. Black bass catch and harvest statistics derived from a daytime creel survey at upper Lake Cumberland (25,014 acres) for each species of black bass caught and released by all anglers from 11 March - 31 October 2011.

	Largemouth bass				Spotted bass				Smallmouth bass			
		C&R				C&R				C&R		
	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total	Harvest	12.0-14.9 in	>15.0 in	Total
Total number of bass	1,257	8,469	7,612	17,874	11,662	27,583	-	62,146	234	1,089	5,939	7,459
% of black bass harvested by number	9.6				88.7				1.8			
Total weight of fish (lb)	2,836	12,260	11,019	26,891	8,960	17,127	-	40,304	757	2,312	12,610	16,100
% of black bass harvested by weight	22.6				71.4				6.0			
Mean length (in)	16.3				12.2				19.0			
Mean weight (lb)	2.30				0.78				3.24			
Rate (fish/hour)	0.005				0.047				0.001			

Table 45. Monthly black bass angling success at upper Lake Cumberland (25,014 acres) during the 2011 creel survey period; data does not include black bass < 8.0 in.

Month	Total no. of bass caught	Total no. of bass harvested	Number of bass fishing trips	Hours fished by bass anglers	Bass caught by bass anglers	Bass caught/hour by bass anglers	Bass harvested by bass anglers	Bass harvested/hour by bass anglers
Mar	3,791	-	1,370	5,803	3,791	0.70	-	-
Apr	9,750	494	2,297	9,726	9,627	0.84	494	0.04
May	2,909	-	623	2,636	1,396	0.50	-	-
Jun	4,868	-	1,921	8,135	3,831	0.81	-	-
Jul	15,000	709	3,196	13,532	14,408	1.30	590	0.05
Aug	7,072	1,273	1,806	7,648	6,294	0.98	1,060	0.16
Sep	22,023	5,929	4,064	17,210	20,329	1.35	5,364	0.36
Oct	22,066	4,748	4,039	17,103	21,507	1.32	4,608	0.28
Total	87,479	13,153	19,316	81,793	81,183		12,116	
Mean						1.09		0.16

Table 46. Monthly crappie angling success at upper Lake Cumberland (25,014 acres) during the 2011 creel survey period.

Month	Total no. of crappie caught	Total no. of crappie harvested	Number of crappie fishing trips	Hours fished by crappie anglers	Crappie caught by crappie anglers	Crappie caught/hour by crappie anglers	Crappie harvested by crappie anglers	Crappie harvested/hour by crappie anglers
Mar	2,557	1,146	822	3,482	2,205	0.55	794	0.20
Apr	4,937	2,715	835	3,537	4,937	1.29	2,715	0.71
May	13,613	3,956	1,290	5,460	13,497	1.73	3,956	0.51
Jun	6,224	1,835	213	904	5,186	2.61	1,436	0.72
Jul	13,818	4,370	1,096	4,640	13,464	3.01	4,134	0.92
Aug	20,297	4,243	602	2,549	20,226	5.82	4,172	1.20
Sep	70,023	13,176	2,273	9,623	70,023	6.27	13,176	1.18
Oct	94,828	31,423	4,616	19,546	94,688	4.43	31,283	1.46
Total	226,297	62,864	11,747	49,741	224,226		61,666	
Mean						3.93		1.03

Table 47. Monthly walleye angling success at upper Lake Cumberland (25,014 acres) during the 2011 creel survey period.

Month	Total no. of walleye caught	Total no. of walleye harvested	Number of walleye fishing trips	Hours fished by walleye anglers	Walleye caught by walleye anglers	Walleye caught/hour by walleye anglers	Walleye harvested by walleye anglers	Walleye harvested/hour by walleye anglers
Mar	-	-	91	387	-	-	-	-
Apr	247	247	348	1,474	123	0.08	123	0.08
Jun	2,075	1,915	1,388	5,875	1,916	0.35	1,756	0.32
Jul	5,551	4,842	2,054	8,699	5,078	0.48	4,606	0.43
Aug	2,192	1,980	1,505	6,374	2,192	0.32	1,980	0.29
Sep	1,976	1,882	1,180	4,997	1,694	0.38	1,694	0.38
Oct	978	838	962	4,072	699	0.21	559	0.16
Total	13,019	11,704	7,528	31,878	11,702		10,718	
Mean						0.35		0.32

Table 48. Monthly striped bass angling success at upper Lake Cumberland (25,014 acres) during the 2011 creel survey period.

Month	Total no. of striped bass caught	Total no. of striped bass harvested	Number of striped bass fishing trips	Hours fished by striped bass anglers	Striped bass caught by striped bass anglers	Striped bass caught/hour by striped bass anglers	Striped bass harvested by striped bass anglers	Striped bass harvested/hour by striped bass anglers
Mar	176	176	548	2,321	-	-	-	-
Apr	864	123	766	3,242	617	0.28	123	0.06
May	1,164	116	445	1,883	931	0.40	-	-
Jun	3,511	1,915	1,459	6,177	3,272	0.39	1,915	0.23
Jul	3,661	1,417	1,917	8,119	3,071	0.31	1,417	0.14
Aug	1,910	919	1,013	4,288	1,909	0.44	919	0.21
Sep	4,612	753	1,355	5,737	2,635	0.39	753	0.11
Oct	1,117	419	1,026	4,344	1,117	0.26	419	0.10
Total	17,015	5,838	8,529	36,111	13,552		5,546	
Mean						0.35		0.15

Table 49. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.00 hours of 15-minute nocturnal electrofishing runs for black bass in Laurel River Lake during April and May 2011; standard error is in parentheses.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Dam	Largemouth bass			3	1		3	8	5	6	8	2	7	4	6		2	2				57	38.00 (8.56)
	Spotted bass				1	3	1	2	6	3	3	3	1	3	2							28	18.67 (2.86)
	Smallmouth bass		1					2		1												4	2.67 (0.84)
Spruce	Largemouth bass						1	1	2		5	8	10	12	15	6	8	5	1	3		77	51.33 (7.76)
Creek	Spotted bass				1		2	4	3	1	7	4	2	3	1							28	18.67 (4.70)
	Smallmouth bass						1	1	3		1			1			1			1		9	6.00 (2.48)
Laurel	Largemouth bass	1	8	25	10	4	5	15	11	6	10	19	21	22	17	19	4	5	2	1	1	206	137.33 (17.82)
River	Spotted bass		2	3	2	1	9	5	4	2	2		1									31	20.67 (1.91)
Arm	Smallmouth bass						1			1												2	1.33 (0.84)
Upper	Largemouth bass				1	1	6	5	14	10	13	20	21	14	8	6	2	5	2			128	85.33 (28.89)
Craigs	Spotted bass	2	1	1		7	8	9	5	11	10	8	4	2	1							69	46.00 (9.34)
Creek	Smallmouth bass				1	1	1	1	1		1	1						2				9	6.00 (3.06)
Total	Largemouth bass	1	8	28	12	5	15	29	32	22	36	49	59	52	46	31	16	17	5	4	1	468	78.00 (11.57)
	Spotted bass	2	3	4	4	11	20	20	18	17	22	15	8	8	4							156	26.00 (3.52)
	Smallmouth bass		1		1	1	3	4	4	2	2	1		1			1	2		1		24	4.00 (1.05)

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Table 50. Comparison of catch-per-hour of black bass (by area) captured during spring electrofishing on Laurel River Lake during the period of 2007-2011.

	Stock					Quality					Preferred				
Species/Area	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Largemouth bass															
Dam	54.00	29.33	57.33	70.67	33.33	47.33	19.33	39.33	46.00	15.33	34.00	13.33	27.33	21.33	6.67
Spruce Creek	37.33	59.33	34.00	80.67	50.67	34.67	34.67	32.00	58.00	45.33	21.33	26.67	16.67	28.67	25.33
Laurel River Arm	56.00	52.67	84.00	87.33	102.00	40.67	37.33	62.67	47.33	74.00	20.67	24.00	35.33	25.33	32.67
Craigs Cr. headwaters	29.33	20.67	24.00	52.67	80.00	22.67	10.67	16.67	16.00	52.00	11.33	6.67	4.00	9.33	15.33
Mean	44.17	40.50	49.83	72.83	66.50	36.33	25.50	37.67	41.83	46.67	21.83	17.67	20.83	21.17	20.00
Spotted bass															
Dam	36.67	20.67	30.67	34.67	16.00	20.67	5.33	16.67	24.67	8.00	5.33	1.33	6.00	8.67	3.33
Spruce Creek	16.67	14.00	5.33	22.67	18.00	9.33	9.33	2.00	10.00	11.33	1.33	3.33	0.00	6.67	2.67
Laurel River Arm	38.67	60.00	22.00	39.33	15.33	8.67	14.00	8.67	7.33	2.00	0.67	1.33	2.00	1.33	0.00
Craigs Cr. headwaters	36.00	34.00	38.67	44.00	38.67	12.00	14.67	10.67	13.33	16.67	0.67	3.33	2.67	2.67	2.00
Mean	32.00	32.17	24.17	35.17	22.00	12.68	10.83	9.50	13.83	9.50	2.00	2.33	2.67	4.83	2.00
Smallmouth bass															
Dam	6.67	11.33	17.33	16.67	2.00	1.33	6.67	12.00	8.00	0.00	1.33	3.33	10.67	6.00	0.00
Spruce Creek	7.33	13.33	4.67	8.00	6.00	4.00	11.33	3.33	4.67	2.67	2.67	9.33	3.33	4.00	2.00
Laurel River Arm	0.00	0.00	0.00	1.33	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Craigs Cr. headwaters	4.00	0.67	2.00	1.33	4.67	0.67	0.00	1.33	1.33	2.67	0.67	0.00	0.00	1.33	1.33
Mean	4.50	6.33	6.00	6.83	3.50	1.50	4.50	4.17	3.50	1.33	1.18	3.17	3.50	2.83	0.83

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 51. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Laurel River Lake during April and May 2011.

	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.
2011	11.50	3.71	19.83	4.07	26.67	4.65	20.00	2.94	0.83	0.34	78.00	11.57
2010	15.83	2.98	31.00	4.37	20.67	3.11	21.17	2.44	0.83	0.42	88.67	8.39
2009	13.17	2.44	12.17	2.74	16.83	2.59	20.83	3.20	0.83	0.54	63.00	8.54
2008	37.50	11.53	15.00	1.97	7.83	1.47	17.67	2.66	0.67	0.46	78.00	13.81
2007	2.33	0.80	7.83	1.93	14.50	1.86	21.83	2.55	0.50	0.28	46.50	4.03
2006	20.80	5.65	13.92	2.72	17.12	2.86	19.52	2.76	0.64	0.30	71.36	11.44
2005	6.17	1.23	15.00	2.85	18.50	2.67	22.50	2.90	0.17	0.17	62.17	7.54
2004	3.80	1.50	11.00	1.40	18.50	3.00	14.20	1.90	0.00	0.00	47.50	4.80
2003	9.80	2.90	37.00	5.80	29.30	4.10	13.80	2.00	0.00	0.00	90.00	12.30
2002	21.70	5.00	24.00	3.80	23.30	3.30	8.30	1.40	0.00	0.00	77.30	9.70

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Table 52. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Laurel River Lake during April and May 2011.

	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.
2011	7.33	1.44	9.17	1.33	7.50	1.71	2.00	0.54	0.00	0.00	26.00	3.52
2010	25.17	4.21	13.00	2.27	9.00	2.00	4.83	1.18	0.00	0.00	52.00	6.12
2009	6.50	1.50	12.50	2.38	6.83	1.45	2.67	0.79	0.17	0.17	28.50	4.56
2008	20.17	4.23	12.67	2.63	8.50	1.43	2.33	0.63	0.00	0.00	43.67	6.99
2007	12.17	2.32	13.50	2.15	10.67	1.71	2.00	0.64	0.00	0.00	38.33	4.04
2006	15.04	2.39	13.44	1.74	9.12	1.74	2.56	0.73	0.00	0.00	40.16	4.55
2005	4.83	0.83	3.33	0.79	7.67	1.60	3.67	1.13	0.00	0.00	19.50	2.65
2004	3.20	1.00	12.50	2.90	9.80	2.30	2.20	0.70	0.00	0.00	27.70	5.60
2003	23.30	5.30	17.80	3.10	10.20	2.00	0.80	0.50	0.00	0.00	52.20	8.90
2002	13.70	3.20	13.30	1.80	5.50	1.40	0.30	0.20	0.00	0.00	32.80	5.60

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Table 53. Spring electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected at Laurel River Lake during April and May 2011.

	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.
2011	1.00	0.43	1.67	0.53	0.50	0.28	0.83	0.42	0.67	0.31	4.00	1.05
2010	10.17	2.15	1.17	0.45	0.67	0.39	2.83	0.74	1.17	0.38	14.83	2.95
2009	1.67	1.18	1.00	0.36	0.67	0.39	3.50	1.45	1.83	0.80	6.83	2.38
2008	1.67	0.68	1.83	0.72	1.33	0.52	3.17	1.23	1.83	0.64	8.00	2.28
2007	2.83	0.78	1.67	0.68	0.33	0.23	1.17	0.45	0.83	0.42	6.00	1.36
2006	0.48	0.27	0.48	0.35	0.16	0.16	0.96	0.58	0.32	0.22	2.08	0.96
2005	0.17	0.17	0.83	0.42	1.50	0.63	5.50	1.46	2.83	1.09	8.00	1.83
2004	2.00	0.60	1.20	0.40	0.70	0.40	1.20	0.50	0.00	0.00	5.00	1.10
2003	8.30	2.20	7.50	1.80	1.80	0.80	2.20	0.80	0.17	0.17	19.80	4.30
2002	8.20	2.50	4.50	1.50	2.20	0.60	0.70	0.30	0.17	0.17	15.50	3.80

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Table 54. Population assessment for largemouth bass based on spring electrofishing at Laurel River Lake from 1990-2011.

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	Assessement rating
Management objective		≥13.0 in	≥10.00 fish/hr	≥20.00 fish/hr	≥10.00 fish/hr	≥0.50 fish/hr		
2011	Value	13.3	9.21	26.67	20.00	0.83		
	Score	4	1	3	4	2	14	G
2010	Value	13.3	6.50	20.67	21.17	0.83		
	Score	4	1	2	4	2	13	G
2009	Value	13.3	12.17	16.83	20.83	0.83		
	Score	4	1	2	4	2	13	G
2008	Value	13.3	36.33	7.83	17.67	0.67		
	Score	4	3	1	3	2	13	G
2007	Value	13.7	2.08	14.50	21.83	0.50		
	Score	4	1	1	4	2	12	G
2006	Value	13.7	18.40	17.12	19.52	0.64		
	Score	4	1	2	3	2	12	G
2005	Value	13.7	4.61	18.50	22.50	0.17		
	Score	4	1	2	4	1	12	G
2004	Value	13.7	2.61	18.50	14.17	0.00		
	Score	4	1	2	3	0	10	F
2003	Value	13.7	7.80	29.33	13.83	0.00		
	Score	4	1	3	3	0	11	F
2002	Value	13.7	18.19	23.33	8.83	0.00		
	Score	4	1	2	2	0	9	F
2001	Value	13.7	17.82	22.13	2.53	0.27		
	Score	4	1	2	1	2	10	F
2000	Value	13.7	2.30	16.29	2.14	0.14		
	Score	4	1	2	1	1	9	F
1999	Value	13.7	8.24	26.00	6.40	0.53		
	Score	4	1	3	2	2	12	G
1998	Value	13.7	5.96	9.17	7.83	1.50		
	Score	4	1	1	2	2	10	F
1997	Value	13.7	14.51	25.38	6.21	0.69		
	Score	4	1	3	2	2	12	G
1996	Value	13.7	8.71	15.43	6.57	0.86		
	Score	4	1	2	2	2	11	F
1995	Value	13.7	1.21	9.33	6.13	1.07		
	Score	4	1	1	2	2	10	F
1994	Value	13.7	5.70	13.86	7.00	1.29		
	Score	4	1	1	2	2	10	F
1993	Value	13.7	5.98	11.41	6.52	1.33		
	Score	4	1	1	2	2	10	F
1992	Value	13.7	9.10	24.42	8.75	1.31		
	Score	4	1	2	2	2	11	F
1991	Value	13.7	22.10	11.60	4.71	0.00		
	Score	4	2	1	2	0	9	F
1990	Value	13.7	17.52	10.20	4.90	1.10		
	Score	4	1	1	2	2	10	F

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Table 55. Population assessment for spotted bass based on spring electrofishing at Laurel River Lake from 1990-2011.

Year		Mean length age-3 at capture	Spring CPUE age 1	Spring CPUE 11.0-13.9 in	Spring CPUE ≥14.0 in	Spring CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥11.0 in	≥3.00 fish/hr	≥7.00 fish/hr	≥1.00 fish/hr	≥0.10 fish/hr		
2011	Value	10.4	0.83	7.50	2.00	0.00		
	Score	4	1	4	4	0	13	G
2010	Value	10.4	2.50	9.00	4.83	0.00		
	Score	4	2	4	4	0	14	G
2009	Value	10.4	0.33	6.83	2.67	0.17		
	Score	4	1	3	4	2	14	G
2008	Value	10.4	4.00	8.50	2.33	0.00		
	Score	4	2	4	4	0	14	G
2007	Value	10.4	0.83	10.67	2.00	0.00		
	Score	4	1	4	4	0	13	G
2006	Value	11.5	4.25	9.12	2.56	0.00		
	Score	4	2	4	4	0	14	G
2005	Value	11.5	1.52	7.67	3.67	0.00		
	Score	4	2	4	4	0	14	G
2004	Value	11.5	0.00	9.83	2.17	0.00		
	Score	4	0	4	4	0	12	G
2003	Value	11.5	2.26	10.17	0.83	0.00		
	Score	4	2	4	3	0	13	G
2002	Value	11.5	2.19	5.50	0.33	0.00		
	Score	4	2	3	3	0	12	G
2001	Value	11.5	5.96	8.27	0.13	0.00		
	Score	4	2	4	2	0	12	G
2000	Value	11.5	2.55	2.29	0.14	0.00		
	Score	4	2	3	2	0	11	F
1999	Value	11.5	1.54	5.60	0.40	0.00		
	Score	4	2	3	3	0	12	G
1998	Value	11.5	6.64	4.83	0.33	0.00		
	Score	4	2	3	3	0	12	G
1997	Value	11.5	1.64	7.45	0.69	0.00		
	Score	4	2	4	3	0	13	G
1996	Value	11.5	0.29	7.86	0.71	0.00		
	Score	4	1	4	3	0	12	G
1995	Value	11.5	1.18	9.87	0.00	0.00		
	Score	4	2	4	0	0	10	F
1994	Value	11.5	4.76	5.43	1.43	0.00		
	Score	4	2	3	3	0	12	G
1993	Value	11.5	1.21	5.33	0.59	0.15		
	Score	4	2	3	3	2	14	G
1992	Value	11.5	3.36	13.22	0.99	0.00		
	Score	4	2	4	3	0	13	G
1991	Value	11.5	3.99	12.68	0.00	0.00		
	Score	4	2	4	0	0	10	F
1990	Value	11.5	6.74	3.23	2.43	0.00		
	Score	4	2	3	4	0	13	G

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Table 56. Population assessment for smallmouth bass based on spring electrofishing at Laurel River Lake from 1990-2011.

Year		Mean length age-3 at capture	Spring CPUE age 1	Spring CPUE 11.0-13.9 in	Spring CPUE ≥14.0 in	Spring CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥13.0 in	≥3.00 fish/hr	≥1.5 fish/hr	≥1.00 fish/hr	≥0.50 fish/hr		
2011	Value	13.6	0.33	0.50	0.83	0.67		
	Score	4	2	2	3	4	15	G
2010	Value	13.6	3.83	0.67	2.83	1.17		
	Score	4	4	2	4	4	18	E
2009	Value	13.6	0.33	0.67	3.50	1.83		
	Score	4	2	2	4	4	16	G
2008	Value	13.6	0.83	1.33	3.17	1.83		
	Score	4	2	3	4	4	17	E
2007	Value	13.6	1.20	0.33	1.17	0.83		
	Score	4	3	2	4	4	17	E
2006	Value	13.6	0.38	0.16	0.96	0.32		
	Score	4	2	2	3	3	14	G
2005	Value	13.6	0.06	1.50	5.50	2.83		
	Score	4	1	3	4	4	16	G
2004	Value	13.6	0.40	0.67	1.17	0.00		
	Score	4	2	2	4	0	12	G
2003	Value	13.6	4.00	1.83	2.17	0.17		
	Score	4	4	3	4	2	17	E
2002	Value	13.6	6.04	2.17	0.67	0.17		
	Score	4	4	3	3	2	16	G
2001	Value	13.6	3.40	2.80	1.07	0.00		
	Score	4	4	4	4	0	16	G
2000	Value	13.6	0.88	1.29	0.57	0.14		
	Score	4	2	3	3	2	14	G
1999	Value	13.6	2.12	1.87	0.53	0.13		
	Score	4	3	3	3	2	15	G
1998	Value	13.6	12.67	0.67	0.67	0.50		
	Score	4	4	2	3	4	17	E
1997	Value	13.6	6.67	2.07	1.52	0.14		
	Score	4	4	3	4	2	17	E
1996	Value	13.6	0.14	2.86	0.43	0.00		
	Score	4	1	4	3	0	12	G
1995	Value	13.6	1.20	0.53	1.07	0.27		
	Score	4	3	2	4	3	16	G
1994	Value	13.6	3.36	1.29	0.71	0.29		
	Score	4	4	3	3	3	17	E
1993	Value	13.6	1.57	0.59	0.44	0.30		
	Score	4	3	2	3	3	15	G
1992	Value	13.6	1.89	1.47	0.15	0.00		
	Score	4	3	3	2	0	12	G
1991	Value	13.6	0.36	0.36	0.00	0.00		
	Score	4	2	2	0	0	8	F
1990	Value	13.6	8.63	1.35	1.35	0.54		
	Score	4	4	3	4	4	19	E

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Table 57. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Laurel River Lake during April and May 2011; 95% confidence limits are in parentheses.

Area	Species	No. ≥ stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Dam				
	Largemouth bass	50	46 (± 14)	20 (± 11)
	Spotted bass	24	50 (± 20)	21 (± 17)
	Smallmouth bass	3	0 (± 0)	0 (± 0)
Spruce Creek				
	Largemouth bass	76	89 (± 7)	50 (± 11)
	Spotted bass	27	63 (± 19)	15 (± 14)
	Smallmouth bass	9	44 (± 34)	33 (± 33)
Laurel River Arm				
	Largemouth bass	153	73 (± 7)	32 (± 7)
	Spotted bass	23	13 (± 14)	0 (± 0)
	Smallmouth bass	2	0 (± 0)	0 (± 0)
Upper Craigs Creek				
	Largemouth bass	120	65 (± 9)	19 (± 7)
	Spotted bass	58	43 (± 13)	5 (± 6)
	Smallmouth bass	7	57 (± 40)	29 (± 36)
Total				
	Largemouth bass	399	70 (± 4)	30 (± 5)
	Spotted bass	132	43 (± 8)	9 (± 5)
	Smallmouth bass	21	38 (± 21)	24 (± 19)

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

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Table 58. 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 13 September 2011; standard error is in parentheses.

		Inch class														
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE
Laurel River Arm	Largemouth bass	3	5	3	5	5	16	13	9	6	4	5		1	75	50.00 (10.11)
	Spotted bass	6	2			5	10	7	9	2	2	1	2	2	48	32.00 (8.13)
	Smallmouth bass		1												1	0.67 (0.67)

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Table 59. 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
2011 [b]	Laurel River Arm	4.1	0.29	10.67	5.63	3.33	1.91		
2010 [b]	Laurel River Arm	5.4	0.45	2.67	0.84	2.00	0.89	31.5[c]	7.54
2009	Laurel River Arm	3.8	0.30	6.00	3.22	0.67	0.67	19.33	6.96
2008 [b]	Laurel River Arm	3.2	0.30	1.33	0.84	0.00	0.00	14.00[d]	4.59
2007 [b]	Laurel River Arm	3.5	0.12	5.30	4.58	0.00	0.00	118.91[e]	12.43
2006 [b]	Laurel River Arm	3.7	0.14	12.70	4.89	0.67	0.67	5.39 [f]	2.12
2005 [b]	Laurel River Arm	4.4	0.16	14.00	3.54	3.30	1.61	58.33 [g]	9.18
2004	Laurel River Arm	4.9	0.15	14.00	5.82	8.00	3.43	8.30	2.35
2003	Laurel River Arm	3.4	0.05	36.70	13.99	0.70	0.67	2.60	1.00
2002	Laurel River Arm	4.5	0.11	30.70	5.81	8.70	3.49	10.30	4.05

[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 2010; CPUE of fin-clipped bass=8.00 fish/hr

[d] Includes bass stocked in fall 2008; CPUE of fin-clipped bass=8.00 fish/hr

[e] Includes bass stocked in fall 2007; CPUE of fin-clipped bass=108.00 fish/hr

[f] Includes bass stocked in fall 2006; CPUE of fin-clipped bass=2.00 fish/hr

[g] Includes bass stocked in fall 2005; CPUE of fin-clipped bass=36.00 fish/hr

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Table 60. Number of fish and mean relative weight (Wr) for each length group of black bass collected at 312 Bridge in Laurel River Lake on 13 September 2011 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
	32	97 (2)	6	97 (2)	0	-
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	27	108 (2)	5	110 (3)	2	102 (2)

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Table 61. Length frequency and CPUE (fish/nn) of walleye collected from Laurel River Lake in 16 net-nights in November 2011.

Species	Inch class																	Total	CPUE	Std. error
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	26			
Walleye	2	3	3	2	1	5	3	11	24	68	59	32	20	10	4	1	1	249	15.56	1.55

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Table 62. Population assessment for walleye based on fall gill netting at Laurel River Lake from 1990-2011.

Year		Parameters: CPUE ≥ age 1+	Mean length age 2+ at capture	CPUE ≥ 20.0 in	CPUE age 1+	Total score	Assessment rating
Management objective		≥10.00 fish/nn	≥18.0 in	≥2.5 fish/nn	≥4.00 fish/nn		
2011	Value	15.06	19.1	4.25	1.21		
	Score	4	4	4	2	14	E
2009	Value	15.25	19.0	7.19	5.13		
	Score	4	4	4	4	16	E
2007	Value	21.63	19.1	6.50	8.25		
	Score	4	4	4	4	16	E
2005	Value	25.10	19.5	9.30	8.00		
	Score	4	4	4	4	16	E
2002	Value	10.60	18.8	0.60	6.10		
	Score	4	4	2	4	14	E
1993	Value	4.30	18.6	0.50	2.40		
	Score	3	4	1	3	11	G
1991	Value	3.70	18.6	0.80	0.50		
	Score	2	4	2	1	9	F
1990	Value	4.70	18.6	1.50	1.50		
	Score	3	4	3	2	12	G

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Table 63. Mean back calculated lengths (in) at each annulus for male walleye collected from Laurel River Lake during 2011, 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
2010	12	11.4								
2009	23	11.5	16.4							
2008	15	11.1	16.2	18.4						
2007	5	11.6	16.2	18.6	20.0					
2006	8	11.4	16.9	18.8	20.1	20.9				
2005	2	11.5	15.2	18.3	19.7	20.6	21.4			
2004	6	10.5	15.6	17.6	19.1	20.1	20.7	21.3		
2003	4	11.4	16.4	18.3	19.7	20.5	21.3	22.0	22.6	
2002	1	12.0	15.9	18.4	19.7	20.6	21.9	23.2	24.0	24.9
Mean		11.3	16.3	18.4	19.7	20.5	21.1	21.7	22.9	24.9
Number		76	64	41	26	21	13	11	5	1
Smallest		6.3	12.6	15.9	18.2	18.9	19.7	20.4	21.2	24.9
Largest		13.5	18.2	20.2	21.5	22.3	22.3	23.2	24.0	24.9
Std error		0.2	0.1	0.1	0.2	0.2	0.2	0.3	0.5	
95% CI ±		0.3	0.3	0.3	0.4	0.4	0.5	0.5	1.0	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 64. Mean back calculated lengths (in) at each annulus for female walleye collected from Laurel River Lake during 2011, including the 95% confidence interval (CI) for each mean length per age group.

		Age						
Year	No.	1	2	3	4	5	6	7
2009	14	12.3	17.5					
2008	5	12.2	17.6	20.4				
2007	1	11.6	16.5	19.0	20.7			
2004	1	14.0	19.4	22.3	23.1	24.3	25.2	25.6
Mean		12.3	17.6	20.5	21.9	24.3	25.2	25.6
Number		21	21	7	2	1	1	1
Smallest		11.0	16.4	19.0	20.7	24.3	25.2	25.6
Largest		14.0	19.4	22.3	23.1	24.3	25.2	25.6
Std error		0.2	0.2	0.4	1.2			
95% CI ±		0.4	0.3	0.8	2.4			

Otoliths were used for age-growth determinations; Intercept = 0
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Table 65. Mean back calculated lengths (in) at each annulus for walleye (both sexes) collected from Laurel River Lake during 2011, 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
2010	18	10.6								
2009	37	11.8	16.8							
2008	20	11.4	16.6	18.9						
2007	6	11.6	16.3	18.7	20.1					
2006	8	11.4	16.9	18.8	20.1	20.9				
2005	2	11.5	15.2	18.3	19.7	20.6	21.4			
2004	7	11.0	16.2	18.3	19.7	20.7	21.3	21.9		
2003	4	11.4	16.4	18.3	19.7	20.5	21.3	22.0	22.6	
2002	1	12.0	15.9	18.4	19.7	20.6	21.9	23.2	24.0	24.9
Mean		11.4	16.6	18.7	19.9	20.7	21.4	22.1	22.9	24.9
Number		103	85	48	28	22	14	12	5	1
Smallest		6.3	12.6	15.9	18.2	18.9	19.7	20.4	21.2	24.9
Largest		14.0	19.4	22.3	23.1	24.3	25.2	25.6	24.0	24.9
Std error		0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	
95% CI ±		0.3	0.2	0.4	0.4	0.5	0.7	0.8	1.0	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 66. Age-frequency and CPUE (fish/nn) of walleye gill netting for 16 net-nights at Laurel River Lake during November 2011. Standard error is in parentheses.

	Inch class																				
Age	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	25	26	Total	%	CPUE	
0	2	3	3	2	1													11	4.4	0.69	(0.24)
1						5	3	9	2									19	7.5	1.19	(0.31)
2								2	17	56	34	14	4					127	50.4	7.94	(0.82)
3									5	12	21	11	2	4				55	21.8	3.44	(0.38)
4											4	4	4					12	4.8	0.75	(0.10)
5												4	4	3	1			12	4.8	0.75	(0.14)
6													1	1				2	0.8	0.13	(0.04)
7													5	3			1	9	3.6	0.56	(0.14)
8													1		3			4	1.6	0.25	(0.11)
9																1		1	0.4	0.06	(0.06)
Total	2	3	3	2	1	5	3	11	24	68	59	33	21	11	4	1	1	252	100.0	15.75	
%	0.8	1.2	1.2	0.8	0.4	2.0	1.2	4.4	9.5	27.0	23.4	13.1	8.3	4.4	1.6	0.4	0.4				

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Table 67. Population assessment for walleye gill netted at Laurel River Lake in November 2011.

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	15.06	4
Growth rate (Mean length age 2+ at capture)	19.1	4
Size structure (CPUE ≥20.0 in)	4.25	4
Recruitment (CPUE age 1)	1.21	2
Total score		14
Assessment rating		E
Instantaneous mortality (Z)	0.461	
Annual mortality (A)	37.0	

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Table 68. Number of fish and mean relative weight (Wr) for each length group of walleye collected in Laurel River Lake during November 2011. 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
14	91 (2)	156	95 (1)	67	98 (1)

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Table 69. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 3.00 hours of 15-minute nocturnal electrofishing runs for black bass in Dale Hollow Lake on 24 May 2011; standard error is in parentheses.

Area	Species	Inch class																	Total	CPUE
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Illw ill	Largemouth bass				1		3	1	2	7	1	4	2			1	1	1	24	16.00 (8.82)
Creek	Spotted bass		1	5	2	14	8	6	4	1	8	4	1	2					56	37.33 (7.50)
	Smallmouth bass		1	2	3			1	2	1	1	1	2	1	1				16	10.67 (3.04)
Little Sulphur	Largemouth bass	1			1	4	3	3	7	5	1	3	1	2	2				33	22.00 (6.00)
Creek	Spotted bass	5	15	3	7	15	9	9	5	2	1	1	1						73	48.67 (6.23)
	Smallmouth bass		1	1	4		2	2			2		2		2	1			17	11.33 (2.81)
Total	Largemouth bass	1			2	4	6	4	9	12	2	7	3	2	2	1	1	1	57	19.00 (5.17)
	Spotted bass	5	16	8	9	29	17	15	9	3	9	5	2	2					129	43.00 (4.95)
	Smallmouth bass		2	3	7		2	3	2	1	3	1	4	1	3	1			33	11.00 (1.98)

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Table 70. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Dale Hollow Lake during May 2011.

	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.
2011	2.33	1.34	10.33	3.25	4.00	1.56	2.33	0.92	0.00	0.00	19.00	5.17
2008	1.00	0.52	3.33	1.08	6.00	1.94	16.67	4.23	0.00	0.00	27.00	5.72
2005	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.52	0.00	0.00	2.00	1.35

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Table 71. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Dale Hollow Lake during May 2011.

	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.
2011	22.33	4.13	13.67	1.81	5.67	1.67	1.33	0.75	0.00	0.00	43.00	4.95
2008	8.33	2.58	12.00	3.15	11.00	1.78	3.33	1.96	0.00	0.00	34.67	5.36
2005	6.67	3.63	9.67	4.44	6.00	2.23	3.33	1.38	0.00	0.00	25.67	9.15

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Table 72. Spring electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected at Dale Hollow Lake during May 2011.

	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.
2011	4.00	0.85	2.33	0.77	1.67	0.77	3.00	1.00	0.33	0.33	11.00	1.98
2008	4.33	1.51	2.67	1.02	5.67	1.43	4.67	1.29	1.67	0.92	17.33	3.53
2005	3.00	1.40	3.00	1.00	1.67	0.59	3.33	1.08	2.33	1.15	11.00	1.78

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Table 73. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Dale Hollow Lake on 24 May 2011; 95% confidence limits are in parentheses.

Area	Species	No. ≥ stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Illwill Creek	Largemouth bass	23	43 (± 21)	13 (± 14)
	Spotted bass	48	33 (± 13)	6 (± 7)
	Smallmouth bass	10	70 (± 30)	40 (± 32)
Little Sulphur Creek	Largemouth bass	27	33 (± 18)	15 (± 14)
	Spotted bass	43	12 (± 10)	2 (± 5)
	Smallmouth bass	11	64 (± 30)	45 (± 31)
Total	Largemouth bass	50	38 (± 14)	14 (± 10)
	Spotted bass	91	23 (± 9)	4 (± 4)
	Smallmouth bass	21	67 (± 21)	43 (± 22)

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

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Table 74. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Dale Hollow Lake during 2011, including the 95% confidence interval (CI) for each mean length per age group.

		Age						
Year	No.	1	2	3	4	5	6	7
2010	9	7.7						
2009	32	5.3	11.2					
2008	4	4.7	10.3	14.2				
2007	1	3.8	8.8	12.8	14.7			
2006	3	3.7	11.2	14.0	15.2	16.1		
2005	1	6.3	11.2	14.0	15.4	16.1	16.4	
2004	2	4.9	10.5	13.7	15.7	17.2	18.1	18.8
Mean		5.5	11.0	13.9	15.3	16.4	17.6	18.8
Number		52	43	11	7	6	3	2
Smallest		3.2	8.1	12.8	14.6	15.2	16.4	18.6
Largest		9.7	13.9	15.0	15.9	17.2	18.4	19.0
Std error		0.2	0.2	0.2	0.2	0.3	0.6	0.2
95% CI ±		0.5	0.4	0.4	0.4	0.7	1.2	0.4

Otoliths were used for age-growth determinations; Intercept = 0
sedagdhb.d11

Table 75. Age-frequency and CPUE (fish/hr) of largemouth bass collected during 3.0 hours of nocturnal electrofishing at Dale Hollow Lake in May 2011.

	Inch class																	Std
Age	3	6	7	8	9	10	11	12	13	14	15	16	18	19	Total	%	CPUE	error
1	1	2	4	3											10	17.5	3.33	(1.29)
2				3	4	9	12	2	5						35	61.4	11.67	(3.73)
3									2	2	1				5	8.8	1.67	(0.54)
4										2					2	3.5	0.67	(0.36)
5											1	1			2	3.5	0.67	(0.47)
6												1			1	1.8	0.33	(0.22)
7													1	1	2	3.5	0.67	(0.67)
	1	2	4	6	4	9	12	2	7	4	2	2	1	1	57	100.0	19.00	
%	1.8	3.5	7.0	10.5	7.0	15.8	21.1	3.5	12.3	7.0	3.5	3.5	1.8	1.8	100.0			

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Table 76. Population assessment for largemouth bass collected from Dale Hollow Lake in May 2011.

Parameter	Actual value	Assessment score
Mean length age-3 at capture	14.2	4
Spring CPUE age 1	3.33	1
Spring CPUE 12.0-14.9 in	4.00	1
Spring CPUE ≥15.0 in	2.33	1
Spring CPUE ≥20.0 in	0.00	0
Instantaneous mortality (Z)	0.440	
Annual mortality (A)	35.6	
Total score		7
Assessment rating		P

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Table 77. Mean back calculated lengths (in) at each annulus for spotted bass collected from Dale Hollow Lake during 2011, including the 95% confidence interval (CI) for each mean length per age group.

		Age					
Year	No.	1	2	3	4	5	6
2010	7	5.3					
2009	32	4.0	7.7				
2008	20	4.3	8.1	10.6			
2007	6	5.0	8.8	11.6	13.3		
2006	1	4.9	8.0	11.4	13.3	14.2	
2005	2	5.4	9.4	12.0	13.3	14.0	14.5
Mean		4.5	8.0	10.9	13.3	14.0	14.5
Number		68	61	29	9	3	2
Smallest		3.2	5.3	8.8	12.5	13.1	13.8
Largest		8.5	11.4	13.7	14.2	14.8	15.2
Std error		0.1	0.2	0.2	0.2	0.5	0.7
95% CI ±		0.3	0.4	0.5	0.5	1.0	1.4

Otoliths were used for age-growth determinations; Intercept = 0
sedagdhb.d11

Table 78. Age-frequency and CPUE (fish/hr) of spotted bass collected during 3.0 hours of nocturnal electrofishing at Dale Hollow Lake in May 2011.

	Inch class																Std
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	%	CPUE	error
1	5	16	3	2	5	2								33	25.4	11.00	(2.94)
2			5	7	24	10	8	2						56	43.1	18.67	(2.73)
3						5	7	8	3	5	1			29	22.3	9.67	(1.01)
4										4	3	1		8	6.2	2.67	(0.99)
5												1		1	0.8	0.33	(0.22)
6											1		2	3	2.3	1.00	(0.67)
	5	16	8	9	29	17	15	10	3	9	5	2	2	130	100.0	43.33	
%	3.8	12.3	6.2	6.9	22.3	13.1	11.5	7.7	2.3	6.9	3.8	1.5	1.5	100.0			

sedpsddh.d11
sedagdhb.d11

Table 79. Population assessment for spotted bass collected from Dale Hollow Lake in May 2011.

Parameter	Actual value	Assessment score
Mean length age-3 at capture	10.6	4
Spring CPUE age 1	11.12	3
Spring CPUE 11.0-13.9 in	5.67	3
Spring CPUE ≥14.0 in	1.33	3
Spring CPUE ≥17.0 in	0.00	0
Instantaneous mortality (Z)	0.723	
Annual mortality (A)	51.5	
Total score		13
Assessment rating		G

sedpsddh.d11
sedagdhb.d11

Table 80. Length frequency and CPUE (fish/hr) of largemouth bass collected at Cedar Creek Lake in 3.5 hours (2.0 hours in lower end; 1.5 hours upper end; 30-min runs) of nocturnal electrofishing on 16 May 2011.

		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. error
Lower	Largemouth bass	35	55	70	18	30	34	33	31	45	35	13	13	8	8	13	10	5	4	1	461	230.50	19.19
Upper	Largemouth bass	1	21	24	19	12	22	13	19	16	22	15	12	14	10	5	7	5			237	158.00	13.61
Total	Largemouth bass	36	76	94	37	42	56	46	50	61	57	28	25	22	18	18	17	10	4	1	698	199.43	18.61

bbrpsccl.d11

Table 81. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in each area of Cedar Creek Lake on 16 May 2011; 95% confidence levels are in parentheses.

Area	No. ≥8.0 in	PSD	RSD_{15}
Lower	283	55 (± 6)	22 (± 5)
Upper	172	62 (± 7)	31 (± 7)
Total	455	57 (± 5)	25 (± 4)

bbrpsccl.d11

Table 82. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from each section of Cedar Creek Lake from 2003-2011. Numbers in parentheses are standard errors.

		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.
2011	Lower	89.00	12.82	64.00	8.60	46.50	6.18	31.00	8.81	5.00	1.73	230.50	19.19
	Upper	43.33	16.34	44.00	10.07	35.33	4.81	35.33	8.74	3.33	1.33	158.00	13.61
	Total	69.43	13.05	55.43	7.21	41.71	4.40	32.86	5.82	4.29	1.11	199.43	18.61
2010	Lower	50.21	5.41	103.84	15.58	40.21	6.78	38.81	11.08	4.09	2.24	233.07	24.29
	Upper	17.33	9.40	107.33	14.53	51.33	10.48	48.00	5.29	4.00	1.15	224.00	23.18
	Total	36.12	8.07	105.34	10.00	44.98	5.82	42.75	6.52	4.05	1.27	229.18	15.77
2009	Lower	111.00	37.78	59.00	10.34	35.50	6.65	35.50	6.90	5.50	1.26	241.00	37.47
	Upper	64.67	38.82	69.33	12.98	32.00	6.00	37.33	12.77	4.67	1.76	203.33	35.67
	Total	91.14	26.66	63.43	7.68	34.00	4.28	36.29	6.09	5.14	0.96	224.86	25.32
2008	Lower	81.50	23.61	75.50	15.63	15.00	3.42	34.00	6.48	4.50	2.63	206.00	36.74
	Upper	56.67	4.81	64.67	7.69	22.67	1.33	30.67	9.82	4.00	3.06	174.67	1.33
	Total	70.86	13.70	70.86	9.11	18.29	2.45	32.57	5.12	4.29	1.82	192.57	20.64
2007	Lower	40.00	9.50	102.50	28.60	23.50	6.40	35.00	3.10	3.50	0.50	201.00	38.50
	Upper	17.33	13.50	49.30	8.70	12.67	2.70	34.67	3.30	3.33	1.30	114.00	21.20
	Total	30.29	8.50	79.71	19.00	18.86	4.20	34.86	2.10	3.43	0.60	163.70	28.20
2006	Lower	33.00	9.90	76.00	23.40	6.00	2.50	37.00	5.90			152.00	36.30
	Upper	12.00	3.10	30.00	1.20	7.33	1.80	28.67	2.70	0.67	0.70	78.00	4.20
	Total	24.00	6.90	56.30	15.60	6.57	1.50	33.43	3.70	0.29	0.30	120.30	24.50
2005	Lower	122.00	11.40	19.00	7.00	38.50	5.70	56.50	12.30			236.00	25.00
	Upper	23.33	9.30	4.67	1.80	18.67	0.70	40.00	7.20			86.67	12.90
	Total	79.70	21.10	12.86	4.80	30.00	5.10	49.40	7.90			172.00	33.40
2004	Lower	37.80	7.30	38.30	5.70	68.70	15.10	6.50	3.10			151.30	22.50
	Upper	11.30	3.50	28.00	7.20	84.70	11.70	6.00	2.00			130.00	24.10
	Total	27.90	6.60	34.50	4.60	74.70	10.20	6.30	2.00			143.30	16.10
2003	Lower	134.40	8.50	8.80	2.90	19.60	3.30	0.80	0.50			163.60	11.70
	Upper	218.00	51.30	18.70	9.80	13.30	2.40					250.00	54.00
	Total	165.80	23.30	12.50	4.10	17.30	2.40	0.50	0.30			196.00	24.70

bbrpscci.d11

Table 83. Population assessment for largemouth bass based on spring electrofishing at Cedar Creek Lake from 2003-2011.

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	Assessement rating
Management objective		≥11.5 in	≥16.00 fish/h	≥20.00 fish/hr	≥30.00 fish/hr	≥4.00 fish/hr		
2011	Value	13.5	68.57	41.71	32.86	4.29		
	Score	4	3	3	4	4	18	E
2010	Value	13.5	35.47	44.98	42.75	4.05		
	Score	4	2	3	4	4	17	E
2009	Value	12.0	92.57	34.00	36.29	5.14		
	Score	4	4	2	4	4	18	E
2008	Value	12.0	72.57	18.29	32.57	4.29		
	Score	4	3	1	4	4	16	G
2007	Value	12.0	26.57	18.90	34.90	3.40		
	Score	4	2	1	4	3	14	G
2006	Value	14.0	23.14	6.57	33.43	0.29		
	Score	4	2	1	4	1	12	G
2005	Value	14.0	1.71	30.00	49.43	0.00		
	Score	4	1	2	4	0	11	F
2004	Value	14.0	5.38	74.70	6.30	0.00		
	Score	4	1	4	2	0	11	F
2003	Value	14.0	5.97	17.30	0.50	0.00		
	Score	4	1	1	1	0	7	P

bbrpsccl.d11

Table 84. Length-frequency and CPUE (fish/hr) of largemouth bass collected during 3.5 hours of nocturnal electrofishing (2.0 hours in lower end; 1.5 hours upper end) (30 minute runs) at Cedar Creek Lake on 22 September 2011; standard error is in parentheses.

	Inch class																					
Area	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Lower	9	16	23	9	4	46	95	71	45	17	22	12	7	8		2	1	1	2		390	195.00 (19.55)
Upper		11	15	7	3	11	62	55	26	22	26	20	18	9	4	8	3	2		1	303	202.00 (13.86)
Total	9	27	38	16	7	57	157	126	71	39	48	32	25	17	4	10	4	3	2	1	693	198.00 (11.78)

bbrw rccl.d11

Table 85. 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
2011	4.2	0.10	27.14	4.04	6.00	1.07		
2010	5.0	0.06	59.46	15.83	33.40	6.05	68.57	12.86
2009	4.1	0.11	17.43	4.31	3.71	1.77	35.47	7.93
2008	4.7	0.06	55.71	8.58	24.86	5.38	92.57	26.86
2007	5.4	0.04	32.86	7.82	28.57	6.60	72.57	13.45
2006	4.7	0.05	43.71	11.31	17.71	5.28	26.57	7.43
2005	4.8	0.06	55.70	9.51	28.00	7.73	23.14	6.69
2004	4.8	0.04	17.40	3.10	12.90		1.70	0.90

bbrwrccl.d11

Table 86. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected in Cedar Creek on 22 September 2011. 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	102	86 (1)	41	86 (1)	14	83 (6)
	Upper	165	86 (1)	64	91 (1)	27	96 (2)
	Total	267	86 (0)	105	89 (1)	41	91 (2)

bbrwrccl.d11

Table 87. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected at Cedar Creek Lake in 2.0 hours (7.5-min runs) of daytime electrofishing on 16 June 2011.

	Inch class										
Species	1	2	3	4	5	6	7	8	Total	CPUE	Std. error
Bluegill	54	548	548	177	97	39	3		1466	733.00	81.14
Redear sunfish		6	16	51	46	34	8	1	162	81.00	14.25

bbrbgccl.d11

Table 88. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected from 2007-2011.

		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													
	2011	301.00	45.93	411.00	56.72	21.00	4.78	0.00	0.00			733.00	81.14
	2010	411.73	106.45	426.13	48.58	20.27	3.89	0.00	0.00			858.13	145.65
	2009	579.60	92.40	217.20	22.80	20.40	7.80	0.00	0.00			817.20	95.60
	2008	408.80	78.70	370.00	35.60	23.60	5.10	0.00	0.00			802.40	91.70
	2007	234.80	57.10	289.60	25.20	25.60	6.10	0.00	0.00			550.00	63.40
Redear sunfish													
	2011	3.00	1.44	56.50	10.65	21.00	3.92	0.50	0.50	0.00	0.00	81.00	14.25
	2010	12.80	4.67	56.00	9.56	26.13	6.96	3.73	1.72	0.00	0.00	98.67	15.21
	2009	27.20	6.50	51.60	7.80	36.40	5.80	2.40	1.70	0.00	0.00	117.60	13.40
	2008	10.40	3.00	66.00	12.10	102.00	25.10	8.00	4.00	0.00	0.00	186.40	32.70
	2007	13.20	3.70	46.00	8.20	159.60	48.80	16.40	6.20	0.00	0.00	235.20	52.00

bbrbgccl.d11

Table 89. PSD and RSD_{15} values obtained for bluegill and redear sunfish taken in spring electrofishing samples in Cedar Creek Lake on 16 June 2011; 95% confidence levels are in parentheses.

Species	No. ≥ stock size	PSD	RSD[a]
Bluegill	864	5 (± 1)	0 (± 0)
Redear sunfish	140	6 (± 4)	0 (± 0)

[a] Bluegill = RSD_8, Redear sunfish = RSD_9

bbrbgccl.d11

Table 90. Length frequency and CPUE (fish/hr) of largemouth bass collected at Chenoa Lake in 1.25 hours (15.0-min runs) of nocturnal electrofishing on 9 May 2011.

	Inch class																				
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	21	Total	CPUE	Std. error
Largemouth bass	4	5	2	6	4	23	13	2	14	15	39	28	12	5	3	1	1	1	178	142.40	18.74

sedpsdcl.d11

Table 91. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Chenoa Lake on 9 May 2011.

	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.
2011	35.20	7.08	35.20	7.75	63.20	9.65	8.80	2.52	0.80	0.80	142.40	18.74
2008	24.00	4.46	49.60	14.10	63.20	10.70	20.00	4.34	1.60	1.07	156.80	23.19
2006	28.00	12.84	44.00	5.66	68.00	9.63	16.80	3.44	3.20	1.50	156.80	19.80

sedpsdcl.d11

Table 92. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in Chenoa Lake on 9 May 2011; 95% confidence levels are in parentheses.

Year	No. ≥8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
2011	134	67 (± 8)	8 (± 5)

sedpsdcl.d11

Table 93. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Chenoa Lake during 2011, 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	11	12
2010	15	4.6											
2009	21	3.6	7.6										
2008	9	3.7	7.7	10.3									
2007	7	5.6	8.7	10.4	12.2								
2006	11	3.5	8.3	10.0	11.4	12.4							
2005	2	5.3	8.4	9.5	11.8	12.3	12.8						
2004	7	4.0	8.3	10.7	12.3	13.1	13.7	14.3					
2003	8	4.4	8.1	10.6	11.9	13.0	13.9	14.5	14.8				
2002	3	4.8	7.9	10.6	12.5	13.2	14.2	14.8	15.3	15.7			
2000	1	4.6	9.0	12.1	13.6	14.0	14.4	15.0	15.6	16.3	16.7	17.1	
1999	2	6.5	10.5	12.9	14.3	15.2	15.7	16.5	17.1	17.7	18.4	18.8	19.3
Mean		4.2	8.1	10.5	12.1	13.0	14.0	14.7	15.3	16.5	17.8	18.3	19.3
Number		86	71	50	41	34	23	21	14	6	3	3	2
Smallest		2.4	5.7	8.2	10.0	10.6	11.4	12.2	12.5	14.6	16.3	16.8	17.0
Largest		7.6	12.0	14.0	15.6	16.8	17.8	18.5	18.9	19.6	20.6	20.9	21.6
Std error		0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.5	0.7	1.4	1.3	2.3
95% CI ±		0.2	0.2	0.3	0.4	0.5	0.6	0.7	1.0	1.4	2.8	2.7	4.5

Otoliths were used for age-growth determinations; Intercept = 0
sedagcll.d11

Table 94. Age-frequency and CPUE (fish/hr) of largemouth bass collected during 1.25 hours of nocturnal electrofishing at Chenoa Lake on 9 May 2011.

	Inch class																				Std
Age	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	21	Total	%	CPUE	error
1	4	5	2	5	2														18	9.9	14.40	(4.73)
2				1	2	23	13	1											40	22.1	32.00	(8.81)
3								1	14										15	8.3	12.00	(3.48)
4										6	12	4							22	12.2	17.60	(2.94)
5										9	12	16							37	20.4	29.60	(4.73)
6											8								8	4.4	6.40	(1.16)
7											4	4	5	3					16	8.8	12.80	(2.31)
8											4	4	6	1			1		16	8.8	12.80	(2.34)
9													2	1	3				6	3.3	4.80	(1.70)
11																1			1	0.6	0.80	(0.40)
12																1		1	2	1.1	1.60	(0.85)
	4	5	2	6	4	23	13	2	14	15	40	28	13	5	3	2	1	1	181	100.0	144.80	
%	2.2	2.8	1.1	3.3	2.2	12.7	7.2	1.1	7.7	8.3	22.1	15.5	7.2	2.8	1.7	1.1	0.6	0.6	100.0			

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sedagcll.d11

Table 95. Population assessment for largemouth bass collected from Chenoa Lake in May 2011.

Parameter	Actual value	Assessment score
Mean length age-3 at capture	10.3	2
Spring CPUE age 1	14.08	1
Spring CPUE 12.0-14.9 in	63.20	4
Spring CPUE ≥15.0 in	8.80	2
Spring CPUE ≥20.0 in	0.80	1
Instantaneous mortality (Z)	0.304	
Annual mortality (A)	26.2	
Total score		10
Assessment rating		F

sedpsdcl.d11

Table 96. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected at Chenoa Lake in 1.25 hours (7.5-min runs) of daytime electrofishing on 15 June 2011.

	Inch class													
Species	0	1	2	3	4	5	6	7	8	9	10	Total	CPUE	Std. error
Bluegill	1	14	70	41	27	18	23	17	1			212	169.60	24.84
Redear sunfish				2	1	2	7		2	2	1	17	13.60	3.38

sedbgcl.d11

Table 97. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Chenoa Lake on 15 June 2011.

	Length group											
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥8.0 in		≥10.0 in		Total	
Species	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
Bluegill	68.00	13.71	68.80	9.99	32.00	8.18	0.80	0.80			169.60	24.84
Redear sunfish			4.00	1.33	5.60	2.40	4.00	1.33	0.80	0.80	13.60	3.38

sedbgcl.d11

Table 98. PSD and RSD values obtained for bluegill and redear sunfish taken in spring electrofishing samples in Chenoa Lake on 15 June 2011; 95% confidence levels are in parentheses.

Species	No. ≥ stock size	PSD	RSD[a]
Bluegill	127	32 (± 8)	1 (± 2)
Redear sunfish	15	33 (± 25)	20 (± 21)

[a] Bluegill = RSD_8, Redear sunfish = RSD_9

sedbgcl.d11

Table 99. Length frequncy of channel catfish collected during three nights of three tandem (3 nets) hoop net sets at Chenoa Lake in October 2011.

	Inch class													
Species	7	8	9	10	11	12	13	14	15	17	18	19	20	Total
Channel catfish	1	7	7	9	3	9	9	10	2	7	2	1	1	68

sedhncl.d11

Table 100. Length frequency and CPUE (fish/hr) of black bass collected at Lake Linville in 1.5 hours (15-min runs) of nocturnal electrofishing on 12 May 2011.

Species	Inch class																	Total	CPUE	Std. error
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
Largemouth bass	4	29	26	13	20	50	64	29	21	5	7	1	1	3	2	5	2	282	188.00	18.01
Spotted bass	5	15	5	9	30	21	20	11	3		2							121	80.67	14.40

sedpsdll.d11

Table 101. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Lake Linville on 12 May 2011.

Year	Length group										Total	
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2011	48.00	7.80	108.67	11.00	22.00	5.54	9.33	2.67	1.33	1.33	188.00	18.01
2010	52.00	25.13	194.67	45.42	39.33	8.35	10.67	2.23	4.67	1.23	296.67	71.45
2009	55.60	10.76	93.20	10.88	8.40	1.51	10.40	1.60	2.40	0.88	167.60	17.06
2008	54.00	13.46	144.40	19.88	12.40	3.89	18.40	4.55	2.80	1.20	229.20	28.03
2007	46.40	15.68	101.60	19.64	13.20	1.89	25.60	3.59	4.80	2.05	186.80	32.00
2006	10.00	2.50	47.30	12.60	22.00	4.00	10.00	2.30	2.70	1.30	89.30	11.20

sedpsdll.d11

Table 102. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Lake Linville on 12 May 2011.

	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.
2011	22.67	5.72	47.33	7.96	9.33	3.96	1.33	0.84	0.00	0.00	80.67	14.40
2010	32.00	8.26	114.00	22.31	20.00	5.27	0.67	0.67	0.00	0.00	166.67	34.40
2009	62.40	11.64	64.00	9.18	2.80	1.04	0.40	0.40	0.00	0.00	129.60	19.53
2008	96.00	14.47	60.40	8.61	8.00	2.15	1.60	0.88	0.00	0.00	166.00	23.60
2007	76.00	26.00	44.80	10.40	15.20	4.45	2.00	1.23	0.40	0.40	138.00	36.50
2006	24.00	7.00	35.30	7.10	10.00	2.70	2.00	1.40	0.00	0.00	71.30	14.50

sedpsdll.d11

Table 103. Population assessment for largemouth bass based on spring electrofishing at Lake Linville from 2002-2011.

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	Assessement rating
Management objectives		≥ 10.8 in	≥ 16.0 fish/hr	≥ 20.0 fish/hr	≥ 17.0 fish/hr	≥ 2.00 fish/hr		
2011	Value	11.1	48.00	22.00	9.33	1.33		
	Score	3	3	2	2	2	12	G
2010	Value	11.1	47.33	39.33	10.67	4.67		
	Score	3	3	3	2	4	15	G
2009	Value	11.1	52.00	8.40	10.40	2.40		
	Score	3	3	1	2	3	12	G
2008	Value	11.1	34.80	12.40	18.40	2.80		
	Score	3	2	1	3	3	12	G
2007	Value	11.1	39.20	13.20	25.60	4.80		
	Score	3	2	1	3	4	13	G
2006	Value	11.1	6.53	22.00	10.00	2.70		
	Score	3	1	2	2	3	11	F
2002	Value	11.7	4.00	12.00	14.67	1.33		
	Score	4	1	1	2	2	10	F

sedpsdll.d11

Table 104. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Lake Linville on 12 May 2011; 95% confidence limits are in parentheses.

Species	No. fish ≥stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Largemouth bass	210	22 (± 6)	7 (± 3)
Spotted bass	96	17 (± 7)	2 (± 3)

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

sedpsdll.d11

Table 105. 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 Lake Linville on 3 October 2011; standard error is in parentheses.

	Inch class																	
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total	CPUE
Largemouth bass	1	19	20	17	3	36	82	56	63	36	25	8	4	1	1	3	375	250.00 (29.43)
Spotted bass	5	17	10	1	19	45	30	41	35	16	4	1			2		226	150.67 (29.78)
Smallmouth bass	1	3				1											5	3.33 (2.62)

sedyoyll.d11

Table 106. Indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected in the fall (Septemberand October) in electrofishing samples at Lake Linville.

	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
2011	5.4	0.11	38.67	16.02	25.33	11.44		
2010	5.1	0.09	57.33	19.26	30.67	7.35	48.00	7.80
2009	4.5	0.06	75.33	33.71	18.00	6.35	47.33	22.66
2008	5.1	0.06	49.60	12.82	29.60	8.62	52.00	10.10
2007	4.8	0.05	45.80	14.90	17.45	7.20	34.80	11.58
2006	5.1	0.05	84.00	33.50	48.00	19.80	39.20	
2005	4.4	0.16	20.70	9.82	6.00	2.00	6.53	1.42

sedyoyll.d11

Table 107. Number of fish and mean relative weight (Wr) for each length group of black bass collected in Lake Linville on 3 October 2011. 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
	134	84 (1)	62	89 (1)	9	96 (2)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	71	86 (1)	38	88 (1)	3	82 (5)

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Table 108. 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 4 May 2011; 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	22	Total	CPUE
Dam	Largemouth bass		2	2	2	8	5	8	7	2	1	3	3	1							44	44.00 (1.63)
	Spotted bass	1	3	11	9	9	3	4	5	3	3										51	51.00 (15.52)
	Smallmouth bass		1																		1	1.00 (1.00)
Pump Station	Largemouth bass	1	3	4	8	6	13	6	10	4	5	7	6	6	3	1	1	2	1	1	88	88.00 (11.78)
	Spotted bass		1	1	5	2	1	2	6	1	1										20	20.00 (8.16)
	Smallmouth bass					1															1	1.00 (1.00)
Dock	Largemouth bass		8	23	16	2	14	15	10	19	7	8	3	3	4	2	2	1	1		138	138.00 (14.65)
	Spotted bass		2		4	1	2	1	3												13	13.00 (2.52)
	Smallmouth bass																				0	0.00 (0.00)
Total	Largemouth bass	1	13	29	26	16	32	29	27	25	13	18	12	10	7	3	3	3	2	1	270	90.00 (12.90)
	Spotted bass	1	6	12	18	12	6	7	14	4	4										84	28.00 (7.30)
	Smallmouth bass		1			1															2	0.67 (0.45)

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Table 109. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Wood Creek Lake on 4 May 2011; 95% confidence limits are in parentheses.

Area	Species	No. ≥stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Dam				
	Largemouth bass	30	27 (± 16)	3 (± 7)
	Spotted bass	27	22 (± 16)	0 (± 0)
Pump Station				
	Largemouth bass	66	50 (± 12)	23 (± 10)
	Spotted bass	13	15 (± 20)	0 (± 0)
Dock				
	Largemouth bass	89	35 (± 10)	15 (± 7)
	Spotted bass	7	0 (± 0)	0 (± 0)
Total				
	Largemouth bass	185	39 (± 7)	16 (± 5)
	Spotted bass	47	17 (± 11)	0 (± 0)

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

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Table 110. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Wood Creek Lake during May 2011.

	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.
2011	28.33	5.81	37.67	5.92	14.33	3.25	9.67	2.67	1.00	0.52	90.00	12.90
2010	27.50	9.21	43.00	11.33	33.50	5.23	14.00	2.83	2.50	1.05	118.00	26.58
2009	6.67	3.05	36.00	7.52	31.00	2.52	13.33	3.63	2.67	0.90	87.00	14.06
2008	6.67	3.60	44.67	6.78	15.33	2.69	14.33	2.38	2.00	0.78	81.00	12.25
2007	6.67	2.27	50.33	8.49	6.00	1.15	18.00	3.32	1.33	0.57	81.00	12.52
2006	30.33	6.97	24.33	6.20	10.00	2.06	20.67	5.02	2.00	1.04	85.30	17.50
2005	4.00	1.98	14.40	3.59	28.00	4.38	12.80	2.29	3.20	1.67	59.20	9.30

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Table 111. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Wood Creek Lake during May 2011.

	Length group									
	<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2011	16.33	4.22	9.00	2.79	2.67	1.24	0.00	0.00	28.00	7.30
2010	13.50	5.45	19.00	2.90	5.50	1.30	0.00	0.00	38.00	8.04
2009	16.67	4.89	15.67	3.39	3.33	0.96	0.33	0.33	36.00	6.46
2008	11.67	3.28	16.67	2.91	2.33	1.15	0.33	0.33	31.00	5.37
2007	14.67	3.86	20.67	3.84	6.67	1.58	1.67	1.04	43.67	7.52
2006	13.70	2.70	14.00	2.80	10.30	2.20	3.30	1.00	41.30	6.00
2005	8.80	2.90	13.60	5.50	15.20	2.80	4.40	1.30	42.00	10.20

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Table 112. Population assessment for largemouth bass based on spring electrofishing at Wood Creek Lake from 2005-2011.

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	Assessement rating
Management objectives		≥11.5 in	≥8.0 fish/hr	≥20.0 fish/hr	≥17.0 fish/hr	≥2.00 fish/hr		
2011	Value	11.4	24.78	14.33	9.67	1.00		
	Score	3	2	1	2	2	10	F
2010	Value	11.4	15.09	33.50	14.00	2.50		
	Score	3	1	2	2	3	11	F
2009	Value	12.3	5.33	31.00	13.33	2.67		
	Score	4	1	2	2	3	12	G
2008	Value	12.3	5.67	15.33	14.33	2.00		
	Score	4	1	1	2	3	11	F
2007	Value	12.3	5.33	6.00	18.00	1.33		
	Score	4	1	1	3	2	11	F
2006	Value	12.3	11.83	10.00	20.67	2.00		
	Score	4	1	1	3	3	12	G
2005	Value	12.3	2.40	28.00	12.80	3.20		
	Score	4	1	2	2	3	12	G

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Table 113. Mean back calculated lengths (in) at each annulus for spotted bass collected from Wood Creek Lake during 2011, including the 95% confidence interval (CI) for each mean length per age group.

		Age							
Year	No.	1	2	3	4	5	6	7	8
2010	3	4.2							
2009	20	3.4	6.0						
2008	11	3.8	6.3	8.0					
2007	17	4.0	6.8	8.8	10.1				
2006	1	4.9	8.2	10.4	11.3	11.8			
2005	3	4.2	6.9	8.9	10.0	10.8	11.6		
2004	3	4.6	7.4	9.0	10.3	11.2	11.9	12.3	
2003	1	3.5	6.1	8.4	9.9	10.5	11.3	11.9	12.2
Mean		3.8	6.4	8.6	10.2	11.0	11.7	12.2	12.2
Number		59	56	36	25	8	7	4	1
Smallest		2.5	4.7	6.6	8.7	10.0	10.7	11.5	12.2
Largest		6.2	8.6	10.4	11.6	11.9	12.6	12.8	12.2
Std error		0.1	0.1	0.2	0.1	0.3	0.3	0.3	
95% CI ±		0.2	0.3	0.3	0.5	0.6	0.6	0.6	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 114. Age-frequency and CPUE (fish/hr) of spotted bass collected during 3.0 hours of nocturnal electrofishing at Wood Creek Lake on 4 May 2011.

	Inch class													Std
Age	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	error
1	1	2									3	3.5	1.00	(0.54)
2		4	12	16	6						38	44.7	12.67	(3.22)
3				2	6	5	1				14	16.5	4.67	(1.42)
4						1	6	13	2		22	25.9	7.33	(2.20)
5									1		1	1.2	0.33	(0.15)
6								1	1	1	3	3.5	1.00	(0.41)
7									1	2	3	3.5	1.00	(0.45)
8										1	1	1.2	0.33	(0.19)
	1	6	12	18	12	6	7	14	5	4	85	100.0	28.33	
%	1.2	7.1	14.1	21.2	14.1	7.1	8.2	16.5	5.9	4.7	100.0			

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Table 115. Population assessment for spotted bass collected from Wood Creek Lake in May 2011.

Parameter	Actual value	Assessment score
Mean length age-3 at capture	8.0	1
Spring CPUE age 1	1.13	2
Spring CPUE 11.0-13.9 in	2.67	3
Spring CPUE ≥14.0 in	0.00	0
Spring CPUE ≥17.0 in	0.00	0
Instantaneous mortality (Z)	0.571	
Annual mortality (A)	43.5	
Total score		6
Assessment rating		P

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Table 116. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 3.0 hours of 15-minute nocturnal electrofishing runs in Wood Creek Lake on 20 September 2011; standard error is in parentheses.

Area	Species	Inch class																		Total	CPUE
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Dam	Largemouth bass	1	2			3	4	6	8	4	4	1								33	33.00 (4.12)
	Spotted bass		3	2	6	9	6	8	5	6			1							46	46.00 (8.72)
	Smallmouth bass						1													1	1.00 (1.00)
Pump station	Largemouth bass	2	7	9		1	12	29	16	10	6	2	4	4	4	2	1			109	109.00 (22.65)
	Spotted bass		4	2	3	12	4	4	2	2	3	1								37	37.00 (10.25)
	Smallmouth bass								1											1	1.00 (1.00)
Dock	Largemouth bass		6	8	2	2	32	55	13	10	7	10	2	1	3	1	1	1	2	156	156.00 (53.19)
	Spotted bass		1	1		5	3	1	4	2	2	2	1							22	22.00 (1.15)
	Smallmouth bass																			0	0.00 (-)
Total	Largemouth bass	3	15	17	2	6	48	90	37	24	17	13	6	5	7	3	2	1	2	298	99.33 (23.21)
	Spotted bass		8	5	9	26	13	13	11	10	5	3	2							105	35.00 (5.05)
	Smallmouth bass						1		1											2	0.67 (0.45)

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Table 117. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in fall (September and October) electrofishing samples at Wood Creek Lake.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year Class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2011 [a]	4.0	0.11	12.33	4.13	0.67	0.67		
2010	5.0	0.07	36.67	14.88	18.00	6.60	24.78	5.97
2009 [a]	3.7	0.43	2.67	1.66	0.67	0.45	15.09[b]	7.36
2008	3.8	0.12	13.33	3.24	1.00	0.72	5.33	2.67
2007	4.2	0.13	13.33	7.59	2.67	1.24	5.67	3.21
2006 [a]	4.4	0.27	3.70	1.74	0.70	0.45	5.33[c]	2.38
2005	4.0	0.09	23.70	11.90	3.33	1.38	11.83	4.37
2004	4.2	0.13	17.90	4.78	4.30	1.46	2.40	1.22

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[a] Age-0 largemouth bass stocked in the fall

[b] Includes fish stocked in fall 2009; CPUE stocked fish=10.00 fish/hr

[c] Includes fish stocked in fall 2006; CPUE stocked fish=0.33 fish/hr

Table 118. Number of fish and mean relative weight (Wr) for each length group of black bass collected at Wood Creek Lake during 20 September 2011. 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
	151	86 (1)	24	85 (2)	15	93 (3)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	47	98 (1)	10	92 (2)	0	-

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EASTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Table 1 shows sampling conditions by water body for eastern fishery district lakes in 2011.

Buckhorn Lake

Length frequency, catch-per-unit-effort (CPUE), and population assessment based on early spring sampling for muskellunge in 2011 using daytime electrofishing at Buckhorn Lake (1,230 acres) are shown in Tables 2 and 3. Musky were sampled through 43.0 in while electrofishing (Table 2). An assessment rating of "Good" was observed during 2011, the same as 2010 but down from "Excellent" in 2009 (Table 3). The $\log_{10}$ length-weight equation for muskellunge during 2011 sampling was $-4.32 + 3.47(\log_{10}$ length). On 1 March 2010 the musky size limit in the lake changed from 40.0 in to 36.0 in. A total of 425 muskellunge (12.7 in) were stocked during 2011. The tailwater below Buckhorn Lake continues to provide an additional good muskellunge fishery. During 2012 muskellunge will be sampled in the spring.

The black bass populations were sampled during the fall (Tables 4 and 5). A spring sample was unable to be conducted due to local flooding. Largemouth bass comprise the major black bass species in this lake. Due to low numbers of age-0 to age-1 fish, largemouth bass (4.0 in) have been supplementally stocked during October of 2005, 2006, 2008, and 2009. However, due to recently strong year classes, largemouth bass were not stocked in 2010 or 2011. Fish stocked in 2005 received a right pectoral fin clip, 2006 a left pectoral fin clip, 2008 a right pelvic fin clip, and 2009 a right pectoral fin clip for future identification.

White crappie were sampled using trap nets in November 2011 (Tables 6-10). An assessment value of "Good" was observed for the third consecutive year (Table 10). The growth rate (based on length of age-2 fish at capture) appears to have increased since 2007, and it is now equal to that of 2003 – 2005 (Table 10). A length limit of 9.0 in was implemented 1 March 2007 and since this time the growth rate has increased. However, growth rates should be monitored to assess any reduction in growth due to decreased fishing mortality on fish under 9.0 in with the new regulation. Growth of younger fish can be increased by maintaining the summer pool for longer periods before drawdown to winter pool.

Habitat improvement work occurred throughout 2011. Wood pallet and Christmas tree structures were constructed and installed in the lake and 200 pounds of winter wheat was planted on mudflats during low water periods. Improved habitat will continue to aid recruitment of age-0 largemouth bass and other fish in the lake. During 2012, black bass will be sampled in the spring and fall with boat electrofishing.

Additional fish stocking occurred throughout the year at the tailwater area below the dam; however, due to spring flooding and high water temperatures only 3 of 5 trout stockings were completed in 2011.

Carr Creek Lake

The black bass population was sampled during the spring and fall at Carr Creek Lake (710 acres) in 2011 (Tables 11-17). The assessment rating remained "Fair" for largemouth bass in 2011 as it has been since 2007 (Table 15). The spring CPUE (fish/hr) was the lowest it has been in the past ten years. There has been a steady decline in CPUE over the past 6 years. The reduced densities of largemouth bass are in large part due to poor recruitment of age-0 to age-1 fish. Approximately 71,685 largemouth bass (2.0 in) were stocked in October. During the fall of each year from 2005-2010, largemouth bass were stocked to supplement low recruitment of age-0 to age-1 fish. Fish stocked in 2005 received a right pectoral fin clip, 2006 a left pectoral fin clip, 2007 a left pelvic fin clip, 2008 a right pelvic fin clip, 2009 a right pectoral fin clip, 2010 a left pectoral fin clip, and 2011 a left pelvic fin clip for future identification. Further work will continue investigation of the recruitment of young fish. During 2012, fertilization will continue with 9-18-9 liquid fertilizer to aid recruitment success of young-of-the-year fish. Additionally,

hydrilla will be monitored and control measures applied. Work will continue in cooperation with the local USACE office on habitat improvement projects including brush piles, Christmas tree reefs, native aquatic plant restoration and cypress tree plantings, hinge cut trees, and wood pallet structures.

Daytime electrofishing was completed during the day on 14 March 2011 for walleye. Tables 18-21 list length frequency, CPUE, age frequency, relative weights, and population assessment for walleye. The CPUE of walleye in 2011 (15.42 fish/hr) was greater than that of 2010 (12.74 fish/hr) but was still lower than most previous years (Table 18). CPUE was considerably higher from 2003 to 2007 (26.70-32.92 fish/hr). The reason for the decreased CPUE in recent years is that effort has increased substantially in order to collect enough broodstock. As sampling time has increased, CPUE has decreased, mainly due to sampling parts of the lake multiple times and areas that are less productive as sampling time increases. The fishery and growth rate remains very good. The assessment value in 2011 was "Good" (Table 21). In 2004 there was a fish kill of 100+ large adult walleye at Carr Creek, in 2005 a fish kill of large adult alewife, and in 2008 a fish kill of large gizzard shad. None of these fish kills have seemed to significantly impact the fishery. Mean relative weights are near or exceed 100 for all size groups of walleye examined (Table 20). The $\log_{10}$ length-weight equation for walleye during 2011 was $-3.55 + 3.11(\log_{10}$ length). During 2012, walleye will be sampled in the winter (February). An estimated 35,342 walleye (1.5 in) were stocked in May 2011.

Data for black and white crappie sampled during the spring walleye electrofishing is presented in Tables 22-25. Due to very poor fall trap netting catches, spring electrofishing was initiated in 2007. This will continue to be used to monitor the population. The fishery has a special regulation of a 9.0-in minimum size. CPUE of black and white crappie in 2010 and 2011 were poor, and very few fish over 9.0 in were observed in the sample. An age and growth study will be conducted on crappie in the lake in 2012 to assess the usefulness of this regulation. The $\log_{10}$ length-weight equation for black crappie was $-4.48 + 4.20(\log_{10}$ length) and for white crappie was $-3.34 + 2.80(\log_{10}$ length). Approximately 7,100 black crappie and blacknose crappie (3.0 in) were stocked in November 2007. Some of these blacknose crappie were observed in angler catches in 2009 and were legal size fish. During the fall of 2009 a research study was initiated on white crappie recruitment. A total of 5,440 white crappie were stocked in 2009, 9,676 white crappie were stocked in 2010, and 3,822 were stocked in 2011. White crappie will be stocked for a minimum of 3 years during this study.

Cranks Creek

Spring and fall electrofishing was completed at Cranks Creek Lake (219 acres) for black bass in 2011. Tables 26-32 provide data from spring and fall sampling. Largemouth bass continued to receive an assessment rating of "Good" (Table 30). Spring electrofishing CPUE for Largemouth bass was down slightly from last year but was still above average across size ranges (Table 27). The CPUE of age-0 largemouth bass collected in the fall of 2011 (51.20 fish/hr) was lower than that of 2010 (93.33 fish/hr; Table 32); however, mean length of age-0 largemouth bass in 2011 (5.3 in) increased from 2010 (4.3 in).

Additional concerns at this lake are aquatic vegetation control and random stockings of various sport fish by local residents. Due to the very clear water, various aquatic plants can be very thick and thorough in coverage. Monitoring of aquatic vegetation will continue and herbicide will be applied to selected areas of thick stands of brittle naiad. Fisheries and law enforcement staff will continue to offer guidance to the public on illegal fish stockings and the possible management implications.

Dewey Lake

Black bass were sampled at Dewey Lake (1,100 acres) in the fall of 2011 (Tables 33 and 34). A spring sample could not be conducted due to flooding. The largemouth bass assessment rating in 2010 was "poor" for the first time since 2003. This was evident again in 2011 as very few fish over the 15.0 in length limit were collected in the sample. However, good numbers of 8.0 – 12.0 in fish were observed which may provide anglers with more opportunities to catch 15.0 in plus fish in the next few years. Recruitment of young-of-year fish remains consistent and has prevented the need for supplemental stocking of largemouth bass (Table 34).

Numerous stockings of various fish occurred during 2011. A total of 5,000 blue catfish (6.0-10.0 in) were stocked in March. In March, 31,182 channel catfish (3.0-5.0 in) were stocked and 6,060 channel catfish (7.0-12.0 in) were stocked in August. Additionally, largemouth bass were stocked in October (16,500 total; 4.5 in). Rainbow trout were stocked in the tailwater of Dewey Lake in April, May, October, and November (4,000 total; 8.0-12.0 in).

Habitat improvement work occurred throughout 2011. Christmas tree structures were constructed and installed in the lake and 200 pounds of winter wheat was planted on mudflats during low water periods. Trees were also hinged to provide fine brush for age-zero fish. Approximately 50 ft of bank was cleared to provide bank fishing opportunities for anglers.

Fishpond

Night time electrofishing was used to sample largemouth bass at Fishpond Lake (32 acres) on 28 April 2011 (Tables 35-37). CPUE of largemouth bass in 2011 (109.71 fish/hr) increased from 2010 (78.86 fish/hr), but was still lower than other post 2004 samples (Table 36). The PSD value increased from 2010 (54) to 2011 (62), as did the RSD value from 2010 (18) to 2011 (31; Table 37). Additional management at Fishpond Lake entails fertilization of the lake during the spring to increase zooplankton density for young-of-year fishes. Approximately 80 gallons 9-18-9 liquid fertilizer was applied to the lake in April, 2011. Fertilization will continue in 2012 to limit the filamentous algae growth. A total of 5,000 rainbow trout (8.0 in) are stocked annually during January, April, May, and October. Channel catfish (9.0 in) are stocked every other year.

Fishtrap Lake

Fall 2011 black bass sampling data for Fishtrap Lake (1,143 acres) is shown in Tables 38 and 39. Spring sampling was unable to be conducted due to flooding. The population assessment rating for largemouth bass and smallmouth bass in 2010 was "Good." A total of 12,971 smallmouth bass (2.0 in) were stocked in June. Sampling during 2012 will occur in the spring and fall for black bass.

White crappie were sampled in the fall with trap nets (Tables 40-44). The assessment rating was "Good" and the CPUE of crappie $\geq$ 8.0 in (25.14 fish/nn) was at its highest level since 2005. The mean total length of age 2+ fish at 7.3 in continued to decline somewhat. This will continue to be monitored every other year following the implementation of a 9.0 in minimum size limit on crappie in 2010.

Gillnetting for hybrid striped bass was conducted on 6 December 2011, and results are shown in Tables 45-48. CPUE continued to be high across all length and ages classes; however, growth rate measured by mean length age 2 at capture decreased slightly from 2009. Despite this, the fishery was given an "excellent" assessment score rating which it has received since 2005.

Approximately 23,000 hybrid striped bass (1.8 in) were stocked in the lake during the month of June. A total of 20,450 redear sunfish (2.5 – 4.0 in) and 5,000 blue catfish (4.0 – 8.0 in) were stocked for utilizing the introduced zebra mussels for food. Approximately 21,800 advanced fingerling native walleye (1.1 in) were stocked in the Levisa Fork upstream of Fishtrap Lake. Rainbow trout totaling 10,000 were stocked in the tailwater in April, May, June, October, and November. Two large Christmas tree reefs were refurbished and 3 new Christmas tree reefs were placed in the lake. Approximately 25 trees were hinge-cut for shoreline habitat structure.

Martins Fork Lake

Martins Fork Lake (330 acres) was sampled for black bass in the spring and fall of 2011 (Tables 49-55). Assessment scores for largemouth bass have remained "Fair" from 2003 – 2011 (Table 53). While largemouth bass density is low, the size distribution is rather evenly distributed (Table 50), and shows exceptional growth rates. The spotted bass fishery continued to provide good numbers of fish, but most fish observed were under 12.0 inches in length.

Walleye numbers continue to decrease greatly with the elimination of their annual stocking in 2005. No walleye were found in 2010 and 2009 sampling found only 17 individuals, all age-5 or older. Additionally, no walleye were observed in 2011's black bass sampling. Once the Erie strain walleye have been eliminated from Martins Fork Lake, native Rockcastle strain walleye will be stocked with potential of this lake providing future broodstock native walleye. Largemouth bass will be sampled again in the spring and fall of 2012.

Largemouth bass were stocked in the lake in October of 2011 (5,000 fish; 4.5 in). Throughout 2011, 4,500 trout were stocked in the tailwater of Martins Fork Lake providing anglers with an additional opportunity.

Paintsville Lake

Spring and fall sampling was completed during 2011 for black bass (Tables 56-63). The 12.0-15.0 in protective slot length limit (implemented in 2002 for largemouth and smallmouth bass) has not decreased largemouth bass numbers under 12.0 in, but fish over 15.0 in and 20.0 in are slightly improved (Table 57). Age and growth data was taken in the spring (Table 60). The main factor in the "poor" assessment value was slower growth than in previous years (Table 61). During 2006, smallmouth bass were removed from the 12.0-15.0 in protective slot length limit and placed under an 18.0 in minimum length limit. Also, water quality parameters have prevented smallmouth bass from ever developing a good fishery in the 1,150 acre lake. During 2006, water withdrawals from the lake were altered to avoid pulling water from the preferred smallmouth bass, trout, and walleye cool water habitat. A total of 50,000 smallmouth bass (mean length=1.6 in) were stocked in June 2011 to supplement low numbers of smallmouth bass in hopes of establishing a smallmouth bass fishery. Smallmouth bass stockings for re-establishment of a viable fishery started in 2009 and will end with stocking in 2012.

Other fish stockings during 2011 were, brown and rainbow trout, walleye, and blacknose crappie. The lake received a stocking of approximately 17,500 rainbow trout (8.0 in) in approximate time frames of January and October. Walleye (n=56,930, mean length=1.5 in) were also stocked in May 2011. A total of 20,546 blacknose crappie (2.5-3.5 in) were stocked in November. Additional fisheries provided by the lake are the brown and rainbow trout fisheries found in the tailwater area below the dam. Approximately 16,000 rainbow trout were stocked in the tailwater from April to November, and 300 brown trout were stocked in the tailwater in April 2011. Occasionally, the tailwater receives extra stockings of rainbow trout during the summer as a result of other eastern Kentucky stocking locations becoming too warm and alternate sites are necessary.

Walleye and white crappie were sampled during March using daytime electrofishing (Tables 64-71). The walleye assessment rating continues to be "Fair", with some fluctuation in fish numbers greater than 20.0 in (Table 65). White crappie data is presented in Tables 66-71. White crappie CPUE has been comparable the last three years (Table 67). Best numbers occur in the upper lake above the junction of Little Paint and Open Fork branches.

A day (1 March-31 October) and night (1 June-31 August) creel survey was conducted at Paintsville Lake during 2011. Each day that was surveyed consisted of 6-7 hours on the lake and each night survey was for a period of 3 hours. Dates, times, and order of surveys were randomized. Total angler counts were conducted at the middle of a survey period. The previous day and night survey was conducted in 2003 with each survey running the same months as the 2011 survey.

Tables 72-79 contain data obtained during the 2011 creel survey. Estimated fishing trips were 8,002 for the day survey and 1,464 for the night survey in 2011 (Table 72) versus 2003 estimated fishing trips of 18,841 during the day survey and 1,713 during the night survey. A poor economy and higher gas prices are a major factor in the reduction in fishing trips. Total angler hours during the surveys amounted to 47,557 for the day and 7,540 for the night in 2011 (Table 72) and 107,725 for the day and 5,812 for the night in 2003. During 2011, anglers caught an estimated 48,971 fish (75,398 in 2003) and harvested 14,428 (25,688 in 2003) during the day survey and caught an estimated 9,462 fish (762 in 2003) and harvested 1,964 (441 in 2003) during the night survey (Table 72). Survey angler catch rate was estimated at 0.85 fish/hr (0.73 fish/hr in 2003) during the day and 1.24 fish/hr (0.43 fish/hr in 2003) during the night (Table 72). Largemouth bass were the most numerous species caught in the 2011 (Table 73) and 2003 day surveys at 20,184 and 41,805, respectively. The 2011 night survey had bluegill as the most numerous species caught at 4,488 fish (Table 74) and during the 2003 night survey, largemouth bass were the most numerous species caught at 2,374 fish. The most numerous species harvested during the 2011 day and night survey was

bluegill at 6,622 fish (Table 73) and 1,040 fish (Table 74), respectively. The most numerous fish harvested during the 2003 day survey was white crappie at 9,765 fish and during the night survey it was largemouth bass at 341 fish. The primary species fished for in 2011 was black bass at 81.0% (56.0% in 2003), followed by white crappie 14.3% (31.7% in 2003), walleye 2.4% (6.9% in 2003), and bluegill 2.4% (0.5% in 2003) (Appendix A). The angler satisfaction rating of "very satisfied" in 2011 was highest for rainbow trout at 50.0% (84.4% in 2003), followed by white crappie 30.4% (62.7% in 2003) and largemouth bass 25.0% (42.7% in 2003) (Appendix A).

Pan Bowl Lake

Length frequency and CPUE were collected for largemouth bass on 26 April 2011 (Table 80-85). Historically, aquatic vegetation has been a nuisance at Pan Bowl Lake. During recent years, Eurasian milfoil has become established and this plant has effectively filled in most open water areas of the lake. This has contributed to slow growth and sometimes cyclic high recruitment of young-of-the-year largemouth bass. The PSD level of 12 (Table 82) is very low, which would be good for a quality panfish fishery. However, this lake has always been known for its trophy bass and is a popular lake for tournaments. The increase in number of small bass each year is likely due to the high abundance of Eurasian milfoil in Pan Bowl Lake since 2007. Some limited chemical application was done in 2010 to lessen areas of heavy plant growth. Also during 2010, approximately 20 grass carp were stocked in the lake for vegetation reduction. With reduced plant density it is believed this will allow largemouth bass to increase growth on numerous exposed sunfish. During 2011, no chemical applications were conducted for aquatic vegetation control. For 2012, some limited treatments of the herbicide Sculpin G will be applied to various locations to increase prey availability for bass.

Management at this 98 acre lake also includes an every other year stocking of channel catfish (9.0 in) and periodic spring electrofishing for bluegill and redear sunfish. Sampling for 2012 will look at largemouth bass again.

Yatesville Lake

Black bass were sampled during the fall of 2011 (Tables 86-87). Flooding did not allow for a spring sample. 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. CPUE of largemouth bass was down to 104.00 fish/hr in 2011 from 131.33 fish/hr in 2010, and CPUE has decreased in the lake since 2005. Additionally, very few largemouth or spotted bass over 12.0 in were observed in 2011 (Table 86).

Redear sunfish stocking continued as 20,000 fish were added in 2011. Rainbow trout were stocked in the tailwater of Yatesville Lake throughout the year (2,250 fish total). Channel catfish were stocked in March (3.0-6.0 in; 38,441 fish total) and in August (6.0-12.0 in; 5,471 fish total).

During 2012, fish sampling and habitat work will continue at Yatesville Lake. Black bass will be sampled in the spring and fall and white crappie in the fall. Habitat work will primarily consist of selective cutting of cedar trees from the Yatesville Lake WMA property to create brush piles. This habitat should improve the recruitment for all of the lake's sportfish.

Table 1: Summary of 2011 sampling conditions by waterbody, species sampled and date.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water Temp (°F)	Water level (elev ft)	Secchi (in)	Pertinent sampling comments[a,b]
Buckhorn Lake	Musky	2/23	1100	shock	partly cloudy	45-48	757.30	11	cond: 432; pH: 7.33; used 2 boats; whole lake LFR assissted
Buckhorn Lake	LMB	10/3	1300	shock	sunny	69.0	781.60	24	cond: 455; used 1 boat; whole lake; water murky
Buckhorn Lake	WC	11/21	1000	trap net	rain	50.0	765.15	18	cond: 875; whole lake; water muddy
Buckhorn Lake	WC	11/22	1000	trap net	rain	56.0	763.20	18	cond: 875; whole lake; water muddy
Carr Creek Lake	WE/WC/BC	3/14	1000	shock	rain	49.0	1022.60		cond: 393; used 1 boat; whole lake; water muddy; walleye broodstock collection
Carr Creek Lake	LMB	5/4	2000	shock	cloudy	66.0	1029	49	cond: 398; pH: 8.25; used 2 boats; whole lake
Carr Creek Lake	LMB	9/19	2200	shock	cloudy/rain	75.0	1026.20	72	cond: 646; used 2 boats; whole lake; lake level falling
Cranks Crk Lake	LMB	5/2	2200	shock	cloudy/rain	64.0	summer pool	51	cond: 126; used 1 boat; water murky
Cranks Crk Lake	LMB	10/4	2200	shock	sunny	67.0	summer pool	108	cond: 222; used 1 boat; water murky
Dewey Lake	LMB	9/20	2200	shock	cloudy	75.0	650.47	33	cond: 804; bp: 30.09 used 1 boat; whole lake; water murky, algal bloom
Fishpond	LMB	4/28	2200	shock	sunny	66.0	normal	168	cond: 646; used 1 boat; whole lake; water calm and clear
Fishtrap Lake	LMB/SMB	9/27	1400	shock	cloudy/rain	75.0	757.57	52	cond: 648; bp: 29.95; used 1 boat
Fishtrap Lake	WC	11/28	1000	trap net	rain/snow	54.0	742.23	27	bp: 29.89; water muddy; lake level falling
Fishtrap Lake	Hybrids/WB	12/5	1000	gill net	rain	53.0	735.76		bp: 30.19; water muddy
Martins Fk Lake	LMB	5/10	2000	shock	overcast	75.0	1310.04	85	cond: 120; used 1 boat; whole lake; lake level falling
Martins Fk Lake	LMB	9/22	1900	shock	partly cloudy	74.0		72	used 1 boat; whole lake
Paintsville Lake	WE/WC	3/8	1000	shock	partly cloudy	46.0	709.60	12-100	cond: 88-110; pH: 7.78; used 1 boat; whole lake
Paintsville Lake	WE/WC	3/22	1000	shock	cloudy	56.0	710.37	34	cond: 100; used 2 boats; whole lake; water muddy
Paintsville Lake	LMB/SMB	5/23		shock	sunny	75.0	710.10	46-84	cond: 91; used 3 boats; whole lake BBR assissted
Paintsville Lake	LMB	10/13	1300	shock	rain	67.0	709.16	108	cond: 132; used 1 boat; whole lake
Pan Bowl Lake	LMB	4/26	1000	shock	cloudy/rain	68.0	normal	45	cond: 141; bp: 29.83; used 1 boat; whole lake
Yatesville Lake	LMB	9/28	2000	shock	cloudy/rain	74.0	630.67	52	cond; 199; used 1 boat; whole lake; lower end turning over

[a] cond = conductivity in µS/cm

[b] bp = barometric pressure in inches

Table 2. Length frequency and electrofishing CPUE (fish/hr) of muskellunge collected during spring sampling on Buckhorn Lake from 1998-2011; numbers in parentheses are standard errors. Results from 2002 are from fall electrofishing.

	Inch class																																										
Year	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	Total	CPUE
1998	1	1	2	7	4	1	1				1	4	3	1	1	1						1		1	1			1	1										33	6.60 (2.90)
1999		1	1	2	3	3	1			1	3	6	6	11	4	4	3				3	2	1		2	1		1											59	10.90 (4.40)
2000		1	3	2	3	1								4				1	2		7	1		1	1			2	1				1						31	8.20 (0.50)
2001					4	1	1				1			1									1		1	1		1									1		13	3.20 (0.70)
2002							1							2	1						3	1		1			2				1								12	6.00 (0.80)
2003	1		5	2	1	1									2	1	1		1	1	2	1	1				1									1			22	7.10 (1.90)
2004			2	9	23	16	2				1		6	7	19	9				3	5	6	6	6	4	5	7	5	8	3	1	1					1		155	16.70 (2.10)
2005					4	5	2					1		2	2							1			1			2	1	1	3		1				1		27	6.30 (1.70)
2006			1	8	10	6								1	2	3						1	1		1	3	2	1	1	1	1	1	1						45	14.20 (2.20)
2007					1	1	2	1					2	3	6	2		1			1		2		1	2		1	2		1	1				1		1	32	13.66 (4.51)
2008				2	6	10	6	1						1	1	3				1		1	5	2			1				1			1			1		43	8.27 (1.61)
2009	1			2	4	11	12	6					1		1	3	2	3	1	1		1	1	4	3	3	3		1		2				1		1		68	17.58 (3.36)
2010			1	4	13	18			1	1	1	1		6	6	10	6	1		2	3	2	1	3	2	1	2	1	4	3	1	1					1		96	12.86 (1.57)
2011			4	5	17	14	3					2		3	3	1				1		3	1	3		3	2	1	1		1			1					69	12.55 (2.66)

EFDBLMSS.D98-D10
LFRBHLSP.D11

Table 3. Population assessment for muskellunge from Buckhorn Lake (1,230 acres) captured during spring electrofishing from 1999-2011. Assessment scores for 2002 were derived from fall electrofishing data. Actual values are in parentheses.

Parameter	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
CPUE age 1	2	2	1	1	2	3	2	3	1	3	4	3	3
	(2.03)	(2.70)	(1.50)	(0.50)	(3.30)	(5.90)	(2.50)	(7.90)	(1.71)	(4.81)	(9.31)	(5.09)	(7.82)
CPUE ≥ 20.0 in	3	3	1	3	2	4	2	3	4	2	3	3	2
	(8.50)	(5.40)	(1.70)	(5.50)	(3.90)	(11.10)	(3.70)	(6.30)	(11.98)	(3.83)	(7.68)	(7.77)	(4.73)
CPUE ≥ 30.0 in	2	3	1	4	2	4	3	4	4	2	4	3	3
	(1.80)	(3.80)	(1.20)	(4.00)	(2.00)	(6.30)	(2.60)	(4.40)	(5.32)	(2.17)	(4.65)	(3.37)	(2.91)
CPUE ≥ 36.0 in	1	3	2	4	2	4	4	4	4	2	4	4	3
	(0.20)	(1.00)	(0.50)	(1.50)	(0.65)	(2.80)	(2.10)	(2.50)	(2.45)	(0.60)	(1.81)	(1.71)	(1.09)
CPUE ≥ 40.0 in	0	2	3	3	3	3	4	4	4	3	4	3	3
	(0.00)	(0.20)	(0.30)	(0.50)	(0.30)	(0.30)	(1.10)	(1.00)	(1.55)	(0.48)	(1.04)	(0.37)	(0.36)
Total Score	8	13	8	15	11	18	15	18	17	12	19	16	14
Assessment Rating	Fair	Good	Fair	Good	Fair	Excellent	Good	Excellent	Excellent	Good	Excellent	Good	Good

EFDBLMSS.D99 - EFDBLMSS.D10
LFRBHLSP.D11

Table 4. Length frequency and CPUE (fish/hr) of black bass collected in approximately 1.5 hours of 15-min nocturnal electrofishing runs at Buckhorn Lake (1,230 acres) on 3 October 2011; 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	Total	CPUE
Upper																					
	LMB		13	42	25	11	1	4	4	6	6	3	4	1	1					121	161.33 (47.46)
	SB		1	1																2	2.67 (2.67)
Lower																					
	LMB	10	35	27	22	5	1	10	5	5	5	3	1	1		1			1	132	176.00 (45.08)
	SB			2																2	2.67 (2.67)
Total																					
	LMB	10	48	69	47	16	2	14	9	11	11	6	5	2	1	1			1	253	168.67 (29.46)
	SB		1	3																4	2.67 (1.69)

LMB = largemouth bass
SB=smallmouth bass
EFDBLLSF.D11

Table 5. Indices of year class strength at age-0 and age-1 and mean lengths (in) of age-0 largemouth bass at Buckhorn Lake (1,230 acres) from electrofishing. CPUE=fish/hr, SE=standard error.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002	4.5	0.1	99.30	7.40	38.70	2.60	19.20	3.30
2003	4.7	0.5	106.00	13.80	39.70	4.60	35.50	5.40
2004	3.6	0.0	176.70	34.00	9.30	4.60	16.25	3.50
2005	4.0	0.2	44.70	6.60	10.00	3.50	11.19	2.10
2006	4.2	0.2	17.60	4.10	5.30	1.90	13.00	3.74
2007	4.5	0.2	18.78	6.43	9.59	3.44	11.19	3.77
2008	4.9	0.1	21.44	3.68	9.91	2.31	43.76	3.48
2009	no fall sample						26.10	5.16
2010	4.3	0.1	67.00	5.00	22.50	5.75	no spring sample	
2011	4.5	0.1	126.67	26.69	42.00	9.95		

EFDBLLSF.D02-D08, D10, D11
EFDBLLAS.D04
EFDBLLAS.D09
EFDBLLSS.D03-D10

Table 6. Length frequency and CPUE (fish/nn) for white crappie collected at Buckhorn Lake (1,230 acres) in 10 net-nights from 22 November 2011. Standard errors are in parentheses.

Inch class														
2	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE	SE
81	375	107	1159	552	685	373	107	40	20	5	2	3506	350.6	(70.53)

EFDBLCTF.D11

Table 7. PSD and RSD_{10} values calculated for white crappie collected in trap nets at Buckhorn Lake (1,230 acres) on 22 November 2011; 95% confidence intervals are in parentheses.

No. ≥stock size	PSD	RSD_{10}
2,943	18 (17-19)	2 (1-2)

EFDBLCTF.D11

Table 8. Mean back-calculated length (in) at each annulus for white crappie collected from Buckhorn Lake (1,230 acres) on 22 November 2011, including 95%

Year class	No.	Age 1	2	3	4	5	6
2010	31	4.1					
2009	37	4.4	6.4				
2008	11	4.5	6.5	8.1			
2007	19	4.5	6.1	7.5	8.9		
2006	17	4.4	5.9	7.2	8.6	10.0	
2005	7	4.5	6.1	7.3	8.4	9.5	10.8
			6.2				
Mean	122	4.4	6.2	7.5	8.7	9.8	10.8
Smallest		3.5	4.8	6.3	7.0	7.9	9.6
Largest		5.6	7.7	9.4	10.7	11.4	12.6
STD error		0.0	0.1	0.1	0.1	0.2	0.4
95% CI LO		4.3	6.1	7.3	8.5	9.5	10.0
95% CI HI		4.4	6.4	7.7	8.9	10.2	11.6

Intercept = 0
EFDBLCAF.D11

Table 9. Age frequency and CPUE (fish/nn) of white crappie collected by trap netting for 10 net-nights at Buckhorn Lake (1,230 acres) on 22 November 2011; numbers in parentheses are standard errors.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	13	Total	Age %	CPUE	
0	81	375	54										510	15	50.95	(12.49)
1			54	1159	345								1558	44	155.75	(44.16)
2					207	642	249	27					1125	32	112.46	(20.88)
3						43	62	20	11				136	4	13.57	(2.33)
4							41	54	19	3			117	3	11.65	(2.04)
5							21	7	8	13	3		52	1	5.13	(0.93)
6									3	4	2	2	11	0	1.10	(0.24)
Total	81	375	108	1159	552	685	373	108	41	20	5	4	3509	100		
%	2	11	3	33	16	20	11	3	1	1	0	0	100			

CPUE of ≥8.0 in (quality size) = 54.70 fish/hr

CPUE of ≥10.0 in (preferred size) = 6.70 fish/

EFDBLCAF.D11

EFDBLCTF.D11

Table 10. Population assessment scores for white crappie collected from Buckhorn Lake (1,230 acres). Actual values are in parantheses.

	Year							
Parameter	2003	2004	2005	2006	2007	2008	2010	2011
CPUE of crappie (excluding age 0)	4 (31.40)	2 (5.50)	3 (14.80)	4 (191.42)	4 (32.50)	4 (60.73)	4 (54.00)	4 (299.65)
CPUE of age 1 crappie	4 (17.40)	1 (0.70)	3 (7.40)	4 (58.60)	1 (2.99)	4 (14.51)	4 (32.91)	4 (155.75)
CPUE of age 0 crappie	4 (28.20)	1 (0.75)	1 (0.40)	4 (29.80)	1 (0.55)	1 (0.44)	4 (22.29)	4 (50.95)
CPUE of crappie $\geq$ 8 in.	2 (4.20)	2 (2.20)	2 (4.10)	4 (17.78)	3 (5.50)	3 (5.89)	4 (12.57)	4 (54.70)
Mean age 2 length @ capture	1 (8.2)	1 (8.1)	1 (8.3)	1 (7.1)	1 (6.3)	1 (6.3)	1 (7.7)	1 (8.2)
Instantaneous mortality (z)	1.32	1.37	1.30	1.52	1.74	1.03	0.87	0.98
Annual Mortality (A)	73.20	74.70	72.80	78.00	82.50	64.40	58.20	62.40
Total score	15	7	10	17	10	13	17	17
Assessment rating	Good	Poor	Fair	Good	Fair	Good	Good	Good

EFDBLCTF.D03-D11
EFDBLCAF.D03-D11

Table 11. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 2.000 hours of 15-minute electrofishing samples at Carr Creek Lake (710 acres) on 4 May 2011; 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	
Upper	Smallmouth bass				1																1	1.00	(1.00)
	Spotted bass				3		2	3	2												10	10.00	(5.29)
	Largemouth bass	3	6	4	2	4	4	1	3	6	2	4	1	4	1	2	3	5	1	1	57	57.00	(14.27)
Lower	Smallmouth bass																				0	0.00	
	Spotted bass				3	2	3			4	1	1									14	14.00	(6.00)
	Largemouth bass		1	2			4	1	1	1		1	3	3	6	3	2	1			29	29.00	(10.63)
Total	Smallmouth bass				1																1	0.50	(0.50)
	Spotted bass				6	2	5	3	2	4	1	1									24	12.00	(3.78)
	Largemouth bass	3	7	6	2	4	8	2	4	7	2	5	4	7	7	5	5	6	1	1	86	43.00	(9.79)

EFDCLLSS.D11

Table 12. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carr Creek Lake (710 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
2002	116.33	14.24	16.89	1.71	12.33	1.57	7.11	1.16	0.00		152.67	13.32
2003	67.56	11.32	15.89	2.18	11.11	1.46	10.67	1.50	0.44	0.26	105.22	14.37
2004	135.00	17.73	24.44	5.31	8.44	1.37	9.00	1.16	0.22	0.15	176.89	18.81
2005	20.00	2.70	19.80	1.60	24.80	2.40	14.00	1.80	0.33	0.30	78.60	4.90
2006	22.26	6.95	30.90	4.80	27.92	3.34	29.90	3.11	0.67	0.45	111.00	10.20
2007	7.95	1.85	20.78	4.65	18.59	3.42	15.72	3.64	0.49	0.49	63.03	5.49
2008	2.99	1.25	16.36	2.57	24.72	5.39	23.71	3.31	0.50	0.50	67.78	8.44
2009	5.14	0.74	10.29	2.60	17.14	2.99	16.00	3.38	0.57	0.57	48.57	6.14
2010	13.81	3.21	10.75	2.58	10.80	2.11	12.55	3.47	0.94	0.63	47.90	4.83
2011	11.00	4.39	10.50	2.61	5.50	1.30	16.00	4.54	1.00	1.00	43.00	9.79

BBRPSCFL.D02-D05
EFDCLLSS.D06-D11

Table 13. PSD and RSD values for each species of black bass in each area of Carr Creek Lake (710 acres) on 4 May 2011. 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	RSD_{15}	No.	PSD	RSD_{14}	No.	PSD	RSD_{14}
Lower	26	73 (56-90)	58 (38-77)				11	55 (24-85)	
Upper	38	63 (48-79)	45 (29-61)				7		
Total	64	67 (56-79)	50 (38-62)				18	33 (11-56)	

EFDCLLSS.D11

Table 14. Spring electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Carr Creek Lake (710 acres) from 1999-2011.

	Year												
Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	129.60	66.90	160.40	114.40	66.20	133.70	18.84	21.10	7.61	2.43	3.14	9.95	9.00
2	31.80	21.20	16.10	17.30	17.10	25.20	20.82	31.70	21.07	13.11	7.90	7.59	7.67
3	17.00	17.30	13.40	11.90	6.90	5.40	14.27	14.20	11.97	20.12	14.92	11.50	7.32
4	16.10	18.30	20.10	7.20	6.90	5.70	13.24	21.30	9.95	21.11	9.97	9.41	7.14
5	12.00	10.60	8.20	1.30	3.20	2.50	4.44	8.90	3.91	6.41	6.44	3.13	6.46
6	2.70	4.00	2.70	0.40	0.00	0.00	0.00	0.00	0.00	3.60	3.90	1.79	2.92
7	0.60	0.30	0.70		2.10	1.80	2.73	5.30	3.48				
8	0.40				2.00	2.00	3.66	6.50	3.95				
9	0.30				0.10	0.00	0.00	0.30	0.00				
10					0.80	0.60	0.56	0.40	1.07				
11													
12										0.50		0.94	0.5

BBRPSCFL.D99-D05
EFDCLLSS.D06-D11
BBRSCCFL.D03
EFDCLLAS.D08

Table 15. Population assessments for largemouth bass collected from Carr Creek Lake (710 acres). Actual values are in parentheses. Scoring based on statewide assessment.

Parameter	Year									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Mean length age 3 at capture	4 (13.2)	4 (13.2)	4 (13.2)	4 (13.2)	4 (13.2)	4 (13.2)	4 (12.6)	4 (12.6)	4 (12.6)	4 (12.6)
Spring CPUE age 1	4 (114.40)	3 (66.20)	4 (133.70)	2 (18.84)	2 (21.10)	1 (7.61)	1 (2.43)	1 (3.14)	1 (9.95)	1 (9.00)
Spring CPUE 12.0-14.9 in	1 (12.33)	1 (11.11)	1 (8.44)	2 (24.80)	2 (27.92)	1 (18.59)	2 (24.72)	1 (17.14)	1 (10.80)	1 (5.50)
Spring CPUE ≥15.0 in	2 (7.11)	2 (10.67)	2 (9.00)	2 (14.00)	3 (29.90)	2 (15.72)	3 (23.71)	2 (16.00)	2 (12.55)	2 (16.00)
Spring CPUE ≥20.0 in	0 (0.00)	1 (0.44)	1 (0.22)	1 (0.33)	1 (0.67)	1 (0.49)	1 (0.50)	1 (0.57)	1 (0.94)	2 (1.00)
Total score	11	11	12	11	12	9	11	9	9	10
Assessment rating	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Fair	Fair
Instantaneous mortality (z)		0.52	0.54	0.47	0.43	0.37	0.41	0.74	0.34	0.27
Annual mortality (A)		40.30	42.00	37.50	35.10	30.90	33.50	52.30	29.10	23.80

BBRPSCFL.D02-D05
BBRSCCFL.D03
EFDCLLSS.D06-D11
EFDCLLAS.D08

Table 16. Length frequency and electrofishing CPUE (fish/hr) of black bass collected in approximately 2.000 hours of 15-minute nocturnal electrofishing samples at Carr Creek Lake (710 acres) on 19 September 2011; numbers in parentheses are standard errors.

		Inch class																						
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	
Lower	Smallmouth bass					1	1				1											3	2.00	(0.89)
	Spotted bass	1	6		4	6	10	5	3	4	3		2			1						45	30.00	(8.18)
	Largemouth bass		6	4	5	2	7	11	9	3	2	3		1		1		1				55	36.67	(10.45)
Upper	Smallmouth bass											1										1	1.00	(1.00)
	Spotted bass		1	1		5	2	7	1		3	2	1				1					24	24.00	(12.75)
	Largemouth bass		7	9	10	1	7	17	15	8	7	5	2		3	1	1	2	3		2	100	100.00	(4.32)
Total	Smallmouth bass					1	1				1	1										4	1.60	(0.65)
	Spotted bass	1	7	1	4	11	12	12	4	4	6	2	3			1	1					69	27.60	(6.71)
	Largemouth bass		13	13	15	3	14	28	24	11	9	8	2	1	3	2	1	3	3		2	155	62.00	(12.08)

EFDCLLSF.D11

Table 17. 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	4.37	0.14	14.00	5.40	5.78	2.30	133.77	17.49
2004	5.17	0.01	132.00	17.30	88.22	12.70	18.84	2.60
2005	4.70	0.10	15.80	6.70	5.60	1.70	21.30	6.70
2006	4.20	0.20	11.00	4.10	3.00	1.00	7.61	2.03
2007	3.72	0.47	4.98	2.24	0.99	0.65	2.43	1.16
2008	4.30	0.17	15.23	6.63	3.77	1.68	3.14	0.76
2009	3.60	0.28	12.50	2.77	3.50	1.59	9.95	2.47
2010	4.61	0.18	13.50	4.40	5.00	1.65	9.00	3.11
2011	4.56	0.14	17.60	5.66	7.20	3.03		

BBRWRCFL.D03-D05
BBRSCCFL.D03
EFDCLLSF.D06-D11
EFDCLLAS.D08
EFDCLLSS.D06-D11

Table 18. 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	20.80	4.60
2001							2	4	3	14	8	6	2	2	1				2				44	20.40	4.70
2002											no data														
2003		2	1			1	1	2			3	7		4	2		1	1	1	1	1		28	26.70	8.50
2004											1	3	13	10	13	13	4	3	1				61	27.10	7.40
2005									1	1	2	10	2	10	6	5	4	3	1	1			46	28.17	5.00
2006											1	4	6	7	9	9	8	3	4	2	2		55	31.30	5.40
2007								1		1	2	4	3	11	15	8	4	4	5	2			60	32.92	7.36
2008									1	2	5	12	16	19	21	19	15	14	7	3	1	1	136	12.76	1.15
2009								1	4	3	9	18	21	17	15	13	10	11	2				124	21.34	1.29
2010								6	8	7	7	10	15	16	14	16	13	8	8	9		1	138	12.74	3.29
2011	1	1				1			2	6	8	8	5	15	7	11	5	5	2	3	1		81	15.42	5.16

EFDCLWSS.D00-D11

Table 19. Spring electrofishing catch rate (fish/hr) for each age of walleye collected from Carr Creek Lake (710 acres) from 2007-2011.

	Year				
Age	2007	2008	2009	2010	2011
1					
2	1.18	0.55	2.02	2.13	1.27
3	8.79	3.43	7.22	3.15	4.97
4	7.46	3.16	5.46	2.59	3.55
5	5.41	1.71	2.41	1.44	1.62
6	1.92	0.56	0.80	0.28	0.36
7	0.94	0.65	0.79	0.43	0.43
8	3.45	0.90	0.95	0.87	0.71
9	2.39	1.09	1.43	0.76	0.98
10	0.60	0.23	0.26	0.21	0.27

EFDCLWSS.D07-D11
EFDCLWAS.D09

Table 20. Number of fish and relative weight (Wr) for each length group of walleye collected at Carr Creek Lake (710 acres) on 14 March 2011. Numbers in parentheses are standard errors.

Length group					
10.0-14.9 in		15.0-19.9 in		>20.0 in	
No.	Wr	No.	Wr	No.	Wr
0		11	103	23	99
			(2)		(2)

EFDCLWSS.D11

Table 21. Spring electrofishing population assessments for the walleye population at Carr Creek Lake (710 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year								
Parameter	2003	2004	2005	2006	2007	2008	2009	2010	2011
Population Density	4	4	4	4	4	2	4	2	3
(CPUE all fish)	(26.70)	(27.10)	(28.17)	(31.30)	(32.92)	(12.76)	(21.34)	(12.74)	(15.42)
Growth rate	4	4	4	4	4	4	4	4	4
(mean length age 3 at capture)	(20.6)	(20.6)	(20.6)	(20.6)	(20.6)	(20.6)	(19.3)	(19.3)	(19.3)
Size structure	4	4	4	4	4	4	4	4	4
(CPUE ≥20.0 in)	(10.50)	(19.50)	(18.40)	(24.80)	(20.85)	(9.28)	(11.77)	(7.75)	(9.25)
Recruitment	4	0	0	0	0	0	0	0	2
(CPUE <13.0 in)	(3.80)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.50)
Total Score	16	12	12	12	12	10	12	9	13
Assessment Rating	Excellent	Good	Good	Good	Good	Good	Good	Good	Good
Instantaneous mortality (z)	0.72	1.12	0.26	0.20	0.35	0.94	0.36	0.33	0.29
Annual mortality (A)	51.40	67.30	22.50	22.50	41.40	60.90	30.60	28.20	25.00

EFDCLWSS.D03-D11
EFDCLWAS.D03, D09

Table 22. Length frequency, CPUE (fish/hr) and SE (standard error) of crappie collected by electrofishing at Carr Creek Lake (710 acres) on 14 March 2011.

	Inch class														
	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	SE
White crappie	1	7	8	29	20	4	1				1	1	72	21.66	(14.09)
Black crappie				4	4	4	1		1	1			15	3.45	(0.91)

EFDCLCSS.D11

Table 23. Spring electrofishing CPUE (fish/hr) for each length group of black and white crappie collected at Carr Creek Lake (710 acres). SE=standard error.

	Length group															
	≥8.0 in				≥10.0 in				≥8.0 in		≥10.0 in		Total			
	WC		BC		WC		BC		all crappie		all crappie		WC		BC	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
2007	10.07	9.14	3.82	3.00	6.19	5.29	0.72	0.72	13.89	12.06	6.91	5.12	27.84	26.00	6.87	5.25
2008	1.30	0.77	0.96	0.42	0.76	0.50	0.16	0.11	2.26	0.95	0.92	0.47	1.74	1.04	1.63	0.71
2009	1.32	0.57	4.58	2.24	0.81	0.35	0.57	0.44	5.91	2.75	1.37	0.64	1.59	0.51	7.51	4.78
2010	2.48	1.91	2.40	1.01	2.16	1.78	0.75	0.30	4.88	2.27	2.92	2.01	4.87	3.53	6.08	2.30
2011	1.97	1.29	1.32	0.79	0.72	0.72	0.40	0.25	3.28	1.22	1.12	0.63	21.66	14.09	3.45	0.91

EFDCLCSS.D11

Table 24. PSD and RSD_{10} values for black and white crappie taken in spring electrofishing samples at Carr Creek Lake (710 acres) on 14 March 2011; 95% confidence intervals are in parentheses.

Species	No. ≥5.0 in	PSD (+/- 95%)	RSD_{10} (+/- 95%)
White crappie	64	11 (3-19)	3 (0-7)
Black crappie	15	47 (21-73)	13 (0-31)

EFDCLCSS.D11

Table 25. Spring electrofishing catch rate (fish/hr) for each age of white and black crappie collected from Carr Creek Lake (710 acres).

	Year									
	2007		2008		2009		2010		2011	
Age	WC	BC	WC	BC	WC	BC	WC	BC	WC	BC
1	0.00	0.00								
2	1.55	0.00	0.04						0.85	
3	5.40	0.00	0.12		0.05		0.93		5.07	
4	4.37	0.76	0.11	0.09	0.06	0.51	0.50	0.39	4.14	0.20
5	6.69	3.07	0.70	0.68	0.54	3.09	2.08	1.84	4.17	0.88
6	7.51	2.31	0.66	0.39	0.47	2.44	1.00	0.98	4.57	0.64
7	1.55		0.11		0.26		0.28		0.18	
8	0.78			0.06	0.21	0.34	0.08	0.64	0.18	

EFDCLWSS.D07-D11
EFDCLCAS.D07
WC=white crappie
BC=black crappie

Table 26. Length frequency and CPUE (fish/hr) of black bass collected in 1.250 hours of 15-min nocturnal electrofishing runs at Cranks Creek Lake (219 acres) on 2 May 2011; 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	Total	CPUE
LMB	1	20	26	20	5	21	18	11	15	8	3	1	1	4		2		4	1	1	1	163	130.40 (15.42)
SB	2	2	1	4	2	1	2	2	3	3												22	17.60 (6.01)

LMB = largemouth bass
SB = spotted bass
EFDCCLSS.D11

Table 27. 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	51.33	11.05	24.67	3.78	2.67	1.33	2.00	1.37	2.00	1.37	80.67	12.45
2001	20.00	6.37	22.00	8.31	2.67	1.33	2.00	0.89	0.67	0.67	46.67	13.84
2002												
2003												
2004	40.67	7.55	40.00	5.75	3.33	1.91	4.00	2.07	0.67	0.67	88.00	11.12
2005	59.20	16.56	70.40	10.48	4.00	1.26	6.40	2.04	2.40	0.98	140.00	17.34
2006												
2007												
2008	33.00	7.90	51.00	6.61	27.00	4.43	8.00	3.65	3.00	1.91	119.00	8.23
2009						no sample						
2010	80.80	27.64	43.20	10.38	9.60	2.99	14.40	2.04	4.80	2.33	148.00	41.18
2011	57.60	6.01	52.00	10.51	9.60	1.60	11.20	3.88	5.60	3.49	130.40	15.42

EFDCCLSS.D00-D11

Table 28. PSD and RSD values for each species of black bass in each area of Cranks Creek Lake (219 acres) on 2 May 2011. 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	RSD_{15}	No.	PSD	RSD_{14}
Total	91	29 (19-38)	15 (8-23)	13	46 (18-74)	

EFDCCLSS.D11

Table 29. Spring electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Cranks Creek Lake (219 acres) from 2008-2011.

	Year			
Age	2008	2009	2010	2011
1	23.00	No	68.80	45.60
2	41.75	Sample	35.80	45.60
3	14.58		14.87	14.66
4	26.11		9.16	11.47
5	6.56		4.18	2.93
6	1.00		2.40	
7	1.00		0.40	
8	1.00		0.80	0.80
9	3.00		2.00	0.80

EFDCCLSS.D08-D11
EFDCCLAS.D08

Table 30. 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
Mean length age 3 at capture	3 (11.2)	3 (11.2)	3 (11.2)	3 (11.2)
Spring CPUE age 1	3 (50.40)	2 (23.00)	3 (68.80)	2 (45.60)
Spring CPUE 12.0-14.9 in	1 (4.00)	2 (27.00)	1 (9.60)	1 (9.60)
Spring CPUE ≥15.0 in	2 (6.40)	2 (8.00)	2 (14.40)	2 (11.20)
Spring CPUE ≥20.0 in	3 (2.40)	3 (3.00)	4 (4.80)	4 (5.60)
Total score	12	12	13	12
Assessment rating	Good	Good	Good	Good
Instantaneous mortality (z)	0.48	0.52	0.49	0.56
Annual mortality (A)	38.40	40.60	38.90	43.10

EFDCCLAS.D08
EFDCCLSS.D05, D08, D10, D11

Table 31. Length frequency and CPUE (fish/hr) of black bass collected in 1.25 hours of 15-min nocturnal electrofishing runs at Cranks Creek Lake (219 acres) on 4 October 2011; 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	34	28	5	4	15	25	11	7	7	3	3				1		1	1	145	133.33 (39.82)
SB	4	1	3	7	3	3		1	3	2									27	10.67 (5.81)

LMB = largemouth bass
SB = spotted bass
EFDCCLSF.D11

Table 32. 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.

Year class	Age 0 Mean length	Age 0 SE	Age 0 CPUE	Age 0 SE	Age 0 ≥5.0 in CPUE	Age 0 ≥5.0 in SE	Age 1 CPUE	Age 1 SE
1999							44.33	10.37
2000							14.33	4.83
2001	5.0	0.1	27.33	5.21	13.33	3.04		
2002	5.1	0.1	34.40	10.63	20.80	7.74		
2003							15.00	4.25
2004							50.40	15.26
2005								
2006								
2007	4.3	0.1	32.00	8.67	7.20	2.94	23.00	7.33
2008								
2009	3.9	0.1	64.00	29.75	7.20	4.80	68.80	26.08
2010	4.3	0.1	93.33	28.50	16.00	6.11	45.60	5.95
2011	5.3	0.1	51.20	5.43	34.40	5.31		

EFDCCLSF.D01-D02, D07, D09-D11
EFDCCLAS.D08
EFDCCLSS.D00, D01, D04, D05, D08, D10-D11

Table 33. Length-frequency distribution of each black bass species captured during 2.500 hours of 15-minute nocturnal electrofishing runs at Dewey Lake (1,100 acres) on 20 September 2011. Standard errors are in parentheses.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	
Lower	Spotted bass		13	1	1	7	11	8	6	2											49	39.20	(15.30)
	Largemouth bass	2	6	21	13	6	1	15	31	18	49	33	9	2	2	2	2	1			213	170.40	(30.64)
Upper	Spotted Bass						1	1													2	1.60	(0.98)
	Largemouth bass	6	5	16	15	3	8	20	27	10	24	7	3	1		1	2	2	1	1	152	121.60	(18.83)
Total	Spotted bass		13	1	1	7	12	9	6	2											51	20.40	(9.57)
	Largemouth bass	8	11	37	28	9	9	35	58	28	73	40	12	3	2	3	4	3	1	1	365	146.00	(18.80)

EFDDLLSF.D11

Table 34. 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	0.04	75.58	14.20	37.56	9.36	61.23	9.44
2003	4.9	0.08	38.89	10.64	15.11	3.79	79.69	10.46
2004	5.2	0.06	45.20	7.11	25.40	4.60	24.76	4.12
2005	4.4	0.06	58.67	16.12	16.89	6.60	27.90	5.49
2006	5.1	0.07	38.97	9.89	21.32	5.82	48.98	9.18
2007	4.8	0.09	54.28	12.82	21.15	4.23	49.46	10.04
2008	5.0	0.07	54.93	14.31	30.03	7.36	55.59	12.08
2009	5.3	0.09	45.68	8.81	28.78	5.17	16.36	3.31
2010	5.0	0.06	67.60	14.18	38.40	8.50	no sample	
2011	4.6	0.10	37.20	9.26	14.80	3.58		

BBRPSDEW.D03-D05
BBRDLLSF.D02
BBRWRDEW.D03-D04
BBRSCDEW.D03
EFDDLLSF.D05-D11
EFDDLLSS.D06-D10
EFDDLLAS.D08

Table 35. Length frequency and electrofishing CPUE (fish/hr) of black bass collected in approximately 0.875 hours of 7.5-min. nocturnal electrofishing samples in Fishpond Lake (32 acres) on 28 April 2011; 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	2	2	1	4	6	5	10	11	5	5	6	14	4	10	6	1		2	1			1	96	109.71 (13.49)

LMB = largemouth bass
EFDFPLSS.D11

Table 36. Spring nocturnal electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Fishpond Lake (32 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	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
1990	19.23		43.60		14.10		2.56		0.00		79.50	
1991	216.30		192.27		62.75		10.68		0.67			
1992											80.00	
1993	9.00		83.00		42.00		0.00		0.00		134.00	
1994	57.00		28.00		0.00		5.00		0.00		90.00	
1995												
1996	2.32		99.59		25.48		10.42		1.16		137.80	
1997	4.00		33.33		32.67		6.00		0.67		76.00	
1998	11.67		29.62		49.37		21.54		0.00		112.20	
1999	193.60		107.20		19.20		24.80		0.80		344.80	
2000	5.90		246.39		11.07		7.38		0.74		270.73	
2001	28.00		118.00		32.00		8.67		4.00		186.67	
2002												
2003												
2004	78.85	12.20	75.96	7.90	45.19	5.90	39.42	6.70	3.85	2.91	239.50	14.90
2005												
2006	31.88	5.54	168.05	9.90	14.67	3.82	30.42	2.40	7.94	2.92	245.02	12.53
2007												
2008	4.97	1.99	109.29	13.59	61.79	6.21	16.86	3.33	11.63	2.39	192.91	15.38
2009	11.43	2.38	43.43	6.73	64.00	10.62	21.71	4.17	10.29	2.88	140.57	15.50
2010	4.57	2.38	34.29	6.70	26.29	2.88	13.71	4.17	4.57	2.38	78.86	9.14
2011	17.14	5.90	35.43	6.73	28.57	6.01	28.57	4.57	4.57	2.38	109.71	13.49

EFDFPLSS.D90-D91
EFDFPLSS.D93-D94
EFDFPLSS.D96-D01
EFDFPLSS.D04,D06, D08-D11

Table 37. PSD and RSD_{15} values obtained for largemouth bass taken in spring nocturnal electrofishing samples in Fishpond Lake (32 acres) on 28 April 2011; 95% confidence intervals are in parentheses.

No. ≥8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
81	62 (51-72)	31 (21-41)

EFDFPLSS.D11

Table 38. Length frequency and CPUE (fish/hr) of black bass collected in approximately 1.75 hours of 15-minute nocturnal electrofishing samples at Fishtrap Lake (1,143 acres) on 27 September 2011; 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	21	22	Total	CPUE	
Lower																								
SMB						1								1		1						3	4.00	(0.00)
SB			2	1	1			2	1													7	9.33	(1.33)
LMB		8	28	16	12	2	3	14	9	6	4	3	2	2	4							113	150.67	(14.11)
Upper																								
SMB			1				1	1	1					1			1	2				8	8.00	(4.32)
SB			1			1																2	2.00	(2.00)
LMB	1	13	38	65	28	7	12	17	7	2	1	3	3	1				1			1	200	200.00	(58.88)
Total																								
SMB			1			1	1	1	1					2		1	1	2				11	6.29	(2.45)
SB			3	1	1	1		2	1													9	5.14	(1.90)
LMB	1	21	66	81	40	9	15	31	16	8	5	6	5	3	4			1			1	313	178.86	(33.44)

LMB = largemouth bass
SMB = smallmouth bass
SB= spotted bass
EFDFLLSF.D11

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	0.04	106.20	32.90	59.60	15.90	35.35	6.00
2004	5.0	0.03	256.00	51.10	122.67	23.90	61.50	10.15
2005	4.5	0.05	108.00	41.30	24.00	11.10	52.49	8.75
2006	5.0	0.05	72.70	14.10	36.50	8.00	28.29	4.49
2007	5.1	0.05	114.20	23.70	63.50	11.03	38.51	12.06
2008	4.6	0.06	75.30	25.85	26.34	9.49	44.17	10.71
2009	4.8	0.08	83.33	15.09	39.33	5.41	51.55	3.17
2010	5.2	0.06	111.60	16.44	61.60	8.35	no sample	
2011	5.1	0.06	119.43	26.94	69.14	13.32		

EFDFLLSF.D03-D11
EFDFLLSS.D04-D10
EFDFLLAS.D04, D10

Table 40. Length frequency and CPUE (fish/nn) for white crappie collected at Fishtrap Lake (1,143 acres) in 8 net-nights on 28 November 2011. Standard errors are in parentheses.

Inch class														
3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	SE
23	75	57	168	123	110	35	18	9	2	1	1	622	88.86	(22.87)

EFDFLCTF.D11

Table 41. PSD and RSD_{10} values calculated for white crappie collected in trap nets at Fishtrap Lake (1,143 acres) on 28 November 2011; 95% confidence intervals are in parentheses.

No. ≥stock size	PSD	RSD_{10}
524	34 (30-38)	6 (4-8)

EFDFLCTF.D11

Table 42. Mean back-calculated length (in) at each annulus for white crappie collected from Fishtrap Lake (1,143 acres) on 28 November 2011, including 95% confidence intervals.

Year		Age				
class	No.	1	2	3	4	5
2010	19	4.1				
2009	32	4.2	6.2			
2008	23	4.6	6.6	8.0		
2007	25	5.0	6.9	8.3	9.6	
2006	8	5.3	7.4	8.9	10.1	11.4
Mean	107	4.5	6.6	8.3	9.7	11.4
Smallest		3.4	5.2	6.7	8.2	9.1
Largest		6.6	8.3	9.9	11.4	13.0
STD error		0.1	0.1	0.1	0.1	0.6
95% CI LO		4.4	6.5	8.1	9.4	10.3
95% CI HI		4.7	6.8	8.5	10.0	12.5

Intercept = 0
EFDFLCAF.D11

Table 43. Age frequency and CPUE (fish/nn) of white crappie collected by trap netting for 8 net-nights at Fishtrap Lake (1,143 acres) on 28 November 2011; 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	23	75											98	16	14.00	(6.14)
1			53	53									106	17	15.10	(5.37)
2			4	116	115	37	3						273	44	39.04	(9.72)
3					8	73	20	4					106	17	15.08	(3.48)
4							13	11	8	1			33	5	4.64	(0.96)
5								3	1	1	1	1	7	1	1.00	(0.28)
Total	23	75	57	168	123	110	35	18	9	2	1	1	622	100		
%	4	12	9	27	20	18	6	3	1	0	0	0	100			

CPUE of ≥8.0 in (quality size) = 25.14 fish/nn

CPUE of ≥10.0 in (preferred size) = 4.43 fish/nn

EFDFLCAF.D11

EFDFLCTF.D11

Table 44. Population assessment scores for white crappie collected from Fishtrap Lake (1,143 acres). Actual assessment values are in parentheses.

	Year					
Parameter	2003	2005	2007	2008	2010	2011
Total CPUE (excluding age 0)	4 (100.00)	4 (38.90)	2 (6.70)	4 (31.89)	4 (27.18)	4 (74.86)
CPUE age 1	4 (33.20)	1 (2.10)	2 (3.20)	3 (10.84)	3 (10.60)	4 (15.10)
CPUE age 0	1 (0.001)	4 (22.50)	1 (2.70)	4 (18.78)	2 (3.12)	4 (14.00)
CPUE $\geq$ 8.0 in	4 (15.90)	4 (25.90)	2 (2.85)	3 (8.83)	3 (10.35)	4 (25.14)
Mean length age 2 at capture	1 (7.1)	1 (8.2)	2 (8.8)	1 (7.8)	1 (7.5)	1 (7.3)
Instantaneous mortality (z)	1.45	0.56	0.80	0.78	1.19	0.75
Annual Mortality (A)	76.60	43.10	54.90	54.40	69.7	53.00
Total score	14	14	9	15	13	17
Assessment rating	Good	Good	Fair	Good	Good	Good

EFDFLCTF.D03, D05, D07, D08, D10, D11
EFDFLCAF.D03, D05, D07, D08, D10, D11

Table 45. Length frequency and gillnetting CPUE (fish/nn) of hybrid striped bass collected in 3 net-nights at Fishtrap Lake (1,143 acres) on 6 December 2011; 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	
HB	3			7	3	18	18	8	6	8	34	28	9	11	11	16	12	5	3	2	202	67.33	(5.04)
WB						1			1												2	0.67	0.67

EFDFLHGF.D11
HB=hybrid striped bass
WB=white bass

Table 46. Mean back-calculated length (in) at each annulus for hybrid striped bass collected from Fishtrap Lake (1,143 acres) in 2011, including the length range of bass at each age and the 95% confidence intervals for each age group.

Year		Age							
class	No.	1	2	3	4	5	6	7	8
2010	37	8.9							
2009	33	9.1	14.5						
2008	20	9.3	15.0	18.7					
2007	13	9.2	14.3	18.0	19.6				
2006	11	10.0	15.9	18.9	21.1	22.4			
2005	14	9.4	15.1	18.5	20.5	21.9	22.9		
2004									
2003	1	10.9	15.1	18.9	21.0	23.1	23.8	24.9	25.6
Mean	129	9.2	14.8	18.6	20.4	22.1	22.9	24.9	25.6
Smallest		6.6	10.5	13.2	14.2	20.6	21.2	24.9	25.6
Largest		11.7	18.0	21.2	23.6	24.6	25.6	24.9	25.6
Std error		0.1	0.2	0.2	0.3	0.2	0.3		
95% CI LO		9.0	14.5	18.1	19.8	21.7	22.3		
95% CI HI		9.4	15.2	19.0	21.0	22.6	23.5		

intercept=0
EFDFLHAF.D11

Table 47. Age frequency and CPUE (fish/nn) of hybrid striped bass collected at Fishtrap Lake (1,143 acres) in December 2011; numbers in parentheses are standard error.

	Inch class																						
Age	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	Age%	CPUE
0	3																				3	1	1.00 (0.58)
1				7	2	18	13	8	2	1											51	25	16.87 (2.81)
2					1		5		2	7	34	28	1								78	39	26.13 (1.80)
3													7	9	4	2					22	11	7.33 (0.95)
4									2				1	2	2	7	1	1			16	8	5.57 (1.42)
5															3	4	2	2	2		13	6	4.42 (0.77)
6															1	4	8	2	1	1	17	8	5.69 (0.96)
7																					0	0	
8																				1	1	0	0.33 (0.33)
Total	3	0	0	7	3	18	18	8	6	8	34	28	9	11	10	17	11	5	3	2	201	100	
%	1	0	0	3	1	9	9	4	3	4	17	14	4	5	5	8	6	2	1	1	100		

EFDFLHAF.D11
EFDFLHGF.D11

Table 48. Hybrid striped bass population assessment for fish gill netted at Fishtrap Lake (1,143 acres) from 1997 - 2011, CPUE = fish/nn.

	Year								
Parameters	1997	1999	2000	2002	2004	2005	2007	2009	2011
CPUE	1	3	3	4	3	4	4	4	4
Actual value	2.56	10.47	31.43	28.80	15.00	29.13	26.75	77.67	67.33
Mean length age 2+ at capture	1	3	2	3	1	3	3	3	2
Actual value	15.5	17.4	16.0	17.3	13.7	17.3	17.6	17.4	16.9
CPUE ≥15.0 in	1	3	3	4	3	4	4	4	4
Actual value	0.56	7.94	18.80	16.90	5.00	14.91	17.75	58.00	48.33
CPUE age-1	1	1	3	4	2	3	3	4	4
Actual value	1.33	1.81	7.92	12.60	4.60	9.38	9.29	20.33	16.87
Total Score	4	10	11	15	9	14	14	15	14
Assessment rating	Poor	Good	Good	Excellent	Fair	Excellent	Excellent	Excellent	Excellent
Instantaneous mortality	0.56	0.67	0.67	0.87	0.45	0.62	0.44	1.01	0.62
Annual mortality	42.90	48.90	48.60	58.20	36.00	46.40	35.60	63.40	46.1

EFDFLHAF.D97-D11
EFDFLHGF.D97-D11

Table 49. Length frequency and CPUE (fish/hr) of black bass and walleye collected in 1.250 hours of 15-min nocturnal electrofishing runs in Martins Fork Lake (330 acres) on 10 May 2011; 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	4	9	9	6	11	10	15	7	12	5	4	5	2	8	2	2	1	113	90.40 (12.75)
RB																			0	0.00
SB	3	1	1	4	7	4	9	6	2	2									39	31.20 (5.43)
SMB						1													1	0.80 (0.80)
WE																			0	0.00

LMB =largemouth bass
RB = redeye bass (coosa bass)
SB = spotted bass
SMB = smallmouth bass
WE = walleye
EFDMLLSS.D11

Table 50. Spring nocturnal electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Martins Fork Lake (330 acres). S.E. = standard error.

	Inch class											
	<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	14.00	3.70	22.00	3.80	3.30	1.20	5.30	2.00	0.00		68.00	15.70
2004	2.67	2.70	89.33	19.20	4.00	2.30	5.33	3.50	0.00		101.30	26.80
2005	4.80	2.30	23.20	6.00	17.60	4.80	4.80	2.00	0.00		50.40	10.80
2006	9.30	1.97	19.89	6.03	13.26	2.99	9.30	2.66	0.70		51.74	10.70
2007	7.86	3.30	48.64	13.30	15.65	2.58	21.13	5.27	1.57	0.96	93.27	19.34
2008	7.80	4.80	19.46	7.18	20.21	3.74	19.41	2.41	0.77	0.77	66.88	12.21
2009	11.15	4.06	19.92	3.32	9.57	2.04	11.16	1.48	1.59	0.97	51.81	7.43
2010	17.60	6.27	26.40	16.42	8.00	2.83	19.20	2.65	0.80	0.80	71.20	22.78
2011	23.20	5.57	34.40	9.68	16.80	3.88	16.00	3.35	0.80	0.80	90.40	12.75

EFDMLLSS.D03-D11

Table 51. PSD and RSD values obtained for each black bass species taken in spring nocturnal electrofishing samples in Martins Fork Lake (330 acres) in May 2011; 95% confidence intervals are in parentheses; largemouth bass stock size ≥8.0 in and spotted bass stock size ≥7.0 in.

Species	No. ≥stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Spotted bass	30	13 (1-26)	
Largemouth bass	84	49 (38-60)	24 (15-33)

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

EFDMLLSS.D11

Table 52. Spring electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Martins Fork Lake (330 acres) from 2003-2011.

	Year								
Age	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	15.31	10.86	5.37	9.98	10.12	9.98	7.17	4.80	11.20
2	19.35	78.25	20.76	17.66	41.28	17.80	15.14	16.80	21.60
3	3.33	6.89	15.47	9.49	8.22	13.50	12.39	16.96	27.20
4	2.67	1.33	2.40	6.64	15.65	10.06	10.74	9.44	11.20
5	0.67			1.33	2.36	3.90	0.53	1.33	2.13
6							2.12	2.13	2.93
7							1.32	5.33	3.73

EFDMLLSS.D03-D11

EFDMLLAS.D03, D09

Table 53. 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	2003	2004	2005	2006	2007	2008	2009	2010	2011
Mean length age-3 at capture	4 (14.3)	4 (14.3)	4 (14.3)	4 (14.3)	4 (14.3)	4 (14.3)	4 (11.8)	4 (11.8)	4 (11.8)
Spring CPUE age 1	1 (15.31)	1 (10.86)	1 (5.37)	1 (9.98)	1 (10.12)	1 (9.98)	1 (7.17)	1 (4.80)	1 (11.20)
Spring CPUE 12.0-14.9 in	1 (3.30)	1 (4.00)	1 (17.60)	1 (13.30)	1 (15.65)	2 (20.21)	1 (9.57)	1 (8.00)	1 (16.80)
Spring CPUE ≥15.0 in	2 (5.30)	2 (5.30)	2 (4.80)	2 (9.30)	3 (21.13)	3 (19.41)	2 (11.16)	3 (19.20)	2 (16.00)
Spring CPUE >20.0 in	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.70)	2 (1.57)	1 (0.77)	2 (1.59)	1 (0.80)	1 (0.80)
Total score	8	8	8	9	11	11	10	10	9
Assessment rating	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Instantaneous mortality (z)	1.03	2.04	1.08	0.81	0.80	0.48	0.54	0.37	0.33
Annual mortality (A)	64.40	87.00	66.00	55.70	55.10	38.40	41.60	31.30	28.40

EFDMLLSS.D03-D11
EFDMLLAS.D03, D09

Table 54. Length frequency and CPUE (fish/hr) of black bass collected at Martins Fork Lake (330 acres) during 1.25 hours of 15 minute nocturnal electrofishing samples on 22 September 2011; numbers in parentheses are standard errors.

	Inch class															
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	
LMB	3	13	8	1	10	15	3	1	2	4	1	1	1	63	50.40	(12.37)
SB	20	9	1	6	14	10	5	3	1					69	55.20	(11.83)
SMB							1							1	0.80	(0.80)

LMB = largemouth bass
SB = spotted bass
SMB = smallmouth bass
EFDMLLSF.D11

Table 55. Electrofishing indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected during 2002 - 2011 at Martins Fork Lake (330 acres); CPUE = fish/hr, SE = standard error.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002	5.5	0.12	34.40	8.60	25.60	7.90	15.30	3.60
2003	no fall sample						77.50	18.50
2004	no fall sample						24.60	5.90
2005	4.4	0.17	32.00	4.30	10.00	2.60	9.98	2.30
2006	4.5	0.13	38.40	14.50	11.20	3.20	10.12	3.36
2007	4.6	0.15	28.68	8.65	10.36	2.99	9.98	5.09
2008	4.4	0.15	31.87	14.27	10.33	2.72	7.17	2.93
2009	4.3	0.17	23.20	8.33	7.20	2.33	4.80	1.96
2010	5.2	0.16	40.00	11.55	26.67	9.33	11.20	3.44
2011	4.7	0.13	20.00	6.81	7.20	1.50		

EFDMLLSF.D02
EFDMLLSF.D05-D11
EFDMLLSS.D03-D11
EFDMLLAS.D03, D09

Table 56. Length frequency and CPUE (fish/hr) of black bass collected in approximately 3.475 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 23 May 2011; numbers in parentheses are standard errors.

		Inch class																							
Species/Area		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	
Upper																									
	LMB		27	22	14	4	25	19	9	11	3	2	4	1		2			2			1	146	146.00	(26.76)
	SMB	1	1	1																			3	3.00	(1.91)
	SB	2	4	1	6	4	4	2	1	3		1		1									29	29.00	(9.57)
Middle																									
	LMB		14	8	3	4	25	19	13	8	4	1	2	1									102	81.60	(9.00)
	SMB																						0	0.00	(0.00)
	SB																						0	0.00	(0.00)
Lower																									
	LMB	5	12	18	9	2	20	21	13	16	9	4	4	1	1	1	1	1		1			139	111.20	(15.62)
	SMB																						0	0.00	(0.00)
	SB					1			2				1										4	3.20	(3.20)
Total																									
	LMB	5	53	48	26	10	70	59	35	35	16	7	10	3	1	3	1	1	2	1		1	387	110.57	(11.56)
	SMB	1	1	1																			3	0.86	(0.62)
	SB	2	4	1	6	5	4	2	3	3		1	1	1									33	9.43	(4.37)

LMB = largemouth bass
SMB = smallmouth bass
SB= spotted bass
EFDPLLSS.D11

Table 57. 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	6.81		10.55		1.62		0.29		0.00		19.30	
1989	15.43		16.01		3.42		0.85		0.00		36.30	
1990	34.00		31.33		2.67		2.00		0.00		70.00	
1991	26.55		33.09		12.00		0.36		0.40		72.00	
1992	16.43		43.96		21.26		0.72		0.00		82.37	
1993	16.36		26.33		22.50		2.81		0.63		68.00	
1994	34.00		47.40		26.60		3.56		0.27		111.60	15.60
1995	no sample											
1996	no sample											
1997	29.00		40.00		26.33		1.00		0.30		96.33	11.53
1998	25.70		87.69		26.34		0.00		0.00		139.70	17.90
1999	36.33		65.67		36.67		2.33		0.00		141.00	12.07
2000	12.67	4.97	95.00	19.57	27.00	7.83	2.00	0.78	0.00	0.00	136.67	27.97
2001	42.33	5.45	63.00	10.84	46.67	4.81	4.33	0.92	0.67	0.45	156.33	17.52
2002	41.80	1.80	70.50	2.70	36.00	1.40	2.20	0.20	0.00	0.00	150.90	14.20
2003	106.00	21.17	71.00	10.80	19.67	5.65	3.00	1.31	0.31	0.31	199.67	35.19
2004	62.67	10.90	92.00	19.20	17.00	3.40	2.00	0.90	0.00	0.00	173.70	25.40
2005	80.40	31.90	133.30	38.90	35.10	6.00	6.20	1.20	0.44	0.44	255.10	72.70
2006	30.55	4.43	65.11	12.57	13.60	1.92	2.64	1.12	0.00	0.00	111.91	14.27
2007	39.83	9.49	81.55	22.98	11.11	3.11	6.53	0.84	0.00	0.00	139.03	20.47
2008	37.80	6.55	79.25	11.91	9.84	1.75	3.96	1.56	0.39	0.39	130.84	14.14
2009	28.11	8.00	69.22	24.61	6.20	2.62	2.33	0.95	0.00	0.00	105.86	16.43
2010	51.20	16.39	86.40	11.56	13.33	1.73	5.60	1.09	1.87	0.53	156.53	26.31
2011	40.57	7.16	56.86	5.07	9.43	1.86	3.71	0.89	1.14	0.50	110.57	11.56

EFDPLLSS.D88-D11

Table 58. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples in each area of Paintsville Lake (1,150 acres) on 23 May 2011; 95% confidence intervals are in parentheses; largemouth bass stock size ≥8.0 in and spotted bass stock size ≥7.0 in.

Area	Species	No. ≥stock size	PSD (+/- 95%)	RSD[a](+/- 95%)
Upper	Spotted bass	16	31	6
			(8-55)	(0-19)
	Largemouth bass	79	19	8
			(10-28)	(2-13)
Middle	Spotted bass	0		
	Largemouth bass	73	11	1
			(4-18)	(0-4)
Lower	Spotted bass	4	25	25
			(0-74)	(0-74)
	Largemouth bass	93	25	6
			(16-34)	(1-11)
Total	Spotted bass	20	30	10
			(9-51)	(0-23)
	Largemouth bass	245	19	5
			(14-24)	(2-8)

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

EFDPLLSS.D11

Table 59. Spring nocturnal electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Paintsville Lake (1,150 acres).

	Year											
Age	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	11.80	41.00	41.20	95.18	54.60	75.60	43.52	43.97	51.50	35.64	58.13	35.59
2	68.80	29.70	50.30	51.15	81.80	104.10	53.22	77.57	66.06	61.88	78.97	43.38
3	42.60	65.70	42.80	19.45	22.40	55.60	8.08	9.91	6.90	3.34	10.09	11.44
4	7.10	9.60	8.70	10.32	9.60	8.70	4.01	2.37	2.94	2.16	3.03	15.95
5	2.90	3.90	3.90	4.46	2.60	4.10	2.10	1.52	1.45	0.52	1.60	0.50
6	1.70	2.80	2.50	1.28	1.10	1.90	0.66	0.43	0.40		0.44	0.86
7				0.31		0.40						1.14

EFDPLLSS.D00-D11
EFDPLLAS.D03
EFDPLLAS.D06
EFDPLLAS.D11

Table 60. Mean back-calculated length (in) at each annulus for largemouth bass collected from Paintsville Lake (1,150 acres) on 23 May 2011, including 95% confidence intervals.

Year		Age										
class	No.	1	2	3	4	5	6	7	8	9	10	11
2010	24	5.3										
2009	31	5.5	8.6									
2008	13	5.4	8.3	10.6								
2007	16	5.8	8.7	10.9	12.5							
2006	1	5.5	9.1	10.5	11.8	13.5						
2005	1	6.1	8.0	10.4	11.7	13.3	15.1					
2004	3	6.2	8.6	11.7	13.9	15.6	17.0	18.1				
2000	1	5.5	9.3	11.6	13.9	15.1	16.6	17.9	18.9	20.4	21.4	22.7
Mean		5.5	8.6	10.8	12.7	14.8	16.6	18.1	18.9	20.4	21.4	22.7
Smallest		3.9	6.0	9.3	10.3	13.3	15.1	16.7	18.9	20.4	21.4	22.7
Largest		7.6	11.1	14.0	15.5	17.6	18.7	19.9	18.9	20.4	21.4	22.7
STD error		0.1	0.1	0.2	0.3	0.6	0.6	0.7				
95% CI LO		5.4	8.3	10.5	12.1	13.6	15.4	16.7				
95% CI HI		5.7	8.8	11.2	13.2	16.0	17.8	19.4				

Intercept = 0
EFDPLLAS.D11

Table 61. 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	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Mean length age-3 at capture	2 (11.4)	2 (11.4)	2 (11.4)	2 (11.4)	3 (11.7)	3 (11.7)	3 (11.7)	3 (11.7)	3 (11.7)	1 (10.6)
Spring CPUE age 1	3 (41.20)	4 (95.18)	4 (61.44)	4 (75.60)	3 (43.52)	3 (43.97)	4 (51.50)	2 (35.64)	4 (58.13)	2 (35.59)
Spring CPUE 12.0-14.9 in	4 (36.00)	2 (19.67)	2 (17.00)	4 (35.10)	1 (13.60)	1 (11.11)	1 (9.84)	1 (6.20)	1 (13.33)	1 (9.43)
Spring CPUE ≥15.0 in	1 (2.20)	1 (3.00)	1 (2.00)	2 (6.20)	1 (2.64)	2 (6.53)	1 (3.96)	1 (2.33)	2 (5.60)	1 (3.71)
Spring CPUE ≥20.0 in	0 (0.00)	2 (0.31)	0 (0.00)	2 (0.44)	0 (0.00)	0 (0.00)	2 (0.39)	0 (0.00)	3 (1.87)	2 (1.14)
Total score	10	11	9	14	8	9	11	7	13	7
Assessment rating	Fair	Fair	Fair	Good	Fair	Fair	Fair	Poor	Good	Poor
Instantaneous mortality (z)	0.83	0.95	1.15	1.10	1.02	1.16	1.17	1.12	1.18	0.57
Annual mortality (A)	56.50	61.30	68.20	66.60	63.80	68.60	69.10	67.40	69.40	83.70

EFDPLLSS.D02-D11
EFDPLLAS.D03, D06, D11

Table 62. Length frequency and CPUE (fish/hr) of black bass collected in 3.25 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) in October 2011; 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	Total	CPUE	
Lower																					
	SMB																		0		
	SB	1			1	1	1			1									5	5.00	(3.79)
	LMB	2	33	58	33	21	1	10	16	3	8	3	1	3	1			1	194	194.00	(77.54)
Middle																					
	SMB																		0		
	SB	5	4	1				3	3										16	12.80	(3.44)
	LMB	9	76	38	11	3	2	13	21	13	4	2	2	2	2				198	158.40	(29.36)
Upper																					
	SMB																		0		
	SB					4	4	6	1	3									18	18.00	(5.29)
	LMB		13	69	89	11	3	35	18	5	5				1	1	1		251	251.00	(28.40)
Total																					
	SMB																		0		
	SB	6	4	1	1	5	5	9	4	4									39	12.00	(2.64)
	LMB	11	122	165	133	35	6	58	55	21	17	5	3	5	4	1	1	1	643	197.85	(27.53)

LMB = largemouth bass
SMB = smallmouth bass
SB= spotted bass
EFDPLLSF.D11

Table 63. 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	Standard error	CPUE	Standard error	CPUE	Standard error	CPUE	Standard error
2002							95.18	20.09
2003	4.8	0.1	31.30	6.10	14.00	2.20	61.44	10.70
2004	5.1	0.1	65.67	10.80	37.33	8.60	75.60	29.20
2005	4.5	0.1	46.00	9.60	10.70	2.70	43.52	5.88
2006	4.9	0.1	72.40	12.00	33.60	5.10	43.97	8.37
2007	5.1	0.1	52.35	24.04	30.20	15.57	51.50	7.28
2008	4.6	0.1	24.84	8.75	8.07	5.15	35.64	9.68
2009	4.6	0.1	64.57	13.30	23.08	10.74	58.13	17.64
2010	4.6	0.1	86.40	19.52	31.47	6.89	35.59	6.66
2011	5.1	0.1	36.29	7.20	19.71	4.31		

EFDPLLSF.D03-D10
EFDPLLSS.D03-D10
EFDPLLAS.D03, D06, D11

Table 64. Length frequency and CPUE (fish/hr) of walleye collected at Paintsville Lake (1,150 acres) during 3.853 hours of daytime spring electrofishing on 22 March 2011; numbers in parentheses are standard errors.

	Inch class																			
Year	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Total	CPUE	SE
2000	1	3	2	1	2												1	10	5.13	(0.00)
2001				1	1		1		1	3	1				1			9	7.26	(0.00)
2002	no data																			
2003			1					1		1	1		1	4				9	5.14	(2.58)
2004	2	1	5	2		2		1			2			1				16	6.40	(2.32)
2005	no data																			
2006		1	4	11	6	2	2	1										27	29.03	(13.17)
2007	no data																			
2008		1	2	4	2	6	4	3	2		2	1			3	4		34	7.91	(4.08)
2009		1	1		1	1	1	1	1	1			1	1		1		11	2.19	(1.06)
2010			1	1	3	2		1	3	2	3	1	8	5	5	1		36	8.64	(2.72)
2011			1	1	3	4		2	3				1	1	2			18	5.20	(2.19)

EFDPLWSS.D00-D11

Table 65. Spring electrofishing population assessments for the walleye population at Paintsville Lake. Actual values are in parentheses. Scoring based on statewide assessment.

	Year			
Parameter	2008	2009	2010	2011
Population Density	1	1	1	1
(CPUE all fish)	(7.91)	(2.19)	(8.64)	(5.20)
Growth rate	3	3	3	3
(mean length age 3 at capture)	(17.4)	(17.4)	(17.4)	(17.4)
Size structure	3	2	4	2
(CPUE ≥20.0 in)	(3.49)	(1.28)	(7.02)	(2.43)
Recruitment	0	0	0	0
(CPUE <13.0 in)	(0.00)	(0.00)	(0.00)	(0.00)
Total Score	7	6	8	6
Assessment Rating	Fair	Fair	Fair	Fair
Instantaneous mortality (z)	0.31	0.16	0.17	0.24
Annual mortality (A)	26.70	14.60	15.60	21.20

EFDPLWSS.D08-D11
EFDPLWAS.D08

Table 66. Length frequency and CPUE (fish/hr) of white crappie collected at Paintsville Lake (1,150 acres) during 3.853 hours of daytime spring electrofishing on 22 March 2011; numbers in parentheses are standard errors.

	Inch class														
	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	SE
White crappie	20	7	54	37	43	27	16	12	10	2	2	1	231	35.29	(14.46)

EFDPLWSS.D11

Table 67. Spring electrofishing CPUE (fish/hr) for each length group of white crappie collected at Paintsville Lake (1,150 acres). SE=standard error.

	Length group					
	≥8.0 in		≥10.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE
2008	3.79	1.48	1.42	0.50	8.09	5.79
2009	5.19	2.45	1.59	1.07	39.02	21.26
2010	6.12	2.35	1.44	0.86	22.62	10.35
2011	11.57	3.86	4.39	1.66	35.29	14.46

EFDPLWSS.D08-D11

Table 68. PSD and RSD_{10} values for white crappie taken in spring electrofishing samples at Paintsville Lake (1,150 acres) on 22 March 2011, 95% confidence intervals are in parentheses.

No. ≥5.0 in	PSD (+/- 95%)	RSD_{10} (+/- 95%)
204	34 (28-41)	13 (9-18)

EFDPLWSS.D11

Table 69. Mean back-calculated length (in) at each annulus for white crappie collected from Paintsville Lake (1,150 acres) on 22 March 2011, including 95% confidence intervals.

Year class	No.	Age 1	2	3	4	5	6	7
2010	8	3.5						
2009	38	3.8	5.6					
2008	29	3.8	5.5	7.0				
2007	28	4.0	5.7	7.0	8.3			
2006	10	4.0	5.8	7.3	8.6	10.0		
2005	5	4.1	6.0	7.6	8.8	9.9	11.2	
2004	2	3.9	5.3	6.8	7.3	8.3	9.3	10.2
Mean		3.9	5.6	7.1	8.4	9.8	10.6	10.2
Smallest		3.1	4.6	5.4	6.1	6.8	8.2	8.8
Largest		5.0	7.3	8.8	10.5	12.1	13.5	11.5
STD error		0.0	0.0	0.1	0.2	0.4	0.7	1.3
95% CI LO		3.8	5.5	6.9	8.1	9.0	9.3	7.5
95% CI HI		3.9	5.7	7.2	8.7	10.5	12.0	12.8

Intercept = 0

EFDPLCAS.D11

Table 70. Age frequency and CPUE (fish/hr) of white crappie collected in spring electrofishing samples at Paintsville Lake (1,150 acres) in March 2011; numbers in parentheses are standard errors.

	Inch class														
Age	3	4	5	6	7	8	9	10	11	12	13	Total	Age%	CPUE	
1	20	3										23	10	3.56	(2.00)
2		4	54	9	2							69	30	9.49	(4.91)
3				25	24	4						53	23	8.01	(3.28)
4				2	17	18	11	5				52	23	8.66	(3.07)
5				2		2	5	5	4	2		20	9	3.22	(1.04)
6						2		2	4		2	10	4	1.59	(0.63)
7						2			2			4	2	0.59	(0.24)
Total	20	7	54	37	43	27	16	12	10	2	2	230	100		
%	9	3	23	16	19	12	7	5	4	1	1	100			

CPUE of ≥8 in (quality size) = 10.69
CPUE of ≥10 in (preferred size) = 4.12
EFDPLCAS.D11
EFDPLWSS.D11

Table 71. Spring electrofishing catch rate (fish/hr) for each age of white crappie collected from Paintsville Lake (1,150 acres).

	Year			
Age	2008	2009	2010	2011
1	0.00	0.00	0.00	3.56
2	2.39	23.53	11.81	9.49
3	2.15	6.89	4.95	8.01
4	1.66	3.59	2.69	8.66
5	1.41	1.23	2.17	3.22
6				1.59
7	0.24			0.59

EFDPLWSS.D08-D11
EFDPLCAS.D08, D11

Table 72. Fish harvest statistics derived from day (1 March-31 October) and night (1 June-31 August) creel surveys at Paintsville Lake (1139 acres) in 2011.

	Day	Night
Fishing trips		
No. of fishing trips (per acre)	8,002 (7.03)	1,464 (1.29)
Fishing pressure		
Total angler hours (S.E.)a	47,557 (1,674)	7,540 (487)
Man-hours/acre	41.75	6.62
Catch/harvest		
No. of fish caught (S.E.)	48,971 (4,746)	9,462 (1,549)
No. of fish harvested (S.E.)	14,428 (2,327)	1,964 (579)
Lb of fish harvested	5,091	778
Harvest rates		
Fish/hour	0.24	0.25
Fish/acre	12.67	1.72
Lb/acre	4.47	0.68
Catch rate		
Fish/hour	0.85	1.24
Fish/acre	42.99	4.84
Miscellaneous characteristics (%)		
Male	89.28	86.72
Female	10.72	13.28
Resident	95.99	100.00
Non-resident	4.01	0.00
Method (%)		
Still fishing	35.68	49.22
Casting	63.5	50.78
Fly fishing	0.08	
Trolling	0.74	
Mode (%)		
Boat	80.77	71.88
Bank	16.78	25.78
Dock	2.45	2.34

aS.E. = standard error

Table 73. Fish harvest statistics derived from a day creel survey at Paintsville Lake (1139 acres) from 1 March through 31 October 2011.

	Common Carp	Flathead Catfish	White Bass	Channel catfish	Redear	Bluegill	Smallmouth Bass	Spotted Bass	Largemouth Bass	White Crappie	Walleye	Rainbow Trout
No. caught	161	39	141	248	943	17,090	400	980	20,184	6,877	442	679
per acre	0.14	0.03	0.12	0.22	0.83	15.00	0.35	0.86	17.72	6.04	0.39	0.60
No. harvested		39	97	162	778	-6,622		89	1,660	4,023	259	522
per acre		0.03	0.09	0.14	0.68	5.81		0.08	1.46	3.53	0.23	0.46
% of total no. harvested		0.27	0.67	1.12	5.39	45.90		0.62	11.51	27.88	1.80	3.62
Lb harvested		83.1	62.8	178.1	250.4	1,076.3		50.0	1,042.0	1,215.4	880.6	211.7
per acre		0.07	0.06	0.16	0.22	0.95		0.04	0.92	1.07	0.77	0.19
% of total lb harvested		1.63	1.23	3.50	4.92	21.14		0.98	20.47	23.87	17.30	4.16
Mean length (in)		13.50	12.30	14.90	8.20	6.40		10.60	11.60	8.80	21.60	10.70
Mean weight (lb)		1.65	0.79	1.09	0.40	0.16		0.53	0.90	0.30	3.61	0.45

	Walleye	Catfish group	Panfish group	Black bass group	Crappie group	Anything	Trout Group
No. of fishing trips for that species	299	121	1104	4,212	1,189	870	207
% of all trips	3.74	1.51	13.80	52.64	14.86	10.87	2.59
Hours fished for that species	1,777.74	721.01	6,562.42	25,030.82	7,067.54	5,167.71	1,229.36
(per acre)	1.56	0.63	5.76	21.98	6.21	4.54	1.08
No. harvested fishing for that species	149	32	5,026	633	3,630	1,604	381
Lb harvested fishing for that species	697.50	97.40	922.00	591.60	1,115.40	329.20	156.80
No./hour harvested fishing for that species	0.08	0.07	0.97	0.02	0.63	0.43	0.77
% success fishing for that species	19.35	12.50	48.51	3.92	52.87	25.00	62.07

Table 74. Fish harvest statistics derived from a night creel survey at Paintsville Lake (1139 acres) from 1 June through 31 August 2011.

	White Bass	Channel catfish	Redear	Bluegill	Rock Bass	Spotted Bass	Largemouth Bass	White Crappie	Walleye	Rainbow Trout
No. caught	40	655	214	4,488	50	101	3,156	373	65	196
per acre	0.04	0.58	0.19	3.94	0.04	0.09	2.77	0.33	0.06	0.17
No. harvested		295	65	1,040		76	202	25	65	196
per acre		0.26	0.06	0.91		0.07	0.18	0.02	0.06	0.17
% of total no. harvested		15.02	3.31	52.95		3.87	10.29	1.27	3.31	9.98
Lb harvested		107.0	33.2	164.9		44.4	106.1	8	186.7	128
per acre		0.09	0.03	0.15		0.04	0.09	0.01	0.16	0.11
% of total lb harvested		13.75	4.27	21.19		5.70	13.63	1.03	23.99	16.45
Mean length (in)		10.30	8.50	6.30		11.00	10.30	9.00	20.50	12.00
Mean weight (lb)		0.36	0.46	0.16		0.59	0.53	0.32	2.91	0.65

	Walleye	Catfish group	Panfish group	Black bass group	Crappie group	Anything
No. of fishing trips for that species	105	253	299	417	61	329
% of all trips	7.20	17.25	20.44	28.47	4.17	22.46
Hours fished for that species	543.19	1,300.77	1,541.51	2,146.73	314.15	1,693.86
(per acre)	0.48	1.14	1.35	1.88	0.28	1.49
No. harvested fishing for that species	25	295	754	0	25	536
Lb harvested fishing for that species	78.70	107.10	130.40	0.00	7.90	338.30
No./hour harvested fishing for that species	0.02	0.13	0.70	0.00	0.1	0.26
% success fishing for that species	11.11	11.11	20.69	0.00	25.00	17.86

Table 75. Species composition and length distribution of each species of fish harvested (H) and released (R) from a daytime creel survey on Paintsville Lake (1139 acres) from 1 March to 31 October 2011.

Species		Inch class																								
		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	28	29
Common Carp	H																									
	R																27	81		27			26			
Suckers	H																									
	R											25														
Walleye	H														52	17	86		52		17	17				18
	R										17	33	17		17	17	17	33		17			14			
Channel Catfish	H									36		36	36	36				18								
	R									57			28													
Flathead Catfish	H				19													19								
	R																									
White Bass	H						24				72															
	R							22				22														
Bluegill	H	158	631	3018	1622	1126	66																			
	R	3437	3864	2246	427	45		45	21																	
Warmouth	H			20	39	20	19																			
	R	47	47	24			23																			
Green Sunfish	H			26	12																					
	R	209	105	52		26																				
Spotted Bass	H						13	13	38	25																
	R			9	26	150	26	309	26	265	71	9														
Largemouth Bass	H					321	251	628	349				56	28	14					13						
	R					2449	1134	4496	1881	3583	1536	1591	636	457	318	208	69	69	28	14	42	12				
Smallmouth Bass	H																									
	R		27		27	80	53	107	27	53		25														
White Crappie	H		50	88	441	1085	946	832	214	265	88	14														
	R	174	336	1234	399	399	125	50	12	75		37		13												
Redear Sunfish	H		42	127	269	240	28	57	14																	
	R	15	75	75																						
Rainbow Trout	H					61	52	218	70	104	17															
	R			24	8	47		16		39	16									6						
Freshwater Drum	H																									
	R												10			9										

Table 76. Species composition and length distribution of each species of fish harvested (H) and released (R) from a night creel survey on Paintsville Lake (1139 acres) from 1 June to 31 August 2011.

Species		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Bullhead	H																				
	R									25											
Walleye	H																	33	32		
	R																				
Channel	H							196	98												
Catfish	R					84		84		84			82								
White Bass	H																				
	R								40												
Rock Bass	H																				
	R			25		25															
Green	H	98																			
Sunfish	R																				
Bluegill	H	58	116	462	260	143															
	R	703	1105	1071	100	100	67														
Readear	H				33			32													
Sunfish	R	50	98																		
Spotted	H								75												
Bass	R										25										
Largemouth	H						25	101	75												
Bass	R					348	435	753	463	521	87	145	145		29	28					
Rainbow	H							98				98									
Trout	R																				
White	H						25														
Crappie	R	43	130	43	43	45															

Table 77. Monthly black bass angling success at Paintsville Lake during the 2011 day and night creel survey period.

	Total no. of bass caught		Total no. of bass harvested		No. of black bass fishing trips		Hours fished by bass anglers		Bass caught by bass anglers		Bass caught/hour by bass anglers		Bass harvested by bass anglers		Bass harvested/hour by bass anglers	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
March	1,691				497		2,956		1,691		0.46		0		0.00	
April	4,451		284		1,359		8,076		4,303		0.44		195		0.02	
May	5,420		712		908		5,397		4,747		0.73		211		0.03	
June	3,595	2,419	385	277	615	259	3,657	1,333	2,375	1,436	0.60	1.10	0	0	0.00	0.00
July	1,752	196	117	0	227	91	1,346	467	1,596	196	0.96	0.67	117	0	0.07	0.00
August	1,580	642	67	0	287	67	1,705	347	1,546	120	0.85	0.35	67	0	0.04	0.00
September	1,971		133		192		1,142		1,439		0.98		107		0.07	
October	1105		51		127		752		848		1.05		0		0.00	
Total	21,565	3,257	1,749	277	4,212	417	25,031	2,147	18,545	1,752			697	0		
Mean											0.76	0.98			0.03	0.00

Table 78. Monthly walleye angling success at Paintsville Lake during the 2011 creel survey period.

	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	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
March	0		0						0		0.00		0		0.00	
April	35		18		16		96.14		12		0.19		12		0.19	
May	145		92		52		310.62		13		0.06		13		0.06	
June	64		32		123		731.32		64		0.06		32		0.03	
July	39		39		10		58.53		39		0.25		39		0.25	
August	0		0						0		0.00		0		0.00	
September	107		27		28		169.12		107		0.53		27		0.13	
October	51		51		24		143.25		26		0.13		26		0.13	
Total	441		259		253		1508.98		261				149			
Mean											0.15				0.10	

Table 79. Monthly rainbow trout angling success at Paintsville Lake during the 2011 creel survey period.

	Total no. of trout caught		Total no. of trout harvested		No. of trout fishing trips		Hours fished by trout anglers		Trout caught by trout anglers		Trout caught/hour by trout anglers		Trout harvested by trout anglers		Trout harvested/hour by trout anglers	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
March	18		0		45		268.77		18		0.13		0		0.00	
April	366		266		57		336.48		201		1.41		177		1.25	
May	171		158		46		271.79		106		0.60		106		0.60	
June	64		64		22		132.97		64		0.74		64		0.74	
July	0		0													
August	34		34		11		63.16		34		0.91		34		0.91	
September	0		0													
October	26		0		12		71.63		0		0.00		0		0.00	
Total	679		522		193		1144.80		423				371			
Mean											0.63				0.58	

Table 80. Length frequency and electrofishing CPUE (fish/hr) of largemouth bass collected at Pan Bowl Lake (98 acres) during 1.000 hours of 7.5 minute daytime runs on 26 April 2011; 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	22	Total	CPUE
LMB	34	49	12	7	17	25	42	24	8	2	1		3						1	225	225.00 (19.97)

LMB = largemouth bass

EFDPBLSS.D11

Table 81. Spring daytime electrofishing catch-per-unit-effort (CPUE) for each length group of largemouth bass collected at Pan Bowl Lake (98 acres). Nocturnal electrofishing was used 1992-2000. CPUE = fish/hour, SE = standard error.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
1992	19.43		22.28		14.28		25.71		1.14		81.71	
1993	no data											
1994	no data											
1995	no data											
1996	20.00		56.00		9.00		14.00		2.00		99.00	27.44
1997	12.10		39.52		8.06		15.32		0.81		75.00	19.89
1998	26.00		20.00		5.00		10.00		3.00		61.00	20.60
1999	17.33		24.67		30.00		15.33		4.00		87.33	22.73
2000	34.00		52.00		18.00		34.67		8.67		138.67	21.75
2001	no data											
2002	no data											
2003	28.80	10.20	47.20	9.60	12.00	1.30	25.60	4.10	3.20		113.60	20.50
2004	no data											
2005	12.80	4.10	65.80	13.30	9.40	3.60	18.00	4.30	1.80		106.00	18.90
2006	no data											
2007	90.29	26.63	149.71	20.19	12.57	3.85	22.86	4.43	6.86	2.72	275.43	39.19
2008	28.00	10.03	91.00	15.56	21.50	6.37	18.00	4.72	7.00	1.81	158.50	26.87
2009	50.39	8.36	119.96	17.79	11.22	3.15	8.43	2.18	2.87	1.40	190.01	22.62
2010	72.00	22.53	105.00	19.39	7.00	2.80	10.00	2.93	2.00	1.31	194.00	32.06
2011	102.00	10.88	108.00	11.90	11.00	3.00	4.00	3.02	1.00	1.00	225.00	19.97

EFDPBLSS.D03-D11

Table 82. PSD and RSD values for largemouth bass taken in spring electrofishing samples in Pan Bowl Lake (98 acres) on 26 April 2011; 95% confidence intervals are in parentheses.

No. fish ≥ 8.0 in	PSD (+/- 95%)	RSD (+/- 95%)
123	12 (6-18)	3 (0-6)

EFDPBLSS.D11

Table 83. Spring electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Pan Bowl Lake (98 acres) from 2003-2011.

	Year						
Age	2003	2005	2007	2008	2009	2010	2011
1	19.20	3.42	72.00	17.00	43.86	51.00	95.00
2	32.00	53.68	92.11	51.40	54.42	69.60	44.00
3	15.38	14.77	45.03	32.91	46.02	35.71	45.46
4	10.05	7.5	30.29	21.83	25.81	19.33	26.11
5	10.30	10.09	14.10	13.86	9.69	7.36	9.43
6	10.40	6.84	4.57	6.50	3.45	2.00	4.00
7	2.53	3.56	4.95	2.50	2.16	1.00	
8	5.60	3.42	8.00	7.00	0.90	2.00	
9	1.73	2.71	4.38	2.50	1.92	1.00	
10							

EFDPBLSS.D03, D05, D07-D11
EFDPBLAS.D07

Table 84. Mean back-calculated length (in) at each annulus for largemouth bass collected from Pan Bowl Lake (98 acres) on 21 July 2010, including 95% confidence intervals.

Year		Age					
class	No.	1	2	3	4	5	6
2009	11	5.7					
2008	23	5.3	8.2				
2007	15	5.3	8.2	9.9			
2006	1	5.7	7.4	9.6	10.7		
2004	1	5.2	7.5	9.1	9.9	10.7	11.2
Mean		5.4	8.1	9.8	10.3	10.7	11.2
Smallest		4.3	7.1	8.5	9.9	10.7	11.2
Largest		6.7	9.3	11.1	10.7	10.7	11.2
STD error		0.1	0.1	0.2	0.4		
95% CI LO		5.2	8.0	9.5	9.5		
95% CI HI		5.5	8.3	10.1	11.0		

Intercept = 0
EFDPBLAS.D10

Table 85. Population assessments for largemouth bass collected during spring at Pan Bowl Lake (98 acres). Actual values are in parentheses.

	Year						
Parameter	2003	2005	2007	2008	2009	2010	2011
Mean length age 3 at capture	2 (10.5)	2 (10.5)	2 (10.5)	2 (10.5)	2 (10.5)	2 (10.5)	2 (10.5)
Spring CPUE age 1	2 (19.20)	1 (3.42)	3 (72.00)	2 (17.00)	2 (43.86)	3 (51.00)	4 (95.00)
Spring CPUE 12.0-14.9 in	1 (12.00)	1 (9.40)	1 (12.60)	2 (21.50)	1 (11.22)	1 (7.00)	1 (11.00)
Spring CPUE ≥ 15.0 in	3 (25.60)	3 (18.00)	3 (22.86)	3 (18.00)	2 (8.43)	2 (10.00)	2 (4.00)
Spring CPUE ≥ 20.0 in	3 (3.20)	2 (1.80)	4 (6.86)	4 (7.00)	3 (2.87)	3 (2.00)	2 (1.00)
Total score	11	9	13	13	10	11	11
Assessment rating	Fair	Fair	Good	Good	Fair	Fair	Fair
Instantaneous mortality (z)	0.36	0.37	0.43	0.42	0.62	0.65	0.54
Annual mortality (A)	30.30	31.20	35.20	34.10	46.10	47.60	41.90

EFDPBLSS.D03, D05, D07-D11
EFDPBLAS.D07

Table 86. Length frequency and nocturnal electrofishing CPUE (fish/hr) of black bass collected at Yatesville Lake (2,280 acres) during 1.5 hours of 15 minute samples on 28 September 2011; 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	Total	CPUE	
Upper																		
LMB		10	17	15	6	6	16	7	5	1	4		1			88	117.33	(20.70)
SB																0	0.00	0.00
Lower																		
LMB		1	12	21	1	4	12	7	5	2	1			1	1	68	90.67	(11.39)
SB	1	3	6	3	10	5	5	5	4	1						43		
Total																		
LMB	0	11	29	36	7	10	28	14	10	3	5	0	1	1	1	156	104.00	(12.13)
SB	1	3	6	3	10	5	5	5	4	1	0					43	28.67	(14.98)

LMB = largemouth bass
SB= spotted bass
EFDYLLSF.11

Table 87. Fall electrofishing indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected during 2003 - 2011 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	46.00	6.30	29.30	4.40	12.70	2.80
2004	4.8	0.1	69.50	13.50	32.50	10.80	42.30	7.10
2005	4.7	0.1	47.00	12.30	20.00	7.10	45.93	7.21
2006	4.9	0.1	29.50	7.80	13.80	3.80	46.98	5.95
2007	5.3	0.1	37.36	10.64	23.22	6.12	44.95	8.09
2008	5.1	0.1	45.93	7.78	28.42	6.00	28.22	5.28
2009	4.9	0.1	32.67	6.45	16.33	3.95	42.63	6.40
2010	5.1	0.1	78.55	11.53	45.09	8.65	no sample	
2011	4.9	0.1	55.33	9.55	28.67	4.89		

EFDYLLSS.D03-D10
EFDYLLSF.D03-D11
EFDYLLAS.D05
EFDYLLAS.D06

Appendix A. Paintsville Lake Angler Attitude S
Frequency Table (N=43)

3. Have you ever fished at Paintsville Lake before?

	Frequency	Percent
Yes	41	97.6%
No	1	2.4%
Total	42	
No Answer	1	

4. How many times do you fish Paintsville Lake a year?

	Frequency	Percent
1-4	10	25.0%
5-10	11	27.5%
More than 10	19	47.5%
Total	40	
No Answer	3	

5. Which species do you fish for at Paintsville Lake (check all that apply)?

	Frequency	Percent
Largemouth Bass	40	93.0%
Smallmouth Bass	11	25.6%
Crappie	23	53.5%
Walleye	10	23.3%
Rainbow Trout	6	14.0%
Bluegill	3	7.0%
Catfish	2	4.7%
KY spot bass	1	2.3%

6. Which one species do you fish for most at Paintsville Lake (check only one)?

	Frequency	Percent
Largemouth Bass	34	81.0%
Smallmouth Bass	0	0.0%
Crappie	6	14.3%
Walleye	1	2.4%
Rainbow Trout	0	0.0%
Bluegill	1	2.4%
Total	42	
No Answer	1	

7. In general, what level of satisfaction do you have with largemouth bass fishing at Paintsville Lake?

	Frequency	Percent
Very Satisfied	10	25.0%
Somewhat Satisfied	17	42.5%
Neutral	10	25.0%
Somewhat Dissatisfied	3	7.5%
Very Dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	40	
No Answer	3	

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

	Frequency
Number of Fish	0
Size of Fish	3
Not Happy With Regulations	0
Too many Anglers	0
Too many Weeds	0
Allow small fish to be taken	1
No Answer	38

8. In general, what level of satisfaction do you have with smallmouth bass fishing at Paintsville Lake?

	Frequency	Percent
Very Satisfied	0	0.0%
Somewhat Satisfied	0	0.0%
Neutral	4	36.4%
Somewhat Dissatisfied	6	54.5%
Very Dissatisfied	1	9.1%
No Opinion	0	0.0%
Total	11	
No Answer	32	

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

	Frequency
Number of Fish	7
Size of Fish	0
Not Happy With Regulations	0
Too many Anglers	0
Too many Weeds	0
No Answer	36

9. In general, what level of satisfaction do you have with crappie fishing at Paintsville Lake?

	Frequency	Percent
Very Satisfied	7	30.4%
Somewhat Satisfied	13	56.5%
Neutral	2	8.7%
Somewhat Dissatisfied	1	4.3%
Very Dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	23	
No Answer	20	

9a. If you responded with somewhat or very dissatisfied in question (9) - what is the single most important reason for your dissatisfaction?

	Frequency
Number of Fish	1
Size of Fish	0
Not Happy With Regulations	0
Too many Anglers	0
Too many Weeds	0
No Answer	41

10. In general, what level of satisfaction do you have with walleye fishing at Paintsville Lake?

	Frequency	Percent
Very Satisfied		0.0%
Somewhat Satisfied	2	22.2%
Neutral	3	33.3%
Somewhat Dissatisfied	4	44.4%
Very Dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	9	
No Answer	33	

10a. If you responded with somewhat or very dissatisfied in question (10) - what is the single most important reason for your dissatisfaction?

	Frequency
Number of Fish	4
Size of Fish	0
Not Happy With Regulations	0
Too many Anglers	0
Too many Weeds	0
No Answer	38

11. In general, what level of satisfaction do you have with rainbow trout fishing at Paintsville Lake?

	Frequency	Percent
Very Satisfied	3	50.0%
Somewhat Satisfied	2	33.3%
Neutral	1	16.7%
Somewhat Dissatisfied	0	0.0%
Very Dissatisfied	0	0.0%
No Opinion	0	0.0%
Total	6	
No Answer	36	

12. Are you satisfied with the current size and creel limits on all sport fish at Paintsville Lake?

	Frequency	Percent
Yes	38	90.5%
No	4	9.5%
Total	42	
No Answer	1	

Q12a. Largemouth Bass Size Limit

	Frequency
14	1
15	1

Q12a. Largemouth Bass Creel Limit

	Frequency
5	2

Q12a. Crappie Size Limit

	Frequency
8	2
9	1

Q12a. Crappie Creel Limit

	Frequency
10	1
25	1
30	1

Q12a. Walleye Size Limit

	Frequency
15	1

Q12a. Walleye Creel Limit

	Frequency
5	1

Q12a. Smallmouth Bass Size Limit

	Frequency
15	1
18	1

Q12a. Smallmouth Bass Creel Limit

	Frequency
1	2

Q12a. Rainbow Trout Size Limit

	Frequency
None	1

Q12a. Rainbow Trout Creel Limit

	Frequency
8	1

Q12a. Other Creel and Size Limits

	Frequency
catfish 12-10	1

13. Did you use live fish as bait anywhere in Kentucky last year?

	Frequency	Percent
Yes	16	38.1%
No	26	61.9%
Total	42	
No Answer	1	

14. How many days last year did you fish in Kentucky?

	Frequency	Percent
4	1	4.5%
10	1	4.5%
15	2	9.1%
16	1	4.5%
20	5	22.7%
25	2	9.1%
30	1	4.5%
35	2	9.1%
40	2	9.1%
50	2	9.1%
75	1	4.5%
150	2	9.1%
Total	22	

15. Of the day(s) you fished in Kentucky last year, how many days did you use live fish as bait?

	Frequency	Percent
0	4	20.0%
1	1	5.0%
2	3	15.0%
3	2	10.0%
4	2	10.0%
6	1	5.0%
8	2	10.0%
10	1	5.0%
12	1	5.0%
15	1	5.0%
20	1	5.0%
50	1	5.0%
Total	20	

16. Do you ever collect your own live fish to use as bait?

	Frequency	Percent
Yes	5	23.8%
No	16	76.2%
Total	21	
No Answer	22	

17. How many of the days that you used live fish for bait last year did you collect your own?

	Frequency	Percent
1	1	20.0%
5	2	40.0%
10	1	20.0%
25	1	20.0%
Total	5	

18. When you collected live fish for bait last year, how many days did you collect them in one water body and fish with them in another?

	Frequency	Percent
1	1	20.0%
3	1	20.0%
5	1	20.0%
10	1	20.0%
25	1	20.0%
Total	5	

19. Would you support or oppose a regulation where live bait can only be used in the water body from which they were taken?

	Frequency	Percent
Support	17	40.5%
Neutral	9	21.4%
Oppose	16	38.1%
Total	42	
No Answer	1	

20. Are you aware that Asian carp are invading Kentucky's waters?

	Frequency	Percent
Yes	31	73.8%
No	11	26.2%
Total	42	
No Answer	1	

21. Would you support or oppose a regulation where live bait can only be used in the water body from which they were taken since Asian carp are hard to identify?

	Frequency	Percent
Support	12	44.4%
Neutral	8	29.6%
Oppose	6	22.2%
Don't Know	1	3.7%
Total	27	
No Answer	16	