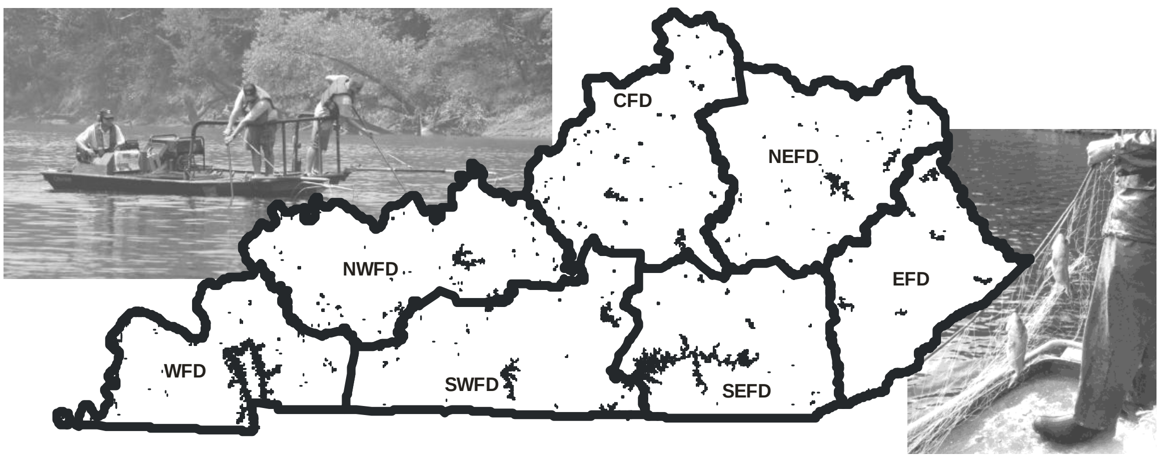
Commonwealth of Kentucky Date: June 30, 2014

Sport Fish Restoration Grant F-50, Segment 36 Period: 01 April 2013 through 31 March 2014

ANNUAL PERFORMANCE REPORT

District Fisheries Management
Part I

Project 1: Lake and Tailwater Fishery Surveys



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STATE: Kentucky

GRANT NO.: F-50-36

GRANT TITLE: District Fisheries Management

PERIOD COVERED: April 1, 2013 – March 31, 2014

Project A – Lake and Tailwater Sampling

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

A. ACTIVITY

Sport fish species were sampled throughout Kentucky using electrofishing, gill netting, trap netting, and other gear to gather biological data in order to best manage the sport fish resources of the Commonwealth. In total, over 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 interest. Other measures were monitored including catch rates, mortality, recruitment, length/weight, water temperature, dissolved oxygen, and other physical limnological data. Creel surveys were conducted on three fisheries of interest and included: (1) Cave Run Lake; (2) Green River Lake; and (3) Buckhorn Lake and focused heavily on musky anglers in association with an ongoing musky research project. Data from creel surveys was used to compare with standardized sampling data and obtain measurements concerning the public's catch rates, harvest rates, species of interest, and size of catch. Field staff also attended public meetings, as well as organized fishing group meetings to display catch and abundance data. Results of data obtained during the grant period were analyzed and summarized into the Fisheries Division 2013 Annual Reports. This information is available to the public at their request.

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date: March 31, 2014
Work accomplished: March 31, 2014

C. SIGNIFICANT DEVIATIONS

None.

D. REMARKS

None.

E. RECOMMENDATIONS

Close this segment of F-50 and continue project into new segment (#37) of F-50.

F. COST

$1,124,959.18

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Project 1: Lake and Tailwater Fishery Survey

WESTERN FISHERY DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

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

Kentucky Lake

During the spring, 958 black bass were collected by diurnal electrofishing (120 PPS, DC current). Spring sampling for bass was hindered due to high water levels, windy conditions and muddy water. This makes for the fourth consecutive year that water levels have affected spring sampling. The data collected during the spring sample may be questionable. Sampling was extended over a longer period of time (April 30–May 24) to try to get a good sample due to the poor water and weather conditions. During this sampling period, 899 largemouth bass (78.17 fish/hr) were collected (Table 2). The catch rates for largemouth bass between embayments varied. This variation could be due to the sporadic sampling during rising and falling water levels and changing weather conditions. However, samples from all four embayments have similar length frequencies. They are similar in regards to having a higher catch rate for 5.0-6.0 in bass, 9.0-10.0 in bass, and bass around 15.0 in.

The spring bass data was used to complete the lake specific assessment (Table 3). The lake specific assessment suggested that the largemouth bass population rates "fair". The parameters that use catch rate are probably lower than expected due to the poor sample taken. The growth rate parameter was calculated from the 2012 data, which rated excellent. When considering this year's data as trend data, the catch rates are mostly above those reported for 2010-2012. This is also an outcome of the poor sampling conditions during the past few years. However, angler satisfaction with the fishery is still very good, and bass tournaments are reporting record winning weights. These two anecdotal measurements of the fishery indicate that despite poor sampling, the fishery is healthy, and should rate better than fair.

The spring data was used to assess the fishery in regards to the Kentucky Lake Fish Management Plan (KLFMP) (Table 4). The catch rate of largemouth bass was above average for small ($\leq$8.0 in) bass. The catch rate was below the recommended catch in the KLFMP for all other length groups of bass collected. The PSD values were calculated from the bass collected, and reported in Table 5. The PSD value calculated for all sizes of largemouth bass was 53, which falls outside the targeted range (PSD, 55-75). The calculated RSD_{15} was 33, which falls within the targeted range (RSD_{15}, 20-40). The PSD suggests a population with almost equal densities of stock and quality size largemouth bass.

During October, 456 black bass were collected by diurnal electrofishing (120 PPS, DC current) at two locations; Blood River and Jonathan Creek. Largemouth bass comprised 91% (104.00 fish/hr) of this sample (Table 6). The length frequency for each embayment is similar. 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 92 (Table 7). Overall the condition for black bass was good. Length-weight equations for black bass species at Kentucky Lake are:

Largemouth bass	Log_{10} (weight) = -3.47684 + 3.13787 x Log_{10} (length)
Smallmouth bass	Log_{10} (weight) = -3.38418 + 3.00917 x Log_{10} (length)
Spotted bass	Log_{10} (weight) = -3.60657 + 3.26242 x Log_{10} (length)

Otoliths were collected from largemouth bass up to 10.0 in during fall sampling. Otoliths were used to age these smaller bass so that age-0 CPUE and growth could be evaluated. The CPUE of age-0 largemouth bass during the fall sample was 31.25 fish/hr (Table 8). This below average year class can likely be attributed to the fluctuating water conditions during the spawning period. The growth of the age-0 largemouth bass continues to be good (5.7 in). The range in length for the age 0 bass was 3.5 to 8.8 in. Ideally, the age-0 bass should average at least 5.0 in by the fall. It has been suggested that bass which reach 5.0 in by the fall will have a better chance of survival during their first winter.

Trap nets were fished for crappie in Blood River and Jonathan Creek embayments for 79 net-nights (nn) during October and November. This sampling effort yielded 1,098 crappie (13.90 fish/nn), of which 4.46 fish/nn (32%) were white crappie and 9.44 fish/nn (68%) were black crappie (Table 9). In comparison to last year's catch, white crappie was similar while the number of black crappie was down almost by half. 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 sample yielded 9.93 fish/nn (Table 10). This is the lowest value recorded in the past ten years. Although a fair number of crappie ≥8.0 in were collected, the low number of age-1 fish brought the total catch rate down.

The number of crappie ≥8.0 in collected in trap nets was 8.73 fish/nn (Table 10). This value is well below the historical average. However, it appears to be the intermediate size (8.0-10.0 in) crappie that have declined. The number of crappie ≥10.0 in (4.61 fish/nn) also dropped as compared to the 2012 sample but remained only slightly under the historical average. The KLFMP objective for crappie is to maintain a catch rate of at least 14.00 fish/nn for crappie ≥8.0 in, and 5.00 fish/nn for crappie ≥10.0 in. Neither objective was met. The crappie population at Kentucky Lake continues to be a quality fishery. The number of trophy size crappie has declined due to poor year classes observed in 2006-2008. However, good year classes from 2009 and 2010 should yield fair numbers of harvestable size crappie.

The fall trap netting data was used to calculate stock densities and length-weight equations. PSD and RSD_{10} values are reported in Table 11. Length-weight equations for white and black crappie are listed below.

White crappie $\quad Log_{10}\text{ (weight)} = -3.76095 + 3.44107 \times Log_{10}\text{ (length)}$

Black crappie $\quad Log_{10}\text{ (weight)} = -3.66784 + 3.40688 \times Log_{10}\text{ (length)}$

Crappie at Kentucky Lake continue to have good growth rates. The growth management objective in the KLFMP is for age 2 crappie collected in the fall to reach 9.5 inches in length (Table 10). Tables 12 and 13 illustrate the back calculated lengths at age for white and black crappie, respectively. Age determination for white crappie was based off of a small sample size and therefore has a great range of variance. The age frequencies for white and black crappie collected are listed in Tables 14 and 15, respectively. Age-1 white crappie made up 10% of the sample as compared to 62% last year. One of the management objectives is to maintain a catch of age-1 crappie of at least 11.00 fish/nn (Table 10). This value has been below the management objective for the past few years due to a number of poor year classes, and despite stocking of white crappie in Blood River. The highest catch rate was that of age 0. This is probably higher due to the Blood River sample where almost 300,000 age-0 white crappie were stocked two weeks prior to sampling. The catch rate for age-0 crappie at Blood River and Jonathan Creek was 7.56 fish/nn and 2.55 fish/nn, respectively. Overall, the crappie population at Kentucky Lake rated "poor" this year (Table 16). Poor catch rates are pulling this rating down.

This was the fifth year of the white crappie stocking project. This year Blood River was stocked with 291,041 (75/a) white crappie fingerlings. Crappie were stocked in the later part of October at two sites (Wildcat Boat Ramp and Sugar Creek Marina). Stocking mortality estimates were determined using four holding nets. There were 100 white crappie placed in each net and held overnight to determine stocking mortality. Stocking mortality was very low this year, averaging 2% from the four net pens used. The water temperature of the lake was near 61 degrees at the time these crappie were stocked. The table below lists the number of white crappie stocked each year in Blood River. Additionally, the following year's catch of age-1 white crappie in trap nets from Blood River is listed. It might be expected to see the catch rate increase with the previous year's stocking, though that is not the case.

Year	Number Stocked	% Stocking Mortality	Age 1 CPUE for white crappie collected from trap nets the following year
2013	291,041	2.2	

2012	212,612	4.0	2.28
2011	176,128	42.0	5.28
2010	77,200	91.0	9.01
2009	49,244	Not Determined	13.04

The initial stocking of white crappie occurred in 2009. Based on the good growth rates of crappie at Kentucky Lake, it was presumed that fish from the 2009-2011 stockings would have surpassed the legal size limit of 10.0 in. Since most of the stocked crappie had been marked with OTC prior to stocking, it was now plausible to see how many of the stocked fish might show up in anglers' creels. During October, a few anglers were asked to allow us to remove otoliths from the white crappie they caught from Blood River. These anglers harvested 111 white crappie. After analysis of the otoliths it was determined that 5.4% of the white crappie harvested (ages 1-4) were marked fish (stocked fish). A similar study was conducted in 2012, where 117 otoliths from white crappie were analyzed. During this study 4.3% of the fish were marked.

Lake Barkley

Black bass were collected by diurnal electrofishing (120 PPS, DC current) from 29 April–23 May at standardized sampling sites on Lake Barkley. Seven hundred ninety black bass were collected at a rate of 79.00 fish/hr (Table 17). Spotted and smallmouth bass accounted for less than 1% of the total black bass sampled. The largemouth bass catch rate was 75.70 fish/hr. This catch rate lies below the 10 year average catch rate for largemouth bass (119.42 fish/hr) at Lake Barkley (Table 18). The CPUE of harvestable and stock size bass is also below the 10-year average. The low catch rates are related to environmental conditions during our sampling period. In contrast to dry conditions in 2012, we experienced another flood in the spring of 2013. High water levels in Lake Barkley coupled with muddy water precluded a representative sample. As a result, estimates derived from this spring sampling period should be used with caution.

The overall PSD and RSD values for largemouth bass at Lake Barkley, along with values for individual embayments are listed in Table 19. The PSD value (71) falls within the objective goal (PSD of 55-75) established in the Barkley Lake Fish Management Plan (BLFMP). The RSD_{15} (33) also meets the objective goal of 20-40.

The lake specific assessment score for Lake Barkley has varied between "poor", "fair" and "good" since 2004 (Table 20). The score was "good" for several years prior to 2010. Flood conditions in 2010, 2011, and 2013 as well as drought conditions in 2012 have influenced sampling resulting in lower ratings. The poor rating this year was influenced by across the board low catch rates.

Age and growth data collected in 2012 was coupled with 2013 data to yield an estimate of the age distribution for largemouth bass. Age-3 bass dominate the sample making up 30% of the age distribution (Table 21).

Largemouth bass were sampled in October to collect length-weight data and determine the strength of the 2013 year-class. This data is also useful in years where spring sampling is hindered by unfit sampling conditions to be sure that fish from each cohort are represented and are reaching the lengths expected. Six hundred fifty-five largemouth bass were collected at a catch rate of 163.75 fish/hr (Table 22). The length-weight equation for largemouth bass at Lake Barkley is:

$$\text{Log}_{10}\text{ (weight)} = -3.47113 + 3.16845 \text{ x } \text{Log}_{10}\text{ (length)}$$

Very few smallmouth bass and spotted bass were collected during the fall sample and therefore length-weight equations were not calculated. Relative weights are listed in Table 23 for all length groups of black bass. These values are at or above the 20 year average.

Mean length of the age-0 cohort of largemouth bass was lower than in the 2012 fall sample (5.8 in; Table 24). Previous years have shown consistently strong numbers of age-0 largemouth bass. This year's values are well above average (55.00 fish/hr) with the majority of these fish greater than 5.0 inches in length (43.25 fish/hr). Since year-class-strength tends to be related to the relative size of age-0 fish during the fall of their first year, the 2013 year-class should contribute well to the population in coming years.

Trap nets were fished for crappie in Little River and Donaldson Creek embayments for 80 net-nights (nn) from 28 October to 8 November 2013. Four hundred fifty-nine crappie were collected at a rate of 5.74 fish/nn (Table 25). White crappie accounted for 56% of the total catch, and were collected at a rate of 3.23 fish/nn. Black crappie were collected at a rate of 2.51 fish/nn. The CPUE of harvestable-size ($\geq$10.0 in) crappie was above the ten year average at 2.53 fish/nn (Table 26). In twenty-three years of sampling, this value has ranged from 0.55-3.72 fish/nn. The CPUE of quality-size ($\geq$8.0 in) crappie was 2.95 fish/nn, which is below the management objective (4.00 fish/nn) set in the BLFMP. In an effort to better understand our crappie populations in Lake Barkley, we will increase our sampling effort in 2014 including adding Eddy Creek to our routine crappie sampling locations.

Crappie collected in trap nets were used to determine stock densities. The PSD (87) and RSD_{10} (75) of white crappie were in the upper range of values when compared to the last twenty years (Table 27). The 20-year average PSD and RSD_{10} values of white crappie are 57 and 29, respectively. The PSD (94) and RSD_{10} (77) values of black crappie are very high compared to recent years. As expected, fish from larger year classes produced in 2009 and 2010 are growing into the harvestable size class improving the fishery relative to the previous five years.

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

White crappie	Log_{10} (weight) = -3.72279 + 3.41914 x Log_{10} (length)
Black crappie	Log_{10} (weight) = -3.48971 + 3.21291 x Log_{10} (length)

Otoliths from 99 crappie were used for age estimation. Ages ranged from 0-8 years for white crappie and 0-5 years for black crappie (Tables 28 and 29). The majority of fish aged were 2 and 3 year-olds. Growth continues to be good as crappie reach 10.0 in between age 2 and 3. Age frequencies were estimated combining catch data with age and growth data. The catch of black crappie was dominated by age-0 and age-2 fish (Table 30) while older black crappie were rare in our catch. The catch of age-0, 2, and 3 white crappie comprised 81% of the total catch of white crappie (Table 31).

Assessment of the crappie population yielded a rating of “fair” at Lake Barkley in 2013 (Table 32). The category with the biggest decline was the catch rate of fish larger than 8.0 in (2.95 fish/nn). A decline in the larger than stock size crappie could be a result of the below average year classes produced in 2011 and 2012, or the nets just missed the larger fish this year. The number crappie $\geq$ 10.0 in was down slightly despite the 2009 and 2010 year classes being above average.

Lake Beshear

Largemouth bass were collected by diurnal electrofishing (120 PPS, DC current) during April at Lake Beshear. Two hundred fifty-four largemouth bass were collected at a rate of 127.00 fish/hr (Table 33). This year the catch rate of bass less than 8.0 in was much higher (37.50 fish/hr) than the recorded average for the past 10 years (18.42 fish/hr) (Table 34). The catch rate of harvestable-size (≥12.0 in) largemouth bass was 63.00 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. Other objectives are to maintain a high catch rate of bass $\geq$15.0 and $\geq$20.0 in. Ideally, these catch rates should be greater than 30.00 and 4.00 fish/hr, respectively. The catch rate for these size bass is also above the management objective minimum. Lake Beshear continues to have a quality bass fishery with high numbers of bass $\geq$ 15.0 in. The fishery rated “excellent” for the first year after many years of only “good” ratings (Table 35).

Largemouth bass were collected by diurnal electrofishing (120 PPS, DC current) in October (Table 33). The catch rate (69.00 fish/hr) was lower than the 2012 fall catch rate (82.40 fish/hr). The water levels in 2012 were much lower, which might have affected the catch rate. Relative weight data suggests that the larger bass ($\geq$15.0 in) are healthy with regard to their length-weight ratio. The average relative weight value was 97 for these larger bass and 86 for all sizes of bass. The length-weight equation for largemouth bass at Lake Beshear is:

$$\mathrm{Log}_{10}\ (\mathrm{weight}) = -3.48658 + 3.12989 \times \mathrm{Log}_{10}\ (\mathrm{length})$$

Otoliths were removed from a subsample of largemouth bass ≤ 10.0 in to determine the mean fall length of the age-0 cohort, and determine their catch rate. The catch rate for age-0 largemouth bass was 25.00 fish/hr (Table 36). The average length of the age-0 bass was 4.1 in.

Lake Pennyrile

Electrofishing for all species of sportfish in Lake Pennyrile was conducted on 4 June 2013, much later than the normal sample time. One hundred twenty-four largemouth bass were captured at a rate of 124.00 fish/hr (Table 37). 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. Only one fish over 20.0 in was captured in this year's sample. The catch rate of fish ≥ 15.0 in (2.00 fish/hr) is below the ten year average (Table 38).

No bluegill were captured above 8.0 inches in length, a likely result of the later sampling date. Catch rates for 6.0-7.9 in and ≥8.0 in length groups of bluegill are below the long-term average, suggesting a poorly timed sample as well (Table 39). The catch rate of smaller bluegill was below average, but these values show high variability with changing sampling conditions. Last year's drawdown may have given the predators in the lake an advantage by pulling the smaller fish from their shallow water hiding places making them vulnerable to predation. Only 25 redear sunfish were captured at a rate of 25.00 fish/hr, but half of those fish were larger than 8.0 inches in length (Table 39). Overall, catch rates for redear sunfish are well below average for all length groups. PSD and RSD_{15} values for largemouth bass are near the ten-year-average (Table 40). PSD's and RSD's are above average for bluegill and redear as well, but well below historical highs from the late 1990's.

The bass population appears to be dominated by fish less than 2 years old based on age data collected from the 2011 sample (Table 41). There were also fewer (≤ 25%) bass older than age two collected in this sample. Lake specific assessments have not been possible in recent years without age and growth estimates. In 2011 the largemouth bass population was rated as "good" (Table 42). Our ability to assess the bluegill (Table 43) and redear sunfish (Table 44) populations effectively is limited without more recent age and growth information. In general, the 2013 sample was ineffective for bluegill and redear sunfish as the sample date was post spawn making sampling difficult for fish that had moved to deeper water.

Table 1. 2013 yearly summary of sampling conditions by waterbody, species sampled and date.

Water body	Location	Species	Date	Time (hr)	Gear	Weather	Water temp. °F	Water level	Secchi (in)	Water Conditions	Pertinent sampling comments
Barkley	Donaldson	black bass	4/29/2013	2.5	electrofisher	sunny	58.7	363.5		calm	muddy, high w ater, 7' depth in bushes, poor sample
Barkley	Little River	black bass	5/13/2013	1.0	electrofisher	sunny	63.7	363.7		calm	muddy, high w ater, terrible sample, discharge 100,000 CFS
Barkley	Nickel/Demumbers	black bass	5/16/2013	2.0	electrofisher	sunny	67.0	362.0		calm	muddy, high w ater, poor sample, discharge 80,000 CFS
Barkley	Eddy Creek	black bass	5/21/2013	1.5	electrofisher	stormy	71.5	359.1		calm	conditions improving, decent sample
Barkley	Fords/Donaldson	black bass	5/23/2013	2.0	electrofisher	sunny	68.7			calm	35,000 CFS, lake levels stabilizing
Barkley	Devil's Elbow	black bass	5/23/2013	1.0	electrofisher	sunny	69.0			calm	35,000 CFS, lake levels stabilizing
Barkley	Little River	black bass	10/22/2013	2.0	electrofisher	sunny	61.0			calm	normal conditions, good sample
Barkley	Eddy Creek	black bass	10/25/2013	2.0	electrofisher	sunny	58.0			calm	normal conditions, good sample
Barkley	Donaldson	crappie	10/28/2013	40 nn	trapnet	rain/w ind	58.0	354.0	24	normal	good sample
Barkley	Little River	crappie	11/4/2013	40 nn	trapnet	overcast cool	58.0	354.0	14	normal	good sample
Beshear		black bass	5/7/2013	2.0	electrofisher	calm/sunny	62.7	normal	87	calm	normal conditions, good sample
Beshear		black bass	10/14/2013	2.0	electrofisher	calm/sunny	69.5	low	50	calm	fair sample
Kentucky	Blood River	black bass	5/15/2013	2.0	electrofisher	sunny/w indy	64.6	362.7	32	current, rough	poor sample, 180,000 CFS current, w ind advisory, high w ater level
Kentucky	Blood River	black bass	4/30/2013	2.0	electrofisher	sunny	64.0	363.3	30	calm, muddy	poor sample, 180,000 CFS current, muddy w ater in back of embayment, high w ater level
Kentucky	Jonathan	black bass	5/1/2013	2.0	electrofisher	sunny	67.0	363.3	31	calm, high	poor sample, high w ater, current, bass behind the bushes
Kentucky	Big Bear	black bass	5/24/2013	1.5	electrofisher	sunny	74.0	359.0	36	calm	fair sample
Kentucky	Big Bear	black bass	5/9/2013	1.5	electrofisher	sunny/w indy	67.6	363.0	36	rough, high	poor sample, high w ater, current
Kentucky	Sugar Bay	black bass	5/20/2013	2.5	electrofisher	overcast/w indy	73.7	359.6	38	rough	good sample, w ater had stablized after being high for past tw o w eeks
Kentucky	Jonathan	black bass	10/21/2013	2.0	electrofisher	sunny	61.0	354.7	48	calm/stable	good sample
Kentucky	Blood River	black bass	10/24/2013	2.0	electrofisher	overcast	60.8	354.7		calm	good sample
Kentucky	Jonathan	crappie	10/28/2013	40 nn	trapnet	overcast/rainy	60.0	354.8	32	choppy/stable	most of the w eek w indy, one day of rain, most days rough w ater, w ater level slight fall, fair sample
Kentucky	Blood River	crappie	11/4/2013	39 nn	trapnet	overcast/cool	59.0	354.3	30	rough	tw o days of south w ind, rough w ater, cold <50 2 days, catch w as low er than expected
Pennyrile		sportfish	6/4/2013	1.0	electrofisher	sunny	73.0	normal	45	calm	post draw dow n, late due to w et spring, decent sample given date

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 11.5 hours (23- 30-minute runs) of diurnal electrofishing at Kentucky Lake during April-May 2013.

	Inch class																					
Area	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Blood River																						
Smallmouth bass			3			2			1		1		2	1	1					11	2.75	1.89
Spotted bass			2	1		3	1	2												9	2.25	1.03
Largemouth bass		6	18	24	14	10	21	18	8	12	13	18	18	14	6	4	4	2		210	52.50	5.67
Jonathan Creek																						
Largemouth bass		6	9	5	3	8	11	6		5	7	15	6	4	5	2		1		93	46.50	4.99
Big Bear																						
Smallmouth bass			3			2	2													7	2.33	1.67
Spotted bass						1														1	0.33	0.33
Largemouth bass	2	11	48	30	17	36	44	10	12	15	20	19	20	11	6	4		1	1	307	102.33	9.57
Sugar Bay																						
Smallmouth bass		8	4	1	3	3	1	3	3	4	1									31	12.40	3.25
Largemouth bass	2	52	95	43	9	18	20	11	5	6	7	10	6	3	1	1				289	115.60	7.30
TOTAL																						
Smallmouth bass		8	10	1	3	7	3	3	4	4	2		2	1	1					49	4.26	1.36
Spotted bass			2	1		4	1	2												10	0.87	0.41
Largemouth bass	4	75	170	102	43	72	96	45	25	38	47	62	50	32	18	11	4	4	1	899	78.17	7.13

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Table 3. Lake specific assessment for largemouth bass collected at Kentucky Lake from 2004 - 2013. 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). Data tabulated in 2010-2012 is questionable due to poor sampling conditions.

Year	Mean length age-3 at capture	CPUE age-1	Length group 12.0 - 14.9 in CPUE	$\geq$15.0 in CPUE	$\geq$20.0 in CPUE	Total score	Assessment rating	Z	A
2013*	13.9[A]	40.17	9.57	15.83	0.78			0.446	35.9
Score	4	2	1	2	1	10	F		
2012*	13.9	35.64	26.90	17.50	0.80			0.588	44.5
Score	4	2	2	2	1	11	F		
2011*	12.9	7.43	34.00	8.57	0.86				
Score	3	1	2	1	1	8	F		
2010*	13.8	34.43	42.87	12.43	1.30				
Score	4	2	3	1	1	11	F		
2009	13.8[A]	27.92	24.34	13.52	1.38			0.429	34.9
Score	4	2	2	1	1	10	F		
2008	13.8[A]	73.08	19.05	24.19	1.90			0.575	43.7
Score	4	4	2	3	2	15	G		
2007	13.8[A]	22.16	28.75	26.08	1.25			0.560	32.2
Score	4	1	2	4	1	12	G		
2006	13.8[A]	31.79	23.60	20.90	0.60			0.666	48.6
Score	4	2	2	3	1	12	G		
2005	13.8	28.70	46.50	23.60	0.80			0.639	47.2
Score	4	2	3	3	1	13	G		
2004	13.7[A]	12.14	22.70	18.10	1.30			0.697	50.2
Score	4	1	2	2	1	10	F		
Average	13.6	31.35	27.83	18.07	1.10	11.2		0.575	42.2

Data from 1985 to 2003 is listed in previous years reports.

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

2010*, 2011* and 2013* samples were hampered by high water levels during flooding, sample was later than normal; overall a poor sample and not all embayments were sampled.

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

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

(Kentucky Bass Database.xls)

Table 4. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Kentucky Lake during May 2004 - 2013.

	Mean length			Length group													
	age-3 at	Age-1		<8.0 in		12.0 - 14.9 in		≥15.0 in		≥18.0 in		≥20.0 in		Total			
Year	capture	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	CPUE	Std Err	PSD	RSD_{15}
2013	13.9	40.17	6.95	30.52	6.37	9.57	1.29	15.83	1.56	3.30	0.54	0.78	0.27	78.17	7.13	53	33
2012	13.9	35.64	5.32	25.60	4.01	26.90	3.47	17.50	2.16	2.70	0.59	0.80	0.27	86.20	6.65	73	29
2011	12.4	7.43	1.56	5.14	1.14	34.00	5.42	8.57	2.03	3.71	1.02	0.86	0.59	61.14	7.65	76	15
2010	13.8	34.43	5.90	29.65	5.50	42.87	3.63	12.43	1.61	3.74	1.02	1.30	0.35	121.57	11.04	60	14
2009	13.8	27.92	5.03	29.45	5.32	24.34	2.21	13.52	1.20	4.21	0.56	1.38	0.30	112.55	10.26	46	16
2008	13.8	73.05	8.57	51.71	7.22	19.05	2.26	24.19	3.08	6.00	0.96	1.90	0.42	134.76	11.10	52	29
2007	13.8	22.16	3.95	18.00	3.29	28.75	2.80	26.08	1.74	5.42	0.74	1.25	0.40	93.33	7.06	73	35
2006	13.8	31.79	7.05	28.30	6.30	23.60	2.44	20.90	2.32	3.30	0.64	0.60	0.21	85.40	5.51	78	37
2005	13.8	28.70	3.01	24.50	2.49	46.50	4.36	23.60	2.21	3.70	0.70	0.80	0.37	107.40	7.59	85	28
2004	13.7	11.99	1.56	17.70	2.60	22.70	2.14	18.10	1.84	3.70	0.87	1.30	0.41	83.60	5.77	62	27
Average	13.7	31.33		26.06		27.83		18.07		3.98		1.10		96.41		65.7	26.3

(Kentucky Bass Database.xls)

Data for 1985 - 2003 is listed in previous year reports.

Table 5. PSD and RSD values calculated for black bass species collected during diurnal electrofishing at Kentucky Lake during April-May 2013; 95% confidence limits are in parentheses.

Area	Species	No. fish ≥8.0 in	PSD	RSD[a]
Blood River	Largemouth bass	162	61 (+/-8)	41 (+/-8)
Jonathan Creek	Largemouth bass	73	62 (+/-11)	45 (+/-11)
Big Bear	Largemouth bass	216	51 (+/-7)	29 (+/-6)
Sugar Bay	Largemouth bass	97	40 (+/-10)	22 (+/-8)
TOTAL	Largemouth bass	548	53 (+/-4)	33 (+/-4)
	Spotted bass	7	25 (+/-32)	
	Smallmouth bass	30	55 (+/-17)	19 (+/-14)

[a]Largemouth bass = RSD_{15}, Spotted and smallmouth bass = RSD_{14}

w fdpsdky.d13

Table 6. Species composition, relative abundance and CPUE (fish/hr) of black bass collected during 4.0 hours (8 x 30-minute runs) of diurnal electrofishing at Kentucky Lake during October 2013.

	Inch class																				
Area / Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std err
Blood River																					
Smallmouth bass	2	9	5	2		2	2	1	1		1			2	1				28	14.00	4.08
Spotted bass			2								1								3	1.50	0.96
Largemouth bass	2	13	11	12	1	9	12	11	18	7	17	13	15	9	3	5	3		161	80.50	8.54
Jonathan Creek																					
Smallmouth bass		1					1	1				1	1						5	2.50	1.89
Spotted bass	1		1									2							4	2.00	1.41
Largemouth bass	3	21	20	26	11	10	28	33	25	15	15	19	10	8	3	5	2	1	255	127.50	21.53
TOTAL																					
Smallmouth bass	2	10	5	2		2	3	2	1		1	1	1	2	1				33	8.25	3.01
Spotted bass	1		3								1	2							7	1.75	0.80
Largemouth bass	5	34	31	38	12	19	40	44	43	22	32	32	25	17	6	10	5	1	416	104.00	13.92

w fdw rky.d13

Table 7. Number of bass and relative weight (Wr) for each length group of black bass collected at Kentucky Lake during October 2013. 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	50	88	(1)	36	90	(2)	35	91	(2)
	Jonathan Creek	95	92	(1)	49	88	(1)	29	94	(1)
	Total	145	91	(1)	85	89	(1)	64	92	(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	Total				1	94		2	96	(2)
Smallmouth bass	Total	7	84	(2)	2	75	(6)	5	74	(4)

w fdw rky.d13

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

	Age 0[A]		Age 0[A]		Age 0 ≥5.0 in[A]		Age 1[B]	
Year class	Mean length	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2013	5.7	0.10	31.25	5.17	21.50	4.10		
2012	6.4	0.05	63.00	13.89	55.86	12.50	40.17*	6.95
2011	5.7	0.05	75.87	8.34	54.13	6.44	35.64*	5.32
2010	5.7	0.09	24.25	4.87	17.38	2.63	7.43*	1.56
2009	5.0	0.09	30.91	5.42	16.73	2.83	34.43*	5.90
2008	5.8	0.08	33.80	6.94	27.20	4.81	27.92	5.03
2007	7.1	0.06	122.20	26.51	106.40	24.60	73.05	8.57
2006	4.8	0.13	19.00	3.77	8.80	1.72	22.16	3.95
2005	5.0	0.14	17.80	4.07	10.00	1.71	31.79	6.69
2004	4.6	0.09	26.00	6.16	9.83	1.66	28.70	5.60
Average	5.6		44.41		32.78		36.72	

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

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

*2010, 2011 and 2013 spring data w as poor due to high w ater levels.
*2012 spring data w as poor due to low w ater levels.

Data from 1990 to 2003 is listed in previous year reports.

w fdw rky.dxx, w fdw ragk.dxx, w fdpsdky.dxx

Table 9. Species composition, relative abundance, and CPUE (fish/nn) of crappie collected by trap nets fished during 79 net-nights in two embayments of Kentucky Lake during October - November 2013.

		Inch class																
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	Std err
Blood River	White crappie	52	44	15	12	10	5	4	2	5	7	2	1		1	160	4.10	1.14
	Black crappie	101	59	2		9	11	15	39	66	50	10	2			364	9.33	2.41
Jonathan Cr.	White crappie	9	13	12	5	1	4	14	26	62	42	3	1			192	4.80	0.62
	Black crappie	32	18	6	6	24	28	87	106	54	19	2				382	9.55	1.69
TOTAL	White crappie	61	57	27	17	11	9	18	28	67	49	5	2		1	352	4.46	0.60
	Black crappie	133	77	8	6	33	39	102	145	120	69	12	2			746	9.44	1.42

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Table 10. Crappie population parameters used to manage the population at Kentucky Lake, with values determined from fall trap netting.

	Total CPUE (fish/nn) excluding age-0			CPUE (f/nn) age-0			Mean length (in) age-2 at capture			CPUE (fish/nn) ≥8.0 in			CPUE (fish/nn) age-1			CPUE (fish/nn) ≥10.0 in		
Year	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2013	2.49	7.44	9.93	2.46	3.07	5.53	10.4	8.8	9.4	2.39	6.34	8.73	0.52	1.76	2.28	1.75	2.86	4.61
2012[A]	4.20	8.74	12.94	0.03	0.21	0.24	10.5	9.6	10.0	3.43	6.96	10.39	2.80	2.47	5.27	1.43	3.05	4.48
2011	3.15	15.60	18.75	2.34	1.06	3.40	10.5	9.6	10.0	2.03	10.29	12.32	2.32	6.69	9.01	0.90	2.50	3.40
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
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
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
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
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
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
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
Averag	3.29	15.92	19.21	2.03	1.75	3.78	10.9	9.7	10.1	2.08	10.33	12.40	2.30	7.18	9.48	1.05	4.47	5.52

[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 2003 is listed in previous year reports.

Kentucky Lake Crappie Database

Table 11. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected with trap nets (79 net-nights) at Kentucky Lake during October and November 2013. 95% confidence interval is in parentheses.

Location	Species	N	PSD	RSD_{10}
Blood River	White crappie	49	45 (± 14)	32 (± 13)
	Black crappie	202	90 (± 4)	63 (± 7)
Jonathan Creek	White crappie	158	94 (± 4)	68 (± 7)
	Black crappie	326	82 (± 4)	23 (± 5)
Total	White crappie	207	82 (± 5)	60 (± 7)
	Black crappie	528	80 (± 3)	38 (± 4)

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Table 12. 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 fall 2013.

		Age									
Year class	N	1	2	3	4	5	6	7	8	9	10
2012	18	4.7									
2011	14	4.2	8.0								
2010	23	4.3	7.2	9.6							
2009	1	3.9	7.7	10.2	11.7						
2008	1	3.6	8.0	10.2	11.7	12.8					
2003	1	2.8	5.6	7.8	9.3	10.5	11.6	12.9	13.8	14.7	15.2
Mean		4.3	7.5	9.6	10.9	11.7	11.6	12.9	13.8	14.7	15.2
Smallest		2.8	5.6	7.5	9.3	10.5					
Largest		6.9	9.7	10.9	11.7	12.8					
Std err		0.1	0.2	0.2	0.8	1.1					
Low 95% CI		4.1	7.2	9.2	9.3	9.5					
High 95% CI		4.5	7.8	10.0	12.4	13.9					

* Intercept = 0.

w fdtnagk.d13

Table 13. 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 fall 2013.

		Age										
Year class	N	1	2	3	4	5	6	7	8	9	10	11
2012	28	4.2										
2011	22	3.6	6.7									
2010	24	4.5	7.0	9.1								
2009	13	3.9	7.0	9.0	10.5							
2004	1	3.5	6.3	8.6	10.1	11.5	11.8	12.2	12.8	13.3		
2002	1	3.0	5.7	7.5	8.9	9.8	10.8	11.3	11.7	12.1	12.6	13.0
Mean		4.0	6.9	9.0	10.3	10.6	11.3	11.8	12.3	12.7	12.6	13.0
Smallest		2.4	4.5	7.5	8.9	9.8	10.8	11.3	11.7	12.1		
Largest		5.6	9.0	10.7	11.1	11.5	11.8	12.2	12.8	13.3		
Std err		0.1	0.1	0.1	0.1	0.8	0.5	0.4	0.6	0.6		
Low 95% CI		3.9	6.6	8.8	10.1	9.0	10.3	10.9	11.2	11.6		
High 95% CI		4.2	7.1	9.2	10.6	12.2	12.2	12.7	13.4	13.8		

* Intercept = 0.

w fdtnagk.d13

Table 14. Age frequency and CPUE (fish/nn) of white crappie collected in trap nets fished for 79 net-nights in Kentucky Lake during October and November 2013.

	Inch class																
Age	2	3	4	5	6	7	8	9	10	11	12	13	15	Total	%	CPUE	Std err
0	61	57	27	15	11	2	3							176	50	2.23	0.55
1				2		7	12	8	7					36	10	0.46	0.08
2							1	13	23	18				55	16	0.70	0.13
3							2	7	37	31	4			81	23	1.03	0.18
4											1			1	0	0.01	0.00
5												2		2	1	0.03	0.02
10													1	1	0	0.01	0.01
Total	61	57	27	17	11	9	18	28	67	49	5	2	1	352		4.46	
%	17	16	8	5	3	3	5	8	19	14	1	1	0		100		

w fdtpntk.d13, w fdtnagk.d13

Table 15. Age frequency and CPUE (fish/nn) of black crappie collected in trap nets fished for 79 net-nights in Kentucky Lake during October and November 2013.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	13	Total	%	CPUE	Std err
0	133	77	8										218	29	2.76	0.83
1				6	30	23	57	9					125	17	1.58	0.34
2					3	16	34	91	20	3			167	22	2.11	0.41
3							11	45	70	39	3		168	23	2.13	0.34
4									30	27	9		66	9	0.84	0.15
9												1	1	0	0.01	0.01
11												1	1	0	0.01	0.01
Total	133	77	8	6	33	39	102	145	120	69	12	2	746		9.44	
%	18	10	1	1	4	5	14	19	16	9	2	0		100		

wfdtpntk.d13, wfdtnagk.d13

Table 16. Lake specific assessment for crappie collected at Kentucky Lake from 2004-2013. 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
2013	9.92	2.28	5.54	8.73	9.4			0.6569	48.2
Score	1	1	1	2	2	7	P		
2012	12.99	5.28	0.48	10.39	10.0			1.0284	64.2
Score	1	1	1	3	3	9	F		
2011	18.75	9.01	3.40	12.31	10.0			0.9156	60.0
Score	2	2	1	3	3	11	F		
2010	18.67	13.04	12.84	8.41	10.6			0.556	42.6
Score	2	2	1	2	4	11	F		
2009	16.23	4.85	3.38	13.58	10.6			0.758	53.1
Score	2	1	1	4	4	12	F		
2008	15.28	6.31	1.78	13.31	10.7			0.440	35.6
Score	2	1	1	4	4	12	F		
2007	15.08	8.06	2.36	13.23	10.7			0.872	58.2
Score	2	1	1	3	4	11	F		
2006	18.69	8.28	2.42	13.46	9.7			0.729	51.7
Score	2	1	1	4	3	11	F		
2005	26.66	12.86	4.21	16.24	9.7			0.788	54.5
Score	3	2	1	4	3	13	G		
2004	39.93	24.80	1.63	14.38	9.7			0.649	47.7
Score	4	4	1	4	3	16	G		
Average	19.22	9.48	3.80	12.40	10.1	11.3		0.739	51.58

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

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Table 17. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 10 hours (20- 30-minute runs) of diurnal electrofishing at Lake Barkley from 29 April to 23 May 2013.

		Inch class																				Std
Area	Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	err
Lower																						
Donaldson Cr.	Smallmouth		1	1							1				1					4	1.60	1.60
	Spotted		2	1		1		2		1										7	2.80	1.02
	Largemouth	1	6	21	12	6	5	5	8	11	9	18	12	8	7	4	3	1		137	54.80	10.71
Ford's Bay	Smallmouth		1	1						1			1		2		1			7	3.50	2.06
	Spotted			2						2										4	2.00	0.82
	Largemouth		3	9	19	13	5	8	18	17	16	15	14	17	4	3	2		1	164	82.00	14.99
Devil's Elbow	Smallmouth											1								1	1.00	1.00
	Spotted					1	1				1									3	3.00	3.00
	Largemouth			3	5	11	3	3	4	8	11	11	19	7	1	2				88	88.00	40.00
Middle																						
Little River	Largemouth		1		5	6	2	1	2	2	4	2	4	4	2		1	2	1	39	39.00	15.00
Eddy Cr.	Smallmouth								1	1										2	1.33	1.33
	Largemouth		1	10	16	7	4	7	14	22	24	18	16	5	7	4	2	2		159	106.00	6.43
Upper																						
Nickell Cr.	Largemouth		2	3	2	4	1	7	4	5	4	8	5	8	1		2			56	112.00	0.00
Demumbers	Smallmouth		1		1						1		1	1						5	5.00	5.00
	Largemouth		1	9	8	3	3	7	6	2	3	7	10	2	4	3	1			69	69.00	1.00
Willow	Largemouth		3	3	5	1	2	5	2	2	8	4	2	4	1	1		2		45	90.00	0.00
Total	Smallmouth		3	2	1				1	2	2	1	2	1	3		1			19	1.90	0.75
	Spotted		2	3		2	1	2		3	1									14	1.40	0.46
	Largemouth	1	17	58	72	51	25	43	58	69	79	83	82	55	27	17	11	7	2	757	75.70	7.00

(wfdpsdb.d13)

Table 18. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Lake Barkley during late April/early May since 2004.

	Mean length			Length group												
	age-3 at	Age-1		<8.0 in		8.0 - 11.9 in		12.0 - 14.9 in		≥15.0 in		≥20.0 in		Total	
Year	capture	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2013		18.20	2.65	14.56	2.32	16.22	2.42	22.89	3.15	19.33	2.06	0.67	0.28	73.00	7.86
2012	13.0	9.98	1.73	8.70	1.75	13.13	2.00	32.43	5.43	24.09	5.00	1.48	0.46	78.35	10.62
2011	Did not sample due to flooding														
2010	12.7	17.10	1.84	15.50	1.50	34.30	3.40	28.40	2.40	18.90	1.90	2.20	0.50	97.10	5.37
2009	12.7	69.16	7.35	63.90	7.50	42.53	3.50	38.80	2.70	34.00	3.40	2.40	0.40	179.30	10.20
2008	12.7	28.80	3.00	24.10	3.50	25.80	3.90	32.60	3.90	41.20	4.50	3.00	0.50	123.70	6.30
2007	12.7	6.69	0.68	4.80	0.90	21.36	2.60	66.50	4.70	47.60	4.50	1.80	0.50	140.27	9.73
2006	13.4	18.43	2.35	15.60	2.20	26.70	2.20	51.80	3.90	30.80	2.40	2.10	0.57	124.20	7.40
2005		42.54	5.44	36.60	4.90	19.30	1.90	59.40	4.80	37.50	3.30	2.00	0.55	152.70	10.30
2004		29.01	2.42	11.30	1.30	40.90	2.90	29.30	1.60	24.70	2.20	1.80	0.43	106.20	5.10
Average	12.9	26.66		21.67		26.69		40.24		30.90		1.94		119.42	

(Barkley_LMB_Database.xls)

Data is available since 1985 in previous annual reports

Table 19. PSD and RSD_{15} values calculated for largemouth bass collected during 10.0 hours (20- 30-minutes runs) of spring diurnal electrofishing at each area of Lake Barkley from 29 April to 23 May 2013. 95% confidence intervals are in parentheses.

Area	No. fish ≥8.0 in	PSD	RSD_{15}
Donaldson	97	75 (+/-9)	36 (+/-10)
Ford's	133	67 (+/-8)	31 (+/-8)
Willow	34	71 (+/-16)	29 (+/-16)
Little River	33	67 (+/-16)	42 (+/-17)
Eddy Creek	132	76 (+/-7)	27 (+/-8)
Devil's Elbow	80	74 (+/-10)	36 (+/-11)
Nickell	49	67 (+/-13)	33 (+/-13)
Demumbers	51	63 (+/-13)	39 (+/-13)
Total	609	71 (+/-4)	33 (+/-4)

(wfdpsdb.d13)

Table 20. Lake specific assessment for largemouth bass collected at Lake Barkley from 2004 - 2013. This table includes the parameter estimates and the individual score as well as the total score and assessment rating. The final two columns list the instantaneous mortality rate (Z) and the annual mortality (A).

	Mean length		Length group						
	age-3 at	CPUE	12.0 - 14.9 in	≥15.0 in	≥20.0 in	Total	Assessment		
Year	capture	age-1	CPUE	CPUE	CPUE	score	rating	Z	A
2013	13.0	18.20	22.89	19.33	0.67			0.2816	0.25
Score	3	1	1	1	1	7	P		
2012	13.0	9.98	32.43	24.09	1.48			0.4308	0.35
Score	3	1	2	2	1	9	F		
2011	*	*	*	*	*				
2010[A]	12.7	17.10	28.40	18.90	2.20			0.400	0.33
Score	2	1	1	1	2	7	P		
2009[A]	12.7	69.16	38.80	34.00	2.40			0.422	0.34
Score	2	4	2	3	3	14	G		
2008[A]	12.7	28.80	32.60	41.20	3.00			0.339	0.29
Score	2	3	2	4	3	14	G		
2007[A]	12.7	6.70	66.50	47.60	1.80			0.317	0.27
Score	2	1	4	4	1	12	G		
2006	13.4	18.40	51.80	30.80	2.00			0.431	0.40
Score	4	1	3	3	2	13	G		
2005[A]	12.9	42.50	59.40	37.50	2.00			0.674	0.49
Score	3	3	4	4	2	16	G		
2004[A]	12.9	29.20	29.30	24.70	1.80			0.632	0.47
Score	3	3	2	2	1	11	F		
Average	12.9	26.67	40.24	30.90	1.93	11.4		0.436	0.35

Older data is listed in previous year reports.

(Barkley LMB Database.xls) * Data not available

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

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

Table 21. Age frequency and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Lake Barkley in May 2013. 2012 age and growth data file used for calculations of age-frequency.

	Inch class																				
Age	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	%	CPUE	Std err
1	1	17	58	72	42	2												192	26.0	19.20	2.40
2					9	23	43	33										108	15.0	10.81	1.47
3								25	69	65	52	8						219	30.0	21.86	2.75
4										14	31	33	11	9				98	14.0	9.83	0.94
5												41	22	18				81	11.0	8.10	0.83
6													22				2	24	3.0	2.43	0.38
8																	5	5	1.0	0.47	0.20
Total	1	17	58	72	51	25	43	58	69	79	83	82	55	27			7	727	100		
%	0	2	8	10	7	3	6	8	9	11	11	11	8	4			1	100			

wfdpsdb.d13, wfdlbagb.d12

Table 22. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 4.0 hours of diurnal electrofishing (8 - 30-minute runs) for black bass in each area of Lake Barkley on 22 and 25 October 2013.

	Inch class																				
Area/Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std err
Middle																					
Eddy Creek																					
Largemouth bass	6	16	52	26	14	4	9	34	51	32	42	48	36	12	12	6	3	2	405	202.50	15.95
Spotted bass		1					2		1		1	1							6	3.00	3.00
Smallmouth bass		1																	1	0.50	0.50
Lower																					
Little River																					
Largemouth bass	3	24	44	31	14	4	7	18	19	7	17	21	17	12	5	5	2		250	125.00	25.05
Spotted bass							1												1	0.50	0.50
Smallmouth bass		2	1						2		1								6	3.00	1.73
Total																					
Largemouth bass	9	40	96	57	28	8	16	52	70	39	59	69	53	24	17	11	5	2	655	163.75	20.09
Spotted bass		1					3		1		1	1							7	1.75	1.49
Smallmouth bass		3	1						2		1								7	1.75	0.96

(wfdwrb.d13)

Table 23. Number of fish and the relative weight (W_r) values for each length group of largemouth collected at Lake Barkley during 4.0 hours (8- 30-minute runs) of diurnal electrofishing on 22 and 25 October 2013.

		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	97	115	(12)	122	98	(1)	71	99	(1)
	Little River	48	98	(1)	45	99	(1)	41	100	(1)
	Total	145	110	(8)	167	98	(1)	112	100	(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	2	11	(1)	2	85	(7)	1	99	
	Little River	1	104							
	Total	3	109	(2)	2	85	(7)	1	99	
Smallmouth bass	Eddy Creek									
	Little River				3	89	(4)			
	Total				3	89	(4)			

wfdwrb.d13

Table 24. 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
2013	5.8	0.07	55.00	8.65	43.25	5.99		
2012	6.1	0.07	40.60	6.87	35.69	5.68	18.2	2.65
2011	5.5	0.06	18.60	2.68	13.40	2.37	9.98	1.73
2010	6.5	0.06	46.00	7.78	42.00	6.93	*	
2009	5.6	0.06	37.60	4.83	29.20	3.44	17.10	1.84
2008	6.2	0.05	55.60	6.74	50.20	6.31	69.16	7.35
2007	6.8	0.09	68.68	11.78	59.40	10.70	28.80	3.00
2006	4.8	0.15	9.33	1.73	4.00	1.29	6.69	0.68
2005	5.4	0.14	5.40	1.20	4.80	1.20	18.43	2.35
2004	5.4	0.80	39.80	5.75	30.40	4.27	42.50	5.40

[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 25. 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 28 October-8 November 2013.

		Inch class																Std
Location	Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	err
Little River																		
	White crappie		9	10	14	17	7		5	14	23	50	37	6	1	193	4.83	0.56
	Black crappie	1	17	19	1	2		1	1	3	9	8				62	1.55	0.27
Donaldson Creek																		
	White crappie		10	12	1	3			2	2	6	13	8	7	1	65	1.63	0.28
	Black crappie	1	35	44	18	1				7	17	13	2	1		139	3.48	0.42
Total																		
	White crappie		19	22	15	20	7		7	16	29	63	45	13	2	258	3.23	0.36
	Black crappie	2	52	63	19	3		1	1	10	26	21	2	1		201	2.51	0.27

(w fdtpntb.d13)

Table 26. 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) >8.0 in			CPUE (fish/nn) age-1			CPUE (fish/nn) >10.0 in		
Year	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie	WC	BC	Crappie
2013	2.18	0.77	2.95	1.04	1.71	2.75	11.1	10.6	10.9	2.19	0.76	2.95	0.34	0.04	0.38	1.90	0.63	2.53
2012	4.13	2.60	6.73	1.20	0.05	1.25	10.9	10.0	10.5	4.03	2.24	6.27	1.08	0.91	1.99	2.84	0.88	3.72
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
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
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
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
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
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
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
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
Average	3.33	2.32	5.65	4.90	1.26	6.16	11.2	10.6	10.9	2.94	1.34	4.28	2.24	1.35	3.60	1.43	0.50	1.93

[A] Indicates year w here age and grow th data w as not collected. Age and grow th data from the previous year w as used to calculate the appropriate value.

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

Lake Barkley Crappie Database

Table 27. 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 28 October - 8 November 2013. Numbers in parentheses represent 95% confidence intervals.

Location	Species	N	PSD	RSD_{10}
Little River	White crappie	160	85 (+/-5)	73 (+/-7)
	Black crappie	24	88 (+/-14)	71 (+/-19)
Donaldson	White crappie	42	93 (+/-8)	83 (+/-11)
	Black crappie	41	98 (+/-5)	80 (+/-12)
Total	White crappie	202	87 (+/-5)	75 (+/-6)
	Black crappie	65	94 (+/-6)	77 (+/-10)

(wfdtpntb.d13)

Table 28. Mean back-calculated length (in) at each annulus of white crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley in the fall 2013.

		Age							
Year class	N	1	2	3	4	5	6	7	8
2013	14	5.5							
2012	18	5.0	9.1						
2011	25	4.9	8.0	10.7					
2010	5	4.0	8.3	10.2	11.6				
2009	2	5.0	8.5	10.2	11.2	12.4			
2007	1	3.9	7.3	10.1	11.2	12.4	13.2	13.7	
2006	1	5.0	7.4	9.8	11.1	12.0	12.9	13.5	13.8
Mean		4.9	8.4	10.6	11.4	12.3	13.1	13.6	13.8
Smallest		3.0	6.0	8.0	10.7	12.0	12.9	13.5	13.8
Largest		6.9	11.2	12.1	13.1	12.5	13.2	13.7	13.8
Std err		0.1	0.2	0.2	0.2	0.1	0.2	0.1	
Low 95% CI		4.8	8.1	10.3	10.9	12.1	12.8	13.4	
High 95% CI		5.1	8.7	10.9	11.9	12.5	13.4	13.8	

* Intercept = 0.

w fdtnagb.d13

Table 29. Mean back-calculated length (in) at each annulus of black crappie including the range in length at each age and the 95% confidence interval of each age group. Otoliths were collected from Lake Barkley in the fall 2013.

		Age				
Year class	N	1	2	3	4	5
2013	3	5.5				
2012	16	4.6	8.4			
2011	12	4.7	7.4	9.4		
2010	1	4.9	8.5	10.2	11.6	
2009	1	4.5	7.2	9.9	10.5	12.1
Mean		4.7	7.9	9.5	11.1	12.1
Smallest		3.7	5.9	7.9	10.5	12.1
Largest		6.5	10.0	10.8	11.6	12.1
Std err		0.1	0.2	0.2	0.5	
Low 95% CI		4.5	7.6	9.1	10.0	
High 95% CI		4.9	8.3	9.9	12.1	

* Intercept = 0.

w fdtnagb.d13

Table 30. Age frequency and CPUE (fish/nn) of black crappie collected during 80 net-nights at Lake Barkley from 28 October - 8 November 2013.

	Inch class														
Age	3	4	5	6	7	8	9	10	11	12	13	Total	Percent	CPUE	Std. err.
0	63	19	3									85	58	1.06	0.16
1					1	1	1					3	2	0.04	0.02
2							6	14	11			31	21	0.39	0.07
3							3	12	10			25	16	0.30	0.06
4										2		2	1	0.03	0.02
5											1	1	1	0.01	0.01
Total	63	19	3		1	1	10	26	21	2	1	147			
%	43	13	2	2	1	1	7	18	14	1	1				

(w fdtpntb.d13) (w fdtnagb.d13)

Table 31. Age frequency and CPUE (fish/nn) of white crappie collected during 80 net-nights at Lake Barkley from 28 October - 8 November 2013.

	Inch class															
Age	3	4	5	6	7	8	9	10	11	12	13	14	Total	Percent	CPUE	Std err
0	22	15	20	7									64	27	0.80	0.14
1						7	13	7					27	12	0.34	0.06
2								17	43				60	25	0.75	0.13
3							3	5	16	39	9		72	29	0.88	0.12
4									4	3	3	1	11	4	0.13	0.02
5										3	1		4	2	0.06	0.01
7												1	1	0	0.01	0.01
8												1	1	0	0.01	0.01
Total	22	15	20	7		7	16	29	63	45	13	3	240			
%	9	6	8	3		3	7	12	26	19	5	1				

(w fdtpntb.d13) (w fdtnagb.d13)

Table 32. Lake specific assessment for crappie collected at Lake Barkley from 2004 - 2013. 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
2013	2.95	0.38	2.75	2.95	10.9			0.788	54.5
Score	2	1	2	2	4	11	F		
2012	6.73	1.99	0.43	6.27	10.5			0.857	57.6
Score	2	2	1	4	3	12	F		
2011	7.39	6.79	10.01	3.64	10.9			1.188	69.5
Score	3	4	4	2	4	17	E		
2010	7.20	6.29	23.25	5.24	10.9			1.209	70.1
Score	3	4	4	3	4	18	E		
2009	2.30	1.71	5.26	2.56	11.3			1.330	73.5
Score	1	1	3	2	4	11	F		
2008	2.80	1.99	4.85	2.73	11.3			0.960	61.7
Score	1	2	3	2	4	12	F		
2007	3.78	1.80	2.00	3.20	10.6			1.047	64.9
Score	1	2	2	2	3	10	F		
2006	7.60	6.00	0.20	3.60	10.6			1.357	74.3
Score	3	3	1	2	3	12	F		
2005	6.50	3.10	8.60	5.20	10.7			1.551	78.8
Score	2	2	4	4	3	15	G		
2004	9.18	6.32	3.23	7.29	10.7			1.419	75.8
Score	4	4	2	4	3	17	G		
Average	5.64	3.64	6.06	4.27	10.8	13.5		1.171	68.1

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

(Barkley_Crappie_Database.xls)

Table 33. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected during diurnal electrofishing at Lake Beshear during 2013.

	Inch class																						
Season	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Spring			4	26	34	11	3	9	26	15	15	10	11	13	15	15	14	21	8	3	1	254	127.00	18.41
Fall	3	26	12	5	6	4	15	9	5	6	7	12	11	6	7	1	1	2				138	69.00	4.65

w fdpsdlb.d13 and w fdw rlb.d13

Table 34. Spring diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Lake Beshear during April or May of 2003 - 2013.

	Mean length			Length group															
	age-3 at	Age-1		<8.0 in		≥12.0 in		12.0 - 14.9 in		≥15.0 in		≥18.0 in		≥20.0 in		Total			
Year	capture	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err	PSD	RSD_{15}
2013	13.3	33.83	9.55	37.50	10.28	63.00	11.82	18.00	5.48	45.00	7.23	23.50	5.56	6.00	1.41	127.00	18.41	70	50
2012	13.3	27.60	5.45	34.40	4.92	46.80	3.61	8.80	2.24	38.00	4.60	18.40	1.83	4.40	0.98	114.80	6.95	58	47
2011	13.3	11.67	2.19	13.50	1.71	65.00	9.18	17.50	4.79	47.50	5.91	23.50	2.99	5.50	1.71	92.50	10.34	82	60
2010	13.8	22.33	4.90	9.00	1.69	51.00	6.90	11.33	1.33	39.67	6.10	14.00	3.76	3.67	1.89	82.67	15.69	69	54
2009	13.8	5.20	1.59	3.60	1.72	35.60	2.99	6.00	0.63	29.60	2.93	13.60	1.72	4.40	1.60	47.20	4.59	82	68
2008	13.8	10.40	3.72	8.40	3.92	32.00	4.60	11.20	3.77	20.80	3.38	10.00	2.68	3.60	1.72	51.60	6.82	74	48
2007	13.8	25.00	4.24	15.00	3.30	50.33	8.62	15.00	4.19	35.33	5.23	16.00	2.63	4.67	0.99	83.00	12.76	74	52
2006	13.8	24.80	7.75	27.60	8.23	41.20	5.64	7.20	2.87	34.00	2.97	18.00	1.90	4.80	1.50	84.00	13.33	73	60
2005	13.8	38.80	1.80	30.80	4.92	51.60	6.18	7.20	2.06	44.40	5.91	19.60	2.40	3.60	1.17	94.80	8.45	81	69
2004	14.1	6.40	1.94	4.40	1.60	52.00	9.30	9.60	2.60	42.40	8.50	16.00	3.70	2.80	1.40	68.40	11.70	81	66
Average	13.7	20.60		18.42		48.85		11.18		37.67		17.26		4.34		84.60		74.4	57.5

(Lake Beshear Bass Database.xls)

Data for 1985 - 2003 is listed in previous years report.

Table 35 Lake specific assessment for largemouth bass collected at Lake Beshear from 2004 - 2013. This table includes the parameter estimates and the individual score as well as the total score and assessment rating. The final two columns list the instantaneous mortality (Z) and annual mortality (A).

Year	Mean length age-3 at capture	CPUE age-1	Length group 12.0 - 14.9 in CPUE	≥15.0 in CPUE	≥20.0 in CPUE	Total score	Assessment rating	Z	A
2013[A]	13.3	33.83	18.00	45.00	6.00			0.355	29.9
Score	3	4	3	4	3	17	E		
2012[A]	13.3	27.60	8.80	38.00	4.40			0.291	25.2
Score	3	4	1	3	3	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		
2010[A]	13.8	22.33	11.33	39.67	3.67			0.297	25.7
Score	4	3	2	3	2	14	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		
2008[A]	13.8	10.40	11.20	20.80	3.60			0.316	27.1
Score	4	2	2	2	2	12	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		
2006	13.8	24.80	7.20	34.00	4.80			0.262	23.0
Score	4	3	1	3	3	14	G		
2005	13.8	38.80	7.20	44.40	3.60			0.430	34.9
Score	4	4	1	4	2	15	G		
2004[A]	14.1	6.40	9.60	42.40	2.80			0.547	54.7
Score	4	1	1	4	2	12	G		
Average	13.7	20.60	11.2	37.7	4.3	14.0		0.318	28.0

Data from 1985 to 2003 is listed in previous year reports.

[A] age and growth data was not collected. Previous year 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 36. 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 $\geq$5.0 in[A]		Age 1[B]	
Year class	Mean length	Std err	CPUE	Std err	CPUE	Std err	CPUE	Std err
2013	4.1	0.1	25.00	7.00	4.50	2.63		
2012	6.3	0.1	34.00	8.76	33.20	7.40	33.83	9.55
2011	5.0	0.1	41.60	14.77	23.60	7.63	27.60	5.45
2010	4.9	0.1	54.00	4.60	22.00	4.52	11.67	2.19
2009	3.6	0.1	24.80	5.31	2.00	0.63	22.33	4.90
2008	4.3	0.1	12.40	1.17	2.00	0.89	4.80	1.59
2007	4.8	0.1	21.60	3.49	9.60	2.32	10.00	1.42
2006	4.2	0.1	23.00	7.51	3.00	1.91	25.00	4.24
2005	4.4	0.1	21.00	7.68	0.00		37.04	9.50
2004	3.8	0.1	17.60	4.12	0.00		38.80	1.80

[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 37. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass, bluegill and redear sunfish collected during 1.0 hour (4- 900s-runs) of diurnal electrofishing at Lake Pennyrile on 4 June, 2013.

	Inch class																					
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std err
Largemouth bass				16	36	11	1	9	15	23	6	4	1				1		1	124	124.00	12.33
Bluegill	1	6	9	3	14	7														40	40.00	12.11
Redear Sunfish		1		3	1	8	9	2	1											25	25.00	6.61

wfdpsdp.d13

Table 38. Spring, diurnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Pennyrile Lake from 2004-2013.

	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
2013	63.00	11.82	48.00	4.90	11.00	3.00	2.00	1.15	1.00	1.00	124.00	12.33
2012*												
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
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
2009*												
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
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
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
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
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
Mean	53.90		75.69		17.56		3.77		1.40		150.91	

wfdpsdp.dxx

Data from 1990 to 2003 is listed in previous year reports.

*Did not sample

Table 39. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Lake Pennyrile during May from 2004-2013.

		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											
	2013*	1.00	1.00	18.00	5.77	21.00	6.19	0.00	0.00	40.00	12.11
	2012	Did Not Sample									
	2011	1.60	0.98	36.80	20.21	41.60	14.18	5.60	1.60	85.60	35.66
	2010	3.57	1.86	81.25	17.20	40.18	6.23	6.25	2.73	131.25	17.03
	2009	Did Not Sample									
	2008	38.09	19.90	136.23	42.97	93.19	42.72	11.32	4.71	278.82	85.42
	2007	4.00	1.79	35.33	8.60	23.33	7.55	1.33	0.84	64.00	15.87
	2005	51.70	20.00	262.60	64.00	45.10	13.40	1.10	1.10	360.40	72.30
	2004	3.10	3.10	38.50	10.60	23.10	11.90	6.20	4.50	70.80	21.70
	Mean	14.72		86.96		41.07		4.54		147.27	
Redear sunfish											
	2013*	0.00		4.00	2.31	9.00	5.52	12.00	2.83	25.00	6.61
	2012	Did Not Sample									
	2011			9.60	4.49	17.60	8.09	28.00	11.87	55.20	21.41
	2010	0.00	0.00	3.57	1.86	8.93	2.31	17.86	5.00	30.36	5.36
	2009	Did Not Sample									
	2008	2.65	1.76	20.98	9.19	12.75	6.34	41.03	25.14	77.40	40.35
	2007	2.00	1.37	21.33	7.91	16.67	8.09	10.67	1.69	50.67	16.35
	2005	1.10	1.10	37.40	12.80	27.50	10.70	23.10	5.30	89.00	28.70
	2004	0.00	0.00	20.00	12.80	40.00	17.10	9.20	2.90	69.20	31.10
	Mean	0.96		16.70		18.92		20.27		56.69	

wfdpsdp.dxx

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

Table 40. PSD and RSD values obtained for largemouth bass, bluegill and redear sunfish collected during 1.0 hours of diurnal electrofishing (4- 900s-runs) at Lake Pennyrile on 4 June 2013. 95% confidence intervals are in parentheses.

Species	N	PSD	RSD*
Largemouth bass	61	21 (+/-10)	3 (+/-5)
Bluegill	39	53 (+/-16)	
Redear sunfish	24	83 (+/-15)	13 (+/-14)

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

wfdpsdp.d13

Table 41. Age frequency and CPUE (fish/hr) of largemouth bass collected at Pennyrile Lake on 4 June 2013.

	Inch class													
Age	5	6	7	8	9	10	11	12	13	14	Total	Percent	CPUE	Std err
0	16	36									52	47	52.00	12.11
1				1	8	2					11	10	10.58	2.40
2						13	9	1			23	21	23.37	1.57
3					1		9	2			12	11	12.45	1.34
4							2	2	3		7	5	6.03	0.64
5							3	2		1	6	5	5.57	1.49
7									1		1	1	1.00	0.00
Total	16	36		1	9	15	23	7	4	1	112			
%	14	32		1	8	14	21	5	4	1				

(w fdlbagp.d11) (w fdpsdp.d13)

Table 42. Lake specific assessment for largemouth bass collected at Pennyrile Lake from 2004 - 2013. This table includes the parameter estimates and the individual scores as well as the total scores and assessment ratings. The final columns list the instantaneous mortality (Z) and annual mortality (A) in years when age and growth was collected.

Year	Age-1 CPUE	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Mean length age-3 at capture	Total score	Assessment rating	Z	A
2013	10.60	11.00	2.00	1.00					
Score	1	2	2	4	4	13	G		
2012	Did not sample								
Score									
2011	31.00	12.00	1.60	0.80	11.7			0.49	38.6
Score	1	2	1	4	4	12	G		
2010	36.10	12.30	7.10	4.50					
Score	2	2	4	4	1	13	G		
2009	Did not sample								
Score									
2008	27.92	13.28	1.96	0.00					
Score	1	2	2	0	1	6	P		
2007	33.10	14.00	2.70	0.67					
Score	2	1	1	1	1	6	P		
2006	68.30	26.00	6.00	0.00					
Score	3	2	2	0	1	8	F		
2005	85.70	25.30	6.60	3.30	10.0				
Score	4	2	2	3	1	12	G		
2004	13.10	26.40	2.20	0.00					
Score	1	2	1	1		5	P		
Average	38.23	17.54	3.77	1.28	10.9				

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

Table 43. Lake specific assessment for bluegill collected at Pennyrile Lake from 2004 - 2013. 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
2013	4.0	21.00	0.00	2.9		
Score	2	1	0	1	4	P
2012*	Did not sample					
Score						
2011	4.0	47.20	5.60	2.9		
Score	2	3	2	1	8	F
2010	4.0	40.18	6.25	2.9		
Score	2	3	2	1	8	F
2009*	Did not sample					
Score						
2008	4.0	104.51	11.32	2.9		
Score	2	4	4	1	11	F
2007	4.0	24.70	1.30	2.9		
Score	2	2	1	1	6	P
2006*	Did not sample					
Score						
2005	4.0	46.20	1.10	2.9		
Score	2	3	1	1	7	P
2004	4.0	29.23	46.20	2.9		
Score	2	2	3	1	8	F
Average	4.0	44.72	10.25	2.90		

* Did not collect samples

Rating

1 - 7 = Poor (P)

8 - 12 = Fair (F)

13 - 17 = Good (G)

18 - 20 = Excellent (E)

Table 44. Lake specific assessment for redear sunfish collected at Pennyrile Lake from 2004 - 2013. 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
2013		12.00	1.00			
Score	2	1	2	1	6	P
2012	Did not sample					
Score						
2011		28.00	3.20			
Score	2	1	4	1	8	F
2010		17.86	6.25			
Score	2	1	4	1	8	F
2009	Did not sample					
Score						
2008		41.03	1.96			
Score	2	2	3	1	8	F
2007		41.00	2.00			
Score	2	2	3	1	8	F
2006		10.70	0.00			
Score	2	1	0	1	4	P
2005		23.10	0.00			
Score	2	1	0	1	4	P
2004	5.0	9.20	0.00	5.4		
Score	2	1	0	1	4	P
Average	5.0	22.86	1.93	5.4		

Rating

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

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 2013 field season.

Nolin River Lake

White Bass Sampling

White bass were gill netted during November to monitor their population parameters (Tables 2-6). Catch rates in 2013 increased from the last survey in 2011, but are similar to those collected over the last several years. Mean length at age and condition parameters are good and also 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 = -3.33 + 2.98 (Log L). The Nolin Lake SMP objectives for white bass management state: 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 2013.

Walleye Sampling

Gill netting to assess the walleye population was conducted during November in conjunction with white bass sampling (Tables 7-11). Walleye catch rates were slightly higher than in 2011, but are similar to catch rates observed over the last several years. Growth rate and condition continue to be good, but few fish greater than age 3 were collected. The log 10 length weight equation is log W = -3.53 + 3.05 (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 age 1 and older fish was the only objective met in 2013.

Channel Catfish Sampling

Channel catfish were sampled along with the white bass and walleye in November to assess their length distribution and relative weight (Tables 12-13). Both the catch rate and length frequency are nearly identical to those data collected in 2009 and 2011. Relative weights are good, but are slightly lower than those calculated from prior collections.

Rough River Lake

Black Bass Sampling

Electrofishing to monitor spring black bass population trends at Rough River Lake was conducted during April 2013 (Tables 14-18). The catch rates for largemouth bass ≥ 15.0 in and ≥ 20.0 in are similar to those catch rates collected in 2012 and are higher than any previously collected for the second year. Catch rates for largemouth ≤ 15.0 in are similar to previous collections. Rough River Lake SMP objectives for largemouth bass management state: a mean length age 3 fish at capture of ≥12.5 in, a spring CPUE of age 1 fish ≥30.00 fish/hr, a spring CPUE of ≥25.50 fish/hr for 12.0-14.9 in fish, a spring CPUE of ≥12.20 fish/hr for ≥15.0 in fish and a spring CPUE of ≥0.50 fish/hr for fish ≥20.0 in. All management objectives for largemouth bass were met in 2013.

Crappie Sampling

Trap netting to evaluate Rough River Lake's crappie population was conducted the first two weeks of November (Tables 19-23). Crappie catch rates continue to be above average in 2013 due to multiple prolific year classes. Age data indicate this abundance is negatively impacting growth. The majority of the white crappie collected in 2013 were age 2+ and in either the 7.0 or 8.0 in groups. The mean length of these age 2+ fish at capture in 2013 was 8.3 in. Historically the mean length of age 2+ fish at Rough River Lake has been approximately 10.5 in. Crappie are growing and reaching a harvestable size slowly. The depressed growth rate will most likely continue until these fish reach the legal size limit and are removed from the population. 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 CPUE for age 1 fish and the mean length at capture for age 2 + fish objectives were not met in 2013.

Dissoved Oxygen – Temperature Profiles

Dissolved oxygen and temperature profiles were conducted monthly from May through October 2013 (Tables 24-29). Profiles were conducted at three sites (lower, middle, and upper) along the south fork of the lake. The profiles were conducted as part of a 3-year project to compare survival and growth of original and reciprocal hybrid striped bass crosses stocked at Rough River Lake.

Lake Malone

Channel Catfish Sampling

Lake Malone was hoop netted for channel catfish during October (Tables 30-31) to assess stocking rate changes. Six baited tandem hoop net sets (3 nets in series) were fished for three nights yielding 88 channel catfish. Lake Malone was last hoop netted in 2010 when an equal amount of effort produced 1,772 channel catfish. The majority of the fish captured in 2010 were in the 9.0 to11.0 in range and age data suggested these fish were growing slower than at most other lakes sampled. Lake Malone was stocked at 25 channel catfish per acre prior to and including 2010. Based on the length frequency and growth rate data collected in 2010 the decision was made to not stock in 2011 and to stock at a half rate (12.5 fish/acre) in 2012 and 2013. Despite the lower number of channel catfish collected in 2013, length frequencies are similar for both collections. Age data collected in 2010 indicated mean length at capture for age 1+ fish was 10.5 inches, age 2+ was 12.5 inches and age 3+ was 15.5 inches. In 2013 mean length of age 1+ fish was 9.6 inches and age 2+ fish 14.8 inches. Malone was not stocked in 2011 and no age 3+ fish were collected. Channel catfish are stocked at age 1+. Differences in the growth rate of the age 1+ fish are most likely hatchery related. Mean length of age 2+ at capture increased 2.3 inches from the 2010 to the 2013 sample which was intended result of decreasing the stocking rate. Stocking will continue at 12.5 fish/acre and periodic sampling will be conducted to track growth rates.

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 resumed in 2011.

Largemouth Bass Sampling

Electrofishing to assess the largemouth bass population at Mauzy was conducted in April (Tables 32-35). Length distribution and catch rates for largemouth bass at Mauzy have been erratic the last few years following the drawdowns, but are beginning to stabilize. The catch rate for bass less than 12.0 in has been fairly stable for the last three years while the catch rate for bass ≥ 12.0 in has decreased, especially those greater than 20.0 in. This decline should stabilize in the next couple of years as the artificially high numbers of larger fish created by the drawdowns leave the population. Length at age data collected in 2012 indicates a good growth rate with a mean length of 12.0 in at age 3.

Bluegill Redear Sunfish Sampling

Electrofishing to assess the bluegill and redear sunfish populations was conducted in May (Tables 36-40). Bluegill catch rates have been highly variable the last few years. Flooded terrestrial vegetation present before the lake reached full pool hampered sampling in 2010 and reduced the CPUE. The bluegill population is still responding to the effects of the drawdown and changes in the bass population. Length at age data collected in 2012 suggest these fish are not growing as expected, probably due to the lack of small bass for the last couple of years. An increase in bass < 12.0 in again in 2013 should increase predation on the small bluegill and increase their growth rate.

Redear sunfish were stocked in Lake Mauzy in 2004 and 2005. Few redear sunfish were collected prior to 2010. Redear sunfish catch rates continued to improve in 2013, including those ≥ 6.0 in and > 8.0 in. A stable water level over the next few years should indicate whether redear sunfish will remain a viable fishery at Mauzy.

Carpenter Lake

Largemouth Bass

Largemouth bass were sampled at Carpenter Lake in April (Tables 34, 41-43). The catch rate for 8.0-11.9 in bass increased, but is slightly less than what it has been in previous years. Age data collected in 2010 indicated poor growth with few fish reaching 12.0 in prior to age 5. The catch rate for bass ≥ 15.0 in held steady, while ≥ 20.0 in bass increased in 2013 and both are higher than in the previous 10 years. A shad eradication project is scheduled for January 2015. Carpenter Lake SMP objectives for largemouth bass management state: a CPUE ≥ 46.00 fish/hr for age 1 fish, a CPUE ≥ 35.00 fish/hr for 12.0-14.9 in fish, a CPUE ≥ 15.00 fish/hr for ≥ 15.0 in fish and a CPUE ≥ 1.0 fish/hr for ≥ 20.0 in fish. The CPUE objectives for ≥ 15.0 and ≥ 20.0 in bass were met in 2013.

Bluegill Redear Sunfish Sampling

Electrofishing to assess the bluegill/redear sunfish populations was conducted in May (Tables 38, 44-46). Although sampling catch rates for bluegill at Carpenter Lake are often variable, due in part to habitat conditions and sampling difficulties, catch rates in 2013 for bluegill < 6.0 in are within the range of prior collections. The catch rate for bluegill ≥ 6.0 in increased substantially in 2013 with most of those fish measuring just over 6.0 in. Gizzard shad were first discovered in Carpenter Lake in 2006. Bluegill age data collected in 2007 and 2010 are similar and indicate the growth rate has slowed from age data collected in 2002. Very few bluegill ≥ 8.0 in have been collected since 2006 but the number of bluegill < 8.0 in has increased. Carpenter Lake SMP bluegill management objectives state: 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 2013. A shad eradication project is scheduled for January 2015.

Old and New Kingfisher Lakes

Old and New Kingfisher were drawn down December 2012 through March 2013. Once dried the lakes will be dredged to deepen and re-contour shallow shoreline areas during the late summer to early fall of 2014. The resulting material will be used to construct fishing jetties and widen shoreline areas to increase bank access. A water control structure has already been installed and habitat such as Christmas trees, pallet attractors, and other materials will be added to the lake while it is drawn down in 2014. The lakes will be restocked in the fall of 2014 and spring 2015. Annual sampling to monitor the population will be suspended for the next few years.

Washburn Lake

Bluegill Sampling

Sampling to assess Washburn Lake's bluegill population was conducted in May (Tables 38, 47-49). Bluegill catch rates in 2013 were within the range of what is typically collected. The catch rate for bluegill $\geq$ 8.0 in did decrease substantially from 2012, but the catch rate in 2012 was exceptional. Age data collected in 2009 indicate growth rates have been declining 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. Liming and fertilizing efforts will continue in 2014 and age data will also be collected to determine if past efforts have improved growth.

Peabody WMA

Scuba transects could not be completed in 2013 due to frequent rain events decreasing visibility during the survey period. Electrofishing surveys were conducted on new lakes to determine general population characteristics and determine management strategies.

Angler Attitude Survey

An angler attitude survey was mailed to 1,800 individuals randomly drawn from a pool of 7,479 that had purchased both a Peabody WMA user permit and some form of fishing license in 2012. A total of 797 usable surveys were received after 3 mailings for a return rate of 48% (197 surveys were undeliverable). The information derived from this survey will be used to guide future management directions and decisions on Peabody WMA.

The 60% of respondents who purchased a Peabody permit primarily to fish is most likely biased since we only surveyed individuals who had purchased a Peabody User Permit and a fishing license and not only Peabody Permit holders. Peabody anglers appear to be a dedicated group with over half of them having fished the area for more than 10 years and averaging 25.6 days per year. Largemouth bass was the most sought after species followed by bluegill/redear sunfish and crappie, nearly equal for number 2, followed by channel catfish. The fact that largemouth bass surpassed bluegill/redear was somewhat of a surprise. Most lakes on the area are extremely clear with abundant vegetation and the quality of the bluegill/redear populations generally exceeds that of largemouth bass. The majority of anglers indicated their fishing success for their preferred specie was in the "good" or "fair" range. As a means of fishing, 40.5% of anglers fished from a boat 100% of the time, 9.1% of anglers fished from the bank 100% of the time and 27.1% of anglers fished from the bank at least 50% of the time. By far the greatest concern to fishing Peabody WMA was access related, both for bank and boat anglers. A good amount of time and money is currently being expended to improve this aspect of fishing at Peabody and these efforts will be continued and increased, if possible.

The survey questions and responses are as follows:

2014 Peabody WMA Angler Attitude Survey

1. What is the primary reason you purchase a Peabody WMA user permit? (check only one) **(N = 797)**

27.4% Hunting **60.0%** Fishing **11.8%** Other (please specify) **0.9%** No Response

2. Approximately how many days did you fish in Kentucky in 2012? **(N = 763) Range: 0 - 300 days, Mean: 48 days**

3. Approximately how many days did you fish Peabody WMA lakes in 2012? **(N = 776) Range: 0 - 200 days Mean: 25.6 days**

4. If 0, please skip to # 16 and return your survey.

5. How many years have you been fishing Peabody WMA lakes? **(N = 577)**

4.2%	Less than 1 year
16.6%	1 – 3 years
13.5%	4 – 6 years
7.8%	7 – 10 years
57.9%	More than 10 years

6. Using the attached map, please circle on the map and number 1 through 5, the five (5) lakes you fish most frequently at Peabody WMA, with 1 being the most frequent and 5 being the least frequent.

A minimum of 141 different lakes were fished. Some responses were unusable. Top 10 lakes fished based on total frequency of occurrence are, in order, Island, South, Ken, Goose, Musky, Jack's, Rob's, Bell, Adkin's Swamp, Tom's.

7. Which of the following species of fish do you prefer to fish for most at Peabody WMA? Please rank up to three (3) of the following species where 1= most preferred, 2= second most preferred, and 3= third most preferred.

Largemouth Bass	**1: 62.0%**	**2: 12.3%**	**3: 15.9%**	**Total: 90.2%**	**N = 432**
Bluegill and Redear Sunfish (Shellcracker)	**1: 20.7%**	**2: 30.7%**	**3: 26.7%**	**Total: 78.1%**	**N = 374**
Catfish (blue, channel, and flathead catfish)	**1: 5.2%**	**2: 15.9%**	**3: 17.1%**	**Total: 38.2%**	**N = 183**
Crappie	**1: 11.1%**	**2: 31.5%**	**3: 23.2%**	**Total: 65.8%**	**N = 315**
Muskellunge (Musky)				**Total: 1.3%**	**N = 6**
Trout				**Total: 6.9%**	**N = 33**
Other (please list)	**Bowfin, gar, warmouth, stripes, carp, rough fish**			**Total: 1.8**	**N = 9**

8. For the species that you ranked 1-3 above, how would you rate your fishing success at Peabody WMA lakes?

		Very Good	Good	Fair	Poor	Very Poor
Largemouth Bass……………………..…	**N = 499**	**11.4%**	**31.3%**	**47.15**	**9.4%**	**0.8%**
Bluegill and Redear Sunfish……………..	**N = 439**	**22.1%**	**42.1%**	**28.2%**	**6.4%**	**1.1%**

Catfish (blue, channel, flathead catfish)…**N = 222**	**6.3%**	**20.3%**	**42.3%**	**25.7%**	**5.4%**
Crappie…………………………………...**N = 380**	**3.7%**	**23.9%**	**42.6%**	**24.5%**	**5.3%**
Muskellunge (musky)……………………**N = 9**	**11.1%**	**22.2%**	**33.3%**	**11.1%**	**22.2%**
Trout……………………………………...**N = 37**	**8.1%**	**32.4%**	**32.4%**	**18.9%**	**8.1%**
Other (listed above)………………………**N = 9**	**33.3%**	**33.3%**	**33.3%**	**0.0%**	**0.0%**

9. To the nearest inch, what length do you consider "keeper" (smallest size fish you would take home) and "trophy" lengths for each of the following species:

	Keeper	Trophy
Largemouth Bass	**Mode: 12", Range: 6 – 24" (N = 455)**	**Mode: 20", Range: 12 – 36" (N = 404)**
Bluegill and Redear Sunfish	**Mode: 8", Range: 2 – 12" (N = 405)**	**Mode: 12", Range: 6 – 26" (N = 317)**
Catfish (blue, channel, flathead catfish)	**Mode: 12", Range: 8 – 36' (N = 275**	**Mode: 30", Range: 12 – 60" (N = 215)**
Crappie	**Mode: 10", Range: 5 – 16" (N = 371)**	**Mode: 16", Range: 8 – 24" (N = 305)**
Muskellunge (Musky)	**Mode: 30", Range: 12 – 48" (N = 54)**	**Mode: 40", Range: 12 – 60+" (N = 57)**
Trout	**Mode: 12", Range: 6 – 24" (N = 95)**	**Mode: 20", Range: 10 – 36" (N = 84)**
Other (please list)	**Any, None, 10" (N = 5)**	**None, 14", 21" (N = 4)**

10. Considering all of the times you fish at Peabody WMA, please indicate what percentage of time you fish from a boat and from the bank (Your answer should equal 100%). **(N = 572)**

Boat **100%: 40.5%** Bank **100%: 9.1%** **> 50%: 27.1%**

11. Approximately how far from home (one way) do you travel to fish Peabody WMA lakes? **(N = 574)**

17.8% Less than 10 miles
37.1% 11 – 25 miles
23.5% 26 – 50 miles
11.8% 51 – 100 miles
9.8% More than 100 miles

12. How far would you be willing to walk on maintained gravel roads and fire breaks to fish an intensively managed "trophy" bluegill and redear sunfish lake at Peabody WMA? **(N = 550)**

Mode: 1 mile, Range: 0 – 20 miles

13. What concerns do you have about fishing at Peabody WMA? (check all that apply) **(N = 569)**

10.2% None
10.4% Too many anglers
59.7% Inaccessibility of some lakes (either walking or driving)
21.3% Poor quality of fishing
32.0% Too much vegetation in lakes
36.9% Not enough bank fishing access
37.0% Not enough boat access
17.9% The permit is too expensive
22.3% Other (please specify) **(Mostly non fishing related issues such as land sale/trade, roads, maps, trash, etc.)**

14. Did you fish Peabody WMA lakes in the two years previous to 2012? **(N = 574)**

	No	Yes
2011................	**14.8%**	**85.2%**
2010................	**22.0%**	**78.0%**

IF YOU FISHED PEABODY WMA IN BOTH 2010 AND 2011, PLEASE SKIP TO QUESTION 15 ON THE NEXT PAGE.

15. Please tell us why you did not fish Peabody WMA lakes in one or both of the previous two years (2011 & 2010). **(N = 121)**

44.6%	Not enough time to fish
16.5%	No one to fish with
14.0%	Too far to travel
0.8%	Too many other anglers
1.7%	Too much walking
10.7%	User Permit was too expensive
10.7%	Poor fishing success
13.2%	Not enough bank fishing access
3.3%	Not enough boat fishing access
39.7%	Other (please specify) **(Most common response was "Did not know about WMA")**

16. What fishing related improvements would you most like to see at Peabody WMA lakes? (N = 732)

Top 10 responses by frequency of occurrence.

1. **Better boat access/ramps (N = 116)**
2. **Better/more fish stocking (N = 92)**
3. **Better/more bank access (N = 75)**
4. **Better access (N = 74)**
5. **Vegetation control (N = 45)**
6. **Better/more roads/vehicle access (N = 31)**
7. **More lakes open/available for fishing (N = 20)**
8. **Signs at lakes with fish present/regs/map, etc. (N = 19)**
9. **Better parking for vehicles and/or trailers (N = 17)**
10. **More fish attractors/in lake cover (N = 15)**

17. Finally, we would like to know some basic information about you. **(N = 797)**

County of Residence: **59 counties in KY, 1 county in IN, 1county in TN**
Gender: **86.7%** Male **13.0%** Female

Age: **Average: 49.5 years old, Range: 14 – 85 years old**

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY.

Your contribution to this effort is very much appreciated. The responses you have given during this survey will help guide our fisheries management decisions at Peabody WMA for years to come. Is there anything else you would like to tell us about the fishing at Peabody WMA?

COMMENTS

Top 6 responses by frequency of occurrence.

1. **Lost/sold too many lakes, open up old fishing areas (N = 34)**
2. **Keep up the good work. (N = 21)**
3. **Need better/easier to obtain maps. (N = 14)**
4. **Need more/better camping areas. (N = 14)**
5. **Need more enforcement/game warden patrols. (N = 12)**
6. **Permit is too expensive. (N = 12)**

Table 1. Annual summary of sampling conditions by waterbody, species sampled and date for Northwestern Fishery District lakes during 2013.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Nolin River Lake	WB/WE	Nov 12 - 14		Gill Net	Sunny, calm to breezy 30-45	50-58	501.7-500.9	~48	Good	
Rough River Lake	LMB	April 29 - May 1	1000	Shock	Sunny to cloudy, calm to breezy, 60's	63-65	606-505.5	30-52	Good	
Rough River Lake	Crappie	Oct 28 - Nov 1		Trap Net	Sunny to cloudy, rain, windy, 45-55	57-62.5	491-489.6	20-30	Good	
Rough River Lake	Crappie	Nov 4 - 7		Trap Net	Sunny to cloudy, rain, windy, 45-65	57-59	489.5-487.3	12-27	Good	
Rough River Lake	HSB	May 15	1000	Temp/DO	Sunny, warm, 70s		501.1			
Rough River Lake	HSB	June 18	1030	Temp/DO	Sunny, light breeze, 85		496.2			
Rough River Lake	HSB	July 16	1030	Temp/DO	Sunny, hot, 95		496.5			
Rough River Lake	HSB	Aug 20	930	Temp/DO	Sunny, warm		495.4			
Rough River Lake	HSB	Sept 16	1000	Temp/DO	Cloudy, rainy		495.1			
Rough River Lake	HSB	Oct 15	930	Temp/DO	Cloudy, windy		494.6			
Lake Malone	CCF	Oct 14 - 17		Hoop Net	Sunny to cloudy, rain, cool, 50's	68-72	pool	40	Good	
Mauzy Lake	LMB	April 23	900	Shock	Cloudy, light breeze, 61	63	pool	30	Good	Trouble with motor idling, frequent short stops
Mauzy Lake	BG	May 23	900	Shock	Mostly cloudy, 70	75	up ~1'	61	Fair	Fish very shallow, lots of vegetation
Carpenter Lake	LMB	April 26	900	Shock	Partly sunny, windy, 60	62	pool	40	Good	Fish holding slightly offshore, deeper than usual
Carpenter Lake	BG	May 24	900	Shock	Sunny, cool, 10-12 mph wind, 62	73	pool	26	Good	Fish shallow, close to bank, hard to get to
Kingfisher Lakes	ALL	Summer/Fall		Shock						Removed fish during drawdown
Washburn Lake	BG	June 6	900	Shock	Cloudy, light rain, 10 mph wind, 75	77	pool	78	Fair	Water clear, fish running from boat
Peabody WMA-Can Lake	ALL	June 12	1000	Shock	Sunny, hot, humid, 90	79	pool	38	Fair	Conductivity: 708, lots of chara
Peabody WMA-S1 Lake	ALL	June 12	1100	Shock	Sunny, hot, humid, 90	80	up ~1'		Fair	Conductivity: 140, water murky
Peabody WMA-Damsel Lake	ALL	June 12	1200	Shock	Sunny, hot, humid, 90	80	up ~1'	4	Poor	Conductivity: 560, water very muddy
H&H WMA-Mortons Lake	ALL	May 14	1200	Shock	Sunny, warm		pool		Good	

Table 2. Length frequency and CPUE (fish/nn) for white bass collected in 12 net-nights of sampling at Nolin River Lake during November 2013.

	Inch class												
Species	6	7	8	9	10	11	12	13	14	15	Total	CPUE	Std. error
White bass	10	132	40	2	25	120	50	131	106	23	639	53.25	12.39

nw d1gn.d13

Table 3. Mean back calculated lengths (in) at each annulus for white bass collected at Nolin River Lake in November 2013.

Year		Age						
class	No.	1	2	3	4	5	6	7
2012	32	8.4						
2011	17	8.5	11.9					
2010	9	8.6	11.6	12.6				
2009	7	8.6	12.1	13.3	13.9			
2008	9	7.5	11.7	13.3	14.1	14.5		
2007	2	6.7	10.4	11.8	12.8	13.7	14.5	
2006	1	4.7	7.2	9.1	10.3	11.2	12.5	13.7
Mean		8.2	11.7	12.8	13.7	14.1	13.8	13.7
No.		77	45	28	19	12	3	1
Smallest		4.7	7.2	9.1	10.3	11.2	12.5	13.7
Largest		10.4	13.0	14.1	14.6	15.0	14.8	13.7
Std error		0.1	0.1	0.2	0.2	0.3	0.7	
95% CI (±)		0.2	0.2	0.4	0.5	0.6	1.4	

nwd1wba.d13

Table 4. Age-frequency and CPUE (fish/nn) per inch class of white bass gill netted for 12 net-nights at Nolin River Lake in November 2013.

	Inch class													
Age	6	7	8	9	10	11	12	13	14	15	Total	Age %	CPUE	Std. error
0	10	132	40								182	28.5	15.17	
1				2	25	120	13	8			168	26.3	14.00	3.78
2							23	69	10		102	16.0	8.53	1.95
3							13	31	10		54	8.4	4.48	0.99
4								15	48		63	9.8	5.30	1.00
5								8	39	13	60	9.4	4.95	0.89
6										7	7	1.1	0.55	0.15
7										3	3	0.5	0.27	0.07
Total	10	132	40	2	25	120	49	131	107	23	639			
(%)	1.6	20.7	6.2	0.3	3.9	18.8	7.7	20.5	16.7	3.6				

nwd1wba.d13, nwd1gn.d13

Table 5. Number of fish and the relative weight (Wr) for each length group of white bass collected at Nolin River Lake during November 2013. 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
69	94 (1)	65	92 (1)	134	90 (1)

nwd1gn.d13

Table 6. Population assessment for white bass based on fall gill netting at Nolin River Lake from 1996-2013 (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
2013	38.08 (4)	13.0 (4)	25.83 (4)	14.00 (4)			16	Excellent
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 7. Length frequency and CPUE (fish/nn) for walleye collected in 12 net-nights of gill netting at Nolin River Lake during November 2013.

	Inch class																
Species	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std. error
Walleye	7	4	1	2	10	18	5	8	3	5	5	3		1	72	6.00	1.17

nw d1gn.d13

Table 8. Mean back calculated lengths (in) at each annulus for walleye collected at Nolin River Lake in November 2013.

Year class	No.	Age 1	2	3	4
2012	30	10			
2011	13	9.3	13.5		
2010	13	10.1	14.5	17.3	
2009	3	9.8	13.8	16.1	17.5
Mean		9.9	14.0	17.1	17.5
No.		59	29	16	3
Smallest		7.7	12.1	15.2	16.9
Largest		11.7	16.4	19.9	18.4
Std error		0.1	0.2	0.4	0.5
95% CI (+)		0.2	0.3	0.7	0.9

nwd1wea.d13

Table 9. Age-frequency and CPUE (fish/nn) per inch class of walleye gill netted for 12 net-nights at Nolin River Lake in November 2013.

	Inch class																
Age	9	10	11	12	13	14	15	16	17	18	19	20	22	No.	CPUE	Std. error	Age %
0	7	4	1											12	1.00		16.7
1				2	10	16	2							30	2.50	0.86	41.7
2						2	3	7		1				13	1.08	0.29	18.0
3								1	2	3	4	3	1	14	1.15	0.23	19.4
4									1	1	1			3	0.27	0.06	4.2
Total	7	4	1	2	10	18	5	8	3	5	5	3	1	72			
(%)	9.7	5.5	1.4	2.8	13.9	25.0	6.9	11.1	4.2	6.9	6.9	4.2	1.4				100

nw d1gn.d13, nw d1w ea.d13

Table 10. Number of fish and the relative weight (Wr) for each length group of walleye collected at Nolin River Lake during November 2013. 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
35	95 (1)	26	89 (1)	4	88 (2)

nwd1gn.d13

Table 11. Population assessment for walleye based on fall gill netting at Nolin River Lake from 1991-2013 (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
2013	5.00 (3)	16.0 (2)	0.33 (1)	2.50 (3)			9	Fair
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 12. Length frequency and CPUE (fish/nn) for channel catfish collected in 12 net-nights of gill netting at Nolin River Lake during November 2013.

	Inch class																								
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	CPUE	Std. error
Channel catfish	1	4	4	5	9	3	6	3	2	5	8	7	9	3	6	2	5	3			1	1	87	7.25	1.56

nw d1gn.d13

Table 13. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Nolin River Lake during November 2013. Standard errors are in parentheses.

Length group					
11.0-15.9 in		16.0-23.9 in		$\geq$24.0 in	
No.	Wr	No.	Wr	No.	Wr
19	80 (2)	39	89 (2)	4	89 (4)

nwd1gn.d013

Table 14. Species composition, length frequency, and CPUE (fish/hr) of black bass collected during 5.5 hours of 30-minute diurnal electrofishing runs at Rough River Lake in April 2013.

		Inch class																						
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std. error
Upper	Largemouth bass	4	6	9	10	4	2	8	25	43	21	23	18	13	10	9	10	6	3	2	2	228	114.00	12.83
	Spotted bass						1	6	6		1											14	7.00	3.70
Mid	Largemouth bass	4	22	16	12	12	10	24	42	67	38	25	21	9	21	17	13	9	5	3		370	148.00	10.97
	Spotted bass		1		1	5	2	2	14	7	2	1										35	14.00	5.22
Lower	Largemouth bass		2	8	4	2	3	2	20	27	15	11	6	9	10	10	3	5	3			140	140.00	10.00
	Spotted bass				2	2	4	3	14	5		1										31	31.00	15.00
Total	Largemouth bass	8	30	33	26	18	15	34	87	137	74	59	45	31	41	36	26	20	11	5	2	738	134.18	8.11
	Spotted bass		1		3	7	7	11	34	12	3	2										80	14.55	4.19

nw d2psd.d13

Table 15. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Rough River Lake during spring samples 1999-2013.

	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.
2013	20.91	3.13	49.64	5.01	32.36	3.64	31.27	3.6	3.27	0.62	134.18	8.11
2012	25.78	4.34	52.44	11.69	29.33	4.28	32.00	7.22	3.56	1.37	139.56	22.31
2011[a]												
2010[a]												
2009	29.11	3.15	47.78	4.17	42.67	4.26	17.56	2.49	0.67	0.33	137.11	6.95
2008[a]												
2007	26.44	3.46	27.33	4.70	27.78	4.06	13.11	1.16	0.22	0.22	94.67	8.92
2006	21.11	2.58	28.67	10.06	28.22	4.38	11.33	2.81	0.44	0.29	89.33	16.73
2005	26.89	6.15	34.00	7.60	38.89	5.15	14.22	2.48	0.67	0.33	114.00	41.65
2004	31.11	3.86	35.56	5.12	12.89	2.16	9.78	1.08	0.22	0.22	89.33	9.50
2003	61.56	7.01	27.78	6.93	20.00	5.56	18.44	3.18	0.67	0.33	127.78	15.36
2002	7.33	1.70	7.11	2.29	2.00	0.88	1.56	0.44	0.00	0.00	18.00	3.82
2001	30.67	7.45	21.33	4.47	16.44	4.96	3.11	1.74	0.00	0.00	71.56	11.18
2000	15.11	3.45	32.89	4.31	21.78	2.76	5.33	2.11	1.78	0.97	75.11	6.42
1999	n/d		28.44	2.05	21.33	4.11	8.89	2.38	0.44	0.44	58.67	4.57

[a] Unable to sample due to high water

nwd2psd.d13

Table 16. PSD and RSD[a] values obtained for each black bass species taken in spring electrofishing samples in each area of Rough River Lake during April 2013; 95% confidence intervals are in parentheses.

Area	Species	No. $\geq$ stock size	PSD	RSD[a]
Upper	Largemouth bass	195	60 (+/-7)	28 (+/-6)
	Spotted bass	14	7 (+/-14)	0
Mid	Largemouth bass	304	53 (+/-5)	25 (+/-5)
	Spotted bass	33	30 (+/-16)	0
Lower	Largemouth bass	124	58 (+/-8)	32 (+/-8)
	Spotted bass	29	21 (+/-14)	0
Total	Largemouth bass	623	56 (+/-4)	28 (+/-4)
	Spotted bass	76	22 (+/- 9)	0

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

nw d2psd.d13

Table 17. Mean back calculated lengths (in) at each annulus for largemouth bass collected at Rough River Lake in October 2013.

Year		Age						
class	No.	1	2	3	4	5	6	7
2012	33	5.6						
2011	19	6.1	10.2					
2010	14	6.6	10.8	11.8				
2009	10	5.5	10.2	12.7	13.8			
2007	2	5.4	10.5	13.4	15.2	16.4	17.5	
2006	1	4.7	12.0	14.0	15.5	16.7	17.5	18.6
Mean		5.9	10.4	12.3	14.2	16.5	17.5	18.6
No.		79	46	27	13	3	3	1
Smallest		3.4	8.0	6.6	11.9	16.4	17.5	18.6
Largest		9.8	13.4	15.2	17.0	16.7	17.5	18.6
Std error		0.2	0.2	0.3	0.4	0.1	0.0	
95% CI ($\pm$)		0.3	0.3	0.6	0.8	0.2	0.0	

nwd2lmba.d13

Table 18. Population assessment for largemouth bass based on spring electrofishing at Rough River Lake from 1999-2013 (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
2013	12.3 (4)		32.36 (3)	31.27 (4)	3.27 (4)				
2012		36.44 (3)	29.33 (3)	32.00 (4)	3.56 (4)			14-18	G-E
2011[a]									
2010[a]									
2009	12.6 (4)	28.44 (2)	42.67 (4)	17.56 (3)	0.67 (2)	0.884	58.7	15	Good
2008[a]									
2007	13.6 (4)	27.06 (2)	27.78 (3)	13.11 (3)	0.22 (2)	0.576	42.3	14	Good
2006	13.6 (4)	21.98 (2)	28.22 (3)	11.33 (2)	0.44 (2)	0.773	53.8	13	Good
2005	13.6 (4)	28.04 (2)	38.89 (4)	14.22 (3)	0.67 (2)	0.759	53.2	15	Good
2004	13.6 (4)	38.82 (3)	12.89 (1)	9.78 (2)	0.22 (2)	0.862	57.8	12	Good
2003	12.5 (4)	44.30 (3)	20.00 (2)	18.40 (3)	0.67 (2)	0.797	54.9	14	Good
2002	12.5 (4)	7.93 (1)	2.00 (1)	1.56 (1)	0.00 (0)			7	Poor
2001	12.5 (4)	28.00 (2)	16.44 (2)	3.11 (1)	0.00 (0)			9	Fair
2000	12.5 (4)	10.52 (1)	21.78 (2)	5.33 (2)	1.78 (2)			12	Good
1999	12.5 (4)	2.96 (1)	21.33 (2)	8.89 (2)	0.44 (2)			11	Fair

[a] Unable to sample due to high w ater

Table 19. Length frequency and CPUE (fish/nn) for each species of crappie collected in 156 net-nights of sampling at Rough River Lake during November 2013.

	Inch class															
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE	Std. error
White crappie	1	205	698	98	444	985	872	418	71	22	8	5	1	3,828	24.54	3.01
Black crappie		45	5	32	75	47	22	2	1					229	1.47	0.24

nw d2tn.d13

Table 20. PSD and RSD_{10} values calculated for crappie collected in trap nets from Rough River Lake during November 2013; 95% confidence limits are in parentheses.

Lake/Species	No.	PSD	RSD_{10}
Rough River Lake			
White crappie	2,924	48 (+/-2)	4 (+/-1)
Black crappie	179	14 (+/-5)	1 (+/-1)

nwd2tn.d13

Table 21. Mean back calculated lengths (in) at each annulus for white crappie collected at Rough River Lake in November 2013.

Year	Age						
class	No.	1	2	3	4	5	6
2012	13	3.7					
2011	29	3.7	6.5				
2010	17	4.5	7.2	8.8			
2009	12	4.4	6.6	8.5	9.4		
2007	1	4.9	8.5	10.3	11.5	12.4	12.8
Mean		4.0	6.7	8.7	9.6	12.4	12.8
No.		72	59	30	13	1	1
Smallest		2.1	5.3	6.5	8.1	12.4	12.8
Largest		5.2	8.6	10.5	11.7	12.4	12.8
Std error		0.1	0.1	0.2	0.3		
95% CI ($\pm$)		0.1	0.2	0.3	0.6		

nwd2wca.d13

Table 22. Age-frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 156 net-nights at Rough River Lake in November 2013.

	Inch class															
Age	2	3	4	5	6	7	8	9	10	11	12	13	No.	CPUE	Std. error	Age %
0	1	205	698	28									932	5.97		24.3
1				70	247	269							586	3.76	0.66	15.3
2					197	627	604	228	13				1669	10.70	1.28	43.6
3						90	134	152	27	18			420	2.69	0.33	11.0
4							134	38	31	4	8		216	1.38	0.19	5.6
8												5	5	0.03	0.02	0.1
Total	1	205	698	98	444	985	872	418	71	22	8	5	3,828			
(%)	<0.1	5.3	18.2	2.6	11.6	25.7	22.8	10.9	1.8	0.6	0.2	0.1				

nw d2tn.d13, nw d2w ca.d13

Table 23. Population assessment for white crappie based on fall trapnetting at Rough River Lake from 2000-2013 (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
2013	18.56 (3)	3.76 (2)	5.97 (2)	8.95 (3)	8.3 (1)			11	Fair
2012*									
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

* No drawdown few fish collected

Table 24. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 16 May 2013.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	20.3	12.4	23.6	13.2	20.1	10.0
2	20.2	12.7	21.6	14.0	19.9	10.1
4	20.1	12.8	20.5	13.0	19.3	9.1
6	20.0	12.9	19.7	12.2	18.4	7.9
8	19.9	12.7	19.3	10.3	17.3	6.4
10	19.7	12.5	18.4	9.0	16.1	5.3
12	19.3	11.9	17.8	8.2	15.7	5.2
14	17.6	9.3	16.7	6.8	15.5	5.2
16	16.8	6.8	16.4	6.6	15.5	5.0
18	15.9	5.3	16.2	6.2	15.3	5.2
20	15.6	5.0	15.9	6.1	15.2	5.4
22	15.4	4.8	15.8	5.7	15.1	5.5
24	15.2	4.7	15.5	5.3	15.1	5.4
26	15.1	4.7	15.4	5.2	15.1	5.4
28	14.9	4.5	15.1	4.8	15.1	5.4
30	14.7	4.4	15.0	4.7	15.0	5.2
32	14.7	4.3	14.7	3.6	15.0	3.6
34	14.6	4.3	14.6	3.2		
36	14.5	4.1	14.3	2.0		
38	14.3	4.0				
40	14.1	3.7				
45	14.0	3.6				
50	13.3	2.7				

Table 25. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 18 June 2013.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	27.5	7.4	28.1	7.8	27.5	6.4
2	27.3	6.9	27.9	7.4	27.3	6.1
4	27.0	6.9	27.6	6.7	26.4	5.0
6	26.8	6.8	27.3	6.7	26.0	4.5
8	26.7	6.5	27.1	6.4	25.8	4.2
10	26.3	5.9	26.9	6.4	25.5	3.9
12	25.1	4.0	26.2	3.7	24.6	2.7
14	23.6	1.6	23.1	0.7	23.6	2.1
16	22.0	0.4	22.2	0.5	22.9	1.3
18	20.4	0.4	21.3	0.5	22.4	1.0
20	19.2	0.4	19.8	0.4	21.5	0.3
22						
24					20.6	0.2
25	20.6	0.2				
26						
28						
30	20.6	0.2	16.1	0.4		
32						
34						
35	15.1	0.3				
40	14.7	0.3				
45						
50	50' deep		33' deep		30' deep	

Table 26. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 16 July 2013.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	30.2	8.0	31.6	8.6	31.1	10.3
2	29.6	8.1	30.5	8.7	30.3	10.1
4	29.2	8.1	29.3	8.2	29.3	9.3
6	29.0	8.2	28.7	7.9	28.8	8.4
8	28.8	8.1	27.7	6.4	27.4	8.0
10	28.1	7.5	27.3	5.0	24.4	5.1
12	27.4	7.1	26.6	3.4	20.8	4.3
14	26.9	4.8	25.7	1.7	19.8	3.9
16	25.6	1.2	25.1	1.5	19.6	3.7
18	25.0	0.5	24.4	1.3	19.4	3.4
20			22.7	1.2	19.3	3.2
22					19.2	3.1
24						
25	22.3	0.4	20.0	1.3		
30	21.3	0.5				
35						
40						
45						
50	47' deep		30' deep		27' deep	

Table 27. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 20 August 2013.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	27.1	7.4	27.8	7.7	28.1	9.5
2	27.2	7.1	27.3	8.0	27.6	9.4
4	27.0	7.3	27.1	7.8	27.1	8.9
6	27.0	7.0	26.9	7.3	26.6	8.2
8	26.6	7.5	26.7	6.5	26.3	5.7
10	26.4	7.0	26.4	5.0	26.1	5.2
12	26.3	6.7	26.3	4.2	25.8	3.7
14	26.1	6.2	26.1	3.2	25.3	1.9
16	26.0	5.0	25.9	0.6	24.5	0.5
18	25.4	1.6	25.5	0.3	23.8	0.4
20	25.0	0.7	24.9	0.3	23.0	0.4
22						
25	22.8	0.4	23.3	0.3	21.6	0.4
28						
30	21.7	0.4				
35						
40						
45	45' deep		31' deep			25' deep

Table 28. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 16 September 2013.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	25.4	5.3	25.5	3.9	25.1	5.5
2	25.4	5.1	25.7	3.7	25.1	5.2
4	25.4	5.0	25.6	3.6	25.0	5.0
6	25.4	4.9	25.6	3.5	24.8	4.6
8	25.4	4.9	25.5	3.5	24.8	4.6
10	25.3	4.8	25.5	3.4	24.8	4.6
12	25.3	4.7	25.5	3.4	24.7	4.5
14	25.3	4.7	25.5	3.2	24.6	3.9
16	25.3	4.5	25.4	2.6	24.5	4.0
18	25.2	3.7	25.4	2.0	24.5	3.3
20	25.2	2.6	25.3	1.6	23.5	0.8
22	25.0	1.2	24.8	0.6	23.2	0.5
24	24.5	0.3	23.9	0.4	23.2	0.5
25						
30	22.4	0.3	21.9	0.4		
35						
40						
45	45' deep		30' deep		25' deep	

Table 29. Dissolved oxygen (ppm) and temperature profile conducted at three sites on Rough River Lake on 10 October 2013.

	Site location					
	Lower		Middle		Upper	
Depth (ft.)	Temp	DO	Temp	DO	Temp	DO
Surface	22.1	5.0	21.5	6.8	20.3	9.9
2	22.1	4.7	21.6	6.4	20.2	10.0
4	22.1	4.7	21.7	6.1	20.0	8.8
6	22.1	4.7	21.7	5.8	20.0	7.4
8	22.1	4.6	21.6	5.7	19.9	7.2
10	22.1	4.6	21.6	5.6	19.5	2.6
12	22.1	4.6	21.6	5.7	18.2	1.1
14	22.1	4.5	21.6	5.1	17.4	1.1
16	22.1	4.3	21.5	3.5	17.4	1.2
18	22.1	4.2	21.2	2.8	17.3	1.2
20	22.1	4.2	20.9	1.8	17.3	1.2
22			20.7	0.8	17.3	1.1
24						
25	22.1	4.2	20.2	0.4	17.3	1.0
30			20.0	0.3		
35	22.0	2.2				
40	38' deep		30' deep		25' deep	

Table 30. Length frequency and CPUE (fish/set) of channel catfish collected during 3 nights of tandem (6 sets with 3 nets each) hoop net sampling at Lake Malone during October 2013.

	Inch class															
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Channel catfish	2	32	21	9	3		1	2	4	3	1	4	3	2	1	88	14.67

nw d3hn.d13

Table 31. Mean length (in) at capture for each age of channel catfish collected from Lake Malone in October 2013.

	Age			
	1+	2+	4+	5+
Mean length	9.6	14.8	17.7	18.2
No.	18	5	3	1
Smallest	8	13.7	16.5	18.2
Largest	11.7	15.8	19	18.2

nwd3cca.d13

Table 32. Length frequency and CPUE (fish/hr) of largemouth bass collected during 0.75 hours of diurnal electrofishing runs at Mauzy Lake in April 2013.

	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	12	24	17	7	19	27	18	10	8	2		6	5	6	4	2	1	1	1	170	226.67	25.33

nw d4psd.d13

Table 33. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Mauzy Lake during spring 1999-2013.

	Length group										Total	
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥ 20.0 in			
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2013	80.00	24.33	98.67	19.64	13.33	4.81	34.67	4.81	4.00	2.31	226.67	25.33
2012	96.00	16.49	42.00	2.58	20.00	4.90	40.00	9.09	15.00	3.42	198.00	12.81
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

nw d4psd.d13

Table 34. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples at Mauzy Lake and Carpenter Lake during April 2013; 95% confidence intervals are in parentheses.

Lake	Species	No. $\geq$8.0 in	PSD	RSD_{15}
Mauzy	Largemouth	110	33 (+/-9)	24 (+/-8)
Carpenter	Largemouth	136	24 (+/-7)	12 (+/5)

nw d4psd.d13
nw d5psd.d13

Table 35. Population assessment for largemouth bass based on spring electrofishing at Mauzy Lake from 2001-2013 (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
2013		63.11 (3)	13.33 (1)	34.67 (4)	4.00 (4)				
2012	13.6 (4)[a]	74.00 (3)	20.00 (2)	40.00 (4)	15.00 (4)	0.965	61.9	17	Excellent
2011		61.33 (3)	56.67 (4)	40.00 (4)	10.67 (4)				
2010			21.33 (2)	44.00 (4)	17.33 (4)				
2009[b]									
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[c]	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

[a] Only one age 3 fish
[b] Lake drawn down for repairs in 2009
[c] Lake renovated in 2003

Table 36. Length frequency and CPUE (fish/hr) for bluegill and redear sunfish collected during 0.625 hour of electrofishing at Mauzy Lake in May 2013.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	Total	CPUE	Std. error
Bluegill	10	47	81	96	84	43	3			364	582.40	60.89
Redear sunfish			6	4	35	73	28	35	6	187	299.20	40.76

nw d4bg.d13

Table 37. Spring electrofishing CPUE (fish/hr) for each length group of bluegill (2000 - 2013) and redear sunfish (2007 - 2013) collected at Mauzy Lake during spring samples.

Bluegill	< 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.
2013	91.20	21.11	417.60	53.99	73.60	11.14	0.00		0.00		582.40	60.89
2012	23.00	7.77	553.00	108.46	55.00	14.30	0.00		0.00		631.00	126.68
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[a]												
2008[a]												
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[b]												
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

nw d4bg.d13

Redear	< 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.
2013	0.00		72.00	11.03	161.60	25.97	65.60	15.47	0.00		299.20	40.76
2012	0.00		107.00	13.69	39.00	7.63	33.00	8.61	0.00		179.00	21.85
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		7.33	0.00		270.40	61.00
2009[a]												
2008[a]												
2007	2.67	1.69	41.33	13.13	14.67	3.82	6.67	5.23	0.00		65.33	12.64

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

[b] Lake renovated in 2003

nw d4bg.d13

Table 38. PSD and RSD[a] values obtained for bluegill and redear sunfish collected in spring electrofishing samples at NWFD state-owned lakes during May 2013; 95% confidence intervals are in parentheses.

Lake	Species	No.	PSD	RSD[a]
Mauzy	Bluegill	307	15 (+/-4)	0
	Redear sunfish	181	38 (+/-7)	3 (+/-3)
Carpenter	Bluegill	338	69 (+/-5)	0
	Redear sunfish	17	94 (+/-12)	6 (+/-11)
Washburn	Bluegill	80	52 (+/-11)	1 (+/-2)
	Redear sunfish	63	11 (+/-8)	0

[a] Bluegill = RSD_8, redear = RSD_9

nw d4bg.d13

nw d5bg.d13

nw d8bg.d13

Table 39. Population assessment for bluegill based on spring electrofishing at Mauzy Lake from 2001-2013 (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
2013			73.6 (3)	0.00 (0)				
2012	4.0 (2)	4-4+ (2)	55.00 (3)	0.00 (0)	0.884	58.7	7	Fair
2011			337.60 (4)	121.60 (4)				
2010			97.60 (4)	0.00 (0)				
2009[a]								
2008[a]								
2007	3.3 (1)	4-4+ (2)	38.67 (2)	0.00 (0)	0.642	35.8	5	Poor
2006	3.7 (2)	4-4+ (2)	10.00 (1)	0.00 (0)	0.755	53.0	5	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[b]								
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

[a] Lake drawn down for repairs in 2009

[b] Lake renovated in 2003

Table 40. Population assessment for redear sunfish based on spring electrofishing at Mauzy Lake from 2007-2013 (scoring based on statewide assessment).

Year	Mean length age 3 at capture	Years to 8.0 in	CPUE ≥ 8.0 in	CPUE ≥ 10.0 in	Instantaneous mortality (z)	Annual mortality (A)%	Total score	Assessment rating
2013			65.60 (4)	0.00 (0)				
2012	7.6 (4)	4-4+ (3)	33.00 (4)	0.00 (0)			11	Good
2011			35.20 (4)	0.00 (0)				
2010			14.40 (3)	0.00 (0)				
2009[a]								
2008[a]								
2007	8.2 (4)	3-3+ (4)	6.67 (2)	0.00 (0)	0.790	54.6	10	Fair

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

Table 41. 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 2013.

	Inch class																			
Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std. error
Largemouth bass	12	39	9	14	45	37	8	10	2	3	3	1	2	3	4	3	1	196	261.33	38.46

nw d5psd.d13

Table 42. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carpenter Lake 1999-2013.

	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.
2013	80.00	26.23	138.67	9.61	20.00	4.00	22.67	1.33	5.33	1.33	261.33	38.46
2012	40.00	16.65	74.67	15.03	46.67	7.42	22.67	12.72	1.33	1.33	184.00	46.70
2011	182.67	15.38	166.67	9.61	73.33	13.13	9.33	3.53	4.00	4.00	432.00	30.20
2010	73.33	19.37	198.67	39.62	10.67	5.81	12.00	4.62	2.67		294.67	34.74
2009	102.67	18.67	166.67	26.26	18.67	4.81	8.00	2.31	0.00		296.00	27.23
2008	136.00	17.66	229.00	28.82	9.00	2.52	11.00	4.12	1.00	1.00	385.00	50.32
2007	45.33	7.42	128.00	24.33	12.00	2.31	10.67	3.53	1.33		196.00	31.75
2006	97.33	12.00	134.67	8.74	24.00	1.33	9.33	2.31	0.00		265.33	55.44
2005	157.33	3.53	165.33	48.57	30.67	3.53	2.67	1.33	0.00		356.00	54.60
2004	80.00	16.65	128.00	28.00	22.67	3.53	21.33	8.74	2.67		252.00	47.72
2003	181.33	49.33	97.33	11.39	18.67	4.81	36.00	12.22	1.33		333.33	63.43
2002[a]	12.00	4.62	52.00	4.62	12.00	0.00	21.33	3.53	0.00		97.33	4.81
2001[a]	14.67	8.74	29.33	5.33	90.67	9.33	66.67	2.67	1.33		201.33	17.64
2000[a]	2.67	1.33	45.33	7.06	48.00	2.31	0.00				96.00	8.33
1999[a]	1.33	1.33	142.67	18.52	29.33	13.53	1.33	1.33			174.67	31.01

[a] Nocturnal sample

nw d5psd.d13

Table 43. Population assessment for largemouth bass based on spring electrofishing at Carpenter Lake from 2001-2013 (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
2013	10.1 (2)	69.33 (3)	20.00 (2)	22.67 (3)	5.33 (4)			14	Good
2012	10.1 (2)	12.00 (1)	46.67 (3)	22.67 (3)	1.33 (2)			11	Fair
2011	10.1 (2)	182.67 (4)	73.33 (4)	9.33 (2)	4.00 (4)			16	Good
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 (3)	0.00 (0)			9	Fair
2001	11.6 (4)	8.00 (1)	90.67 (4)	66.67 (4)	1.33 (2)			15	Good

Table 44. Length frequency and CPUE (fish/hr) of bluegill and redear sunfish collected during 0.75 hour of electrofishing at Carpenter Lake in May 2013.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	Total	CPUE	Std. error
Bluegill	1	14	34	20	50	189	45			353	470.67	70.82
Redear sunfish					1		7	8	1	17	22.67	2.46

nw d5bg.d13

Table 45. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Carpenter Lake during spring samples 1999-2013.

	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.
2013	20.00	9.18	138.67	27.14	312.00	42.53	0.00		0.00		470.67	70.82
2012	1.60	1.60	144.00	31.90	147.20	22.29	0.00		0.00		292.80	49.74
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

nw d5bg.d13

Table 46. Population assessment for bluegill based on spring electrofishing at Carpenter Lake from 2001-2013 (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
2013			312.00 (4)	0.00 (0)				
2012			147.20 (4)	0.00 (0)				
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			145.67 (4)	41.33 (4)				

Table 47. Length frequency and CPUE (fish/hr) for bluegill and redear sunfish collected in 0.375 hour of electrofishing at Washburn Lake in May 2013.

	Inch class									
Species	2	3	4	5	6	7	8	Total	CPUE	Std. error
Bluegill	4	23	8	7	23	18	1	84	224.00	46.19
Redear		5	6	25	25	7		68	181.33	22.78

nw d8bg.d13

Table 48. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Washburn Lake* during spring samples 2001-2013.

	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.
2013	10.67	7.06	101.33	16.22	109.33	58.48	2.67	2.67	0.00		224.00	46.19
2012	30.00	11.94	158.00	27.59	64.00	23.32	22.00	6.83	0.00		274.00	49.14
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.d13

Table 49. Population assessment for bluegill based on spring electrofishing at Washburn Lake 2003-2013 (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
2013			112.00 (4)	2.67 (1)				
2012			86.00 (4)	22.00 (4)				
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

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

Spring black bass sampling was negated due to high water levels.

Fall young of year diurnal sampling (Tables 2-3) points toward a good 2013 year class for largemouth bass. Overall age-0 largemouth CPUE (369.33 fish/hr) and age-0 CPUE $\geq$ 5.0 in (61.50 fish/hr) were on the higher end compared to previous years. Good year classes of 2009, 2010, 2011 and possibly 2013 give the largemouth bass population a solid foundation to continue as an exceptional fishery.

Crappie

Trap netting for crappie yielded 2,373 total crappie (1,324 black crappie and 1,049 white crappie) in 60 net-nights (Tables 4-10). Higher numbers were bolstered by a high YOY catch rate of both species representing 69% of total crappie catch. The crappie population remains a nearly even mix of black and white crappie (56% and 44%, respectively). Both species produced good year classes in 2010 and 2011 that are carrying the population with a promising outlook for 2013 to be a high recruitment year. Black crappie reached harvestable size (9.0 in) in 3.7 years and 10.0 inches in 4.7 years (calculated from Von Bertalanffy equation; FAST 3.0). White crappie reached harvestable size (9.0 in) in 2.2 years and 10.0 inches in 2.9 years (calculated from Von Bertalanffy equation; FAST 3.0). The assessment rating remained “Fair” for black crappie; however, white crappie rated as “Good” and pushed the overall crappie assessment to a “Good” rating due to a high CPUE of age-0 fish (Tables 8-10). The length-weight equations for black crappie (n=578) and white crappie (n=339) are:

$$\text{Black crappie } \log_{10}(\text{weight}) = -3.67380 + 3.42492 * \log_{10}(\text{Length})$$
$$\text{White crappie } \log_{10}(\text{weight}) = -3.67296 + 3.37166 * \log_{10}(\text{Length})$$

Five of the six management objectives were met for crappie: CPUE of $\geq$ 6.00 fish/nn for all crappie excluding age-0, CPUE of $\geq$ 3.00 fish/nn for $\geq$ 8.0 in crappie, CPUE of $\geq$ 7.00 fish/nn for all crappie, mean length age-2 at capture of 9.8 in and CPUE of $\geq$ 1.00 fish/nn for age-0 crappie. The only goal not met was CPUE age-1 $\geq$ 4.00 fish/nn, reflective of the poor year class of 2012.

Briggs Lake (18 acres)

Sunfish

The sunfish population was sampled by diurnal electrofishing on 1 May (Tables 11-16). Overall CPUE was markedly down for smaller length groups; however, catch rates for larger length groups were in line with management goals. CPUE for fish $\geq$6.0 in (100.80 fish/hr) met the management goal of 100.00 fish/hr and bluegill $\geq$8.0 in (19.20 fish/hr) met the goal of 20.00 fish/hr. (Table 12). The bluegill population assessment was again “Excellent”, similar to previous years (Table 15).

CPUE of redear sunfish $\geq$8.0 in (56.00 fish/hr) and >10.0 in (6.40 fish/hr) exceeded management objectives (10.50 fish/hr and 1.80 fish/hr, respectively; Table 13). Continued low CPUE of smaller length groups reinforced the unreliability of these as predictors of larger length group catch rates. The redear population assessment returned to an “Excellent” rating to make 4 out of 5 years with this rating (Table 16).

Marion County Lake (25 acres)

Black Bass

Nocturnal electrofishing results for largemouth bass are presented in Tables 17-20. The population remains slightly crowded (Table 18); though overall largemouth CPUE (243.43 fish/hr) dipped below the management objective of 385.00 fish/hr. Bass PSD (35) improved markedly from previous years' norm values of < 10. The lake is managed for quality sized sunfish; however, the bass population assessment parameters to support this objective have not been developed.

Spurlington Lake (25 acres)

Black Bass

Results of nocturnal largemouth bass electrofishing are shown in Tables 21-23. All length group catch rates were similar to previous years (Table 22). CPUE of < 8.0 in fish (22.00 fish/hr) eclipsed the management objective of 11.00 fish/hr. Catch rate of fish ≥ 15.0 in (44.00 fish/hr) and CPUE of fish ≥ 20.0 in (4.00 fish/hr) exceeded the respective goals of 25.00 fish/hr and 2.00 fish/hr. The only measured goal that was not met was CPUE of 12.0-14.9 in fish (140.00 fish/hr); as the catch rate dipped to 96.00 fish/hr. This goal will need to be re-assessed as this is the fourth time in five years that this goal was not achieved. The bass population, however, remains diverse (PSD=47; Table 23); similar to previous years.

Green River Lake (8,210 Acres)

Muskie

Diurnal muskellunge sampling continues to be problematic as multiple attempts were made with poor results that were not reflective of the current population or previous years' sampling norms. As a result, no data is presented for this year.

Black Bass

Nocturnal black bass sampling (Tables 24-29) was conducted on the upper and lower sites of each lake arm (Green River and Robinson Creek) during mid-May. Overall largemouth CPUE (124.67 fish/hr) dipped slightly from the all time high (144.67 fish/hr) noted in 2012; however, this was second highest overall CPUE noted at this lake. The bass population achieved its highest CPUE of 12.0-14.9 in fish (44.00 fish/hr), 15.0 in plus fish (52.83 fish/hr) and 20.0 in plus fish (3.33 fish/hr) in the past 20 years (Table 25). The Smith Ridge area (upper Robinson Creek) largemouth catch rate remained the lowest of all areas. All areas were similar to the previous year except Lone Valley, where catch rates for all bass species fell to nearly half of the previous year's values. All length group management catch rates for largemouth bass were well beyond objective values except for fish < 8.0 in (4.17 fish/hr), which slid well below the objective of 11.00 fish/hr.

Largemouth bass size structure indices were well above the previous year's values (PSD = 80; RSD = 44; Table 26). The population assessment for largemouth bass was pushed to "Excellent" by the increased catch rate of 20.0-in plus fish (Table 27).

Spotted bass catch rates (40.83 fish/hr) dropped from the previous year high (67.67 fish/hr). The spotted bass population characteristics (size structure, growth rates and visible condition) remain exceptional. Prior to alewife introduction in 2004, few spotted bass achieved 12.0 inches in length; since that time the spotted bass population has enjoyed its finest days in the last 20 years.

Fall YOY sampling (Tables 28-29) indicated at least a moderate 2013 year class for largemouth bass.
Age-0 largemouth bass CPUE (26.00 fish/hr) and age-0 CPUE ≥ 5.0 in (19.33 fish/hr) were average to slightly above average. Mean length (5.9 in) of age-0 largemouth bass was well above average.

Walleye/White bass

Results of the experimental gill net sampling for white bass and walleye are shown in Tables 30-34. White bass CPUE (0.70 fish/nn) dipped to its lowest level since the die off year of 2008 (no fish). White bass population woes are partly attributable to the poor stocking year of 2012 (n=629 fish); however, lack of reproductive success (recruitment to fall) of the existing adult population and poor recruitment of stocked fish to the fishery indicate other factors are at work undermining the re-establishment of the fishery. Unlike white crappie, age-0 white bass CPUE in gillnets has been a reliable indicator of year class strength in Green River Lake historically.

The overall walleye CPUE (3.19 fish/nn) dipped slightly from last year (3.50 fish/nn). Walleye growth rate (19.2 in by age-2+; Table 34) and condition (Wr = 97-105; Table 33) remain excellent. The walleye population assessment remains "Good". The length-weight equation for walleye is:

$$\mathrm{Log}_{10}\,(\mathrm{weight}) = -3.82155 + 3.32577 \times \mathrm{Log}_{10}\,(\mathrm{length})$$

which is similar to previous years.

Fagan Branch Lake (140 A)

Black Bass

Nocturnal bass electrofishing results are presented in Tables 35-38. Overall largemouth CPUE (240.00 fish/hr) dipped to its lowest point since the slot limit (12.0-15.0 in) was instituted in 2002. Catch rate reduction is due to a 2-3 three-fold drop in catch rate of the 12.0 – 14.9 in length group (37.00 fish/hr). The bass population assessment remains "Fair". The lake's low productivity and its obligation to remain so (back up water supply lake for city of Lebanon) remains a handicap for bass growth and size structure improvements.

Sunfish

Nocturnal bluegill and redear electrofishing results are presented in Tables 39-44. Despite the lake's low productivity, it has historically supported a good bluegill and excellent redear fishery. Overall, bluegill CPUE (212.00 fish/hr) and redear CPUE (120.00 fish/hr) approximated the average for most years as did length group catch rates (Tables 40 and 41). Size structure for both populations was very good (bluegill PSD = 68, redear PSD = 44; Table 42). The bluegill population assessment remains "Good"; similar to previous years (Table 43). The redear population assessment fell to "Fair" due to a lower CPUE of 10.0-in plus fish (Table 44).

Metcalfe County Lake (22 acres)

Black Bass

Results of diurnal largemouth bass sampling are presented in Tables 45-47. Bass CPUE (234.00 fish/hr) was slightly higher than previous years due to an increase in 8.0–11.9 in fish (Table 46). The size structure remains diverse (PSD = 35; Table 47) and similar to previous years. CPUE of 20.0-in plus fish was extraordinary (14.00 fish/hr) and by far the highest in the Southwest District. The lake consistently averages 6.00-8.00 fish/hr for this length group, which is well above any lake in the Southwest District.

Visible condition of larger bass (15.0-in plus) appears excellent and is similar to historic values (2000 -2002; Wr = 105). The lake is highly productive and supports a substantial and varied forage base.

Mill Creek Lake (109 acres)

Sunfish

Results of diurnal sunfish electrofishing are presented in Tables 48-51. Overall bluegill CPUE

(644.00 fish/hr) was similar to previous years (516.00 fish/hr in 2005; 698.00 fish/hr in 2010). The size structure is dominated by intermediate sized fish (PSD = 9, Table 50); similar to previous years (Table 49). The bluegill population assessment remains "Fair" (Table 51)

The redear population remains low density (14.40 fish/hr), but high quality (PSD = 83); similar to previous years. The lake is not overly productive and will likely remain so (back up water supply lake for city of Tompkinsville).

Channel Catfish

Channel catfish were sampled with tandem set hoop nets in early October with moderate success (8.67 fish/set-night). All size ranges were represented up to 19.0 inches in length (Table 52). Condition of channel catfish was moderate as well (Wr = 87) for all length groups represented (Table 53).

Blue Catfish

Results of low-pulse blue catfish electrofishing are presented in Table 54. Blue catfish have been stocked since 2009, with angler reports of good fish (10-15 lbs) taken via jug fishing. The lake has a varied forage base of miscellaneous sunfish, gizzard shad and miscellaneous shiners.

West Fork Drakes (88 acres)

Channel Catfish

Channel catfish were sampled with tandem set hoop nets in late-September with moderate success (8.67 fish/set-night) with all size ranges represented up to 22.0 inches in length (Table 55). Condition of channel catfish was good (Wr = 92-95) for all length groups represented (Table 56). The lake is located just outside of Franklin, KY and receives moderate fishing pressure. The lake is a shallow river-run system with good productivity and an immense littoral zone.

Spa Lake (240 acres)

Blue Catfish

Results of low-pulse blue catfish electrofishing are presented in Table 57. Blue catfish condition is fair for the 11.0–15.9 in size range (Wr = 87; Table 58). Angler reports and pictures indicate good sized fish are present in fair numbers taken with jugs. The lake has a varied forage base of miscellaneous sunfish, gizzard shad, suckers, and miscellaneous shiners.

Table 1. Lake sampling conditions in the Southwestern Fisheries District in 2013.

Lake	Date	Species	Weather	Water temp. surface & 5-ft (F)	Conductivity (umhos)	Secchi (in.)	Comments
Barren River	10/8 & 9	YOY bass	clear	73-74	200-230	23-48	1.5 ft below summer pool
	11/6-7; 11/14-15	Crappie	calm - w indy	55-59		30	8- ft below summer pool & falling 0.4-ft. per day
Green River	5/15-16, 20-21	Bass	clear/calm	67-77	110-250	28-72	summer pool & steady
	11/18-19, 25; 12/3	YOY bass		46-57	90-120	26-42	4-6 ft below summer pool
	11/18 - 11/22	Walleye-White bass	w indy-breezy	50-57			4-ft below summer pool & falling
Briggs	5/1	Bluegill & redear	clear	72;64	200	48	Nomal
Marion Co.	5/14	Bass	Partly cloudy	64;63	150	36	Normal
Spurlington	5/14	Bass	Sunny	67		36-48	Normal
Shanty Hollow	5/21	Bluegill & redear	Mostly sunny	74;74		60	2-ft above normal & precluded a good sample
Fagan Branch	5/23	Bass & Bluegill/Redear	Partly cloudy/ full moon	74;74	190	168	Normal
W. Fk. Drakes	9/23	Channel Catfish	Sunny/breezy	70		26	Normal
Mill Creek	5/8	Bluegill/Redear	sunny	66; 60	260	26	Normal
	8/28	Blue catfish	clear/hot	82		50	Normal
	10/3	Channel Catfish	clear	75		60	Normal
Metcalfe Co.	5/1	Bass	clear	65	260	19	Normal
	8/28	Blue catfish	clear/hot	84		18	Normal
Spa	8/14	Blue catfish	clear/hot	83			Normal
	8/29	Blue catfish	partly cloudy	82		24	Normal

Table 2. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of diurnal electrofishing at Barren River Lake from mid-October 2013.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std err
Peninsula	Smallmouth bass			1		6		2													9	6.00	4.16
	Spotted bass	1	6	1	4	12	4	3	1		1	1	1	1							36	24.00	13.32
	Largemouth bass	11	17	9	19	28	7	11	13	3	5	8	5	5	4	2	2	1	2	1	153	102.00	5.29
Beaver Creek	Smallmouth bass																				0		
	Spotted bass	1	1	1	1																3	2.00	0.00
	Largemouth bass	214	453	116	14	38	74	40	9	11	14	5	6	8	5	2	1				1010	673.33	216.08
Peter Creek	Smallmouth bass																				0		
	Spotted bass	1	5	3				1	1	1		1		2				1			16	10.67	1.76
	Largemouth bass	90	160	30	19	27	14	1	6	1	3	5	9	6	3	2	3		1		380	253.33	94.66
Walnut Creek	Smallmouth bass																				0		
	Spotted bass	1	5	3																	9	6.00	1.15
	Largemouth bass	245	437	65	24	21	37	8	3	4	4	9	3								860	573.33	139.11
TOTAL	Smallmouth bass			1		6		2													9	1.50	1.18
	Spotted bass	4	17	8	4	12	4	4	2	1	1	2	1	3				1			64	10.67	3.81
	Largemouth bass	560	1067	220	76	114	132	60	31	19	26	27	23	19	12	6	6	1	3	1	2403	400.50	91.10

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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	43.75	9.41
2012	5.1	0.08	70.00	16.72	32.67	11.00	ND	
2013	3.9	0.03	369.33	92.21	61.50	9.97		

[A] Data collected by fall (September-October) diurnal electrofishing. Mean lengths w ere 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 follow ing spring (April/May) diurnal electrofishing sample.

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sw dbrlag. D02 - D13

sw dbrlyy. D02 - D13

Table 4. Length frequency and CPUE (fish/nn) of each inch class of white and black crappie collected by trap net (60 net-nights) at Barren River Lake from early-mid November 2013.

Location	Species	Inch class											Total	CPUE	Std. error
		2	3	4	5	6	7	8	9	10	11	12			
Beaver Creek															
	White crappie	83	603	13				3	40	141	48	3	934	31.13	12.60
	Black crappie	281	404	12	7	8	31	112	219	89	6		1169	38.97	11.91
Walnut Creek															
	White crappie		9	3			3	11	35	46	8		115	3.83	0.83
	Black crappie	3	37	3	2	13	12	42	34	9			155	5.17	1.71
Total															
	White crappie	83	612	16			3	14	75	187	56	3	1049	17.48	6.51
	Black crappie	284	441	15	9	21	43	154	253	98	6		1324	22.07	6.36

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Table 5. Proportional stock density (PSD) and relative stock density (RSD_{10}) of white and black crappie collected by trap nets (60 net-nights) at Barren River lake from early-mid November 2013. Numbers in parentheses represent 95% confidence intervals.

Location	Species	Number $\geq$5.0 in	PSD	RSD_{10}
Barren River Lake				
	White crappie	339	99(1)	72(5)
	Black crappie	578	88(3)	18(3)

swdbrltn.D13

Table 6. Age frequency and CPUE (fish/nn) of black crappie collected during 60 net-nights at Barren River Lake from early-mid November 2013.

	Inch class													Std.
Age	2	3	4	5	6	7	8	9	10	11	Total	Percent	CPUE	error
0	284	441	15								740	56	12.33	5.03
1				9	20	8	5				42	3	0.70	0.18
2					1	29	106	136	19	2	292	22	4.86	1.34
3						4	37	117	47	2	207	16	3.45	1.04
4						2	5		19	5	26	2	0.43	0.14
5									14	3	17	1	0.28	0.11
Total	284	441	15	9	21	43	154	253	98	6	1324	100		
%	21	33	1	1	2	3	12	19	7	1	100			

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Table 7. Age frequency and CPUE (fish/nn) of white crappie collected during 60 net-nights at Barren River Lake from early-mid November 2013.

	Inch class														Std.
Age	2	3	4	5	6	7	8	9	10	11	12	Total	Percent	CPUE	error
0	83	612	16									711	68	11.85	6.30
1						2	5	6				13	1	0.21	0.05
2						2	9	57	154	32		253	24	4.21	0.79
3								9	33	24	3	69	7	1.16	0.23
4								3				3	1	0.05	0.01
Total	83	612	16			3	14	75	187	56	3	1049	100		
%	8	58	2			0.5	1	7	18	5	0.5	100			

swdbrltn.d13; swdbrlag.d13

Table 8. Black crappie assessment from trap netting at Barren River Lake from 1985-2013 (scoring based on statewide assessment).

	CPUE excluding age-0		CPUE age 1		CPUE age 0		CPUE $\geq$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
2012	5.15	2	1.02	1	0.10	1	3.32	2	8.3	2	8	F
2013	9.73	2	0.70	1	12.33	4	8.51	3	8.7	2	12	F

* Age assessment data extrapolated from previous age data

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Table 9. White crappie assessment from trap netting at Barren River Lake from 1985 - 2013 (scoring based on statewide assessment).

	CPUE excluding age 0		CPUE age 1		CPUE age 0		CPUE ≥8.0 in		Mean length age 2+ at capture			
Year	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Total score	Rating
1985	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
2012	7.52	2	2.45	1	0.05	1	6.52	3	9.9	4	11	F
2013	5.63	2	0.22	1	11.85	4	5.58	3	10.1	4	14	G

* Age Assessment data extrapolated from previous age data

sw dbrltn.D85 - D13

Table 10. Population assessment for all crappie from Barren River trap net data collected from 2006-2013 (scoring based on statewide assessment).

Parameter	2006 Value	2006 Score	2007 Value	2007 Score	2008 Value	2008 Score	2009 Value	2009 Score	2010 Value	2010 Score	2011 Value	2011 Score	2012 Value	2012 Score	2013 Value	2013 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	12.65	2	15.37	3
Recruitment (CPUE age-1)	1.60	1	3.58	2	0.20	1	8.34	3	1.74	1	6.77	2	3.47	2	0.92	1
Recruitment (CPUE age-0)	0.60	1	0.96	1	1.61	1	0.37	1	1.43	1	0.46	1	0.17	1	24.18	4
Size Structure (CPUE $\geq$8.0 in)	1.50	1	1.59	1	1.61	1	4.59	2	4.31	2	5.81	3	9.83	3	14.1	4
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	9.3	3	9.5	3
Instantaneous mortality (Z)	ND		-1.59		NA		ND		NA		NA		NA		NA	
Annual mortality (A)%			79.9													
Total score:		8		8		8		11		8		10		11		15
Assessment rating:		Fair		Fair		Fair		Fair		Fair		Fair		Fair		Good

swdbrltn.D06 - D13

Table 11. Length frequency and CPUE (fish/hr) of bluegill, redear sunfish and warmouth collected by diurnal electrofishing at Briggs Lake on 1 May 2013.

Species	Inch class 2	3	4	5	6	7	8	9	10	11	Total	CPUE	Std. error
Bluegill	3	4	5	16	31	20	11	1			91	145.60	43.11
Redear sunfish	1			26	17	13	12	19	3	1	92	147.20	37.57
Warmouth	1		3	3	3	5	1				16	25.60	7.76

swdbrgbg.D13

Table 12. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Briggs Lake from early-mid May 2005-2013. Standard errors are in parentheses.

Year	Length group <3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	Total
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)
2012	56.00	158.00	62.00	16.00	292.00
	(32.17)	(32.72)	(21.26)	(7.30)	(53.72)
2013	4.80	40.00	81.60	19.20	145.60
	(1.96)	(13.62)	(26.46)	(4.08)	(43.11)

sw dbrgbg.D05 - D13

Table 13. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Briggs Lake during early-mid May 2005-2013. 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)
2012	4.00	58.00	94.00	6.00	2.00	162.00
	(2.31)	(19.15)	(33.05)	(3.83)	(2.00)	(49.89)
2013	1.60	41.60	48.00	56.00	6.40	147.20
	(1.60)	(16.67)	(18.76)	(11.87)	(3.92)	(37.57)

sw dbrgbg.D05 - D13

Table 14. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear sunfish collected by diurnal electrofishing at Briggs lake on 1 May 2013. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD[a]
Bluegill	88	72(10)	14(7)
Redear sunfish	91	53(10)	25(9)

[a] Bluegill=RSD_8; redear sunfish=RSD_9

swdbrgbg.D13

Table 15. Bluegill population assessment for Briggs Lake 2006 - 2013 (scoring based on statewide assessment).

	Year															
	2006		2007		2008		2009		2010		2011		2012		2013	
Parameter	Value	Score	Value	Score	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	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	2.6*	4	2.6*	4
Size structure CPUE $\geq$6.0 in	152.00	4	110.40	4	86.00	4	36.80	2	206.40	4	84.00	4	78.00	4	100.80	4
Size structure CPUE $\geq$8.0 in	52.00	4	25.60	4	16.00	4	19.20	4	52.80	4	24.00	4	16.00	4	19.20	4
Instantaneous mortality (z)			-0.53													
Annual mortality (A)%			41.1													
Total score:		15		15		15		13		15		15		15		15
Assessment rating:		Excellent		Excellent		Excellent		Good		Excellent		Excellent		Excellent		Excellent

*No age data collected, values carried over from 2007

swdbrgbg.D06 - D13

Table 16. Redear population assessment for Briggs Lake 2006 - 2013 (scoring based on statewide assessment).

	Year															
	2006		2007		2008		2009		2010		2011		2012		2013	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Growth																
Mean length age-3 at capture	8.6*	4	8.6	4	8.6*	4	8.6*	4	8.6*	4	8.6*	4	8.6*	4	8.6*	4
Growth																
Years to 8.0 in	2.7*	4	2.7	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4	2.7*	4
Size structure																
CPUE ≥8.0 in	22.00	4	12.80	3	4.00	1	17.60	4	17.60	4	28.00	4	6.00	2	62.40	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	2.00	2	6.40	4
Instantaneous mortality (z)			NA													
Annual mortality (A)%																
Total score:		14		13		10		15		14		16		12		16
Assessment rating:		Excellent		Good		Fair		Excellent		Excellent		Excellent		Good		Excellent

*No age data collected, values carried over from 2007

NA (age data not amenable to calculations)

swdbrgbg.D06 - D13

Table 17. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.875 hours (7-0.125-hour runs) of nocturnal electrofishing at Marion Co. Lake on 14 May 2013.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std err
Largemouth bass	2	11	15	11	10		18	49	39	16	21	8	6	1	2	1		2	1	213	243.43	30.38

sw dmclbb.d13

Table 18. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Marion County Lake during late-April to mid-May since 1999.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		>15.0 in		>20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1999	106.70	29.30	46.20	15.00	39.50	10.60	1.70	1.10			194.10	42.00
2000	88.20	14.90	177.50	22.40	6.90	3.20	9.80	2.00			282.40	25.40
2001	170.60	17.60	173.50	15.90	1.00	1.00	1.00	2.90	1.00	1.00	384.00	31.30
2002	104.90	23.90	152.90	13.20	15.70	3.60	3.90	1.20	1.00	1.00	277.50	39.40
2003	42.90	10.60	226.40	18.10	40.70	7.30	7.70	3.40	3.43	2.38	317.60	13.30
2004	110.30	16.90	197.40	25.80	62.80	9.80	7.70	3.40	5.33	2.67	378.20	36.60
2005	101.70	17.70	123.40	13.40	133.70	20.20	9.10	2.70	1.14	1.14	368.00	44.80
2006	112.00	20.80	170.30	30.60	59.40	5.50	38.90	4.07			380.60	53.83
2007	221.00	23.90	371.00	32.18	28.00	6.93	12.00	3.02	1.00	1.00	632.00	47.69
2008	209.14	28.50	385.14	30.41	16.00	3.90	16.00	3.49	3.43	1.62	626.29	49.98
2009	125.00	19.30	472.00	42.95	12.00	3.38	11.00	3.68	4.00	2.14	620.00	56.02
2010	140.57	24.12	316.57	22.21	11.43	4.89	2.29	2.29			470.86	44.69
2013	56.00	12.09	121.14	19.16	51.43	7.97	14.86	4.76	3.43	3.43	243.43	30.38

sw dmclbb.D99 - D13

Table 19. PSD and RSD_{15} values obtained for largemouth bass collected during 0.875 hours (7- 0.125-hour runs) of spring nocturnal electrofishing at Marion County Lake on 14 May 2013. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	164	35(7)	8(4)

swdmclbb.D13

Table 20. Population assessment of largemouth bass based on nocturnal spring sampling at Marion County Lake from 2003-2013 (scoring based on statewide assessment).

	Year																	
	2003		2004		2005		2006		2007		2008		2009		2010		2013	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture	11.9	3	11.9	4	11.9	4	11.9	4	11.9	4	11.9	4	10.7	2				
Spring CPUE age-1	32.00	2	117.33	4	101.71	4	19.43	2	7.00	1	201.14	4	55.00	3				
Spring CPUE 12.0-14.9 in	42.29	3	65.33	4	133.71	4	59.43	4	28.00	2	16.00	1	12.00	1	11.43	1	51.43	4
Spring CPUE ≥15.0 in	8.00	2	8.00	2	9.14	2	38.86	4	12.00	2	16.00	2	11.00	2	2.29	1	14.86	2
Spring CPUE ≥20.0 in	3.43	3	5.33	4	1.14	1	0.00	1	1.00	1	3.43	3	4.00	4	0.00		3.43	3
Instantaneous mortality (z)	ND		-0.9360		ND		ND		ND		ND		-1.46		ND		ND	
Annual mortality (A)%			60.8										76.7					
Total score		13		18		15		15		10		14		12				
Assessment rating		Good		Excellent		Good		Good		Fair		Good		Good				

ND = no age data collected

sw dmclbb.D02-D13

Table 21. 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 14 May, 2013.

Species	Inch class 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Largemouth bass	4	6	1	15	25	20	20	24	14	10	9	5	2	1	3			2	161	322.00	42.00

sw dsplbb.D13

Table 22. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Spurlington Lake during mid-April to 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	19.20	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
2013	22.00	8.25	160.00	25.92	96.00	5.66	44.00	11.55	4.00	4.00	322.00	42.00
Avg.	28.04		154.30		120.28		29.76		2.72		336.18	

sw dsplbb. D02 - D13

Table 23. PSD and RSD_{15} values obtained for largemouth bass collected during 0.50 hours (4- 0.125-hour runs) of spring nocturnal electrofishing at Spurlington Lake on 14 May 2013. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	150	47(8)	15(6)

swdsplbb.D13

Table 24. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of nocturnal electrofishing at Green River Lake on 15-16, 20-21 May 2013.

		Inch class																							
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Green River Arm																									
Holmes Bend	Smallmouth bass				1							1					1	1					4	2.67	1.76
	Spotted bass			3	1	1	5	6	6	3	5	2	3										35	23.33	7.51
	Largemouth bass		1	1		4	3	11	10	15	21	17	24	29	28	27	23	8	8	5	2		237	158.00	25.48
Ramp 1	Smallmouth bass				1		1	1				2	1		2	1			2				11	7.33	3.33
	Spotted bass	1				2	4	7	9	6	2	6	3	6	1								47	31.33	2.91
	Largemouth bass		1				2	4	15	11	16	25	24	46	30	18	15	8	9	3	4		231	154.00	2.00
Robinson Creek Arm																									
Smith Ridge	Smallmouth bass																						0		
	Spotted bass				5		3	12	7	10	5	1	2		1	1							47	31.33	8.35
	Largemouth bass			2	1	4	1	3	1	7	9	17	12	21	22	7	14	7	2	3			133	88.67	18.27
Lone Valley	Smallmouth bass			1			1	2		1		1	1	2			1						10	6.00	1.15
	Spotted bass		8	2	1	2	5	7	20	11	16	11	11	8	8								110	77.33	12.98
	Largemouth bass			1			5	5	2	7	5	11	12	26	27	23	10	5	5	2		1	147	98.00	6.11
TOTAL	Smallmouth bass			1	2		2	3		1		4	2	2	2	1	1	1	2				24	4.00	1.21
	Spotted bass	1	8	5	7	5	17	32	42	30	28	20	19	14	10	4	3						245	40.83	7.42
	Largemouth bass		2	4	1	8	11	23	28	40	51	70	72	122	107	75	62	28	24	13	6	1	748	124.67	11.70

sw dgrlbb.d13

Table 25. Spring diurnal electrofishing CPUE (fish/hr) of largemouth bass by length group collected at Green River Lake during early-mid May since 1997.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1997	3.67	1.04	22.33	2.46	23.33	2.82	23.17	2.10	1.17	0.46	72.50	5.18
1998	33.50	7.66	9.00	1.82	8.83	2.04	17.50	1.84	2.00	0.70	68.83	8.61
1999	21.38	3.76	53.54	7.18	19.38	4.00	14.31	1.66	2.77	0.77	108.62	12.51
2000	2.50	0.89	41.00	4.37	24.17	3.41	14.67	3.37	3.17	0.97	82.33	8.59
2001	10.17	2.50	26.67	2.99	32.17	6.45	12.50	1.50	1.67	0.41	81.50	7.77
2002	5.00	1.14	9.50	1.46	20.50	2.49	13.00	2.46	1.17	0.39	48.00	4.24
2003	5.83	1.38	12.33	2.07	5.83	1.78	18.17	2.96	1.83	0.67	42.17	4.12
2004	17.33	2.74	22.80	2.10	11.60	1.81	15.60	2.55	0.93	0.27	67.33	6.41
2005	67.83	7.98	30.67	2.78	11.67	1.86	16.83	2.52	1.50	0.66	127.00	12.53
2006	15.07	2.01	44.40	3.56	23.07	2.81	18.93	2.13	0.27	0.18	96.17	5.25
2007	3.83	1.03	20.50	2.51	33.67	5.78	22.17	3.61	0.50	0.26	80.17	10.33
2008	22.83	9.49	25.83	4.71	27.83	3.97	30.17	2.74	0.83	0.39	106.66	16.97
2009	7.17	1.78	11.33	3.38	13.00	2.70	42.83	7.94	1.67	0.77	74.33	12.29
2010						no data due to flooding						
2011						no data due to flooding						
2012	16.50	4.31	54.83	6.26	35.33	6.38	38.00	5.44	1.33	0.51	144.67	16.34
2013	4.17	0.72	23.67	3.68	44.00	4.79	52.83	5.27	3.33	0.71	124.67	11.70

swdgrlbb.D97-D13

Table 26. PSD and RSD values for each black bass species collected during 6.0 hours (12- 0.50-hour runs) of nocturnal electrofishing by area at Green River Lake during May 15-21, 2013. 95% confidence intervals are in parentheses.

Area	Species	No. $\geq$stock size	PSD	RSD[A]
Green River Arm				
Holmes Bend	Largemouth bass	228	75(6)	44(7)
	Spotted bass	30	33(17)	0
Ramp 1	Largemouth bass	229	80(5)	38(6)
	Spotted bass	44	41(15)	16(11)
	Smallmouth bass	10	80(26)	
Robinson Creek Arm				
Smith Ridge	Largemouth bass	125	84(7)	44(9)
	Spotted bass	42	4(5)	5(6)
Lone Valley	Largemouth bass	141	87(6)	52(9)
	Spotted bass	103	58(11)	21(8)
Total	Largemouth bass	723	80(3)	44(4)
	Spotted bass	219	45(7)	14(4)
	Smallmouth bass	21	71(20)	43(22)

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

swdgrlbb.d13

Table 27. Population assessment of largemouth bass based on nocturnal spring sampling at Green River Lake from 2003-2013 (scoring based on statewide assessment).

	2003		2004		2005		2006		2007		2008		2009		2012		2013	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture	14.4	4	13.2	4	13.2	4	13.2	4	13.2	4	13.2	4	14.9	4	14.9	4	14.9	4
Spring CPUE age-1	7.25	1	11.87	1	65.33	4	14.33	1	3.83	1	22.83	2	7.17	1	15.50	1	3.83	1
Spring CPUE 12.0-14.9 in	5.83	1	11.60	1	11.67	1	23.07	2	33.67	3	27.83	2	13.00	1	35.33	4	44.00	4
Spring CPUE ≥15.0 in	18.17	4	15.60	3	16.83	2	18.93	3	22.17	4	30.17	4	42.83	4	39.33	4	52.83	4
Spring CPUE ≥20.0 in	1.83	3	0.93	2	1.50	2	0.27	1	0.50	2	0.83	2	1.67	3	1.33	2	3.33	4
Instantaneous mortality (z)	-0.477												-0.610					
Annual mortality (A)%	37.90												45.7					
Total score		13		11		13		11		14		14		13		15		17
Assessment rating	Good		Good		Good		Fair		Good		Good		Good		Good		Excellent	

sw dgrlag.D03, D09

sw dgrlbb.D02-D13

Table 28. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 6.0 hours (12- 0.50-hour runs) of diurnal electrofishing at Green River Lake from mid-November to early-December 2013.

		Inch class																							
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Green River Arm																									
Holmes Bend	Smallmouth bass																						0	0.00	
	Spotted bass		1	1	2				1	1					1	1							8	5.33	2.40
	Largemouth bass	4	15	6	20	33	31	6	4	17	24	12	12	12	11	11	5	8	2	5	1	1	240	160.00	87.69
Ramp 1	Smallmouth bass	1	3	3	3	3	1			1						1		2		1			19	12.67	5.21
	Spotted bass	2	1		3	1				2	1	2	1	1	2								16	10.67	2.40
	Largemouth bass	5	3	1	2		2	1	4	2	1	1	4	11	4	8	9	4	3	3	1		69	46.00	6.93
Robinson Creek Arm																									
Smith Ridge	Smallmouth bass																						0		
	Spotted bass											1											1	0.67	0.67
	Largemouth bass		3	2	3	9	9	1	5	11	14	9	3	4	10	9	4	3	4	2	1		106	70.67	20.99
Lone Valley	Smallmouth bass	1	3	1		1	2	1				1				1							11	7.33	1.33
	Spotted bass			2	1	1		1	1	5	4	1	1										17	11.33	2.40
	Largemouth bass	1							3	2	3		1	3	2	4	4	2	3		2		30	20.00	4.16
TOTAL	Smallmouth bass	2	6	4	3	4	3	1		1		1				2		2		1			30	5.00	1.99
	Spotted bass	2	2	3	6	2		1	2	8	5	4	2	1	3	1							42	7.00	1.59
	Largemouth bass	10	21	9	25	42	42	8	16	32	42	22	20	30	27	32	22	17	12	10	5	1	445	74.17	25.00

swdgrlyy.d13

Table 29. Largemouth bass mean length (in) at age-0 and catch rates at age 0 and age 1 collected at Green River Lake since 2002.

	Age 0[A]		Age 0[A]		Age 0 $\geq$5.0 in[A]		Age 1[B]	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2002	3.9	0.07	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	15.50	4.04
2012	4.2	0.11	16.50	4.15	5.00	2.02	3.83	0.76
2013	5.9	0.13	26.00	15.35	19.33	12.92		

[A] Data collected by fall (Sept/October) diurnal electrofishing. Mean lengths w ere 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 follow ing spring (May) nocturnal electrofishing.

sw dgrlbb.D02 - D13

sw dgrlag. D02 - D13

sw dgrlyy. D02 - D13

Table 30. Length frequency and CPUE (f/nn) for white bass and walleye collected by experimental gillnets (16 net-nights) on November 19-22 at Green River Lake, KY 2013.

	Inch class																				
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	CPUE	Std. error
White bass	2					1	3		4	2									12	0.75	0.28
Walleye			3	1	3	1	1	2	3	3	7	6	7	7	4	2		1	51	3.19	0.52

swdgrlgn.d13

Table 31. Age frequency and CPUE (fish/nn) of walleye collected from experimental gillnets during mid-November at Green River Lake in 2013.

	Inch class																	
Age	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	Percent	CPUE	Std. error
0	3	1	2												6	11	0.34	0.11
1			1	1	1	2	3	2	3	4					17	33	1.06	0.23
2									4	1	4	2	2		13	27	0.81	0.19
3								1		1	3	4		1	10	20	0.61	0.15
4																		
5												1	2	1	4	8	0.25	0.08
Total	3	1	3	1	1	2	3	3	7	6	7	7	4	2	50	100.0		
%	6	2	6	2	2	6	6	15	13	15	15	8	4		100			

sw dgrlgn.D13, sw dgrlag.D13

Table 32. Age frequency and CPUE (fish/nn) of white bass collected from experimental gillnets during mid-November at Green River Lake in 2013.

Age	Inch class 7	8	9	10	11	12	13	14	15	16	Total	Percent	CPUE	Std. error
0	2										2	17	0.13	0.09
1						1	3				4	33	0.25	0.19
2														
3									4	2	6	50	0.38	0.18
Total	2					1	3		4	2	12	100		
%	17					8	25		33	17	100			

swdgrlgn.D13, swdgrlag.D13

Table 33. Relative weight (Wr) for each length group of walleye collected by gill nets (16 net-nights) at Green River Lake from November 19-22, 2013. Standard errors are in parentheses.

	Length group 10.0-14.9 in	15.0-19.9 in	$\geq$20.0 in
Wr	97(3)	100(1)	105(3)
N	5	26	13

swdgrlgn.D13

Table 34. Walleye population assessment from experimental gillnetting at Green River Lake 1996-2013 (scoring based on statewide assessment).

	CPUE excluding age-0		Mean length age-2+ at capture		CPUE ≥20.0 in		CPUE age 1		Mortality			
Year		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
2012	3.10	2	19.2	4	0.90	2	1.32	2	-0.479	38.1	10	G
2013	2.81	2	19.2	4	0.88	2	1.06	2	NA		10	G

NA - catch data not amenable to mortality estimates

sw dgrlgn.d96-13

sw dgrlag.d96-13

Table 35. Black bass relative abundance and CPUE (fish/hr) collected during 1.0 hours (4- 0.25-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on May 23, 2013.

	Inch class																				
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	Total	CPUE	Std err
Largemouth bass	2	20	10	24	28	31	46	37	17	16	4		1	1		1		2	240	240.00	30.38

sw dlclbb.d13

Table 36. Spring nocturnal electrofishing CPUE of each length group of largemouth bass collected at Fagan Branch Reservoir during late-April to mid-May from 1997 - 2013.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥ 20 in		Total	
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1997	17.60	6.01	239.20	20.21	24.80	5.57	0.00		0.00	NA	281.60	30.90
1999	2.67	1.33	149.33	14.03	17.33	1.33	1.33	0.84	0.67	0.67	170.67	13.69
2000	10.00	3.83	88.00	9.41	64.00	13.82	0.67	0.67	0.00	NA	162.67	18.64
2001	23.33	4.31	34.00	3.83	110.67	8.11	2.67	1.33	0.00	NA	170.67	7.64
2002	16.00	5.64	50.46	9.15	99.69	5.95	8.00	3.20	0.00	NA	174.15	12.92
2005	105.60	19.21	173.60	19.70	76.80	4.63	15.20	2.94	0.00	NA	371.20	39.14
2007	84.80	18.22	202.40	4.49	72.80	5.57	8.00	3.58	0.80	0.80	368.00	24.27
2010	80.80	15.46	152.80	8.98	80.80	5.99	13.60	3.49	0.80	0.80	328.00	20.00
2013	56.00	5.16	143.00	4.12	37.00	4.43	5.00	1.91	2.00	2.00	240.00	7.72

swdlclbb.D97 - D13

Table 37. PSD and RSD_{15} values for largemouth bass collected during 1.0 hour (4-0.25-hour runs) of nocturnal electrofishing at Fagan Branch Reservoir on 23 May 2013. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	184	23(6)	3(2)

swdlclbb.D13

Table 38. Population assessment of largemouth bass based on nocturrnal spring sampling at Fagan Branch Reservoir from 1999-2013. Slot limit (12.0-15.0 in) institued in 2002 (scoring based on statewide assessment).

	1999		2000		2001		2002		2005		2007		2010		2013	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length at age-3 at capture	11.5	3	11.5	3	11.5	3	11.5	3	11.5	3	10.6	2	10.6	2	10.6	2
Spring CPUE age-1	2.67	1	4.67	1	17.33	2	16.00	2	44.00	3	20.80	2	12.80	1	32.00	2
Spring CPUE 12-14.9 in	17.33	1	64.00	4	110.67	4	100.57	4	76.80	4	72.80	4	80.80	4	37.00	3
Spring CPUE ≥15.0 in	1.33	1	0.67	1	2.67	1	8.57	2	15.20	2	8.00	2	13.60	2	5.00	2
Spring CPUE ≥20.0 in	0.67	1	0.00	0	0.00	0	0.00	0	0.0	0	0.80	1	0.80	1	2.00	3
Instantaneous mortality (z)	ND		0.361		ND		ND		ND			0.629		ND		ND
Annual mortality (A)%			30.3									46.7				
Total score		7		9		11		12		12		11		10		11
Assessment rating		Poor		Fair		Fair		Good		Good		Fair		Fair		Fair

ND = no age data collected

sw dlclag.d00 & d07

sw dlclbb.D97-D13

Table 39. Length frequency and CPUE (fish/hr) of bluegill and redear collected during 0.66 hours (4- 600-sec runs) of nocturnal electrofishing at Fagan Branch Reservoir on 23 May 2013 .

	Inch class											Std.
Species	2	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	31	14	7	14	25	31	19			141	212.00	25.57
Redear	1	2	6	8	29	13	13	7	1	80	120.00	31.15

swdlclbg.D13

Table 40. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Fagan Branch Reservoir from 1997 - 2010. Standard errors are in parentheses.

	Length group				
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	>8.0 in	Total
1997	7.20	31.20	108.80	11.20	158.40
	(1.96)	(9.41)	(12.03)	(3.44)	(8.29)
1999	5.33	20.00	46.00	4.00	75.33
	2.23	(8.33)	(9.62)	(2.07)	(14.03)
2000	16.67	32.00	47.33	6.67	102.67
	6.48	(8.26)	(6.40)	(2.23)	(10.77)
2001	99.1	102.1	105.11	22.52	328.83
	(46.05)	(48.89)	(32.70)	(9.52)	(97.86)
2005	74.32	198.20	42.79	42.79	319.82
	(18.89)	(30.55)	(11.85)	(11.85)	(37.60)
2007	76.00	50.00	78.00	36.00	240.20
	(11.55)	(20.75)	(24.08)	(20.78)	(47.78)
2010	220.00	526.00	242.00	14.00	1002.00
	(47.61)	(63.36)	(39.65)	(8.25)	(95.97)
2013	46.41	52.40	83.83	28.44	212.00
	(12.31)	(5.11)	(34.14)	(6.64)	(25.57)

SWDLCLBG.D01 - D13

Table 41. Spring electrofishing CPUE (fish/hr) for each length group of redear sunfish collected at Fagan Branch Reservoir from 1997-2013. Standard errors are in parentheses.

	Length group					
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	Total
1997	0.00	2.40	25.60	12.80	0.00	40.80
		(1.60)	(6.76)	(4.63)		(9.99)
1999	1.33	1.33	10.00	8.00	4.00	20.67
	(1.33)	(1.33)	(3.06)	(2.53)	(1.46)	(5.41)
2000	0.00	0.00	1.33	4.67	1.33	6.00
			(0.84)	(1.23)	(1.33)	(0.89)
2001	0.00	3.00	27.03	9.01	3.00	39.04
		(1.00)	(6.58)	(2.33)	(1.90)	(9.21)
2005	0.00	24.77	58.56	31.53	2.25	114.86
		(9.99)	(16.65)	(9.38)	(2.25)	(22.18)
2007	12.00	40.00	36.00	114.00	16.00	202.00
	(12.00)	(16.97)	(20.00)	(43.00)	(8.64)	(69.54)
2010	0.00	86.00	40.00	42.00	4.00	168.00
		(18.29)	(19.60)	(7.57)	(2.31)	(40.27)
2013	1.50	25.45	62.87	31.44	1.50	120.00
	(1.50)	(8.94)	(24.51)	(6.17)	(1.50)	(31.15)

SWDLCLBG.D97 - D13

Table 42. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear collected by nocturnal electrofishing at Fagan Branch Reservoir on 23 May 2013. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD[a]
Bluegill	110	68(10)	17(7)
Redear	78	44(11)	10(7)

[a] Bluegill=RSD_8; redear=RSD_9

swdlclbg.D13

Table 43. Bluegill population assessments from 1997 - 2013 at Fagan Branch Reservoir (scoring based on statewide assessment).

	Year															
	1997		1999		2000		2001		2005		2007		2010		2013	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-2 at capture													2.9	1	2.9	1
Years to 6.0 in													3.8	3	3.8	3
CPUE ≥6.0 in	120.00	4	50.00	3	54.00	3	127.63	4	47.30	2	114.00	4	256.00	4	112.28	4
CPUE ≥8.0 in	11.20	3	4.00	1	6.67	2	22.52	4	4.50	1	36.00	4	14.00	3	28.44	4
Instantaneous mortality (z)	ND			ND		ND		ND		ND		ND	-1.0266			ND
Annual mortality (A)													64.2			
Total score:														11		12
Assessment rating													Good		Good	

ND - no age data collected
sw dlclag.d13
sw dlclbg.D02 - D13

Table 44. Redear population assessments from 1997 - 2013 at Fagan Branch Reservoir (scoring based on statewide assessment).

	Year															
	1997		1999		2000		2001		2005		2007		2010		2013	
Parameter	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Mean length age-3 at capture													5.7	2	5.7	2
Years to 8.0 in													4.6	3	4.6	3
CPUE ≥8.0 in	25.60	4	10.00	3	1.33	1	27.03	4	58.56	4	36.00	4	40.00	4	31.44	4
CPUE ≥10.0 in	0.00	0	4.00	3	1.33	1	3.00	2	2.25	0	16.00	4	4.00	3	1.50	1
Instantaneous mortality (z)	ND		ND		ND		ND		ND		ND		-0.783729			ND
Annual mortality (A)													54.3			
Total score:														12		10
Assessment rating													Good		Fair	

ND - no age data collected or data applicable.

sw dlclag.d13

sw dlclbg.D97 - D13

Table 45. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 0.50 hours (4-0.125-hour runs) of diurnal electrofishing at Metcalfe Co. Lake on 1 May 2013.

	Inch class																				
Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Largemouth bass	6	3	3	25	17	15	14	4	2		1	5	4	8	3	5	1	1	117	234.00	29.46

sw dmetbb.d13

Table 46. Spring nocturnal electrofishing CPUE (fish/hr) of each length group of largemouth bass collected at Metcalfe Co. Lake during late-April or early May since 2001.

	Length group										Total	
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
Year	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2001	50.00	NA	98.00	NA	28.00	NA	28.00	NA	6.00	NA	204.00	NA
2002	80.54	NA	84.53	NA	5.99	NA	54.59	NA	5.99	NA	144.00	NA
2004	24.00	NA	64.00	NA	24.00	NA	32.00	NA	8.00	NA	144.00	NA
2006	10.00	2.00	76.00	12.00	26.00	5.03	30.00	6.00	6.00	3.83	142.00	12.38
2010	32.00	3.27	100.00	9.52	18.00	8.25	36.00	5.16	6.00	3.83	186.00	13.61
2013	24.00	16.33	142.00	28.35	12.00	5.16	56.00	10.33	14.00	6.83	234.00	29.46

swdmetbb.D01 - D13

NA - SE not applicable as run times were not same as 2006 & 2010.

Table 47. PSD and RSD_{15} values obtained for largemouth bass collected during 0.5 hours (4 - 0.125-hour runs) of spring diurnal electrofishing at Metcalfe Co. Lake on 1 May 2013. 95% confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	105	32(10)	

swdmetbb.D13

Table 48. Length frequency and CPUE (fish/hr) of bluegill and redear collected during 1.25 hours (10- 450-sec runs) of diurnal electrofishing at Mill Creek Lake (Monrone Co.) on 8 May 2013.

	Inch class													
Species	1	2	3	4	5	6	7	8	9	10	11	Total	CPUE	Std. error
Bluegill	125	105	208	153	155	51	8					805	644.00	96.02
Redear				1	1	1	5	2	3	3	2	18	14.40	7.98

swdmilbg.D13

Table 49. Spring electrofishing CPUE (fish/hr) for each length group of bluegill collected at Mill Creek Lake from 2005 - 2013. Standard errors are in parentheses.

Year	Length group <3.0 in	3.0-5.9 in	6.0-7.9 in	>8.0 in	Total
2005	76.80	350.40	88.80	0.00	516.00
	(32.01)	(53.39)	(20.73)		(72.83)
2010	74.40	568.00	56.00	0.00	698.40
	(20.10)	(75.62)	(11.12)		(76.09)
2013	184.00	412.00	47.20	0.00	644.00
	(76.50)	(43.82)	(6.36)		(96.02)

SWDMILBG.D05 - D13

Table 50. Proportional stock density (PSD) and relative stock density (RSD) of bluegill and redear collected by diurnal electrofishing at Mill Creek Lake on 8 May 2013. Numbers in parentheses represent 95% confidence intervals.

Species	N	PSD	RSD[a]
Bluegill	575	10(2)	0
Redear	18	83(18)	44(24)

[a] Bluegill=RSD_8; redear=RSD_9

swdmilbg.D13

Table 51. Bluegill population assessments from 2005, 2010 and 2013 at Mill Creek Lake (scoring based on statewide assessment).

	2005		2010		2013	
Parameter	Value	Score	Value	Score	Value	Score
Mean length age-2 at capture	ND		3.6	2	3.6	2
Years to 6.0 in	ND		4.3	2	4.3	2
CPUE ≥6.0 in	88.80	4	56.00	3	47.20	3
CPUE ≥8.0 in	0.00	0	0.00	0	0.00	0
Instantaneous mortality (z)	ND		-0.75661			ND
Annual mortality (A)			53.1			
Total score:				7		7
Assessment rating			Fair		Fair	

ND - no age data collected
swdmilag.d13
swdmilbg.D05 - D13

Table 52. Species composition, relative abundance, and CPUE (fish/set-night) of channel catfish collected in baited, tandem set hoopnets (6 set-nights; 3 nets per set w/3-day soak time) at Mill Creek Lake from 30 September through 10 October 2013.

Species	Inch class 6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std err
Channel catfish				10	7	2		3	8	8	8	1	2	3	52	8.67	2.11
Redear			1		2										3	0.50	0.33
White Crappie	2	2	5	5	3										17	2.83	0.99

sw dmilgcc.d13

Table 53. Relative weight (Wr) for each length group of channel catfish collected by tandem set hoopnets (6 set-nights) at Mill Creek Lake from 30 September through 10 October 2013. Standard errors are in parentheses.

	Length group 11.0-15.9 in	16.0-23.9 in	≥24.0 in
Wr	87(3)	87(5)	
N	21	13	0

swdmilcc.D13

Table 54. Species composition and relative abundance of blue catfish collected with diurnal low-pulse electrofishing at Mill Creek Lake on 28 August 2013.

Species	Inch class 12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Blue catfish	2	2		2	1				1		1	10	NA	

swdmilbc.d13

Table 55. Species composition, relative abundance, and CPUE (fish/set-night) of channel catfish collected in baited, tandem set hoopnets (6 set-nights; 3 nets per set w/3-day soak time) at West Fork Drakes Reservoir from 20-26 September 2013.

	Inch class																				
Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE	Std err
Channel catfish							18	11	8	4		1	3	2		2	1	2	52	8.67	2.75
Redear	4	21	62	1															88	14.67	3.67

swdwfdcc.d13

Table 56. Relative weight (Wr) for each length group of channel catfish collected by tandem set hoopnets (6 set-nights) at West Fork Drakes Reservoir from 20-26 September 2013. Standard errors are in parentheses.

	Length group		
	11.0-15.9 in	16.0-23.9 in	≥24.0 in
Wr	95(1)	92(6)	
N	41	10	0

swdwfdcc.D13

Table 57. Species composition and relative abundance of blue catfish collected with diurnal low-pulse electrofishing at Spa Lake on 14 & 29 August 2013.

	Inch class																			
Species	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	31	Total	CPUE	Std err
Blue catfish	1	10	5	1		3	13	7	3	1		2	1			1	1	48	24.00	

swdspabc.d13

Table 58. Relative weight (Wr) for each length group of channel catfish collected by tandem-set hoopnets (6 set-nights) at West Fork Drakes Reservoir from 20-26 September 2013. Standard errors are in parentheses.

	Length group		
	11.0-15.9 in	16.0-23.9 in	$\geq$24.0 in
Wr	87 (2)		
N	18	0	0

swdspacc.D13

CENTRAL FISHERIES DISTRICT

Project 1: Lake and Tailwater Fishery Surveys

FINDINGS

Lake sampling conditions for 2013 are summarized in Table 1.

Taylorsville Lake (3,050 acres)

Spring diurnal electrofishing was completed in April 2013 to assess the black bass population. Three sections (Big Beech Creek, Ashes/Jacks Creek, and Van Buren areas) of Taylorsville Lake were sampled for 7.5 hours (2.5 hours per section – 30 minute runs). Length distribution and CPUE for largemouth bass are presented in Tables 2 and 3. Numbers of bass collected in 2013 (133.60 fish/hr) were higher than the lake's historic average of 111.20 fish/hr. Catch rate for keeper bass (≥15.0 in) was 22.10 fish/hr, higher than the lake average (16.40 fish/hr) for these harvestable-size fish. Big Beech Creek was the area with the highest catch rate for largemouth bass. Stocked fish (marked by fin-clips) made up only 1.4% of the largemouth bass collected at Taylorsville Lake. The PSD for largemouth bass was 56 which was very close to the lake's average of 55 (Table 4). Additionally, the RSD_{15} value was 19, also lower than the lake average of 22. The largemouth bass population assessment score, based on spring electrofishing data, was 15 ("Good"), which is consistent with the average rating of "Good" at Taylorsville Lake (Table 5).

Length frequency, relative weight (W_r), and age 0 and age 1 year class strength of largemouth bass based on September electrofishing are presented in Tables 6–8. Average body condition for largemouth bass in 2013 (W_r =92) was higher than last year (2012), but lower than the lake's historical average (W_r =97) (Table 7). Catch rate of age 0 largemouth bass in 2013 (50.00 fish/hr) was higher than the lake historic average of 45.00 fish/hr. The year class strength model indicated average recruitment for young-of-the-year largemouth bass in 2013. No largemouth bass were stocked into Taylorsville Lake in 2013 due to the above average numbers of young-of-the-year largemouth bass sampled during the fall. Largemouth bass fingerlings have been stocked almost annually since 2000 at rates ranging from 5 fish/acre to 10 fish/acre and from 1985 to 1992 at various rates. The need for stocking and the numbers stocked in reservoirs are based (since 2004) on results of the age 0 year class strength sampled in early September and the predicted age 1 year class strength the following spring.

Trap netting effort for crappie (Table 9) resulted in the collection of 400 white crappie and 324 black crappie. Crappie were sampled with trap nets during 48 net-nights. PSD and RSD_{10} values are shown in Table 10. Age and growth determinations along with age frequency for black and white crappie completed using otoliths are shown in Tables 11, 12, 14 and 15. 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 13 and 16) rated "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 stocked in 2010, 20,892 (6.8 fish/acre) white crappie (3.0 in) were stocked in 2011, 70,473 (23.1 fish/acre) white crappie were stocked in 2012, and 78,112 (25.6 fish/acre) were stocked in 2013 into Taylorsville Lake. These stocked crappie made up 22.2% of the age 1 and older white crappie sampled in the fall of 2013, an increase from 8% in the fall of 2012. Condition of white and black crappie in the fall of 2013 was acceptable, but lower than expected for Taylorsville Lake (Table 17). 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 2013 (Tables 18–26). A total of 132 hybrid striped bass were collected in 2013 compared to 47 in 2012, 94 in 2011 and 51 in 2010. Hybrid striped bass were captured in 8 net-nights (4 nets for 2 nights) for a CPUE of 16.50 (± 7.16) 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. Age and growth studies were completed for hybrid striped bass using otoliths (Tables 19 and 20). Studies indicate hybrid striped bass continue to reach harvestable size (15.0 in) between age 1 and 2, typical growth at Taylorsville Lake. The relative weight (W_r) index for hybrid striped bass (90) shows better than average body condition for hybrid striped bass at Taylorsville Lake. The average W_r for Taylorsville Lake is 85.9. The population assessment for hybrid striped bass was rated at "Fair". Annual stocking rates for hybrid striped bass have been 20 fish/acre (1.4 to 2.0 in) for the last 14 years. Taylorsville Lake was stocked with 60,166 (19.7 fish/acre; 1.4-1.5 in) hybrid striped bass in June 2013. The hybrid striped bass stocked in 2013 were all reciprocal cross hybrids (no OTC mark).

Data for white bass collected during fall 2013 gillnetting studies are presented in Tables 18 and 23-26. White bass comprised about 29% of the *Morones* sampled, compared to 59% in 2012, 72% in 2011, 80% in 2010, 34% in 2009 and 69% in 2008. Age and growth showed only age-0+ and age-1+ white bass in 2013. No white bass were collected greater than 12.0 in. Relative weight values revealed acceptable body condition, with good weights for smaller fish and decreasing body condition for larger, older fish (Table 25). The white bass population assessment rated "Poor"; the same rating as 2012 (Table 26).

See the Black Bass Investigation (F-40) Annual Performance Report for blue catfish sampling data. A total of 23,500 (7.7 fish/acre) blue catfish (7.0 -14.0 in) were stocked in Taylorsville Lake in 2013.

Dissolved oxygen and temperature profiles were completed from April through November at Taylorsville Lake. Three sites were sampled at Taylorsville Lake during 2013, including Big Beech Creek near Settlers Marina (no wake buoy line (Table 27)), the mouth of Ashes and Jack's Creek (no ski buoy line (Table 28)), and VanBuren / Chowning Lane Area (no ski buoy line (Table 29)). The thermocline appeared in May and became well established during the months of June, July, and August at Taylorsville Lake. Dissolved oxygen levels suitable for fish (≥ 4 mg/l) could generally be found from 0-10 ft deep during the summer months. There was a significant decline in oxygen throughout the lower portions of Taylorsville Lake during October. This decline in oxygen may have been the result of decomposition from a significant bloom of bluegreen algae that occurred during the summer months at Taylorsville Lake. Lake temperatures peaked during the month of July in the upper 80's.

Herrington Lake (2,410 acres)

Diurnal electrofishing studies were completed in April 2013 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 30. Largemouth bass dominated the black bass fishery, with spotted bass comprising 5.2% of the bass sampled. No smallmouth bass were collected in 2013. Length distribution and CPUE for largemouth bass are presented in Tables 30 and 31. Numbers of bass collected in 2013 (72.80 fish/hr) were lower than the lakes historic average of 116.10 fish/hr. Looking at the overall catch rates over the past couple of years they seem to be related to lake level. The higher the lake level the lower the catch rate of bass at Herrington Lake. The level during the 2013 spring electrofishing sample was very high, which may have led to a lower than average catch rate for largemouth bass. Catch rate for keeper bass (≥12.0 in) was 31.50 fish/hr, lower than the lake average (46.20 fish/hr) for these harvestable-size fish. The King's Mill (upper-lake) area had the highest catch rate for largemouth bass. Stocked fish (marked by fin-clips) made up less than a percent of the largemouth bass collected at Herrington Lake. The PSD for largemouth bass was 52 which is lower than the lake's average of 56 (Table 32). Additionally, the RSD_{15} value was 21 which is slightly lower than the lake average of 23. The largemouth bass population assessment score, based on spring electrofishing data, was 12 ("Good"), which is an average rating for Herrington Lake (Table 33). Fall electrofishing evaluated largemouth bass relative weight index and index of year class strength (Tables 34-36). Body weights for largemouth bass in 2013 (W_r =92) were similar to past years and equal to the lake's historical average (W_r =92.4) (Table 35). The year class strength model for Herrington Lake indicated an above average recruitment year for young-of-year largemouth bass in 2013. Age-0 CPUE (49.10 fish/hr) was above the lake average (35.60 fish/hr); therefore, largemouth bass were not stocked into Herrington Lake in 2013 (Table 36).

Gill netting for hybrid striped bass and white bass was completed in October 2013. During the 12 net-night sampling period, 51 hybrid striped bass and 32 white bass were collected (Table 37). Otoliths were taken from both species for age and growth determinations. Results of these studies indicated excellent growth rates both hybrids (Tables 38-39) and white bass (Tables 42-43). Hybrid striped bass continue to reach 15.0 in between age 1 and 2 (Table 38), as they have historically. Of the hybrid striped bass sampled, 43% were age 1+ or older (Table 39). The population assessment for hybrid striped bass indicated a “Fair” population, similar to the average rating of “Fair” (Table 41). White bass age and growth determinations showed they reached 9.0 in before age 1 this year and 12.0 in between age 1 and age 2 (Table 42). Of the white bass sampled, 81% were age 1+ and older (Table 43). Some strong year classes over the past couple of years had provided an excellent opportunity for some quality white bass fishing at Herrington Lake. However, there was a major die-off of white bass in June of 2013, which appears to have substantially reduced the population of white bass at Herrington Lake. The white bass population assessment indicated a “Fair” population, a reduction from the “Good” assessments for the past couple of years (Table 42). Condition of hybrid striped bass and white bass are shown in Tables 40 and 44, respectively. Herrington Lake was stocked with 45,628 (18.9 fish/acre; 1.5-1.6 in) hybrid striped bass in June 2013. The hybrid striped bass stocking was divided into 21,901 original cross (OTC marked) and 23,727 reciprocal cross hybrids (no OTC mark). These mixed stockings are part of a project that will look at the performance of original vs. reciprocal crosses of hybrid striped bass in Herrington Lake.

Dissolved oxygen and temperature profiles were completed from April through November at Herrington Lake. Three sites were sampled at Herrington Lake during 2013, including the mouth of Cane Run (no wake buoy line (Table 46)), near Gwynn Island Marina (no wake buoy line (Table 47)), and near King’s Mill Marina (no wake buoy line (Table 48)). The thermocline appeared in May and became well established during the months of June, July and August at Herrington Lake. Dissolved oxygen levels suitable for fish (≥ 4 mg/l) could generally be found from 0-12 ft deep during the summer months. Lake temperatures peaked during the month of July in the mid to upper 80’s.

Guist Creek Lake (317 acres)

Spring diurnal electrofishing studies were completed for length frequency, CPUE and population assessment for largemouth bass in April 2013 (Table 49). Total largemouth bass catch rate (179.30 fish/hr) was higher than the lake average of 161.40 fish/hr (Table 50). The PSD for largemouth bass was 72 compared to the lake average of 67 (Table 51). The RSD_{15} was 40 compared to the lake average of 41. The population assessment gave a rating of “Good”, the same rating observed since 2005 (Table 52). Fall sampling was conducted for relative weights, age and growth, and index for year class strength at age 0 and age 1 (Tables 53–56). Largemouth bass growth rates at Guist Creek Lake indicated bass are reaching harvestable size (12.0 in) between age 2 and age 3 (Table 54). Additionally, the age and growth study showed largemouth bass were reaching 15.0 in between age 4 and age 5. Relative weights indicated good body condition for bass, especially for bass over 15.0 in (Table 55). Mean length of age-0 largemouth bass (4.0 in) decreased from last year (4.1 in), as did their catch rate (46.00 fish/hr in 2012 to 38.67 fish/hr in 2013). The year class strength model indicated below average recruitment (avg. = 45.91 fish/hr) for young-of-year largemouth bass in 2013 (Table 56). However, no largemouth bass were stocked into Guist Creek Lake in 2013.

Guist Creek Lake was stocked with 25,282 (79.8 fish/acre; 1.84 inch) saugeye in 2013. This was the initial stocking of saugeye into Guist Creek Lake. The lake was sampled for saugeye on November 5, 2013 in an effort to get an initial look at this population. Boat mounted electrofishing was completed for 2.75 hours which yielded 10 saugeye ranging in size from 6.9 in to 10.7 in. and averaging 9.1 inches.

Hybrid striped bass were not sampled in 2013. Guist Creek Lake was stocked with 19,040 (60.1 fish/acre; 1.5 in) hybrid striped bass in June 2013.

Channel catfish were not sampled in 2013. Guist Creek Lake was stocked with 3,167 (10.0 fish/acre; 7.0 - 11.0 in) channel catfish in July 2013.

Beaver Lake (158 acres)

An abbreviated (1.5 hours) spring diurnal electrofishing sample was completed in April 2013 to assess the black bass population (Table 57). The CPUE for all sizes was 262.60 fish/hr, higher than the current lake average of 241.00 fish/hr (Table 58). Largemouth bass sampling continues to show that the bass removal conducted in the spring of 2011 continues to be beneficial for increasing the catch rates of ≥ 15.0 in bass. The catch rates of ≥ 15.0 in bass were the highest since 2004. The PSD and RSD_{15} for largemouth bass respectively, were 32 and 8, compared to the current lake average of 29 and 3 (Table 59). The population assessment score indicated a "Good" bass population (Table 60), which is the most common assessment rating for Beaver Lake largemouth bass. Fall diurnal electrofishing was conducted for relative weights and the index of age 0 year class strength of largemouth bass at Beaver Lake (Tables 61- 63). The relative weight index continues to reflect below-average weights for most length groups of largemouth bass at Beaver Lake in 2013 (W_r = 83), likewise, it is slightly lower than the lake average of 85. Mean length of age-0 bass increased slightly and catch rates decreased in 2013 compared to 2012 (Table 63). However, the catch rate of age-0 bass was well above the lake average (105.40 fish/hr). Therefore, largemouth bass were not stocked in 2013. Finally, no shad were observed at Beaver Lake in 2013.

Spring diurnal electrofishing was completed in May 2013 to assess the panfish populations (Tables 64-69). Length frequency results showed the majority of bluegill were in the 3.0-4.0 in and 7.0 in range, with most redear sunfish around the 9.0 in size (Table 64). The PSD for bluegill was 29 compared to the lake average of 23. The RSD_8 was 1 which equals the lake average. Redear sunfish PSD and RSD_9 were 65 and 42, respectively (Table 65). CPUE for all length groups of bluegill were higher than last year, except for bluegill in the < 3.0 in group (Table 66). The total CPUE of bluegill in 2013 (273.60 fish/hr) was higher than the lake average of 217.20 fish/hr. The population assessment for bluegill indicated a "Good" population rating, which is an increase from the previous year's ratings at Beaver Lake (Table 67). The catch rate of redear sunfish ≥8.0 in was 21.60 fish/hr compared to 102.40 fish/hr in 2012 and lower than the lake average of 62.40 fish/hr (Table 68). Overall, catch rates for all sizes were lower than the last several years, except for redear sunfish between 3.0-5.9 in. The population assessment indicated a "Good" redear sunfish fishery (Table 69). Relative weights and age and growth for bluegill and redear sunfish were collected during the fall diurnal electrofishing sample. Age and growth studies indicated bluegill reached 6.0 in between age 2 and 3 (Table 70). Age and growth studies continued to show redear sunfish reaching 6.0 in between age 1 and 2, and 8.0 between age 2 and 3 (Table 71). Relative weight data for redear sunfish were very good for all length groups. Additionally, body condition of bluegill at Beaver Lake in 2013 was average compared to previous years (Table 72).

Channel catfish were not sampled at Beaver Lake in 2013. Beaver Lake was stocked with 3,703 (23.4 fish/acre; 6.0 – 11.0 in) channel catfish in July 2013.

No applications of aquatic herbicides were completed at Beaver Lake in 2013. No liquid fertilizer applications have been made since 2001.

Boltz Lake (92 acres)

Spring nocturnal electrofishing was completed in April 2013 to assess the black bass population (Table 73). Results indicated largemouth bass catch rates (165.00 fish/hr) were lower than the lake's historical average (192.60 fish/hr) (Table 74). The PSD for largemouth bass was 31 compared to the lake average of 53 (Table 75). The RSD_{15} was 13 compared to the lake average of 18. The population assessment indicated a "Fair" bass population, the same as seven out of the past nine years (Table 76). Fall diurnal electrofishing was conducted for relative weights and the index of age 0 year class strength of largemouth bass in September (Tables 77-79). Relative weights indicated acceptable body condition (W_r = 87), slightly lower than the lake average relative weight of 90 (Table 78). Fall sampling indicated above average numbers of age 0 bass, (68.00 fish/hr; average= 53.00 fish/hr) and the average size was the same as 2012 (Table 79). However, Boltz Lake was stocked with 2,102 (22.8 fish/acre; 5.7 in) largemouth bass in March 2013. Currently, Boltz Lake does not have a population of gizzard shad.

Spring diurnal electrofishing for bluegill was conducted in May 2013 (Tables 80). The overall catch rates for bluegill were lower in 2013 (316.80 fish/hr) than the lake average (506.70 fish/hr) (Table 82). The

PSD for bluegill was 42 compared to the lake average of 22 (Table 81). The RSD_8 was 0 compared to the lake average of 1. The population assessment for bluegill indicated a "Good" population present, similar to the last 3 years (Table 83). The relative weight index reflected below-average condition for 6.0-8.0 in bluegill at Boltz Lake in 2013, however, the overall relative weight (W_r = 90) was equal to the lake average (Table 84).

Channel catfish were not sampled at Boltz Lake in 2013. Boltz Lake was stocked with 1,726 (18.8 fish/acre; 4.0 – 10.0 in) channel catfish in July 2013. Results of the blue catfish sampling at Boltz Lake by the Black Bass Research Section are presented in their Annual Performance Report. Boltz Lake was stocked with 424 (4.6 fish/acre; 4.0 – 8.0 in) blue catfish in March 2013.

Bullock Pen Lake (134 acres)

No spring electrofishing was conducted on Bullock Pen Lake in 2013 to assess the black bass population. Fall electrofishing was conducted diurnally in September to determine the relative weights and YOY year class strength for largemouth bass (Tables 85-87). Relative weights indicated acceptable body condition for bass (W_r = 93), which was almost average for the lake (W_r = 94). Larger fish exhibited better condition compared to smaller length groups, which is a function of the shad forage base (Table 86). CPUE for both age-0 and age-0 ≥5.0 in bass decreased or remained the same from last year (Table 87). Age-0 CPUE (14.67 fish/hr) was lower than the lake average (20.90 fish/hr); therefore, largemouth bass were stocked into Bullock Pen Lake in 2013. Fingerling (4.6 in) largemouth bass were stocked in October at a rate of 15.1 fish/acre, totaling 2,027 fish (right pectoral clip).

Bullock Pen Lake was stocked with 12,377 (92.4 fish/acre; 1.8 in) saugeye in May 2013. This was the initial stocking of saugeye into Bullock Pen Lake.

Channel catfish were not sampled at Bullock Pen Lake in 2013. Bullock Pen Lake was stocked with 2,928 (21.9 fish/acre; 4.0 – 10.0 in) channel catfish in July 2013. Results of the blue catfish sampling at Bullock Pen Lake by the Black Bass Research Section are presented in their Annual Performance Report. Bullock Pen Lake was stocked with 732 (5.5 fish/acre; 4.0 – 8.0 in) blue catfish in March 2013.

Corinth Lake (96 acres)

A gizzard shad removal was conducted in February 2013 at Corinth Lake. A concentration of 0.2 ppm of 5% emulsified liquid rotenone was used to eradicate the gizzard shad at Corinth Lake. The lake water level was not lowered. Measurement indicated a surface acreage of 78.6 acres, less than the historical 96 acres as thought. The lake was divided into five areas and treated by seven crews. Spring and fall sampling in 2013 revealed no gizzard shad during these sampling periods; therefore, the shad eradication currently appears successful.

Spring nocturnal electrofishing was completed in April 2013 to assess the black bass population (Table 88). The catch rate for largemouth bass decreased or remained the same compared to last year for the different length groups (Table 89). The total catch rate of largemouth bass in 2013 (232.50 fish/hr) was slightly lower than the lake's average catch rate of 234.90 fish/hr. The PSD for largemouth bass was 23, slightly lower than last years' value (26) (Table 90), but higher than the lake average of 21. The RSD_{15} for largemouth bass was 12, higher than the lake average of 7. The population assessment for largemouth bass was rated "Good"; the same as last year's rating (Table 91). Fall diurnal electrofishing for largemouth bass was conducted to determine year class strength and relative weight (Tables 92-94). Relative weights of largemouth bass continue to be below average, except for largemouth bass ≥ 15.0 in (Table 93). The overall relative weight in 2013 (W_r = 83) was almost equal to the average relative weight observed at Corinth Lake (W_r = 84). Largemouth bass mean length at age 0 decreased, but catch rates of age-0 and age-0 ≥ 5.0 in increased from last year (Table 94). No largemouth bass were stocked in Corinth Lake due to the increase in age-0 CPUE (170.67 fish/hr).

Spring diurnal electrofishing for bluegill and redear sunfish was completed in May 2013 to obtain length frequency, CPUE and population assessment data (Table 95). Bluegill PSD (64) was significantly higher than the lake average of 26 (Table 96). Bluegill catch rates (167.20 fish/hr) decreased in 2013 and were lower than the 15 year average (277.30 fish/hr) (Table 97). The population assessment indicated a “Fair” population, identical to the last nine years (Table 98). The redear sunfish catch rate (56.80 fish/hr) decreased slightly in 2013 and was lower than the 15 year average (75.80 fish/hr). Redear sunfish PSD was 86, much higher than the lake average of 52. Catch rate for redear sunfish ≥8.0 in increased from 24.00 fish/hr in 2012 to 29.60 fish/hr in 2013 (Table 99). One ≥10.0 in redear sunfish was collected in 2013, the first trophy redear sunfish since 2009. The population assessment for redear sunfish continued to be rated “Good” (Table 100). Relative weights for bluegill and redear sunfish were collected during the fall diurnal electrofishing survey. Relative weights indicated good body condition for bluegill and redear sunfish (Table 101).

Channel catfish were sampled in October using 3 sets of 3 tandem hoop nets at Corinth Lake in 2013. Length frequency results for channel catfish showed a size distribution between 9.0 -17.0 in (Table 102). The PSD and RSD_{24} for channel catfish were 42 and 0, respectively (Table 103). Relative weights indicated slightly below average condition for channel catfish (Table 104). Corinth Lake was stocked with 1,945 (20.3 fish/acre; 6.0 – 8.0 in) channel catfish in March 2013.

Elmer Davis Lake (149 acres)

No spring electrofishing was conducted on Elmer Davis Lake in 2013 to assess the black bass population. Fall diurnal electrofishing for relative weights and year class strength of largemouth bass was completed in September 2013 (Tables 106-108). Relative weights indicated an increase in body condition of largemouth bass at Elmer Davis Lake in 2013 (W_r = 89) compared to the lake average relative weight of 87 (Table 107). Studies indicated that numbers of age 0 bass in the fall of 2013 (20.00 fish/hr) were significantly less than the lake average (129.70 fish/hr); however, largemouth bass were not stocked into Elmer Davis Lake (Table 108).

Diurnal spring electrofishing for length frequency, CPUE, and population assessment was conducted for bluegill and redear sunfish in May 2013. The total bluegill catch rate in 2013 (284.00 fish/hr) was slightly higher than the lake average 275.80 fish/hr (Tables 109 and 111). The PSD value for bluegill was 24 and continues to be lower than the lake average of 34 (Table 110). Likewise, the RSD_8 (0) remains lower than the lake average of 3. The population assessment for bluegill was found to be “Fair”, a decrease from the lake average rating of “Good” (Table 112). The total catch rate of redear sunfish in 2013 (242.40 fish/hr) was four times higher than the lake average of 66.41 fish/hr (Table 109 and 113), the highest recorded catch rate since redear were stocked in 1983. The PSD for redear sunfish was 23 compared to the lake average of 54. The RSD_9 was 1 compared to the lake average of 19 (Table 110). The redear sunfish population assessment indicated a “Good” population, a decline from the “Excellent” rating over the last two years, but equal to the lake average rating of “Good” (Table 114). Relative weights and age and growth data for bluegill and redear sunfish were collected in the fall diurnal electrofishing studies. Age and growth studies on bluegill showed that they reached 6.0 in between age 3 and 4 (Table 115). Age and growth studies indicated good growth rates with redear sunfish reaching 6.0 in between age 2 and age 3 (Table 116). Relative weight results for bluegill and redear sunfish indicated excellent body condition for both species (Table 117). 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. This gizzard shad reestablishment has had a negative influence on the panfish populations at Elmer Davis Lake.

Channel catfish were not sampled at Elmer Davis in 2013. Elmer Davis Lake was stocked with 3,290 (22.1 fish/acre; 7.0 – 11.0 in) channel catfish in July 2013.

Kincaid Lake (183 acres)

Spring nocturnal electrofishing studies were conducted in April 2013 for PSD, length frequency and CPUE for largemouth bass (Table 118). Total catch rate in 2013 (278.00 fish/hr) was higher than the lake average of 217.00 fish/hr (Table 119). Largemouth bass PSD and RSD_{15} were 62 (average = 67) and 34 (average = 44), respectively in 2013 (Table 120). The population assessment indicated an “Excellent” bass population, the best rating in the last thirteen years at Kincaid Lake (Table 121). Fall diurnal electrofishing for relative weights, age and growth and index of year class strength at age 0 was conducted in September (Tables 122-125). Largemouth bass growth rates at Kincaid Lake indicated bass are reaching harvestable size (12.0 in) between age 2 and age 3 (Table 123). Additionally, the age and growth study showed largemouth bass were reaching 15.0 in between age 4 and age 5. Relative weights of largemouth bass length groups were about average for Kincaid Lake in 2013 (2013 W_r = 93; lake average = 92) (Table 124). Age-0 CPUE (37.30 fish/hr) was close to the lake average (38.90 fish/hr) (Table 125), therefore, largemouth bass were not stocked into Kincaid Lake in 2013. 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 hoop nets) at Kincaid Lake in 2013. Length frequency results for channel catfish showed a good size distribution between 7.0 – 24.0 in (Table 126). PSD and RSD_{24} for channel catfish were 18 and 1, respectively, compared to 25 and 1 in 2012 (Table 127). Relative weights indicated average condition for channel catfish (Table 128). Kincaid Lake was stocked with 2,427 (13.3 fish/acre; 4.0 – 10.0 in) channel catfish in July 2013.

An aquatic herbicide (Reward, diquat dibromide) was used to spot treat parrotfeather (*Myriophyllum aquaticum*) at Kincaid Lake on December 4th.

McNeely Lake (51 acres)

No spring electrofishing was conducted on McNeely Lake in 2013 to assess the black bass population. Diurnal fall electrofishing for largemouth bass in September 2013 was completed to collect relative weight and to index the year class strength at age 0 (Table 130). Relative weights were slightly below desired levels in 2013 (W_r = 85) (Table 131). Additionally, relative weights were lower than the average (W_r = 89) observed at McNeely Lake. CPUE for age-0 bass (86.00 fish/hr) decreased from last year (Table 132), and was significantly lower than the lake average (121.10 fish/hr) over the last fourteen years. However, largemouth bass were not stocked into McNeely Lake in 2013 due to very good year classes from 2010 to 2012. Currently, McNeely Lake does not contain a population of gizzard shad.

Bluegill and redear sunfish were sampled in May 2013 for length frequency, CPUE and population assessment (Table 133). Catch rates for bluegill (420.80 fish/hr) in 2013 remained above the lake average catch rate of 346.30 fish/hr (Table 135). The bluegill PSD was 67 compared the lake average of 38 (Table 134). RSD_8 was 0.2 in 2013, compared to the lake average of 0.3. The population assessment for bluegill continues to be “Good” (Table 136). The total catch rate for redear sunfish remained high in 2013 (93.60 fish/hr) and was significantly higher than the lake average (56.90 fish/hr) (Table 137). The PSD for redear sunfish was 75 compared to the lake average of 42 and the RSD_9 was 13 compared to the lake average of 6 (Table 134). The redear sunfish fishery was rated “Excellent”, an improvement over the past three years (Table 138). Relative weights and age and growth for bluegill and redear sunfish were collected during the fall diurnal electrofishing sample. Age and growth studies showed that bluegill continue to reach 6.0 in between age 2 and 3 (Table 139). Age and growth studies indicated good growth rates of redear sunfish with fish reaching 6.0 in between age 1 and 2, and 8.0 in by age 3 (Table 140). Good body condition was observed for both redear sunfish and bluegill during the fall of 2013 at McNeely (Table 141).

Results of the channel catfish sampling at McNeely Lake by the Black Bass Research Section are presented in their Annual Performance Report. McNeely Lake was stocked with 1,275 (25.0 fish/acre; 6.0 -11.0 in) channel catfish in July 2013.

One application of an aquatic herbicide (Reward, diquat dibromide) was made to sections of the shoreline of McNeely Lake on May 30th to control curly-leafed pondweed (*Potomogeton crispus*).

General Butler State Park Lake

Length frequency and CPUE of largemouth bass collected in April 2013 at General Butler State Park Lake are presented in Table 142. All sizes of largemouth bass were represented; however, numbers of bass are somewhat limited at this lake. Largemouth bass up to 19.0 in were collected.

Jericho Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Jericho Lake in April 2013 are shown in Table 143. Studies show largemouth bass from 2.0 to 21.0 inches in fair numbers.

Lower Thomas Lake

Length frequency, relative abundance, and CPUE of fish collected by electrofishing at Lower Thomas Lake in April 2013 are shown in Table 144. Studies show largemouth bass from 3.0 to 21.0 inches in fair numbers. Bluegill up to 7.0 in were collected as well as redear sunfish up to 9.0 in.

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
General Butler	LMB	4/15	1100	shock	cloudy	63	normal	24	Good	good sample
Boltz	LMB	4/15	2000	shock	cloudy / cold front	59	normal	117	good	good sample
Corinth	LMB	4/16	2000	shock	overcast / light rain after thunderstorm	62	normal	93	good	good sample
Taylorsville	LMB	4/16	1000	shock	cloudy / windy / warm	62 B	547.1	22	good	good sample
		4/17	1000	shock	cloudy / east wind	62 V	547.9	20	good	good sample
		4/18	1000	shock	sunny	62 A	548.2	24	good	good sample
Herrington	LMB	4/22	1000	shock	sunny	68 L	740.4	60 L	good	good samples
		4/25	1000	shock	sunny		740.7	25 U	good	good samples
		4/29	1000	shock	cloudy / cool	60 M	743.2	30 M	good	good samples
Leary	LMB	4/26	1100	shock	sunny	59	normal	108	good	good sample
Jericho	LMB	4/30	1000	shock	sunny / warm	64	normal	25	good	good sample
Kincaid	LMB	4/30	2000	shock	clear / warm	65	normal	36	good	good sample
Guist Creek	LMB	5/1	1000	shock		64	normal	20	good	good samples
Lower Thomas	LMB	5/7	1100	shock	cloudy	65	above	40	good	good sample
Beaver	LMB	5/8	1000	shock	sunny	67	normal	40	good	good sample
McNeely	BG/RESF	5/13	1000	shock	cloudy / windy	65	normal	40	good	good sample
Beaver	BG/RESF	5/14	1000	shock	sunny	64	normal	46	good	good sample
Elmer Davis	BG/RESF	5/15	1000	shock			normal		good	good sample
Boltz	BG	5/16	1000	shock		75	normal	40	good	good sample
Corinth	BG/RESF	5/22	1000	shock	cloudy	75	normal	108	good	good samples
Kincaid	LMB	9/9	1100	shock	sunny	80	normal	36	good	good sample
McNeely	LMB/BG/RESF	9/10	1000	shock	Sunny / hot	83	normal	30	good	good sample
Elmer Davis	LMB/BG/RESF	9/11	1000	shock	partly cloudy	80	normal	15	good	good sample
Corinth	LMB/BG/RESF	9/12	1000	shock	cloudy	81	normal		good	good sample
Bullock Pen	LMB	9/13	1000	shock	sunny / cool	79	Normal		good	good sample; cold front
Beaver	LMB/BG/RESF	9/16	1000	shock	cloudy / cool	74	normal	18	good; but murky	good sample
Guist Creek	LMB	9/17	1000	shock	sunny / breezy / cool	72	below normal	20	good	good sample
Taylorsville	LMB	9/18	1000	shock	cloudy/pleasant	76 B/A	546.9	44	Good	good sample
		9/19	1000	shock	cloudy	75 V	546.9	24		V = Van Buren Area; B = Big Beech and A = Ashes Creeks
Boltz	LMB/BG/RESF	9/20	1000	shock	sunny / breezy / prefrontal conditions	72	normal	64	good	good sample
Herrington	LMB	9/23	1000	shock	sunny / cool / breeze	74	739.8	55	good	good samples
		9/24	1000	shock	sunny / pleasant	74	739.8	48		9/23 – lower section; 9/24 – mid section; 9/25 – upper section
		9/25	1000	shock	mostly cloudy	74	739.8	42		
Kincaid	Channel catfish	10/10	1100	hoop net	Stable weather for 3 days during set	66	normal		good	good sample

Corinth	Channel catfish	10/11	1000	hoop net	sunny		normal		good	good sample

Table 1 (cont).

Water body	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Herrington	Morones	10/15	1000	gillnet	partly cloudy	62	733.4		good	good sample
		10/16	1000		cloudy	62	733.2			
		10/17	1000		cloudy	62	732.2			
		10/18	1000		sunny	62	731.8			
Taylorsville	Morones/	10/22	1000	gillnet	partly cloudy/cool	68	546.7		Fair	Poor water quality conditions in lower lake (low dissolved oxygen)
	Crappie	10/23	1000	trapnet	cloudy/cool	65	546.7			
		10/24	1000		cloudy/cool	63	546.6			
		10/25	1000		sunny/cool	61	546.6			

Table 2. Length distribution and CPUE (fish/hr) of largemouth bass collected in 7.5 hours of 30-minute electrofishing runs for black bass in Taylorsville Lake in April 2013; 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
Van Buren																				
Largemouth bass		8	21	8	7	9	29	41	18	14	28	32	22	13	4	2			256	102.40 (16.27)
Ashes Creek																				
Largemouth bass	1	12	21	21	11	32	29	22	28	21	36	40	23	12	5	6	1	1	322	128.80 (13.53)
Big Beech Creek																				
Largemouth bass		2	7	15	13	25	49	45	47	33	56	55	37	13	15	7	3	2	424	169.60 (11.92)
Natural	1	22	49	44	31	66	106	108	91	67	115	123	81	34	24	15	4	3	988	131.73 (10.13)
2011 Stocked							1		1										2	2.00 (0.00)
2010 stocked									1	1	5	4	1						12	3.43 (0.57)
Total																				
Largemouth bass	1	22	49	44	31	66	107	108	93	68	120	127	82	38	24	15	4	3	1002	133.60 (10.52)

Dataset = cfdpstvl.d13

Table 3. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Taylorsville Lake from 1984-2013; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	$\geq$15.0 in	$\geq$20.0 in	Total
1984	50.40 (1.80)	88.00 (6.00)	6.00 (2.20)	0.00 (0.00)	0.00 (0.00)	144.40 (5.60)
1985	0.80 (0.60)	43.80 (5.40)	74.80 (9.20)	3.40 (1.00)	0.00 (0.00)	122.20 (14.40)
1986	1.80 (0.20)	11.20 (1.40)	21.00 (1.80)	24.40 (3.00)	0.00 (0.00)	59.00 (5.40)
1987	3.60 (0.60)	5.40 (0.60)	9.20 (1.00)	29.20 (2.60)	0.30 (0.10)	48.00 (3.80)
1988	3.20 (0.80)	8.40 (1.20)	6.00 (1.00)	19.60 (3.00)	0.15 (0.11)	37.20 (4.80)
1989	58.60 (15.60)	33.40 (5.80)	22.20 (3.40)	13.80 (3.00)	0.00 (0.00)	128.20 (24.00)
1990	57.00 (8.40)	54.20 (6.80)	22.80 (2.60)	21.80 (3.40)	0.52 (0.16)	154.40 (15.00)
1991	26.00 (2.80)	37.20 (2.80)	22.80 (2.10)	11.80 (1.40)	0.07 (0.07)	98.60 (5.20)
1992	58.50 (5.50)	42.60 (2.50)	36.90 (2.90)	17.60 (1.60)	0.07 (0.07)	155.60 (7.30)
1993	21.00 (3.60)	53.20 (4.80)	36.40 (13.80)	14.80 (1.90)	0.08 (0.08)	128.30 (8.60)
1994	25.10 (3.00)	39.90 (3.60)	40.70 (5.10)	15.00 (1.50)	0.09 (0.09)	122.30 (9.80)
1995	28.20 (3.50)	69.60 (3.90)	20.30 (1.30)	11.60 (1.40)	0.00 (0.00)	129.60 (6.80)
1996	16.20 (2.40)	41.00 (3.90)	49.80 (3.20)	16.00 (3.20)	0.10 (0.10)	122.60 (9.80)
1997	33.20 (6.30)	43.40 (4.00)	46.40 (1.80)	15.20 (1.80)	0.09 (0.09)	138.30 (7.70)
1998	20.00 (3.00)	26.40 (2.70)	30.50 (2.60)	21.70 (2.60)	0.40 (0.22)	98.70 (7.20)
1999	19.10 (2.80)	38.70 (3.20)	20.90 (3.00)	22.70 (2.60)	0.40 (0.29)	101.30 (7.10)
2000	17.70 (3.30)	33.10 (3.90)	16.10 (2.60)	10.50 (1.50)	0.53 (0.24)	77.50 (6.10)
2001	32.40 (4.10)	44.10 (3.70)	27.60 (3.60)	15.50 (2.70)	0.27 (0.18)	119.60 (8.30)
2002	33.70 (4.40)	22.30 (2.20)	12.80 (2.20)	9.60 (1.80)	0.53 (0.24)	78.40 (7.00)
2003	19.50 (2.90)	58.50 (4.80)	24.90 (2.20)	15.20 (2.10)	0.80 (0.43)	118.10 (9.20)
2004	14.10 (2.50)	26.70 (2.70)	42.90 (3.40)	13.20 (1.60)	0.27 (0.27)	96.90 (5.20)
2005	35.50 (5.90)	35.70 (4.90)	40.30 (4.30)	34.30 (3.40)	0.53 (0.41)	145.70 (12.70)
2006	20.30 (4.00)	39.60 (3.70)	20.30 (3.70)	16.50 (2.70)	0.27 (0.18)	96.70 (11.00)
2007	13.50 (2.50)	35.50 (4.10)	33.70 (3.60)	14.40 (2.40)	0.27 (0.18)	97.10 (9.10)
2008	13.90 (2.90)	30.10 (2.80)	33.60 (3.10)	22.50 (3.20)	0.00 (0.00)	100.13 (8.90)
2009	15.87 (3.48)	32.93 (3.57)	22.27 (2.53)	13.60 (2.05)	0.13 (0.13)	84.67 (6.90)
2010	45.73 (8.30)	36.27 (2.68)	49.73 (5.06)	16.40 (1.83)	0.27 (0.18)	148.13 (12.41)
2011	Sampling was not conducted due to extreme weather and lake conditions.					
2012	27.87 (3.98)	59.07 (5.95)	36.93 (3.04)	14.53 (1.16)	0.27 (0.18)	138.40 (8.57)
2013	19.60 (2.10)	49.87 (4.55)	42.00 (4.49)	22.13 (2.87	0.40 (0.21)	133.60 (10.52)

Dataset = cfdpstvl.d13– .d84

Table 4. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in each area of Taylorsville Lake in 2013; 95% confidence intervals are in parentheses.

Area	Species	No. $\geq$8.0 in	PSD	RSD_{15}
Big Beech	Largemouth bass	387	57 (± 5)	20 (± 4)
Ashes Creek	Largemouth bass	256	57 (± 6)	19 (± 5)
Van Buren	Largemouth bass	212	54 (± 7)	19 (± 5)
Total	Largemouth bass	855	56 (± 3)	19 (± 3)

Dataset = cfdpstvl.d13

Table 5. Population assessment for largemouth bass collected during spring electrofishing at Taylorsville Lake from 2000-2013 (scoring based on statewide assessments).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2013	Value	13.1*	17.20	42.00	22.13	0.40				
	Score	4	1	4	4	2			15	Good
2012	Value	13.1*	28.13	39.93	14.53	0.27				
	Score	4	2	4	3	2			15	Good
2011	Value	Sampling was not conducted due to extreme weather and lake conditions.								
	Score									
2010	Value	13.1	49.53	49.73	16.40	0.27	0.574	43.7		
	Score	4	3	4	3	2			16	Good
2009	Value	12.9*	14.60	22.30	13.60	0.13				
	Score	4	1	2	3	1			11	Fair
2008	Value	12.9*	12.20	33.60	22.50	0.00				
	Score	4	1	3	4	0			12	Good
2007	Value	12.9*	10.30	33.70	14.40	0.27				
	Score	4	1	3	3	2			13	Good
2006	Value	12.9	17.50	20.30	16.50	0.27	0.824	56.1		
	Score	4	1	2	3	2			12	Good
2005	Value	12.6*	38.30	40.30	34.30	0.53				
	Score	4	3	4	4	2			17	Excellent
2004	Value	12.6*	14.90	42.90	13.20	0.27				
	Score	4	1	4	3	2			14	Good
2003	Value	12.6*	21.20	24.90	15.20	0.80				
	Score	4	2	2	3	2			13	Good
2002	Value	12.6	34.80	12.80	9.60	0.53	0.495	39.0		
	Score	4	2	1	2	2			11	Fair
2001	Value	10.8	20.50	27.60	15.50	0.27	0.539	41.7		
	Score	4	2	3	3	2			11	Fair
2000	Value	10.1	14.10	16.10	10.50	0.53	0.455	36.6		
	Score	4	1	2	2	2			8	Fair

* Age data not collected

^Calculations based on age data gathered in previous years

-Instantaneous and annual mortality not calculated in years where age and growth data are not collected

Table 6. Length distribution and CPUE (fish/hr) of largemouth bass collected in 4.5 hours of 15-minute electrofishing runs for black bass in Taylorsville Lake in September 2013; 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		3	30	27	23	5	4	21	14	12	16	12	7	3					177	118.00 (7.36)
Ashes Creek																				
Largemouth bass	3	29	26	24	10		17	15	20	11	13	3	8	3	2				184	122.67 (20.60)
Big Beech Creek																				
Largemouth bass		9	20	8	6	2	5	13	11	9	5	5	3	9	6	3		1	115	76.67 (7.55)
Total																				
Largemouth bass	3	41	76	59	39	7	26	49	45	32	34	20	18	15	8	3		1	476	105.78 (8.81)

Dataset = cfdwrtvl.d13

Table 7. Numbers of fish and the relative weight (Wr) for each length group of largemouth bass collected at Taylorsville Lake on 18 and 19 September 2013; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Van Buren	41	94 (1)	35	93 (1)	3	97 (4)	79	94 (1)
	Ashes	56	90 (1)	24	96 (3)	5	103 (3)	85	93 (1)
	Big Beech	35	86 (2)	13	93 (3)	19	97 (3)	67	91 (2)
	Total	132	90 (1)	72	94 (1)	27	98 (2)	231	92 (1)

Dataset = cfdwrtvl.d13

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

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1 (Natural)	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2001	Total	4.6	1.3	63.60	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	27.47	3.76
2012	Total	5.1	0.1	54.44	5.28	27.78	3.29	17.20	2.15
2013	Total	4.9	0.1	50.00	5.99	23.78	4.28		

Dataset = cfdwrtvl.d13

Table 9. Length distribution and CPUE (fish/nn) of each species of crappie collected at Taylorsville Lake in 48 net-nights during October 2013.

.	Inch class													Std.
Species	2	3	4	5	6	7	8	9	10	11	12	Total	CPUE	error
White crappie														
natural	7	122	154	36	1	5	17	24	10	3	3	382	7.96	1.97
2012					1	6	6	1	1			15	0.32	0.10
2011								1				1	0.02	0.02
2010									1			1	0.02	0.02
2009										1		1	0.02	0.02
Total	7	122	154	36	2	11	23	26	12	4	3	400	8.33	2.00
Black crappie	9	73	22	3		19	104	93	1			324	6.75	1.67

Dataset = cfdtntvl.d13

Table 10. PSD and RSD_{10} values calculated for crappie collected at Taylorsville Lake in 48 net-nights during October 2013. 95% confidence intervals are in parentheses.

Species	No. $\geq$5.0 in	PSD	RSD_{10}
White crappie	117	58 ($\pm$ 9)	16 ($\pm$ 7)
Black crappie	220	90 ($\pm$ 4)	1 ($\pm$ 1)

Dataset = cfdtntvl.d13

Table 11. Mean back calculated lengths (in) at each annulus for otoliths from white crappie trap netted and gill netted at Taylorsville Lake in 2013.

		Age				
Year class	No.	1	2	3	4	5
2012	61	5.5				
2011	9	5.8	8.8			
2010	3	5.5	9.0	10.4		
2009	2	5.1	8.6	9.6	11.1	
2008	1	4.6	8.4	10.3	11.2	12.3
Mean	76	5.6	8.8	10.1	11.1	12.3
Smallest		3.2	6.3	9.1	10.9	12.3
Largest		7.6	10.4	11.0	11.2	12.3
Std Error		0.1	0.3	0.3	0.2	
95% ConLo		5.3	8.2	9.5	10.9	
95% ConHi		5.8	9.3	10.7	11.3	

Intercept value = 0.00
Dataset = cfdagtvl.d13

Table 12. Age frequency and CPUE (fish/nn) per inch class of white crappie trap netted for 48 net-nights at Taylorsville Lake in 2013.

	Inch class														Std
Age	2	3	4	5	6	7	8	9	10	11	12	Total	%	CPUE	err
0+	7	122	154	36								319	80	6.65	1.88
1+					2	11	22	24	5			63	16	1.32	0.25
2+							1	2	6	1	1	11	3	0.23	0.05
3+									2	1	1	4	1	0.07	0.02
4+										2		2	1	0.04	0.02
5+											1	1	0	0.02	0.01
Total	7	122	154	36	2	11	23	26	12	4	3	400	100	8.33	2.00
(%)	2	31	39	9	1	3	6	7	3	1	1	100			

Dataset = cfdtntvl.d13 and cfdagtvl.d13
CPUE of ≥8.0 in white crappie = 1.42 ± 0.28 fish/nn; ≥10.0 in = 0.40 ± 0.12 fish/nn

Table 13. Population assessment for white crappie collected during fall trap netting at Taylorsville Lake from 2000-2013 (scoring based on statewide assessment).

Year		CPUE age-1 and older	Mean length age-2+ at capture	CPUE ≥ 8.0 in	CPUE age-1+	CPUE age-0+	Total score	Assessment rating
2013	Value	1.69	10.2	1.42	1.32	6.65		
	Score	1	4	1	3	1	10	Fair
2012	Value	0.65	10.1	0.56	0.46	1.06		
	Score	1	4	1	1	1	8	Fair
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

* Age data not collected

Table 14. Mean back calculated lengths (in) at each annulus for otoliths from black crappie trap netted at Taylorsville Lake in 2013.

		Age	
Year class	No.	1	2
2012	23	4.6	
2011	64	4.7	7.6
Mean	87	4.7	7.6
Smallest		3.7	6.4
Largest		6.2	8.7
Std Error		0.1	0.1
95% ConLo		4.6	7.5
95% ConHi		4.8	7.7

Intercept value = 0.00
Dataset = cfdagtvl.d13

Table 15. Age frequency and CPUE (fish/nn) per inch class of black crappie trap netted for 48 net-nights at Taylorsville Lake in 2013.

	Inch class												
Age	2	3	4	5	6	7	8	9	10	Total	%	CPUE	Std err
0+	9	73	22	3						107	33	2.23	0.66
1+						18	26			44	14	0.92	0.32
2+						1	78	93	1	173	53	3.61	1.28
Total	9	73	22	3		19	104	93	1	324	100	6.75	1.67
%	3	23	7	1		6	32	29	0	100			

Dataset = cfdtntvl.d13 and cfdagtvl.d13

CPUE of ≥8.0 in black crappie = 4.13 ± 1.43 fish/nn; ≥10.0 in = 0.02 ± 0.02 fish/nn

Table 16. Population assessment for black crappie collected during fall trap netting at Taylorsville Lake from 2000-2013 (scoring based on statewide assessment).

Year		CPUE age-1 and older	Mean length age-2 at capture	CPUE ≥8.0 in	CPUE age-1+	CPUE age-0+	Total score	Assessment rating
2013	Value	4.52	9.1	4.13	0.92	2.23		
	Score	1	3	2	1	1	8	Fair
2012	Value	9.83	9.6	1.73	9.30	0..08		
	Score	2	4	1	3	1	11	Fair
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 17. Number of fish and the relative weight (Wr) for each length group of crappie at Taylorsville Lake in October 2013; standard errors are in parentheses.

		Length group							
Species	Area	5.0–7.9 in		8.0–9.9 in		≥10.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
White crappie	Total	21	84 (2)	49	90 (2)	19	89 (2)	89	88 (1)
Black crappie	Total	21	85 (2)	73	87 (1)	1	89	95	86 (1)

Dataset = cfdtntvl.d13

Table 18. Length distribution and CPUE (fish/nn) of white bass and hybrid striped bass collected during 8 net-nights of gill netting in Taylorsville Lake in October 2013: numbers in parentheses are standard errors.

	Inch class																						
Species	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	CPUE
White bass	2	24	16	2	8	3																55	6.88 (4.67)
Hybrid striped bass	1	16	32	53	5	5	5	2	1			3	3	2		1			2		1	132	16.50 (7.16)

Dataset = cfdgntvl.d13

Table 19. Mean back calculated lengths (in) at each annulus for otoliths from hybrid striped bass gill netted at Taylorsville Lake in 2013.

		Age									
Year class	No.	1	2	3	4	5	6	7	8	9	10
2012	14	6.9									
2011	7	9.2	15.0								
2009	3	7.7	14.9	18.8	21.5						
2003	1	9.4	15.9	19.1	21.4	22.9	23.9	24.8	25.2	25.9	26.5
Mean	25	7.7	15.1	18.9	21.5	22.9	23.9	24.8	25.2	25.9	26.5
Smallest		6.0	13.5	17.9	20.3	22.9	23.9	24.8	25.2	25.9	26.5
Largest		11.1	16.4	19.6	22.2	22.9	23.9	24.8	25.2	25.9	26.5
Std Error		0.3	0.3	0.4	0.4						
95% ConLo		7.2	14.5	18.2	20.7						
95% ConHi		8.3	15.6	19.6	22.3						

Intercept Value = 0.00
Dataset = cfdagtvl.d13

Table 20. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 8 net-nights at Taylorsville Lake in 2013.

	Inch class																								Std
Age	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	%	CPUE	Err
0+	1	16	32	53	2																	104	79	13.00	5.73
1+					3	5	5	2	1													16	12	2.00	1.09
2+												3	3	2								8	6	1.00	0.87
4+																1			2			3	2	0.38	0.38
10+																					1	1	1	0.13	0.13
Total	1	16	32	53	5	5	5	2	1			3	3	2		1			2		1	132	100	16.50	7.16
%	1	12	24	40	4	4	4	2	1			2	2	2		1			2		1	100			

Dataset = cfdagtvl.d13 and cfdgntvl.d13

Table 21. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Taylorsville Lake in October 2013; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Hybrid striped bass	Total	95	89 (1)	8	86 (2)	12	94 (3)	115	90 (1)

Dataset = cfdgntvl.d13

Table 22. Population assessment for hybrid striped bass collected during fall gill netting at Taylorsville Lake from 2000-2013 (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
2013	Value	3.50	18.3	1.50	2.00	-	-		
	Score	1	4	1	1			7	Fair
2012	Value	2.17	17.0	0.83	1.33	-	-		
	Score	1	3	1	1			6	Fair
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 23. Mean back calculated lengths (in) at each annulus for otoliths from white bass gill netted at Taylorsville Lake in 2013.

		Age
Year class	No.	1
2012	11	6.9
Mean	11	6.9
Smallest		5.1
Largest		9.5
Std Error		0.4
95% ConLo		6.2
95% ConHi		7.6

Intercept Value = 0.00
Dataset = cfdagtvl.d13

Table 24. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 8 net-nights at Taylorsville Lake in 2013.

	Inch class										
Age	6	7	8	9	10	11	12	Total	%	CPUE	Std err
0+	2	24	16	2				44	80	5.50	3.77
1+					8	3		11	20	1.38	0.96
Total	2	24	16	2	8	3		55	100	6.88	4.67
%	4	44	29	4	15	5		100			

Dataset = cfdagtvl.d13 and cfdgntvl.d13

Table 25. Number of fish and the relative weight (Wr) for each length group of white bass collected at Taylorsville Lake in October 2013; standard errors are in parentheses.

		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	42	102 (2)	13	94 (1)	0		55	100 (2)

Dataset = cfdgntvl.d13

Table 26. Population assessment for white bass collected during fall gill netting at Taylorsville Lake from 2000-2013 (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
2013	Value	1.38	11.3*	0.00	1.38	-	-		
	Score	1	2	0	1			4	Poor
2012	Value	3.33	11.3	0.50	2.17	1.037	64.5		
	Score	1	2	1	1			5	Poor
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

* Age data not collected

Table 27. Dissolved oxygen and temperatures collected from Big Beech Creek, near Settler's Marina, at Taylorsville Lake during 2013.

	April 18		May 14		June 11		July 17		August 12		September 18		October 21		November 14	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	16.75	64.6	13.17	67.0	6.57	75.4	13.40	89.4	8.67	82.0	5.64	76.5	2.75	68.2	4.93	56.7
2	16.73	63.9	13.25	66.2	6.50	76.1	13.44	88.4	8.27	82.0	5.63	76.9	2.60	68.1	4.87	56.7
4	15.20	62.1	13.73	65.6	6.29	76.4	13.48	85.8	8.27	81.9	5.54	76.9	2.31	67.8	4.74	56.7
6	14.35	61.1	13.66	65.2	6.22	76.4	12.43	84.1	6.79	81.7	5.53	77.0	2.33	67.5	4.70	56.7
8	13.85	60.3	12.27	64.3	6.13	76.5	9.24	82.3	5.01	81.1	4.85	76.9	2.41	67.4	4.63	56.6
10	13.34	60.0	11.38	64.1	6.04	76.6	6.54	81.0	3.56	80.4	4.70	76.9	2.41	67.4	4.55	56.6
12	13.04	59.6	11.08	63.6	5.67	76.5	2.58	78.8	0.46	79.6	4.61	76.9	2.40	67.4	4.53	56.6
14	13.07	59.4	10.32	63.3	1.70	75.6	0.55	77.2	0.26	78.6	4.51	76.9	2.50	67.3	4.55	56.5
16	13.13	59.2	9.39	63.0	0.28	72.3	0.30	74.6	0.20	78.1	3.96	76.9	2.54	67.3	4.72	56.4
18	13.19	59.2	7.21	62.7	0.20	69.6	0.25	73.6	0.17	76.8	3.31	76.8	2.55	67.3	4.84	56.4
20	12.74	58.4	6.13	62.1	0.16	65.6	0.63	72.4	0.15	76.1	3.05	76.8	2.55	67.3	4.85	56.3
22	11.55	58.1	5.76	61.8	0.14	64.2	0.69	71.7	0.14	75.5	1.28	76.4	2.55	67.3	4.82	56.3
24	11.23	56.7	5.38	61.0	0.12	63.1	0.90	71.2	0.13	74.8	0.29	76.2	2.56	67.3	4.81	56.3
26	10.77	56.2	4.86	60.5	0.11	62.4	1.62	70.7	0.12	74.0	0.20	75.7	2.56	67.3	4.80	56.2
28	10.58	55.9	4.69	60.1	0.10	61.8	2.19	70.3	0.11	73.0	0.17	74.9	2.57	67.3	4.80	56.2
30	10.17	54.4	4.56	59.6	0.09	60.9	2.38	70.1	0.10	71.8	0.15	73.5	2.57	67.3	4.79	56.2
35	7.65	50.1	4.10	58.9	0.08	59.6	2.29	69.6	0.09	69.8	0.14	71.7	2.58	67.3	4.79	56.2
40	5.79	45.9	2.82	57.8	0.07	58.8	2.31	68.9	0.09	68.8	0.12	70.0	2.53	67.2	4.79	56.1
45	5.72	45.8	1.91	57.4	0.08	58.7	0.41	68.6	0.08	67.2	0.10	68.3			5.14	55.6
50			1.88	57.3	0.08	58.7	0.21	67.5	0.07	67.2						
55			0.64	57.3			0.13	66.4	0.06	67.2						

Table 28. Dissolved oxygen and temperatures collected from the mouth of Ashes and Jack's Creek at Taylorsville Lake during 2013.

	April 18		May 14		June 11		July 17		August 12		September 18		October 21		November 14	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	14.58	60.5	16.20	67.7	8.10	75.7	13.65	87.9	9.24	82.4	5.35	77.0	0.69	67.4	4.40	56.6
2	14.80	60.4	16.14	67.0	8.06	76.0	13.81	88.0	9.14	82.4	5.35	77.1	0.61	67.5	4.32	56.7
4	14.99	60.2	14.64	65.5	8.04	76.2	14.45	86.8	8.99	82.3	5.16	77.0	0.53	67.5	4.27	56.7
6	15.13	59.9	11.74	64.1	8.02	76.3	13.23	85.1	8.15	82.0	4.98	77.0	0.44	67.4	4.21	56.7
8	14.90	59.1	11.21	63.5	7.91	76.4	8.35	82.2	6.53	81.4	4.76	77.0	0.15	67.3	4.17	56.7
10	13.47	57.3	7.57	63.0	7.35	76.3	4.31	80.8	2.41	80.6	4.75	77.0	0.12	67.3	4.10	56.7
12	12.86	56.6	6.00	62.0	1.53	74.9	0.51	78.7	0.35	79.8	4.69	76.9	0.14	67.3	4.07	56.6
14	12.21	56.0	5.48	61.6	0.55	74.4	0.36	77.5	0.22	79.1	4.57	76.9	0.11	67.3	3.96	56.6
16	11.79	55.8	4.91	61.2	0.22	72.8	0.30.	75.5	0.19	78.4	4.60	76.9	0.11	67.3	3.91	56.6
18	11.39	55.0	4.76	60.8	0.14	69.9	0.26	73.7	0.18	78.0	4.60	76.9	0.11	67.3	3.88	56.6
20	10.49	53.8	4.69	60.6	0.12	66.8	0.24	72.6	0.17	77.1	4.60	76.9	0.11	67.3	3.86	56.6
22	9.98	52.9	4.56	60.1	0.11	64.5	0.28	72.0	0.16	76.6	4.45	76.8	0.15	67.2	3.85	56.6
24	9.37	52.0	4.54	60.0	0.11	63.3	0.87	71.1	0.15	75.8	4.16	76.7	0.14	67.2	3.84	56.6
26	9.26	51.7	4.82	59.5	0.10	62.2	1.51	70.5	0.14	74.8	0.31	75.5	0.12	67.2	3.86	56.6
28	8.39	50.2	4.85	59.4	0.09	61.5	2.44	70.0	0.13	74.0	0.20	74.2	0.12	67.2	3.86	56.6
30	7.90	48.7	4.67	59.1	0.08	60.8	2.95	69.7	0.13	72.9	0.17	73.4	0.11	67.2	3.88	56.6
35	7.45	46.6	4.25	58.7	0.07	59.7	2.86	69.2	0.11	70.6	0.14	71.5	0.11	67.2	3.91	56.6
40	6.97	45.7	4.14	58.2	0.06	58.4	2.81	68.8	0.10	69.2	0.13	70.0	0.10	67.2	3.93	56.5
45	6.62	45.2	4.34	57.9	0.05	57.1	1.55	68.7	0.10	68.3	0.12	68.3	0.10	67.0	3.93	56.5
50	6.45	45.1	3.65	57.2	0.04	55.7	0.31	68.2	0.09	67.0	0.10	66.0	0.10	66.4	3.83	56.2
55	6.21	45.9	2.51	55.5	0.04	55.1			0.08	65.6	0.09	64.2	0.09	64.8	3.83	55.9
60	0.91	45.0	1.62	54.0	0.03	54.2									4.06	55.7
65	0.59	45.0	0.56	53.2											3.87	55.7
70	0.32	44.9														

Table 29. Dissolved oxygen and temperatures collected from the VanBuren/Chowning Lane Area at Taylorsville Lake during 2013.

	April 19		May 14		June 11		July 17		August 12		September 19		October 22		November 14	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	7.35	61.5	14.67	68.1	4.09	75.5	15.23	89.9	10.71	81.1	5.18	75.9	7.13	65.7	8.81	52.8
2	7.32	61.6	14.59	67.2	4.06	75.7	15.42	88.3	10.31	81.1	5.10	76.0	7.14	65.7	8.76	52.8
4	7.29	61.7	14.40	66.6	3.77	75.9	15.20	85.1	10.05	81.0	4.76	76.0	7.13	65.7	8.73	52.7
6	7.28	61.8	13.98	66.2	3.65	76.0	12.55	83.1	10.56	81.1	4.82	76.0	6.91	65.6	8.70	52.7
8	7.15	61.8	13.79	65.9	3.56	76.1	9.28	81.3	10.54	81.2	4.55	76.0	6.81	65.5	8.68	52.7
10	6.89	61.3	13.72	65.8	3.42	76.1	6.22	79.9	10.40	81.2	4.24	76.1	6.24	65.2	8.66	52.7
12	6.89	60.8	12.41	65.0	2.40	76.0	3.82	78.8	9.97	81.0	4.05	76.0	5.75	65.0	8.64	52.7
14	6.65	60.6	10.95	64.0	0.86	75.3	1.09	77.2	9.85	80.9	3.91	76.0	5.59	64.7	8.63	52.7
16	6.47	60.4	9.49	62.9	0.17	71.7	0.88	76.1	9.65	80.6	3.87	75.9	5.38	64.5	8.64	52.6
18	5.93	59.6	7.74	61.3	0.09	70.4	0.65	74.5	6.58	77.2	3.63	75.6	5.30	64.1	8.75	51.1
20	5.66	58.8	7.31	61.0	0.06	68.5	0.30	73.9	6.13	76.5			6.02	62.9	8.85	49.9
22	4.71	56.7	6.83	60.7	0.05	66.8	0.23	73.5	5.80	76.0			5.95	62.4	8.88	49.5
24	4.56	55.8	6.82	60.2			0.20	73.1	5.59	75.8			5.63	62.0	8.91	49.2
26	3.44	52.4	6.68	60.0			0.18	72.4	5.47	75.6					8.92	49.0
28	3.13	51.5	6.62	59.9												
30			5.55	59.9												
35			6.24	59.8												
40			3.96	59.8												
45			3.60	59.8												

Table 30. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 7.5 hours of 15-minute electrofishing runs in Herrington Lake, April 2013; numbers in parentheses are standard errors.

	Inch class																				
Location/Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Upper																					
Largemouth bass	4	4	10	9	10	4	10	18	16	18	3	5	6	6	2	3	1	2		131	52.40 (8.44)
Spotted bass							1													1	0.40 (0.40)
Middle																					
Largemouth bass	3	3	1	11	10	10	13	35	43	20	6	10	7	16	2	3	1	2		200	80.00 (12.54)
Spotted bass					1			1		3										5	2.00 (0.89)
Lower																					
Largemouth bass	2	8	7	3	3	4	9	14	46	31	27	19	7	12	5	5	5	6	2	215	86.00 (13.19)
Spotted bass				2	2	1		1	5	7	6									24	9.60 (2.25)
Largemouth bass																					
Natural	9	15	18	23	23	18	31	67	105	69	35	34	19	34	9	14	9	9	2	543	72.40 (6.99)
2010											1									1	4.00 (0.00)
2007							1						1							2	4.00 (0.00)
Total																					
Largemouth bass	9	15	18	23	23	18	32	67	105	69	36	34	20	34	9	14	9	9	2	546	72.80 (7.00)
Spotted bass				2	3	1	1	2	5	10	6									30	4.00 (1.08)

Dataset = cfdpsher.d13

Table 31. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Herrington Lake from 1994-2013; numbers in parentheses are standard errors.

Year	Length group <8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
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)
2012	69.60	(10.12)	70.67	(10.87)	40.93	(4.62)	14.80	(2.08)	1.07	(0.50)	196.00	(23.65)
2013	11.73	(2.19)	29.60	(3.99)	18.53	(2.67)	12.93	(1.91)	1.47	(0.56)	72.80	(7.00)

Dataset = cfdpsher.d13 - .d94

Table 32. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in each area of Herrington Lake in 2013; 95% confidence intervals are in parentheses.

Area	Species	No. ≥8.0 in	PSD	RSD_{15}
Lower	Largemouth bass	192	62 (±7)	22 (±6)
Middle	Largemouth bass	172	41 (±7)	20 (±6)
Upper	Largemouth bass	94	49 (±10)	21 (±8)
Total	Largemouth bass	458	52 (±5)	21 (±4)

Dataset = cfdpsher.d13

Table 33. Population assessment for largemouth bass collected during spring electrofishing at Herrington Lake from 2000-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2013	Value	13.8*	15.12	18.53	12.93	1.47				
	Score	4	1	2	3	2			12	Good
2012	Value	13.8*	111.73	40.93	14.80	1.07				
	Score	4	4	4	3	2			17	Excellent
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 34. Length distribution and CPUE (fish/hr) of black bass collected in 4.5 hours of 15-minute electrofishing runs in Herrington Lake in September 2013; 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
Lower																					
Largemouth bass	16	16	15	14	3	1	3	5	4	2	3	7	3	4	4	4		1	1	106	70.67 (13.53)
Spotted bass					4	2					1	1								8	5.33 (1.69)
Middle																					
Largemouth bass	11	18	15	15	10	2		1	2	2	6	5	3	2						92	61.33 (6.90)
Spotted bass	3	5	2		3	1	1					2								17	11.33 (3.78)
Upper																					
Largemouth bass	5	21	17	21	17	4	4	8	7	8	5	8	2	3	4	3	2	2		141	94.00 (10.00)
Spotted bass											1									1	0.67 (0.67)
Total																					
Largemouth bass	32	55	47	50	30	7	7	14	13	12	14	20	8	9	8	7	2	3	1	339	75.33 (6.60)
Spotted bass	3	5	2		7	3	1				2	3								26	5.78 (1.69)

Dataset = cfdwrher.d13

Table 35. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Herrington Lake on 23, 24 and 25 September 2013. 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	14	87 (2)	13	89 (2)	14	99 (2)	41	92 (1)
	Middle	5	92 (4)	14	88 (2)	2	96 (9)	21	90 (2)
	Upper	27	90 (1)	15	96 (2)	14	96 (2)	56	93 (1)
	Total	46	90 (1)	42	91 (1)	30	98 (1)	118	92 (1)

Dataset = cfdwrher.d13

Table 36. Indices of year class strength at age 0 and age 1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Herrington Lake.

Year class	Area	Age 0 Mean length	Std. error	Age 0 CPUE	Std. error	Age 0 ≥5.0 in CPUE	Std. error	Age 1 (Natural) CPUE	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	111.73	17.67
2012	Total	5.4	0.1	33.56	6.24	21.78	4.91	11.30	2.13
2013	Total	4.5	0.1	49.11	4.92	19.33	3.11		

Table 37. 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 2013; 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	Total	CPUE
White bass	1	3	2			3	7	14	2										32	2.67 (0.70)
Hybrid striped bass			7	18	4				1	2	4	2	1	5	3	2		2	51	4.25 (1.20)

Dataset = cfdgnher.d13

Table 38. Mean back calculated lengths (in.) at each annulus for otoliths from hybrid striped bass gill netted at Herrington Lake in 2013.

		Age				
Year class	No.	1	2	3	4	5
2012	9	12.6				
2011	9	13.2	18.7			
2010	2	14.1	18.9	21.5		
2009	1	13.1	16.5	20.0	21.3	
2008	1	10.0	16.6	19.0	20.7	24.2
Mean	22	12.9	18.4	20.5	21.0	24.2
Smallest		8.8	16.1	19.0	20.7	24.2
Largest		15.3	20.6	21.9	21.3	24.2
Std Error		0.4	0.4	0.6	0.3	
95% ConLo		12.2	17.7	19.2	20.4	
95% ConHi		13.6	19.1	21.8	21.7	

Intercept Value = 0.00
Dataset = cfdagher.d13

Table 39. Age frequency and CPUE (fish/nn) per inch class of hybrid striped bass gill netted for 12 net-nights at Herrington Lake in 2013.

	Inch class																			Std
Age	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	%	CPUE	err
0+	7	18	4														29	57	2.42	0.99
1+							1	2	4	2							9	18	0.75	0.25
2+											1	5	3				9	18	0.75	0.28
3+														1		1	2	4	0.17	0.13
4+														1			1	2	0.08	0.06
5+																1	1	2	0.08	0.08
Total	7	18	4				1	2	4	2	1	5	3	2		2	51	100	4.25	1.20
%	14	35	8				2	4	8	4	2	10	6	4		4	100			

Dataset = cfdagher.d13 and cfdgnher.d13

Table 40. Number of fish and the relative weight (Wr) for each length group of hybrid striped bass collected at Herrington Lake in October 2013.

		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	29	94 (1)	0		22	94 (1)	51	94 (1)

Dataset = cfdgnher.d13

Table 41. Population assessment for hybrid striped bass collected during fall gill netting at Herrington Lake from 2000-2013 (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
2013	Value	1.83	20.6	1.83	0.75	-	-		
	Score	1	4	1	1			7	Fair
2012	Value	1.06	19.6	1.00	0.76	-	-		
	Score	1	4	1	1			7	Fair
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 42. Mean back calculated lengths (in.) at each annulus for otoliths from white bass gill netted at Herrington Lake in 2013.

		Age			
Year class	No.	1	2	3	4
2012	3	9.9			
2011	19	10.5	12.8		
2010	1	10.0	13.3	14.8	
2009	1	6.1	12.0	14.0	14.4
Mean	24	10.2	12.8	14.4	14.4
Smallest		6.1	11.6	14.0	14.4
Largest		11.7	13.6	14.8	14.4
Std Error		0.2	0.1	0.4	
95% ConLo		9.8	12.5	13.5	
95% ConHi		10.7	13.1	15.2	

Intercept Value = 0.00
Dataset = cfdagher.d13

Table 43. Age frequency and CPUE (fish/nn) per inch class of white bass gill netted for 12 net-nights at Herrington Lake in 2013.

	Inch class												Std
Age	7	8	9	10	11	12	13	14	15	Total	%	CPUE	err
0+	1	3	2							6	19	0.50	0.23
1+						2	1			3	9	0.25	0.14
2+						1	6	13	1	21	66	1.75	0.55
3+									1	1	3	0.08	0.06
4+								1		1	3	0.08	0.03
Total	1	3	2			3	7	14	2	32	100	2.67	0.70
%	3	9	6			9	22	44	6	100			

Dataset = cfdagher.d13 and cfdgnher.d13

Table 44. Number of fish and the relative weight (Wr) for each length group of white bass collected at Herrington Lake in October 2013.

		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	4	100 (2)	2	105 (8)	26	96 (1)	32	97 (1)

Dataset = cfdgnher.d13

Table 45. Population assessment for white bass collected during fall gill netting at Herrington Lake from 2000-2013 (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
2013	Value	2.17	14.1	2.17	0.25	-	-		
	Score	1	4	1	1			7	Fair
2012	Value	9.82	13.7	5.88	5.41	0.975	62.3		
	Score	2	4	3	3			12	Good
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 46. Dissolved oxygen and temperatures collected at the mouth of Cane Run at Herrington Lake during 2013.

	April 22		May 16		June 14		July 17		August 13		September 23		October 16		November 14	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	12.70	65.9	13.84	68.1	9.81	81.2	16.24	86.7	10.97	82.1	7.58	76.0	6.70	72.0	3.37	62.9
2	12.96	65.4	13.88	68.1	10.03	80.8	16.85	86.2	11.04	82.2	7.59	76.1	6.72	72.0	3.30	63.0
4	13.67	62.4	14.01	68.0	10.54	79.4	17.44	85.4	10.94	81.7	7.60	76..0	6.75	72.0	3.20	62.9
6	13.73	61.7	13.76	67.8	9.81	77.9	15.89	83.0	10.71	81.5	7.59	75.6	6.77	72.0	3.13	62.9
8	13.78	61.6	12.46	67.0	9.63	77.8	10.95	80.1	10.74	81.4	7.37	75.3	6.71	72.0	3.09	62.9
10	13.78	61.5	12.31	66.9	8.90	77.4	5.89	77.9	9.45	80.9	7.30	75.3	6.69	72.0	3.06	62.9
12	12.25	60.6	12.28	66.8	6.59	75.2	5.11	76.1	7.34	80.0	7.25	75.2	6.70	72.0	3.04	62.9
14	11.60	59.8	12.05	66.8	5.66	73.8	3.38	74.8	6.41	79.1	7.20	75.2	6.73	72.0	3.03	62.9
16	11.38	59.5	11.28	66.1	4.12	71.9	1.64	73.5	3.47	78.2	7.17	75.2	6.75	72.0	3.02	62.9
18	11.30	59.4	10.11	64.8	2.50	69.7	0.52	71.9	1.26	76.9	7.14	75.1	6.76	71.9	3.01	63.0
20	11.27	59.4	8.96	63.8	1.63	67.2	0.34	71.0	1.81	75.7	7.11	75.1	6.72	71.9	3.00	63.0
22	11.19	59.3	7.72	62.4	1.47	66.0	0.25	70.4	0.29	74.2	7.11	75.1	6.53	71.9	2.99	63.0
24	10.88	59.1	7.27	61.6	1.36	65.0	0.20	69.9	0.22	73.5	7.02	75.1	6.47	71.9	2.98	63.0
26	10.68	59.0	7.28	61.4	1.33	63.9	0.29	69.6	0.19	73.2	6.75	75.0	6.53	71.9	2.97	63.0
28	10.51	58.2	7.17	60.9	1.39	62.7	0.56	69.5	0.19	73.1	4.90	74.8	6.33	71.9	2.96	63.0
30	10.53	56.9	7.06	60.4	1.73	61.4	0.87	69.1	0.19	73.2	2.60	74.4	6.32	71.9	2.93	63.0
35	10.60	53.9	7.02	59.9	2.39	60.6	1.35	68.7	0.90	72.3	0.25	72.3	6.14	71.9	2.89	63.0
40	9.88	50.6	6.18	59.2	2.72	59.8	1.76	68.4	0.22	71.3	0.19	71.5	5.81	71.8	2.80	63.0
45	8.44	47.8	5.20	58.5	3.05	59.4	1.67	68.2	0.15	70.6	0.17	70.6	3.40	71.4	2.75	63.0
50	8.11	46.8	4.57	58.0	3.17	58.8	1.57	68.0	0.14	69.8	0.15	69.9	1.94	70.8	2.74	63.0
55	8.05	46.2	4.38	57.7	3.10	58.2	0.94	67.8	0.13	69.0	0.15	69.1	0.25	69.7	2.74	63.0
60	8.20	45.9	4.29	57.3	3.01	57.9	0.23	67.3	0.12	68.7	0.13	68.6	0.19	69.2	2.75	63.0
65	8.49	45.8	4.36	57.1	2.92	57.6	0.15	66.5	0.12	68.3	0.12	68.2	0.18	68.9	2.74	63.0
70	8.67	45.9	4.85	56.8	2.82	57.3	0.13	65.4	0.11	68.1	0.12	67.9	0.16	68.4	2.73	63.0
75	8.67	45.6	5.41	56.3	2.82	57.0	0.12	63.6	0.10	66.1	0.11	67.6	0.16	68.1	2.72	63.0
80	8.73	45.6	5.95	54.8	3.01	56.6	0.11	62.3	0.10	66.1	0.11	67.3	0.15	67.8	2.71	62.9
85	8.86	45.5	6.27	52.0	3.31	55.6	0.10	61.0	0.09	65.0	0.11	66.9	0.14	67.6	2.80	62.9
90	8.91	45.5	6.55	50.4	3.96	54.2	0.09	60.2	0.08	63.2	0.10	66.7	0.14	67.3	2.75	62.9
95	9.00	45.5	6.46	48.9	5.14	51.6	0.09	59.6	0.08	61.7	0.10	66.3	0.13	67.0	2.72	62.9
100	9.09	45.4	6.29	47.9	5.48	49.6	0.10	59.2	0.08	60.7	0.09	65.7	0.13	66.7	3.20	62.9
110	9.16	45.5	6.64	47.2	5.64	47.8	0.62	58.6	0.07	59.5	0.09	63.6	0.12	66.3	3.40	62.7
120	9.24	45.4	6.65	46.5	5.93	46.7	1.25	58.0	0.07	58.9	0.08	61.4	0.12	65.5	1.84	61.6
130	8.67	45.3	4.62	46.3	1.64	46.7	1.46	57.6	0.07	58.4	0.07	60.0	0.11	64.2	0.23	61.2
140	7.32	45.1	4.03	46.3	1.37	46.6	1.44	57.3	0.08	58.0	0.06	59.3	0.11	62.1	0.18	61.0
150	7.02	44.6	3.82	46.3	1.21	46.6	1.06	57.0	0.07	57.6	0.06	58.5	0.10	60.2	0.16	60.9
160	7.47	43.9			1.08	46.6	0.53	55.8	0.06	56.5	0.06	57.9	0.09	59.0	0.14	60.4
165					1.02	46.5					0.05	57.4			0.14	59.3

Table 47. Dissolved oxygen and temperatures collected near Gwynn Island Marina at Herrington Lake during 2013.

	April 29		May 16		June 14		July 17		August 13		September 24		October 14		November 14	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	9.68	61.1	15.50	67.8	12.14	79.5	13.50	85.6	10.32	80.8	7.95	75.2	6.04	73.3	2.84	61.4
2	9.64	61.0	15.58	67.7	13.08	78.2	13.52	85.7	10.44	80.8	8.08	75.3	6.01	73.2	2.73	61.5
4	8.75	60.4	13.90	65.8	13.57	77.0	14.59	85.5	10.05	80.7	8.15	75.2	5.77	73.2	2.66	61.6
6	8.59	60.2	11.78	64.4	12.80	76.4	12.12	81.5	9.15	80.6	8.00	75.2	5.13	72.2	2.62	61.6
8	8.41	60.1	10.15	63.3	12.65	76.2	8.75	79.8	2.47	80.2	7.61	75.1	4.85	72.0	2.61	61.7
10	8.40	59.9	8.93	62.7	12.02	76.1	4.39	77.3	0.93	79.6	7.42	75.1	4.59	71.9	2.58	61.7
12	8.23	59.8	7.65	62.2	11.31	75.8	3.98	75.5	0.35	78.4	7.07	75.1	4.67	71.9	2.57	61.7
14	8.02	59.6	7.29	62.0	4.62	73.4	3.96	74.0	0.25	77.9	6.54	75.0	4.53	71.8	2.54	61.7
16	7.94	59.4	7.18	61.8	2.58	71.9	3.86	73.0	0.22	77.2	6.42	75.0	4.51	71.8	2.52	61.8
18	7.92	59.3	6.98	61.5	1.94	70.1	3.69	72.0	0.35	75.4	6.35	75.0	4.53	71.8	2.50	61.8
20	7.75	59.0	6.93	61.3	1.16	68.4	3.69	71.1	1.22	74.1	6.42	75.0	4.59	71.8	2.48	61.8
22	7.65	58.9	6.86	61.3	0.84	67.2	3.77	70.5	1.53	73.6	6.43	75.0	4.60	71.8	2.46	61.8
24	7.32	58.2	6.80	60.9	1.01	65.8	3.87	69.9	1.38	72.5	6.44	75.0	4.56	71.8	2.45	61.8
26	7.14	58.0	6.76	60.7	0.52	64.8	3.97	69.5	1.82	72.0	6.52	74.9	4.58	71.8	2.44	61.8
28	7.11	57.9	6.74	60.6	0.48	63.8	3.96	69.2	1.75	71.5	3.36	74.9	4.59	71.8	2.42	61.8
30	7.03	57.7	6.69	60.4	0.76	62.9	4.16	69.0	1.49	70.9	0.40	74.0	4.65	71.7	2.40	61.8
35	6.78	56.8	6.68	60.1	1.34	61.5	4.68	68.6	0.93	70.4	0.26	72.6	4.62	71.7	2.38	61.9
40	6.66	55.8	6.85	59.4	1.94	60.6	4.75	68.2	0.28	69.0	0.22	71.5	4.63	71.6	2.35	61.9
45	6.68	53.6	6.81	58.8	2.38	59.9	4.73	68.0	0.58	68.6	0.20	70.5	1.40	71.0	2.34	61.9
50	6.70	50.0	6.59	58.1	2.80	59.4	4.47	67.8	0.91	68.2	0.19	69.7	0.23	70.2	2.32	61.9
55	7.08	48.0	6.50	57.7	3.42	58.9	4.32	67.6	1.01	67.9	0.17	69.1	0.17	69.7	2.32	61.9
60	7.65	46.3	6.40	57.4	3.70	58.2	4.17	67.3	0.94	67.6	0.17	68.5	0.16	69.0	2.31	61.9
65	7.52	45.5	6.21	57.2	3.74	57.9	3.96	66.9	0.63	67.4	0.16	68.2	0.15	68.5	2.33	61.9
70	7.44	45.0	5.98	57.1	3.48	57.6	2.55	65.6	0.16	67.1	0.16	67.8	0.14	68.2	2.33	61.9
75	7.13	44.8	5.57	56.9	2.53	57.1	0.27	63.0	0.12	66.6	0.14	67.4	0.15	68.2	2.33	61.9
80	7.02	44.7	4.76	55.8	2.33	57.0	0.17	61.4	0.10	66.0	0.13	67.4	0.16	68.2	2.33	61.9
85	6.99	44.7			2.29	57.0	0.12	60.8	0.11	65.9			0.18	68.2	2.32	61.9
90	6.99	44.8			2.29	56.0	0.10	60.7	0.11	65.9			0.19	68.2	2.30	61.9
95	6.99	44.8			2.22	56.9	0.08	60.7	0.12	65.9			0.19	68.2	2.26	61.9
100	6.99	44.8			2.16	56.9	0.07	60.7	0.12	65.8			0.20	68.2	2.21	61.9
110	6.99	44.8			2.05	56.9	0.06	60.6	0.12	65.8			0.20	68.2	2.09	61.9
120	6.99	44.7			1.94	56.9	0.06	60.6	0.13	65.8			0.20	68.2	2.09	61.9
130	6.97	44.7			1.82	56.9	0.05	60.6	0.13	65.8			0.20	68.2	2.06	61.9
140	6.76	44.7			1.73	56.9	0.05	60.6	0.13	65.8			0.20	68.2	2.05	61.9
150	6.82	44.7			1.66	56.9	0.04	60.5	0.14	65.8			0.20	68.2	2.06	61.9
160	6.86	44.7			1.58	56.9	0.04	60.5	0.14	65.8			0.20	68.2	2.13	61.9
165					1.53	56.7									2.16	61.9

Table 48. Dissolved oxygen and temperatures collected near Kings Mill Marina at Herrington Lake during 2013.

	April 25		May 16		June 14		July 17		August 13		September 24		October 22		November 14	
Depth	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp	DO	Temp
Surface	10.29	65.2	16.24	70.9	12.45	80.3	16.22	85.4	9.73	81.5	4.94	73.9	6.61	71.5	6.23	56.7
2	10.64	63.0	16.83	70.6	12.76	79.8	16.47	85.1	9.64	81.4	4.90	74.1	6.66	71.5	6.14	56.8
4	9.19	60.8	17.85	70.0	12.00	79.1	16.55	84.5	9.49	81.2	4.73	74.2	6.67	71.5	6.09	56.9
6	8.49	60.4	17.45	68.9	11.66	78.9	13.75	82.1	8.89	81.1	4.63	74.2	6.30	71.5	6.07	56.9
8	8.42	60.3	17.13	67.6	9.10	77.3	9.62	79.3	7.29	80.8	4.43	74.1	6.13	71.4	6.05	56.9
10	8.24	60.1	14.41	66.4	7.13	76.0	6.33	77.6	3.01	79.7	4.36	74.2	5.94	71.4	6.07	56.9
12	8.12	59.6	10.38	64.5	3.59	74.3	4.25	75.6	1.26	78.6	4.34	74.2	5.87	71.4	6.08	56.9
14	8.04	59.5	8.49	63.0	1.85	72.9	4.07	74.6	1.23	77.7	4.32	74.2	5.79	71.4	6.02	56.4
16	7.92	59.3	8.43	62.4	0.85	71.2	3.85	74.1	0.97	76.9	4.28	74.2	5.61	71.4	8.60	49.6
18	7.91	59.0	8.04	62.1	0.21	68.8	3.66	73.3	0.69	76.3	4.20	74.2	5.64	71.4	9.19	47.9
20	7.76	58.7	7.65	61.4	0.15	67.4	3.77	72.2	0.78	75.6	4.06	74.2	5.69	71.3	9.20	47.9
22	7.72	58.1	7.52	61.1	0.13	66.2	3.84	71.4	1.25	75.0	4.13	74.2	6.28	70.8		
24	7.84	57.9	7.32	60.6	0.12	64.7	3.88	70.4	1.21	74.3	4.12	74.2	6.51	69.2		
26	7.70	57.5	7.23	60.3	0.11	64.0	3.90	69.9	0.50	73.0	4.12	74.2	4.93	65.1		
28	7.73	57.1	7.26	59.9	0.10	63.4	3.64	69.4	0.20	72.3	4.11	74.2	4.53	64.2		
30	7.79	56.8	7.21	59.5	0.10	62.7	3.13	69.2	0.17	71.7	3.70	74.1	0.27	64.2		
35	7.51	55.9	6.99	58.9	0.08	61.2	2.20	68.9	0.16	71.4	0.35	73.1	0.22	64.1		
40	3.37	55.9			0.06	60.9	0.54	68.2			0.19	72.8	0.24	64.1		
45	2.14	55.8			0.04	60.9										
50	1.78	55.2														

Table 49. 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 2013; numbers in parentheses are standard errors.

	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE
Largemouth bass																						
Natural	8	19	20	6	11	29	28	23	51	56	53	43	45	41	39	25	22	10	5	2	536	178.67 (11.58)
2011								1		1											2	0.67 (0.45)
Total																						
Largemouth bass	8	19	20	6	11	29	28	24	51	57	53	43	45	41	39	25	22	10	5	2	538	179.33 (11.58)

Dataset = cfdpsgcl.d13

Table 50. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Guist Creek Lake from 1992-2013; 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)
2012	19.67 (5.17)	81.67 (7.54)	30.00 (4.13)	36.67 (3.81)	4.67 (1.19)	168.00 (7.19)
2013	21.33 (7.00)	44.00 (5.12)	51.00 (5.40)	63.00 (7.35)	5.67 (2.00)	179.33 (11.58)

Dataset = cfdpsgcl.d13– d92

Table 51. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Guist Creek Lake in 2013; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	474	72 (± 4)	40 (± 4)

Dataset = cfdpsgcl.d13

Table 52. Population assessment for largemouth bass collected during spring electrofishing at Guist Creek Lake from 2000-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2013	Value	12.2	17.00	51.00	63.00	5.67				
	Score	4	2	4	4	4			18	Excellent
2012	Value	11.0*	13.33	30.00	36.67	4.67				
	Score	3	1	2	4	4			14	Good
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

Table 53. 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 2013; 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	6	25	17	5	14	35	22	12	13	15	14	25	13	10	14	3	7	2	1	1	254	169.33 (12.47)

Dataset = cfdwrgcl.d13

Table 54. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected in the fall from Guist Creek Lake in 2013.

		Age											
Year	No.	1	2	3	4	5	6	7	8	9	10	11	12
2012	32	5.5											
2011	18	6.2	9.1										
2010	25	7.0	10.4	12.2									
2009	15	6.4	10.3	13.2	14.7								
2008	1	7.6	10.5	12.8	14.9	15.7							
2007	1	6.8	9.5	10.6	12.9	13.1	14.0						
2006	1	7.9	12.0	14.3	16.4	17.3	18.4	19.3					
2005	2	7.0	11.7	15.3	16.3	17.3	18.3	19.3	19.7				
2004	1	6.6	10.3	11.5	12.6	13.8	14.9	16.1	16.6	16.9			
2002	1	7.3	11.5	13.6	14.7	14.7	15.2	15.7	16..3	16.8	17.4	17.8	
2001	2	7.5	11.2	13.0	14.6	14.6	15.5	16.5	17.5	18.4	18.9	19.5	19.8
Mean	99	6.3	10.1	12.7	14.6	15.4	16.3	17.5	17.9	17.6	18.4	18.9	19.8
Smallest		2.8	7.3	8.6	11.9	13.1	14.0	14.8	15.6	16.3	17.1	17.8	18.2
Largest		10.1	13.3	16.2	17.4	17.4	18.6	20.0	20.3	20.5	20.8	21.1	21.4
Std Error		0.1	0.2	0.2	0.3	0.6	0.7	0.8	0.8	1.0	1.2	1.1	1.6
95% ConLo		6.0	9.8	12.2	14.0	14.2	14.9	16.1	16.3	15.7	16.0	16.8	16.7
95% ConHi		6.6	10.4	13.2	15.3	16.5	17.6	19.0	19.4	19.5	20.8	21.1	22.9

Intercept value = 0.00
Dataset = cfdaggcl.d13

Table 55. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Guist Creek Lake on 17 September 2013. Standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	62	88 (1)	52	94 (1)	38	100 (1)	152	93 (1)

Dataset = cfdwrgcl.d13

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.

Year class	Area	Age 0		Age 0		Age 0 $\geq$5.0 in		Age 1	
		Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2000	Total	3.6	0.1	19.50	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	13.33	4.16
2012	Total	4.1	0.1	46.00	7.92	7.33	3.17	21.33	7.00
2013	Total	4.0	0.1	38.67	6.98	6.67	2.67		

Table 57. Length frequency, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 1.50 hours of 15-minute electrofishing runs in Beaver Lake, May 2013; 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	28	32	17	13	45	85	38	38	39	19	15	12	7	2	2	0	1	1	394	262.67 (16.38)

Dataset = cfdpsbvr.d13

Table 58. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Beaver Lake from 1992-2013; numbers in parentheses are standard errors.

Year	Length group					Total
	<8.0 in	8.0-11.9 in	12.0-14.9 in	≥15.0 in	≥20.0 in	
1992	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)
2012	97.00 (11.61)	81.50 (6.41)	73.50 (6.84)	14.00 (2.93)	2.50 (1.05)	266.00 (12.51)
2013	60.00 (8.82)	137.33 (12.25)	48.67 (9.26)	16.67 (2.40)	1.33 (0.84)	262.67 (16.38)

Dataset = cfdpsbvr.d13 - .d92

Table 59. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Beaver Lake in 2013; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	304	32 (± 6)	8 (± 3)

Dataset = cfdpsbvr.d13

Table 60. Population assessment for largemouth bass collected during spring electrofishing at Beaver Lake from 2000-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2013	Value	10.7*	50.00	48.67	16.67	1.33				
	Score	2	3	3	2	2			12	Good
2012	Value	10.7*	94.50	73.50	14.00	2.50				
	Score	2	4	4	2	3			15	Good
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 61. 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 2013; 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	4	68	41	5		38	13	22	21	12	7	23	6	4	.	3	4	1	1	273	168.67 (18.92)

Dataset = cfdwrbvr.d13

Table 62. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Beaver Lake on 16 September 2013; 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	67	84 (1)	36	80 (1)	13	91 (2)	116	83 (1)

Dataset = cfdwrbvr.d13

Table 63. Indices of year class strength at age 0 and age 1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Beaver Lake.

Year class	Area	Age 0 Mean length	Age 0 Std. error	Age 0 CPUE	Age 0 Std. error	Age 0 ≥5.0 in CPUE	Age 0 ≥5.0 in Std. error	Age 1 CPUE	Age 1 Std. error
2000	Total	3.7	0.1	127.30	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	94.50	11.07
2012	Total	4.3	0.04	124.57	24.57	17.71	3.99	50.00	7.14
2013	Total	3.8	0.06	78.67	6.17	3.33	2.17		

Table 64. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Beaver Lake, May 2013; numbers in parentheses are standard errors.

Species	Inch class 2	3	4	5	6	7	8	9	10	Total	CPUE
Bluegill	2	63	141	37	35	62	2			342	273.60 (23.36)
Redear sunfish		1	3	4	2	2	4	8	3	27	21.60 (5.21)

Dataset = cfdpsbvr.d13

Table 65. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Beaver Lake during May 2013. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	340	29 (± 5)	1 (± 1)
Redear sunfish	26	65 (±19)	42 (± 21)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpsbvr.d13

Table 66. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Beaver Lake from 1992-2013; 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)
2012	5.60 (2.08)	131.20 (26.05)	59.20 (15.05)	0.00	196.00 (32.05)
2013	1.60 (1.07)	192.80 (16.54)	77.60 (9.77)	1.60 (1.60)	273.60 (23.36)

Dataset = cfdpsbvr.d13 - .d92

Table 67. Population assessment for bluegill collected during spring electrofishing at Beaver Lake from 2001-2013 (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
2013	Value	4.7	2-2+	79.20	1.60	-	-		
	Score	3	4	4	1			12	Good
2012	Value	4.8	2-2+	59.20	0.00	-	-		
	Score	3	4	3	0			10	Fair
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 68. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Beaver Lake from 1992-2013; numbers in parentheses are standard errors.

Year	Length group					Total
	<3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	≥10.0 in	
1992	0.40 (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)
2012	0.00	5.60 (1.71)	28.80 (4.33)	68.00 (12.91)	9.60 (2.61)	102.40 (14.05)
2013	0.00	6.40 (2.61)	3.20 (1.31)	12.00 (4.66)	2.40 (1.71)	21.60 (5.21)

Dataset = cfdpsbvr.d13 – .d92

Table 69. Population assessment for redear sunfish collected during spring electrofishing at Beaver Lake from 2001-2013 (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
2013	Value	8.8	2-2+	12.00	2.40				
	Score	4	4	3	2			13	Good
2012	Value	7.5	3-3+	68.00	9.60	0.342	29.0		
	Score	4	4	4	4			16	Excellent
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 70. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected in the fall from Beaver Lake in 2013.

		Age			
Year class	No.	1	2	3	4
2012	16	2.2			
2011	15	2.4	4.7		
2010	10	2.6	4.8	6.1	
2009	7	2.5	4.7	6.0	6.8
Mean	48	2.4	4.7	6.1	6.8
Smallest		1.1	3.3	5.3	5.6
Largest		3.7	5.8	6.8	7.3
Std Error		0.1	0.1	0.1	0.2
95% ConLo		2.2	4.5	5.9	6.4
95% ConHi		2.6	4.9	6.3	7.2

Intercept value = 0.00
Dataset = cfdagbvr.d13

Table 71. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected in the fall from Beaver Lake in 2013.

		Age						
Year	No.	1	2	3	4	5	6	7
2012	7	4.6						
2011	14	3.6	6.1					
2010	2	4.8	7.6	8.8				
2009	5	3.3	6.0	7.9	8.7			
2008	5	3.3	7.2	8.6	9.2	9.7		
2007	1	2.6	4.4	7.6	8.4	8.9	9.3	
2006	1	2.9	5.4	7.5	9.2	9.7	10.0	10.3
Mean	35	3.7	6.3	8.2	8.9	9.6	9.7	10.3
Smallest		2.0	4.0	5.8	6.6	8.9	9.3	10.3
Largest		5.8	8.3	9.0	9.4	10.1	10.0	10.3
Std Error		0.2	0.2	0.2	0.2	0.1	0.4	
95% ConLo		3.4	5.9	7.8	8.5	9.3	8.9	
95% ConHi		4.0	6.7	8.7	9.4	9.8	10.4	

Intercept value = 0.00
Dataset = cfdagbvr.d13

Table 72. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Beaver Lake on 16 September 2013; standard errors are in parentheses.

	Length group									
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	76	90 (2)	50	83 (1)	0				126	87 (2)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	0		13	98 (2)	13	96 (2)	14	91 (1)	40	95 (1)

Dataset = cfdwrbvr.d13

Table 73. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 2.0 hours of 15-minute nocturnal electrofishing runs in Boltz Lake, April 2013; 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																				
Natural	5	22	17	17	49	34	26	24	16	9	9	7	6	3	1	5	4	1	255	127.50 (9.93)
2012		50	22																72	36.00 (13.98)
2008						1		1	1										3	1.50 (0.73)
Total																				
Largemouth bass	5	72	39	17	49	35	26	25	17	9	9	7	6	3	1	5	4	1	330	165.00 (13.56)

Dataset = cfdpsbol.d13

Table 74. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Boltz Lake from 1991-2013; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	$\geq$15.0 in	$\geq$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)
2012	4.50 (1.18)	35.00 (3.98)	15.50 (2.77)	11.00 (2.48)	2.50 (1.50)	66.00 (4.90)
2013	66.50 (14.56)	67.50 (6.65)	17.50 (1.99)	13.50 (2.61)	2.50 (1.05)	165.00 (13.56)

Dataset = cfdpsbol.d13 - .d91

Table 75. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Boltz Lake in 2013; confidence intervals are in parentheses.

Species	No. $\geq$8.0 in	PSD	RSD_{15}
Largemouth bass	197	31 ($\pm$ 6)	13 ($\pm$ 5)

Dataset = cfdpsbol.d13

Table 76. Population assessment for largemouth bass collected during spring electrofishing at Boltz Lake from 2000-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2013	Value	10.7*	21.50	17.50	13.50	2.50				
	Score	2	2	1	2	3			10	Fair
2012	Value	10.7*	3.50	15.50	11.00	2.50				
	Score	2	1	1	2	3			9	Fair
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 77. 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 2013; 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	5	31	36	26	6	26	65	29	15	16	10	7	10	5	2	3	1	293	195.33 (21.38)

Dataset = cfdwrbol.d13

Table 78. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Boltz Lake on 20 September 2013. Standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	90	85 (1)	27	92 (2)	11	98 (2)	128	87 (1)

Dataset = cfdwrbol.d13

Table 79. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in the fall in electrofishing samples at Boltz Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	No. of fish	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
1997	145	4.2	(0.04)	96.70	(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)	3.50	(1.18)
2012	127	4.4	(0.07)	84.67	(12.19)	18.67	(5.63)	21.50	(4.27)
2013	102	4.4	(0.09)	68.00	(16.17)	20.00	(6.69)		

*Only includes wild largemouth bass CPUE for age-1 year class, stocked largemouth bass were marked by fin clip and removed from dataset.

Table 80. Species composition, relative abundance, and CPUE (fish/hr) of bluegill collected in 1.25 hour of 7.5-minute electrofishing runs in Boltz Lake, April 2013; numbers in parentheses are standard errors.

Species	Inch class 2	3	4	5	6	7	Total	CPUE
Bluegill	46	62	84	57	108	39	396	316.80 (33.78)

Dataset = cfdpsbol.d13

Table 81. PSD and RSD_8 values calculated for bluegill collected during 1.25 hours of electrofishing at Boltz Lake during April 2013. Fish were collected in 7.5-minute runs.

Species	No. ≥3.0 in	PSD	RSD_8
Bluegill	350	42 (± 5)	0 (± 0)

Dataset = cfdpsbol.d13

Table 82. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Boltz Lake from 1992-2013; numbers in parentheses are standard errors.

Year	Length group <3.0 in	3.0-5.9 in	6.0-7.9 in	≥8.0 in	Total
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)
2012	63.20 (21.78)	401.60 (54.49)	119.20 (21.08)		584.00 (62.21)
2013	36.80 (11.45)	162.40 (20.03)	117.60 (19.74)		316.80 (33.78)

Dataset = cfdpsbol.d13

Table 83. Population assessment for bluegill collected during spring electrofishing at Boltz Lake from 2000-2013 (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
2013	Value	4.5*	2-2+*	117.60	0.00	-	-		
	Score	3	4	4	0			11	Good
2012	Value	4.5	2-2+	119.20	0.00	-	-		
	Score	3	4	4	0			11	Good
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

* Age data not collected

Table 84. Number of fish and the relative weight (Wr) for each length group of bluegill collected at Boltz Lake on 20 September 2013; standard errors are in parentheses.

	Length group									
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	77	92 (2)	18	80 (2)	0				95	90 (1)

Dataset = cfdwrbol.d13

Table 85. 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 2013; 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	4	4	12	2	1	20	11	12	12	16	8	9	8	4	5	8	7	12	2	2	159	106.00 (7.36)

Dataset = cfdwrblp.d13

Table 86. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Bullock Pen Lake on 13 September 2013; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	51	87 (1)	25	93 (2)	40	101 (1)	116	93 (1)

Dataset = cfdwrblp.d13

Table 87. Indices of year class strength at age 0 and age 1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Bullock Pen 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
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)	9.50	(1.05)
2012	Total	4.0	(0.1)	22.67	(5.23)	1.33	(0.84)	NS	NS
2013	Total	4.0	(0.2)	14.67	(1.98)	1.33	(0.84)		

*Largemouth bass were stocked, and were not able to be distinguished from the wild age-1 largemouth bass

Table 88. 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, April 2013; 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	7	7	10	25	118	106	76	22	21	9	15	8	10	7	8	7	4	5	465	232.50 (17.34)

Dataset = cfdpscor.d13

Table 89. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Corinth Lake from 1992-2013; numbers in parentheses are standard errors.

	Length group					
Year	<8.0 in	8.0-11.9 in	12.0-14.9 in	$\geq$15.0 in	$\geq$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)
2012	32.50 (6.07)	175.00 (15.25)	37.00 (4.88)	23.50 (4.03)	8.50 (2.32)	268.00 (21.22)
2013	24.50 (4.50)	161.00 (15.26)	22.50 (5.40)	24.50 (6.57)	4.50 (1.92)	232.50 (17.34)

Dataset = cfdpscor.d13 – .d92

Table 90. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Corinth Lake in 2013; confidence intervals are in parentheses.

Species	No. $\geq$8.0 in	PSD	RSD_{15}
Largemouth bass	416	23 ($\pm$ 3)	12 ($\pm$ 3)

Dataset = cfdpscor.d13

Table 91. Population assessment for largemouth bass collected during spring electrofishing at Corinth Lake from 2000-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2013	Value	11.1*	13.00	22.50	24.50	4.50				
	Score	3	1	2	3	4			13	Good
2012	Value	11.1*	24.50	37.00	23.50	8.50				
	Score	3	2	3	3	4			15	Good
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 92. 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 12 September 2013; numbers in parentheses are standard errors.

	Inch class																	
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE
Largemouth bass	7	106	91	45	7	1	35	32	47	25	11	2	1	1	2	4	417	278.00 (22.86)

Dataset = cfdwrcor.d13

Table 93. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Corinth Lake on 12 September 2013; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	101	83 (1)	14	84 (1)	7	90 (1)	122	83 (1)

Dataset = cfdwrcor.d13

Table 94. Indices of year class strength at age 0 and age 1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Corinth Lake.

		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
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	24.50	4.92
2012	Total	5.0	0.06	52.89	5.04	26.22	3.02	13.00	4.64
2013	Total	4.2	0.05	170.67	18.58	34.67	7.35		

Table 95. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Corinth Lake, May 2013; numbers in parentheses are standard errors.

	Inch class										
Species	2	3	4	5	6	7	8	9	10	Total	CPUE
Bluegill	1	11	26	38	88	45				209	167.20 (15.66)
Redear sunfish				2	8	24	28	8	1	71	56.80 (8.55)

Dataset = cfdpscor.d13

Table 96. PSD and RSD values calculated for sunfish collected during 3.50 hours of electrofishing at Corinth Lake during May 2013. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	208	64 (± 6)	0 (± 0)
Redear sunfish	71	86 (± 8)	13 (± 7)

[a]Bluegill = RSD_8; Redear = RSD_9

Dataset = cfdpscor.d13

Table 97. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Corinth Lake from 1992-2013; 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)
2012	2.40 (1.22)	240.00 (24.56)	56.80 (6.13)	0.00	299.20 (27.67)
2013	0.80 (0.80)	60.00 (4.66)	106.40 (13.28)	0.00	167.20 (15.66)

Dataset = cfdpscor.d13

Table 98. Population assessment for bluegill collected during spring electrofishing at Corinth Lake from 2000-2013 (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
2013	Value	4.7*	3-3+*	106.40	0.00		
	Score	3	3	4	0	10	Fair
2012	Value	4.7	3-3+	56.80	0.00		
	Score	3	3	3	0	9	Fair
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

* 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 99. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Corinth Lake from 1992-2013; 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)
2012	0.00	4.80 (2.13)	38.40 (8.42)	24.00 (5.06)	0.00 (0.00)	67.20 (14.22)
2013	0.00 (0.00)	1.60 (1.07)	25.60 (3.73)	29.60 (6.96)	0.80 (0.80)	56.80 (8.55)

Dataset = cfdpscor.d13

Table 100. Population assessment for redear sunfish collected during spring electrofishing at Corinth Lake from 2002-2013 (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
2013	Value	7.8*	3-3+*	29.60	0.80		
	Score	4	4	4	1	13	Good
2012	Value	7.8	3-3+	24.00	0.00		
	Score	4	4	4	0	12	Good
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 101. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Corinth Lake on 12 September 2013; standard errors are in parentheses.

	Length group									
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	67	91 (3)	53	88 (1)	1	88			121	90 (2)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish			12	98 (3)	12	101 (2)	9	88 (4)	33	97 (2)

Dataset = cfdwrcor.d13

Table 102. Length composition, relative abundance, and CPUE (fish/set) of channel catfish at Corinth Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 7 October 2013. 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	9	10	11	12	13	14	15	16	17		
Channel catfish	1	5	1		1	3	2	3	2	18	6.00 (3.06)

Dataset = cfdhncor.d13

Table 103. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Corinth Lake in 2013; confidence intervals are in parentheses.

Species	No. $\geq$stock size	PSD	RSD_{24}
Channel catfish	12	42 ($\pm$ 29)	0 ($\pm$ 0)

Dataset = cfdhncor.d13

Table 104. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Corinth Lake in October 2013; 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	7	84 (1)	5	84 (2)	0		12	84 (1)

Dataset = cfdhncor.d13

Table 105. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Corinth Lake from 2010-2013; numbers in parentheses are standard errors.

	Length group			
Year	$\geq$12.0 in	$\geq$15.0 in	$\geq$20.0 in	Total
2010	21.00 (8.96)	1.67 (0.33)	0.00	92.67 (46.78)
2011	25.00 (12.90	5.67 (4.18)	0.33 (0.33)	85.67 (59.37)
2012	41.00 (13.58)	14.67 (4.10)	0.33 (0.33)	97.67 (38.13)
2013	3.67 (2.33)	2.33 (1.45)	0.00 (0.00)	6.00 (3.06)

Dataset = cfdhncor.d13 - .d10

Table 106. 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 2013; 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	5	21	4		6	14	17	20	32	41	32	14	77	7	1			1	222	148.00 (12.77)

Dataset = cfdwrelm.d13

Table 107. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Elmer Davis Lake on 11 September 2013; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	87	88 (1)	45	90 (1)	9	89 (2)	141	89 (1)

Dataset = cfdwrelm.d13

Table 108. Indices of year class strength at age 0 and age 1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Elmer Davis Lake.

		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)	78.00	(8.91)
2012	Total	3.4	(0.1)	56.00	(7.45)	6.00	(1.71)	NS	NS
2013	Total	3.5	(0.1)	20.00	(6.85)	0.00	(0.00)		

Table 109. Species composition, relative abundance, and CPUE (fish/hr) of bluegill and redear sunfish collected in 1.25 hours of 7.5-minute electrofishing runs in Elmer Davis Lake, May 2013; numbers in parentheses are standard errors.

	Inch class											
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE
Bluegill	14	48	136	61	27	41	27	1			355	284.00 (56.52)
Redear sunfish	5	36	13	74	100	18	31	24	1	1	303	242.40 (67.23)

Dataset = cfdpselm.d13

Table 110. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at Elmer Davis Lake during May 2013. Fish were collected in 7.5-minute runs.

Species	No. ≥stock size	PSD	RSD[a]
Bluegill	293	24 (± 5)	
Redear sunfish	249	23 (± 5)	1 (± 1)

[a]Bluegill = RSD_8; Redear = RSD_9
Dataset = cfdpselm.d13

Table 111. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from Elmer Davis Lake from 1994-2013; 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)
2012	42.40 (7.26)	254.40 (39.55)	68.80 (15.00)	0.80 (0.80)	366.40 (57.92)
2013	49.60 (18.16)	179.20 (28.40)	54.40 (14.84)	0.80 (0.80)	284.00 (56.52)

Dataset = cfdpselm.d13

Table 112. Population assessment for bluegill collected during spring electrofishing at Elmer Davis Lake from 2001-2013 (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
2013	Value	4.1	3-3+	55.20	0.80	-	-		
	Score	2	3	3	1			9	Fair
2012	Value	4.2	2-2+	69.60	0.80	1.305	72.9		
	Score	2	4	3	1			10	Fair
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 113. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from Elmer Davis Lake from 1994-2013; 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)
2012	5.60 (2.68)	31.20 (5.26)	44.00 (9.26)	31.20 (7.20)	4.80 (1.31)	112.00 (11.62)
2013	32.80 (16.33)	149.60 (40.13)	39.20 (13.57)	20.80 (5.62)	0.80 (0.80)	242.40 (67.23)

Dataset = cfdpselm.d13

Table 114. Population assessment for redear sunfish collected during spring electrofishing at Elmer Davis Lake from 2001-2013 (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
2013	Value	7.7	3-3+	20.80	0.80		
	Score	4	4	4	1	13	Good
2012	Value	7.7	3-3+	31.20	4.80		
	Score	4	4	4	3	15	Excellent
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 115. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected in the fall from Elmer Davis Lake in 2013.

		Age					
Year	No.	1	2	3	4	5	6
2012	14	2.3					
2011	13	2.2	4.1				
2010	16	2.3	4.3	5.7			
2009	4	2.9	5.0	5.9	6.4		
2008	3	2.5	4.7	6.1	6.6	7.0	
2007	1	2.0	3.7	5.7	6.6	7.0	7.2
Mean	51	2.3	4.3	5.8	6.5	7.0	7.2
Smallest		1.1	2.8	4.4	5.9	6.7	7.2
Largest		3.6	5.8	7.1	7.2	7.5	7.2
Std Error		0.1	0.1	0.1	0.2	0.2	
95% ConLo		2.1	4.1	5.5	6.2	6.7	
95% ConHi		2.5	4.6	6.0	6.8	7.3	

Intercept value = 0.00
Dataset = cfdagelm.d13

Table 116. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected in the fall from Elmer Davis Lake in 2013.

		Age		
Year	No.	1	2	3
2012	22	2.9		
2011	25	3.6	5.8	
2010	7	3.6	6.5	7.7
Mean	54	3.3	5.9	7.7
Smallest		1.8	4.6	6.8
Largest		4.6	7.5	8.7
Std Error		0.1	0.1	0.2
95% ConLo		3.1	5.7	7.3
95% ConHi		3.5	6.2	8.2

Intercept value = 0.00
Dataset = cfdagelm.d13

Table 117. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at Elmer Davis Lake on 11 September 2013; standard errors are in parentheses.

	Length group									
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in				Total	
Bluegill	75	105 (2)	47	93 (1)	0				122	100 (1)
	1.0–3.9 in		4.0–6.9 in		7.0–9.0 in		≥9.0 in		Total	
Redear sunfish	25	99 (4)	55	101 (1)	22	101 (1)	1	105	103	100 (1)

Dataset = cfdwrelm.d13

Table 118. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected in 2.0 hours of 15-minute electrofishing runs in Kincaid Lake, April 2013; 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	23	Total	CPUE
Spotted bass									1	1											2	1.00 (0.65)
Largemouth bass	1	1	5	62	49	32	39	63	49	47	42	39	26	33	26	21	18	2		1	556	278.00 (19.63)

Dataset = cfdpskin.d13

Table 119. Electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from Kincaid Lake from 1992-2013; 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)
2012	12.00 (2.51)	52.00 (5.76)	41.00 (6.67)	63.00 (5.64)	8.50 (1.18)	168.00 (11.08)
2013	34.50 (4.34)	91.50 (11.04)	69.00 (6.27)	83.00 (6.27)	10.50 (2.50)	278.00 (19.63)

Dataset = cfdpskin.d13- .d92

Table 120. PSD and RSD_{15} values obtained for largemouth bass from spring electrofishing samples in Kincaid Lake in 2013; confidence intervals are in parentheses.

Species	No. ≥8.0 in	PSD	RSD_{15}
Largemouth bass	487	62 (± 4)	34 (± 4)

Dataset = cfdpskin.d13

Table 121. Population assessment for largemouth bass collected during spring electrofishing at Kincaid Lake from 2000-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age-1	CPUE 12.0-14.9 in	CPUE >15.0 in	CPUE >20.0 in	Instantaneous mortality (z)	Annual mortality (AM)	Total score	Assessment rating
2013	Value	11.7	1.00	69.00	83.00	10.50				
	Score	4	1	4	4	4			17	Excellent
2012	Value	9.9*	4.50	41.00	63.00	8.50				
	Score	1	1	3	4	4			13	Good
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 122. 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 2013; numbers in parentheses are standard errors.

	Inch class																						
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE
Largemouth bass	11	27	18	3	7	9	12	28	16	11	22	19	10	9	11	9	1	5	6		1	235	156.67 (21.20)

Dataset = cfdwrkin.d13

Table 123. Mean back calculated lengths (in.) at each annulus for otoliths from largemouth bass collected in the fall from Kincaid Lake in 2013.

		Age														
Year	No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2012	24	4.5														
2011	34	5.4	8.3													
2010	25	6.4	9.7	11.7												
2009	11	5.3	9.9	12.5	14.0											
2008	6	6.2	10.0	12.6	14.1	15.2										
2006	2	5.4	10.1	13.1	15.3	16.8	17.4	17.8								
2005	3	4.8	9.5	12.7	14.7	16.2	17.1	18.1	18.6							
2004	1	6.5	10.1	12.9	14.9	15.8	16.6	17.4	18.3	19.1						
1998	1	4.5	8.1	9.7	10.8	11.3	12.4	13.6	14.7	15.8	16.9	18.1	19.2	19.4	19.6	19.9
Mean	107	5.5	9.1	12.1	14.1	15.4	16.4	17.3	17.7	17.5	16.9	18.1	19.2	19.4	19.6	19.9
Smallest		3.1	6.4	9.7	10.8	11.3	12.4	13.6	14.7	15.8	16.9	18.1	19.2	19.4	19.6	19.9
Largest		9.0	11.5	14.3	15.9	18.1	19.1	19.4	21.4	19.1	16.9	18.1	19.2	19.4	19.6	19.9
Std Error		0.1	0.1	0.2	0.2	0.5	0.8	0.8	1.1	1.7						
95% ConLo		5.2	8.9	11.8	13.6	14.4	14.8	15.7	15.6	14.2						
95% ConHi		5.7	9.4	12.4	14.6	16.5	18.1	18.9	19.9	20.7						

Intercept value = 0.00
Dataset = cfdagkin.d13

Table 124. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at Kincaid Lake on 9 September 2013; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	67	89 (1)	51	93 (1)	42	100 (2)	160	93 (1)

Dataset = cfdwrkin.d13

Table 125. Indices of year class strength at age 0 and age 1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at Kincaid Lake.

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
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	(0.1)	74.67	(28.82)	7.33	(4.18)	4.50	(1.40)
2012	71	3.4	(0.1)	47.33	(9.09)	0.67	(0.67)	1.00	(0.65)
2013	56	3.6	(0.1)	37.33	(13.77)	0.00			

Dataset = cfdwrkin.d13

Table 126. Length composition, relative abundance, and CPUE (fish/set) of channel catfish at Kincaid Lake. Channel catfish were collected using baited, tandem hoop nets (72 hours soak time) that were set on 7 October 2013. 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	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Channel catfish	2	11	24	12	24	21	8	8	2		2	7		1	1	2		1	126	42.00 (14.57)

Dataset = cfdhnkin.d13

Table 127. PSD and RSD_{24} values obtained for channel catfish from tandem hoop net samples in Kincaid Lake in 2013; confidence intervals are in parentheses.

Species	No. ≥stock size	PSD	RSD_{24}
Channel catfish	77	18 (± 9)	1 (± 1)

Dataset = cfdhnkin.d13

Table 128. Number of fish and the relative weight (Wr) for each length group of channel catfish collected at Kincaid Lake in October 2013; 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	54	90 (1)	13	95 (3)	1	92	68	91 (1)

Dataset = cfdhnkin.d13

Table 129. CPUE (fish/set) for each length group of channel catfish collected by hoop net from Kincaid Lake from 2009-2013; numbers in parentheses are standard errors.

	Length group			
Year	≥12.0 in	≥15.0 in	≥20.0 in	Total
2009	44.67 (19.32)	21.00 (9.02)	9.67 (4.84)	84.00 (31.19)
2010	21.00 (9.02)	9.00 (4.58)	1.00 (0.58)	131.00 (53.54)
2011	8.33 (4.33)	1.33 (0.33)	0.00	48.67 (23.33)
2012	20.67 (4.70)	9.00 (3.79)	3.33 (1.45)	40.00 (8.50)
2013	17.67 (5.78)	5.33 (2.33)	1.67 (1.20)	42.00 (14.57)

Dataset = cfdhnkin.d13 - .d09

Table 130. Length distribution and CPUE (fish/hr) of largemouth bass collected in 1.50 hours of 15-minute electrofishing runs for black bass in McNeely Lake in September 2013; 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		39	79	11	1	21	33	20	39	24	5	2	1	3	1	2	1	2	284	189.33 (12.55)

Dataset = cfdwrmcl.d13

Table 131. Number of fish and the relative weight (Wr) for each length group of largemouth bass collected at McNeely Lake on 10 September 2013; standard errors are in parentheses.

		Length group							
Species	Area	8.0–11.9 in		12.0–14.9 in		≥15.0 in		Total	
		No.	Wr	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	Total	94	84 (1)	8	87 (2)	9	100 (2)	111	85 (1)

Dataset = cfdwrmcl.d13

Table 132. Indices of year class strength at age 0 and age 1 and mean length (in) of largemouth bass collected in the fall in electrofishing samples at McNeely Lake.

		Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2000	Total	3.8	(0.1)	87.30	(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)	15.20	(6.37)
2012	Total	5.0	(0.04)	242.00	(9.95)	124.00	(11.03)	NS	NS
2013	Total	4.2	(0.04)	86.00	(11.54)	7.33	(2.81)		

Table 133. 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 2013; numbers in parentheses are standard errors.

	Inch class										
Species	2	3	4	5	6	7	8	9	10	Total	CPUE
Bluegill	7	8	65	99	178	168	1			526	420.80 (33.37)
Redear sunfish		3	10	4	14	20	51	12	3	117	93.60 (14.26)

Dataset = cfdpsmcl.d13

Table 134. PSD and RSD values calculated for sunfish collected during 1.25 hours of electrofishing at McNeely Lake during May 2013. Fish were collected in 7.5-minute runs.

Species	No. $\geq$stock size	PSD	RSD[a]
Bluegill	519	67 ($\pm$ 4)	0.2 ($\pm$ 0.4)
Redear sunfish	114	75 ($\pm$ 8)	13 ($\pm$ 65)

[a]Bluegill = RSD_8; Redear = RSD_9

Dataset = cfdpsmcl.d13

Table 135. Electrofishing CPUE (fish/hr) for each length group of bluegill collected from McNeely Lake from 1994-2013; numbers in parentheses are standard errors.

	Length group				
Year	<3.0 in	3.0-5.9 in	6.0-7.9 in	$\geq$8.0 in	Total
1994	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)
2012	4.00 (2.14)	325.00 (47.64)	203.00 (21.48)	1.00 (1.00)	533.00 (61.80)
2013	5.60 (2.93)	137.60 (16.69)	276.80 (30.06)	0.80 (0.80)	420.80 (33.37)

Dataset = cfdpsmcl.d13

Table 136. Population assessment for bluegill collected during spring electrofishing at McNeely Lake from 2001-2013 (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
2013	Value	5.8	2-2+	277.60	0.80	-	-		
	Score	4	4	4	1			13	Good
2012	Value	4.6	2-2+	204.00	1.00	0.922	60.2		
	Score	3	4	4	1			12	Good
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.

Table 137. Electrofishing CPUE (fish/hr) for each length group of redear sunfish collected from McNeely Lake from 1998-2013; 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)
2012	0.00	21.00 (5.44)	62.00 (7.05)	34.00 (6.00)	0.00	117.00 (13.17)
2013	0.00	13.60 (3.78)	27.20 (6.33)	52.80 (10.61)	2.40 (1.71)	93.60 (14.26)

Dataset = cfdpsmcl.d13

Table 138. Population assessment for redear sunfish collected during spring electrofishing at McNeely Lake from 2001-2013 (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
2013	Value	8.2	2-2+	52.80	2.40		
	Score	4	4	4	2	14	Excellent
2012	Value	8.1	3-3+	34.00	0.00		
	Score	4	4	4	0	12	Good
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 139. Mean back calculated lengths (in.) at each annulus for otoliths from bluegill collected in the fall from McNeely Lake in 2013.

		Age			
Year	No.	1	2	3	4
2012	28	2.8			
2011	14	3.2	5.8		
2010	11	3.5	5.4	6.5	
2009	2	3.1	5.0	6.2	6.9
Mean	55	3.0	5.6	6.5	6.9
Smallest		1.2	4.7	5.8	6.9
Largest		5.0	6.6	7.4	6.9
Std Error		0.1	0.1	0.1	0.0
95% ConLo		2.8	5.4	6.2	6.9
95% ConHi		3.3	5.8	6.7	6.9

Intercept value = 0.00
Dataset = cfdagmcl.d13

Table 140. Mean back calculated lengths (in.) at each annulus for otoliths from redear sunfish collected in the fall from McNeely Lake in 2013.

		Age				
Year	No.	1	2	3	4	5
2012	20	3.8				
2011	4	3.6	6.9			
2010	11	3.9	6.5	8.2		
2009	4	3.3	6.1	7.9	9.0	
2008	3	3.9	6.9	8.3	9.1	9.6
Mean	42	3.7	6.6	8.2	9.0	9.6
Smallest		2.7	5.7	7.5	8.7	9.2
Largest		5.6	7.5	8.7	9.5	9.9
Std Error		0.1	0.1	0.1	0.1	0.2
95% ConLo		3.6	6.4	8.0	8.8	9.2
95% ConHi		3.9	6.8	8.3	9.3	10.0

Intercept value = 0.00
Dataset = cfdagmcl.d13

Table 141. Number of fish and the relative weight (Wr) for each length group of bluegill and redear sunfish collected at McNeely Lake on 10 September 2013; standard errors are in parentheses.

	Length group							
Species	No.	Wr	No.	Wr	No.	Wr	No.	Wr
	3.0–5.9 in		6.0–7.9 in		≥8.0 in		Total	
Bluegill	78	99 (3)	40	88 (2)			118	95 (2)
	4.0–6.9 in		7.0–8.9 in		≥9.0 in		Total	
Redear sunfish	26	100 (1)	13	96 (2)	19	92 (1)	58	97 (1)

Dataset = cfdwrmcl.d13

Table 142. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass and sunfish collected in 0.75 hours of electrofishing in General Butler State Park Lake, April 2013; numbers in parentheses are standard errors.

	Inch class																						
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE
Bluegill	6	32	91	156	29																	314	418.67 (55.83)
Redear sunfish		7	7		6	9	4															33	44.00 (10.58)
Largemouth bass				7	4	7	11	15	11	6	1	3	1				1	1				68	90.67 (4.81)

Dataset = cfdpsgbs.d13

Table 143. Species composition, relative abundance, and CPUE (fish/hr) of largemouth bass collected in 1.50 hours of electrofishing in Jericho Lake, April 2013; numbers in parentheses are standard errors.

	Inch class																					
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Largemouth bass	1					1	6	4	4	11	22	22	23	32	33	27	20	3	5	2	216	144.00 (13.58)

Dataset = cfdpsjer .d13

Table 144. Species composition, relative abundance, and CPUE (fish/hr) of sportfish collected in 0.53 hours of electrofishing in Lower Thomas Lake (Owen County), April 2013; 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	24	26	Total	CPUE
Bluegill			26	51	8																	85	160.73 (4.73)
Redear sunfish			7	26	25	6	5															69	129.14 (29.14)
Largemouth bass	1	2	6	6	10	28	19	10	8	4	2	4	2						1			103	196.13 (19.87)
White crappie							5	7														12	22.59 (2.59)
Blue catfish																				1	1	2	3.80 (0.20)

Dataset = cfdpslth.d13

NORTHEASTERN FISHERY DISTRICT

Project 1: Lake and Tailwaters Fishery Surveys

FINDINGS

All sampling conditions can be found in Table 1. This includes dates, temperatures, secchi depths and any other pertinent sampling information.

Cave Run Lake (8,720a)

Muskellunge Sampling

Muskellunge were diurnally sampled on 19 and 21 March and 01 April for 6 hours in each section of the lake (18 total hours). Overall, a total of 138 fish were captured (7.67 fish per hour (fish/hr)) ranging in size from 11.0 to 43.0 inches (in). There were 32 fish captured (5.33 fish/hr) in the upper and lower sections of the lake and 54 fish captured (9.00 fish/hr) in the middle portion of the lake. Size ranges between the sections were consistent, with the exception that the fish in the upper unit only ranged to 36.0 in, while the other sections ranged to 43.0 in (Table 2). Relative weights (W_r) showed an increase in all length groups over 2012, but were not significantly different from the 2003 – 2010 average (which was prior to the implementation of the 36.0-in minimum size limit; Table 3). The overall assessment rating of the muskellunge population at Cave Run Lake fell 1 point but is still considered to be “Good” (Table 4).

In order to mark year classes, age-1 muskellunge are fin clipped prior to their fall stocking each year. The clipping rotation is given in the table below:

Year	Fin clipped	Number stocked	Average length
2013	Right Pectoral	2,800	12.6 in
2012	Left Pelvic	1,923	12.4 in
2011	Right Pelvic	2,800	12.8 in
2010	Left Pectoral	2,811	12.5 in

Black Bass Sampling (Spring)

Black bass (largemouth, smallmouth and spotted bass) were sampled from 22 through 24 April for 6 hours total (2 hours in each section; 12- 15-minute runs). Overall, 1,128 largemouth bass were collected ranging in size from 2.0 to 21.0 in (Table 5). As is typical on Cave Run Lake, spotted bass (21%) and smallmouth bass (2%) made up a much smaller percentage of the total population of black bass (Table 5). Numbers of largemouth bass less than 8.0 in were significantly higher than in 2012 and catch rates of fish over 15.0 and 20.0 in remained higher than any previous time on Cave Run Lake (Table 6). PSD and RSD_{15} values for largemouth bass remain in the “balanced” range (Table 7). Finally, the overall assessment of the largemouth bass fishery on Cave Run Lake was again rated as “Good” for lakes of its size (Table 8). This assessment value equals the previous highest assessment values for Cave Run Lake in 2012 and 2003.

Crappie Trap Netting

Trap netting was conducted on the upper portion of Cave Run Lake from 04-08 November for assessment of the crappie populations. As is typical, the majority of the fish captured were white crappie (94.3% of total) and not enough black crappie were sampled to make accurate assessments of the population. In total, 387 fish were captured, of which 365 were white crappie (6.08 fish per net night (fish/nn)) and 22 were black crappie (0.37 fish/nn; Table 9). PSD and RSD_{10} values demonstrate that the majority of the fish captured are under the 8.0 in mark (Table 10). The assessment of the white crappie remained in line with the mean since 2001 which rates as “Poor” (Table 11).

Grayson Lake (1,512a)

Black Bass Sampling (Spring)
The upper, middle and lower sections of Grayson Lake were nocturnally electrofished (4- 30-minute runs, 2 hours in each section) on 29 and 30 April and 01 May to assess the black bass population. In total, 1,373 fish were captured ranging in size from 3.0 to 20.0 in (Table 12). Of these, 45.0% came from the lower section, 40.0% from the middle section and 15.0% from the upper section. The overall makeup of the populations of black bass was 1,097 largemouth bass (80.0%) and 276 spotted bass (20.0%). The majority of the largemouth bass came from the lower section (41.6%). Of the 1,097 largemouth bass, 6 (0.5%) were stocked fish from the 2010 young of year supplemental stocking (Table 13). The catch in 2013 was the second highest overall catch (182.83 fish/hr) since 2004, with the highest during this same period being attained in 2012 (188.00 fish/hr). Catch rates for ≥15.0 in (16.33 fish/hr) and ≥20.0 in (1.50 fish/hr) were the highest since 1990 (Table 14). The PSD and RSD_{15} values for largemouth bass in Grayson Lake continue to be low because Grayson Lake produces higher numbers of small fish that are unable to make it through to 12.0 in (Table 15). The overall assessment of the largemouth bass fishery in Grayson Lake was “Good”, which continues to be an improvement over the assessment scores achieved from 1996-2009 (Table 16).

Largemouth Bass Sampling (Fall)
The upper, middle and lower sections of Grayson Lake were nocturnally electrofished (16- 15-minute runs; 1.5 hours in each the upper and middle section and 1.0 hour in the lower section) on 16-18 September only for those largemouth bass applicable to the Bass Stocking Initiative (BSI; largemouth bass ≤ 10.0 in). In total, 499 fish were captured ranging in size from 2.0 to 10.0 in. Of these, 50.9% came from the middle section, 14.6 % from the lower section and 34.5% from the upper section. Indices of year class strength were sufficient enough to not warrant supplemental stocking of largemouth bass (Table 17). Sampling of largemouth bass to assess age and growth was conducted in the fall of 2012 and those results are reported in Table 18**.**

Hybrid Striped Bass Gill Netting
Gill nets were set for hybrid striped bass from 22-24 October in attempts to evaluate this population. Due to warmer than normal water temperatures during this time period, only 13 fish were collected which prompted the early termination of this survey.

Lake Carnico (114a)

Black Bass Electrofishing (Spring)
The shoreline of Lake Carnico (Nicholas County) was nocturnally electrofished on 02 May for black bass. A total of 261 largemouth bass were captured ranging in size from 3.0 to 21.0 in (Table 19). Of the 1,500 YOY bass stocked during the fall of 2011 (right pectoral fin clipped), only 3 were collected in 2013 which ranged in length from 7.6-9.9 in. Twenty six were recaptured in the spring of 2012 ranging in length from 4.3-7.8 in. When comparing CPUE for length groups from 2000-2013, all length groups showed improvement over the 14 year CPUE mean value (Table 20). PSD and the RSD_{15} values remain within the acceptable range and comparisons to past years can be found in Table 21. The overall population assessment rates the bass fishery as “Good” (Table 22). The bass fishery has been rated “Fair” for the last 9 years. Sampling of largemouth bass to assess age and growth was conducted in the fall of 2012 and those results are reported in Table 23**.**

Greenbo Lake (181a)

Black bass electrofishing (Spring)
The shoreline of Greenbo Lake (Greenup Co.) was nocturnally electrofished on 25 April. A total of 265 largemouth bass were collected resulting in a CPUE of 176.67 fish/hr (Table 24). Of the total numbers of largemouth bass collected, only 1 stocked fish was found comprising 0.3% of the catch (Table 25). This fish was originally stocked in 2010. During 2007, 2008 and 2010, a total of 6,364 bass were stocked, and to date a total of only 31 (0.5%) of those stocked fish have been collected. Catch rates for largemouth bass by length group can be found in Table 26.

For comparison purposes, low catch rates experienced in 2008 may be attributed to a malfunctioning electrofishing boat. Of the three management objective goals for catch rates related to length frequency, only one was met: 12.0-14.9 in bass (objective = ≥40.00 fish/hr, actual = 75.33 fish/hr), ≥15.0 in bass (objective = ≥10.00 fish/hr, actual = 8.67 fish/hr), ≥20.0 in bass (objective = ≥2.00 fish/hr, actual = 1.33 fish/hr). Largemouth bass PSD remained within the desired range with a value in 2013 of 52 (Table 27). Electrofishing catch rates for each age of largemouth bass from 2000 through 2013 are shown in Table 28. A final rating for the population assessment is shown in Table 29. The population rated "Good" for the second year in a row.

<u>Bluegill/Redear Sunfish electrofishing (Spring)</u>
Daytime electrofishing for bluegill and redear sunfish was conducted on 21 May. Only those sunfish ≥ 3.0 in were collected. A total of 273 bluegill and 10 redear sunfish were collected (Table 30). Catch rates by length group of bluegill and redear sunfish can be found in Table 31. Bluegill PSD was 56 which showed an increase from 2012 (22; Table 32). A final rating for the population assessment found in Table 33 has not been included as age and growth determinations were not conducted during 2013. Only 10 redear sunfish (ranging in size from 1.0-10.0 in) were sampled in 2013 compared to 8 in 2012, 18 in 2011, 35 in 2010 and 5 in 2009. Too few redear sunfish were collected to make accurate population assessments. During 2003-2005, 181,500 one-inch redear sunfish were stocked into the lake.

<u>Black bass electrofishing (Fall)</u>
The largemouth bass population was sampled on 19 September for those size largemouth bass applicable to fulfilling the requirements for the BSI. The maximum length of fish to be collected was ≤ 8.9 in. This change in sampling protocol is due to attempts to increase sampling efficiency and relevancy. A total of 156 largemouth bass were collected in 1.5 hours of electrofishing (6- 15-minute runs). A total of 333 largemouth bass ≤8.9 in were collected during daytime sampling in 2012 which may suggest that daytime sampling for this length group of fish may be more efficient. Largemouth bass indices of year class strength at age 0 and age 1 are found in Table 34. Due to these indices, Greenbo Lake did not receive a supplemental stocking of remedial bass. Poor spawning success during 2010, 2008 and 2007 warranted the supplemental stocking of 3.0-5.0 in bass in those years (2,724 in 2010, 2,715 in 2008 and 925 in 2007).

Lake Reba (76a)

<u>Black bass electrofishing (Spring)</u>
Lake Reba was diurnally electrofished on 22 April for an assessment of the largemouth bass population. In total, 319 fish were captured ranging in size from 3.0 to 19.0 in (Table 35). Of these 319 fish, only 6 were from the largemouth bass stocking program. These 6 fish represented 2 age classes and were stocked into the lake in 2008 and 2010 (Table 36). Overall catch rates dropped slightly from 2012, but were not different from the mean since 1995. There was a slight increase in the catch rate of fish over 15.0 in and a drop in the catch rate of fish over 20.0 in and under 8.0 in (Table 37). Largemouth bass PSD and RSD_{15} values continued to show a balanced largemouth bass and bluegill population (Table 38). The overall population assessment of Lake Reba maintained a "Good" rating (Table 39).

<u>Sunfish electrofishing</u>
Lake Reba was diurnally electrofished on 23 May for an assessment of the bluegill and redear sunfish populations. In total 776 sunfish were collected; of these 415 (53.5%) were bluegill, 243 (31.3%) were redear sunfish and the remainder were warmouth, hybrid sunfish and green sunfish (Table 40). Overall, bluegill numbers were up from 2012, but remained slightly below the 1995-2013 average (Table 41). The bluegill PSD showed a trend towards smaller fish (Table 42). A final assessment of the bluegill population was not calculated in 2013 (Table 43). Overall, redear sunfish numbers increased from 2012 and were right on par with the 1995-2013 average (Table 44). PSD values showed that the majority of the fish were under the 7.0 in class (Table 45). Finally, a calculation of the redear sunfish population rating was not performed in 2013 (Table 46).

Black bass electrofishing (Fall)
Largemouth bass were diurnally sampled on 16 September for an assessment of the success of the 2013 spawn. Fish less than 10.0 in were collected and year class strength was assessed through the BSI (Table 47). Through this assessment it was determined that Lake Reba needed to be stocked this season and it received 1,197 fish in October.

Smoky Valley Lake (36a)

Black bass electrofishing (Spring)
Smoky Valley Lake was diurnally electrofished on 29 April for an assessment of the largemouth bass population. In total, 193 fish were captured ranging in size from 2.0 to 17.0 in (Table 48). Overall, catch rates were similar to recent years; however, catch rates of all length groups still remain below average (Table 49). PSD and RSD_{15} values also remain well below average for this lake (Table 50). The assessment of the largemouth bass population at Smoky Valley Lake is “Fair” (Table 51).

Lake Wilgreen (169a)

Black bass age and growth
Largemouth bass were collected on 03 October for age and growth determinations. In total 77 fish were collected ranging in size from 3.1 to 18.0 in (Table 52). These fish were determined to be between 1 and 6 years old. The majority of the fish in Lake Wilgreen reach 15.0 in by their 6^{th} year, but some as early as their 5^{th}. The mean length at the start of their third year is 11.0 in. This is much lower than the previous value of 12.6 inches in 2008 and lowers it from excellent to good growth. Table 53 shows the 2012 assessment of the largemouth bass fishery at Lake Wilgreen with the addition of this age and growth data.

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

Water body	Species	Date	Time 24hr	Gear	Weather	Water Temp (ºF)	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Cave Run Lake	Muskie	3/19	900	electro	w indy/cold	43.30	726.51	10	fair	Upper
Cave Run Lake	Muskie	3/21	900	electro	very cold	40.50	728.95		fair	Middle
Cave Run Lake	Muskie	4/1	900	electro	prt. cloudy	46.90	725.83	18	fair	Low er
Cave Run Lake	LMB	4/22	2100	electro	clear	65.90	730.28	36	good	Upper
Cave Run Lake	LMB	4/23	2045	electro	clear/cool	62.90	730.21	54	good	Middle
Cave Run Lake	LMB	4/24	2030	electro	overcast/cold	57.9	730.12	24	good	Low er
Cave Run Lake	WC/BC	11/5	900	trap net	prt. sunny	54.80	724.60		good	
Cave Run Lake	WC/BC	11/6	900	trap net	prt. cloudy	55.70	724.60		good	
Cave Run Lake	WC/BC	11/7	920	trap net	cool/w indy	55.70	724.63		good	
Cave Run Lake	WC/BC	11/8	900	trap net	cool		724.73		good	
Grayson Lake	LMB	4/29	2100	electro	clear/cool	60.20	645.78	45	good	Upper section
Grayson Lake	LMB	4/30	2100	electro	overcast	67.50	645.78	24	good	Middle section
Grayson Lake	LMB	5/1	2045	electro	overcast	69.20	645.78	43	good	Low er section; 9˚ w armer than upper section
Grayson Lake	LMB	9/16	2000	electro	ptly. cloudy	73.10			good	Upper section; sampled only for ≤10" LMB
Grayson Lake	LMB	9/17	2000	electro	ptly. cloudy	75.10			good	Middle section; sampled only for ≤10" LMB
Grayson Lake	LMB	9/18	2030	electro	clear/calm	73.40			good	Low er section; sampled only for ≤10" LMB
Grayson Lake	HSB	10/22	1000	gill net	rain/sunny	62.50			good	w ater temperature too w arm but tried to sample anyw ay.
Grayson Lake	HSB	10/23	1000	gill net	rain/cloudy	63.00			good	w ater temperature too w arm but tried to sample anyw ay.
Grayson Lake	HSB	10/24	900	gill net	ptly. Sunny	63.00			good	w ater temperature too w arm but tried to sample anyw ay.
Grayson Lake	HSB	10/25	900	gill net	ptly. Sunny	63.00			good	pulled nets/cancelled sampling; too few HSB caught (13)
Lake Carnico	LMB	5/2	2050	electro	clear/calm	67.50	normal	77	good	
Greenbo Lake	LMB	4/25	2100	electro	clear/calm	59.30	normal	120	good	
Greenbo Lake	BG/RE	5/21	930	electro	sunny/clear	74.70	normal	142	good	
Greenbo Lake	LMB	9/19	1900	electro	clear/calm	74.80	normal		good	
Lake Reba	LMB	4/22	845	electro	sunny/clear	59.20	normal	18	good	unusually turbid
Lake Reba	BG/RE	5/23	1000	electro	cool/sunny	75.40	normal	72	good	
Lake Reba	LMB	9/16	1000	electro		71.90	normal	26	good	
Smoky Valley	LMB	4/29	845	electro	overcast	59.80	normal	38	good	

Table 2. Relative abundance and CPUE (fish/hr) of muskellunge collected in the upper, middle and lower sections during 6 hours of 30-minute runs in each area of Cave Run Lake (18 hours total) on 19 and 21 March and 01 April.

		Inch class																																		Std.
Species	Area	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	Total	CPUE	error
Muskellunge	Upper	2	2	3	7	3	1													1	2	3	3		3	1	1								32	5.33	1.19
	Middle		4	10	12	1	1													2	1	2	1	2	2	3	3	2	2	1	2	1	1	1	54	9.00	1.80
	Low er	1	5	6	13	3	1			1						1						1		1	1	3	4	2		4	2	2	1		52	8.67	1.31
	Total	3	11	19	32	7	3			1						1				3	3	6	4	3	6	7	8	4	2	5	4	3	2	1	138	7.67	0.86

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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.

	≤ 20.0 in			20.1 - 30.0 in			30.1 - 38.0 in			≥ 38.0 in			Total		
Year	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)	N	W_r	(se)
2013	11	79	(2)	4	95	(2)	41	94	(1)	17	92	(3)	73	91	(1)
2012	14	75	(1)	28	88	(2)	58	90	(1)	20	86	(1)	120	87	(1)
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	CPUE ≥ 20.0 in	CPUE ≥ 30.0 in	CPUE ≥ 36.0 in	CPUE ≥ 40.0 in	Total score	Assessment rating
2013	Value	4.17	3.44	3.22	1.61	0.56	15	Good
	Score	3	2	3	4	3		
2012	Value	3.45	5.89	4.33	1.94	0.56	16	Good
	Score	2	3	4	4	3		
2011	Value	1.89	5.33	3.72	2.17	0.89	15	Good
	Score	1	3	3	4	4		
2010	Value	6.78	7.44	3.89	1.94	0.56	16	Good
	Score	3	3	3	4	3		
2009	Value	2.56	3.89	3.28	1.67	0.67	15	Good
	Score	2	2	3	4	4		
2008	Value	2.67	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

Only fish captured are included in this table.

Table 5. Length frequency and CPUE (fish/hr) of black bass collected in 6 hours (12- 30-minute runs) of nocturnal electrofishing in Cave Run Lake from 22 - 24 April.

	Inch class																						
Area/Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	Std. error
Upper																							
Largemouth bass	1	21	54	58	59	10	21	50	28	34	25	5	11	13	11	11	5	2	3	1	423	211.50	18.68
Spotted bass			4	2		1	2	1		1											10	5.00	1.00
Smallmouth bass																					0		
Middle																							
Largemouth bass		3	39	66	53	31	8	20	33	44	23	10	11	9	4	7	4		3		371	185.50	13.00
Spotted bass		1	17	15	9	12	28	18	12	2	4										118	59.00	10.75
Smallmouth bass			3	4												2	1	2	1		14	7.00	3.42
Lower																							
Largemouth bass		2	22	40	71	25	10	33	37	22	22	8	9	11	11	3	5	1	2		334	167.00	16.34
Spotted bass		7	12	14	25	19	27	38	19	9	5	4	1	1							181	90.50	24.72
Smallmouth bass			1				2	2				1									6	3.00	0.58
Total																							
Largemouth bass	1	29	115	164	183	66	39	103	98	100	70	23	31	33	26	21	14	3	8	1	1,128	188.00	10.08
Spotted bass		8	33	31	34	31	57	57	31	12	9	4	1	1							309	51.50	13.40
Smallmouth bass			4	4			2	2				1	1			2	1	2	1		20	3.33	1.36

nedpsdcr.d13

Table 6. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Cave Run Lake from 1990-present.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
2013	93.00	6.10	56.67	4.96	20.67	2.30	17.67	2.30	1.50	0.44	188.00	10.08
2012	46.00	6.71	88.00	4.92	25.50	3.64	18.33	2.35	1.33	0.38	177.83	10.73
2011*												
2010*												
2009*												
2008	25.83	6.16	23.33	2.59	8.33	1.82	3.50	0.96	0.50	0.50	61.00	8.47
2007	67.50	7.21	43.33	3.50	19.92	2.84	7.92	1.33	0.33	0.16	138.67	10.74
2006	50.67	10.14	48.50	7.70	14.67	1.99	10.17	1.42	0.17	0.17	124.00	19.07
2005	75.00	13.08	41.67	6.41	14.67	2.67	7.17	1.64	0.67	0.38	138.50	22.18
2004	29.00	3.02	60.67	5.88	26.00	3.03	14.08	13.50	0.33	0.20	129.75	10.14
2003	41.00	5.99	64.58	5.15	24.75	2.28	20.25	2.85	0.75	0.29	150.58	13.02
2002*												
2001	22.83	3.68	54.67	5.41	27.58	2.33	12.58	1.55	0.25	0.18	117.67	8.60
2000	45.08	4.88	78.33	6.48	26.83	2.89	9.00	1.51	0.42	0.27	159.25	10.69
1999	67.58	7.18	51.25	3.47	21.58	1.79	8.58	1.49			149.00	8.73
1998	18.71	3.52	17.86	2.94	20.57	2.14	6.86	1.54			64.00	7.64
1997	37.08	3.63	50.42	5.22	24.58	2.57	4.42	0.78	0.08	0.08	116.50	10.40
1996	58.90	6.54	42.35	3.98	15.25	1.53	4.01	0.72			116.08	9.46
1995	27.82	5.32	80.45	11.53	36.64	3.92	6.36	0.72	0.09	0.10	151.27	17.92
1994	62.50	7.01	54.67	7.92	38.75	3.10	3.67	0.57	0.33	0.16	159.58	15.50
1993	47.08	5.42	110.67	10.29	36.17	4.79	4.92	0.80	0.25	0.14	198.83	15.32
1992	51.98	4.34	77.94	5.11	21.93	1.75	2.77	0.62	0.17	0.12	152.83	6.81
1991	32.50	4.66	64.50	4.90	31.00	2.13	6.33	1.01	0.42	0.21	134.33	7.22
1990	23.28	2.69	42.98	2.65	18.48	2.15	3.44	0.86	0.24	0.13	88.16	5.76

* = No sample due to high w ater

nedpsdcr.d90 - d13

Table 7. Black bass PSD and RSD_a values from spring electrofishing at Cave Run Lake; 95% confidence limits are in parentheses.

Area/Species	No ≥8.0 in	PSD	RSD_a
Upper Lake			
Largemouth bass	220	40 (±6)	21 (±5)
Spotted bass	4	25 (±49)	
Smallmouth bass	0		
Middle Lake			
Largemouth bass	176	40 (±7)	15 (±5)
Spotted bass	76	8 (±6)	
Smallmouth bass	7	100 (±0)	100 (±0)
Lower Lake			
Largemouth bass	174	41 (±7)	19 (±6)
Spotted bass	123	16 (±7)	2 (±2)
Smallmouth bass	5	20 (±39)	
Total			
Largemouth bass	570	40 (±4)	19 (±3)
Spotted bass	203	13 (±5)	1 (±1)
Smallmouth bass	12	67 (±28)	58 (±29)

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

nedpsdcr.d13

Table 8. Population assessment of largemouth bass based on samples collected at Cave Run Lake 1991-present (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE age-1	Spring CPUE 12.0 - 14.9 in	Spring CPUE ≥ 15.0 in	Spring CPUE ≥ 20.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2013	Value		91.33	20.67	17.67	1.50	14	Good		
	Score	3	4	2	3	2				
2012	Value	11.8	45.30	25.50	18.33	1.33	14	Good	0.852	57.30%
	Score	3	3	3	3	2				
2011*	Value									
	Score									
2010*	Value									
	Score									
2009*	Value									
	Score									
2008	Value		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	19.92	7.92	0.33	13	Good	0.703	51.00%
	Score	3	4	2	2	2				
2006	Value		49.20	14.67	10.17	0.17	10	Fair	0.799	55.00%
	Score	3	3	1	2	1				
2005	Value		43.00	14.67	7.17	0.67	11	Fair	0.897	59.00%
	Score	3	3	1	2	2				
2004	Value		28..1	26.00	14.08	0.33	13	Good	0.846	57.00%
	Score	3	2	3	3	2				
2003	Value	12.4	39.80	24.75	20.25	0.75	14	Good		
	Score	3	3	2	4	2				
2002*	Value									
	Score									
2001	Value	10.7	15.10	27.58	12.58	0.25	10	Fair		
	Score	1	1	3	3	2				
2000	Value	10.3	35.50	26.83	9.00	0.42	10	Fair		
	Score	1	2	3	2	2				
1999	Value	11.0	58.67	21.58	8.58	0.00	9	Fair		
	Score	1	4	2	2	0				
1998	Value	11.4	17.62	20.57	6.86	0.00	7	Poor		
	Score	2	1	2	2	0				
1997	Value	10.8	35.00	24.58	4.42	0.08	8	Fair		
	Score	1	2	2	2	1				
1996	Value	11.1	57.03	15.25	4.01	0.00	9	Fair		
	Score	2	4	2	1	0				
1995	Value	10.8	25.39	36.64	6.36	0.09	10	Fair		
	Score	1	2	4	2	1				
1994	Value	11.5	58.86	38.75	3.67	0.33	13	Good		
	Score	2	4	4	1	2				
1993	Value	11.3	45.13	36.17	4.92	0.25	13	Good		
	Score	2	3	4	2	2				
1992	Value	10.9	48.61	21.93	2.77	0.17	8	Fair		
	Score	1	3	2	1	1				
1991	Value	11.8	29.32	31.00	6.33	0.42	12	Good		
	Score	3	2	3	2	2				

* = Lake w as not sampled due to high w ater
nedpsdcr.d13

Table 9. Length frequency and CPUE (fish/nn) for black and white crappie collected while trap netting the upper reaches of Cave Run Lake in 60 net-nights from 04 - 08 November.

	Inch class												
Species	2	3	4	5	6	7	8	9	10	11	Total	CPUE	Std. error
Black crappie	1	2	1	4	9	3	1	1			22	0.37	0.09
White crappie	7	86	1	61	40	52	61	44	10	3	365	6.08	0.88

nedctncr.d13

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 ≥ 5.0 in	PSD	RSD_{10}
Black crappie	18	11 (±15)	
White crappie	271	44 (±6)	5 (±3)

nedctncr.d13

Table 11. Population assessment of white crappie based on samples collected at Cave Run Lake in 2013 compared to previous years (scoring based on statewide assessment).

Year		Total CPUE excluding age-0	CPUE age-1	CPUE age-0	Fall CPUE ≥ 8.0 in	Mean Length age-2 at capture	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2013	Value	4.63	1.4	1.45	1.97		5	Poor		
	Score	1	1	1	1	1				
2012	Value	5.83	2.23	2.76	0.73	7.9	6	Poor	-1.179	69.20%
	Score	2	1	1	1	1				
2011	Value	21.40	11.60	17.30	3.38		12	Good		
	Score	4	2	4	2	1				
2010	Value	3.60	0.88	2.53	1.38		5	Poor	-1.220	70.50%
	Score	1	1	1	1	1				
2009	Value	106.4	59.18	56.00	3.25		15	Good	-1.490	77.50%
	Score	4	4	4	2	1				
2008	Value	2.01	0.64	1.30	0.56		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		8	Fair	0.951	66.30%
	Score	2	2	2	1	1				
2005	Value	2.20	0.70	1.70	0.90		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				
2000	Value	1.85	0.75	0.00	0.35		4	Poor		
	Score	1	1	0	1	1				
1999	Value	2.76	1.32	0.00	0.50	6.3	4	Poor		
	Score	1	1	0	1	1				
1998	Value	3.58	0.83	0.00	0.64	6.6	4	Poor		
	Score	1	1	0	1	1				
1997	Value	2.32	0.93	0.00	0.54	6.1	4	Poor		
	Score	1	1	0	1	1				
1996	Value	2.30	1.19	0.00	0.63	5.9	4	Poor		
	Score	1	1	0	1	1				
1995	Value	1.46	0.16	0.00	0.38	5.3	3	Poor		
	Score	0	1	0	1	1				
1994	Value	2.24	1.43	0.00	0.49	6.3	4	Poor		
	Score	1	1	0	1	1				
1993	Value	1.85	0.36	0.00	0.28	6.2	4	Poor		
	Score	1	1	0	1	1				
1992	Value	1.49	0.25	0.00	0.59	5.9	4	Poor		
	Score	1	1	0	1	1				

nedctncr.d92-13; nedaagcr.d92-99, d01-04, 07, 12

Table 12. Length frequency and CPUE (fish/hr) of black bass collected in 6.0 hours (2.0 hours in upper, middle and lower areas) of nocturnal electrofishing (4- 30-minute runs) for black bass in Grayson Lake during 29 April through 01 May, 2013.

	Inch class																				
Area/Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std. error
Lower																					
Spotted bass	5	11	18	16	20	24	27	3	1	2									160	80.00	25.90
Largemouth bass	2	53	70	34	11	22	73	85	22	13	7	12	15	13	10	11	3	1	457	228.50	14.23
Middle																					
Spotted bass	12	51	12	2	8	11	10	6	1										113	56.50	13.02
Largemouth bass	27	92	74	34	8	44	44	51	19	6	6	3	5	3	5	5	4	3	433	216.50	19.59
Upper																					
Spotted bass					1			2											3	1.50	1.20
Largemouth bass	4	9	21	10	2	34	26	31	18	17	4	11	8	2	3	1	1	5	207	103.50	9.21
Total																					
Spotted bass	17	95	30	18	29	35	37	11	2	2									276	46.00	9.11
Largemouth bass	33	154	165	78	21	100	143	167	59	36	17	26	28	18	18	17	8	9	1097	182.83	14.35

nedpsdgl.d13

Table 13. Length frequency and CPUE (fish/hr) of stocked and wild largemouth bass collected in 6.0 hours of nocturnal electrofishing at Grayson Lake.

	Inch class																				
Type	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	Std. error
Wild	33	154	165	78	21	100	143	165	59	35	16	26	27	18	17	17	8	9	1091	181.83	14.41
Stocked								2		1	1		1		1				6	1.00	0.36

nedstkgl.d13; nedwldgl.d13

Table 14. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Grayson Lake from 1990-present.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2013	75.17	11.34	78.17	5.67	13.17	1.47	16.33	2.13	1.50	0.4	182.83	14.35
2012	67.00	11.36	91.00	6.50	16.75	2.23	13.25	2.75	0.25	0.25	188.00	16.08
2011*												
2010*												
2009	22.83	4.03	41.00	4.22	17.00	2.68	12.67	2.04	0.83	0.30	93.50	10.25
2008	25.67	7.21	22.50	4.35	11.50	2.48	3.67	0.85	0.33	0.22	63.33	11.51
2007	48.00	8.03	46.83	3.75	16.00	2.09	5.00	0.76	0.17	0.17	115.83	11.64
2006	18.83	2.88	55.50	7.40	23.67	3.91	5.33	1.11	0.33	0.22	10.33	10.07
2005	50.11	7.95	70.22	7.35	25.11	3.66	2.89	0.52	0.22	0.15	148.33	15.86
2004	162.33	21.99	77.78	10.10	12.89	1.38	2.89	0.59	0.33	0.18	255.89	31.87
2003	128.33	10.65	79.50	6.51	6.33	0.77	2.17	0.63	0.67	0.38	216.33	15.11
2002	132.50	17.87	54.50	5.48	4.83	1.42	3.00	0.76	0.83	0.39	194.83	22.74
2001	220.78	30.58	54.22	3.23	6.67	0.89	2.22	0.48	0.22	0.15	283.89	30.19
2000	143.33	20.56	65.67	5.86	13.44	1.51	6.67	1.04	0.33	0.18	229.11	25.92
1999	172.67	21.58	102.44	10.12	24.11	2.13	4.56	0.66	0.22	0.15	303.78	31.25
1998	146.67	22.15	90.50	8.31	20.00	2.19	4.67	0.75	0.17	0.17	261.83	25.45
1997	90.00	10.84	70.22	6.11	19.93	1.85	3.26	0.71	0.59	0.21	183.41	15.51
1996	57.63	7.89	68.07	5.09	13.11	1.54	3.17	0.51	0.30	0.14	142.00	11.80
1995	20.44	2.30	57.56	4.72	17.70	1.07	4.59	0.64	0.30	0.14	100.30	6.87
1994	109.41	15.01	72.74	4.02	20.07	1.63	4.67	0.73	0.22	0.12	206.89	17.46
1993	36.96	4.86	86.37	5.96	17.04	1.20	5.63	0.52	0.37	0.19	146.00	9.94
1992	37.04	3.83	54.80	5.24	13.12	1.42	4.96	0.68	0.16	0.11	119.48	6.81
1991	21.00	3.21	37.33	4.52	19.00	2.29	4.67	1.61			82.00	7.10
1990	27.33	4.58	55.17	5.56	23.00	2.07	5.33	0.79	0.17	0.17	110.83	6.99

* = Lake not sampled due to high w ater

nedpsdgl.d90 - d13

Table 15. Black bass PSD and RSD[a] values from spring electrofishing at Grayson Lake; 95% confidence limits are in parentheses.

Area/Species	No. ≥8.0 in	PSD	RSD[a]
Lower Lake			
Largemouth bass	287	30 (±5)	18 (±5)
Spotted bass	77	4 (±4)	
Middle Lake			
Largemouth bass	198	20 (±6)	13 (±5)
Spotted bass	36	3 (±4)	
Upper Lake			
Largemouth bass	161	32 (±7)	12 (±5)
Spotted bass	3		
Total			
Largemouth bass	646	27 (±3)	15 (±3)
Spotted bass	116	3 (±3)	

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

nedpsdgl.d13

Table 16. Population assessment of largemouth bass based on samples collected at Grayson Lake from 1996-2013 (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)%
2013	Value		73.17	13.17	16.33	1.50	12	Good		
	Score	2	4	1	3	2				
2012	Value		48.50	16.75	13.25	0.25	12	Good		
	Score	2	3	2	3	2				
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-d12; nedaaggl.d03,d08

Table 17. 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
2013	Total	4.3	0.04	81.25	11.2	15.25	3.29		
2012	Total	4.5	0.04	139.11	23.00	41.78	6.06	73.17	10.07
2011	Total	4.0	0.04	83.56	15.03	11.11	2.58	48.50	11.97
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.d12 - d03; nedpsdgl.d13, d09 - d04; nedbsigl.d13

nedaaggl.d03, d08

Table 18. Mean back-calculated lengths (in) at each annulus for largemouth bass collected from Grayson Lake on 16 September 2012, including the range of length of bass at each age and the 95% confidence intervals for each age class.

		Age								
Year	No.	1	2	3	4	5	6	7	8	9
2011	26	5.4								
2010	16	5.9	8.8							
2009	15	5.1	8.6	10.2						
2008	8	5.6	8.9	11	12.4					
2007	12	5.7	9.0	10.5	11.8	12.8				
2006	4	5.7	9.5	11.4	12.7	13.9	14.9			
2005	1	5.8	9.9	11.3	12.8	13.5	13.6	14.0		
2003	1	6.1	9.5	12.1	13.6	15.0	15.9	16.8	17.7	18.3
Mean		5.5	8.9	10.6	12.2	13.2	14.9	15.4	17.7	18.3
Number		83	57	41	26	18	6	2	1	1
Smallest		3.3	7.2	8.7	10.0	11.1	13.6	14	17.7	17.7
Largest		7.1	10.2	12.1	13.6	15.0	15.9	16.8	17.7	17.7
Std error		0.1	0.1	0.1	0.2	0.2	0.4	1.4		
95% CI (±)		0.3	0.4	0.6	0.7	0.9	1.4	5.4		

Otoliths were used for age-determinations; Intercept=0

nedaaggl.d12

Table 19. 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 02 May 2013.

	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	12	18	6	21	47	32	19	18	19	16	17	12	7	6	3	2	2	1	261	174.00	13.42

nedpsdlc.d13

Table 20. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Carnico from 2000 to 2013.

	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.
2013	40.00	6.20	77.33	8.56	34.67	4.70	22.00	4.70	2.00	1.37	174.00	13.42
2012	52.00	7.93	44.67	10.80	23.33	3.33	14.67	2.46			134.67	15.85
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	4.50	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.d13 - d00

Table 21. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Carnico; 95% confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD	RSD_{15}
2013	201	42 (±7)	16 (±5)
2012	124	46 (±9)	18 (±7)
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.d13-d00

Table 22. Population assessment of largemouth bass based on samples collected at Lake Carnico from 2004-2013 (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)%
2013	Value	11.0	20.00	34.67	22.00	2.00	13	Good		
	Score	3	2	2	3	3				
2012	Value	11.0	16.00	23.33	14.67	0.00	9	Fair	-0.504	39.60%
	Score	3	2	2	2	0				
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-d13; nedaaglc.d03,d08

Table 23. Mean back-calculated lengths (in) at each annulus for largemouth bass collected from Lake Carnico on 10 September 2012, including the range of length of bass at each age and the 95% confidence intervals for each age class.

		Age					
Year	No.	1	2	3	4	5	6
2011	26	5.1					
2010	22	4.9	8.7				
2009	12	4.9	8.7	11.8			
2008	2	5.1	8.4	12.2	14.3		
2007	2	5.1	8.9	11.5	13.7	15.2	
2006	1	4.9	9.8	12.6	14.2	15.1	15.7
Mean		5.0	8.7	11.8	14.0	15.2	15.7
Number		65	39	17	5	3	1
Smallest		3.5	6.9	9.2	13.0	15.0	15.7
Largest		6.6	11.7	13.9	14.4	15.4	15.7
Std error		0.1	0.2	0.3	0.3	0.1	
95% CI (±)		0.2	0.4	0.6	0.5	0.3	

Otoliths were used for age-determinations; Intercept=0

nedaaglc.d12

Table 24. Length frequency and CPUE (fish/hr) of black bass collected in 1.5 hours of nocturnal electrofishing (6- 15-minute runs) at Greenbo Lake (Greenup Co.) on 25 April 2013.

	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	3		5	3	10	15	15	25	63	65	41	7	3	3	1	3	1	1	1	265	176.67	22.42

nedpsdgb.d13

Table 25. Length frequency and CPUE (fish/hr) of stocked and wild largmouth bass collected in 1.5 hours of nocturnal electrofishing at Greenbo Lake on 25 April 2013.

		Inch class																					
Species	Type	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	Wild	3		5	3	10	15	15	24	63	65	41	7	3	3	1	3	1	1	1	264	176.00	22.44
	Stocked								1												1	0.67	0.67

nedwldgb.d13, nedstkgb.d13

Table 26. 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.
2013	14.00	1.71	78.67	7.42	75.33	17.33	8.67	2.17	1.33	0.84	176.67	22.42
2012	25.33	4.81	111.33	11.84	64.67	7.96	8.67	2.81	2.00	0.89	210.00	21.06
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	24.00	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.d13 - d98

Malfunctioning electrofishing boat in 2008

Table 27. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Greenbo Lake; 95% confidence limits are in parentheses.

Year	No. ≥ 8.0 in	PSD	RSD_{15}
2013	224	52 (±6)	5 (±3)
2012	277	40 (±6)	5 (±3)
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.d13 - d07

Malfunctioning electrofishing boat in 2008

Table 28. Electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Greenbo Lake from 2000 - 2013.

	Year												
Age	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1	52.87	83.87	105.33	33.63	46.71	35.64	2.10	0.98	3.17	5.33	9.46	2.00	3.83
2	66.13	34.13	31.33	87.17	19.96	35.69	50.35	18.05	50.01	79.63	48.91	66.22	31.87
3	29.00	56.00	71.33	28.80	51.33	50.67	42.73	18.22	35.65	61.02	60.84	44.53	41.21
4	6.00	6.67	9.78	26.67	7.11	14.22	27.22	10.97	23.71	28.05	33.56	62.25	65.33
5	4.00	5.33	7.56	17.73	6.89	8.44	16.04	7.91	23.89	13.27	18.00	19.67	24.75
6	2.00	1.00	3.33	3.20	2.67	6.67	6.09	3.47	8.23	6.57	5.90	3.33	2.00
7	1.00	1.00	2.67	5.20	4.00	3.33	4.13	2.40	6.67	5.47	3.33	1.33	0.33
8							0.67	0.67	2.00	0.67			
10												0.67	2.00

nedpsdgb.d13 - d00

nedaaggb.d12, d07, d03

Note: Did not sample in 2002 due to lake draw down; malfunctioning electrofishing boat in 2008.

Table 29. Population assessment of largemouth bass based on samples collected at Greenbo Lake from 2004-2013 (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)%
2013	Value		3.83	75.33	8.67	1.33	12	Good		
	Score	3	1	4	2	2				
2012	Value	11.2	2.00	64.67	8.67	2.00	13	Good	-0.812	56.60%
	Score	3	1	4	2	3				
2011	Value		9.46	58.00	6.67	1.33	11	Fair		
	Score	2	1	4	2	2				
2010	Value	10.7	5.33	45.33	13.33	2.00	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-d13; nedaaggb.d07, d12

Malfunctioning electrofishing boat in 2008

Table 30. 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 21 May 2013.

	Inch class										Std.
Species	3	4	5	6	7	8	9	10	Total	CPUE	error
Bluegill	29	50	42	69	53	25	5		273	218.40	31.64
Longear sunfish	37	22	7	3					69	55.20	12.3
Redear sunfish	2			3	1		1	3	10	8.00	2.92
Green sunfish	3	3	2	1	1	1			11	8.80	2.22

nedsungb.d13

Table 31. 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	2013	*	*	96.80	21.91	97.60	19.19	24.00	5.20			218.40	31.64
	2012	*	*	276.00	65.56	70.40	5.94	7.20	2.52			353.60	66.73
	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	2013	*	*	1.60	1.07	3.20	1.77	3.20	2.44	2.40	2.40	8.00	2.92
	2012	*	*	4.80	4.80	0.80	0.80	0.80	0.80	0.80	0.80	6.40	4.74
	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.d13-d05, d03

* <3.0 in were not collected in 2012

Table 32. Bluegill PSD and RSD_8 values from spring electrofishing at Greenbo Lake ; 95% confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	RSD_8
2013	273	56 (±6)	11 (±4)
2012	442	22 (±4)	2 (±1)
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.d13 - d07

Table 33. Population assessment of bluegill based on samples collected at Greenbo Lake from 2005-2013 (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)%
2013	Value			121.60	24.00				
	Score								
2012	Value			77.60	7.20				
	Score								
2011	Value	4.9	3	51.20	13.60	12	Good	-1.150	68.30%
	Score	3	3	3	3				
2010	Value	4.9	3	92.00	24.00	14	Excellent	-1.064	65.50%
	Score	3	3	4	4				
2009	Value	4.9	3	40.80	5.60	10	Fair	-1.390	75.10%
	Score	3	3	2	2				
2008	Value	4.9	3	47.20	6.40	10	Fair	-0.865	57.90%
	Score	3	3	2	2				
2007	Value	5.2	3	52.80	7.20	12	Good	-1.350	74.20%
	Score	4	3	3	2				
2006	Value	5.2	3	28.00	4.80	11	Good	-1.310	73.20%
	Score	4	3	2	2				
2005	Value	5.2	3	49.60	3.20	11	Good	-1.270	71.90%
	Score	4	3	2	2				

nedsungb.d06-13; nedaaggb.d11, d08

Table 34. Indices of year class strength at age 0 and age 1, and mean lengths (in) of largemouth bass collected in the fall while nocturnal electrofishing (diurnal sampling in 2012) at Greenbo Lake.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2013	3.3	0.06	99.33	9.77	3.33	1.61		
2012	3.5	0.04	219.33	34.98	13.33	5.90	3.83	1.40
2011	3.5	0.15	44.00	11.91	6.00	1.71	2.00	0.86
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.d13 - d03; nedpsdgb.d13 - 04; nedaaggb.d03, 07, 12

Age break used in 2013 = 6.9 in

Table 35. Length frequency and CPUE (fish/hr) for largemouth bass collected in 1.26 hours of diurnal electrofishing (4- 15-minute runs; 1- 15.37-minute run) at Lake Reba (Madison Co.) on 22 April 2013.

	Inch class																			
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std. error
Largemouth bass	6	14	9	10	37	57	33	29	10	19	34	27	15	6	6	3	4	319	252.86	26.87

nedpsdlr.d13

Table 36. Length frequency and CPUE (fish/hr) of stocked* and wild largemouth bass collected in 1.5 hours of nocturnal electrofishing at Lake Reba.

	Inch class																			
Type	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total	CPUE	Std. error
Wild	6	14	9	10	37	57	33	28	9	19	33	26	14	5	6	3	4	313	248.09	26.78
Stocked								1	1		1	1	1	1				6	4.77	1.50

nedwldlr.d13; nedstklr.d13

*Stocked as part of the LMB stocking initative (2008 - 2010)

Table 37. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Lake Reba from 1995-present.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2013	60.09	7.78	102.43	7.65	63.29	11.04	27.05	8.74	0.00		252.86	26.87
2012	103.33	16.51	90.67	8.98	68.00	8.20	16.67	4.18	1.33	0.84	278.67	13.53
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 38. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Lake Reba; 95% confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD	RSD_{15}
2013	243	47 (±6)	14 (±4)
2012	263	48 (±6)	10 (±4)
2011	360	55 (±5)	11 (±3)
2010	270	35 (±6)	4 (±2)
2009	536	33 (±4)	7 (±2)
2008	382	18 (±4)	5 (±2)
2007	444	27 (±4)	6 (±2)
2006	154	31 (±7)	6 (±4)
2005	174	51 (±7)	11 (±5)
2004	275	32 (±6)	4 (±2)
2003	279	32 (±5)	4 (±2)
2002	176	20 (±6)	3 (±2)
2001	33	30 (±16)	9 (±10)
2000	43	28 (±14)	19 (±12)
1999	98	72 (±12)	50 (±13)
1998	26	81 (±10)	39 (±13)
1997			
1996	54	96 (±8)	62 (±19)
1995	54	79 (±8)	3 (±3)

nedpsdlr.d13 - d98, d96 - d95

Table 39. Population assessment of largemouth bass based on samples collected at Lake Reba from 1995 - present (scoring based on statewide assessment).

Year		Mean length age-3 at capture	Spring CPUE age-1	Spring CPUE 12.0-14.9 in	Spring CPUE ≥ 15.0 in	Spring CPUE ≥ 20.0 in	Total score	Assessment rating	Instantaneous mortality (z)	Annual mortality (A)%
2013	Value		28.37	63.29	27.05	0.00	12	Good		
	Score	3	2	4	3	0				
2012	Value		76.00	68.00	16.67	1.33	15	Good		
	Score	3	4	4	2	2				
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 40. Length frequency and CPUE (fish/hr) for sunfish collected in 1.0 hour of diurnal electrofishing (8- 7.5-minute runs) at Lake Reba on 23 May 2013.

	Inch class									
Species	3	4	5	6	7	8	9	Total	CPUE	Std. error
Bluegill	191	132	48	33	11			415	415.00	79.95
Redear sunfish	6	43	49	84	59	2		243	243.00	21.16
Warmouth	19	28	18	17	13	7	1	103	103.00	5.94
Hybrid sunfish	1	2	1	2	1	2		9	9.00	3.18
Green sunfish	1	2	3					6	6.00	3.93

nedsunlr.d13

Table 41. Spring electrofishing CPUE (fish/hr) for various length groups of bluegill collected at Lake Reba from 1995 - present.

	Length Group												
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥ 6.0 in		≥ 8.0 in		Total		Total CPUE (excluding <3.0 in)
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	
2013			371.00	84.57	44.00	15.34	44.00	15.34			415.00	79.95	415.00
2012			151.00	26.42	38.00	14.72	38.00	14.72			189.00	36.63	189.00
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	1018.00
2010	514.40	138.51	375.20	35.47	21.60	4.78	21.60	4.78			911.20	144.80	396.80
2009	527.00	92.98	200.00	19.71	22.00	6.37	22.00	6.37			749.00	100.50	222.00
2008	188.00	41.90	194.00	41.09	71.00	11.60	71.00	11.60			453.00	59.10	265.00
2007			73.00	10.84	29.00	7.70	29.00	7.70			102.00	10.88	102.00
2006	843.20	140.65	228.80	22.88	79.20	20.32	79.20	20.32			1151.20	158.54	308.00
2005	279.20	37.00	308.00	42.74	97.60	19.41	97.60	19.41			684.80	74.40	405.60
2004	199.20	39.38	187.20	26.96	23.20	7.00	23.20	7.00			409.60	58.24	210.40
2003	178.40	27.87	356.00	49.65	49.50	20.06	49.50	20.06			584.00	75.25	405.60
2002	266.00	39.68	703.00	101.96	29.00	10.38	29.00	10.38			998.00	138.32	732.00
2001			1210.67	207.62	89.33	16.71	89.33	16.71			1300.00	220.30	1300.00
2000	7.00	4.73	1181.33	152.34	303.46	12.96	303.46	12.96			1327.00	124.50	1320.00
1999	74.00	74.00	700.00	120.00	48.00	16.00	48.00	16.00			822.00	30.00	748.00
1998			1032.00		4.00		4.00				1036.00	0.00	1036.00
1997													
1996	16.00	12.00	722.00	110.00	22.00	18.00	22.00	18.00			760.00	140.00	744.00
1995			338.00	54.00	32.00	0.00	32.00	0.00			1370.00	54.00	1370.00

nedsunlr.d13 - d98, d96 - d95

Table 42. Bluegill PSD and RSD_8 values from spring electrofishing at Lake Reba; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	RSD_8
2013	415	11 (±3)	
2012	189	20 (±6)	
2011	1018	10 (±2)	<1 (±0)
2010	496	5 (±2)	
2009	222	10 (±4)	
2008	265	27 (±5)	
2007	102	28 (±9)	
2006	385	26 (±4)	
2005	507	24 (±4)	
2004	263	11 (±4)	
2003	507	12 (±3)	
2002	732	4 (±1)	
2001	975	7 (±2)	
2000	1320	21 (±2)	
1999	374	6 (±2)	
1998	259	<1 (±1)	
1997			
1996	372	3 (±2)	
1995	685	2 (±1)	

nedsunlr.d13 - d98, d96 - d95

**No BG over 8.0 in sampled from 1995 - 2010 and 2012-2013 to be able to determine* RSD_8

Table 43. Population assessment of bluegill based on samples collected at Lake Reba from 1995 - 2013 (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)%
2013	Value			44.00	0.00				
	Score			2	0				
2012	Value	4.0	3+	38.00	0.00	7	Fair	-0.112	10.60%
	Score	2	3	2	0				
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.d13 - d98, d96 - d95

Table 44. Spring electrofishing CPUE (fish/hr) for various length groups of redear sunfish collected at Lake Reba from 1995 - present.

	Length group												Total		Total CPUE (excluding <3.0 in)
	<3.0 in		3.0-5.9 in		6.0-7.9 in		≥ 6.0 in		≥ 8.0 in		≥ 10.0 in				
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	
2013			98.00	26.22	143.00	23.64	145.00	23.54	2.00	1.31			243.00	21.16	243.00
2012			79.00	15.15	94.00	24.46	95.00	25.18	1.00	1.00			174.00	33.49	174.00
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	356.00
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	130.40
2009	184.00	52.92	150.00	22.92	60.00	4.54	60.00	4.54					394.00	65.74	210.00
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	360.00
2007			122.00	16.34	33.00	5.94	35.00	5.00	2.00	1.31			157.00	20.28	157.00
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	328.00
2005	16.80	5.90	39.20	5.52	196.00	33.38	196.00	33.38					252.00	30.74	235.20
2004	17.60	4.59	59.20	18.33	67.20	13.71	67.20	13.71					144.00	30.38	126.40
2003	13.60	5.73	119.20	19.82	178.40	68.83	178.40	68.83					311.20	82.91	297.60
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	576.00
2001			220.00	46.13	84.00	32.74	85.33	32.36	1.33	1.33			305.33	39.35	305.33
2000			125.82	39.34	134.90	39.57	134.90	39.57					245.00	74.89	245.00
1999	2.00	2.00	92.00	36.00	122.00	22.00	122.00	22.00					216.00	60.00	214.00
1998			80.00		44.00		44.00						124.00	0.00	124.00
1997															
1996			44.00	20.00	14.00	10.00	14.00	10.00					58.00	30.00	58.00
1995															

nedsunlr.d13 - d98, d96 - d95

Table 45. Redear sunfish PSD and RSD_9 values from spring electrofishing at Lake Reba; confidence limits are in parentheses.

Year	No. ≥3.0 in	PSD	RSD_9
2013	237	26 (±6)	
2012	139	21 (±7)	
2011	310	22 (±5)	<1 (±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			

nedsunlr.d13 - d98, d96 - d95

**No RE over 9.0 in sampled from 1995 - 2010 or 2012-2013 to be able to determine* RSD_9

Table 46. Population assessment of redear sunfish based on samples collected at Lake Reba from 1995 - 2013 (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)%
2013	Value			2.00	0.00				
	Score			1	0				
2012	Value	5.8	>6	1.00	0.00	4	Poor	-0.963	61.80%
	Score	2	1	1	0				
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.d13 - d98, d96 - d95

Table 47. 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
2013	Total	3.9	0.1	80.00	16.35	12.00	4.38		
2012	Total	4.5	0.1	129.06	16.78	37.18	6.03	54.59	9.43
2011	Total	4.4	0.0	334.89	44.80	84.44	19.50	76.00	14.90
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

nedbsilr.d13 - d12, nedwrslr.d11 - d03, nedpsdlr.d12-d02

Table 48. Length frequency and CPUE (fish/hr) for largemouth bass collected in 0.87 hours of nocturnal electrofishing (3- 15-minute runs, 1- 4.5-minute run) at Smoky Valley Lake (Carter Co.) on 29 April 2013.

	Inch class																Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Largemouth bass	1	20	28	13	8	18	25	30	24	16	4	3	1		1	1	193	221.62	6.50

nedpsdsv.d13

Table 49. Spring electrofishing CPUE (fish/hr) for various length groups of largemouth bass collected at Smoky Valley Lake from 1990-present.

	Length group										Total	
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2013	100.92	8.52	109.77	11.51	8.92	1.93	2.00	1.15			221.62	6.50
2012	112.06	21.84	98.89	22.26	12.78	1.97	1.00	1.00			224.72	41.42
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.d13, d09-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

Table 50. Largemouth bass PSD and RSD_{15} values from spring electrofishing at Smoky Valley Lake; 95% confidence limits are in parentheses.

Year	No. ≥8.0 in	PSD	RSD_{15}
2013	105	10 (±6)	2 (±3)
2012	101	13 (±7)	1 (±2)
2011	70	14 (±8)	
2010	67	6 (±6)	1 (±3)
2009	160	9 (±5)	1 (±1)
2008	245	19 (±5)	(±0)
2007	268	15 (±4)	1 (±1)
2006	322	20 (±4)	1 (±1)
2005	318	25 (±5)	0 (±1)
2004			
2003			
2002			
2001	172	22 (±6)	1 (±2)
2000	288	24 (±5)	0 (±1)
1999			
1998	210	37 (±7)	1 (±2)
1997	105	40 (±9)	3 (±3)
1996	130	41 (±8)	2 (±3)
1995	190	45 (±7)	1 (±1)
1994	205	49 (±7)	3 (±2)
1993	131	33 (±8)	5 (±4)
1992	213	51 (±7)	4 (±3)
1991	153	16 (±6)	4 (±3)
1990	194	30 (±6)	11 (±4)

nedpsdsv.d13, d09-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d90

Table 51. 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)%
2013	Value		80.00	8.92	2.00	0.00	10	Fair		
	Score	4	4	1	1	0				
2012	Value	11.5	68.00	12.78	1.00	0.00	9	Fair	-0.936	60.80%
	Score	4	3	1	1	0				
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				
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				

nedpsdsv.d13, d09-05, d96, nedsprsv.d10, nedlmbsv.d01-00, d98-97, d95-d92

Table 52. Mean back-calculated lengths (in) at each annulus for largemouth bass collected from Lake Wilgreen on 03 October 2012, including the range of length of bass at each age and the 95% confidence intervals for each age class.

		Age					
Year	No.	1	2	3	4	5	6
2011	19	5.1					
2010	29	5.7	8.4				
2009	11	4.2	8.6	11.0			
2008	10	5.1	8.7	10.8	12.7		
2007	3	5.3	8.5	10.6	11.7	12.8	
2006	5	6.5	9.3	11.1	12.7	14.4	15.5
Mean		5.3	8.6	10.9	12.5	13.8	15.5
Number		77	58	29	18	8	5
Smallest		3.1	6.8	8.8	9.5	9.9	10.3
Largest		7.7	11.6	13.2	14.6	16.7	18.0
Std error		0.1	0.1	0.2	0.3	0.8	1.4
95% CI (±)		..4	0.5	0.8	1.2	3.2	5.5

Otoliths were used for age-determinations; Intercept=0

nedaaglw.d12

Table 53. Population assessment of largemouth bass based on samples collected at Lake Wilgreen from 1992-2013 (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)%
2013*	Value									
	Score	3								
2012	Value	11.00	30.67	46.67	78.67	10.67	16	Excellent		
	Score	3	2	3	4	4				
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				
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				

nedpsdlw .d12-d05, d03, nedlmblw .d00-d99, d96-d94, d92

* = Lake w as not sampled

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 (44,800 acres)

Lake levels in Lake Cumberland rose to 705 msl in 2013 with the completion of repairs to Wolf Creek Dam. Areas that were sampled prior to 2007 were able to be sampled in 2013 due to the increase in water levels. Samples from 2007-2012 were conducted in areas further downstream in the embayments due to reduced water levels. Therefore, any comparisons of the 2007-2012 data should be interpreted accordingly.

Black Bass Sampling (Spring)
Nocturnal electrofishing studies were conducted at Wolf Creek dam, and in the Harmon Creek, Fishing Creek, and Lily Creek embayments of Lake Cumberland during April and May 2013 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 2013. Catch rates for black bass species were lower in 2013; however, the increased water levels and trees growing on the bank made it difficult to sample shoreline areas, which may have influenced catch rates.

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 population met one of the CPUE management objectives (Table 9), and the smallmouth bass population failed to meet any of the four CPUE management objectives (Table 10).

Largemouth and spotted bass populations exhibited good size structure, with a PSD value of 61 and an RSD_{15} value of 22 for largemouth bass and a PSD value of 56 and an RSD_{14} value of 7 for spotted bass (Table 11). Smallmouth bass had a moderate size structure, with a PSD value of 44 and an RSD_{14} value of 37 (Table 11). Table 12 compares the size structure values of black bass populations in Lake Cumberland to other SEFD lakes sampled in 2013.

Age-growth for spotted bass collected during 2013 is shown in Table 13. Five year-classes were represented, with the age-3 year class comprising 43% of the spotted bass catch (Table 14). The spotted bass population assessment score was 11 (rating=fair; Table 15).

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted in the Fishing Creek embayment during October to index the largemouth bass year class strength (Tables 16 and 17). Although the CPUE of age-0 largemouth bass was lower in 2013 than the last three years, catch rates still remained high (Table 17). Table 18 compares the CPUE of age-0 largemouth bass in Lake Cumberland to other SEFD lakes sampled in fall 2013. Relative weight (Wr) values for largemouth bass and spotted bass collected during October sampling are shown in Table 19. Table 20 compares Wr values for black bass in Lake Cumberland to other SEFD lakes sampled in fall 2013.

Crappie Sampling
Fall trap netting was conducted in the Fishing Creek and Wolf Creek embayments of Lake Cumberland during October 2013 to assess the crappie population. Length frequency and CPUE for black and white crappie from each area are shown in Table 21. The PSD and RSD_{10} values for white and black crappie are shown in Table 22. Age-growth data from white and black crappie collected in 2013 are shown in Tables 23 and 24, respectively. Age-3 white crappie (70%) dominated the white crappie catch (Table 25). Age-0 black crappie comprised 97% of the black crappie catch (Table 26). The crappie population assessments (white, black, and white and black combined) are shown in Table 27. Black crappie and the combined assessment rated fair, and the white crappie assessment

rated poor. The crappie population met two of the five management objectives (Table 28). Relative weight (Wr) values for black and white crappie are shown in Table 29. Based on crappie caught during striped bass netting and angler reports, our sampling may not be indicative of how good the crappie population actually is.

Striped Bass Sampling

Gill nets were used in December 2013 to evaluate the striped bass population in Lake Cumberland. Twenty net-nights captured 151 striped bass for a catch rate of 7.55 fish/nn. Length-frequency and CPUE of striped bass are shown in Table 30. Striped bass ranged from 10.0 to 30.0 in with the mode being the 23.0 in class (21 fish). All four of the management objectives were met for the striped bass population (Table 31). The age-growth data for striped bass collected during 2013 is shown in Table 32. Eight year-classes were represented in the catch (Table 33). The 2009 (age-4) year class was the most abundant year class collected (64%), which coincided with the increased (pulsed) stocking rate of 10.00 fish/acre in 2009. Mean length of age-2+ fish at capture (2011 year class) was 22.1 in, which met the growth objective (21.0 in) for the striped bass fishery (Table 34). The striped bass assessment score was 15 (rating=excellent; Table 34). Striped bass relative weight (Wr) values improved in 2013 and were good for striped bass <30.0 in (Table 35).

Laurel River Lake (6,060 acres)

Black Bass Sampling (Spring)

Nocturnal electrofishing sampling was conducted during April and May 2013 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 36. The catch-per-hour (by area and length group) of the three black bass species are shown in Tables 37-40. Table 7 compares the catch-per-hour by length group of black bass in Laurel River Lake to other SEFD lakes sampled in 2013.

The largemouth bass population met three of the four catch rate objectives, with the CPUE of age-1 largemouth bass failing to meet the management objective (Table 41). Spotted bass met two of the four catch rate management objectives (Table 42). The smallmouth bass population failed to meet any of the four catch rate management objectives (Table 43).

All three black bass species exhibited an excellent size structure, with largemouth bass having a PSD value of 78 and an RSD_{15} value of 35 and smallmouth bass having a PSD value of 85 and an RSD_{14} value of 38 (Table 44). Spotted bass had a PSD of 68 and an RSD_{14} of 11 (Table 44). Table 12 compares the size structure values of black bass populations in Laurel River Lake to other SEFD lakes sampled in 2013.

Age-growth for largemouth bass collected during 2013 is shown in Table 45. Ten year-classes were represented, with the age-2 and age-3 year classes comprising 69% of the largemouth bass catch (Table 46). The largemouth bass population assessment score was 14 (rating=good; Table 47).

Age-growth for smallmouth bass collected during 2013 is shown in Table 48. Four year-classes were represented, with the age-3and age-4 year classes comprising 67% of the smallmouth bass catch (Table 49). The smallmouth bass population assessment score was 10 (rating=fair; Table 50).

Black Bass Sampling (Fall)

Nocturnal electrofishing was conducted in the Laurel River arm during September 2013 to index largemouth bass year class strength (Tables 51 and 52). The CPUE of age-0 largemouth bass in 2013 was higher than catch rates observed since 2003 (Table 52). Relative weight (Wr) values for largemouth and spotted bass collected during September sampling are shown in Table 53.

Walleye Sampling

Gill nets were used in November 2013 to evaluate the walleye population in Laurel River Lake. A total of 177 walleye were captured in 8 net-nights for a catch rate of 22.13 fish/nn. Length frequency and CPUE of walleye is shown in Table 54. Walleye ranged from 9.0-25.0 in with the mode being the 20.0 in class (30 fish). The three catch rate management objectives for walleye were met (Table 55). Age-growth data for male and female walleye are shown in Tables 56 and 57, respectively. The age-growth for both sexes combined is shown in Table 58. Eleven year-classes were represented in the catch, with the 2009 year class (age 4; 26%) being most abundant (Table 59). The walleye assessment score was 16 (rating=excellent; Table 60). Mean length of age 2+ walleye at capture (19.4 in) surpassed the growth objective of 18.0 in (Table 60). Relative weight (Wr) values for walleye are shown in Table 61.

Cedar Creek Lake (784 acres; Lincoln Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 2 May 2013 to assess the largemouth bass population in Cedar Creek Lake. The length-frequency and CPUE of largemouth bass is shown in Table 62. Size structure of largemouth bass was good (PSD=68, RSD_{15}=34; Table 63). The catch-per-hour (by area and length group) of largemouth bass for 2003-2013 is shown in Table 64. Three of the four CPUE management objectives for the largemouth bass population were exceeded, with the age-1 bass CPUE (4.86 fish/hr) failing to meet the objective of 16.00 fish/hr (Table 65).

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted on 26 September 2013 to index the largemouth bass year-class strength (Tables 66 and 67). Catch rates of age-0 bass in 2013 declined for the third straight year (Table 67). Relative weight (Wr) values for largemouth bass are found in Table 68.

Bluegill/Redear Sunfish Sampling
Diurnal electrofishing was conducted on 28 May 2013, 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 69. The catch-per-hour (by length group) of bluegill and redear sunfish is shown in Table 70. PSD and RSD values for bluegill and redear sunfish are shown in Table 71.

Laurel Creek Reservoir (43 acres; McCreary Co.)

Largemouth Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 22 April 2013 at Laurel Creek Reservoir to assess the largemouth bass population. Length frequency and CPUE for largemouth bass is shown in Table 72. Catch-per-hour (by length group) for largemouth bass is shown in Table 73. The largemouth bass size structure was poor, with a PSD value of 35 (RSD_{15}=2; Table 74).

Largemouth Bass Sampling (Fall)

Diurnal electrofishing was conducted on 7 October 2013 at Laurel Creek Reservoir to collect largemouth bass to determine age-growth. Age-growth data from largemouth bass collected in 2013 is shown in Table 75. Relative weight values for largemouth bass are in Table 76.

Liberty Lake (81 acres; Casey Co.)

Largemouth Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 23 May 2013 at Liberty Lake to assess the black bass population. Length frequency and CPUE for largemouth and spotted bass is shown in Table 77. Catch-per-hour (by length group) for largemouth and spotted bass is shown in Table 78. Largemouth bass catch rates have had a drastic decline since the introduction of spotted bass in 2010. The largemouth bass size structure was poor, with a PSD value of 8 (RSD_{15}=2; Table 79). Spotted bass also had a poor size structure (PSD=5, RSD_{14}=0; Table 79).

Stanford Reservoir (38 acres; Lincoln Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 9 May 2013 at Stanford Reservoir to assess the largemouth bass population. Length frequency and CPUE for bass are shown in Table 80. The catch-per-hour (by length group) for largemouth bass is shown in Table 81. Table 82 lists the PSD and RSD values for largemouth bass in the lake.

Largemouth Bass Sampling (Fall)

Diurnal electrofishing was conducted on 8 October 2013 at Stanford Reservoir to collect largemouth bass to determine age-growth. Age-growth data from largemouth bass collected in 2013 is shown in Table 83. Relative weight values for largemouth bass are in Table 84.

Channel Catfish Sampling
Channel catfish sampling using tandem hoop nets was conducted at Stanford Reservoir in October 2013. One channel catfish (9.7 inches) was collected during sampling.

Wood Creek Lake (625 acres; Laurel Co.)

Black Bass Sampling (Spring)
Nocturnal electrofishing was conducted on 13 May 2013 in the Dam, Pump Station, and Dock areas of Wood Creek Lake to assess the black bass population. Length frequency and CPUE for black bass are shown in Table 85. The size structure for largemouth bass was poor, having a PSD value of 23 (RSD_{15}=9; Table 86). The spotted bass population also had a poor size structure (PSD=14, RSD_{14}=1; Table 86). Catch-per-hour (by length group) for largemouth and spotted bass are shown in Tables 87 and 88, respectively. A largemouth bass population assessment is shown in Table 89. One of the catch rate management objectives was met for the largemouth bass population (Table 89).

Black Bass Sampling (Fall)
Nocturnal electrofishing was conducted on 24 September 2013 in the Dam, Pump Station, and Dock areas of Wood Creek Lake to index largemouth bass year class strength (Tables 90 and 91). Catch rates of age-0 largemouth bass in 2013 were lower than 2012 (Table 91). Table 18 compares the CPUE of age 0 largemouth bass in Wood Creek Lake to other SEFD lakes sampled in 2013. Relative weight values for largemouth and spotted bass are in Table 92.

Table 1. Summary of sampling conditions by waterbody, species sampled, and date for the Southeastern Fisheries District in 2013.

Water body	Location	Species	Date	Time (24hr)	Gear	Weather	Water temp. F	Water level	Secchi (in)	Conditions	Pertinent sampling comments
Lake Cumberland											
	Dam	Black bass	4/30/2013	2040	shock	clear, 70s, nice	71	706	72	fair	pollen thick on water surface and debris along bank
	Harmon Creek	Black bass	5/8/2013	2000	shock	partly clear, 70s, beautiful	67	711	72	good	water green, slightly murky
	Fishing Creek	Black bass	5/29/2013	2020	shock	warm, low 80s, clear	78	705	36	fair	trees along bank made sampling difficult
	Lily Creek	Black bass	5/23/2013	2000	shock	overcast, cool, 60s	75	706	40	good	only one dipper
	Fishing Creek	Black bass	10/1/2013	1900	shock	clear, 70s, nice	77	695	21	good	hard to get to bank with trees in water
	Fishing Creek	Crappie	10/28-10/31		trap net	cool, 50s and 60s, cloudy	61	691	48	good	
	Wolf	Crappie	10/28-10/31		trap net	cool, rainy, windy	64	691	-	good	
	Beaver Creek	Striped bass	12/2-12/4		gill net	mild, slightly overcast	52	692	-	good	
	Lily/Wolf/Caney	Striped bass	12/2-12/4		gill net	mostly cloudy, 50-60s, breezy	55	692	84	good	
Laurel River Lake											
	Dam	Black bass	4/30/2013	2000	shock	clear, 70s warm	67	1016	60	good	water clearish green, volunteer dipper
	Spruce Creek	Black bass	5/1/2013	2000	shock	partly cloudy, breezy, warm	68	1016	30	good	water green
	Craig's Creek	Black bass	5/9/2013	2000	shock	mostly clear, 70s, beautiful	68	1015	60	good	water green and clear, volunteer dipper
	312 Bridge	Black bass	5/20/2013	2000	shock	clear, warm, muggy	77	1014	30	good	green, murky, volunteer dipper
	312 Bridge	Black bass	9/19/2013	1945	shock	mostly clear, 70s	79	1013	36	good	calm; volunteer dipper
	Entire lake	Walleye	11/13-11/14		gill net	sunny, clear, cool 40s	56	1012	120	good	
Cedar Creek Lake		LMB	5/2/2013	2000	shock	mostly clear, 70s beautiful	69	full	24	good	slightly murky on upper end; water greenish brown
		LMB	9/26/2013	1930	shock	clear, low 70s	75	normal	48	good	water clear with abundant vegetation
		BLG/redear	5/28/2013	940	shock	mostly clear, 70s, breezy	71	normal	48	good	water slightly murky with brown tint
Laurel Creek Reservoir		LMB	4/22/2013	1915	shock	clear, upper 60s, nice	65	full	48	good	clear and calm
		LMB	10/7/2013	1215	shock	sunny, 70s, nice	72	full	84-96	good	bass for age-growth and relative weight
Liberty Lake		LMB	5/23/2013	1950	shock	clear, 70s, nice	74	full	36	good	brownish water
Stanford Reservoir		LMB	5/9/2013	1945	shock	mostly clear, 70s	71	normal	42	good	water clear, slight brown hue
		LMB	10/8/2013	1000	shock	sunny, cool, 50s, windy	66	full	42	good	bass for age-growth and relative weight, water slightly murky
		Catfish	10/11-10/14		hoop net	cloudy	67	normal	36	good	
Wood Creek Lake		Black bass	5/13/2013	2015	shock	clear, cool, 50s	65	full	24-84	good	two crews, one dipper on lower end, water murky on upper end
		Black bass	9/24/2013	1930	shock	partly cloudy, low 70s	75	normal	84-120	good	two crews, water clear, abundant vegetation in coves

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 2013; standard error is in parentheses.

		Inch class																
Area	Species	4	6	7	8	9	10	11	12	13	14	15	16	17	19	21	Total	CPUE
Dam	Largemouth bass				1						1	1	2			1	6	4.00 (1.79)
	Spotted bass			2	3	4	4	6	7	8	3	2					39	26.00 (10.42)
	Smallmouth bass	1	3	1	2	4	4		1		1	1	1	1			20	13.33 (2.46)
Harmon	Largemouth bass					1		1	1	2	3	3	3				14	9.33 (4.09)
Creek	Spotted bass		1	2	3	2	2	3	5	7	1						26	17.33 (2.86)
	Smallmouth bass	1				2	2				2	2	1				10	6.67 (1.69)
Fishing	Largemouth bass		2	8	12	10	6	8	14	5	5	7			1		78	52.00 (9.47)
Creek	Spotted bass					2	2										4	2.67 (1.33)
	Smallmouth bass																0	0.00 (0.00)
Lily	Largemouth bass		1			4	2	4	7	4	7	7	2	1			39	26.00 (8.18)
Creek	Spotted bass		3	3	7	10	7	7	11	5	3						56	37.33 (4.92)
	Smallmouth bass							1						1			2	1.33 (0.84)
Total	Largemouth bass		3	8	13	15	8	13	22	11	16	18	7	1	1	1	137	22.83 (4.98)
	Spotted bass		4	7	13	18	15	16	23	20	7	2					125	20.83 (3.84)
	Smallmouth bass	2	3	1	2	6	6	1	1		3	3	2	2			32	5.33 (1.31)

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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 2009-2013.

	Stock					Quality					Preferred				
Species/Area	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Largemouth bass															
Dam	6.00	20.00	6.67	24.00	4.00	4.00	14.00	4.67	14.67	3.33	1.33	9.33	2.67	9.33	2.67
Harmon Creek	2.00	16.00	5.33	13.33	9.33	2.00	10.67	3.33	8.67	8.00	2.00	5.33	1.33	4.67	4.00
Fishing Creek	74.67	102.67	31.33	120.67	45.33	46.00	47.33	12.67	80.67	21.33	20.00	16.00	4.67	25.33	5.33
Lily Creek	22.67	52.00	18.00	59.33	25.33	14.67	25.33	14.67	29.33	18.67	9.33	12.00	6.00	7.33	6.67
Mean	26.33	47.67	15.33	54.33	21.00	16.67	24.33	8.83	33.33	12.83	8.17	10.67	3.67	11.67	4.67
Spotted bass															
Dam	34.67	46.67	36.00	82.67	26.00	14.67	23.33	19.33	26.67	17.33	2.00	2.00	1.33	2.67	3.33
Harmon Creek	22.67	40.67	18.67	28.67	16.67	7.33	10.00	0.67	7.33	10.67	0.67	0.67	0.00	0.00	0.67
Fishing Creek	6.00	14.00	8.67	1.33	2.67	2.00	2.67	0.67	0.00	0.00	0.00	0.67	0.00	0.00	0.00
Lily Creek	90.00	94.00	19.33	36.67	35.33	20.00	16.00	3.33	4.00	17.33	1.33	0.00	0.00	0.00	2.00
Mean	38.33	48.83	20.67	37.33	20.17	11.00	13.00	6.00	9.50	11.33	1.00	0.83	0.33	0.67	1.50
Smallmouth bass															
Dam	4.00	12.00	0.67	11.33	10.67	0.67	6.00	0.00	5.33	3.33	0.67	5.33	0.00	4.67	2.67
Harmon Creek	3.33	17.33	2.67	9.33	6.00	2.00	12.00	2.00	2.67	3.33	1.33	9.33	0.00	2.00	3.33
Fishing Creek	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	0.00	0.00
Lily Creek	3.33	4.00	1.33	1.33	1.33	0.00	0.67	1.33	0.00	1.33	0.00	0.00	0.67	0.00	0.67
Mean	2.83	8.50	1.33	5.50	4.50	0.83	4.83	0.83	2.00	2.00	0.67	3.67	0.17	1.67	1.67

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 2013.

	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.
2013	1.83	1.05	8.17	2.64	8.17	1.84	4.67	1.12	0.17	0.17	22.83	4.98
2012	15.33	3.78	21.00	3.73	21.67	4.86	11.67	2.38	0.17	0.17	69.67	12.95
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 2013.

	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.
2013	1.83	0.59	7.67	1.63	9.83	2.37	1.50	0.67	0.00	0.00	20.83	3.84
2012	27.33	4.67	20.50	3.94	8.83	2.63	0.67	0.46	0.00	0.00	57.33	10.05
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 2013.

	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.
2013	1.00	0.55	2.33	0.63	0.33	0.23	1.67	0.48	0.33	0.23	5.33	1.31
2012	4.33	1.44	2.33	0.72	0.33	0.23	1.67	0.68	0.50	0.28	8.67	2.07
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 2013.

Species/Lake	Stock*	Quality*	Preferred*
Largemouth bass			
Lake Cumberland	21.00	12.83	4.67
Laurel River Lake	60.83	47.50	21.17
Cedar Creek Lake	213.43	144.29	72.29
Laurel Creek Reservoir	167.20	58.40	4.00
Liberty Lake	72.00	5.71	0.00
Stanford Reservoir	204.44	56.00	16.89
Wood Creek Lake	85.33	20.00	8.00
Spotted bass			
Lake Cumberland	20.17	11.33	1.50
Laurel River Lake	19.00	13.00	2.17
Liberty Lake	32.57	1.71	0.00
Wood Creek Lake	26.33	3.67	0.33
Smallmouth bass			
Lake Cumberland	4.50	2.00	1.67
Laurel River Lake	2.17	1.83	0.83
Wood Creek Lake	1.00	0.67	0.33

*Largemouth bass - $\geq$8.0 in = stock, $\geq$12.0 in = quality, $\geq$15.0 in = preferred
*Smallmouth and spotted bass - $\geq$7.0 in = stock, $\geq$11.0 in = quality, $\geq$14.0 in = preferred

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Table 8. Population assessment for largemouth bass based on spring electrofishing at Lake Cumberland from 1990-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessement rating
Management objective		≥13.0 in	≥5.00 fish/hr	≥10.00 fish/hr	≥8.00 fish/hr	≥0.50 fish/hr		
2013	Value		6.56	8.17	4.67	0.17		
	Score	4	1	1	2	1	9	F
2012	Value	14.0	20.95	21.67	11.67	0.17		
	Score	4	2	2	2	1	11	F
2011	Value		6.83	5.17	3.67	0.17		
	Score	4	1	1	1	1	8	F
2010	Value		11.50	13.67	10.67	0.50		
	Score	4	1	1	2	2	10	F
2009	Value		25.67	8.50	8.17	0.50		
	Score	4	2	1	2	2	11	F
2008	Value		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		1.17	8.83	10.17	0.50		
	Score	4	1	1	2	2	10	F
2005	Value		1.20	9.90	5.50	0.00		
	Score	4	1	1	2	0	8	F
2004	Value		1.10	7.00	6.50	1.00		
	Score	4	1	1	2	2	10	F
2003	Value		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		2.90	7.70	5.20	0.27		
	Score	4	1	1	2	2	10	F
2000	Value		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		2.60	29.50	18.60	0.44		
	Score	4	1	3	3	2	13	G
1996	Value		1.70	9.60	9.60	0.46		
	Score	4	1	1	2	2	10	F
1995	Value		1.50	21.70	13.90	0.38		
	Score	4	1	2	3	2	12	G
1993	Value		1.80	20.50	4.40	0.10		
	Score	4	1	2	2	1	10	F
1992	Value		3.70	27.10	4.40	0.17		
	Score	4	1	3	2	1	11	F
1991	Value		5.70	11.80	3.90	0.13		
	Score	4	1	1	1	1	8	F
1990	Value		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 1990-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥9.6 in	≥4.00 fish/hr	≥7.00 fish/hr	≥2.00 fish/hr	≥0.10 fish/hr		
2013	Value	11.1	0.00	9.83	1.50	0.00		
	Score	4	0	4	3	0	11	F
2012	Value		14.00	8.83	0.67	0.00		
	Score	4	3	4	3	0	14	G
2011	Value		3.92	5.67	0.33	0.00		
	Score	4	2	3	3	0	12	G
2010	Value		9.67	12.17	0.83	0.00		
	Score	4	3	4	3	0	14	G
2009	Value		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		1.30	13.57	6.96	0.35		
	Score	4	2	4	4	3	17	E
2006	Value		1.83	13.83	8.00	0.17		
	Score	4	2	4	4	2	16	G
2005	Value		5.10	11.20	3.10	0.00		
	Score	4	2	4	4	0	14	G
2004	Value		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		5.10	5.20	1.50	0.00		
	Score	4	2	3	3	0	12	G
2001	Value		2.10	4.70	1.60	0.00		
	Score	4	2	3	3	0	12	G
2000	Value		1.90	5.60	1.20	0.00		
	Score	4	2	3	3	0	12	G
1999	Value		3.00	11.20	3.00	0.13		
	Score	4	2	4	4	2	16	G
1997	Value		6.00	6.70	1.90	0.00		
	Score	4	2	3	3	0	12	G
1996	Value		1.00	6.60	1.30	0.00		
	Score	4	2	3	3	0	12	G
1995	Value		1.30	2.30	0.60	0.00		
	Score	4	2	3	3	0	12	G
1993	Value		0.70	2.70	0.00	0.00		
	Score	4	1	3	0	0	8	F
1992	Value		0.70	2.70	0.40	0.00		
	Score	4	1	3	3	0	11	F
1991	Value		1.30	1.30	0.00	0.00		
	Score	4	2	2	0	0	8	F
1990	Value		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 1990-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥11.0 in	≥2.00 fish/hr	≥3.00 fish/hr	≥2.00 fish/hr	≥0.50 fish/hr		
2013	Value		0.33	0.33	1.67	0.33		
	Score	3	2	2	4	3	14	G
2012	Value		2.50	0.33	1.67	0.50		
	Score	3	4	2	4	4	17	E
2011	Value		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		1.83	0.17	0.67	0.17		
	Score	4	3	2	3	2	14	G
2008	Value		2.50	1.17	2.67	0.83		
	Score	4	4	3	4	4	19	E
2007	Value		2.61	3.83	1.39	0.52		
	Score	4	4	4	4	4	20	E
2006	Value		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		1.90	1.20	1.30	0.00		
	Score	2	3	3	4	0	12	G
2003	Value		1.30	1.60	3.40	1.00		
	Score	2	3	3	4	4	16	G
2002	Value		1.70	2.40	0.90	0.13		
	Score	2	3	3	3	2	13	G
2001	Value		0.50	0.40	0.90	0.53		
	Score	2	2	2	3	4	13	G
2000	Value		0.00	1.40	1.10	0.00		
	Score	2	0	3	4	0	9	F
1999	Value		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		0.10	3.20	2.50	0.80		
	Score	2	1	4	4	4	15	G
1995	Value		6.70	7.40	4.00	1.52		
	Score	2	4	4	4	4	18	E
1993	Value		0.70	2.20	1.10	0.19		
	Score	2	2	3	4	2	13	G
1992	Value		0.80	4.70	1.80	0.25		
	Score	2	2	4	4	3	15	G
1991	Value		3.20	5.50	2.30	0.76		
	Score	2	4	4	4	4	18	E
1990	Value		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 2013; 95% confidence limits are in parentheses.

Area	Species	No. $\geq$ stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Dam	Largemouth bass	6	83 ($\pm$ 33)	67 ($\pm$ 41)
	Spotted bass	39	67 ($\pm$ 15)	33 ($\pm$ 11)
	Smallmouth bass	16	31 ($\pm$ 23)	25 ($\pm$ 22)
Harmon Creek	Largemouth bass	14	86 ($\pm$ 19)	43 ($\pm$ 27)
	Spotted bass	25	64 ($\pm$ 19)	4 ($\pm$ 8)
	Smallmouth bass	9	56 ($\pm$ 34)	56 ($\pm$ 34)
Fishing Creek	Largemouth bass	68	47 ($\pm$ 12)	12 ($\pm$ 8)
	Spotted bass	4	0 ($\pm$ 0)	0 ($\pm$ 0)
	Smallmouth bass	0	0 ($\pm$ 0)	0 ($\pm$ 0)
Lily Creek	Largemouth bass	38	74 ($\pm$ 14)	26 ($\pm$ 14)
	Spotted bass	53	49 ($\pm$ 14)	6 ($\pm$ 6)
	Smallmouth bass	2	100 ($\pm$ 0)	50 ($\pm$ 98)
Total	Largemouth bass	126	61 ($\pm$ 9)	22 ($\pm$ 7)
	Spotted bass	121	56 ($\pm$ 9)	7 ($\pm$ 5)
	Smallmouth bass	27	44 ($\pm$ 19)	37 ($\pm$ 19)

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

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Table 12. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Lake Cumberland, Laurel River Lake, Cedar Creek Lake, Laurel Creek Reservoir, Liberty Lake, Stanford Reservoir, and Wood Creek Lake during 2013; 95% confidence limits are in parentheses.

	Largemouth bass		Smallmouth bass		Spotted bass	
Lake	PSD	RSD_{15}	PSD	RSD_{14}	PSD	RSD_{14}
Lake Cumberland	61 (±9)	22 (±7)	44 (±19)	37 (±19)	56 (±9)	7 (±5)
Laurel River Lake	78 (±4)	35 (±5)	85 (±20)	38 (±28)	68 (±9)	11 (±6)
Cedar Creek Lake	68 (±3)	34 (±3)				
Laurel Creek Reservoir	35 (±6)	2 (±2)				
Liberty Lake	8 (±5)	2 (±2)			5 (±6)	0 (±0)
Stanford Reservoir	27 (±6)	8 (±4)				
Wood Creek Lake	23 (±5)	9 (±4)	67 (±65)	33 (±65)	14 (±8)	1 (±2)

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sedpsdwc.d13

Table 13. Mean back calculated lengths (in) at each annulus for spotted bass collected from Lake Cumberland during 2013, including the 95% confidence interval (CI) for each mean length per age group.

		Age					
Year	No.	1	2	3	4	5	6
2011	24	4.0	8.4				
2010	35	4.5	8.3	11.1			
2009	11	4.2	8.4	11.0	12.6		
2008	7	4.1	8.0	10.7	12.4	13.5	
2007	2	4.1	7.1	10.1	12.0	13.0	13.8
Mean		4.3	8.3	11.0	12.5	13.4	13.8
Number		79	79	55	20	9	2
Smallest		3.1	5.4	7.4	9.7	12.5	13.7
Largest		6.1	11.9	14.3	14.8	15.8	13.8
Std error		0.1	0.2	0.2	0.3	0.4	0.1
95% CI $\pm$		0.2	0.3	0.4	0.7	0.7	0.1

Otoliths were used for age-growth determinations; Intercept = 0
sedagcbp.d13

Table 14. Age-frequency and CPUE (fish/hr) of spotted bass collected during 6.0 hours of nocturnal electrofishing at Lake Cumberland in April and May 2013.

	Inch class													Std
Age	6	7	8	9	10	11	12	13	14	15	Total	%	CPUE	error
2	4	5	9	11	4						33	26.2	5.50	(1.00)
3		2	4	4	10	16	9	8	2		55	43.7	9.17	(1.86)
4				4	1		5	6	4		20	15.9	3.33	(0.76)
5							9	2	1	2	14	11.1	2.33	(0.61)
6								4			4	3.2	0.67	(0.237)
	4	7	13	19	15	16	23	20	7	2	126	100.0	21.00	
%	3.2	5.6	10.3	15.1	11.9	12.7	18.3	15.9	5.6	1.6	100.0			

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Table 15. Population assessment for spotted bass collected from Lake Cumberland in April and May 2013 (scoring based on statewide assessment).

Parameter	Actual value	Assessment score
Mean length age-3 at capture	11.1	4
CPUE age 1	0.00	0
CPUE 11.0-13.9 in	9.83	4
CPUE $\geq$14.0 in	1.50	3
CPUE $\geq$17.0 in	0.00	0
Instantaneous mortality (Z)	0.553	
Annual mortality (A)	42.5	
Total score		11
Assessment rating		F

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Table 16. 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 1 October 2013; standard error is in parentheses.

	Inch class																
Species	2	3	4	5	6	7	8	10	11	12	13	14	15	16	17	Total	CPUE
Largemouth bass	1	23	4	12	39	35	6		3	1	4	4	1	1	1	135	90.00 (26.31)
Spotted bass		6			1	2	5	1								15	10.00 (5.82)

sedyoycb.d13

Table 17. 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
	Lake Cumberland								
2013	Fishing Creek	6.1	0.14	80.00	23.75	61.33	15.89		
2012	Fishing Creek	6.1	0.10	96.67	24.60	80.00	19.60	21.78	6.20
2011	Fishing Creek	6.1	0.08	114.67	25.12	102.00	23.18	46.45	6.97
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 on Fishing Creek location
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Table 18. Year class strength at age 0 and mean lengths (in) of largemouth bass collected in September and October 2013 in electrofishing samples at Lake Cumberland, Laurel River Lake, Cedar Creek Lake, and Wood Creek Lake.

		Age 0		Age 0		Age 0 ≥5.0 in	
Lake	Area	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error
Lake Cumberland	Fishing Creek	6.1	0.14	80.00	23.75	61.33	15.89
Laurel River Lake	Laurel River Arm	4.0	0.15	21.33	6.59	2.67	1.33
Cedar Creek Lake		3.5	0.17	9.43	3.90	0.29	0.29
Wood Creek Lake		3.4	0.18	11.33	3.03	1.00	0.52

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sedyoywc.d13

Table 19. Number of fish and mean relative weight (Wr) for each length group of black bass collected in Fishing Creek of Lake Cumberland during 1 October 2013. 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
	9	95 (2)	9	97 (3)	3	96 (6)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	8	99 (3)	0	-	0	-

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Table 20. 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, Laurel Creek Reservoir, Stanford Reservoir, and Wood Creek Lake during September and October 2013. Standard error is in parentheses.

		Length group					
Species	Location	No.	Wr	No.	Wr	No.	Wr
Largemouth bass		8.0-11.9 in		12.0-14.9 in		≥15.0 in	
	Lake Cumberland (Fishing Creek)	9	95 (2)	9	97 (3)	3	96 (6)
	Laurel River Lake (Laurel River Arm)	29	93 (2)	2	105 (3)	2	109 (1)
	Cedar Creek Lake	58	90 (1)	72	88 (1)	56	95 (1)
	Laurel Creek Reservoir	41	85 (1)	27	82 (1)	1	87 (-)
	Stanford Reservoir	42	74 (1)	15	76 (2)	4	81 (2)
	Wood Creek Lake	106	84 (1)	34	87 (1)	3	96 (7)
Spotted bass		7.0-10.9 in		11.0-13.9 in		≥14.0 in	
	Lake Cumberland (Fishing Creek)	8	99 (3)	0	-	0	-
	Laurel River Lake (Laurel River Arm)	17	105 (3)	6	110 (5)	1	109 (-)
	Wood Creek Lake	30	96 (2)	7	90 (5)	0	-

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Table 21. Length frequency and CPUE (fish/nn) for each species of crappie collected in the Wolf Creek (27 net-nights) and Fishing Creek (27 net-nights) embayments of Lake Cumberland in 54 net-nights from 28-31 October 2013.

		Inch class												
Area	Species	2	3	4	6	7	8	9	10	11	12	Total	CPUE	Std. error
Fishing Creek														
	White crappie								2	4	2	8	0.30	0.12
	Black crappie	1167	407	3	1		1	2	1			1582	58.59	21.75
Wolf Creek														
	White crappie									1	1	2	0.07	0.05
	Black crappie	152	115	1		2	5	16	16	3	1	311	11.52	5.96
Total														
	White crappie								2	5	3	10	0.19	0.07
	Black crappie	1319	522	4	1	2	6	18	17	3	1	1893	35.06	11.63

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Table 22. PSD and RSD_{10} values calculated for crappie collected in trapnets at Lake Cumberland in October 2013; 95% confidence limits are in parentheses.

Species		No.	PSD	RSD_{10}
White crappie				
	Fishing Creek	8	100 ($\pm$ 0)	100 ($\pm$ 0)
	Wolf Creek	2	100 ($\pm$ 0)	100 ($\pm$ 0)
	Lake Cumberland	10	100 ($\pm$ 0)	100 ($\pm$ 0)
Black crappie				
	Fishing Creek	5	80 ($\pm$ 39)	20 ($\pm$ 39)
	Wolf Creek	43	95 ($\pm$ 6)	47 ($\pm$ 15)
	Lake Cumberland	48	94 ($\pm$ 7)	44 ($\pm$ 14)

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Table 23. Mean back calculated lengths (in) at each annulus for white crappie collected from Lake Cumberland during 2013, including the 95% confidence interval (CI) for each mean length per age group.

		Age			
Year	No.	1	2	3	4
2011	2	4.5	9.9		
2010	7	4.9	7.9	10.0	
2009	1	3.6	7.2	10.1	11.5
Mean		4.7	8.2	10.0	11.5
Number		10	10	8	1
Smallest		3.6	7.1	9.3	11.5
Largest		6.3	10.3	11.5	11.5
Std error		0.2	0.4	0.2	
95% CI $\pm$		0.4	0.8	0.5	

Otoliths were used for age-growth determinations;
Intercept = 0
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Table 24. Mean back calculated lengths (in) at each annulus for black crappie collected from Lake Cumberland during 2013, including the 95%confidence interval (CI) for each mean length per age group.

Year	No.	Age 1	Age 2	Age 3
2012	6	4.4		
2011	23	3.8	6.5	
2010	7	4.3	7.5	9.4
Mean		4.0	6.7	9.4
Number		36	30	7
Smallest		3.1	5.1	8.5
Largest		5.0	8.6	10.6
Std error		0.1	0.2	0.3
95% CI ±		0.2	0.4	0.5

Otoliths were used for age-growth determinations;
Intercept = 0
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Table 25. Age-frequency and CPUE (fish/nn) of white crappie trap-netted at Lake Cumberland in 54 net-nights in October 2013.

Age	Inch class 10	Inch class 11	Inch class 12	Total	%	CPUE	Std error
2+		1	1	2	20.0	0.04	0.01
3+	2	4	1	7	70.0	0.13	0.05
4+			1	1	10.0	0.02	0.01
Total	2	5	3	10	100.0	0.19	
%	20.0	50.0	30.0				

CPUE of ≥8.0 in (quality size) crappie = 0.19 fish/nn
CPUE of ≥10.0 in (preferred size) crappie = 0.19 fish/nn
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Table 26. Age-frequency and CPUE (fish/nn) of black crappie trap-netted at Lake Cumberland in 54 net-nights in October 2013.

	Inch class													Std
Age	2	3	4	6	7	8	9	10	11	12	Total	%	CPUE	error
0+	1319	522	4								1845	97.4	34.17	11.64
1+				1	1	3	2				7	0.4	0.13	0.04
2+					1	3	15	14			33	1.7	0.61	0.21
3+							2	3	3	1	9	0.5	0.17	0.06
Total	1319	522	4	1	2	6	19	17	3	1	1894	100.0	35.07	
%	69.6	27.6	0.2	0.1	0.1	0.3	1.0	0.9	0.2	0.1				

CPUE of $\geq$8.0 in (quality size) crappie = 0.83 fish/nn
CPUE of $\geq$10.0 in (preferred size) crappie = 0.39 fish/nn
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Table 27. Population assessment for white, black, and white and black crappie combined from Lake Cumberland trapnet data collected in October 2013 (scoring based on statewide assessment).

	Species					
	White Crappie		Black crappie		Combined	
Parameter	Assessment value	Assessment score	Assessment value	Assessment score	Assessment value	Assessment score
CPUE age-1 and older	0.19	1	0.91	1	1.10	1
CPUE age-1	0.00	0	0.12	1	0.12	1
CPUE age-0	0.00	0	34.17	4	34.17	4
CPUE $\geq$ 8.0 in	0.19	1	0.83	1	1.02	1
Mean length age-2 at capture	11.9	4	9.7	4	9.9	4
Total score:		6		11		11
Assessment rating:		P		F		F

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Table 28. Population assessment for crappie based on fall trap netting at Lake Cumberland from 1990-2013 (scoring based on statewide assessment).

Year		CPUE ≥ age 1			CPUE age 1			CPUE age 0			CPUE ≥ 8.0 in			Mean length age 2 at capture			Total	Assessement
		WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	WC	BC	ALL	Score	rating
Management objective				≥ 5.00 fish/nn			≥ 3.00 fish/nn			≥ 3.00 fish/nn			≥ 2.00 fish/nn			≥ 9.6 in		
2013	Value	0.19	0.91	1.10	0.00	0.12	0.12	0.00	34.17	34.17	0.19	0.83	1.02	11.9	9.7	9.9		
	Score			1			1			4			1			4	11	F
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

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Table 29. Number of fish and mean relative weight (Wr) for each length group of crappie collected in Lake Cumberland in October 2013. 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	0	-	0	-	8	92 (6)
	Wolf Creek	0	-	0	-	2	94 (4)
	Lake Cumberland	0	-	0	-	10	92 (5)
Black crappie							
	Fishing Creek	1	108 (-)	3	94 (5)	1	105 (-)
	Wolf Creek	2	101 (7)	21	102 (2)	20	96 (1)
	Lake Cumberland	3	103 (5)	24	101 (2)	21	96 (1)

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Table 30. Length frequency and CPUE (fish/nn) of striped bass collected at Lake Cumberland in 20 net-nights on 2-4 December 2013.

	Inch class																				
Species	10	11	14	15	16	17	18	19	20	21	22	23	24	25	26	27	29	30	Total	CPUE	Std. error
Striped bass	3	5	1	4	12	17	16	2	1	4	10	21	14	20	14	5	1	1	151	7.55	1.17

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Table 31. Population assessment for striped bass based on fall gill netting at Lake Cumberland from 1994-2013.

Year		CPUE ≥age 1	Mean length age 2 at capture	CPUE ≥24.0 in	CPUE age-1	Total score	Assessement rating
Management objective		≥4.00 fish/nn	≥21.0 in	≥1.00 fish/nn	≥2.00 fish/nn		
2013	Value	7.15	22.1	2.75	2.60		
	Score	4	4	4	3	15	E
2012	Value	7.25	20.6	1.85	0.75		
	Score	4	2	3	1	10	G
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

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Table 32. Mean back calculated lengths (in) at each annulus for striped bass collected from Lake Cumberland during 2013, including the 95% confidence interval (CI) for each mean length per age group.

Year	No.	Age 1	2	3	4	5	6	7	8
2012	37	11.1							
2011	6	11.1	18.4						
2010	3	11.0	17.0	20.9					
2009	36	11.6	17.9	21.0	23.1				
2008	12	10.8	17.4	20.9	22.7	24.4			
2006	3	10.8	18.1	21.8	23.9	25.0	25.8	26.9	
2005	1	6.7	17.5	21.7	24.9	26.5	27.4	28.7	29.7
Mean		11.2	17.8	21.0	23.1	24.6	26.2	27.4	29.7
Number		98	61	55	52	16	4	4	1
Smallest		6.7	15.1	17.6	19.1	21.8	24.3	25.2	29.7
Largest		13.7	19.5	23.4	25.9	27.2	28.1	29.1	29.7
Std error		0.2	0.1	0.2	0.2	0.4	0.9	0.9	
95% CI ±		0.3	0.3	0.3	0.4	0.7	1.8	1.8	

Otoliths were used for age-growth determinations; Intercept = 0
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Table 33. Age-frequency and CPUE (fish/nn) of striped bass gill netted for 20 net-nights at Lake Cumberland in December 2013. Standard error is in parentheses.

	Inch class																					
Age	10	11	14	15	16	17	18	19	20	21	22	23	24	25	26	27	29	30	Total	%	CPUE	
0	3	5																	8	5.3	0.40	(0.17)
1+			1	4	12	17	16	2											52	34.4	2.60	(0.55)
2+										3	2	2							7	4.6	0.35	(0.13)
3+										1		4							5	3.3	0.25	(0.07)
4+									1		7	15	10	14	7	3			57	37.7	2.85	(0.54)
5+											1		4	4	7	1			17	11.3	0.85	(0.18)
7+														2		1	1		4	2.6	0.20	(0.07)
8+																		1	1	0.7	0.05	(0.05)
Total	3	5	1	4	12	17	16	2	1	4	10	21	14	20	14	5	1	1	151	100.0	7.55	
%	2.0	3.3	0.7	2.6	7.9	11.3	10.6	1.3	0.7	2.6	6.6	13.9	9.3	13.2	9.3	3.3	0.7	0.7				

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Table 34. Population assessment for striped bass gill netted at Lake Cumberland in December 2013.

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	7.15	4
Growth rate (Mean length age 2+ at capture)	22.1	4
Size structure (CPUE ≥24.0 in)	2.75	4
Recruitment (CPUE age 1)	2.60	3
Instantaneous mortality (Z)	0.379	
Annual mortality (A)	31.5	
Total score		15
Assessment rating		E

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Table 35. Number of fish and mean relative weight (Wr) for each length group of striped bass collected in Lake Cumberland in December 2013. 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
51	100 (1)	88	94 (1)	1	79 (-)

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Table 36. 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 2013; 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	Total	CPUE
Dam	Largemouth bass				1	3	2	6	3	6	13	30	18	8	4	3	2	1	1	101	67.33 (7.04)
	Spotted bass			1	2	2	1		1	2	1	1	1							12	8.00 (2.73)
	Smallmouth bass									1	1		1	1						4	2.67 (1.69)
Spruce	Largemouth bass				1	1	5	5	4	2	5	10	19	10	12	12	4	2		92	61.33 (13.80)
Creek	Spotted bass			1	3	1	2	1		8	8	9	7	1	1					42	28.00 (7.87)
	Smallmouth bass									1	1	2	1		2					7	4.67 (2.40)
Laurel	Largemouth bass	1	1	3	3	10	13	2	3	7	2	12	14	13	9	7	1	2	4	107	71.33 (8.16)
River	Spotted bass		2	1	2	2		2	2	1	2	3	1							18	12.00 (3.72)
Arm	Smallmouth bass																			0	0.00 (0.00)
Upper	Largemouth bass				2	4	7	6	3	6	10	12	13	18	8	2	2		2	95	63.33 (8.09)
Craigs	Spotted bass			1		2	6	5	9	19	6	5	1	1						55	36.67 (9.66)
Creek	Smallmouth bass				1	1	1													3	2.00 (0.89)
Total	Largemouth bass	1	1	3	7	18	27	19	13	21	30	64	64	49	33	24	9	5	7	395	65.83 (4.57)
	Spotted bass		2	4	7	7	9	8	12	30	17	18	10	2	1					127	21.17 (3.94)
	Smallmouth bass				1	1	1			2	2	2	2	1	2					14	2.33 (0.80)

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Table 37. Comparison of catch-per-hour of black bass (by area) captured during spring electrofishing on Laurel River Lake during the period of 2009-2013.

	Stock					Quality					Preferred				
Species/Area	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Largemouth bass															
Dam	57.33	70.67	33.33	52.67	64.67	39.33	46.00	15.33	31.33	53.33	27.33	21.33	6.67	15.33	12.67
Spruce Creek	34.00	80.67	50.67	32.00	60.00	32.00	58.00	45.33	24.00	49.33	16.67	28.67	25.33	16.00	26.67
Laurel River Arm	84.00	87.33	102.00	102.67	59.33	62.67	47.33	74.00	61.33	42.67	35.33	25.33	32.67	27.33	24.00
Craigs Cr. headw aters	24.00	52.67	80.00	54.67	59.33	16.67	16.00	52.00	32.00	44.67	4.00	9.33	15.33	14.67	21.33
Mean	49.83	72.83	66.50	60.50	60.83	37.67	41.83	46.67	37.17	47.50	20.83	21.17	20.00	18.33	21.17
Spotted bass															
Dam	30.67	34.67	16.00	18.00	6.00	16.67	24.67	8.00	8.67	3.33	6.00	8.67	3.33	2.67	0.67
Spruce Creek	5.33	22.67	18.00	18.67	25.33	2.00	10.00	11.33	12.67	22.67	0.00	6.67	2.67	3.33	6.00
Laurel River Arm	22.00	39.33	15.33	17.33	8.67	8.67	7.33	2.00	2.67	4.67	2.00	1.33	0.00	0.67	0.67
Craigs Cr. headw aters	38.67	44.00	38.67	28.67	36.00	10.67	13.33	16.67	10.00	21.33	2.67	2.67	2.00	0.00	1.33
Mean	24.17	35.17	22.00	20.67	19.00	9.50	13.83	9.50	8.50	13.00	2.67	4.83	2.00	1.67	2.17
Smallmouth bass															
Dam	17.33	16.67	2.00	2.67	2.67	12.00	8.00	0.00	2.67	2.67	10.67	6.00	0.00	2.00	1.33
Spruce Creek	4.67	8.00	6.00	2.67	4.67	3.33	4.67	2.67	2.00	4.67	3.33	4.00	2.00	2.00	2.00
Laurel River Arm	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	0.00	0.00
Craigs Cr. headw aters	2.00	1.33	4.67	0.67	1.33	1.33	1.33	2.67	0.67	0.00	0.00	1.33	1.33	0.00	0.00
Mean	6.00	6.83	3.50	1.50	2.17	4.17	3.50	1.33	1.33	1.83	3.50	2.83	0.83	1.00	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 38. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Laurel River Lake during April and May 2013.

	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.
2013	5.00	1.16	13.33	2.07	26.33	3.00	21.17	2.12	1.17	0.38	65.83	4.57
2012	6.00	1.23	23.33	3.64	18.83	2.94	18.33	1.98	0.17	0.17	66.50	7.60
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 39. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Laurel River Lake during April and May 2013.

	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.
2013	3.33	0.79	4.83	1.40	10.83	2.93	2.17	0.68	0.00	0.00	21.17	3.94
2012	6.33	1.56	8.33	1.75	6.83	1.55	1.67	0.53	0.00	0.00	23.17	3.30
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 40. Spring electrofishing CPUE (fish/hr) for each length group of smallmouth bass collected at Laurel River Lake during April and May 2013.

	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.
2013	0.33	0.23	0.17	0.17	1.00	0.60	0.83	0.42	0.00	0.00	2.33	0.80
2012	0.33	0.23	0.17	0.17	0.33	0.23	1.00	0.43	0.50	0.28	1.83	0.64
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 41. Population assessment for largemouth bass based on spring electrofishing at Laurel River Lake from 1990-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessement rating
Management objective		≥13.0 in	≥10.00 fish/hr	≥20.00 fish/hr	≥10.00 fish/hr	≥0.50 fish/hr		
2013	Value	13.1	1.22	26.33	21.17	1.17		
	Score	4	1	3	4	2	14	G
2012	Value		3.33	18.83	18.33	0.17		
	Score	4	1	2	3	1	11	F
2011	Value		9.21	26.67	20.00	0.83		
	Score	4	1	3	4	2	14	G
2010	Value		6.50	20.67	21.17	0.83		
	Score	4	1	2	4	2	13	G
2009	Value		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		2.08	14.50	21.83	0.50		
	Score	4	1	1	4	2	12	G
2006	Value		18.40	17.12	19.52	0.64		
	Score	4	1	2	3	2	12	G
2005	Value		4.61	18.50	22.50	0.17		
	Score	4	1	2	4	1	12	G
2004	Value		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		18.19	23.33	8.83	0.00		
	Score	4	1	2	2	0	9	F
2001	Value		17.82	22.13	2.53	0.27		
	Score	4	1	2	1	2	10	F
2000	Value		2.30	16.29	2.14	0.14		
	Score	4	1	2	1	1	9	F
1999	Value		8.24	26.00	6.40	0.53		
	Score	4	1	3	2	2	12	G
1998	Value		5.96	9.17	7.83	1.50		
	Score	4	1	1	2	2	10	F
1997	Value		14.51	25.38	6.21	0.69		
	Score	4	1	3	2	2	12	G
1996	Value		8.71	15.43	6.57	0.86		
	Score	4	1	2	2	2	11	F
1995	Value		1.21	9.33	6.13	1.07		
	Score	4	1	1	2	2	10	F
1994	Value		5.70	13.86	7.00	1.29		
	Score	4	1	1	2	2	10	F
1993	Value		5.98	11.41	6.52	1.33		
	Score	4	1	1	2	2	10	F
1992	Value		9.10	24.42	8.75	1.31		
	Score	4	1	2	2	2	11	F
1991	Value		22.10	11.60	4.71	0.00		
	Score	4	2	1	2	0	9	F
1990	Value		17.52	10.20	4.90	1.10		
	Score	4	1	1	2	2	10	F

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Table 42. Population assessment for spotted bass based on spring electrofishing at Laurel River Lake from 1990-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥11.0 in	≥3.00 fish/hr	≥7.00 fish/hr	≥1.00 fish/hr	≥0.10 fish/hr		
2013	Value		0.33	10.83	2.17	0.00		
	Score	4	1	4	4	0	13	G
2012	Value	10.0	0.50	6.83	1.67	0.00		
	Score	4	1	3	3	0	11	F
2011	Value		0.83	7.50	2.00	0.00		
	Score	4	1	4	4	0	13	G
2010	Value		2.50	9.00	4.83	0.00		
	Score	4	2	4	4	0	14	G
2009	Value		0.33	6.83	2.67	0.17		
	Score	4	1	3	4	2	14	G
2008	Value		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		4.25	9.12	2.56	0.00		
	Score	4	2	4	4	0	14	G
2005	Value		1.52	7.67	3.67	0.00		
	Score	4	2	4	4	0	14	G
2004	Value		0.00	9.83	2.17	0.00		
	Score	4	0	4	4	0	12	G
2003	Value		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		5.96	8.27	0.13	0.00		
	Score	4	2	4	2	0	12	G
2000	Value		2.55	2.29	0.14	0.00		
	Score	4	2	3	2	0	11	F
1999	Value		1.54	5.60	0.40	0.00		
	Score	4	2	3	3	0	12	G
1998	Value		6.64	4.83	0.33	0.00		
	Score	4	2	3	3	0	12	G
1997	Value		1.64	7.45	0.69	0.00		
	Score	4	2	4	3	0	13	G
1996	Value		0.29	7.86	0.71	0.00		
	Score	4	1	4	3	0	12	G
1995	Value		1.18	9.87	0.00	0.00		
	Score	4	2	4	0	0	10	F
1994	Value		4.76	5.43	1.43	0.00		
	Score	4	2	3	3	0	12	G
1993	Value		1.21	5.33	0.59	0.15		
	Score	4	2	3	3	2	14	G
1992	Value		3.36	13.22	0.99	0.00		
	Score	4	2	4	3	0	13	G
1991	Value		3.99	12.68	0.00	0.00		
	Score	4	2	4	0	0	10	F
1990	Value		6.74	3.23	2.43	0.00		
	Score	4	2	3	4	0	13	G

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Table 43. Population assessment for smallmouth bass based on spring electrofishing at Laurel River Lake from 1990-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 11.0-13.9 in	CPUE ≥14.0 in	CPUE ≥17.0 in	Total score	Assessement rating
Management objective		≥13.0 in	≥3.00 fish/hr	≥1.50 fish/hr	≥1.00 fish/hr	≥0.50 fish/hr		
2013	Value	13.2	0.00	1.00	0.83	0.00		
	Score	4	0	3	3	0	10	F
2012	Value		0.00	0.33	1.00	0.50		
	Score	4	0	2	4	4	14	G
2011	Value		0.33	0.50	0.83	0.67		
	Score	4	2	2	3	4	15	G
2010	Value		3.83	0.67	2.83	1.17		
	Score	4	4	2	4	4	18	E
2009	Value		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		1.20	0.33	1.17	0.83		
	Score	4	3	2	4	4	17	E
2006	Value		0.38	0.16	0.96	0.32		
	Score	4	2	2	3	3	14	G
2005	Value		0.06	1.50	5.50	2.83		
	Score	4	1	3	4	4	16	G
2004	Value		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		6.04	2.17	0.67	0.17		
	Score	4	4	3	3	2	16	G
2001	Value		3.40	2.80	1.07	0.00		
	Score	4	4	4	4	0	16	G
2000	Value		0.88	1.29	0.57	0.14		
	Score	4	2	3	3	2	14	G
1999	Value		2.12	1.87	0.53	0.13		
	Score	4	3	3	3	2	15	G
1998	Value		12.67	0.67	0.67	0.50		
	Score	4	4	2	3	4	17	E
1997	Value		6.67	2.07	1.52	0.14		
	Score	4	4	3	4	2	17	E
1996	Value		0.14	2.86	0.43	0.00		
	Score	4	1	4	3	0	12	G
1995	Value		1.20	0.53	1.07	0.27		
	Score	4	3	2	4	3	16	G
1994	Value		3.36	1.29	0.71	0.29		
	Score	4	4	3	3	3	17	E
1993	Value		1.57	0.59	0.44	0.30		
	Score	4	3	2	3	3	15	G
1992	Value		1.89	1.47	0.15	0.00		
	Score	4	3	3	2	0	12	G
1991	Value		0.36	0.36	0.00	0.00		
	Score	4	2	2	0	0	8	F
1990	Value		8.63	1.35	1.35	0.54		
	Score	4	4	3	4	4	19	E

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Table 44. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Laurel River Lake during April and May 2013; 95% confidence limits are in parentheses.

Area	Species	No. ≥ stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Dam				
	Largemouth bass	97	82 (± 8)	20 (± 8)
	Spotted bass	9	56 (± 34)	11 (± 22)
	Smallmouth bass	4	100 (± 0)	50 (± 57)
Spruce Creek				
	Largemouth bass	90	82 (± 8)	44 (± 10)
	Spotted bass	38	89 (± 10)	24 (± 14)
	Smallmouth bass	7	100 (± 0)	43 (± 40)
Laurel River Arm				
	Largemouth bass	89	72 (± 10)	40 (± 10)
	Spotted bass	13	54 (± 28)	8 (± 15)
	Smallmouth bass	0	0 (± 0)	0 (± 0)
Upper Craigs Creek				
	Largemouth bass	89	75 (± 9)	36 (± 10)
	Spotted bass	54	59 (± 13)	4 (± 5)
	Smallmouth bass	2	0 (± 0)	0 (± 0)
Total				
	Largemouth bass	365	78 (± 4)	35 (± 5)
	Spotted bass	114	68 (± 9)	11 (± 6)
	Smallmouth bass	13	85 (± 20)	38 (± 28)

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

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Table 45. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Laurel River Lake during 2013, 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
2012	1	6.1									
2011	54	5.6	10.1								
2010	32	4.6	9.8	13.1							
2009	10	5.0	10.7	14.1	15.7						
2008	12	5.1	10.8	14.6	15.8	16.7					
2007	2	6.0	11.7	15.2	16.7	17.8	18.4				
2006	4	4.3	11.5	15.0	16.2	17.4	18.1	18.8			
2005	2	5.0	9.6	14.1	15.9	17.2	18.2	18.8	19.8		
2004	1	4.6	8.8	13.8	15.9	17.3	18.0	18.7	19.0	19.4	
2003	1	6.7	11.4	14.9	15.6	16.0	16.3	16.7	17.4	17.7	18.1
Mean		5.2	10.2	13.8	15.9	17.0	18.0	18.5	19.0	18.6	18.1
Number		119	118	64	32	22	10	8	4	2	1
Smallest		2.7	5.2	8.5	13.8	15.1	16.3	16.7	17.4	17.7	18.1
Largest		10.1	14.0	16.1	17.2	18.0	18.8	19.8	20.3	19.4	18.1
Std error		0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.6	0.8	
95% CI ±		0.3	0.3	0.4	0.3	0.4	0.5	0.7	1.2	1.6	

Otoliths were used for age-growth determinations; Intercept = 0
sedaglrb.d13

Table 46. Age-frequency and CPUE (fish/hr) of largemouth bass collected during 6.0 hours of nocturnal electrofishing at Laurel River Lake in April and May 2013.

	Inch class																					Std
Age	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	%	CPUE	error
1	1	1	3	2															7	1.8	1.17	(0.59)
2				5	18	25	16	10	14	19	21	6							134	33.8	22.33	(2.33)
3						2	3	3	7	11	37	58	20						141	35.5	23.50	(1.92)
4											5		20	17					42	10.6	7.00	(0.64)
5													10	17	20				47	11.8	7.83	(1.21)
6															4	2			6	1.5	1.00	(0.20)
7																5	2		7	1.8	1.17	(0.35)
8																	2	7	9	2.3	1.50	(0.38)
9																	2		2	0.5	0.33	(0.16)
10																2			2	0.5	0.33	(0.08)
	1	1	3	7	18	27	19	13	21	30	63	64	50	34	24	9	6	7	397	100.0	66.17	
%	0.3	0.3	0.8	1.8	4.5	6.8	4.8	3.3	5.3	7.6	15.9	16.1	12.6	8.6	6.0	2.3	1.5	1.8	100.0			

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Table 47. Population assessment for largemouth bass collected from Laurel River Lake in April and May 2013 (scoring based on statewide assessment).

Parameter	Actual value	Assessment score
Mean length age-3 at capture	13.1	4
CPUE age 1	1.22	1
CPUE 12.0-14.9 in	26.33	3
CPUE $\geq$15.0 in	21.17	4
CPUE $\geq$20.0 in	1.17	2
Instantaneous mortality (Z)	0.576	
Annual mortality (A)	43.8	
Total score		14
Assessment rating		G

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Table 48 Mean back calculated lengths (in) at each annulus for smallmouth bass collected from Laurel River Lake during 2013, including the 95% confidence interval (CI) for each mean length per age group.

		Age				
Year	No.	1	2	3	4	5
2011	3	3.8	7.2			
2010	4	5.0	10.1	13.2		
2009	4	4.2	7.6	11.7	14.3	
2008	1	4.5	9.7	14.2	15.9	16.6
Mean		4.4	8.5	12.6	14.6	16.6
Number		12	12	9	5	1
Smallest		2.9	5.9	8.6	11.4	16.6
Largest		6.0	11.5	14.6	16.1	16.1
Std error		0.3	0.5	0.6	0.9	
95% CI $\pm$		0.5	1.0	1.3	1.7	

Otoliths were used for age-growth determinations; Intercept = 0
sedaglrb.d13

Table 49. Age-frequency and CPUE (fish/hr) of smallmouth bass collected during 6.0 hours of nocturnal electrofishing at Laurel River Lake in April and May 2013.

Age	Inch class								Total	%	CPUE	Std error
	6	7	8	11	13	14	15	16				
2	1	1	1						3	25.0	0.50	(0.28)
3				1	2	1			4	33.3	0.67	(0.35)
4				1		1	1	1	4	33.3	0.67	(0.29)
5								1	1	8.3	0.17	(0.12)
	1	1	1	2	2	2	1	2	12	100.0	2.00	
%	8.3	8.3	8.3	16.7	16.7	16.7	8.3	16.7	100.0			

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Table 50. Population assessment for smallmouth bass collected from Laurel River Lake in April and May 2013 (scoring based on statewide assessment).

Parameter	Actual value	Assessment score
Mean length age-3 at capture	13.2	4
CPUE age 1	0.00	0
CPUE 11.0-13.9 in	1.00	3
CPUE $\geq$14.0 in	0.83	3
CPUE $\geq$17.0 in	0.00	0
Instantaneous mortality (Z)	0.330	
Annual mortality (A)	28.1	
Total score		10
Assessment rating		F

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Table 51. 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 19 September 2013; standard error is in parentheses.

		Inch class																
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	15	16	18	Total	CPUE
Laurel River Arm	Largemouth bass	3	14	11	4	3	8	12	9	3	7	2			1	1	78	52.00 (9.00)
	Spotted bass		2		6	3	6	4	4	3	4		2	1			35	23.33 (4.55)
	Smallmouth bass					1											1	0.67 (0.67)

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Table 52. 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
2013	Laurel River Arm	4.0	0.15	21.33	6.59	2.67	1.33		
2012	Laurel River Arm	4.6	0.15	11.33	3.64	3.33	1.91	4.00	2.07
2011 [b]	Laurel River Arm	4.1	0.29	10.67	5.63	3.33	1.91	6.00[c]	0.89
2010 [b]	Laurel River Arm	5.4	0.45	2.67	0.84	2.00	0.89	31.50[d]	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[e]	4.59
2007 [b]	Laurel River Arm	3.5	0.12	5.30	4.58	0.00	0.00	118.91[f]	12.43
2006 [b]	Laurel River Arm	3.7	0.14	12.70	4.89	0.67	0.67	5.39[g]	2.12
2005 [b]	Laurel River Arm	4.4	0.16	14.00	3.54	3.30	1.61	58.33[h]	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 2011; CPUE of fin-clipped bass=0.00 f/h

[d] Includes bass stocked in fall 2010; CPUE of fin-clipped bass=8.00 f/h

[e] Includes bass stocked in fall 2008; CPUE of fin-clipped bass=8.00 f/h

[f] Includes bass stocked in fall 2007; CPUE of fin-clipped bass=108.00 f/h

[g] Includes bass stocked in fall 2006; CPUE of fin-clipped bass=2.00 f/h

[h] Includes bass stocked in fall 2005; CPUE of fin-clipped bass=36.00 f/h

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Table 53. Number of fish and mean relative weight (Wr) for each length group of black bass collected at 312 Bridge in Laurel River Lake on 19 September 2013. 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
	29	93 (2)	2	105 (3)	2	109 (1)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	17	105 (3)	6	110 (5)	1	109 (-)

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Table 54. Length frequency and CPUE (fish/nn) of walleye collected from Laurel River Lake in 8 net-nights in November 2013.

	Inch class																		
Species	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	CPUE	Std. error
Walleye	5	6	13	6	2	1	5	11	14	24	27	30	21	7	1	2	2	177	22.13	1.63

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Table 55. Population assessment for walleye based on fall gill netting at Laurel River Lake from 1990-2013 (scoring based on statewide assessment).

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	≥2.50 fish/nn	≥4.00 fish/nn		
2013	Value	18.50	19.4	7.88	4.55		
	Score	4	4	4	4	16	E
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		0.80	0.50		
	Score	2	4	2	1	9	F
1990	Value	4.70		1.50	1.50		
	Score	3	4	3	2	12	G

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sedaglrw.d13

Table 56. Mean back calculated lengths (in) at each annulus for male walleye collected from Laurel River Lake during 2013, 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
2012	26	10.8									
2011	15	12.1	17.2								
2010	3	10.7	15.2	18.1							
2009	18	11.4	16.2	18.1	19.6						
2008	3	11.2	15.9	18.2	19.5	20.4					
2007	2	10.1	16.0	18.3	19.6	20.8	21.8				
2006	2	11.3	15.6	17.6	18.8	19.8	20.6	21.0			
2005	1	9.4	14.7	17.2	19.2	20.0	20.9	21.7	22.1		
2003	2	10.8	15.2	17.4	18.4	19.3	20.1	20.6	21.0	21.6	22.0
Mean		11.2	16.3	18.0	19.4	20.1	20.8	21.0	21.4	21.6	22.0
Number		72	46	31	28	10	7	5	3	2	2
Smallest		6.5	14.7	16.5	17.6	19.0	19.8	20.2	20.5	20.9	21.3
Largest		14.0	18.8	19.3	20.7	21.3	22.1	21.7	22.1	22.3	22.6
Std error		0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.5	0.7	0.7
95% CI ±		0.4	0.3	0.3	0.3	0.5	0.6	0.5	0.9	1.3	1.3

Otoliths were used for age-growth determinations; Intercept = 0
sedaglwm.d13

Table 57. Mean back calculated lengths (in) at each annulus for female walleye collected from Laurel River Lake during 2013, 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
2011	2	12.9	18.5							
2009	4	12.8	18.2	20.8	22.5					
2008	1	11.0	16.7	19.2	20.6	22.0				
2005	1	9.3	16.2	19.0	20.8	22.2	23.1	23.6	24.1	
2004	1	10.7	16.9	19.3	21.0	22.2	22.6	23.5	23.9	24.3
Mean		12.0	17.7	20.1	21.8	22.1	22.9	23.5	24.0	24.3
Number		9	9	7	7	3	2	2	2	1
Smallest		9.3	16.2	19.0	20.6	22.0	22.6	23.5	23.9	24.3
Largest		13.8	19.3	21.9	23.9	22.2	23.1	23.6	24.1	24.3
Std error		0.5	0.3	0.4	0.5	0.1	0.3	0.1	0.1	
95% CI ±		1.9	0.7	0.8	0.9	0.2	0.5	0.2	0.2	

Otoliths were used for age-growth determinations; Intercept = 0
sedaglwf.d13

Table 58. Mean back calculated lengths (in) at each annulus for walleye (both sexes) collected from Laurel River Lake during 2013, 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
2012	29	10.6									
2011	17	12.2	17.3								
2010	3	10.7	15.2	18.1							
2009	23	11.7	16.6	18.6	20.1						
2008	4	11.2	16.1	18.4	19.7	20.8					
2007	2	10.1	16.0	18.3	19.6	20.8	21.8				
2006	2	11.3	15.6	17.6	18.8	19.8	20.6	21.0			
2005	2	9.3	15.5	18.1	20.0	21.1	22.0	22.6	23.1		
2004	1	10.7	16.9	19.3	21.0	22.2	22.6	23.5	23.9	24.3	
2003	2	10.8	15.2	17.4	18.4	19.3	20.1	20.6	21.0	21.6	22.0
Mean		11.2	16.6	18.4	19.9	20.6	21.3	21.7	22.4	22.5	22.0
Number		85	56	39	36	13	9	7	5	3	2
Smallest		6.5	14.7	16.5	17.6	19.0	19.8	20.2	20.5	20.9	21.3
Largest		14.0	19.3	21.9	23.9	22.2	23.1	23.6	24.1	24.3	22.6
Std error		0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.7	1.0	0.7
95% CI ±		0.3	0.3	0.3	0.4	0.6	0.8	1.0	1.4	1.9	1.3

Otoliths were used for age-growth determinations; Intercept = 0
sedaglrw.d13

Table 59. Age-frequency and CPUE (fish/nn) of walleye gill netting for 8 net-nights at Laurel River Lake during November 2013. Standard error is in parentheses.

	Inch class																				
Age	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Total	%	CPUE	
0	5	6	13	5	1													30	16.9	3.75	(1.20)
1				1	1	1	5	11	13	5								37	20.8	4.63	(0.88)
2									1	12	15	9	3					40	22.5	5.00	(0.59)
3										2	5							7	3.9	0.88	(0.14)
4										5	7	18	11	3		1	1	46	25.8	5.75	(0.39)
5												3	3	1				7	3.9	0.88	(0.10)
6														2				2	1.1	0.25	(0.10)
7													3					3	1.7	0.38	(0.09)
8														1			1	2	1.1	0.25	(0.07)
9																1		1	0.6	0.13	(0.08)
10													2		1			3	1.7	0.38	(0.15)
Total	5	6	13	6	2	1	5	11	14	24	27	30	22	7	1	2	2	178	100.0	22.25	
%	2.8	3.4	7.3	3.4	1.1	0.6	2.8	6.2	7.9	13.5	15.2	16.9	12.4	3.9	0.6	1.1	1.1				

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sedaglrw.d13

Table 60. Walleye population assessment for walleye gill netted at Laurel River Lake in November 2013 (scoring based on statewide assessment).

Parameter	Actual value	Assessment score
Population density (CPUE age 1 and older)	18.50	4
Growth rate (Mean length age 2+ at capture)	19.4	4
Size structure (CPUE $\geq$20.0 in)	7.88	4
Recruitment (CPUE age 1)	4.55	4
Total score		16
Assessment rating		E
Instantaneous mortality (Z)	0.387	
Annual mortality (A)	32.1	

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Table 61. Number of fish and mean relative weight (Wr) for each length group of walleye collected in Laurel River Lake during November 2013. Standard error is in parentheses.

Length group					
10.0-14.9 in		15.0-19.9 in		$\geq$20.0 in	
No.	Wr	No.	Wr	No.	Wr
28	93 (1)	81	100 (1)	63	99 (1)

sedgnlrw.d13

Table 62. 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 2 May 2013.

		Inch class																					
Area	Species	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE	Std. error
Lower	Largemouth bass		4	4	17	38	35	51	66	58	37	31	44	20	18	8	14	4	6	1	456	228.00	16.79
Upper	Largemouth bass	1	8	5	8	36	24	33	31	37	23	32	24	15	19	6	8	3			313	208.67	18.81
Total	Largemouth bass	1	12	9	25	74	59	84	97	95	60	63	68	35	37	14	22	7	6	1	769	219.71	12.10

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Table 63. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in each area of Cedar Creek Lake on 2 May 2013; 95% confidence levels are in parentheses.

Area	No. $\geq$8.0 in	PSD	RSD_{15}
Lower	448	69 (± 4)	33 (± 4)
Upper	299	66 (± 5)	36 (± 5)
Total	747	68 (± 3)	34 (± 3)

bbrpsccl.d13

Table 64. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected from each section of Cedar Creek Lake from 2003-2013.

		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.
2013	Lower	4.00	1.15	70.50	5.68	80.50	11.53	73.00	7.77	12.50	2.87	228.00	16.79
	Upper	9.33	4.37	67.33	5.46	60.67	8.67	71.33	7.06	7.33	3.71	208.67	18.81
	Total	6.29	2.07	69.14	3.73	72.00	8.05	72.29	4.95	10.29	2.33	219.71	12.10
2012	Lower	29.50	11.73	90.00	12.25	57.50	9.46	55.50	9.00	8.00	2.94	232.50	25.29
	Upper	10.67	2.67	110.00	9.45	81.33	3.71	81.33	8.67	6.67	0.67	283.33	10.09
	Total	21.43	7.40	98.57	8.48	67.71	7.12	66.57	7.82	7.43	1.62	254.29	17.40
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

bbrpsccl.d13

Table 65. Population assessment for largemouth bass based on spring electrofishing at Cedar Creek Lake from 2003-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessement rating
Management objective		≥11.5 in	≥16.00 fish/hr	≥20.00 fish/hr	≥30.00 fish/hr	≥4.00 fish/hr		
2013	Value		4.86	72.00	72.29	10.29		
	Score	4	1	4	4	4	17	E
2012	Value		16.29	67.71	66.57	7.43		
	Score	4	2	4	4	4	18	E
2011	Value		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		92.57	34.00	36.29	5.14		
	Score	4	4	2	4	4	18	E
2008	Value		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		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		5.38	74.70	6.30	0.00		
	Score	4	1	4	2	0	11	F
2003	Value		5.97	17.30	0.50	0.00		
	Score	4	1	1	1	0	7	P

bbrpsccl.d13

Table 66. 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 26 September 2013; standard error is in parentheses.

	Inch class																				
Area	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Low er		1	6	4	10	17	7	5	9	11	18	10	10	6	9	3		3	1	130	65.00 (12.15)
Upper	15	5	5	3	6	18	12	2	3	9	13	10	11	13	9	4	4	4		146	97.33 (23.39)
Total	15	6	11	7	16	35	19	7	12	20	31	20	21	19	18	7	4	7	1	276	78.86 (12.77)

bbrw rccl.d13

Table 67. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in the fall (September and October) in electrofishing samples at Cedar Creek Lake.

	Age 0		Age 0		Age 0 $\geq$5.0 in		Age 1	
Year class	Mean length	Std. error	CPUE	Std. error	CPUE	Std. error	CPUE	Std. error
2013	3.5	0.17	9.43	3.90	0.29	0.29		
2012	4.0	0.19	18.29	7.55	7.14	1.79	4.86	2.09
2011	4.2	0.10	27.14	4.04	6.00	1.07	16.29	6.46
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.d13

Table 68. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected in Cedar Creek Lake on 26 September 2013. 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	32	87 (2)	38	87 (1)	22	89 (1)
	Upper	26	94 (2)	34	89 (1)	34	99 (2)
	Total	58	90 (1)	72	88 (1)	56	95 (1)

bbrwrccl.d13

Table 69. 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 28 May 2013.

	Inch class												
Species	1	2	3	4	5	6	7	8	9	10	Total	CPUE	Std. error
Bluegill	2	818	448	135	54	31	12				1500	750.00	126.42
Redear sunfish		8	21	19	26	106	221	57	4	1	463	231.50	84.35

bbrbgccl.d13

Table 70. Spring electrofishing CPUE (fish/hr) for each length group of bluegill and redear sunfish collected at Cedar Creek from 2007-2013.

		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													
	2013	410.00	102.71	318.50	48.21	21.50	4.60	0.00	0.00			750.00	126.42
	2012	65.07	14.01	206.93	40.80	16.53	5.26	0.00	0.00			288.53	52.72
	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													
	2013	4.00	2.19	33.00	7.15	163.50	75.40	31.00	10.90	0.50	0.50	231.50	84.35
	2012	2.13	1.23	22.40	5.31	43.73	10.50	3.20	1.31	0.00	0.00	71.47	14.74
	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.d13

Table 71. PSD and RSD_{15} values obtained for bluegill and redear sunfish taken in spring electrofishing samples in Cedar Creek Lake on 28 May 2013; 95% confidence levels are in parentheses.

Species	No. $\geq$ stock size	PSD	RSD[a]
Bluegill	680	6 ($\pm$ 2)	0 ($\pm$ 0)
Redear sunfish	434	65 ($\pm$ 4)	1 ($\pm$ 1)

[a] Bluegill = RSD_8, redear sunfish = RSD_9

bbrbgccl.d13

Table 72. Length frequency and CPUE (fish/hr) of largemouth bass collected at Laurel Creek Reservoir in 1.25 hours (7.5-min runs) of nocturnal electrofishing on 22 April 2013.

	Inch class																		Std.
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	20	Total	CPUE	error
Largemouth bass	1	9	11	9	1	4	17	35	80	49	18	1	1	1	2	1	240	192.00	12.90

sedpsdlc.d13

Table 73. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Laurel Creek Reservoir on 22 April 2013.

	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.
2013	24.80	5.65	108.80	10.20	54.40	6.29	4.00	2.15	0.80	0.80	192.00	12.90
2010	24.00	4.92	146.40	8.09	21.60	3.17	4.80	1.31	1.60	1.07	196.80	10.20
2007	4.00	1.07	105.00	9.64	24.00	3.21	1.00	1.00	1.00	1.00	134.00	11.49

sedpsdlc.d13

Table 74. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in Laurel Creek Reservoir on 22 April 2013; 95% confidence levels are in parentheses.

Year	No. ≥8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
2013	209	35 (± 6)	2 (± 2)

sedpsdlc.d13

Table 75. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Laurel Creek Reservoir during 2013, including the 95% confidence interval (CI) for each mean length per age group.

		Age						
Year	No.	1	2	3	4	5	6	7
2012	39	4.7						
2011	11	4.9	9.1					
2010	17	5.7	9.4	11.1				
2009	10	4.8	9.5	11.3	12.4			
2008	5	6.2	9.5	11.4	12.4	13.2		
2007	5	6.3	9.5	11.4	12.2	12.9	13.5	
2006	1	4.6	9.6	11.2	11.7	12.0	12.3	12.8
Mean		5.1	9.4	11.2	12.3	12.9	13.3	12.8
Number		88	49	38	21	11	6	1
Smallest		3.1	7.7	10.2	11.5	12.0	12.3	12.8
Largest		7.7	10.5	12.3	13.0	13.9	14.5	12.8
Std error		0.1	0.1	0.1	0.1	0.2	0.4	
95% CI $\pm$		0.3	0.2	0.2	0.2	0.4	0.7	

Otoliths were used for age-growth determinations; Intercept = 0
sedaglcr.d13

Table 76. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected in Laurel Creek Reservoir on 7 October 2013. Standard error is in parentheses.

	Length group					
	8.0-11.9 in		12.0-14.9 in		$\geq$15.0 in	
Species	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	41	85 (1)	27	82 (1)	1	87 (-)

sedwrlc.d13

Table 77. Length frequency and CPUE (fish/hr) of black bass collected at Liberty Lake in 1.75 hours (15.0-min runs) of nocturnal electrofishing on 23 May 2013.

	Inch class																Std.
Species	3	4	5	6	7	8	9	10	11	12	13	14	17	20	Total	CPUE	error
Largemouth bass	1	13	27	26	20	5	29	50	32	6	1	1	1	1	213	121.71	12.73
Spotted bass	3	15	20	8	11	10	17	16	2	1					103	58.86	12.12

sedpsdlb.d13

Table 78. Spring electrofishing CPUE (fish/hr) for each length group of black bass collected at Liberty Lake on 23 May 2013.

		Length group											
		<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Species	Year	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
Largemouth bass													
	2013	49.71	5.65	66.29	10.21	4.57	2.53	1.14	0.74	0.57	0.57	121.71	12.73
	2010	32.00	8.90	121.71	10.21	25.14	1.44	5.71	1.92	1.14	0.74	184.57	12.45
	2007	176.57	30.10	75.43	11.40	46.86	6.15	4.57	1.36	1.14	0.74	303.43	31.37
		<8.0 in		8.0-10.9 in		11.0-13.9 in		≥14.0 in		≥17.0 in		Total	
		CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.	CPUE	Std. err.
Spotted bass													
	2013	32.57	9.89	24.57	4.57	1.71	1.19	0.00	0.00	0.00	0.00	58.86	12.12
	2010	2.86	1.14	10.86	2.58	0.00	0.00	0.00	0.00	0.00	0.00	13.71	2.88
	2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

sedpsdlb.d13

Table 79. PSD and RSD values obtained for black bass taken in spring electrofishing samples in Liberty Lake on 23 May 2013; 95% confidence levels are in parentheses.

Species	No. fish $\geq$ stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Largemouth bass	126	8 ($\pm$ 5)	2 ($\pm$ 2)
Spotted bass	57	5 ($\pm$ 6)	0 ($\pm$ 0)

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

sedpsdlb.d13

Table 80. Length frequency and CPUE (fish/hr) of largemouth bass collected at Stanford Reservoir in 1.125 hours (7.5-min runs) of nocturnal electrofishing on 9 May 2013.

	Inch class																						
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	19	20	21	22	Total	CPUE	Std. err.
Largemouth bass	1	5	3	8	24	61	35	18	37	77	27	14	3	5	2	3	2	3	2	2	332	295.11	41.77

sedpsdsr.d13

Table 81. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Stanford Reservoir on 9 May 2013.

	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.
2013	90.67	18.14	148.44	24.00	39.11	6.32	16.89	5.07	6.22	2.59	295.11	41.77
2010	115.43	15.99	118.86	10.09	84.57	18.63	14.86	6.15	4.57	1.62	333.71	26.40
2007	40.89	7.59	112.00	13.06	63.11	6.86	3.56	1.94	1.78	1.18	219.56	21.59

sedpsdsr.d13

Table 82. PSD and RSD_{15} values obtained for largemouth bass taken in spring electrofishing samples in Stanford Reservoir on 9 May 2013; 95% confidence levels are in parentheses.

Year	No. ≥8.0 in	PSD (+/- 95%)	RSD_{15} (+/- 95%)
2013	230	27 (± 6)	8 (± 4)

sedpsdsr.d13

Table 83. Mean back calculated lengths (in) at each annulus for largemouth bass collected from Stanford Reservoir during 2013, 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
2012	14	4.3									
2011	24	4.3	7.7								
2010	12	4.5	8.8	10.9							
2009	10	3.9	8.0	10.2	11.2						
2008	5	4.5	8.1	10.7	11.8	12.5					
2007	3	5.4	9.0	11.6	13.3	14.0	14.7				
2006	2	4.7	10.3	12.2	13.7	15.4	16.7	18.1			
2003	1	4.5	9.3	13.0	14.4	16.1	17.1	18.2	19.5	20.6	21.3
Mean		4.4	8.2	10.9	12.0	13.8	15.8	18.1	19.5	20.6	21.3
Number		71	57	33	21	11	6	3	1	1	1
Smallest		2.8	6.3	9.2	9.9	11.3	13.6	17.7	19.5	20.6	21.3
Largest		6.5	10.8	13.0	14.4	16.1	17.2	18.5	19.5	20.6	21.3
Std error		0.1	0.1	0.2	0.3	0.5	0.6	0.2			
95% CI ±		0.2	0.3	0.4	0.6	1.0	1.2	0.5			

Otoliths were used for age-growth determinations; Intercept = 0
sedagsr.d13

Table 84. Number of fish and mean relative weight (Wr) for each length group of largemouth bass collected in Stanford Reservoir on 8 October 2013. Standard error is in parentheses.

	Length group					
	8.0-11.9 in		12.0-14.9 in		≥15.0 in	
Species	No.	Wr	No.	Wr	No.	Wr
Largemouth bass	42	74 (1)	15	76 (2)	4	81 (2)

sedwrsr.d13

Table 85. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 3.0 hours of 15-minute nocturnal electrofishing runs for black bass in Wood Creek Lake on 13 May 2013; 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		1		3	3	4	6	17	17	7	6			1		3	1			69	69.00 (11.12)
	Spotted bass			1	1	6	12	13	4	5	2		1								45	45.00 (10.25)
	Smallmouth bass				2		1					1						1			5	5.00 (2.52)
Pump Station	Largemouth bass	1	2	5	1	2	10	19	25	20	10	3		4				3		1	106	106.00 (8.87)
	Spotted bass	1	4		1	3	8	12	9	1		2									41	41.00 (7.19)
	Smallmouth bass																				0	0.00 (0.00)
Dock	Largemouth bass	1	8	10	10	3	15	23	28	12	4	4	2	3		2	3	1	2		131	131.00 (51.03)
	Spotted bass				1			1													2	2.00 (2.00)
	Smallmouth bass																				0	0.00 (0.00)
Total	Largemouth bass	2	11	15	14	8	29	48	70	49	21	13	2	7	1	2	6	5	2	1	306	102.00 (17.72)
	Spotted bass	1	4	1	3	9	20	26	13	6	2	2	1								88	29.33 (6.99)
	Smallmouth bass				2		1					1						1			5	1.67 (1.04)

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Table 86. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples at Wood Creek Lake on 13 May 2013; 95% confidence limits are in parentheses.

Area	Species	No. $\geq$stock size	PSD (+/- 95%)	RSD[a] (+/- 95%)
Dam				
	Largemouth bass	62	29 ($\pm$ 11)	8 ($\pm$ 7)
	Spotted bass	43	19 ($\pm$ 12)	2 ($\pm$ 5)
Pump Station				
	Largemouth bass	95	22 ($\pm$ 8)	8 ($\pm$ 6)
	Spotted bass	35	9 ($\pm$ 9)	0 ($\pm$ 0)
Dock				
	Largemouth bass	99	21 ($\pm$ 8)	11 ($\pm$ 6)
	Spotted bass	1	0 ($\pm$ 0)	0 ($\pm$ 0)
Total				
	Largemouth bass	256	23 ($\pm$ 5)	9 ($\pm$ 4)
	Spotted bass	79	14 ($\pm$ 8)	1 ($\pm$ 2)

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

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Table 87. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Wood Creek Lake during May 2013.

	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.
2013	16.67	5.37	65.33	12.05	12.00	1.84	8.00	1.56	1.00	0.52	102.00	17.72
2012	13.67	4.55	57.00	15.18	11.00	2.52	3.67	0.92	0.33	0.33	85.33	19.41
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 88. Spring electrofishing CPUE (fish/hr) for each length group of spotted bass collected at Wood Creek Lake during May 2013.

	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.
2013	6.00	2.00	19.67	5.40	3.33	1.69	0.33	0.33	0.00	0.00	29.33	6.99
2012	17.67	4.42	11.00	2.32	3.33	1.19	0.00	0.00	0.00	0.00	32.00	7.05
2011	16.33	4.22	9.00	2.79	2.67	1.24	0.00	0.00	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	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	0.00	0.00	36.00	6.46
2008	11.67	3.28	16.67	2.91	2.33	1.15	0.33	0.33	0.00	0.00	31.00	5.37
2007	14.67	3.86	20.67	3.84	6.67	1.58	1.67	1.04	0.00	0.00	43.67	7.52
2006	13.70	2.70	14.00	2.80	10.30	2.20	3.30	1.00	0.00	0.00	41.30	6.00
2005	8.80	2.90	13.60	5.50	15.20	2.80	4.40	1.30	0.00	0.00	42.00	10.20

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Table 89. Population assessment for largemouth bass based on spring electrofishing at Wood Creek Lake from 2005-2013 (scoring based on statewide assessment).

Year		Mean length age-3 at capture	CPUE age 1	CPUE 12.0-14.9 in	CPUE ≥15.0 in	CPUE ≥20.0 in	Total score	Assessement rating
Management objectives		≥11.5 in	≥8.00 fish/hr	≥20.00 fish/hr	≥17.00 fish/hr	≥2.00 fish/hr		
2013	Value		14.00	12.00	8.00	1.00		
	Score	3	1	1	2	2	9	F
2012	Value		4.33	11.00	3.67	0.33		
	Score	3	1	1	1	1	7	P
2011	Value		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		5.33	31.00	13.33	2.67		
	Score	4	1	2	2	3	12	G
2008	Value		5.67	15.33	14.33	2.00		
	Score	4	1	1	2	3	11	F
2007	Value		5.33	6.00	18.00	1.33		
	Score	4	1	1	3	2	11	F
2006	Value		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 90. Species composition, relative abundance, and CPUE (fish/hr) of black bass collected during 3.0 hours of 15-minute nocturnal electrofishing runs for black bass in Wood Creek Lake on 24 September 2013; standard error is in parentheses.

		Inch class																
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	Total	CPUE
Dam	Largemouth bass	8			1	3	1	3	1	2							19	19.00 (5.26)
	Spotted bass				3	1		3	3	2	1	1					14	14.00 (6.00)
	Smallmouth bass						1				1						2	2.00 (1.15)
Pump station	Largemouth bass	8	3	4	2	4	7	13	9	9	10	4	4	1		1	79	79.00 (13.00)
	Spotted bass	1			4	3	3	2	5	4	4						26	26.00 (8.08)
	Smallmouth bass																0	0.00 (-)
Dock	Largemouth bass		4	4	1	1	25	18	18	21	36	14	9	2	2		155	155.00 (30.74)
	Spotted bass						3	4	2			1					10	10.00 (4.76)
	Smallmouth bass																0	0.00 (-)
Total	Largemouth bass	16	7	8	4	8	33	34	28	32	46	18	13	3	2	1	253	84.33 (19.63)
	Spotted bass	1			7	4	6	9	10	6	5	2					50	16.67 (3.93)
	Smallmouth bass						1				1						2	0.67 (0.45)

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Table 91. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected in fall (September and October) electrofishing samples at Wood Creek Lake.

	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
2013 [a]	3.4	0.18	11.33	3.03	1.00	0.52		
2012	4.3	0.10	34.67	10.11	8.33	4.22	14.00	4.94
2011 [a]	4.0	0.11	12.33	4.13	0.67	0.67	4.33[b]	1.59
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[c]	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[d]	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 2011; CPUE stocked fish=1.00 fish/hr
[c] Includes fish stocked in fall 2009; CPUE stocked fish=10.00 fish/hr
[d] Includes fish stocked in fall 2006; CPUE stocked fish=0.33 fish/hr

Table 92. Number of fish and mean relative weight (Wr) for each length group of black bass collected at Wood Creek Lake during 24 September 2013. 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
	106	84 (1)	34	87 (1)	3	96 (7)
	7.0-10.9 in		11.0-13.9 in		≥14.0 in	
Spotted bass	No.	Wr	No.	Wr	No.	Wr
	30	96 (2)	7	90 (5)	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 2013.

Buckhorn Lake

Musky sampling at Buckhorn Lake (1,230 acres) occurred later than usual and conditions were poor leading to a low sample number (Table 2). The assessment rating of "Poor" (Table 3) is not representative of the population. From 2010-2012 all assessments were "Good" (Table 3) and we assume these ratings to be indicative of the current population. Excluding the poor 2013 sample, fish numbers $\geq$ 30.0 in and $\geq$ 36.0 in have remained stable with fish $\geq$ 40.0 in declining some (Table 3). A decline in fish numbers $\geq$ 40.0 in can be expected with the change from a 40.0-in to 36.0-in minimum size limit in 2010. A total of 425 muskellunge (12.5 in) were stocked during September 2013. Muskellunge stocked in 2013 received a right pectoral fin clip for future identification. The tailwater below Buckhorn Lake continues to provide an additional good muskellunge fishery.

Black bass were sampled during the fall (Tables 4 and 5). Largemouth bass comprise the major black bass species in this lake and were sampled from 2.0-20.0 in (Table 4). Due to not having a spring sample, the most recent assessment rating for largemouth bass was "Fair" in 2012. Age-0 largemouth bass numbers were above average, but age-0 numbers $\geq$ 5.0 in were below average (Table 5). Therefore, 12,527 fingerling largemouth bass were stocked in October to supplement this age class.

White crappie were sampled by trap nets for 9 net-nights during the fall at Buckhorn Lake (Table 6). Population data is shown in Tables 6-10. Fish were sampled from 2.0-12.0 in (Table 6) and the assessment rating was "Good" (Table 10). Mean length of age 2 fish at capture has fluctuated (Table 10) and will continued to be monitored every other year for review and recommendations on the current 9.0-in minimum length limit. At present, anglers seem somewhat satisfied with this regulation.

Fish habitat work consisted of installation of 4 new wood pallet and Christmas tree structures, refurbishing 1 Christmas tree reef and sowing 150 lbs of wheat seed on mudflats.

Additional fish stocking occurred throughout the year at the tailwater area below the dam. Approximately 5,000 rainbow trout (8.0-12.0 in) were stocked during the months of April-June and October-November.

Carr Creek Lake

The black bass population was sampled during the spring and fall at Carr Creek Lake (710 acres) in 2013 (Tables 11-18). During the fall of each year from 2005-2011, largemouth bass were stocked to supplement low recruitment of age-0 to age-1 fish. Fish to be stocked in fall of 2012 were held and stocked during the spring of 2013. This change is reflected in the high CPUE of fish < 8.0 in for 2013 versus previous years (Table 12). The largemouth bass assessment rating was "Good" for 2013 (Table 15). Fingerling largemouth bass will be stocked in the spring of 2014 to supplement below average age-0 numbers (Table 18).

Spring daytime electrofishing was completed during March for walleye (Tables 19-21). From 2008-2013 some of the lower CPUE's (Table 19) are from increased sampling time to collect broodstock for hatchery production. This resulted in sampling parts of the lake multiple times and sampling areas that are less productive. Although CPUE has been lower some years, the walleye assessment rating has remained "Good" from 2004-2013 (Table 21). In 2004 there was a fish kill of 100+ large adult walleye at Carr Creek Lake. There was also a fish kill of large adult alewife in 2005 and large gizzard shad in 2008. None of these fish kills have seemed to significantly impact the fishery. An estimated 35,214 walleye (1.5 in) were stocked in May.

CPUE, PSD and RSD_{10} are listed in Tables 22-24 for black and white crappie sampled during spring electrofishing at Carr Creek Lake. The crappie fishery is regulated with a 9.0-in minimum size limit. White crappie numbers have increased in recent sample years (Table 23) and in angler catches as well. Approximately 7,100 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. Totals of 5,440, 9,676, 3,822, 17,814, and 18,160 white crappie were stocked from 2009-2013, respectively.

A total of 300 gallons of 9-18-9 liquid fertilizer was applied during April. Additional fish habitat work consisted of refurbishing 6 hardwood brushpiles and 3 Christmas tree reefs (102 Christmas trees), construction of 2 new hardwood brushpiles, 1 new Christmas tree reef with hardwoods, and 26 hinge cut hardwoods and pines. One spot treatment application was completed for hydrilla control in Litt Carr branch and 2 applications were completed for purple loosestrife in Defeated Creek Branch. Plantings from previous years of sago pondweed and water celery had established good stands of vegetation in 2013.

Cranks Creek

Fall electrofishing was completed at Cranks Creek Lake (219 acres) for black bass in 2013. Sampling conditions were poor resulting in very few fish near the bank. Distribution of largemouth bass collected ranged from 2.0-21.0 in (Table 25). Age and growth data was collected for largemouth bass (Table 26) and will be used for future assessments of the population. During 2014, spring and fall electrofishing will be conducted if lake conditions allow and a population assessment will be determined from the spring data. Recent largemouth bass assessments have rated “Fair”. Age 0 numbers determined during the fall sampling are low compared to prior years (Table 27). This was expected with the poor conditions and lack of fish of any size in shallow shoreline sample areas. No supplemental stocking of largemouth bass occurred in 2013.

Due to clear water at this lake, brittle naiad has become a nuisance in shallow upper lake areas. Reward herbicide was applied 1 time to clear boat ramp access and bank fishing access sites. Rainbow trout were stocked at 1,500/mo during January, April, May and October for a total of 6,000 fish.

Dewey Lake

Spring and fall samples were collected for black bass at Dewey Lake (Tables 28-35). Largemouth bass in the spring sample were collected from 2.0-21.0 in (Table 28) and larger length groups all had increases in CPUE from 2012-2013 (Table 29). This fishery is improving with increasing numbers of keeper size fish and has progressed from a “Poor” rating in 2010 to a “Good” rating in 2013 (Table 32). Tables 33-35 include fall sampling data. Fall age and growth data was collected for future population assessments (Table 34). Below average age-0 numbers were observed (Table 35) and 16,785 fingerling largemouth bass were stocked in October to supplement this year class.

Additional fish stockings other than largemouth bass included blue catfish and rainbow trout. A total of 17,000 blue catfish (4.0-8.0 in) were stocked in the lake during April. Rainbow trout were stocked in the tailwater of Dewey Lake in April, May, October, and November (1,000/mo; 8.0-12.0 in). During April, the tailwater received an additional 1,750 rainbow trout due to the breakdown of a fish transportation truck. A total of 5,750 rainbow trout were stocked at the tailwater during 2013.

New and refurbished fish habitat structures were completed to aid in recruitment of sportfish and to act as fish attractors for anglers. This work consisted of 2 new Christmas tree reefs, 4 new Christmas tree and hardwood brushpiles, 4 refurbished Christmas tree brushpiles, 25 hinge-cut trees, 2 new stake beds with hardwoods, 3 refurbished Christmas tree reefs, and mowing of bank access points in Stratton Branch and Arrowhead Point.

Fishpond Lake

Largemouth bass were sampled via nocturnal electrofishing at Fishpond Lake (32 acres) on 2 May 2013 (Tables 36-38). Fish were collected from 4.0-24.0 in (Table 36) and all length groups showed increased CPUE’s compared to recent years (Table 37). PSD and RSD_{15} values are high (Table 38) and consistent with values obtained in previous samples at Fishpond Lake. With the high PSD and RSD_{15} values it is important to continue to observe recruitment of new year-classes. Additional management at Fishpond Lake entails fertilization of the lake during the spring for increasing zooplankton density for young-of-year fishes and to limit the filamentous algae growth. This lake is typically very clear and shoreline areas clog with filamentous algae without the addition of fertilizer in the spring. 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. Largemouth bass will be sampled again in 2015.

Fishtrap Lake

Black bass were sampled in the fall only (Tables 39-40) due to problems with flooding and turbidity at spring sample time. Recent spring assessment ratings have been "Good" for largemouth and smallmouth bass. Largemouth bass were sampled from 3.0-20.0 in and smallmouth bass from 4.0-18.0 in during the fall sample (Table 39). Age-0 largemouth bass numbers were slightly below average (Table 40). A total of 17,251 fingerling largemouth bass were stocked in October to supplement the 2013 year class.

White crappie were sampled in the fall using trap nets (Tables 41-45). PSD and RSD_{10} values were very good (Table 42) and the population assessment rating was "Excellent" (Table 45). Mean length of age 2+ fish was close to the 9.0 in (Table 45) desired under the current length limit. During the fall and winter, angler catches included numerous 30 fish limits. This fishery will be popular with anglers in 2014. White crappie will be re-evaluated in 2015.

Approximately 23,068 hybrid striped bass (1.6 in) were stocked in the lake during the month of June.
A total of 20,035 redear sunfish (1.0-4.0 in) were stocked for utilizing the introduced zebra mussels for food. Native strain walleye stocking totaled 9,164 fish (1.5 in) in the Levisa Fork upstream of Fishtrap Lake during May. As this walleye population builds numbers, future sampling will provide an indication as to the success of this program. Anglers have caught some of the previously stocked native strain walleye ranging from 8.0-20.0 in. A total of 10,000 rainbow trout were stocked in the tailwater (2,000/mo; months 4, 5, 6, 10, 11).

Highsplint Lake

Largemouth bass were sampled during day time electrofishing on 30 April 2013 (Table 46). The CPUE continues to be similar to small lakes in eastern Kentucky with a 12.0 in minimum length limit. Numbers of largemouth bass are high up to 12.0 in with very low numbers of bass greater than 12.0 in (Tables 46-47). Also, a PSD value of 5 and RSD_{15} value of 1 represent a population containing very few fish over 12.0 in (Table 48). During 2014, some herbicide will be applied to areas of the lake to limit aquatic plant and filamentous algae growth.

Fish stockings continued in 2013 with approximately 750 channel catfish (7.0-12.0 in) stocked in July and rainbow trout stocked in February (750), March (1,500) and October (1,500).

Water quality readings were not acquired during summer 2013. During August 2012, a small portion of the lake was found to have a thermocline at approximately 27-35ft with sufficient dissolved oxygen (4.55-5.45 ppm) and water temp (65-72 °F) for trout to survive. With rainbow trout being stocked in the lake it could be possible to see some fish holdover through summer with larger sizes attained.

Martins Fork Lake

Martins Fork Lake (330 acres) was sampled for black bass in the fall of 2013 (Tables 49-50). Fish were not on the shoreline in shallow water during the fall sample, which produced poor results. However, the assessment score has remained "Fair" for largemouth bass from 2003 – 2012. Since spring data was not collected in 2013, a population assessment was not conducted. Numbers of age-0 and age-0 $\geq$ 5.0 in were below average (Table 50). During October, fingerling largemouth bass were stocked to supplement age-0 fish numbers in the lake.

During 2013, the lake was stocked with 16,721 native strain walleye (1.5 in) in May and 3,416 largemouth bass (4.9 in) in October. This was the first stocking of native strain walleye in the lake. Rainbow trout were stocked at the tailwater throughout the year for an approximate total of 4,500 fish. No new fish habitat structures were placed in the lake. For 2014, several new brushpiles will be constructed and channel catfish are scheduled to be stocked in addition to other annual stockings.

Paintsville Lake

Spring and fall sampling was completed during 2013 for black bass (Tables 51-57). The 12.0-15.0 in protective slot length limit (implemented 2002 for largemouth and smallmouth bass) has not made any significant change in largemouth bass numbers under 12.0 in. However, angler catches of largemouth bass have slowly been improving for fish $\geq$ 15.0 in, but electrofishing data does not show much difference (Table 52). An assessment value of "Fair" was observed for largemouth bass (Table 55). From 2008-2012, smallmouth bass fingerlings were stocked. At present there have been no increases in recent electrofishing CPUE for smallmouth bass. During this study, smallmouth bass numbers have increased slightly, but not enough to develop a good fishery.

Walleye and white crappie were not sampled during 2013. During fall black bass sampling, age-1 and age-2 walleye were observed. This has occurred in each of the last several years of fall black bass sampling. This is a good indicator that recent walleye stockings continue to recruit well to the fishery. During October, 36,324 blacknose crappie were stocked at the Open Fork boat access. Blacknose crappie have been stocked each year from 2011-2013 and anglers are catching keeper sized fish. Walleye (n=57,406; mean length=1.5 in) were stocked on 23 May 2013.

The lake received a stocking of approximately 3,250 rainbow trout (8.0 in) during January. An additional 2,000 rainbow trout were stocked in the lake in March when the fish could not be stocked at another lake in the area. Additional fisheries provided by the lake are the brown and rainbow trout fisheries found in the tailwater area below the dam. Approximately 20,000 rainbow trout were stocked in the tailwater from April to November, and 300 brown trout were stocked in the tailwater in April 2011. Occasionally, extra rainbow trout are stocked into the tailwater during the summer. This results from other Eastern Kentucky stocking locations becoming too high in water temperature and alternate sites are necessary

Herbicide applications were all confined to the state park boat ramp and courtesy dock. These consisted of 2 treatments of Cutrine Plus granular for hydrilla and 1 treatment of Sculpin G for Eurasian milfoil. Two new Christmas tree and hardwood brushpiles were placed in Glade Branch for fish habitat.

Pan Bowl Lake

Tables 58-62 show spring electrofishing data obtained for largemouth bass at Pan Bowl Lake. Recent largemouth bass samples have produced low PSD and RSD_{15} values at this lake. During 2013, a PSD of 7 and RSD_{15} of 1 were observed (Table 60), whereas in the late 1990's, PSD was around 40-45. Historically this lake has had widespread growth of miscellaneous types of aquatic vegetation. By 2010, Eurasian milfoil had become established and effectively filled in most all open water areas on the lake. This has increased the recruitment of young fish, resulting in excessive numbers in the lake. Eurasain milfoil decreased some in 2011-2012; possibly the result of water clarity changes, herbicide applications, and stocking of some grass carp. No herbicide applications were made in 2013. The 2013 assessment rating for largemouth bass remained at "Fair" (Table 62). For 2014, the largemouth bass population will be reevaluated to assess if there are any improvements.

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. During 2012, approximately 2,000 channel catfish were stocked.

Yatesville Lake

Black bass were sampled during the fall at Yatesville Lake (Table 63). Due to extended high water and muddy conditions, a spring sample was not attempted. The previous spring assessment of the largemouth bass population was “Fair” in 2012. Although the largemouth bass population at Yatesville Lake (2,280 acres) receives a great amount of fishing pressure (resident and nonresident) through tournaments on the weekends, it has remained consistent. Assessment ratings have primarily produced a “Good” rating during recent years. No supplemental stocking of fingerling largemouth bass occurred in 2013. This was based on age-0 fish numbers that were slightly below average, but age-0 largemouth bass $\geq$ 5.0 in were above average (Table 64).

Yatesville Lake was stocked with 20,470 redear sunfish (1.0-4.0 in) during September. This was the 4th year in a row of stocking redear sunfish. Rainbow trout were stocked in the tailwater of Yatesville Lake throughout the year (2,250 fish total). New fish habitat was added with 7 hardwood and cedar brushpiles and 12 hinge-cut trees installed. During 2014, fish sampling and habitat work will continue at Yatesville Lake. Black bass will be sampled in the spring and fall. Habitat work will primarily consist of selective cutting of cedar trees from the Yatesville Lake WMA property to create brush piles and the addition of Christmas tree brushpiles. This habitat should improve the recruitment for all of the lake’s sportfish.

Table 1: Summary of 2013 sampling conditions by waterbody, species sampled and date.

Water body	Species	Date	Time (24hr)	Gear	Weather	Water Temp (°F)	Water level (elev ft)	Secchi (in)	Pertinent sampling comments[a,b]
Buckhorn Lake	Musky	3/4	1100	shock	sunny	42.0	757.70	50	cond 351; outflow 408CFS; used 2 boats; whole lake; LFR assissted
Buckhorn Lake	LMB	9/25	2000	shock	rainstorms	75.0	781.80	51	cond 470; bp 29.92; used 1 boat; whole lake
Buckhorn Lake	WC	11/12	1000	trap net	cloudy, snow	50.0	766.70		mid to upper lake; lake level falling; bp 30.32
Buckhorn Lake	WC	11/13	1000	trap net	sunny	48.0	766.10		mid to upper lake; lake level falling
Carr Creek Lake	WC/BC	3/7	1000	shock	cloudy, snow	39.0	1017.90	38	cond 304; used 1 boat; whole lake; water murky-muddy
Carr Creek Lake	Walleye	3/14	1000	shock	sunny-windy / cool	42.0	1017.8	30	cond 450; used 2 boats; water murky; walleye broodfish and sampling
Carr Creek Lake	Walleye	3/19	1000	shock	cloudy	42.5	1019.20		cond 391; used 2 boats; walleye broodfish and sampling
Carr Creek Lake	Walleye	3/22	1000	shock	sunny	44.0	1017.4		cond 443; water murky; walleye broodfish collection
Carr Creek Lake	WC	3/28	1000	shock	partly sunny	43.0	1017.60		cond306; 1 boat; upper lake; YOY crappie collection for BBR
Carr Creek Lake	LMB	5/8	2000	shock	cloudy / rain	62.5	1028.20	67	cond 418; 1 boat; whole lake; stopped early due to rain
Carr Creek Lake	LMB	9/23	2000	shock	clear	78.5	1026.80	96	cond 630; 2 boats (BBR assist); whole lake; bass A&G
Cranks Creek Lake	LMB	10/30	1100	shock	rain	61.0		96	cond 156; bp: 30.2; 1 boat; whole lake; very poor sample due to conditions
Dewey Lake	LMB	5/1	2000	shock	clear		650.51		bp 30.18; used 1 boats; whole lake;
Dewey Lake	LMB	9/16	2000	shock	cloudy / rain	75-77	650.57	18	bp 30.21; used 2 boats; whole lake; upper lake murky
Fishpond Lake	LMB	5/2	2000	shock	partly cloudy	68.0	normal	113	cond 634; bp: 30.27; whole lake; 1 boat; 7.5 minute runs
Fishtrap Lake	LMB/SMB	9/18	2000	shock	rain	75.0		41	cond 686; whole lake; 1 boat
Fishtrap Lake	WC	12/2	1000	trap net	cloudy	41.0	735.30		mid lake; lake level falling; outflow 462 CFS; muddy; bp 29.81
Fishtrap Lake	WC	12/3	1000	trap net			735.18		mid lake; lake level falling; outflow 233 CFS; muddy; bp 29.86
Highsplint Lake	LMB	4/30	1000	shock	sunny	63.5	normal		water clear; whole lake; 1 boat; 7.5 minute runs
Martins Fk Lake	LMB	9/11	2000	shock	cloudy / rain	85.0	summer pool		cond 135; used 1 boat; whole lake; Lkw Calm; heavy rain on 4th run
Paintsville Lake	LMB	5/21	2000	shock	clear / hot	79.0	709.02	93	cond 108; bp 30.02; 1 boat; whole lake; 2 days; clear / calm;
Paintsville Lake	LMB	5/22	2000	shock	clear / hot	79.0	709.02	165	cond 105; bp 30.02; 1 boat; whole lake; 2 days; clear / calm;
Paintsville Lake	walleye	3/20	1000	shock	windy / cold	43.0	711.24	30	cond 122; used 2 boats; middle / lower lake; high water; walleye broodfish collection
Paintsville Lake	walleye	3/21	8000	shock	sunny / cold	39.0	710.30	39	cond low; used 1 boat; walleye broodfish collection (no fish)
Paintsville Lake	LMB/SMB	10/9	2000	shock	clear	73.0	708.98	159	cond 105; bp 30.21; used 3 boats (BBR assist); whole lake
Pan Bowl Lake	LMB	5/7	1000	shock	cloudy / rain	65.0	summer pool	61	cond 149; bp 29.93; used 1 boat; whole lake; 7.5 minute runs
Russell Fork (RH)	Walleye	3/21	1000	shock	cold	43.0			cond 317; elevation 8.25' @ Elkhorn City; walleye broodfish collection (no fish)
Yatesville Lake	LMB	9/24	2000	shock	clear	77.0	630.19	78	cond 151; bp 29.99; used 2 boats; whole lake; lake 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 1998-2013; 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)
2012		1		1	8	20	2					1	2	1	6	1	1					1		2		1	3	2	2	1			1						57	13.41 (1.81)
2013			3	6	3							1											1	1			1												16	4.27 (0.91)

EFDBLMSS.D98-D10, D12

LFRBHLSP.D11, D13

Table 3. Population assessment for muskellunge from Buckhorn Lake (1,230 acres) captured during spring electrofishing from 1999-2013. Assessment scores for 2002 were derived from fall electrofishing data. Actual values are in parentheses. Scoring based on statewide assessment.

	Population assessment														
Parameter	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CPUE age 1	2	2	1	1	2	3	2	3	1	3	4	3	3	3	2
	(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)	(7.53)	(3.20)
CPUE $\geq$ 20.0 in	3	3	1	3	2	4	2	3	4	2	3	3	2	3	1
	(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)	(5.88)	(1.07)
CPUE $\geq$ 30.0 in	2	3	1	4	2	4	3	4	4	2	4	3	3	3	1
	(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)	(3.06)	(0.80)
CPUE $\geq$ 36.0 in	1	3	2	4	2	4	4	4	4	2	4	4	3	4	1
	(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)	(2.12)	(0.27)
CPUE $\geq$ 40.0 in	0	2	3	3	3	3	4	4	4	3	4	3	3	2	0
	(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)	(0.24)	(0.00)
Total score	8	13	8	15	11	18	15	18	17	12	19	16	14	15	5
Assessment	Fair	Good	Fair	Good	Fair	Excellent	Good	Excellent	Excellent	Good	Excellent	Good	Good	Good	Poor

EFDBLMSS.D99-D10, D12
LFRBHLSP.D11, D13

Table 4. Length frequency and CPUE (fish/hr) of black bass collected in approximately 1.25 hours of 15-min nocturnal electrofishing runs at Buckhorn Lake (1,230 acres) on 25 September 2013; numbers in parentheses are standard errors.

Area	Inch class																				
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Upper																					
Largemouth bass	8	18	14	7		7	11	8		3	4	1		1	1	1				84	168.00 (4.00)
Lower																					
Largemouth bass	5	10	10	11	3	4	7	10	6	5	6	1	1	1					1	81	108.00 (4.00)
Total																					
Largemouth bass	13	28	24	18	3	11	18	18	6	8	10	2	1	2	1	1			1	165	132.00 (14.91)

EFDBLLSF.D13

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 $\geq$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	36.06	6.46
2012	5.0	0.2	39.00	9.57	21.00	7.19	no spring sample	
2013	4.1	0.1	68.80	10.76	16.80	4.27		

EFDBLLSF.D02-D08, D10-D13
EFDBLLAS.D04
EFDBLLAS.D09
EFDBLLSS.D03-D10, D12

Table 6. Length frequency and CPUE (fish/nn) for white crappie collected at Buckhorn Lake (1,230 acres) in 9 net-nights 12 -13 November 2013. Standard errors are in parentheses.

Inch class												
2	3	4	5	6	7	8	9	10	11	12	Total	CPUE
22	397	48	231	57	66	56	28	4	7	3	919	102.11 (29.18)

EFDBLCTF.D13

Table 7. PSD and RSD_{10} values calculated for white crappie collected in trap nets at Buckhorn Lake (1,230 acres) on 12-13 November 2013; 95% confidence intervals are in parentheses.

No. $\geq$stock size	PSD	RSD_{10}
452	22 (+/-4)	3 (+/-2)

EFDBLCTF.D13

Table 8. Mean back-calculated length (in) at each annulus for white crappie collected from Buckhorn Lake (1,230 acres) November 2013, including 95% confidence intervals.

Year		Age					
class	No.	1	2	3	4	5	6
2012	28	3.6					
2011	17	3.7	5.7				
2010	32	4.2	6.2	7.5			
2009	15	4.3	6.5	7.8	8.8		
2008	2	4.7	6.5	8.2	9.3	10.5	
2007	2	4.5	7.3	9.0	10.9	11.7	12.2
Mean	96	4.0	6.2	7.7	9.1	11.1	12.2
Smallest		3.1	4.8	6.5	7.6	10.5	12.1
Largest		5.4	7.7	9.5	11.0	11.8	12.3
STD error		0.1	0.1	0.1	0.2	0.4	0.1
95% CI LO		3.9	6.0	7.5	8.7	10.4	11.9
95% CI HI		4.1	6.3	7.9	9.6	11.8	12.4

Intercept = 0
EFDBLCAF.D13

Table 9. Age frequency and CPUE (fish/nn) of white crappie collected by trap netting for 9 net-nights at Buckhorn Lake (1,230 acres) November 2013; numbers in parentheses are standard errors.

	Inch class													
Age	2	3	4	5	6	7	8	9	10	11	12	Total	Age %	CPUE
0	22	397	16	15								450	49	50.04 (12.15)
1			32	200	23							256	28	28.41 (14.29)
2				15	34	19	4					72	8	8.01 (2.58)
3						47	41	13	2			102	11	11.37 (2.35)
4							11	15	2	2		31	3	3.43 (0.83)
5										5		5	1	0.52 (0.24)
6											3	3	0	0.33 (0.24)
Total	22	397	48	231	57	66	56	28	4	7	3	919	100	
%	2	43	5	25	6	7	6	3	<1	1	<1	100		

CPUE $\geq$8.0 in (quality size) = 54.70 fish/nn

CPUE $\geq$10.0 in (preferred size) = 6.70 fish/nn

EFDBLCAF.D13

EFDBLCTF.D13

Table 10. Population assessment scores for white crappie collected from Buckhorn Lake (1,230 acres). Actual values are in parantheses. Scoring based on statewide assessment.

	Year								
Parameter	2003	2004	2005	2006	2007	2008	2010	2011	2013
Total CPUE	4	2	3	4	4	4	4	4	4
(excluding age 0)	(31.40)	(5.50)	(14.80)	(191.42)	(32.50)	(60.73)	(54.00)	(299.65)	(52.07)
CPUE age 1	4	1	3	4	1	4	4	4	4
	(17.40)	(0.70)	(7.40)	(58.60)	(2.99)	(14.51)	(32.91)	(155.75)	(28.41)
CPUE age 0	4	1	1	4	1	1	4	4	4
	(28.20)	(0.75)	(0.40)	(29.80)	(0.55)	(0.44)	(22.29)	(50.95)	(50.04)
CPUE $\geq$8.0 in	2	2	2	4	3	3	4	4	3
	(4.20)	(2.20)	(4.10)	(17.78)	(5.50)	(5.89)	(12.57)	(54.70)	(10.89)
Mean length age 2 at capture	1	1	1	1	1	1	1	1	1
	(8.2)	(8.1)	(8.3)	(7.1)	(6.3)	(6.3)	(7.7)	(8.2)	(6.9)
Instantaneous mortality (z)	1.32	1.37	1.30	1.52	1.74	1.03	0.87	0.98	0.89
Annual mortality (A)	73.20	74.70	72.80	78.00	82.50	64.40	58.20	62.40	59.30
Total score	15	7	10	17	10	13	17	17	16
Assessment rating	Good	Poor	Fair	Good	Fair	Good	Good	Good	Good

EFDBLCTF.D03-D13
EFDBLCAF.D03-D13

Table 11. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 1.5 hours of 15-minute electrofishing samples at Carr Creek Lake (710 acres) on 8 May 2013; numbers in parentheses are standard errors.

		Inch class																				
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Lower	Smallmouth bass																					
	Spotted bass	1				2	4		1	1											9	18.00 (10.00)
	Largemouth bass		5	74	25		3	2	2	1		1	4	1	4	2	1	1		1	127	254.00 (158.00)
Upper	Smallmouth bass																					
	Spotted bass					4	4	1	4												13	13.00 (5.97)
	Largemouth bass		5	41	17	3	8	6	5	3	6	10	3	6	3	1	1	1	1	2	122	122.00 (31.43)
Total	Smallmouth bass																					
	Spotted bass	1				6	8	1	5	1											22	14.67 (4.70)
	Largemouth bass		10	115	42	3	11	8	7	4	6	11	7	7	7	3	2	2	1	3	249	166.00 (53.23)

EFDCLLSS.D13

Table 12. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Carr Creek Lake (710 acres) from 2002-2013. 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
2012	15.00	3.09	21.50	3.46	9.00	1.46	13.50	3.46	1.50	0.73	59.00	8.41
2013	113.33	51.38	20.00	4.50	16.00	3.72	16.67	2.17	2.67	1.33	166.00	53.23

BBRPSCFL.D02-D05
EFDCLLSS.D06-D10, D12-D13

Table 13. PSD and RSD values for each species of black bass in each area of Carr Creek Lake (710 acres) on 8 May 2013. 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	23	65 (+/-20)	43 (+/-20)				8	13 (+/-24)	0
Upper	56	61 (+/-13)	27 (+/-12)				13		
Total	79	62 (+/-11)	32 (+/-11)				21	5 (+/-9)	

EFDCLLSS.D13

Table 14. Spring electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Carr Creek Lake (710 acres) from 1999-2013.

	Year														
Age	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
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	13.19	113.25
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	16.81	15.97
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	11.99	15.48
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	6.90	12.13
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	4.69	4.61
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	2.92	1.89
7	0.60	0.30	0.70		2.10	1.80	2.73	5.30	3.48	0.00		0.00	0.00	0.00	0.00
8	0.40				2.00	2.00	3.66	6.50	3.95	0.00		0.00	0.00	0.00	0.00
9	0.30				0.10	0.00	0.00	0.30	0.00	0.00		0.00	0.00	0.00	0.00
10					0.80	0.60	0.56	0.40	1.07	0.00		0.00	0.00	0.00	0.00
11										0.00		0.00	0.00	0.00	0.00
12										0.50		0.94	0.50	0.50	0.67

BBRPSCFL.D99-D05
EFDCLLSS.D06-D10, D12-13
BBRSCCFL.D03
EFDCLLAS.D08, D13

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	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mean length age 3 at capture	4	4	4	4	4	4	4	4	4	4	4
	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(12.6)	(12.6)	(12.6)	(12.6)	(12.6)	(12.6)
Spring CPUE age 1	3	4	2	2	1	1	1	1	1	1	4
	(66.20)	(133.70)	(18.84)	(21.10)	(7.61)	(2.43)	(3.14)	(9.95)	(9.00)	(13.19)	(113.25)
Spring CPUE 12.0-14.9 in	1	1	2	2	1	2	1	1	1	1	1
	(11.11)	(8.44)	(24.80)	(27.92)	(18.59)	(24.72)	(17.14)	(10.80)	(5.50)	(9.00)	(16.00)
Spring CPUE ≥15.0 in	2	2	2	3	2	3	2	2	2	2	2
	(10.67)	(9.00)	(14.00)	(29.90)	(15.72)	(23.71)	(16.00)	(12.55)	(16.00)	(13.50)	(16.67)
Spring CPUE ≥20.0 in	1	1	1	1	1	1	1	1	2	2	3
	(0.44)	(0.22)	(0.33)	(0.67)	(0.49)	(0.50)	(0.57)	(0.94)	(1.00)	(1.50)	(2.67)
Total score	11	12	11	12	9	11	9	9	10	10	14
Assessment rating	Fair	Good	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Good
Instantaneous mortality (z)	0.52	0.54	0.47	0.43	0.37	0.41	0.74	0.34	0.27	0.44	0.43
Annual mortality (A)	40.30	42.00	37.50	35.10	30.90	33.50	52.30	29.10	23.80	35.80	34.80

BBRPSCFL.D02-D05
BBRSCCFL.D03
EFDCLLSS.D06-D13
EFDCLLAS.D08

Table 16. Length frequency and electrofishing CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples at Carr Creek Lake (710 acres) on 23 September 2013; 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														2	1.60 (0.98)
	Spotted bass		1		2	6	4	4	8	3	3	1	1									33	26.40 (4.31)
	Largemouth bass	1	1	2	3	1	7	4	3	2	2	4	1	5	2	7	1	1	1		1	49	39.20 (7.74)
Upper	Smallmouth bass																		1			1	0.80 (0.80)
	Spotted bass	4	6		1	1	2	1	5	5	1				1		1					28	22.40 (7.76)
	Largemouth bass	1	7	11	8		9	18	21	11	4	3	4	6	7	2	1					113	90.40 (16.23)
Total	Smallmouth bass					1		1											1			3	1.20 (0.61)
	Spotted bass	4	7		3	7	6	5	13	8	4	1	1		1		1					61	24.40 (4.24)
	Largemouth bass	2	8	13	11	1	16	22	24	13	6	7	5	11	9	9	2	1	1		1	162	64.80 (12.01)

EFDCLLSF.D13

Table 17. Mean back-calculated length (in) at each annulus for largemouth bass collected from Carr Creek Lake (710 acres) on 23 September 2013, including 95% confidence intervals.

Year class	No.	Age 1	2	3	4	5	6	7
2012	27	5.4						
2011	23	5.8	9.7					
2010	15	6.0	10.6	13.5				
2009	3	4.6	10.1	12.3	14.6			
2007	1	6.2	10.9	13.5	15.9	17.3	18.8	
2006	1	7.3	13.2	14.7	16.7	18.8	19.6	20.2
Mean	70	5.7	10.2	13.4	15.3	18.0	19.2	20.2
Smallest		3.5	8.4	10.7	12.6	17.3	18.8	20.2
Largest		8.2	13.2	15.6	16.7	18.8	19.6	20.2
STD error		0.1	0.2	0.3	0.7	0.7	0.4	
95% CI LO		5.4	9.8	12.8	13.8	16.7	18.4	
95% CI HI		5.9	10.5	13.9	16.7	19.4	20.0	

Intercept = 0
EFDCLLAF.D13

Table 18. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected by electrofishing at Carr Creek Lake (710 acres). CPUE=fish/hr, SE=standard error.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2003	4.4	0.1	14.00	5.40	5.78	2.30	133.77*	17.49
2004	5.2	0.0	132.00	17.30	88.22	12.70	18.84	2.60
2005	4.7	0.1	15.80	6.70	5.60	1.70	21.30	6.70
2006	4.2	0.2	11.00	4.10	3.00	1.00	7.61	2.03
2007	3.7	0.5	4.98	2.24	0.99	0.65	2.43	1.16
2008	4.3	0.2	15.23	6.63	3.77	1.68	3.14	0.76
2009	3.6	0.3	12.50	2.77	3.50	1.59	9.95	2.47
2010	4.6	0.2	13.50	4.40	5.00	1.65	9.00	3.11
2011	4.6	0.1	17.60	5.66	7.20	3.03	13.19	2.56
2012	4.3	0.2	34.50	10.85	11.50	3.96	113.25	51.43
2013	4.4	0.2	14.00	4.55	4.80	1.77		

* Includes stocked fish
BBRWRCFL.D03-D05
BBRSCCFL.D03
EFDCLLSF.D06-D13
EFDCLLAS.D08
EFDCLLSS.D06-D13

Table 19. Length frequency and CPUE (fish/hr) of walleye collected at Carr Creek Lake (710 acres) during daytime spring electrofishing.

	Inch class																								
Year	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total	CPUE	SE
2000							5	28	10	6	8	2	3	3	1		1	6	4	1			78	20.80	4.60
2001							2	4	3	14	8	6	2	2	1				2				44	20.40	4.70
2002	no sample																								
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
2012								1	1	2	1	13	19	22	14	4	4	5	1				87	20.75	2.53
2013									3	2	8	11	13	16	21	9	2	2	1				88	10.67	1.43

EFDCLWSS.D00-D13

Table 20. Spring electrofishing catch rate (fish/hr) for each age of walleye collected from Carr Creek Lake (710 acres) from 2007-2013.

	Year									
Age	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1										
2	0.86	2.07	0.85	1.18	0.55	2.02	2.13	1.27	1.61	0.95
3	9.06	8.43	7.78	8.79	3.43	7.22	3.15	4.97	7.79	4.21
4	7.52	8.18	8.20	7.46	3.16	5.46	2.59	3.55	5.07	2.64
5	3.27	3.31	4.15	5.41	1.71	2.41	1.44	1.62	2.91	1.15
6	1.35	0.90	1.35	1.92	0.56	0.80	0.28	0.36	0.85	0.54
7	0.72	0.90	1.58	0.94	0.65	0.79	0.43	0.43	0.45	0.11
8	1.71	1.33	2.41	3.45	0.90	0.95	0.87	0.71	0.76	0.49
9	1.90	2.01	2.39	2.39	1.09	1.43	0.76	0.98	1.18	0.45
10	0.72	0.48	0.58	0.60	0.23	0.26	0.21	0.27	0.13	0.14

EFDCLWSS.D04-D13
EFDCLWAS.D03, D09

Table 21. Spring electrofishing population assessments for walleye at Carr Creek Lake (710 acres). Actual values are in parentheses. Scoring based on statewide assessment.

Parameter	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Population density	4	4	4	4	2	4	2	3	4	2
(Total CPUE)	(27.10)	(28.17)	(31.30)	(32.92)	(12.76)	(21.34)	(12.74)	(15.42)	(20.75)	(10.67)
Growth rate	4	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)	(19.3)	(19.3)	(19.3)	(19.3)	(19.3)
Size structure	4	4	4	4	4	4	4	4	4	4
(CPUE ≥20.0 in)	(19.50)	(18.40)	(24.80)	(20.85)	(9.28)	(11.77)	(7.75)	(9.25)	(11.93)	(6.18)
Recruitment	0	0	0	0	0	0	0	2	0	0
(CPUE <13.0 in)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.50)	(0.00)	(0.00)
Total score	12	12	12	12	10	12	9	13	12	10
Assessment rating	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Instantaneous mortality (z)	1.12	0.26	0.20	0.35	0.94	0.36	0.33	0.29	0.43	0.34
Annual mortality (A)	67.30	22.50	22.50	41.40	60.90	30.60	28.20	25.00	35.20	28.90

EFDCLWSS.D03-D13
EFDCLWAS.D03, D09

Table 22. Length frequency and CPUE (fish/hr) of crappie collected by electrofishing at Carr Creek Lake (710 acres) on 7 March 2013; numbers in parentheses are standard errors.

	Inch class												
Species	3	4	5	6	7	8	9	10	11	12	13	Total	CPUE
White crappie	1	9	33	44	55	14	10	3			1	170	85.00 (19.90)
Black crappie			8	32	21	13	6	1		1		82	16.71 (10.84)

EFDCLCSS.D13

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												Total			
	≥8.0 in				≥10.0 in				≥8.0 in		≥10.0 in					
	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
2012	3.06	1.31	11.29	9.13	1.41	0.84	0.94	0.73	14.35	9.44	2.35	1.19	8.71	3.87	16.71	12.85
2013	14.00	4.34	10.50	2.92	2.00	1.07	1.00	0.65	24.50	4.87	3.00	1.00	85.00	19.90	41.00	10.84

EFDCLCSS.D07-D13

Table 24. PSD and RSD_{10} values for black and white crappie taken in spring electrofishing samples at Carr Creek Lake (710 acres) on 7 March 2013; 95% confidence intervals are in parentheses.

Species	No. ≥5.0 in	PSD	RSD_{10}
White crappie	160	18 (+/-6)	3 (+/-3)
Black crappie	82	26 (+/-10)	2 (+/-4)

EFDCLCSS.D13

Table 25. 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 30 October 2013; 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
Coosa bass				1																	1	0.80 (0.80)
Smallmouth bass	1	2		1		2	1	2													9	7.20 (3.67)
Largemouth bass	2	6	5	1	3	4	4	7	4	2	1	6		2		1		1		1	50	40.00 (9.38)

EFDCCLSF.D13

Table 26. Mean back-calculated length (in) at each annulus for largemouth bass collected from Cranks Creek Lake (219 acres) on 30 October 2013, including 95% confidence intervals.

Year		Age								
class	No.	1	2	3	4	5	6	7	8	9
2012	10	4.2								
2011	8	5.0	7.7							
2010	5	4.9	8.1	10.0						
2009	4	4.4	8.3	10.4	11.9					
2008	4	4.6	7.9	10.2	11.8	12.9				
2005	1	6.8	11.3	13.8	15.8	16.9	18.0	18.9	19.4	
2004	1	6.0	9.2	12.0	13.0	13.9	14.9	15.5	16.2	16.5
Mean	33	4.7	8.2	10.5	12.3	13.7	16.5	17.2	17.8	16.5
Smallest		2.9	6.8	8.8	10.0	11.6	14.9	15.5	16.2	16.5
Largest		6.8	11.3	13.8	15.8	16.9	18.0	18.9	19.4	16.5
STD error		0.1	0.2	0.4	0.5	0.7	1.6	1.7	1.6	
95% CI LO		4.4	7.8	9.8	11.3	12.3	13.4	13.9	14.6	
95% CI HI		5.0	8.5	11.2	13.4	15.1	19.5	20.5	21.0	

Intercept = 0

EFDCCLAF.D13

Table 27. Indices of year class strength at age-0 and age-1 and mean lengths (in) of age-0 largemouth bass at Cranks Creek Lake (219 acres) from electrofishing. CPUE=fish/hr, SE=standard error.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
1999							44.33	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	28.00	10.68
2012	4.1	0.1	66.40	27.38	10.40	5.31	no sample	
2013	3.9	0.2	11.20	5.43	0.80	0.80		

EFDCCLSF.D01-D02, D07, D09-D13

EFDCCLAS.D08

EFDCCLSS.D00, D01, D04, D05, D08, D10-D12

Table 28. Species composition, relative abundance and CPUE (fish/hr) of black bass collected in approximately 2.5 hours of 15-minute nocturnal electrofishing samples by area at Dewey Lake (1,100 acres) on 1 May 2013. Standard errors are in parentheses.

		Inch class																					
Area	Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
Lower	Spotted bass		1	3			1	7	8	8	2	2										32	25.60 (9.85)
	Largemouth bass	1	1	13	14	3	4	34	45	33	45	45	25	14	6	7	2	2	2	1	2	299	239.20 (13.53)
Upper	Spotted bass																					0	0.00 (0.00)
	Largemouth bass			2	7	5	2	16	15	18	26	22	18	11	9	6	1	3	2			163	130.40 (16.86)
Total	Spotted bass		1	3			1	7	8	8	2	2										32	12.80 (6.30)
	Largemouth bass	1	1	15	21	8	6	50	60	51	71	67	43	25	15	13	3	5	4	1	2	462	184.80 (20.80)

EFDDLLSS.D13

Table 29. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Dewey Lake (1,100 acres). SE=standard error.

	Length group										Total	
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in			
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
1987	44.60		38.30		12.00		0.60		0.00		95.40	
1988	84.00		40.70		26.70		2.00		0.00		154.70	
1989	75.00		27.50		10.80		7.00		0.00		120.70	
1990	58.80		68.00		32.00		11.40		0.57		171.40	
1991	73.80		50.60		18.40		3.50		0.18		146.40	
1992	57.40		64.10		17.20		7.40		0.22		146.10	
1993	43.70		71.80		15.60		8.80		0.80		140.00	
1994						no sample						
1995	46.60		59.60		28.50		3.60		0.00		138.30	16.90
1996						no sample						
1997	15.30		53.30		32.30		11.00		1.00		112.00	12.20
1998	20.10		51.40		43.20		7.20		0.60		122.00	8.50
1999	78.90		34.60		39.50		12.80		0.50		165.80	12.70
2000	62.20	4.70	44.00	4.40	23.60	3.50	10.30	1.30	0.10		140.10	9.50
2001	150.10	17.20	57.80	5.70	26.90	2.70	17.80	1.60	0.60		252.60	22.80
2002						no sample						
2003	71.11	10.05	55.56	4.40	23.11	1.77	22.00	2.12	0.70		171.80	14.60
2004	96.20	11.90	34.70	3.80	20.00	3.20	17.50	2.60	1.00		168.30	13.90
2005	39.30	5.00	59.20	6.30	31.00	3.20	24.50	1.90	0.30		153.90	12.80
2006	32.30	5.70	66.40	8.60	24.20	3.60	24.90	3.60	0.70		147.80	10.00
2007	54.86	9.63	80.77	9.79	35.09	4.97	30.18	4.07	1.48	0.72	200.91	19.94
2008	87.37	10.41	86.46	9.50	21.56	3.60	16.34	3.44	0.80	0.53	211.73	12.35
2009	83.68	12.69	62.82	6.33	18.83	1.91	14.42	3.39	0.50	0.50	179.75	16.92
2010	42.58	5.91	97.99	27.59	12.30	2.75	8.28	2.03	0.00	0.00	161.16	33.02
2011						no sample						
2012	27.21	4.57	63.19	7.02	34.90	3.85	10.72	2.49	0.40	0.40	136.03	8.62
2013	20.80	3.90	92.80	14.80	54.00	3.54	17.20	1.89	1.20	0.61	184.80	20.80

EFDDLLSS.D87-D02, D06-D10, D12-D13
BBRPSDEW.D03-D05

Table 30. PSD and RSD values for each species of black bass in each area of Dewey Lake (1,100 acres) during spring 2013. Numbers in parentheses are 95% confidence intervals.

	Largemouth bass			Spotted bass		
Area	No.	PSD	RSD_{15}	No.	PSD	RSD_{14}
Lower	263	40 (+/-6)	8 (+/-3)	28	14 (+/-13)	0
Upper	147	49 (+/-8)	14 (+/-5)	0		
Total	410	43 (+/-4)	10 (+/-2)	28	14 (+/-13)	0

EFDDLLSS.D13

Table 31. Spring electrofishing catch rate (fish/hr) for each age of largemouth bass collected from Dewey Lake (1,100 acres) from 2000-2013.

	Year										
Age	2001	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013
1	125.70	61.20	79.69	24.76	27.90	48.98	49.46	55.59	16.36	19.52	15.35
2	47.10	36.60	30.14	37.57	30.20	41.33	98.64	70.75	91.97	25.34	43.72
3	34.90	17.20	12.75	20.87	21.10	27.13	31.29	25.67	34.29	56.84	69.21
4	14.30	22.10	17.83	28.16	28.40	37.19	13.68	10.68	9.41	18.01	28.64
5	16.70	11.40	9.43	15.48	13.20	14.59	8.26	6.64	3.77	9.44	13.65
6	6.50	2.10	1.91	3.10	1.70	3.15	6.95	6.17	3.78	4.22	8.70
7	2.30	7.40	5.59	7.61	8.90	9.16	0.53	1.16	0.26	0.67	0.67
8	1.80	4.40	3.21	4.76	5.70	5.00	1.33	0.83	0.53	0.39	1.87
9	1.80	8.40	6.51	10.73	9.60	12.41	1.20	2.00	0.80	1.20	1.60
10	1.00	0.33	1.00	0.39	0.30	1.48	0.00	0.00			
11		0.30	0.00	0.00	0.00	0.00	0.40	0.25			0.20
12		0.30	0.00	0.00	0.00	0.00					
13			0.26	0.44	0.40	0.50					
14					0.30	0.30					

EFDDLLSS.D06-D10, D12-13
BBRPSDEW.D00-D05
BBRSCDEW.D03
EFDDLLAS.D08

Table 32. Population assessment for largemouth bass collected from Dewey Lake (1,100 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year									
Parameter	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013
Mean length age 3 at capture	1	1	1	1	1	2	2	2	2	2
	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(11.3)	(11.3)	(11.3)	(11.3)	(11.3)
Spring CPUE age 1	4	4	2	2	3	4	4	1	1	1
	(61.20)	(79.70)	(24.80)	(27.90)	(48.98)	(49.46)	(55.59)	(16.36)	(19.52)	(15.35)
Spring CPUE 12.0-14.9 in	2	2	3	2	4	2	2	1	3	4
	(23.10)	(20.00)	(31.00)	(24.20)	(35.09)	(21.56)	(18.80)	(12.30)	(34.90)	(54.00)
Spring CPUE $\geq$15.0 in	4	3	4	4	4	3	3	2	2	3
	(22.00)	(17.50)	(24.50)	(24.90)	(30.18)	(16.34)	(14.40)	(8.28)	(10.72)	(17.20)
Spring CPUE $\geq$20.0 in	2	2	2	2	2	2	2	0	2	2
	(0.70)	(1.00)	(0.30)	(0.70)	(1.48)	(0.80)	(0.50)	(0.00)	(0.40)	(1.20)
Total score	13	12	12	11	14	13	13	6	10	12
Assessment rating	Good	Good	Good	Fair	Good	Good	Good	Poor	Fair	Good
Instantaneous mortality (z)	0.41	0.40	0.42	0.41	0.39	0.56	0.48	0.77	0.64	0.56
Annual mortality (A)	33.60	32.60	34.30	33.50	32.10	42.80	38.40	53.90	35.80	43.10

BBRPSDEW.D03-D05
EFDDLLSS.D06-D10, D12-D13
BBRSCDEW.D03
EFDDLLAS.D08

Table 33. Length-frequency and CPUE (fish/hr) of each black bass species captured during 2.5 hours of 15-minute nocturnal electrofishing runs at Dewey Lake (1,100 acres) on 16 September 2013. 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	Total	CPUE
Lower	Spotted bass	2	1	1		5	1	3	7	3	4	1								28	22.40 (5.46)
	Largemouth bass	28	14	4	1	1	2	15	2	15	24	9	8	3	1	1	1			129	103.20 (21.44)
Upper	Spotted Bass										1									1	0.80 (0.80)
	Largemouth bass	4	5		3	3	10	26	10	16	13	9	5	2	2		4		1	113	90.40 (19.21)
Total	Spotted bass	2	1	1		5	1	3	7	3	5	1								29	11.60 (4.44)
	Largemouth bass	32	19	4	4	4	12	41	12	31	37	18	13	5	3	1	5		1	242	96.80 (13.74)

EFDDLLSF.D13

Table 34. Mean back-calculated length (in) at each annulus for largemouth bass collected from Dewey Lake (1,100 acres) on 23 October 2013, including 95% confidence intervals.

Year		Age							
class	No.	1	2	3	4	5	6	7	8
2012	21	5.9							
2011	19	5.7	9.2						
2010	16	6.1	9.3	11.3					
2009	5	5.9	8.9	11.1	12.6				
2008	7	5.7	8.8	10.8	12.2	13.8			
2007	1	5.2	9.0	9.9	11.1	11.8	12.5		
2006	3	5.6	9.3	11.6	14.1	15.6	16.5	17.8	
2005	2	5.8	9.2	11.3	13.8	14.8	16.3	17.4	18.4
Mean	74	5.9	9.2	11.2	12.8	14.2	15.8	17.6	18.4
Smallest		4.3	7.4	8.6	9.6	10.7	12.5	16.8	18.0
Largest		7.7	11.1	13.4	14.3	16.1	17.6	18.8	18.8
STD error		0.1	0.1	0.2	0.3	0.5	0.7	0.3	0.4
95% CI LO		5.7	8.9	10.8	12.1	13.2	14.4	17.0	17.6
95% CI HI		6.6	9.4	11.5	13.4	15.2	17.2	18.3	19.2

Intercept = 0

EFDDLLAF.D13

Table 35. Indices of year class strength at age-0 and age-1 and mean lengths (in) of age-0 largemouth bass at Dewey Lake (1,100 acres) from electrofishing. CPUE=fish/hr, SE=standard error.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002	5.0	0.0	75.58	14.20	37.56	9.36	61.23	9.44
2003	4.9	0.1	38.89	10.64	15.11	3.79	79.69	10.46
2004	5.2	0.1	45.20	7.11	25.40	4.60	24.76	4.12
2005	4.4	0.1	58.67	16.12	16.89	6.60	27.90	5.49
2006	5.1	0.1	38.97	9.89	21.32	5.82	48.98	9.18
2007	4.8	0.1	54.28	12.82	21.15	4.23	49.46	10.04
2008	5.0	0.1	54.93	14.31	30.03	7.36	55.59	12.08
2009	5.3	0.1	45.68	8.81	28.78	5.17	16.36	3.31
2010	5.0	0.1	67.60	14.18	38.40	8.50	no sample	
2011	4.6	0.1	37.20	9.26	14.80	3.58	19.52	4.43
2012	4.4	0.1	26.00	5.31	7.20	1.67	15.35	3.37
2013	3.4	0.2	25.20	6.31	3.20	0.80		

BBRPSDEW.D03-D05
BBRDLLSF.D02
BBRWRDEW.D03-D04
BBRSCDEW.D03
EFDDLLSF.D05-D13
EFDDLLSS.D06-D10, D12-D13
EFDDLLAS.D08

Table 36. Length frequency and 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 2 May 2013; 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	23	24	Total	CPUE
Largemouth bass	1		2	12	18	13	6	7	24	24	19	9	1	5	4	3	4	3	2		1	158	180.57 (22.35)

EFDFPLSS.D13

Table 37. 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
2012												
2103	17.14	8.27	50.29	11.54	76.57	10.16	36.57	11.43	11.43	4.89	180.57	22.35

EFDFPLSS.D90-D91
EFDFPLSS.D93-D94
EFDFPLSS.D96-D01
EFDFPLSS.D04,D06, D08-D11, D13

Table 38. PSD and RSD_{15} values obtained for largemouth bass species taken in spring nocturnal electrofishing samples in Fishpond Lake (32 acres) on 2 May 2013; 95% confidence intervals are in parentheses.

No. $\geq$8.0 in	PSD	RSD_{15}
143	69 (+/-7)	22 (+/-6)

EFDFPLSS.D13

Table 39. Length frequency and CPUE (fish/hr) of black bass collected in approximately 2.0 hours of 15-minute nocturnal electrofishing samples at Fishtrap Lake (1,143 acres) on 18 September 2013; numbers in parentheses are standard errors.

		Inch class																			
Area	Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower	Smallmouth bass						1						2				1			4	4.00 (2.83)
	Spotted bass	2	4	1		1		2	2	1	1									14	14.00 (2.58)
	Largemouth bass	7	30	15	3	2	6	9	8	7	4	4	2	2				2		101	101.00 (11.12)
Upper	Smallmouth bass		1	1								2	1							5	5.00 (1.91)
	Spotted bass		4							1										5	5.00 (5.00)
	Largemouth bass	18	33	19	2	1	8	19	8	7	6	3	3	3			2	1	1	134	134.00 (42.38)
Total	Smallmouth bass		1	1			1					2	3				1			9	4.50 (1.59)
	Spotted bass	2	8	1		1		2	2	2	1									19	9.50 (3.11)
	Largemouth bass	25	63	34	5	3	14	28	16	14	10	7	5	5			2	3	1	235	117.50 (21.22)

EFDFLLSF.D13

Table 40. Indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected at Fishtrap Lake (1,143 acres).

	Age 0		Age 0		Age 0 $\geq$5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2003	5.1	0.0	106.20	32.90	59.60	15.90	35.35	6.00
2004	5.0	0.0	256.00	51.10	122.67	23.90	61.50	10.15
2005	4.5	0.1	108.00	41.30	24.00	11.10	52.49	8.75
2006	5.0	0.1	72.70	14.10	36.50	8.00	28.29	4.49
2007	5.1	0.1	114.20	23.70	63.50	11.03	38.51	12.06
2008	4.6	0.1	75.30	25.85	26.34	9.49	44.17	10.71
2009	4.8	0.1	83.33	15.09	39.33	5.41	51.55	3.17
2010	5.2	0.1	111.60	16.44	61.60	8.35	no sample	
2011	5.1	0.1	119.43	26.94	69.14	13.32	50.75	8.17
2012	5.1	0.1	72.67	24.25	38.00	12.03	no sample	
2013	4.6	0.1	63.50	16.41	19.50	5.15		

EFDFLLSF.D03-D13
EFDFLLSS.D04-D10, D12
EFDFLLAS.D04, D10

Table 41. Length frequency and CPUE (fish/nn) for white crappie collected at Fishtrap Lake (1,143 acres) in 9 net-nights on 3 December 2013. Standard errors are in parentheses.

Inch class													
3	4	5	6	7	8	9	10	11	12	13	14	Total	CPUE
18	81	12	102	326	405	131	47	26	10	2	2	1162	129.11 (29.94)

EFDFLCTF.D13

Table 42. PSD and RSD_{10} values calculated for white crappie collected in trap nets at Fishtrap Lake (1,143 acres) on 3 December 2013; 95% confidence intervals are in parentheses.

No. $\geq$stock size	PSD	RSD_{10}
1,063	59 (+/-3)	8 (+/-1)

EFDFLCTF.D13

Table 43. Mean back-calculated length (in) at each annulus for white crappie collected from Fishtrap Lake (1,143 acres) on 3 December 2013, including 95% confidence intervals.

Year		Age							
class	No.	1	2	3	4	5	6	7	8
2012	20	4.6							
2011	17	4.7	7.1						
2010	30	4.6	6.6	8.1					
2009	18	4.7	6.9	8.2	9.4				
2008	10	4.6	7.0	8.4	9.3	10.5			
2007	4	4.5	6.7	7.9	8.8	9.6	10.3		
2005	1	4.7	6.9	8.9	9.5	10.2	11.2	12.2	12.8
Mean	100	4.6	6.8	8.2	9.3	10.2	10.5	12.2	12.8
Smallest		3.7	5.4	5.8	6.9	8.8	9.4	12.2	12.8
Largest		7.8	9.0	11.9	13.2	12.8	11.5	12.2	12.8
STD error		0.1	0.1	0.1	0.2	0.3	0.5		
95% CI LO		4.5	6.7	7.9	8.9	9.6	9.5		
95% CI HI		4.7	7.0	8.4	9.7	10.8	11.5		

Intercept = 0
EFDFLCAF.D13

Table 44. Age frequency and CPUE (fish/nn) of white crappie collected by trap netting for 9 net-nights at Fishtrap Lake (1,143 acres) on 3 December 2013; 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	18	81	10										109	9	12.14 (2.91)
1			2	102	147								250	22	27.82 (5.57)
2					82	95	60	6					242	21	26.94 (7.57)
3					65	262	48	18		3			396	34	44.02 (12.91)
4					33	48		14	15	3	1		113	10	12.55 (3.44)
5							24	4	7	3	1	2	41	4	4.54 (1.16)
6								4	4	1			9	1	1.03 (0.25)
8											1		1	0	0.07 (0.07)
Total	18	81	12	102	326	405	131	47	26	10	2	2			
%	2	7	1	9	28	35	11	4	2	1					

CPUE $\geq$8.0 in (quality size) = 69.22 fish/nn

CPUE $\geq$10.0 in (preferred size) = 9.67 fish/nn

EFDFLCAF.D13

EFDFLCTF.D13

Table 45. Population assessment scores for white crappie collected from Fishtrap Lake (1,143 acres). Actual assessment values are in parentheses. Scoring based on statewide assessment.

	Year						
Parameter	2003	2005	2007	2008	2010	2011	2013
Total CPUE	4	4	2	4	4	4	4
(excluding age 0)	(100.00)	(38.90)	(6.70)	(31.89)	(27.18)	(74.86)	(116.97)
CPUE age 1	4	1	2	3	3	4	4
	(33.20)	(2.10)	(3.20)	(10.84)	(10.60)	(15.10)	(27.82)
CPUE age 0	1	4	1	4	2	4	4
	(< 0.01)	(22.50)	(2.70)	(18.78)	(3.12)	(14.00)	(12.14)
CPUE $\geq$8.0 in	4	4	2	3	3	4	4
	(15.90)	(25.90)	(2.85)	(8.83)	(10.35)	(25.14)	(69.22)
Mean length age 2 at capture	1	1	2	1	1	1	2
	(7.1)	(8.2)	(8.8)	(7.8)	(7.5)	(7.3)	(8.8)
Instantaneous mortality (z)	1.45	0.56	0.80	0.78	1.19	0.75	0.87
Annual mortality (A)	76.60	43.10	54.90	54.40	69.7	53.00	58.20
Total score	14	14	9	15	13	17	18
Assessment rating	Good	Good	Fair	Good	Good	Good	Excellent

EFDFLCTF.D03, D05, D07, D08, D10, D11, D13
EFDFLCAF.D03, D05, D07, D08, D10, D11, D13

Table 46. Length frequency and CPUE (fish/hr) of black bass collected in approximately 0.50 hours of 7.5-minute electrofishing samples on Highsplint Lake (7 acres) 30 April 2013; numbers in parentheses are standard errors.

	Inch class																
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE
Largemouth bass	1	9	7	6	9	16	30	51	39	12	4		1	1	1	187	374.00 (28.54)
Smallmouth bass																	0.00 (0.00)

EFDHSLSS.D13

Table 47. Spring electrofishing CPUE (fish/hr) for each length group of largemouth bass at Highsplint Lake (7 acres).

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		$\geq$15.0 in		$\geq$20.0 in		Total	
Year	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.	CPUE	S.E.
2012	181.33	16.22	250.67	25.44	32.00	0.00	2.67	2.67			466.67	16.22
2013	96.00	13.47	264.00	35.33	10.00	5.03	4.00	2.31			374.00	28.54

EFDHSLSS.D12-D13

Table 48. PSD and RSD_{15} values for largemouth bass in each area of Highsplint Lake (7 acres) during spring 2013. Numbers in parentheses are 95% confidence intervals.

	Largemouth bass		
Area	No.	PSD	RSD_{15}
Total	139	5	1
		(+/-4)	(+/-2)

EFDHSLSS.D13

Table 49. Length frequency and CPUE (fish/hr) of black bass collected at Martins Fork Lake (330 acres) during 1.0 hours of 15 minute nocturnal electrofishing samples on 11 September 2013; numbers in parentheses are standard errors.

	Inch class																
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	CPUE
Coosa bass				1												1	1.00 (1.00)
Smallmouth bass																0	0.80 (0.80)
Spotted bass		2	1		3	2	7	2	2			1				20	20.00 (4.90)
Largemouth bass	4	7	4	6	2	13	2	5	2	1	2		2		1	51	51.00 (2.52)

EFDMLLSF.D13

Table 50. Electrofishing indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected during 2002-2013 at Martins Fork Lake (330 acres); CPUE = fish/hr, SE = standard error.

	Age 0		Age 0		Age 0 $\geq$5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002	5.5	0.1	34.40	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	0.2	32.00	4.30	10.00	2.60	9.98	2.30
2006	4.5	0.1	38.40	14.50	11.20	3.20	10.12	3.36
2007	4.6	0.2	28.68	8.65	10.36	2.99	9.98	5.09
2008	4.4	0.2	31.87	14.27	10.33	2.72	7.17	2.93
2009	4.3	0.2	23.20	8.33	7.20	2.33	4.80	1.96
2010	5.2	0.2	40.00	11.55	26.67	9.33	11.20	3.44
2011	4.7	0.1	20.00	6.81	7.20	1.50	8.80	2.65
2012	4.8	0.2	28.80	4.63	13.60	3.92	no sample	
2013	4.0	0.2	21.00	6.61	6.00	1.15		

EFDMLLSF.D02
EFDMLLSF.D05-D13
EFDMLLSS.D03-D12
EFDMLLAS.D03, D09

Table 51. Length frequency and CPUE (fish/hr) of black bass collected in approximately 3.50 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) on 21 May 2013; numbers in parentheses are standard errors.

	Inch class																			
Species/Area	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE
Lower																				
Smallmouth bass																			0	0.00 (0.00)
Spotted bass								1											1	0.80 (0.80)
Largemouth bass		12	27	9	14	55	19	16	8	2	3	2			2				169	135.20 (14.16)
Middle																				
Smallmouth bass																			0	0.00 (0.00)
Spotted bass	1		2		1				2	1									7	5.60 (3.49)
Largemouth bass	10	15	30	17	7	18	27	12	7	3		4	1		1	1		1	154	123.20 (7.31)
Upper																				
Smallmouth bass																			0	0.00 (0.00)
Spotted bass	1	1			1	3	1	1		1									9	9.00 (6.40)
Largemouth bass	1	7	29	14	13	29	13	2	4	1		1	2	1	2	1	2		122	122.00 (16.37)
Total																				
Smallmouth bass																			0	0.00 (0.00)
Spotted bass	2	1	2		2	3	1	2	2	2									17	4.86 (2.23)
Largemouth bass	11	34	86	40	34	102	59	30	19	6	3	7	3	1	5	2	2	1	445	127.14 (6.96)

EFDPLLSS.D13

Table 52. Spring nocturnal electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Paintsville Lake (1,150 acres). SE = standard error.

	Length group											
	<8.0 in		8.0-11.9 in		12.0-14.9 in		≥15.0 in		≥20.0 in		Total	
Year	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE	CPUE	SE
1988	6.81		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
2012	63.20	10.53	61.60	6.99	9.87	1.60	2.13	0.66	1.33	0.50	136.80	14.75
2013	58.57	4.88	60.00	5.64	4.57	1.10	4.00	1.03	0.29	0.29	127.14	6.96

EFDPLLSS.D88-D13

Table 53. PSD and RSD values obtained for each black bass species taken in spring electrofishing samples in each area of Paintsville Lake (1,150 acres) on 21 May 2013; 95% confidence intervals are in parentheses; largemouth bass stock size >8.0 in and spotted bass stock size >7.0 in.

	Largemouth bass			Spotted bass		
Area	No.	PSD	RSD_{15}	No.	PSD	RSD_{14}
Lower	107	8 (+/-5)	2 (+/-2)	1	0	0
Middle	75	15 (+/-8)	5 (+/-5)	4	75 (+/-49)	0
Upper	58	17 (+/-10)	14 (+/-9)	7	14 (+/-28)	0
Total	240	13 (+/-5)	6 (+/-3)	12	33 (+/-28)	0

EFDPLLSS.D13

Table 54. 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	2012	2013
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	54.76	45.93
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	52.66	59.96
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	12.66	8.63
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	13.38	8.41
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	0.37	0.21
6	1.70	2.80	2.50	1.28	1.10	1.90	0.66	0.43	0.40		0.44	0.86	0.00	0.86
7				0.31		0.40						1.14	0.27	2.00

EFDPLLSS.D00-D13
EFDPLLAS.D03
EFDPLLAS.D06
EFDPLLAS.D11

Table 55. Spring nocturnal electrofishing population assessment for largemouth bass collected in Paintsville Lake (1,150 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year											
Parameter	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Mean length age-3 at capture	2	2	2	2	3	3	3	3	3	1	1	1
	(11.4)	(11.4)	(11.4)	(11.4)	(11.7)	(11.7)	(11.7)	(11.7)	(11.7)	(10.6)	(10.6)	(10.6)
Spring CPUE age 1	3	4	4	4	3	3	4	2	4	2	3	3
	(41.20)	(95.18)	(61.44)	(75.60)	(43.52)	(43.97)	(51.50)	(35.64)	(58.13)	(35.59)	(45.76)	(45.93)
Spring CPUE 12.0-14.9 in	4	2	2	4	1	1	1	1	1	1	1	1
	(36.00)	(19.67)	(17.00)	(35.10)	(13.60)	(11.11)	(9.84)	(6.20)	(13.33)	(9.43)	(9.87)	(4.57)
Spring CPUE $\geq$15.0 in	1	1	1	2	1	2	1	1	2	1	1	1
	(2.20)	(3.00)	(2.00)	(6.20)	(2.64)	(6.53)	(3.96)	(2.33)	(5.60)	(3.71)	(2.13)	(4.00)
Spring CPUE $\geq$20.0 in	0	2	0	2	0	0	2	0	3	2	2	2
	(0.00)	(0.31)	(0.00)	(0.44)	(0.00)	(0.00)	(0.39)	(0.00)	(1.87)	(1.14)	(1.33)	(0.29)
Total score	10	11	9	14	8	9	11	7	13	7	8	8
Assessment rating	Fair	Fair	Fair	Good	Fair	Fair	Fair	Poor	Good	Poor	Fair	Fair
Instantaneous mortality (z)	0.83	0.95	1.15	1.10	1.02	1.16	1.17	1.12	1.18	0.57	0.77	0.78
Annual mortality (A)	56.50	61.30	68.20	66.60	63.80	68.60	69.10	67.40	69.40	83.70	53.80	54.10

EFDPLLSS.D02-D13
EFDPLLAS.D03, D06, D11

Table 56. Length frequency and CPUE (fish/hr) of black bass collected in 3.75 hours of 15-minute nocturnal electrofishing samples in Paintsville Lake (1,150 acres) 9 October 2013; numbers in parentheses are standard errors.

Area/	Inch class																					
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	CPUE
Lower																						
Smallmouth bass							1														1	0.80 (0.80)
Spotted bass		2			1									1							4	3.20 (2.33)
Largemouth bass	10	46	51	26	3	10	21	29	18	11	2						1				228	182.40 (33.34)
Middle																						
Smallmouth bass																					0	0.00 (0.00)
Spotted bass	3	3	2		3			1				1									13	10.40 (2.71)
Largemouth bass	9	57	57	11	2	12	17	7	7	3	3	2	1								188	150.40 (17.78)
Upper																						
Smallmouth bass							1														1	0.80 (0.80)
Spotted bass				1	4	1	2	2				1									11	8.80 (2.94)
Largemouth bass	31	67	51	11	7	38	42	8	8	4	5	1	3							1	277	221.60 (37.02)
Total																						
Smallmouth bass							2														2	0.53 (0.36)
Spotted bass	3	5	2	1	8	1	2	3				2		1							28	7.47 (1.65)
Largemouth bass	50	170	159	48	12	60	80	44	33	18	10	3	4				1			1	693	184.80 (18.08)

EFDPLLSF.D13

Table 57. Nocturnal electrofishing indices of year class strength at age-0 and age-1 and mean lengths (in) of largemouth bass collected at Paintsville Lake (1,150 acres); CPUE = fish/hr.

	Age 0		Age 0		Age 0 ≥5.0 in		Age 1	
Year class	Mean length	SE	CPUE	SE	CPUE	SE	CPUE	SE
2002							95.18	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	54.76	9.52
2012	5.0	0.1	58.13	10.59	32.27	7.25	45.93	4.57
2013	4.9	0.0	111.73	13.81	53.07	4.96		

EFDPLLSF.D03-D13
EFDPLLSS.D02-D13
EFDPLLAS.D03, D06, D11

Table 58. Length frequency and electrofishing CPUE (fish/hr) of largemouth bass collected at Pan Bowl Lake (98 acres) during 1.0 hour of 7.5 minute daytime runs on 7 May 2013; numbers in parentheses are standard errors.

Inch class																			
4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE
17	30	3	4	43	61	22	9	6	1	1	1						1	199	199.00 (12.96)

EFDPBLSS.D13

Table 59. Spring daytime electrofishing CPUE (fish/hr) for each length group of largemouth bass collected at Pan Bowl Lake (98 acres). Nocturnal electrofishing was used in 1992-2000. 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
2012	37.00	10.68	81.00	13.89	3.00	2.10	2.00	2.00	1.00	1.00	123.00	21.85
2013	54.00	8.38	135.00	12.96	8.00	2.62	2.00	1.31	1.00	1.00	199.00	12.96

EFDPBLSS.D03-D13

Table 60. PSD and RSD_{15} values for largemouth bass taken in spring electrofishing samples in Pan Bowl Lake (98 acres) on 2 May 2013; 95% confidence intervals are in parentheses.

No.	PSD	RSD_{15}
145	7	1
	(+/-4)	(+/-2)

EFDPBLSS.D13

Table 61. Spring electrofishing CPUE (fish/hr) for each age of largemouth bass collected from Pan Bowl Lake (98 acres) from 2003-2013.

	Year								
Age	2003	2005	2007	2008	2009	2010	2011	2012	2013
1	19.20	3.42	72.00	17.00	43.86	51.00	95.00	16.00	50.00
2	32.00	53.68	92.11	51.40	54.42	69.60	44.00	56.80	95.80
3	15.38	14.77	45.03	32.91	46.02	35.71	45.46	27.86	32.37
4	10.05	7.5	30.29	21.83	25.81	19.33	26.11	16.41	12.54
5	10.30	10.09	14.10	13.86	9.69	7.36	9.43	4.26	5.29
6	10.40	6.84	4.57	6.50	3.45	2.00	4.00	0.00	1.00
7	2.53	3.56	4.95	2.50	2.16	1.00		0.33	0.00
8	5.60	3.42	8.00	7.00	0.90	2.00		1.00	1.00
9	1.73	2.71	4.38	2.50	1.92	1.00		0.33	

EFDPBLSS.D03, D05, D07-D13
EFDPBLAS.D07

Table 62. Population assessment for largemouth bass collected during spring at Pan Bowl Lake (98 acres). Actual values are in parentheses. Scoring based on statewide assessment.

	Year								
Parameter	2003	2005	2007	2008	2009	2010	2011	2012	2013
Mean length age 3 at capture	2	2	2	2	2	2	2	2	2
	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)
Spring CPUE age 1	2	1	3	2	2	3	4	2	3
	(19.20)	(3.42)	(72.00)	(17.00)	(43.86)	(51.00)	(95.00)	(16.00)	(50.00)
Spring CPUE 12.0-14.9 in	1	1	1	2	1	1	1	1	1
	(12.00)	(9.40)	(12.60)	(21.50)	(11.22)	(7.00)	(11.00)	(3.00)	(8.00)
Spring CPUE $\geq$ 15.0 in	3	3	3	3	2	2	2	1	1
	(25.60)	(18.00)	(22.86)	(18.00)	(8.43)	(10.00)	(4.00)	(2.00)	(2.00)
Spring CPUE $\geq$ 20.0 in	3	2	4	4	3	3	2	2	2
	(3.20)	(1.80)	(6.86)	(7.00)	(2.87)	(2.00)	(1.00)	(1.00)	(1.00)
Total score	11	9	13	13	10	11	11	8	9
Assessment rating	Fair	Fair	Good	Good	Fair	Fair	Fair	Fair	Fair
Instantaneous mortality (z)	0.36	0.37	0.43	0.42	0.62	0.65	0.54	0.58	0.74
Annual mortality (A)	30.30	31.20	35.20	34.10	46.10	47.60	41.90	44.30	52.10

EFDPBLSS.D03, D05, D07-D13
EFDPBLAS.D07

Table 63. Length frequency and nocturnal electrofishing CPUE (fish/hr) of black bass collected at Yatesville Lake (2,280 acres) during 2.0 hours of 15-minute samples on 24 September 2013; 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
Lower																				
Spotted bass	1	14	10	4	2	3	1	6		1				1					43	34.40 (15.10)
Largemouth bass		1	15	17	7	8	22	9	12	8	4	2	2	2		1		2	112	89.60 (22.96)
Upper																				
Spotted bass			3		1		1		1			1							7	5.60 (5.60)
Largemouth bass	1	5	13	33	7	16	33	24	17	8	8	7	2	4	3		2		183	146.40 (21.56)
Total																				
Spotted bass	1	14	13	4	3	3	2	6	1	1		1		1					50	20.00 (8.98)
Largemouth bass	1	6	28	50	14	24	55	33	29	16	12	9	4	6	3	1	2	2	295	118.00 (17.61)

EFDYLLSF.13

Table 64. Fall electrofishing indices of year class strength at age 0 and age 1 and mean lengths (in) of largemouth bass collected during 2003 - 2013 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	19.42	2.48
2012	5.0	0.1	82.86	19.99	45.14	10.06	no sample	
2013	5.2	0.1	39.60	5.76	25.60	4.96		

EFDYLLSS.D03-D10, D12
EFDYLLSF.D03-D13
EFDYLLAS.D05, D06, D12