



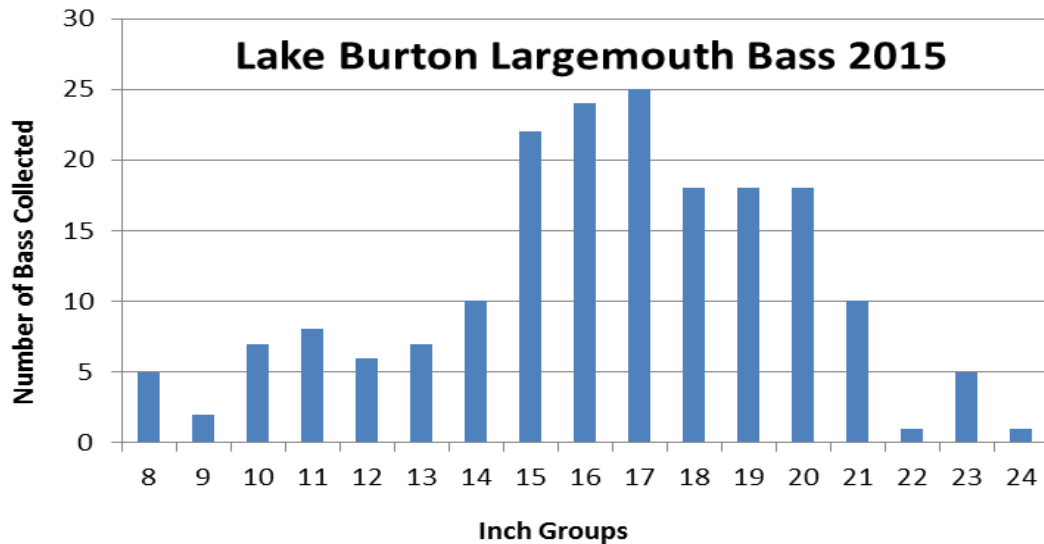
Lake Burton 2016 Management Report



Lake Burton is a 76-acre impoundment located in Pittsylvania County, Virginia. This reservoir is owned by the Virginia Department of Game and Inland Fisheries and is managed primarily for fisheries related activities. The only facilities available at this reservoir are a boat ramp and associated parking. Bank fishing is allowed and there is a narrow strip of land that extends around the entire shoreline that can be utilized by bank anglers. The lake is open to fishing 24 hours a day. Outboard motors are prohibited but electric motor use is permitted.

The reservoir was impounded in 1950 and was stocked with various species of sportfish such as largemouth bass, bluegill, and catfish. Lake Burton is an impoundment of Tomahawk Creek and contains a number of fish species that were not originally stocked. These species were either in Tomahawk Creek prior to impoundment or were stocked by anglers. Carp, suckers, and gizzard shad are present and have caused management challenges. Small impoundments such as Lake Burton typically do not benefit from these species because they cause the sport fish populations to become unbalanced. Carp and suckers tend to keep water muddy while gizzard shad contribute to stunted sunfish populations.

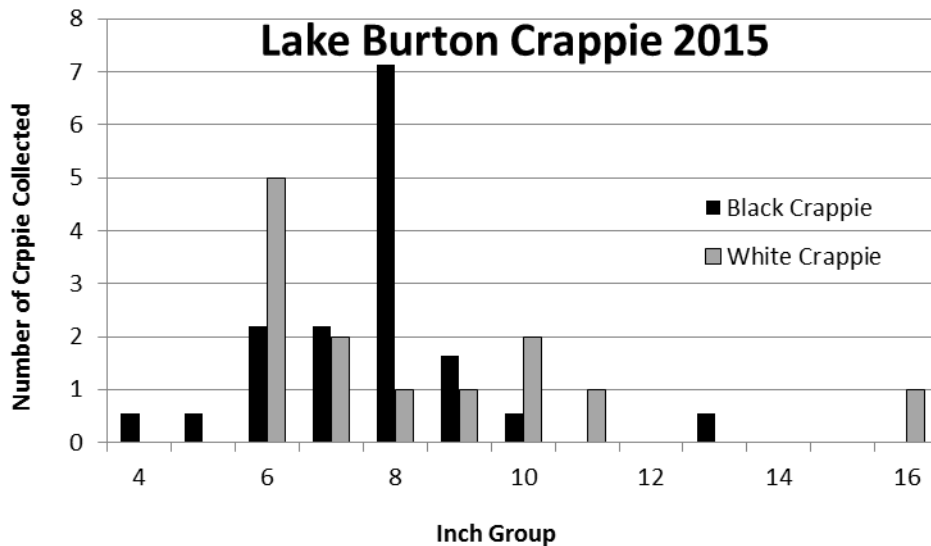
Overall largemouth bass abundance is lower than most small lakes due to poor recruitment but maintains a much higher number of bass over 18 inches than other lakes of similar size and supports one of Virginia's best trophy bass fisheries. The abundance of crappie, bluegill, and carp may be limiting spawning success and survival of young largemouth bass. However the surviving largemouth bass experience very good growth rates from the abundance of forage. The average size of adult bass has recently increased averaging 17 inches with the largest bass reaching 9 pounds. Largemouth bass are most abundant in the lower lake where water depths are generally more favorable.



Lake Burton is regulated with a ‘trophy’ largemouth bass regulation. This largemouth bass regulation was initiated in February of 2007 and prohibits creeling any size largemouth bass. The regulation is an attempt to maintain the trophy bass population by protecting the limited number of fast growing largemouth bass in the population. Lake Burton was stocked for several years with Florida x Northern strain of largemouth bass on an experimental basis since reproduction had been very poor for many years. Prior to the stocking, the bass were already a genetic mix of Florida and Northern bass so the stocking was closely matching bass that were already in the lake. Eliminating the harvest of largemouth bass, especially larger adults, is necessary to maintain this trophy fishery.

Although the total number of larger bass is not high when compared to some much larger lakes, these are very good numbers for this size lake. If anglers only harvest a small number of these big fish from this lake, it could easily prohibit this lake from maintaining a trophy population.

White and black crappie are both present at Lake Burton. White crappie were the dominant species probably due to the turbid water that had been typical during the spring and is preferred by white crappie for optimal reproduction. However, black crappie are now more prevalent possibly due to more recent clearer water in the spring which favors black crappie reproduction over white crappie. Both species generally experienced very poor growth. For good growth, crappie must convert primarily to a fish diet by the time they reach 6-7 inches. Since these fish appeared to be too abundant, their growth stopped when they reached approximately seven inches. It is very common for crappie to be overabundant and stop growing at this size. When this happens they do not die from lack of food, they just stop growing. Occasionally large crappie are caught but this is the exception with most crappie hovering around 8 inches. However, the number of crappie have been declining and the general size structure has been improving and showing signs of developing into a much better fishery.



Bluegill are abundant and experience slow growth. The overabundant bluegill population is a result of insufficient predation by largemouth bass which also utilize

gizzard shad as forage. Adequate predation from largemouth bass is needed to maintain a healthy and faster growing sunfish population. In addition, gizzard shad and carp do compete directly for the same forage as bluegill. Most bluegill at Lake Burton do not exceed 6 inches.

Turbid water and an abundance of undesirable fish species have resulted in an unbalanced fishery but has provided excellent bass growth and the fish populations are much more balanced in recent years. The overcrowded sunfish population is not desirable for sunfish enthusiasts but is desirable to sustain good bass growth. The highlight of this fishery is the high number of largemouth bass over 18 inches. However, these fish may be hard to catch due to the large quantity of forage.

This reservoir is located west of Chatham and can be accessed by taking one of two routes. From Rt. 40; turn left onto Rt. 799, turn right onto 649 in Climax, turn left onto Rt. 750, turn right onto Rt. 800, and the lake entrance will be on your left. Coming in on Rt. 57 from Climax; turn right onto Rt. 750, turn left onto Rt. 800 and the lake entrance will be on your left.

Methods

- Four runs totaling 1.82 hours (entire shoreline) of daytime, boat electrofishing were completed on 4/13/15 for community assessment and largemouth bass population dynamics information. Water temperature was 19° C.

Lake Burton Key Findings

- The trophy bass management at Lake Burton was initially promoted beginning in 2011 to inform anglers of the fishery and opportunities at this lake. A future creel survey (scheduled for 2016) should provide some insight as to the popularity of the new management and if it has attracted additional anglers. A creel survey was conducted in 2007 to determine angler effort prior to the new trophy bass management
- Stock indices for largemouth bass were very good and have been stable since 2011. In addition, there have been more bass collected that are at least 23 inches in the 2014 and 2015 than ever before indicating trophy management at this lake is working. Only two bass have ever been collected that were at least 23 inches before 2014 but two were collected in 2014 and six in 2015. Of the eight that have been collected the past two years, seven of those were stocked F1-LMB.
- Historically, “Young” (0-190 mm) largemouth bass collected in spring samples indicated consistent poor recruitment. With the F1-LMB stocking in 2004-2006, YOY bass numbers increased but declined to pre stocking levels by 2010 and remains low. Poor recruitment reduces the chances of bass overcrowding that typically occurs in small impoundments with strict harvest regulations and benefits the trophy management regulations.
- Spring electrofishing sampling showed F1-LMB comprise a significant portion of the largest adult bass. In 2015; F1-LMB comprised 13%, 20% and 71% of all bass sampled ≥ 18 ”, ≥ 20 ”, ≥ 22 ” respectively. Percent contribution of F1-LMB peaked by 2012 and has been declining with the exception of bass ≥ 22 “.
- Lake Burton is currently managed as a trophy LMB fishery. F1-LMB stockings did produce slightly larger bass in 2015 than any previous collected but it is uncertain how much longer these fish will persist (currently ages 9-11). One of the objectives for experimenting with F1-LMB stockings was to determine if it was possible to produce bass that would more consistently achieve sizes ≥ 8 pounds and more specifically, exceed 10 pounds in Virginia small impoundments which typically “top out” at ≈ 8 ponds. To date, it does not appear that stocking F1-LMB in Virginia will consistently produce bass that will achieve at least 10 pounds, even in systems like Lake Burton that have near optimum conditions for good growth and longevity. However, stocking F1-LMB may provide modest improvements in the number of bass that achieve 8-10 pounds.

- White crappie historically dominated the crappie population, been overabundant, and experienced poor growth. However, catch rates continue to decline from a high of 167 fish/hr in 2005 to 7/hr in 2015. In addition, size indices have been improving since 2012.
- Black crappie numbers at this reservoir have increased and now exceed the white crappie population. Stock indices for black crappie have also improved, primarily since 2010. Improving water quality in the reservoir, specifically a reduction of suspended solids, may be trending more favorably for black crappie reproduction and growth.
- The decline in white crappie CPUE and continued low black crappie CPUE is probably due, in part, to increased adult largemouth bass densities and additional predation of crappie by largemouth bass. Combined CPUE for crappie (black and white) declined from 178 fish/hr in 2005 to 22 fish/hr in 2015.
- Efforts to maintain low numbers of common carp at Lake Burton continues to provide much better water clarity than historically observed prior to removal efforts.

Management Recommendations

- Continue monitoring the black bass population, especially the F1-LMB for contributions to the overall population and production of a trophy fishery.
- Monitor all other species to track any changes and to monitor bass forage. It is important to maintain high forage levels for the bass to maximize growth and achieve “Trophy” potential.
- Continue to remove undesirable species (carp, suckers) when collected to maintain better water clarity and reduced suspended solids.
- Conduct a future seasonal creel survey during the spring to evaluate trophy bass management at Lake Burton.
- Consider restocking F1-LMB in 2018 to augment low reproduction and sustain quality fishing opportunities.