

Great Creek Lake – 2016

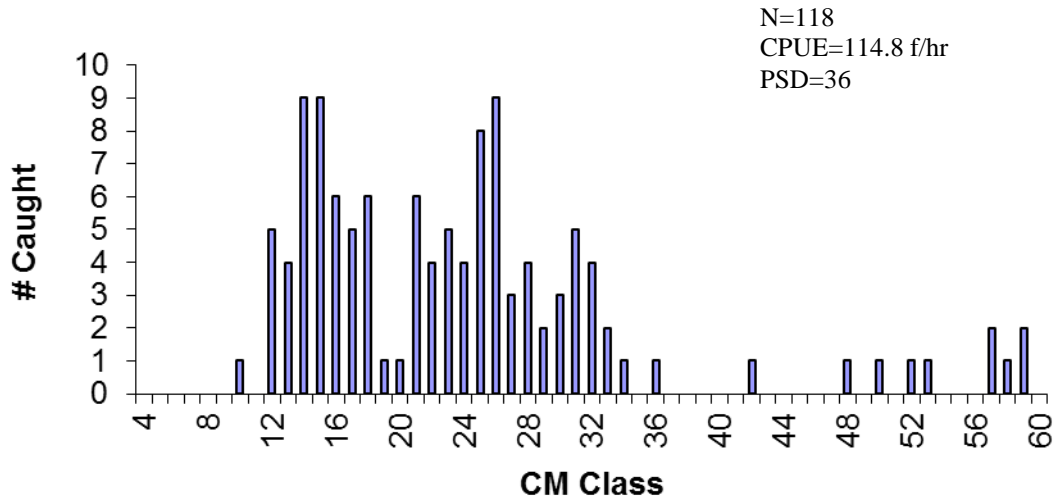


Figure 1. Length-frequency distribution for Largemouth Bass collected by electrofishing Great Creek Lake in April 2015.

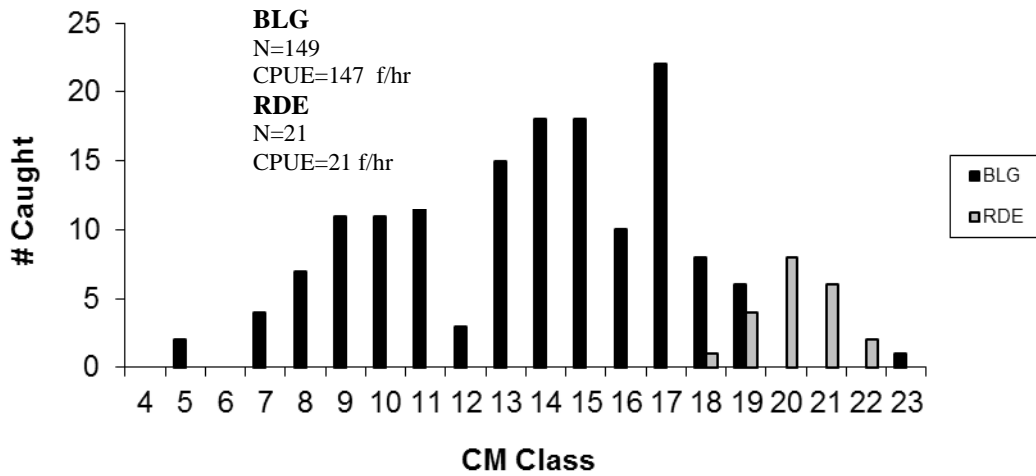


Figure 2. Length-frequency distribution for Bluegill and Redear Sunfish collected by electrofishing Great Creek Lake in April 2015.

Table 1. Electrofishing CPUE (#/hr) data collected from springtime electrofishing at Great Creek Lake.

Species	Year	Effort	Young	Stock	Quality	Prefer	Mem	Total
LMB			(0-19cm)	(20-29cm)	(30-37cm)	(38-50cm)	(≥51cm)	
	2015	3637	45.5	45.5	15.8	3.0	4.9	114.8
	2009	3600	108	60	9	10	3	190
	2005	3676	68.6	17.6	12.7	12.7	2.0	113.6
BLG			(0-7cm)	(8-14cm)	(15-19cm)	(20-24cm)	(≥25cm)	
	2015	3637	6	77	63	1	0	147
	2009	1200	18	228	27	0	0	294
	2005	842	86	346	4	0	0	436
RDE			(0-9cm)	(10-17cm)	(18-22cm)	(23-27cm)	(≥28cm)	
	2014	3637	0	0	21	0	0	21
	2009	1200	21	63	0	0	0	84
	2005	842	9	34	4	0	0	47

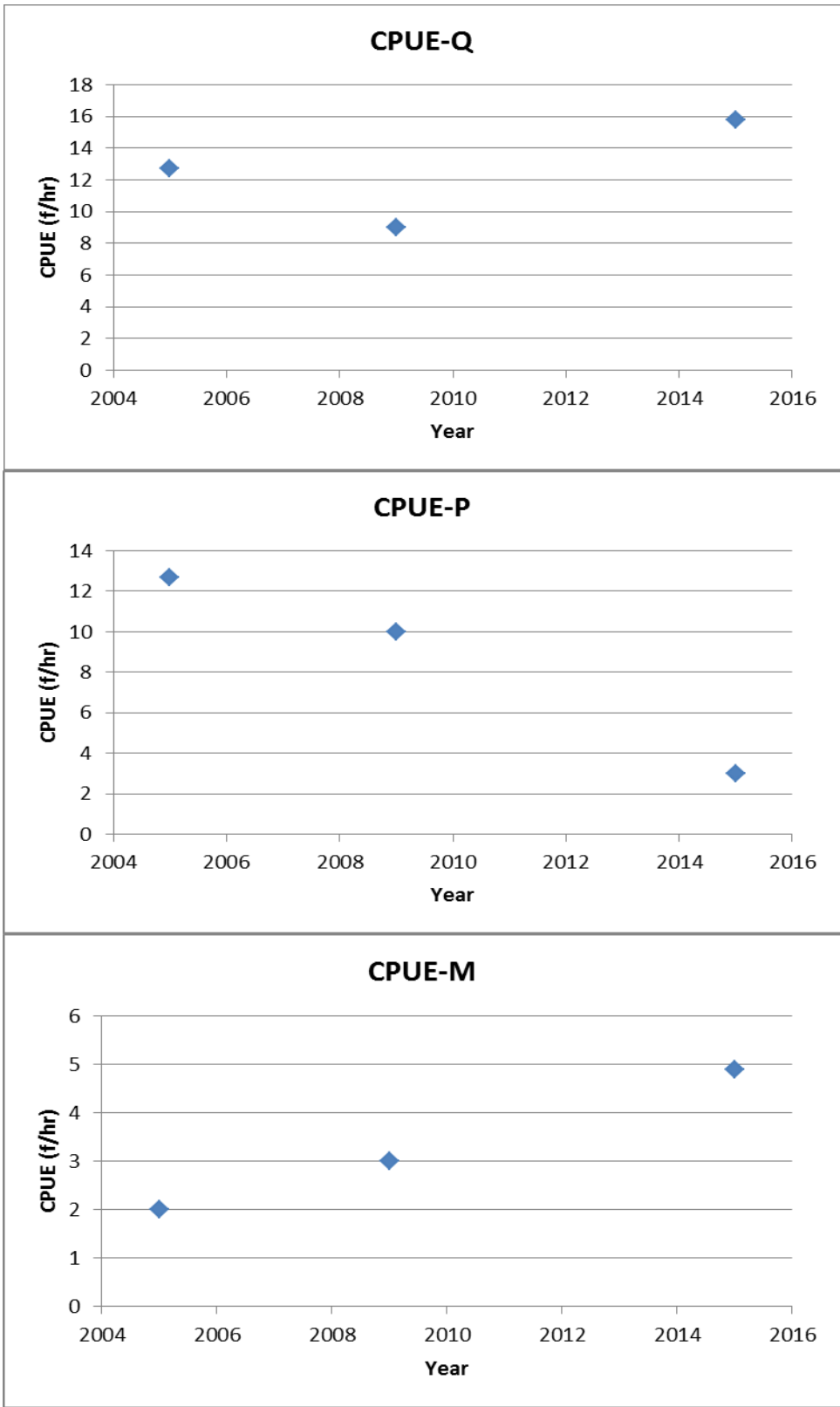


Figure 3. Largemouth Bass stock indices for Great Creek Lake.

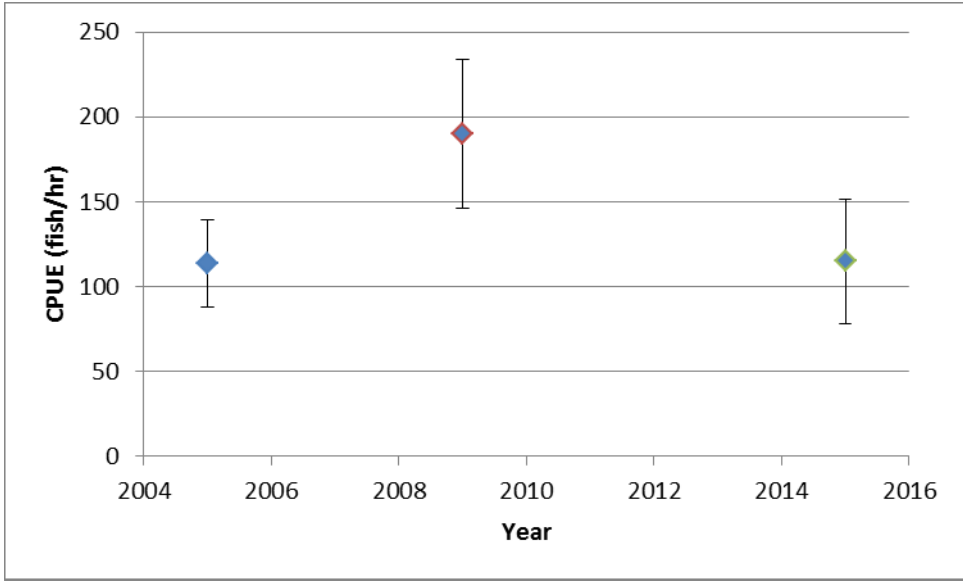


Figure 4. Largemouth Bass total CPUE collected at Great Creek Lake. Lines are 90% confidence intervals.

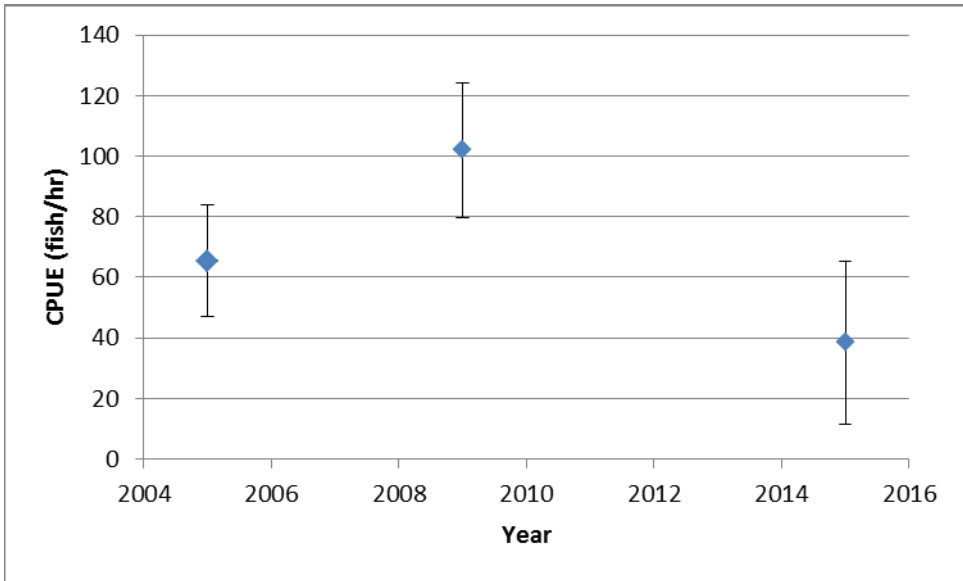


Figure 5. Age-1 Largemouth Bass CPUE collected at Great Creek Lake. Lines are 90% confidence intervals.

Table 2. Proportional and relative stock indices for Largemouth Bass, Redear Sunfish, and Bluegill collected during springtime electrofishing in Great Creek Lake.

Species	Year	PSD	RSD(P)	RSD(M)
LMB	2015	36	14	10
	2009	27	16	4
	2005	61	33	4
BLG	2015	45	1	0
	2009	11	0	0
	2005	1	0	0
RDE	2015	100	0	0
	2009	0	0	0
	2005	11	0	0

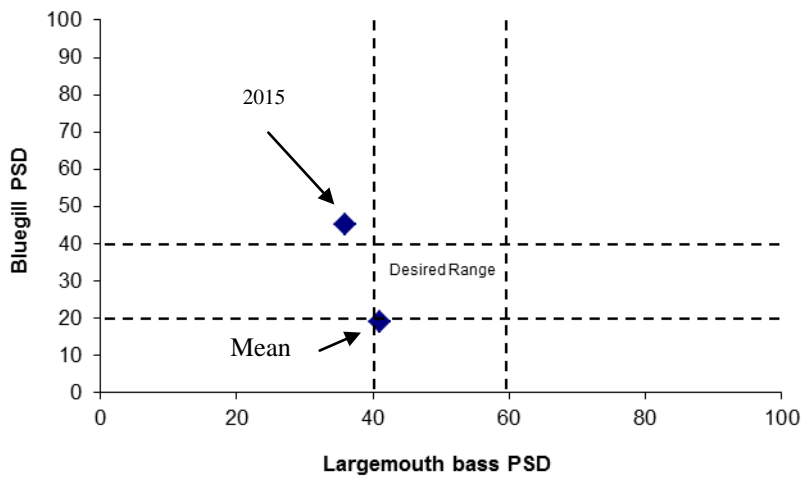


Figure 3. Largemouth Bass/Bluegill PSD relationship based on April 2015 electroshocking surveys at Great Creek Lake.

Methods

- Four runs (1.01 hrs) of daytime, boat electrofishing were completed on 8 April 2014 for community assessment and Largemouth Bass population dynamics information. Community assessment was performed on all runs. Water temperature was 17° C.

Key Findings

- The Largemouth Bass size distribution at Great Creek Lake was similar to previous years with most bass in the population in the smaller size ranges. Bass up to 591 mm (23+ inches) were sampled in 2015 though. Nine bass over 480 mm (19 inches) were measured with all but one of the nine greater than 2.3 kg (5 lbs). Most of the larger bass were sampled from newly installed hinge tree habitats.
- Relative abundance was lower than that observed in our last sample (2009) but almost identical to the 2005 survey with a CPUE of 114.8 f/hr. CPUE-P was lower than desired with a relative abundance of Preferred bass of 3 f/hr but CPUE-M was higher than previously observed with a value of 4.9 f/hr.
- Size indice trends are useful only as a visual tool since there are only three samples to compare. CPUE-Q remains stable while CPUE-P seems to be declining since 2005. CPUE-M shows an overall inclining trend in the three sample years. Additional field collections will help tighten these relationships.
- Recruitment trends are also hard to predict based on the small sample size (n=3) but the 2015 recruitment (measured by age-1 CPUE) was lower than previous sample years. Age-1 CPUE was very high in 2009 with a CPUE of over 100 f/hr while age-1 CPUE in 2015 was only 38.5 f/hr.
- Largemouth Bass size structure indices for Great Creek Lake were at desirable levels in 2015 with a PSD of 36. RSD-P was lower than desired and reflects the low density of Preferred sized bass in the 2015 sample. RSD-M was excellent with a value of 10 and was much higher than previously observed in 2005 or 2009.
- Bluegill and Redear Sunfish relative abundance was lower than observed in previous samples with a CPUE of 147 Bluegill/hour and 21 redear/hour. Both populations were dominated by sunfish in the intermediate size ranges with very few small or large fish sampled. Only one Bluegill greater than 200 mm was sampled while 76% of redear were 200 mm (8 inches) or above.
- PSD was high for Bluegill with a value of 45. This reflects the high proportion of Quality size fish in the population. RSD-P was only 1 for Great Creek Bluegill. PSD was 100 for Redear Sunfish as all fish sampled were in the Quality size range (180-230 mm).

Management Recommendations

- Monitor Largemouth Bass population density and size structure every three years to track any changes in the populations of bass and sunfish.
- Continue to stock 10 Channel Catfish per acre annually to maintain the fishery.
- Continue to monitor Hydrilla infestation for signs of re-emergence after triploid Grass Carp stocking in 2013.

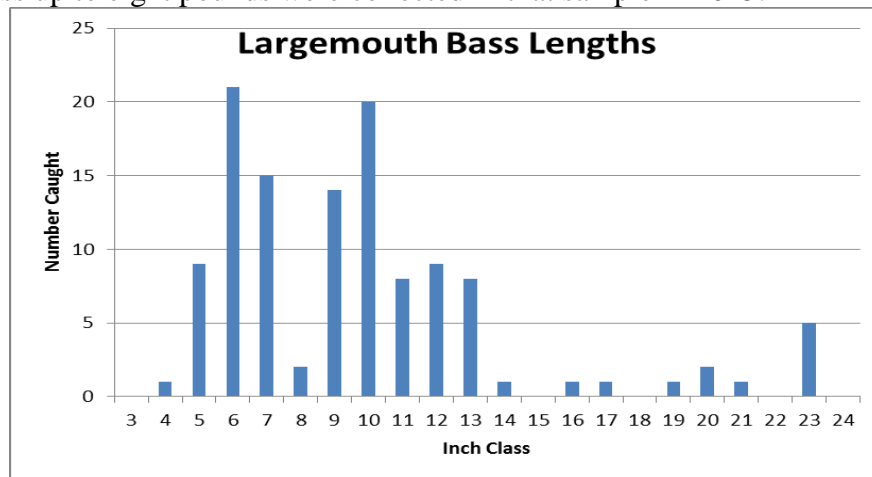


Great Creek Lake 2016

Great Creek Lake is a 212-acre impoundment in Brunswick County, Virginia. The lake is owned by Brunswick County and serves as a drinking water supply and flood control reservoir for the surrounding area. Fisheries management is provided by the Virginia Department of Game and Inland Fisheries (VDGIF). Great Creek Lake is located in Lawrenceville, Virginia and offers anglers great fishing opportunities in a picturesque, rural setting. Gasoline engines are not allowed at Great Creek but electric motors can get you to most areas on this reservoir (two batteries would be a wise move!). Habitat in the lake consists of hinge tree fish attractors placed by VDGIF, other natural woody debris and some aquatic vegetation. Grass Carp were stocked to control the spread of the exotic, invasive species Hydrilla. Other prohibited activities at Great Creek Lake include swimming, open-air fires, trotlines, fishing tournaments involving prizes, littering, waterfowl hunting, camping, and seining.

Anglers fishing Great Creek are likely to catch Largemouth Bass, Channel Catfish, Bluegill, Redear Sunfish (AKA shellcracker), Chain Pickerel, and Black Crappie. Largemouth Bass harvest is regulated with a 14-18 inch slot limit (all bass from 14-18 inches cannot be retained) and a five bass per day bag limit. All other fish species are regulated by statewide limits.

The Largemouth Bass fishery at Great Creek Lake has remained consistently good over the years. Based on spring electrofishing samples, Largemouth Bass are fairly abundant and in good condition. Largemouth Bass size structure is excellent and citation-size bass are caught each year. While sampling in 2015, biologists collected nine Largemouth Bass longer than 18 inches with several greater than 5 pounds in just one hour of sampling effort. Bass up to eight pounds were collected in that sample in 2015.



Bluegill, Redear Sunfish, and crappie are common in Great Creek Lake with Bluegill being the most abundant of the panfish species. Redear Sunfish tend to be larger than Bluegill but shellcracker densities were low in 2015. Anglers can expect to catch bluegill and redear up to 8 inches and crappie up to 14 inches. Crappie are not numerous but several fish over 10 inches were sampled in the 2015 DGIF electrofishing survey. Beginning in late April, anglers should be able to catch a lot of fish as they begin to move into shallow water to spawn.

In addition to these species, the VDGIF stocks approximately 2100, 10-inch Channel Catfish every year. Natural reproduction in small lakes is generally insufficient to support a viable population so the population is supplemented through annual stockings. Fishing is generally better for catfish during the summer and at night.

The access road to Great Creek Lake is located off Route 46, approximately one mile north of the Town of Lawrenceville, across from James Solomon Junior High School.