

The Non-Tidal James River 2016



49 inch Muskie collected from the James River near Eagle Rock.

Upper James River

Beginning at the confluence of the Jackson and Cowpasture Rivers near Iron Gate, the upper James River flows approximately 90 miles downstream to the city of Lynchburg. Smallmouth bass, muskie, catfish, rock bass and other sunfish species provide diverse fishing opportunities to anglers on the upper James River. To evaluate the fish community, the Virginia Department of Game and Inland Fisheries collected fish using an electrofishing boat at seven sites from Iron Gate to Monacan Park. Smallmouth bass, the most popular sport fish anglers seek, were the most abundant species collected in fall sampling. In 2015, 780 Smallmouth bass, ranging from 3 to 20 inches, were collected (Figure 1). Juvenile smallmouth bass (individuals less than 7 inches) made up 35% of all the smallmouth bass collected. The majority of adult smallmouth bass collected were between 7 and 14 inches. Approximately 25% of adult smallmouth bass collected were between 14 and 22 inches and thus protected under the current slot limit regulations. The abundance of bass in the protected slot size should provide great opportunities to catch quality-size smallmouth bass in 2016. For a quick fish regulation guide for common species occurring in the non-tidal James River see Table 1 at the end of this report.

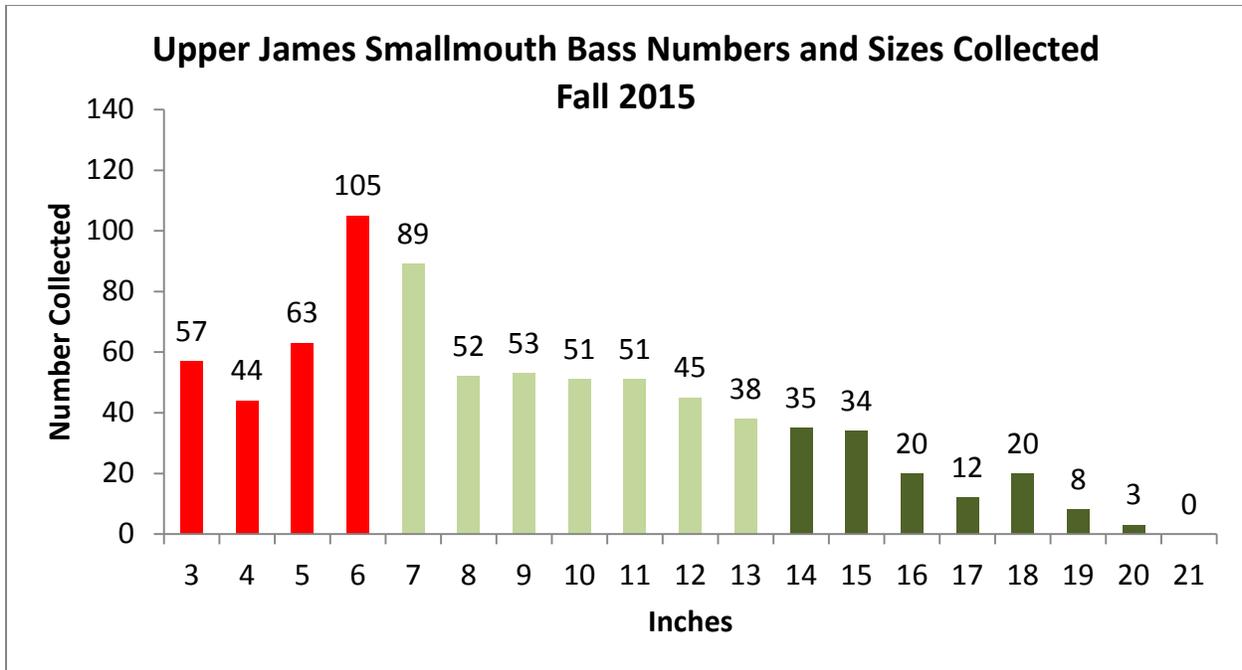


Figure 1. Smallmouth bass collected from Lick Run to Lynchburg in fall 2015. Juvenile Smallmouth bass (less than 7 inches) are represented with red bars, while adult Smallmouth bass are shown with green bars. Current regulations protect Smallmouth bass between 14 and 22 inches (dark green bars).

After collecting fish with electrofishing equipment, catch rates are calculated in terms of fish per hour. Catch rates of adult smallmouth bass in 2015 averaged 58 per hour (Figure 2). This is greater than the long-term (1991-2015) average catch rate of 41 per hour.

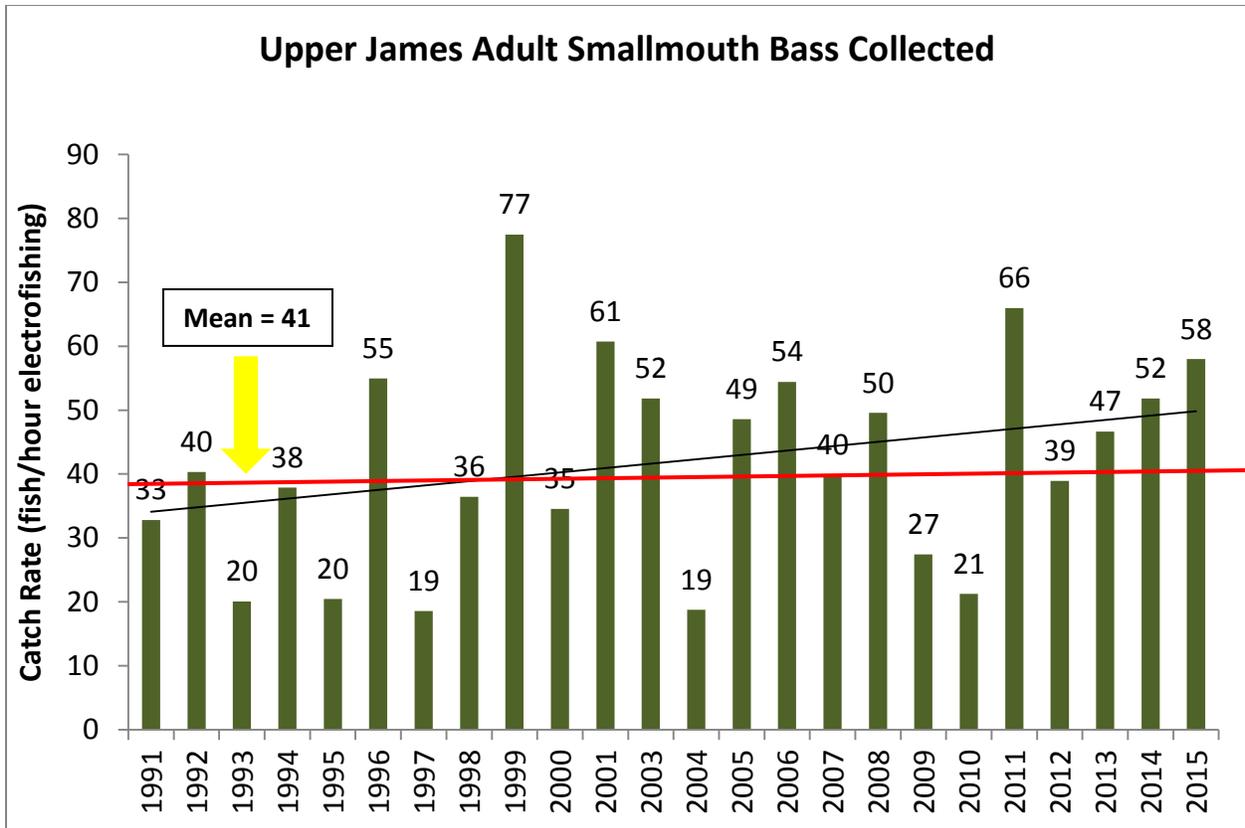


Figure 2. Annual catch of adult smallmouth bass from 1991-2015 in the upper James River.

The fluctuation in catch rates over time is likely due to young-of-the-year (YOY) survival in previous years. In the upper James River, smallmouth bass less than 6 inches in the fall are considered YOY; meaning those individuals were born in the spring of that year. YOY survival appears to be best in years with moderate June river flows and worst with high or low flows during June. Since 1991, YOY catch rates have varied from 9 to 59 fish per hour, with an average of 27 fish per hour (Figure 3.) In 2015, YOY catch rates were below the long-term average, with only 17 fish per hour. Although YOY catch rates were low in 2015, the above-average YOY survival in 2014 will help sustain smallmouth bass abundance into the future.

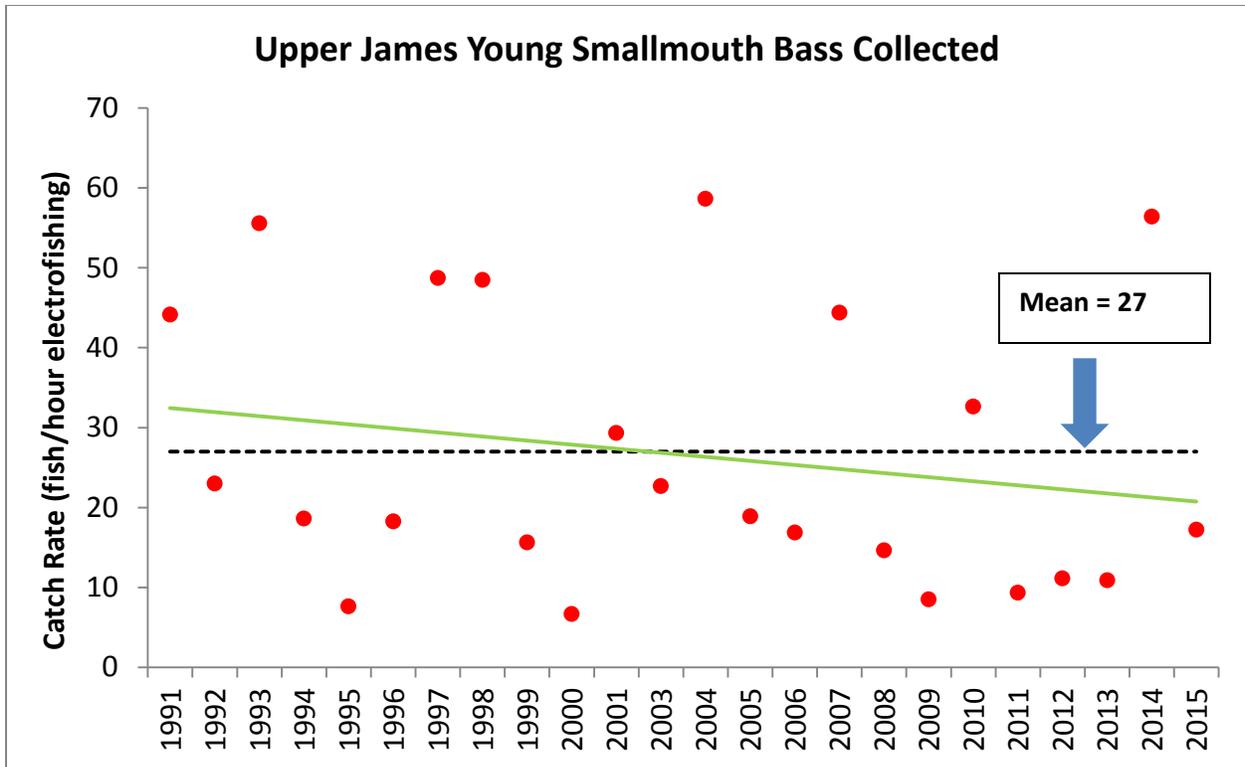


Figure 3. Annual catch rates of Smallmouth bass YOY, the black line represents the long-term average.

Smallmouth bass anglers may use a variety of soft baits, such as worms, tubes, and flukes. Hard baits include crank baits, jigs, and spinner baits. While baits and tactics may change with time of year and river flow conditions, anglers seeking smallmouth bass should focus on deeper riffle areas; beginnings and ends of pools; and structures, such as large boulders or fallen trees.



A pair of trophy Smallmouth bass collected on the upper James River.

The upper James River is also home to a variety of sunfish species, including rock bass, redbreast sunfish, and bluegill. In 2015, a total of 594 sunfish were collected. Rock bass were the most abundant sunfish collected and ranged in sizes from 2 to 9 inches (Figure 4). Redbreast and bluegill were also commonly collected and ranged from 2 to 7 inches in length. Although often overlooked, angling for sunfish can provide great entertainment, especially using light tackle or fly-fishing. Anglers seeking sunfish should focus on fishing near banks, aquatic vegetation, and fallen trees. Spinners, small grubs, crickets, and worms all make excellent baits for catching sunfish.

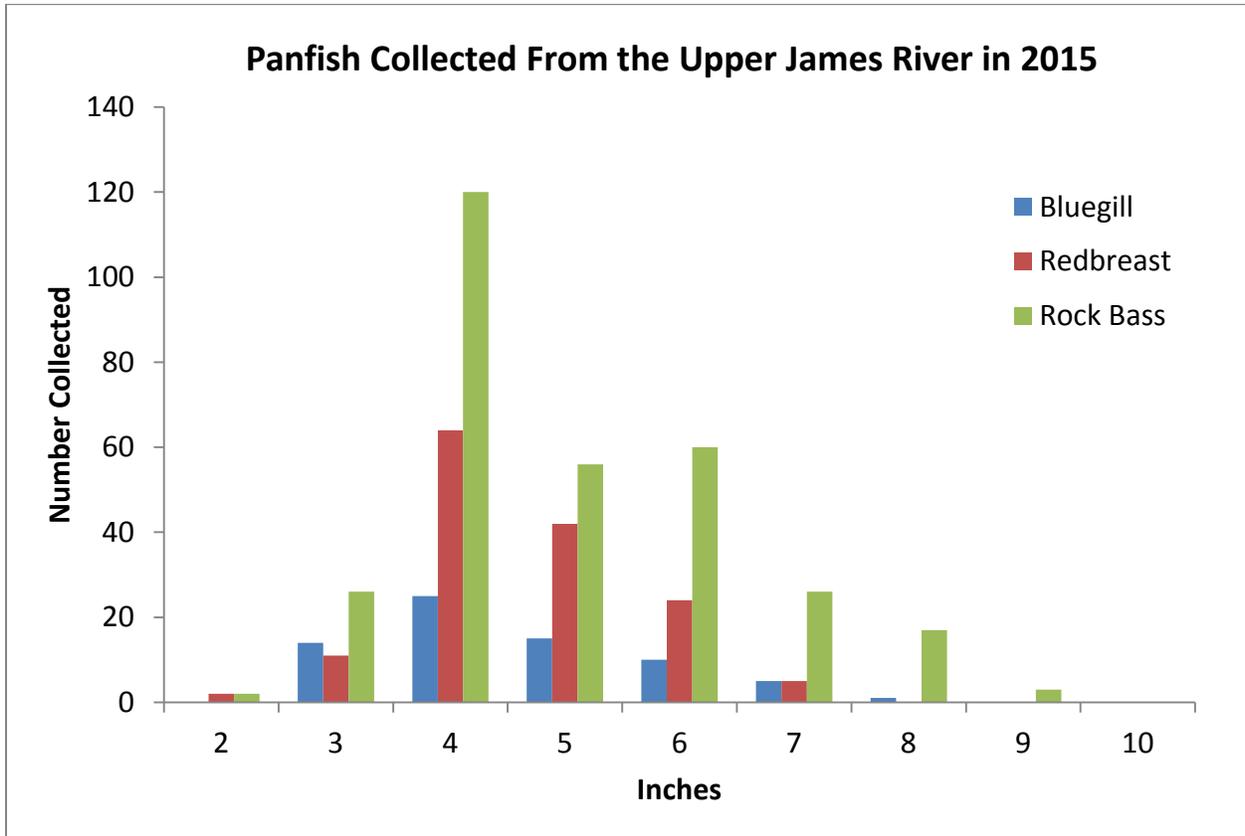


Figure 4. Number and sizes of Rock Bass, Redbreast sunfish, and Bluegill collected in fall 2015.

The largest and most challenging fish to catch in the upper James is the muskie. Muskies were present at all sampling sites and most abundant in pool areas. A total of 30 muskies, ranging from 14 to 49 inches in length, were collected in fall sampling in 2015. Analysis of the stomach contents of muskie collected in winter 2014-2015 included: suckers, various sunfish, shad, and shiners. No smallmouth bass were identified in muskie stomachs in the 2014-2015 sampling. DGIF is conducting more extensive sampling in winter 2016 in order to continue monitoring the muskie population. Biologists began tagging Muskies in January 2016 to estimate angler catch rates. There is currently a \$20 reward for the return of these tags with catch information (see

poster below). Muskies can be very picky, so anglers often carry a variety of baits, such as large crankbaits, spinnerbaits, tubes, and swimbaits.

\$20 REWARD

For the return of tags and catch information

VA Dept. of Game and Inland Fisheries biologists have tagged Muskies in the James River. The yellow tags will be located near the fish's dorsal fin. Anglers can remove the tags by cutting through the monofilament attachment with scissors or a knife. The fish can then be released or harvested (if legal size).



Some fish have two tags. Both tags are eligible for the \$20 reward. Anglers must submit each tag with catch information to receive a reward.

Catch information required to receive award:

Date and general location of catch:

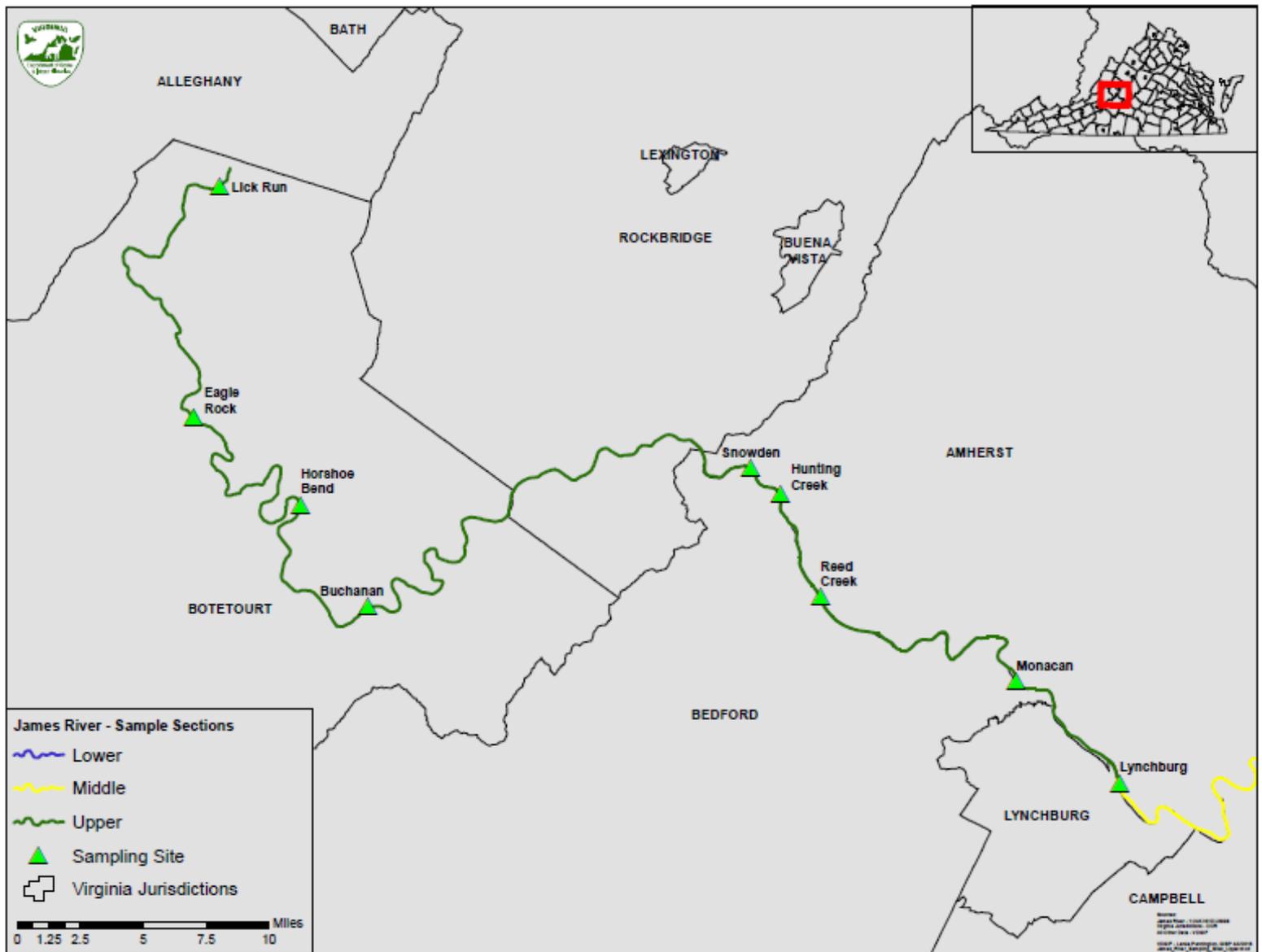
Fish length:

Was the fish harvested or released?

Were you fishing for Muskies?

Tags should be returned to the VDGIF Forest regional office: 1132 Thomas Jefferson Road Forest, VA 24551

Attn: Muskie Tagging Study



Upper James River Section

Middle James River

The middle James River is considered to be the portion of river from Lynchburg, downstream approximately 130 miles, to Boshers Dam near the city of Richmond. For a quick fish regulation guide for common species occurring in the non-tidal James River see Table 1 at the end of this report. The middle section of the James River has a slightly different fish community compared to the upper James. The middle James has fewer rock bass and muskie, while largemouth bass, channel catfish, and flathead catfish are more abundant. Smallmouth bass are still a dominant sportfish in the middle James. In fall 2015 sampling, 594 Smallmouth bass were collected ranging from 3 to 20 inches (Figure 5). Similar to the upper James, juvenile smallmouth bass (individuals less than 7 inches) made up almost 30% of all smallmouth bass collected, with the majority being between 7 and 12 inches. In 2015, 91 smallmouth bass greater than 12 inches were collected, compared to only 32 smallmouth bass greater than 12 inches collected in 2014 samples. Approximately 9% of adult smallmouth bass collected were between 14 and 22 inches and, thus, protected under the current regulations.

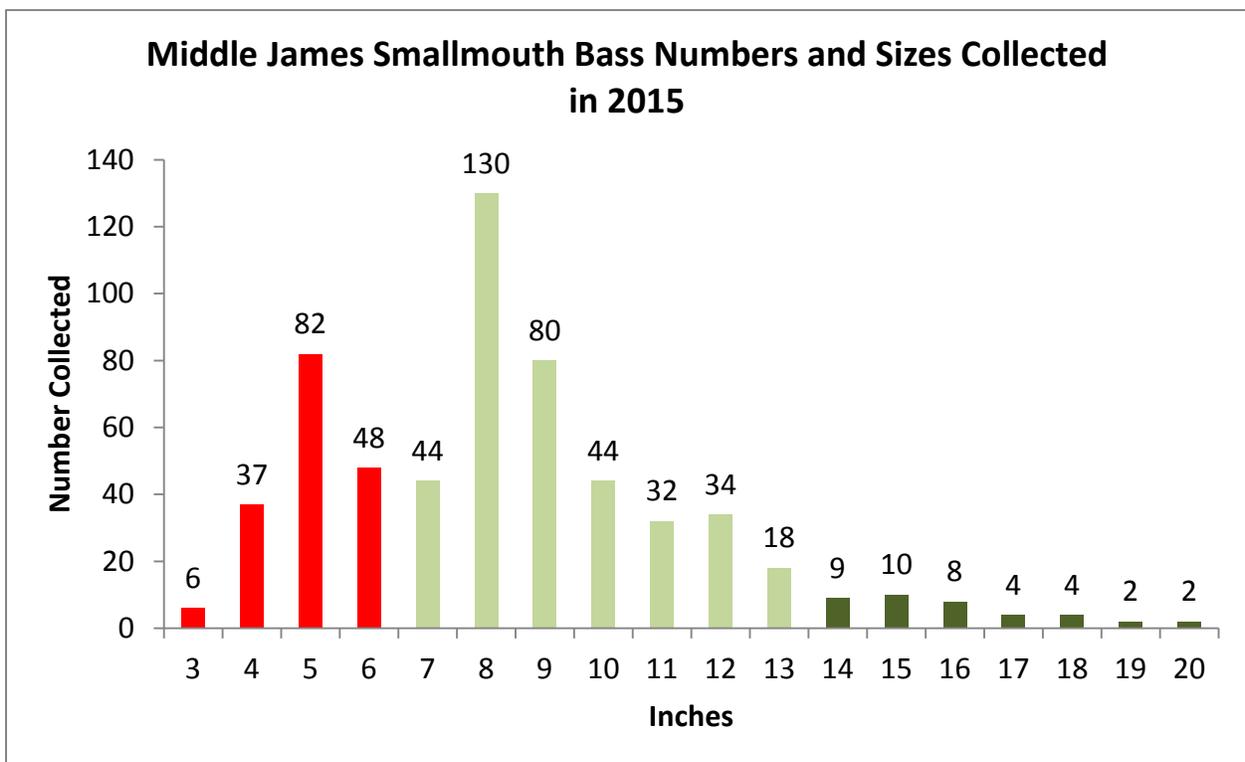


Figure 5. Smallmouth bass collected from Lynchburg to Boshers Dam in fall 2015. Juvenile smallmouth bass (less than 7 inches) are represented with red bars, while adult smallmouth bass are shown with green bars. Current regulations protect smallmouth bass between 14 and 22 inches (dark green bars).

The middle James River also supports a variety of sunfish species including, bluegill, redbreast and redear sunfish, and rock bass. In 2015, 531 sunfish were collected, with bluegill and redbreast sunfish being the most abundant. Bluegill and redbreast sunfish made up 82% of all sunfish species collected and ranged from 2 to 10 inches (Figure 6). Rock bass were the least abundant sunfish collected and ranged from 2 to 8 inches in length. Sunfish numbers can fluctuate annually and nearly twice as many sunfish were collected in 2015 compared to 2014, which should provide excellent fishing opportunities in the future.

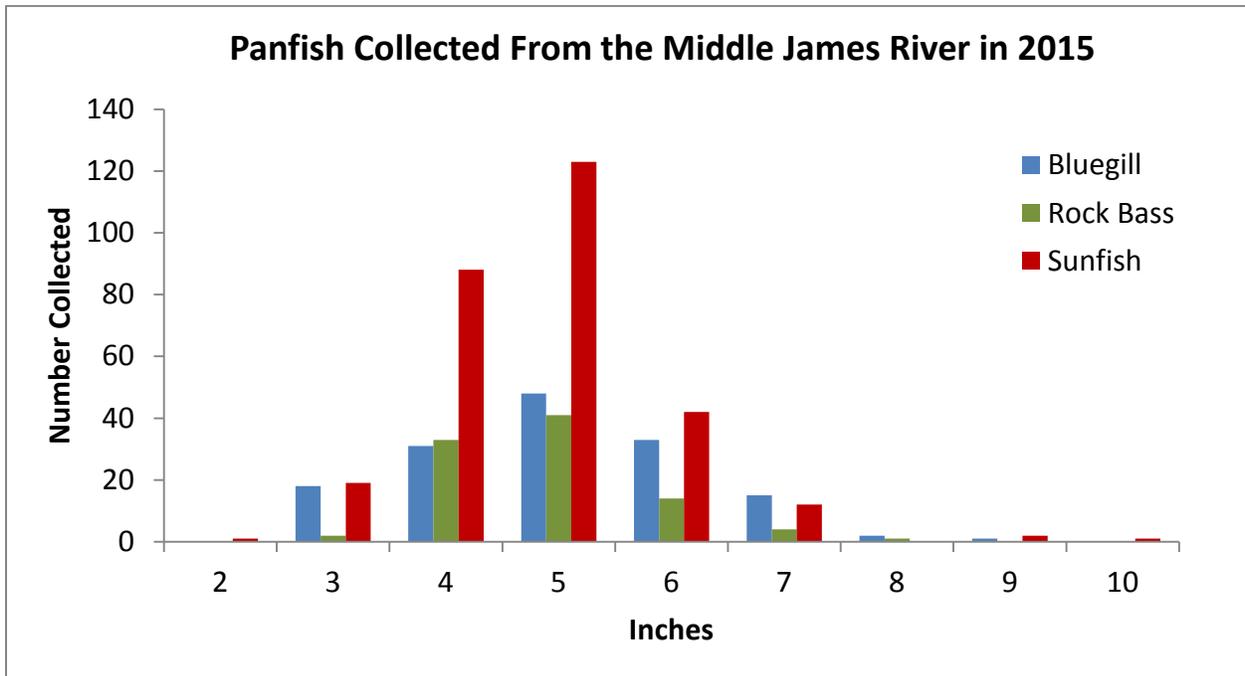


Figure 6. Number and sizes of rock bass, redbreast sunfish, and bluegill collected from the middle James River in fall 2015.

The middle James River is also home to channel and flathead catfish. Two hundred sixty-four catfish were collected in fall 2015 community sampling. Channel catfish were most abundant, with 229 collected, ranging from 3 to 20 inches in length (Figure 7). Thirty-five flathead catfish were collected and ranged from 6 to 20 inches in length. Flathead catfish grow larger than channel catfish, but both offer challenging and rewarding fishing opportunities. Catfish are often found in pool areas and near ledges or boulders. Anglers seeking channel catfish often use a variety of baits, including chicken livers, night crawlers, stink or dough baits, and a variety of other baits. Flathead catfish can be more particular, but live baits such as minnows often work well.

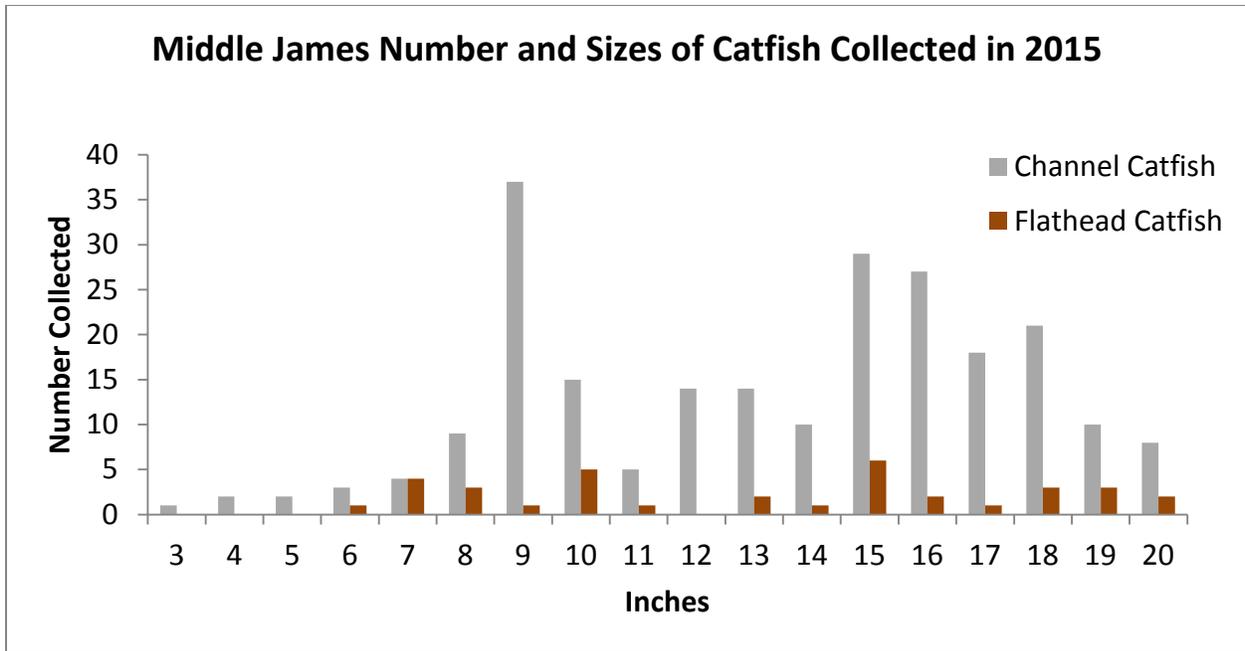
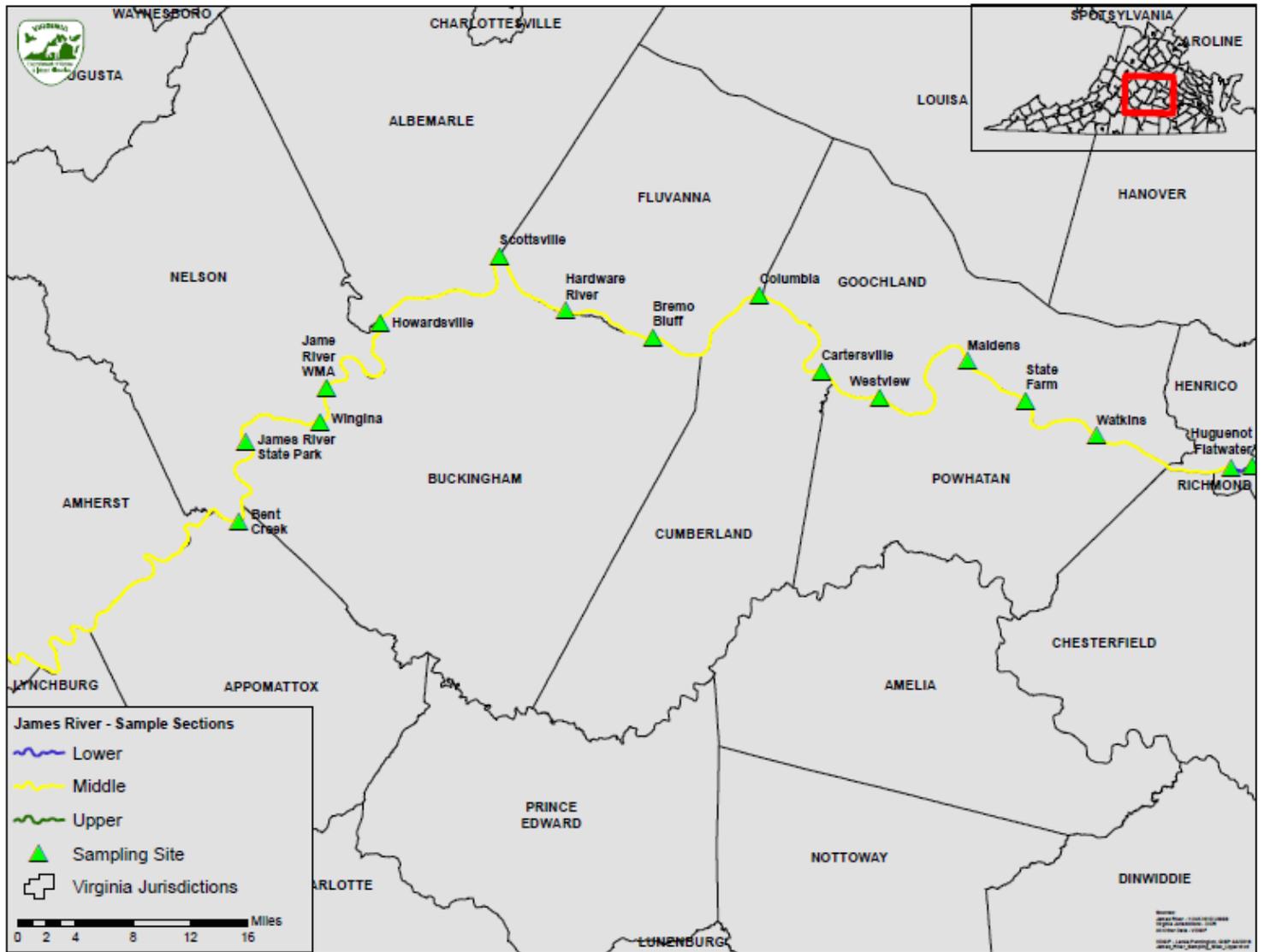


Figure 7. Numbers and sizes of Channel catfish and Flathead catfish collected from the middle James River in fall 2015.

In fall 2015, biologists began a river-wide study of flathead catfish in the James River. Additional sampling was conducted to collect flathead catfish in order to analyze diet and growth trends. Flathead catfish targeted sampling collected 107 flatheads ranging from 10 to 42 inches in length and weighing up to 37 pounds. Flathead catfish diets consisted of crayfish, minnows, various sunfish, and catfish species.



Middle James River Section

The Fall Line of the James (Bosher's Dam to 14th Street Bridge)



20+ inch smallmouth bass collected from the James below Huguenot Bridge, Fall 2015

The 9-mile stretch of the James River that flows through Richmond (known locally as the Fall Line section) separates the non-tidal and tidal portions of the James River (Figure 8). This section contains various habitat types including rocky outcrops, large runs, deep pools, shallow riffles, and intense rapids. The Fall Line section is renowned for kayaking, canoeing, and has traditionally supported popular sport fisheries for trophy smallmouth bass, sunfish, and catfish. For a quick fish regulation guide for common species occurring in the non-tidal James River see Table 1 at the end of this report.

Redbreast sunfish were the most abundant sportfish species collected throughout the Fall Line in 2015 followed by smallmouth bass. Smallmouth bass total catch was low when compared to the historical averages for the Fall-Line (Figure 9).

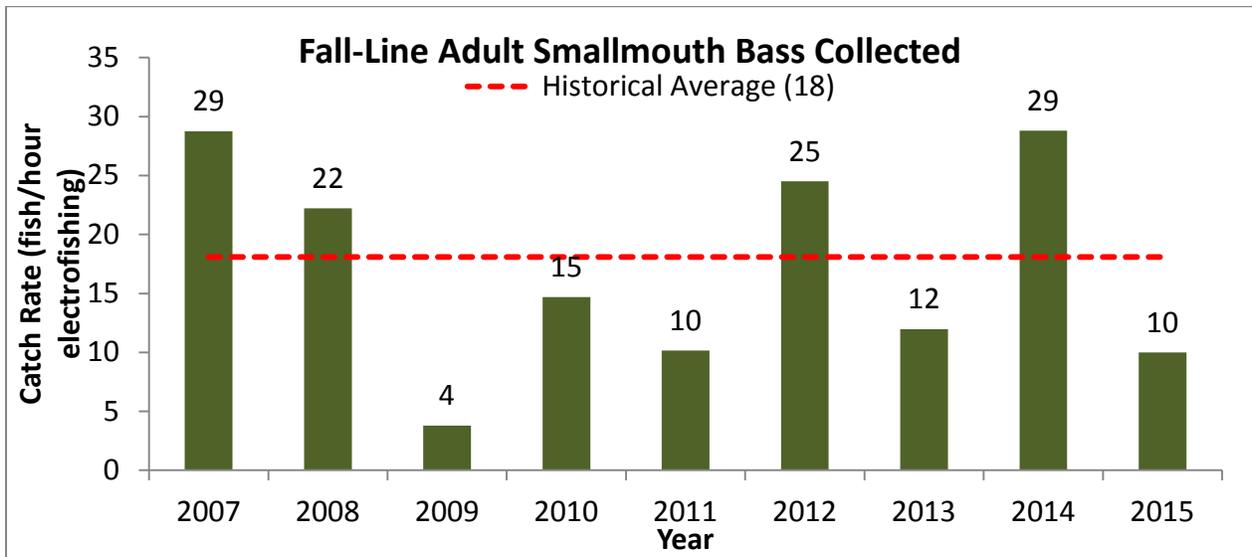


Figure 9. Annual catch of adult smallmouth bass from 2007-2015 in the Fall-Line James River.

The decrease in catch from previous years was mainly due to very low catches of young of the year bass. Smallmouth bass reproduction was very poor throughout the Fall Line in 2015 due to rising flows during the spawn and egg hatching period (month of June). The following graph (Figure 10) demonstrates just how poor 2015 smallmouth recruitment was when compared to previous years.

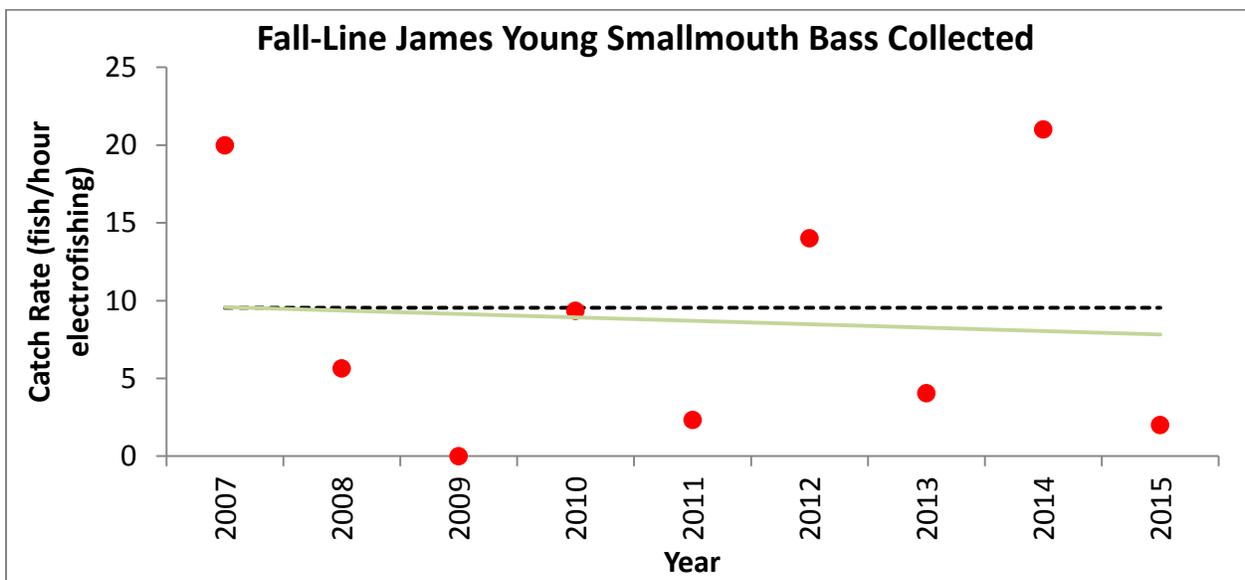


Figure 10. Annual trend in catch rates of young-of-the-year smallmouth bass collected from the Fall Line, James River.

Due to many years of poor reproduction the smallmouth bass catch continues to exhibit a downward trend in the adult population (Figure 11). More years of average spring flows that contributes to great bass reproduction like 2014 (see Figure 10) are needed to greatly increase numbers of adult fish.

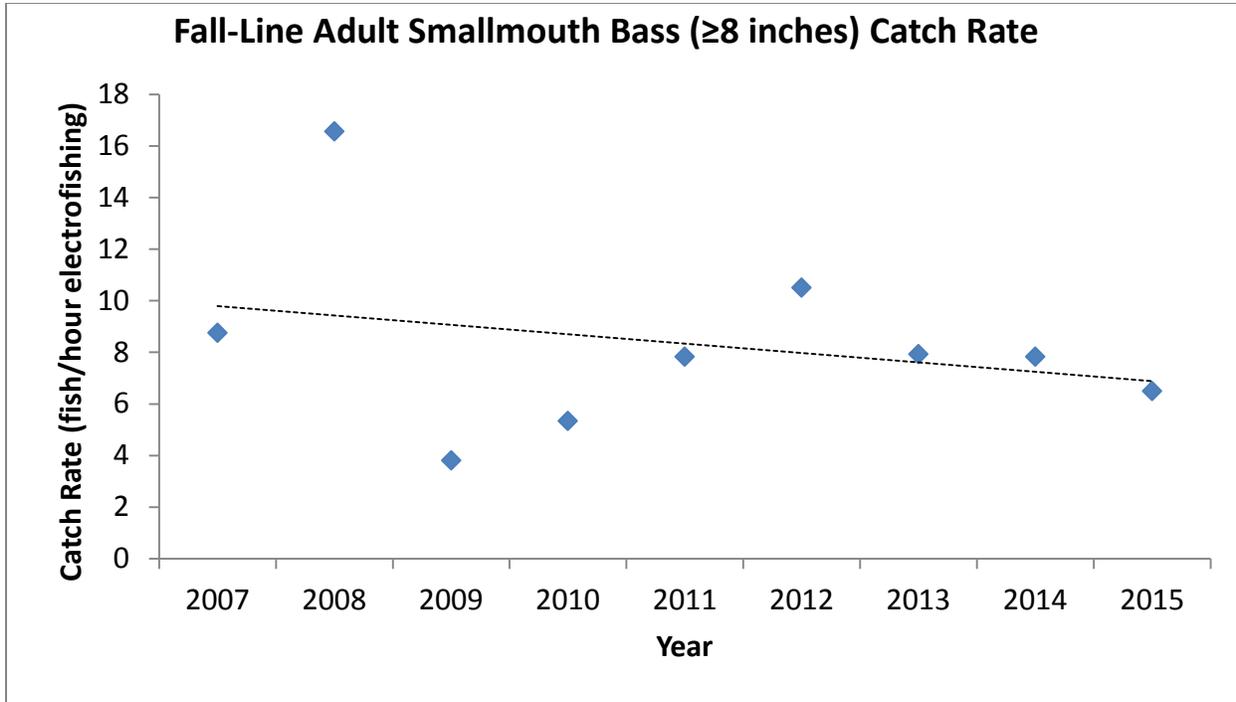


Figure 11. Annual trend in adult smallmouth bass catch rates for the Fall Line, James River.

Anglers should not expect to catch high numbers of large bass throughout the Fall Line section due to years of fair to poor recruitment (see Figure 10). There are still some quality-sized and trophy-sized bass in this stretch of the river (Figure 12) but anglers will have to work to catch them. The largest smallmouth bass collected in 2015 samples measured 22 inches and weighted nearly 6 lbs. Fish spawned in 2014, measured between 8 and 10 inches, were present in good numbers in the electrofishing catch (Figure 12) and anglers should have good success catching these fish in subsequent years. Additionally, the 14-22 inch protective slot limit for smallmouth bass should help to protect the remaining adult fish in the population, but the adult populations needs more frequent successful spawns and juvenile survival to rebound to historic populations.

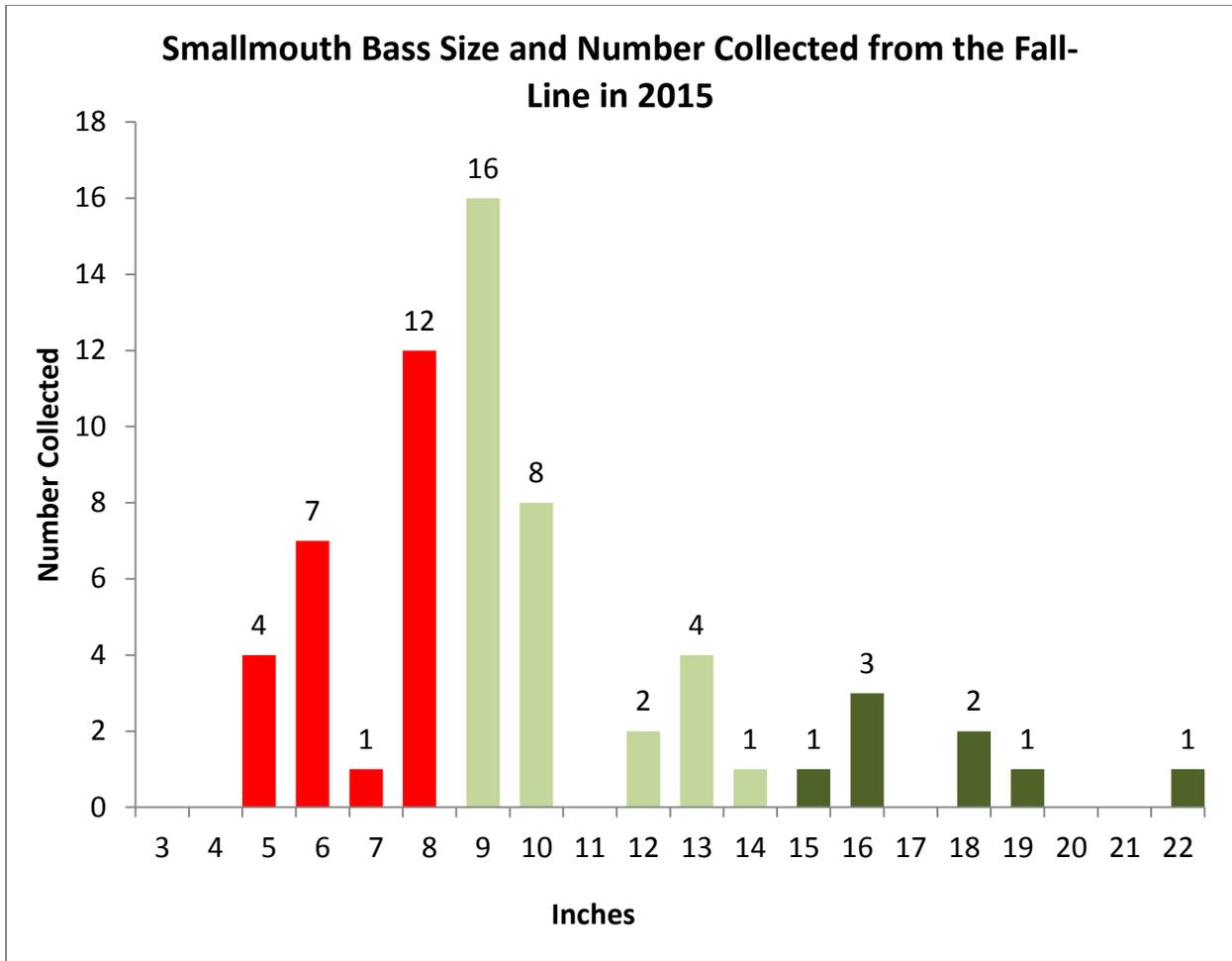


Figure 12. Smallmouth bass collected from the Fall-Line in 2015. Juvenile Smallmouth bass (less than 9 inches) are represented with red bars, while adult Smallmouth bass are shown with green bars. Current regulations protect Smallmouth bass between 14 and 22 inches (dark green bars).

Smallmouth bass were present at all sampling sites, so anglers can expect to catch them throughout the Fall-Line section. Annual surveys indicate that the best sections of the river for bass are consistently between the Powhite Bridge and Bell’s Island. Anglers should concentrate on shallow to mid-depth riffles or areas near the bank with some type of structure. Previous diet analysis of smallmouth bass indicated that the majority of smallmouth bass feed on shiners and crayfish. Any lures that mimics these diet items should be a must for smallmouth bass anglers of the James River.

Catfish populations continue to be good within the Fall Line. The blue and flathead populations have good numbers of big fish available to anglers (Figure 13). Blue and channel catfish made up the majority of the catfish collected in 2015. There is a large abundance of small channel catfish (up to 22 inches) available to anglers, but the larger catfish are the blues and flatheads (see graph below). Numerous blue and flathead catfish at or above 30 inches were caught throughout the Fall-Line (Figure 13).

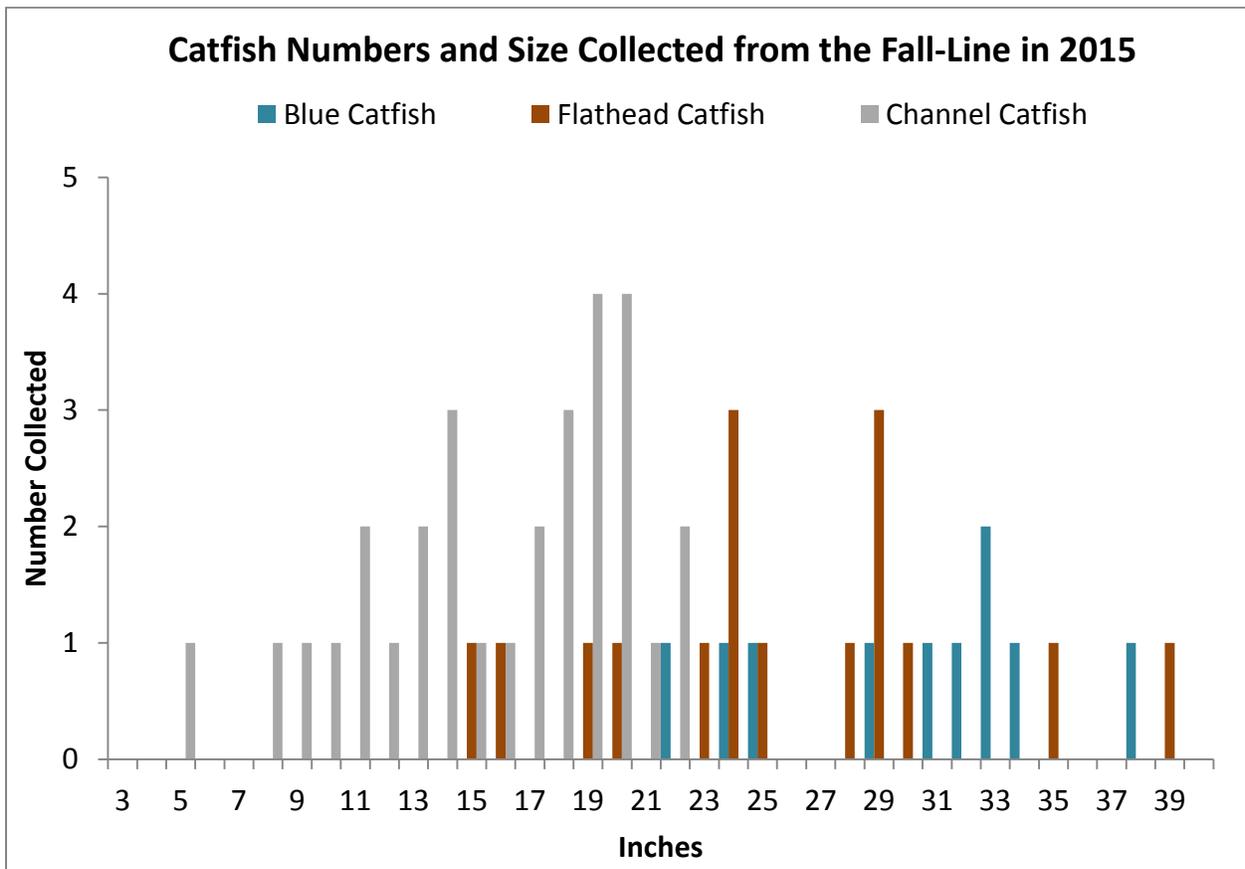


Figure 13. Size distribution of catfish collected throughout the Fall Line, James River 2015.

Anglers seeking to catch catfish should concentrate efforts on relatively deep water (> 6ft deep) or waters adjacent to deep holes. The deep pockets above the Pony Pasture recreation area and the deep run just below the Wetlands recreational area (river section that flows past Willow Oaks Country Club) are great places for catfish anglers to wet a line. Anglers should try using live bait for flathead and cut or stink-bait for blue and channel catfish.

Panfish population numbers are slightly above average for the Fall Line section and were similar to catch rates observed in the Middle James. Although numbers are good, all panfish collected were small (≤ 8 in.), with the majority of the panfish collected less than 7 inches (Figure 14). The most abundant panfish species collected was redbreast sunfish followed by bluegill. Panfish were caught in all locations throughout the Fall Line section, and anglers targeting these species should concentrate their efforts around bank structure or slack water adjacent to rocky shoals and outcrops. Small twister tailed grubs, live crickets, and worms are outstanding baits for any of the panfish species.

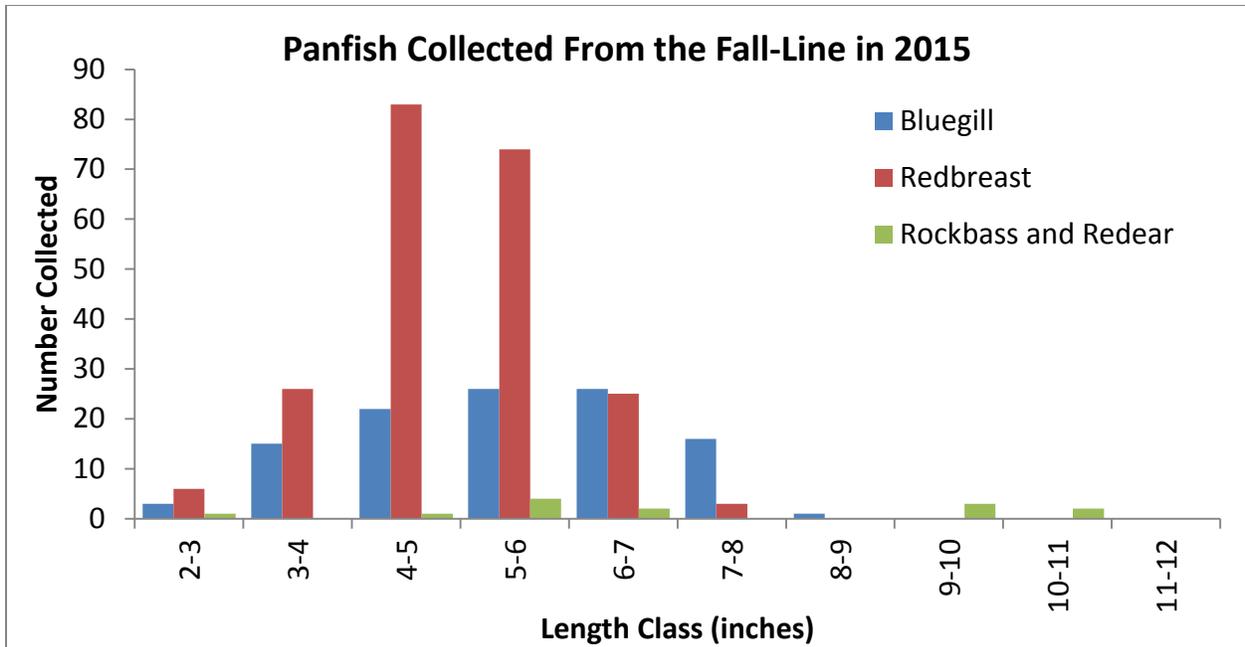
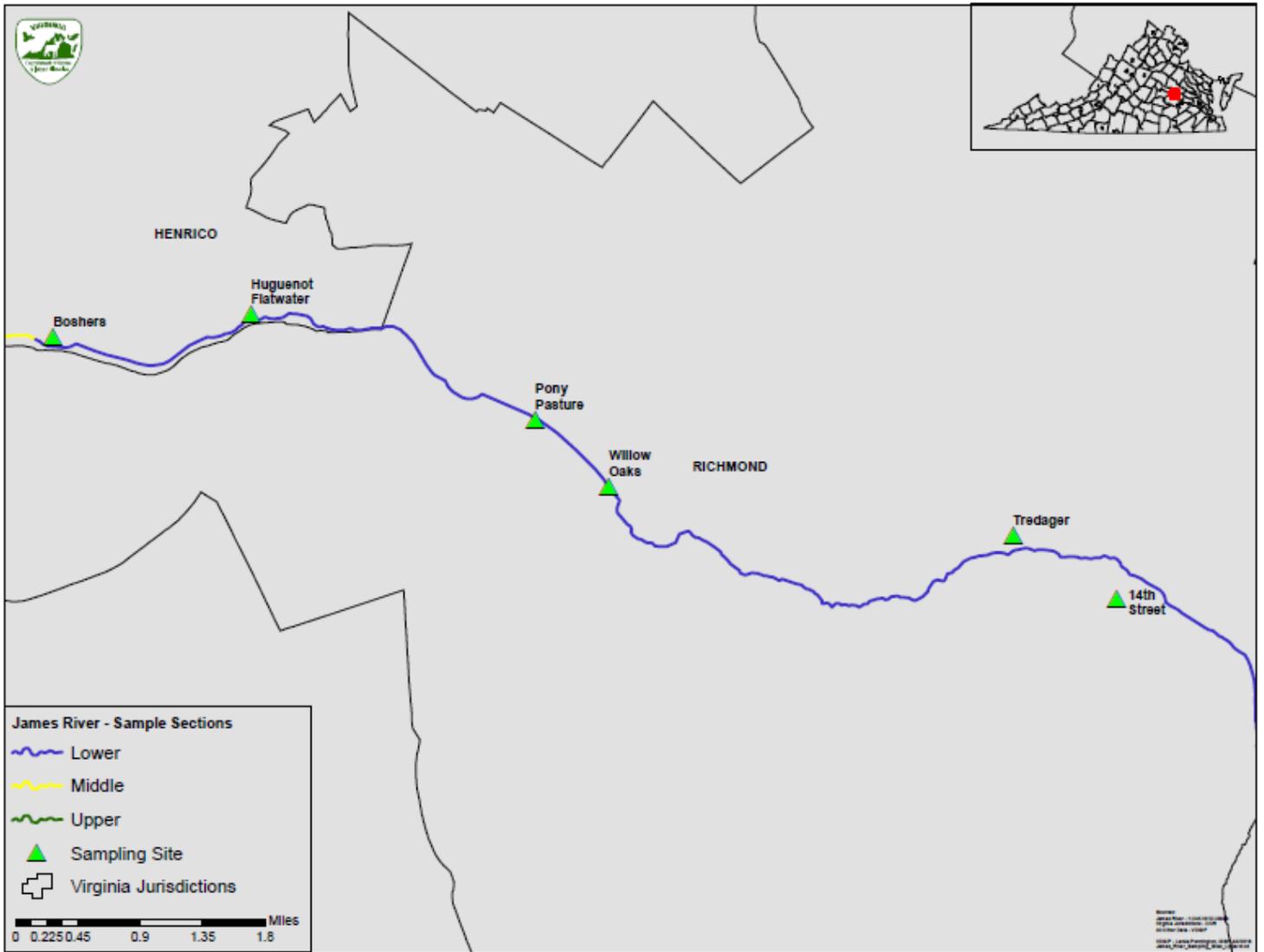


Figure 14. Number and sizes of panfish collected from the Fall-Line James River 2015.

The Fall Line section of the James can provide a rewarding trip for any angler but caution is warranted when fishing this stretch of river. The Fall Line section is prone to flash flooding when there have been heavy rains in head waters of the James River. Furthermore, boaters need to be conscious of the technical rapids within the Fall Line section. Before journeying out, anglers should be aware of the current river conditions and boaters need to become familiar with the more technical rapids. To get up-to-date information on river flows and maps of the Fall Line section, contact the James River Parks System at (804) 646-8911 or visit their website at <http://www.jamesriverpark.org/>.



Lower James River Section



30+ inch flathead catfish captured in the James near the Wetlands access.

For more information on the upper or middle James River contact Dan Goetz or George Palmer
District Fisheries Biologists
Virginia Department of Game and Inland Fisheries
Dan.goetz@dgif.virginia.gov
George.palmer@dgif.virginia.gov
434-525-7522

Or

For more information on the James River through Richmond, please contact:

Johnathan Harris
District Fisheries Biologist
Virginia Department of Game and Inland Fisheries
Johnathan.harris@dgif.virginia.gov
804.305.8940

Table 1. Regulation (creel and length limit) table for fish species that commonly occur in the non-tidal James River.

Fish Species	Creel Limit	Length Limit	Likely Occurrence Locations
Bass (largemouth, smallmouth, and spotted)	5 per day in the aggregate (combined)	No bass 14 to 22 inches, only 1 per day longer than 22 inches	Non-tidal riverwide (upper, middle, and Fall-Line)
Muskellunge	2 per day in the aggregate (combined)	No muskellunge less than 30 inches	Upper and Middle, Occasionally Fall-Line
Striped bass	Creel and length limits shall be as set by the Virginia Marine Resources Commission for recreational fishing in tidal waters		Fall-Line
Walleye	5 per day in the aggregate (combined)	No walleye or saugeye less than 18 inches	Middle and Fall-Line
Bluegill (bream) and other sunfish excluding crappie rock bass (redeye)	50 per day in the aggregate (combined)	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
Crappie (black or white)	25 per day in the aggregate (combined)	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
Rock Bass (redeye)	25 per day	No statewide length limits	Non-tidal riverwide (upper, middle, and Fall-Line)
Catfish (blue, channel, and flathead)	20 per day	No length limits	Non-tidal riverwide (upper, middle, and Fall-Line), except blue catfish mainly middle and Fall-Line
American Shad and Hickory Shad	Creel and length limits shall be as set by the Virginia Marine Resources Commission for recreational fishing in tidal waters		Fall-Line