



## **Nottoway River 2010**

The Nottoway River is located in south-central and southeastern Virginia. The headwaters of the Nottoway are formed in Prince Edward and Lunenburg counties and flows southeasterly for approximately 130 miles, forming a boundary for Nottoway-Lunenburg, Brunswick-Dinwiddie, and Greensville-Sussex counties, then meanders across Sussex and Southampton counties to its confluence with the Blackwater River at the North Carolina line, forming the Chowan River.

The Nottoway River has historically been home to a very diverse fishery for anglers in southeast Virginia. Largemouth and smallmouth bass both can be caught in good numbers along with redear sunfish (shellcrackers), redbreast sunfish (red throats) and Roanoke bass (rockbass). Bowfin and longnose gar add a non-traditional angling opportunity for anglers. Springtime angling opportunities are highlighted with the arrival of hickory shad and herring early in the year (usually around February). American shad and striped bass enter the system later in the spring, around April, and offer anglers excellent fishing opportunities through early summer. Another prime fishing opportunity is the spawning run of white perch. Highly sought after for their delicious filets, white perch enter the lower sections of the Nottoway in the spring (April). Anglers can routinely catch enough fish to supply a family fish-fry. The recent introduction of blue catfish into the Chowan river system has led to an expansion of this population into the Nottoway. These fish can grow to large sizes – current state record is over 100 lbs – however, don't expect Nottoway blue catfish to reach state record sizes, but fish up to 50 lbs have been collected!

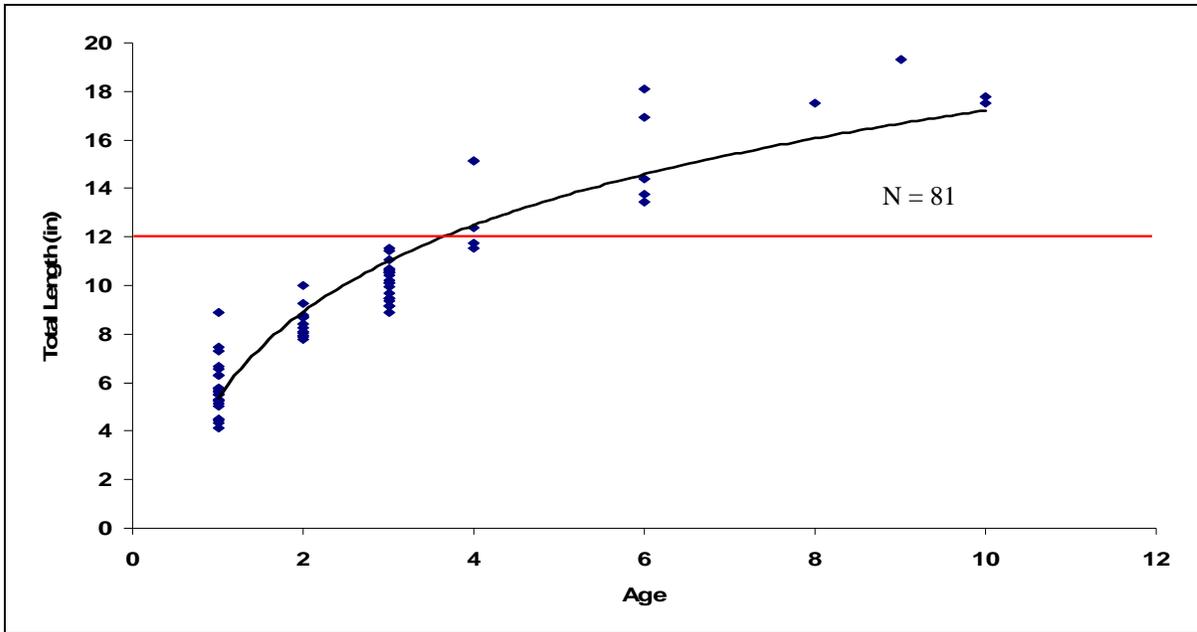
Biologists conducted an electrofishing survey on the upper Nottoway River in June 2008. This project was designed to estimate total fish biomass, the number of smallmouth bass and Roanoke bass per river mile, and data was also collected to determine age and growth rates of smallmouth and Roanoke bass. Sampling was conducted at three sites (Purdy, Jarratt, Homeville) with 5-6 electrofishing boats lined up side-by-side. Each section of river was sampled 3 consecutive times with all fish collected held in water-filled tanks between runs.

Results of the study show approximately 52 smallmouth bass per river mile of which 34 are adults; currently there are about 59 Roanoke bass per river mile. The smallmouth bass estimates are below average when compared to other rivers across the Commonwealth; however, anglers must remember that the Nottoway is smaller than most other smallmouth rivers (i.e. James, New, Rappahannock). Smallmouth bass were collected as old as 10 years; Roanoke bass up to 8 years.

### **Smallmouth Bass**

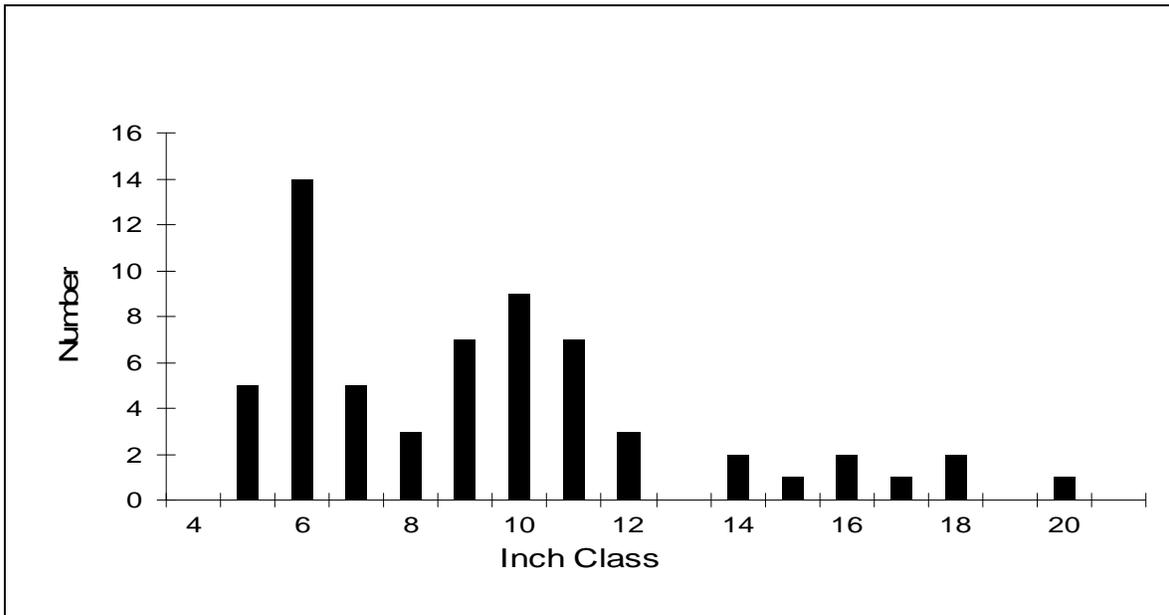
Smallmouth bass reach 12 inches in length by age 4; 16 inches by age 8 in the Nottoway River (Fig. 1). Nottoway River smallmouth bass grow similarly to other smallmouth

across the state; however, mortality rates (70% annual mortality) are higher than other Old Dominion rivers.



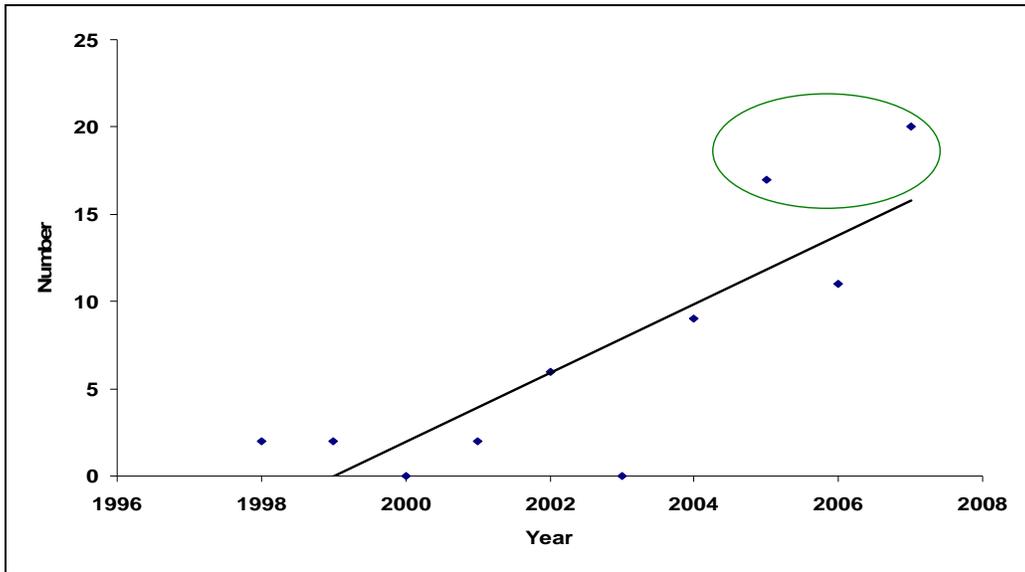
**Figure 1.** Length at age of Nottoway River smallmouth bass. The red line denotes the 12 inch length.

The Nottoway smallmouth bass population looks to be balanced with fish from 5 to 20 inches collected. The potential for trophy-sized smallmouth exists but, few fish over 16 inches were collected in electrofishing samples (Fig 2). Biologists have determined that weak year classes have outnumbered good year classes in 5 of the last 8 years (Fig. 3).



**Figure 2.** Smallmouth bass length frequency.

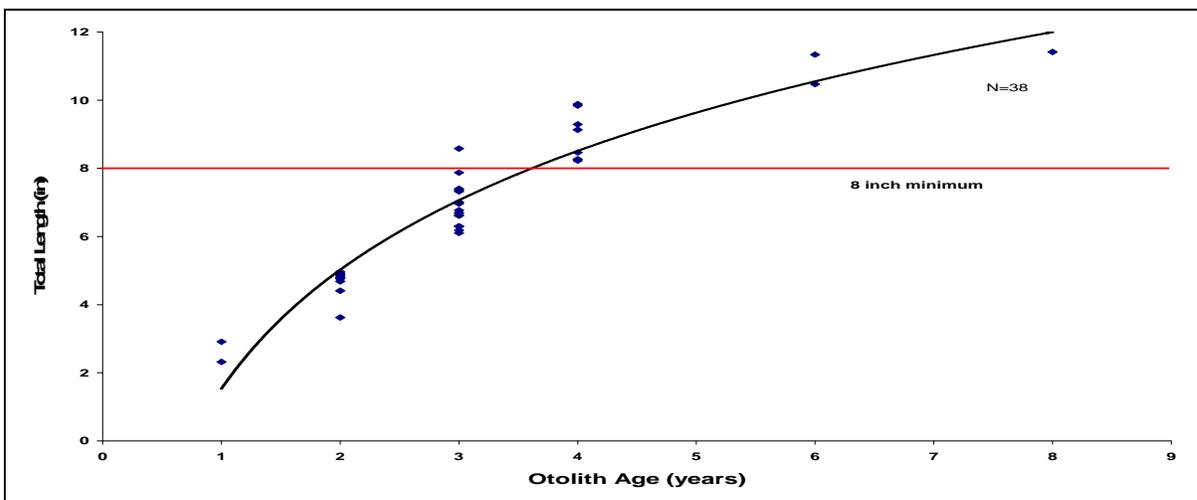
Smallmouth bass spawns in 2005 and 2007 (shown in the green circle Fig. 3) appear to be average or slightly better than average. Droughts in 2000-01 and 2003-06 produced less than average year class. The bottom line for fishermen is that overall numbers of smallmouth are low likely due to the predominately drought conditions that have persisted during the summers since 2000.



**Figure 3.** Smallmouth bass year class relative abundance. Years falling below the average line indicate poor year class strength; years above the line indicate better than average year class strength.

### Roanoke Bass

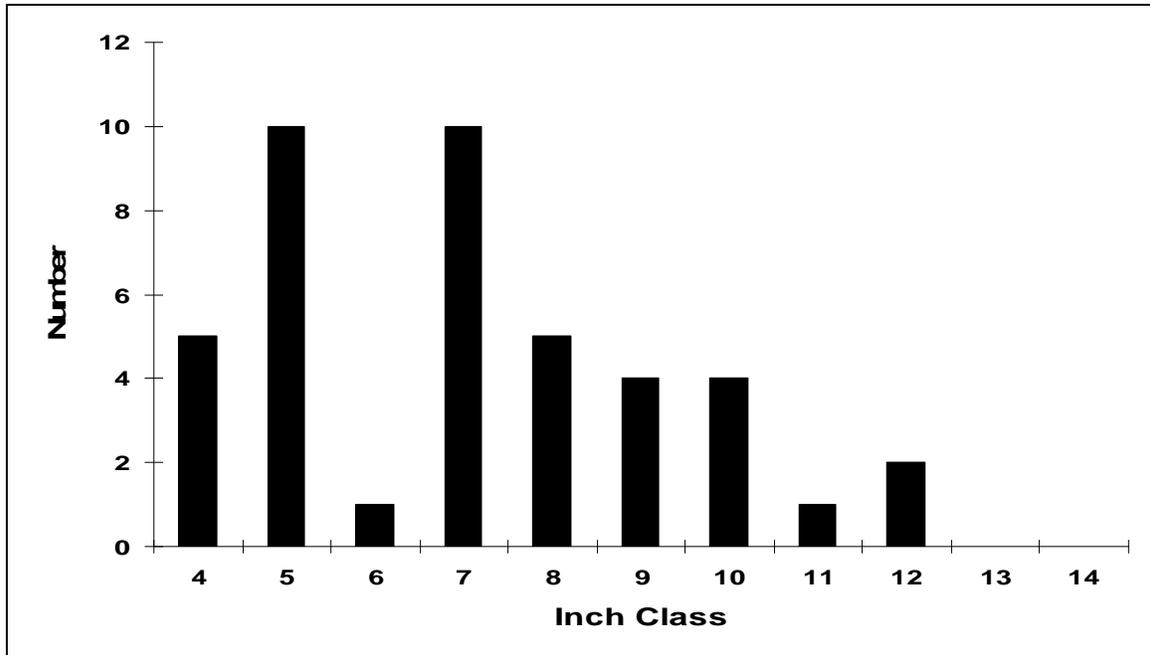
Roanoke bass, more commonly known as redeyes or rock bass, are a popular species targeted by anglers on the Nottoway River. Roanoke bass reach the 8 inch minimum length limit by age 4; it takes at least 7 years for a fish to reach 12 inches (Fig. 4).



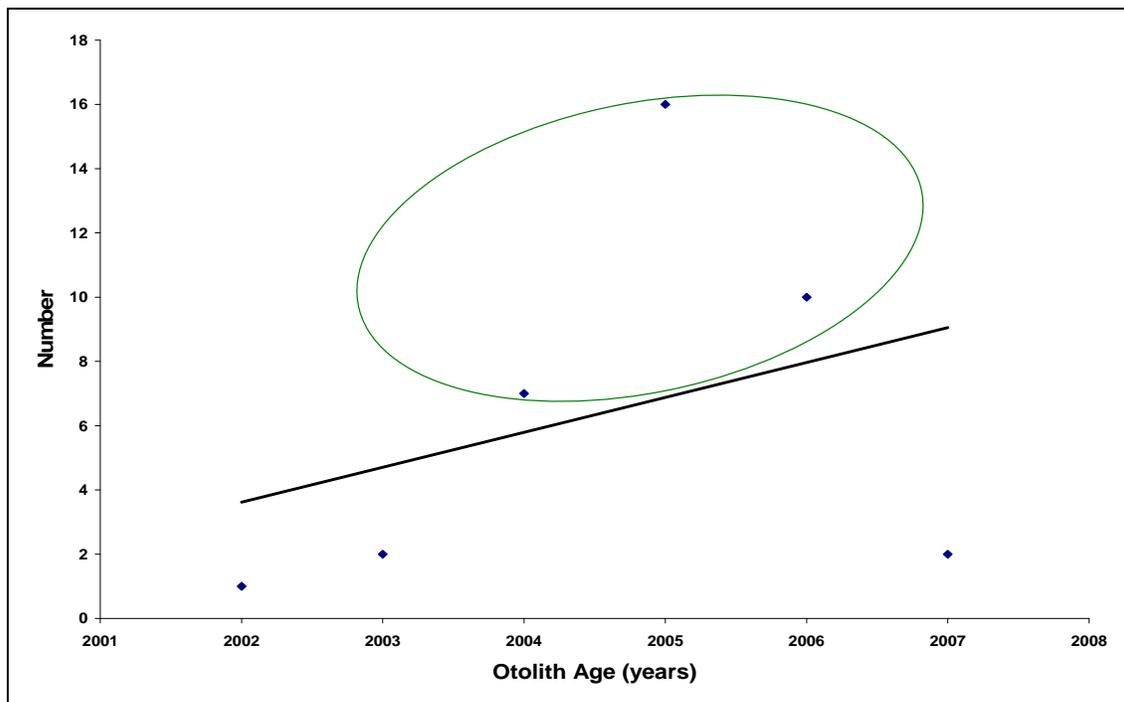
**Figure 4.** Length at age of Nottoway River Roanoke bass. The red line denotes the 8 inch minimum length limit.

Even though few trophy Roanoke bass were collected in recent electrofishing surveys (Fig. 5), this is predominately a result of inaccessible water and the time of year the

sampling took place. The Nottoway is known for trophy Roanoke bass – over 400 citations have been caught and registered since January 2000. Population densities are determined by year class strength. The current fishery is supported by good year classes in 2004-06 (Fig. 6). Poor year classes in 2002 and 2003 have limited the number of large fish in the river; however, as the younger fish age and grow, trophy-sized fish should become more abundant.



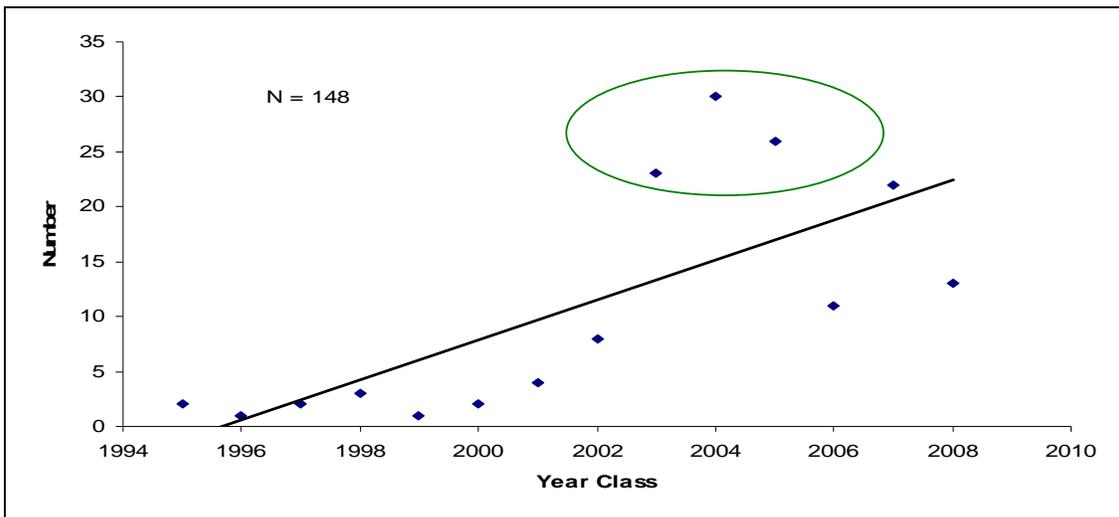
**Figure 5.** Roanoke bass length frequency.



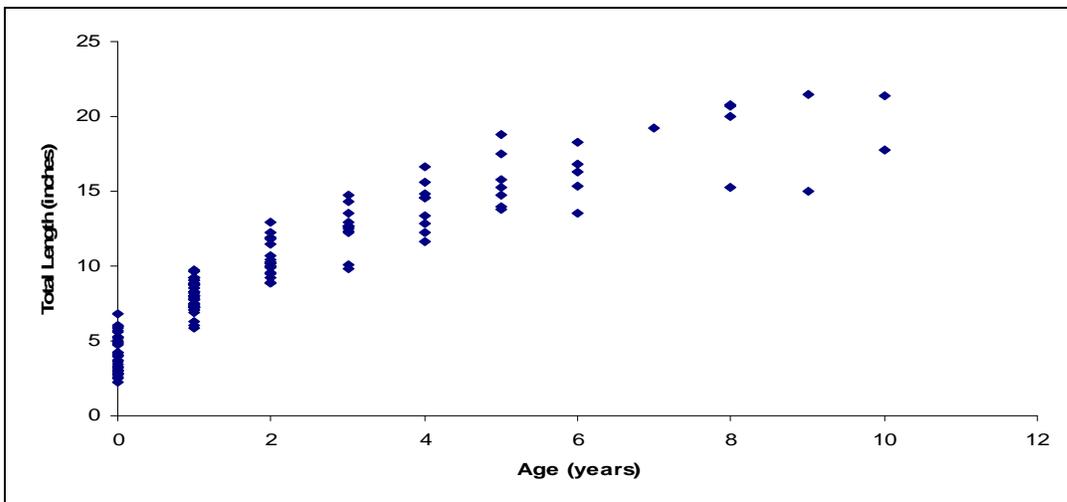
**Figure 6.** Roanoke bass year class relative abundance. Years falling below the average line indicate poor year class strength; years above the line indicate better than average year class strength.

## Largemouth Bass

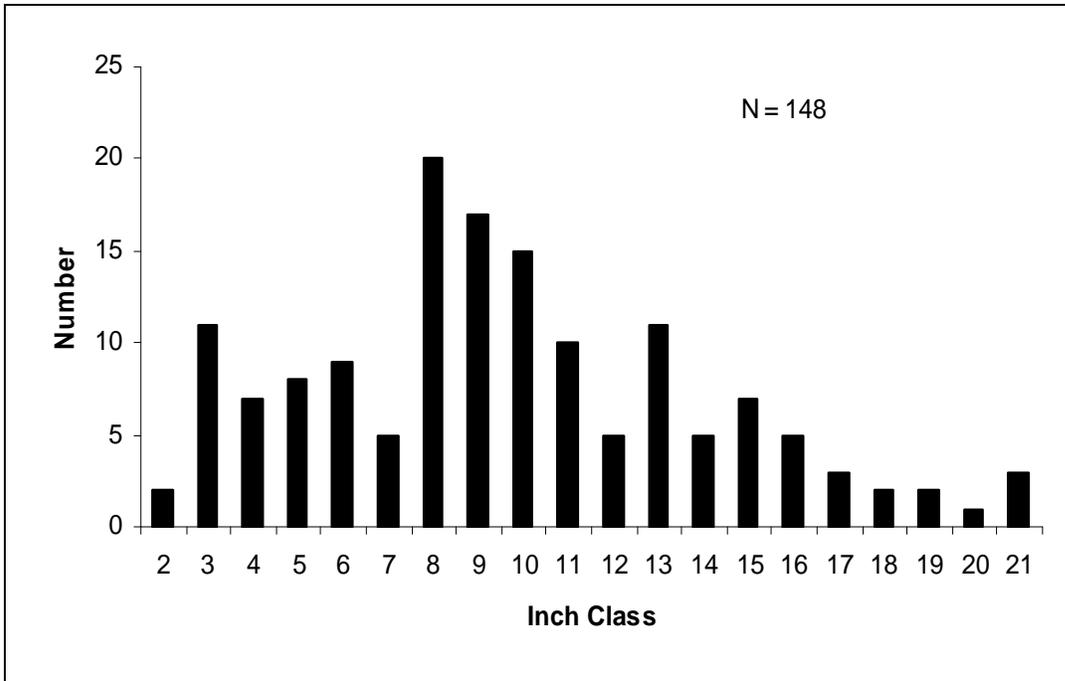
Biologists' data show that largemouth bass in the Nottoway reach eight inches between their first and second years of life. A twelve inch largemouth is approximately 3 years old. The oldest fish collected by biologists was eleven years old. Largemouth bass spawning success is dependent upon moderate summer flows. In years with very low flows or drought conditions (i.e. 2000, 2002, 2006 & 2007), largemouth bass spawning success is limited (see Figure 7). The same could be said during years with summer flooding. The current bass population is supported by fish spawned in 2003-2005. These fish are young and therefore small but their numbers are high relative to other years. These three year-classes should provide good fishing for the next several years. Nottoway River largemouth bass reach 12 inches by age 4 and 18 inches between age 7 and 8 (Fig 8).



**Figure 7.** Largemouth bass year class success. Points above the line (2003-2005) are above average spawns. Points below the line are below average spawns.



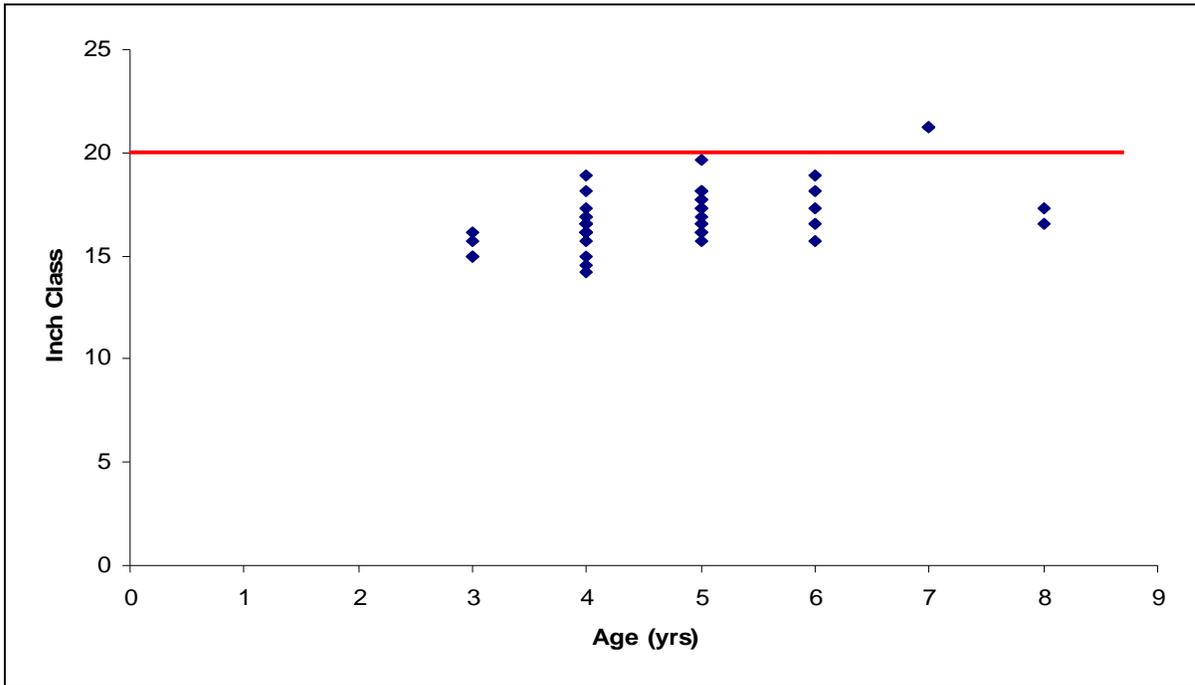
**Figure 8.** Largemouth bass length at age.



**Figure 9.** Largemouth bass inch class.

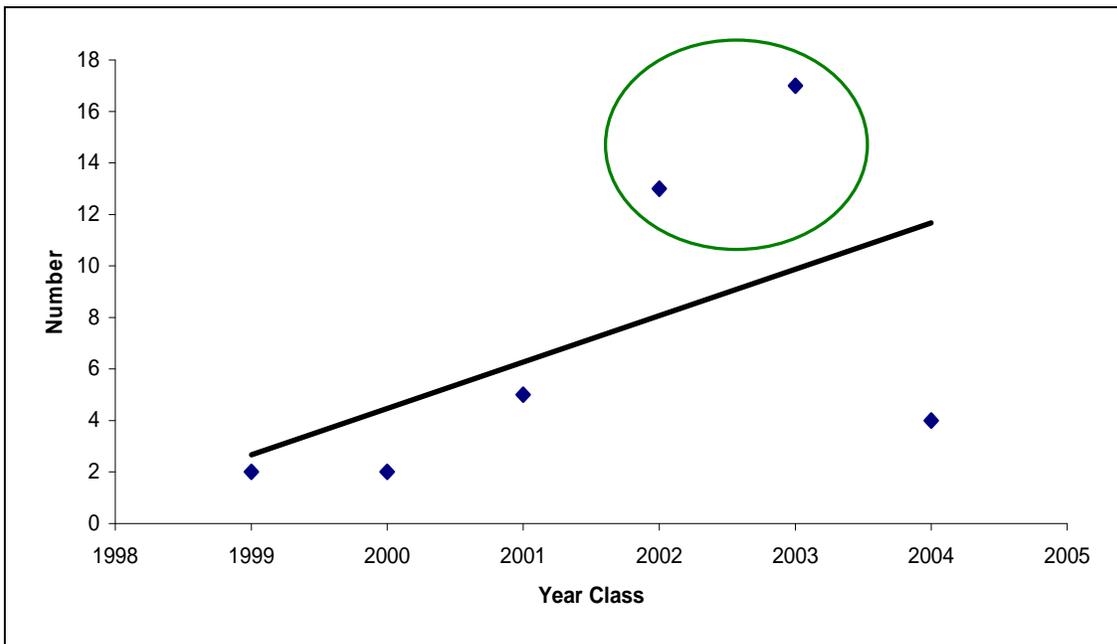
**Shad and Herring**

There are two species of anadromous shad in the Nottoway River....the American shad and the hickory shad. There are also two species of herring found in the river....alewives and blueback herring. Shad and herring runs have recently been lower than historical averages. To compensate for the decline in numbers, VDGIF recently reduced creel limits on shad, herring and striped bass. Currently, no herring can be possessed in the Nottoway River and only 10 shad in aggregate can be kept (that means any combination of American and hickory shad but no more than ten total). Both species of shad (American and hickory) and alewives return to the rivers at age 3. Biologists have found out that American shad up to age 8 and alewives up to age 7 spawn in our rivers (Figures 10, 13 and 15). American shad are already over 12 inches in length when they enter the rivers; however, to catch a fish over 20 inches, it must be at least 6 years old. Alewives are about 10 inches in length when they return to spawn, but don't add much length over their lifespan. Historically, American shad lived up to 10-12 years and made multiple spawning runs (Fig. 15). Currently, fish only live an average of 6-7 years and make 3-4 spawning runs.

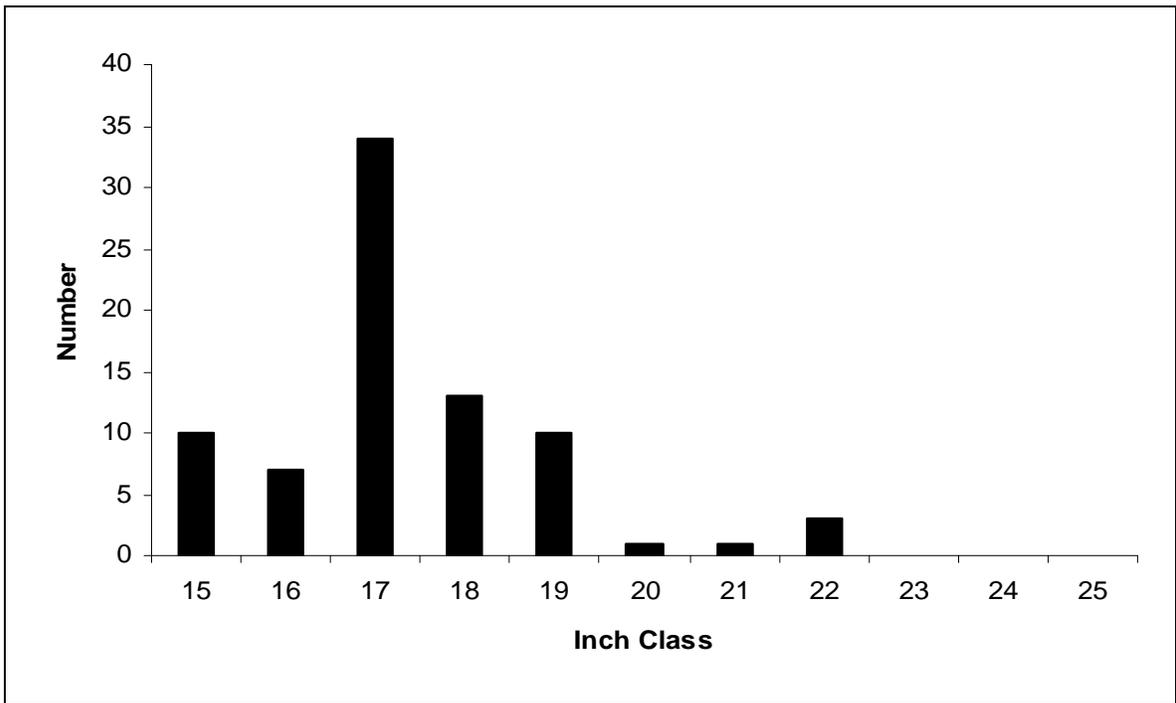


**Figure 10.** American shad length at age. Red lines indicate length of interest.

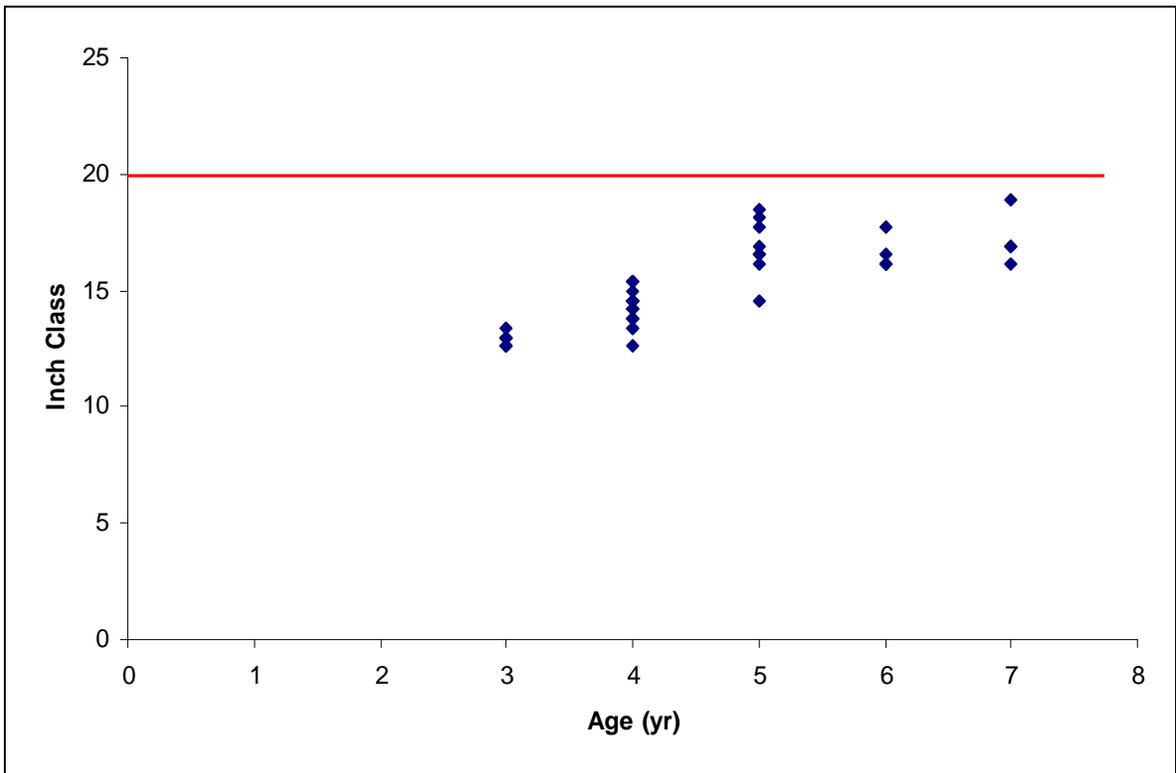
Much like the bass population, shad numbers are dependent upon summer river flows. Data shows that shad had average or very good spawns from 2000 – 2003, but poor spawns in 1999 and 2004 (Figures 11 & 13). Biologist can predict that few fish survived the low water conditions of the 2006 and 2007 droughts. The current population is being supported by those fish spawned in 2000-03. Shad fishing could be tough in the coming years because of the recent droughts. However, if conditions and flows improve this year, anglers could see improved numbers of fish three years down the line.



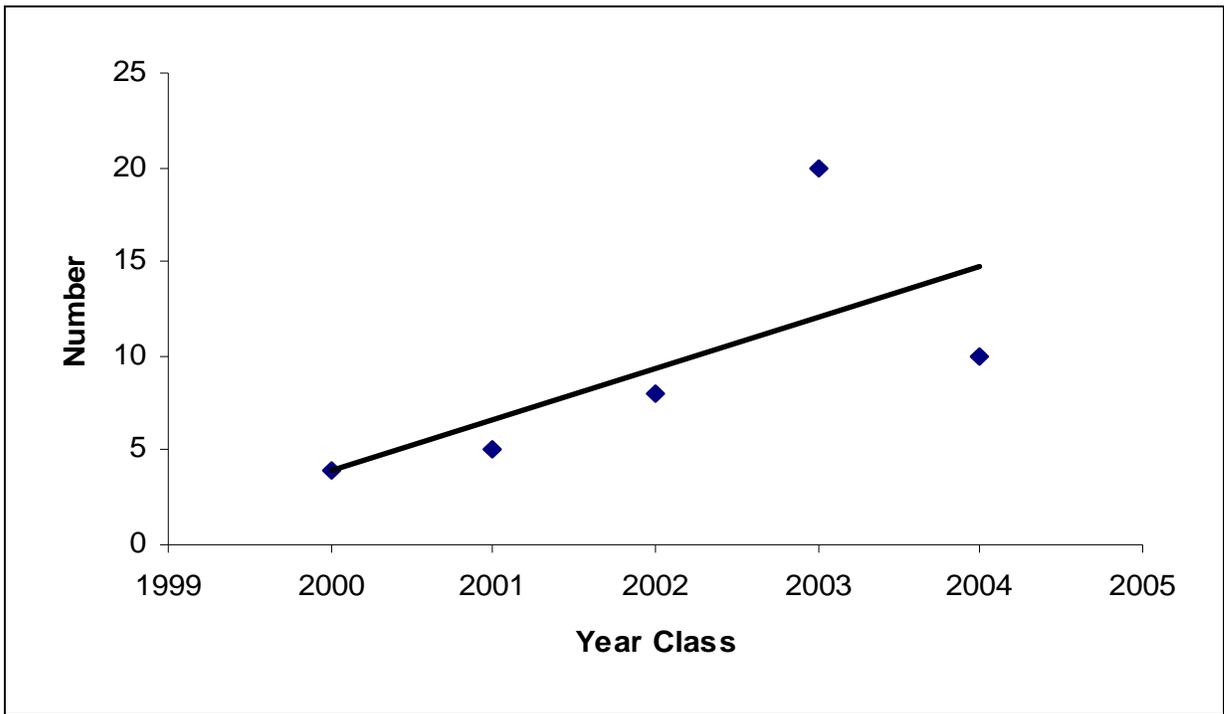
**Figure 11.** American shad spawning success. Points above the line are better than average; points below the line are poor year classes.



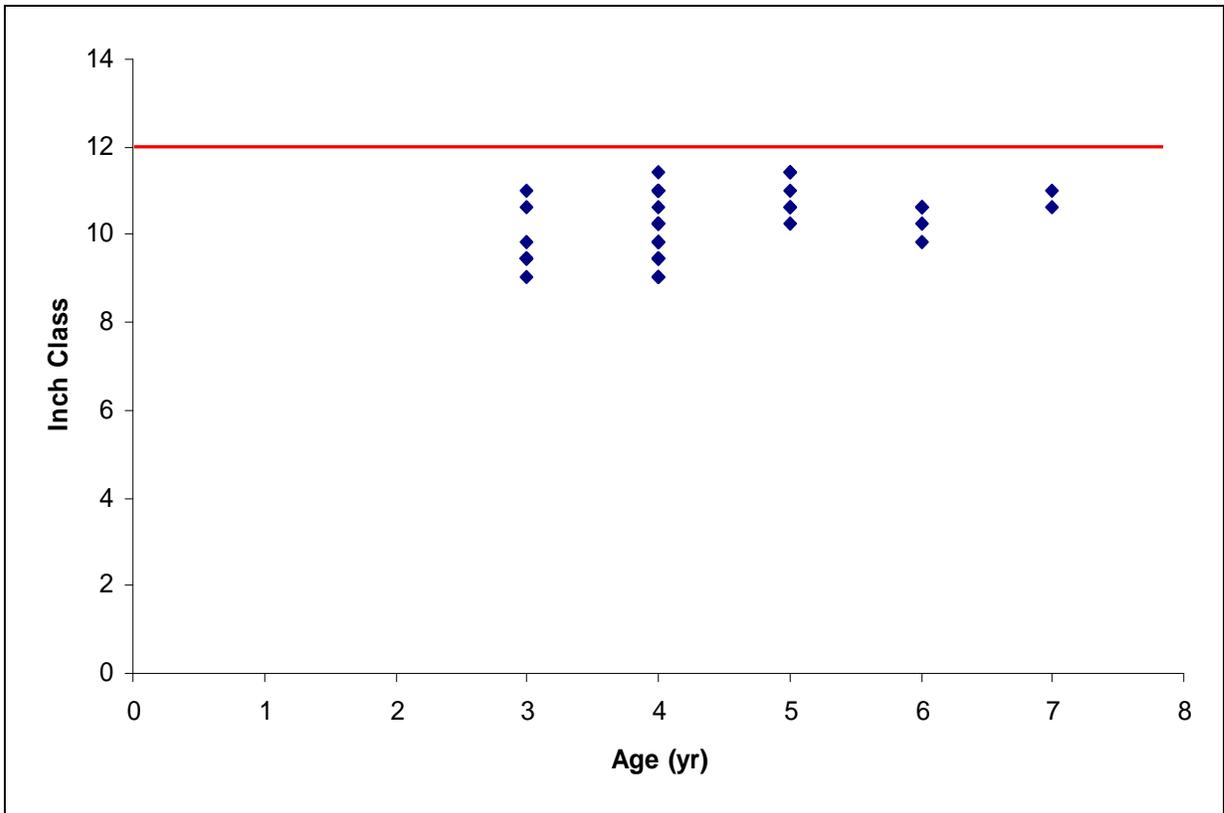
**Figure 12.** American shad inch class.



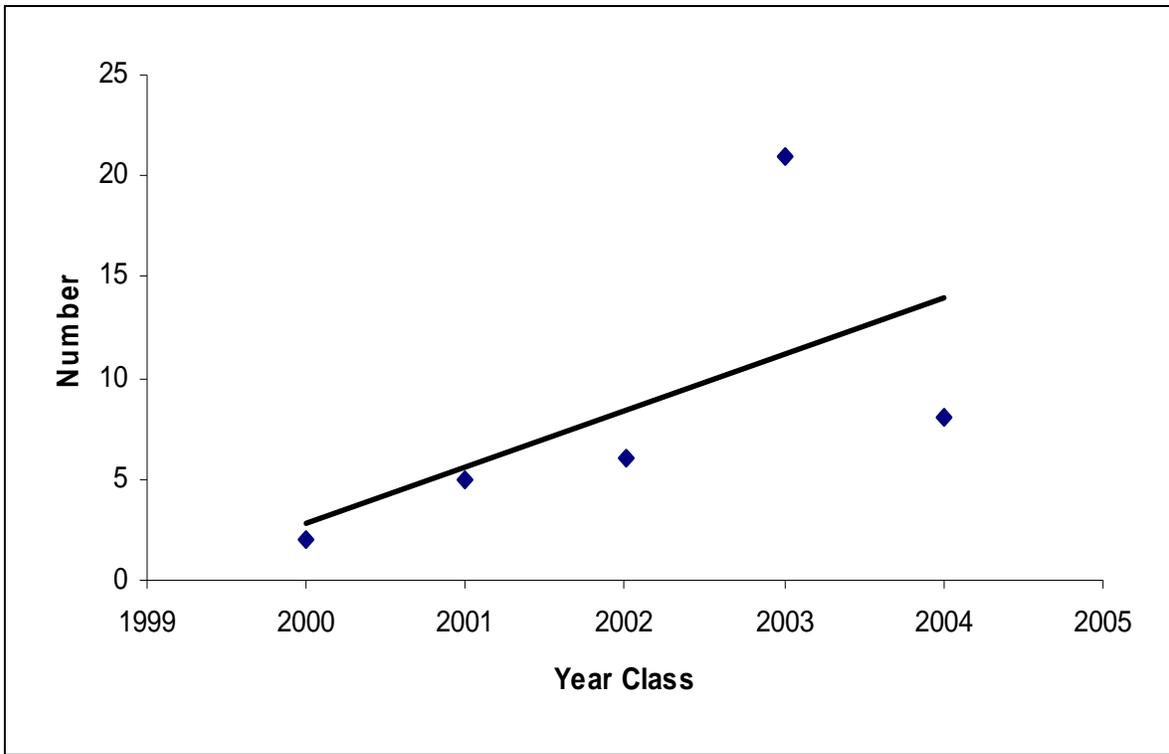
**Figure 13.** Hickory shad length at age. The red line denotes 20 inch total length.



**Figure 14.** Hickory shad year class strength.



**Figure 15.** Alewife length at age.



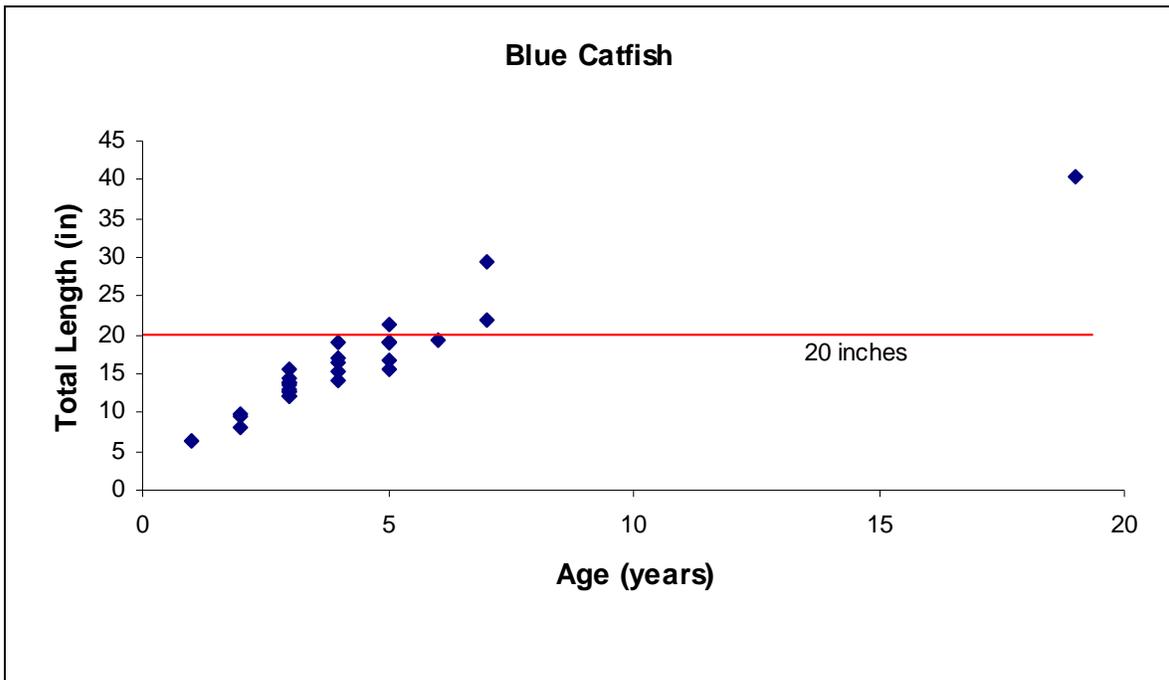
**Figure 16.** Alewife year class strength.

**Blue Catfish**

Anglers on the Nottoway River may have also noticed a new species of catfish in the lower section of the river showing up at the end of their lines. Blue catfish have been caught for several years now from about the Bronco Club downstream. These non-native catfish have invaded the river and will continue to expand throughout the system. Currently, fish up to 25 pounds have been reported by anglers and larger fish have been collected by biologists.

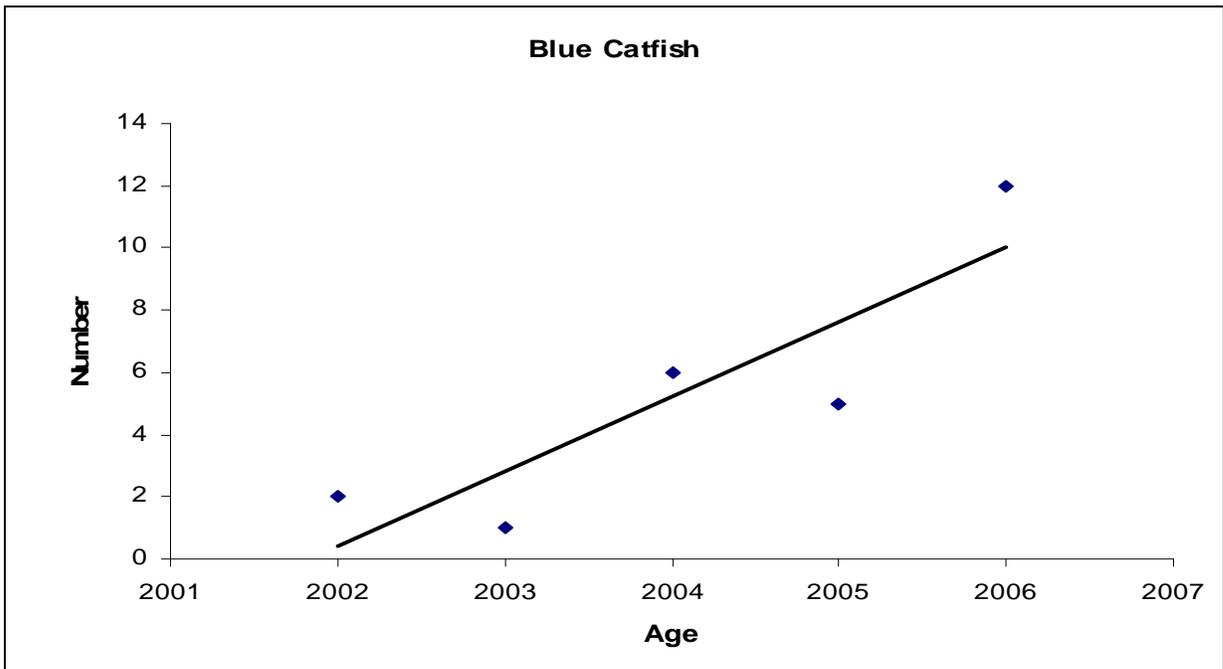
Data shows that blue catfish were probably established in the Nottoway River in 2003. In the summer of 2008, otoliths were collected from blue catfish and age analysis shows fish up to 7 years collected (Fig 17) with one exception – a single female 19 years old. It is the opinion of the biologist that this fish (among others) was caught by an angler in another waterbody and moved (stocked) into the Nottoway River. Those transplanted catfish then reproduced and started a new population in the Nottoway. Biologists will continue to monitor the population; however, once a population is established in an open system (river as opposed to a pond or lake) it is extremely difficult to remove them.

As of 2010, blue catfish look to be growing in numbers and in size of individuals. Blue catfish reach 20 inches in total length at about age 5 (Fig 17). The 19 year old female was about 40 inches long.

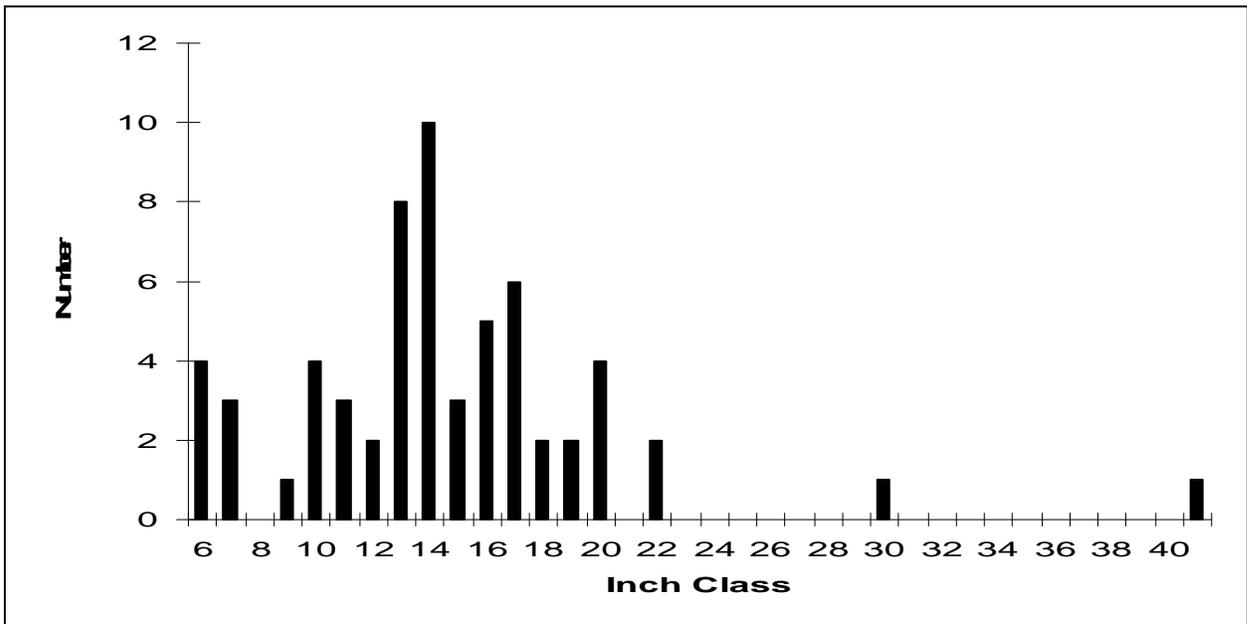


**Figure 17.** Blue catfish length at age. The red line shows the 20 inch total length.

Blue catfish have only been established in the Nottoway River for a few years, so it is difficult to relate year class strength from one year to the next. Data does show that each year, blue catfish have had spawning success similar to all other years. There has not been one year that is significantly better or worse than any other year. Even though some of the points in Figure 18 are above the “average line,” all of the points are close enough to be considered average themselves. Data shows the majority of the fish are between 13 and 17 inches (Fig. 19).



**Figure 18.** Blue catfish year class strength. Solid line indicates average recruitment.



**Figure 19.** Blue catfish inch classes.

### Summary

In the decade from 2000 through 2009, poor conditions on the Nottoway River negatively affected most all fish populations and in turn angler success. Drought conditions limited spawning success of largemouth and smallmouth bass, American and hickory shad and also Roanoke bass. The lack of water during May, June and July cause many issues with newborn fish. First, there is a lack of forage available in the water because nutrients carried by normal flows cease to exist. Secondly, concentrated fish during the low flow periods cause higher predation rates. Finally, low flow conditions can also cause low dissolved oxygen conditions which can cause mortality in juvenile fish.

Given all the poor conditions, anglers have had some success chasing after their quarry. White perch runs the last couple of years have been some of the best in recent history. The introduction – be it through unsolicited means – of blue catfish has produced a new fishery that could yield fish up to 50 pounds. Biologists will keep a close eye on the effects this introduction will have on the river. Also, steps have been taken to help the shad, herring and striped bass fisheries recover.

Smallmouth and largemouth bass populations look to have a bright future. There are currently many more small fish in the river than in recent years. As these fish grow and get older, anglers will reap the benefits. The 2003 year class will help carry this fishery for the next couple of years. The same can be said for Roanoke bass. 2004-06 were good years for “redeyes” and those fish should be getting into the 8 inch and larger size range. Anglers should enjoy those fish in 2010 and the next several years.

Anglers, spend some time out on your favorite Nottoway fishing hole and you could have a great day. This river offers an opportunity like no other around.....good numbers of fish and a variety of species to target!