Northwest River Yellow Perch and Black Crappie Summary

In February 2010, biologists with the Virginia Department of Game and Inland Fisheries partnered with local anglers on the Northwest River to collect biological data to manage yellow perch and black crappie. Anglers' catches of black crappie and yellow perch were weighed, measured, otoliths removed, and the sex of each fish was determined. This data was used to estimate length at age for each species and to determine spawning success. Data collected in the spring of 2010, was used to supplement data collected in previous years.

Length at age is a means for biologists and anglers to estimate the age of an individual fish from its total length. A mean length is calculated for each age fish.

Yellow Perch

As seen in Figure 1, an age 4 yellow perch could be only eight inches or it could be over twelve inches in length. This is most likely due to the fact that most of the larger (longer) fish are female; the fish closer to eight inches are most likely males.

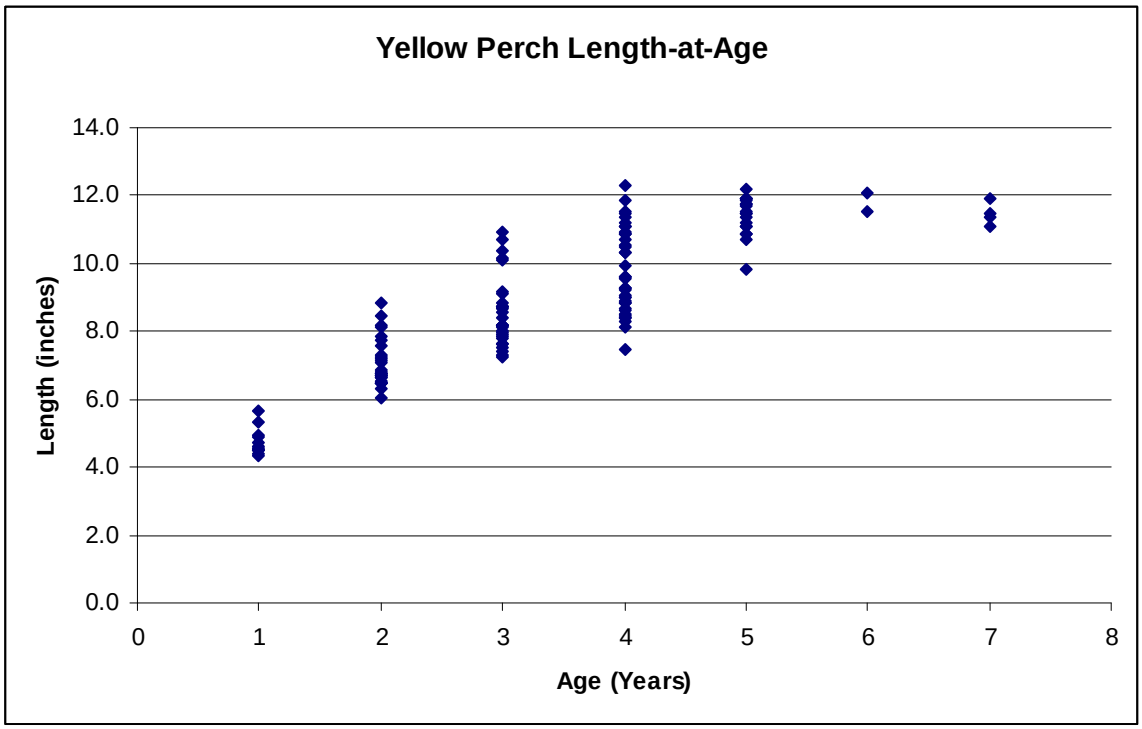

Figure 1. Length at age for Northwest River yellow perch.

Year class strength is a measurement used to determine spawning success of fish each year. It is determined by looking at the relative number of individuals born each year. Many factors can affect year class strength including water levels, competition within each species and between species, predation and mortality due to fishing and natural levels. However, all things being equal, the number of larger (older) fish should be fewer than the number of smaller (younger) fish in any given population.

Armed with this knowledge, biologists can paint a fairly accurate picture of year class strength given the data we collect. Figure 2 (below) shows relative year class strength of yellow perch in the Northwest River. As you can see, three (2003-2005) of the five years are above the "average" line. This represents that these years are better represented in the sample collected by biologists. 2002 and 2006 fall below the "average" line and therefore may have been years in which spawning success was less than normal. Also, this may mean that individuals from those years were not collected in the relative same amount as other years. The opposite could be said about years above the line.

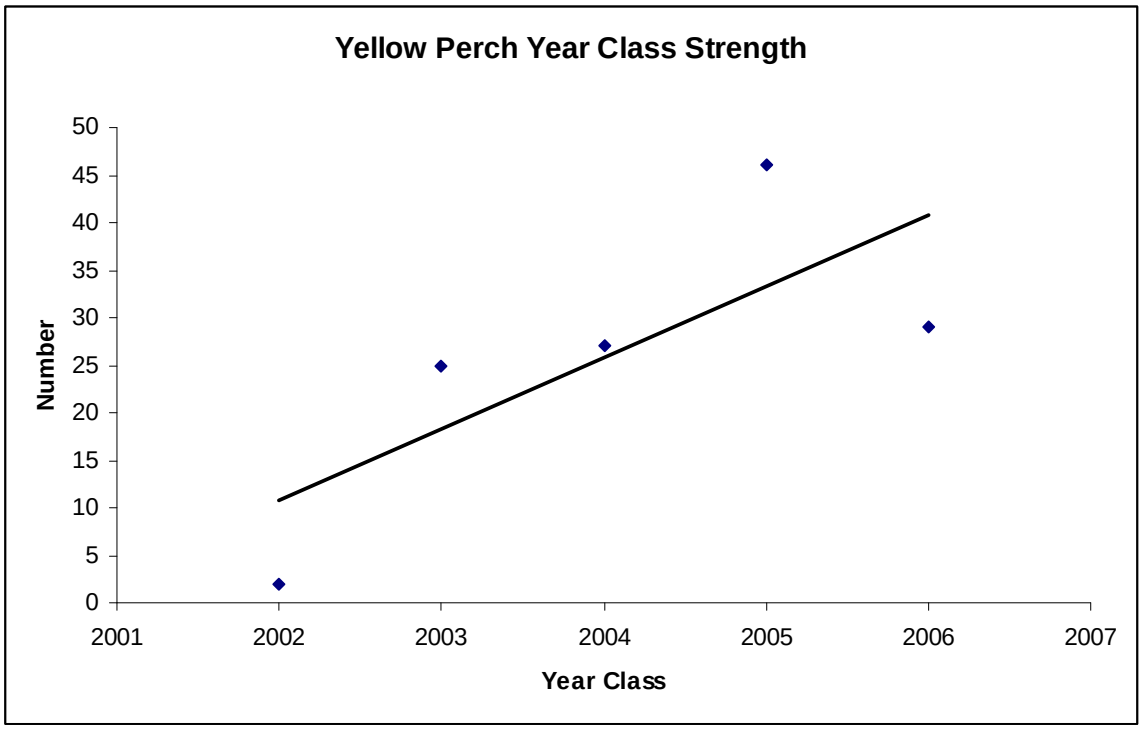

Figure 2. Yellow perch year class strength on the Northwest River.

Given the year class strength data combined with the length-at-age data above, biologists can predict that yellow perch born in 2005 will be about 10 – 12 inches in length and there should be many of them in the river in 2010. Those fish will be five years old and should support the fishery for a couple more years.

Black Crappie

Black crappie were collected from anglers during an early season fishing tournament. Data gathered by fisheries biologists indicate that the crappie in the Northwest River reach 10 inches in length at age 4 (Figure 3). Growth of black crappie levels off between 10 and 11 inches with a few fish reaching nearly 12 inches total length. Fish up to 7 years old were collected. The reason for the lack of crappie greater than 12 inches could be from many factors. The lack of available prey for larger fish either through competition within the species or competition with other species could be a primary component. Also, harsh environmental factors (i.e. summertime water temperatures or low dissolved oxygen) might prohibit crappies from reaching their full potential.

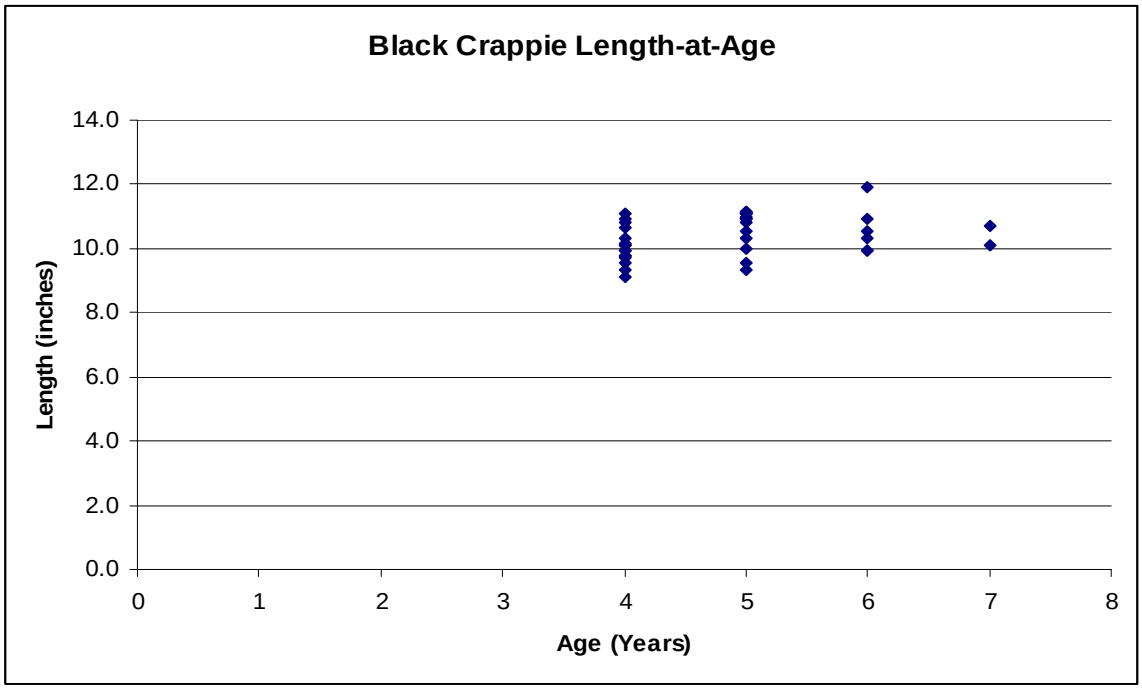

Figure 3. Northwest River black crappie length-at-age.

Black crappie in the Northwest River seem to have had relatively stable spawns every year since 2003. Each point on Figure 4 is near the "average" line (no one point is above or below the line) indicating stable recruitment. This is a good sign for anglers because stable spawns mean regular numbers of fish are entering the fishery each year to replace the ones that are lost to mortality and harvest.

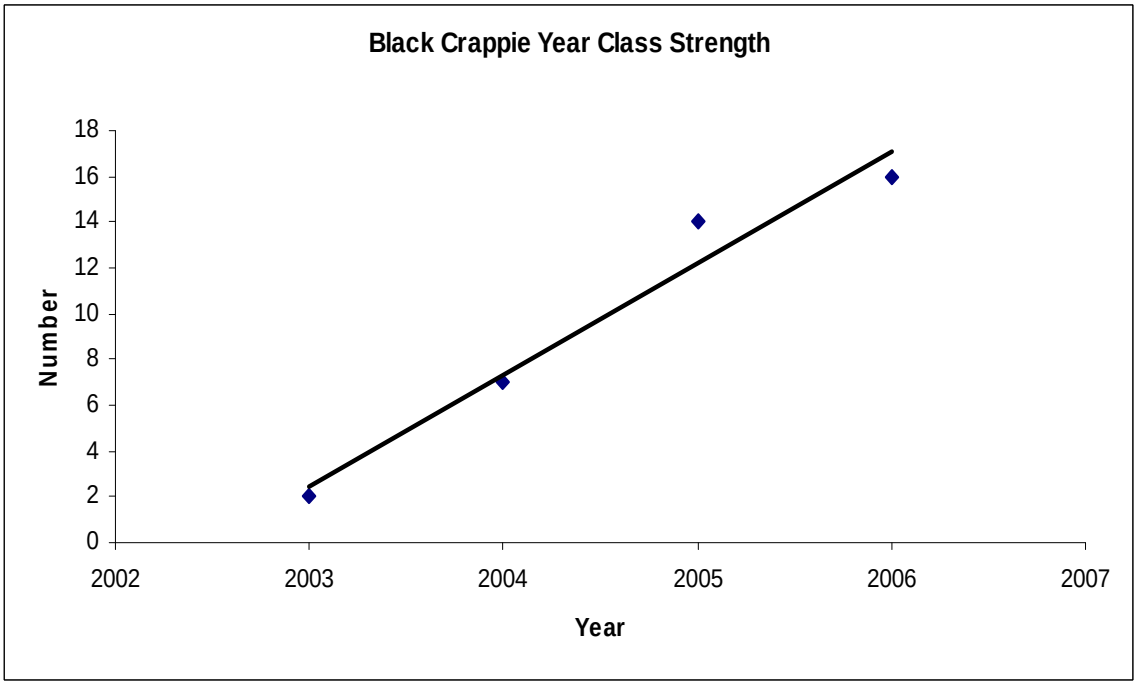

Figure 4. Northwest River black crappie year class strength.

Overall, anglers should be pleased with the number of both yellow perch and black crappie in the Northwest River. Growth of those species seems to be very good when compared to other waterbodies across the state. The outlook for large yellow perch looks good for the next couple of years because of the high number of 5 year old fish in the system. If the spawns from 2007 and 2008 are near the levels of 2005, then the fishery will have an abundant number of yellow perch over 10 inches for several years. Black crappie numbers should be steady for a number of years to come. Consistent recruitment couple with good growth will produce good numbers of 10 inch fish for the next few years. However don't expect to see any 12 inch fish, because it looks like the system won't support many (if any) of them. However, 9 – 11 inch fish should be plentiful.

Get out an enjoy fishing on the Northwest River. It is a great fishery with beautiful scenery, especially if you're looking for some table fare like crappie and yellow perch.