



January, February, March 2009

The first quarter of 2009 was spent analyzing and reporting from data from past population samples and creel surveys and attending professional fisheries meetings held during that time.

The results from the ongoing creel survey below Bull Shoals and Norfolk Dams (Figure 1) indicate that the high flows from these projects last year had a significant impact on angling effort. Figure 2 shows the combined seasonal angling effort for these two fisheries over the last seven years. A “creel year” as shown in Figure 2 runs from September 1st of a given year through August 31st of the following year. For example the 2007-2008 creel year began September 1, 2007 and ended August 31, 2008. So the spring and summer angling effort estimates for the 2007-2008 creel year would have been influenced by the high water. Looking at the graph it is clear that the spring and summer estimates for 2007-2008 are the lowest observed for those seasons in the last seven years. In spring 2008, anglers spent about 252,000 hours fishing the Bull Shoals and Norfolk Tailwaters. This is a 37% reduction in angling effort compared to the previous spring. Likewise the summer 2008 estimate reflects a 26% reduction in angling effort for the same time period the previous year.

Although fewer anglers were fishing for much of last year, those that were fishing were successful. Angler catch rates for rainbow trout in 2007-2008 were 0.87 trout/hour and 0.89 trout/hour for Bull Shoals and Norfolk, respectively. These catch rates are well within the range of 0.80 – 1.0 trout/hour generally considered satisfactory by trout anglers. This despite the fact that approximately 12% fewer rainbow trout were stocked in 2007-2008 compared to the previous year. This reduction in the number of rainbow trout stocked was due to the loss of over 300,000 rainbow trout at the Jim Hinkle / Spring River State Fish Hatchery as a result of flooding.

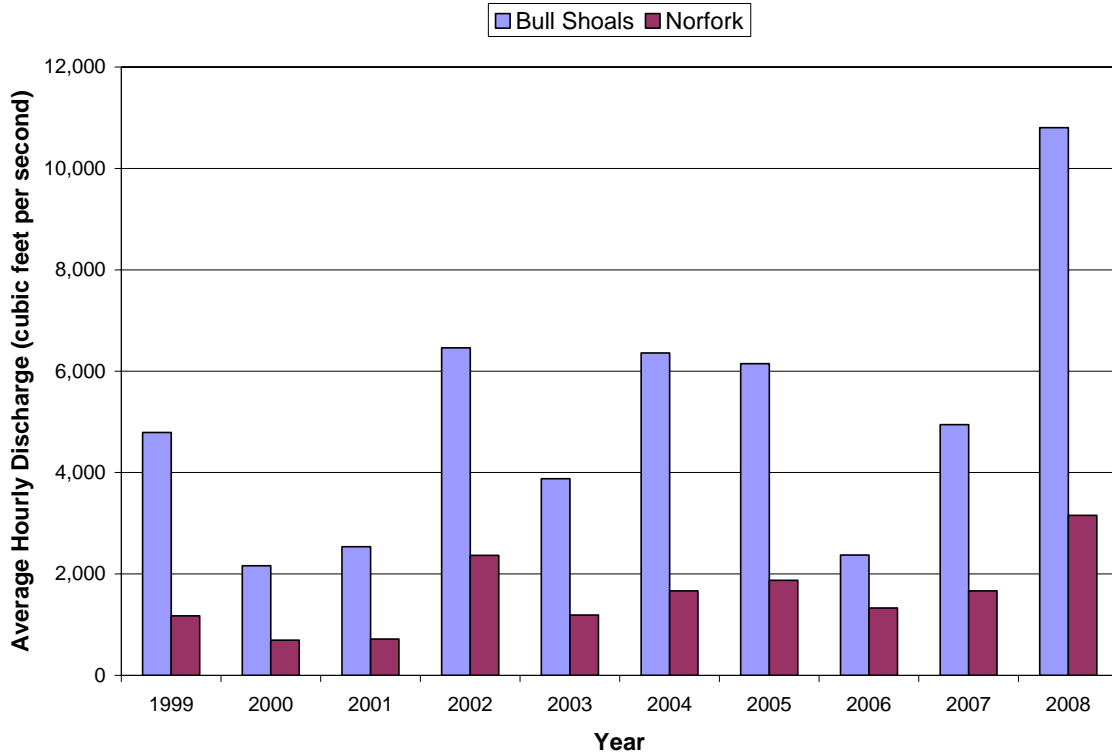


Figure 1. Average hourly discharge, reported as cubic feet per second, from Bull Shoals and Norfolk Dams for calendar years 1999-2008.

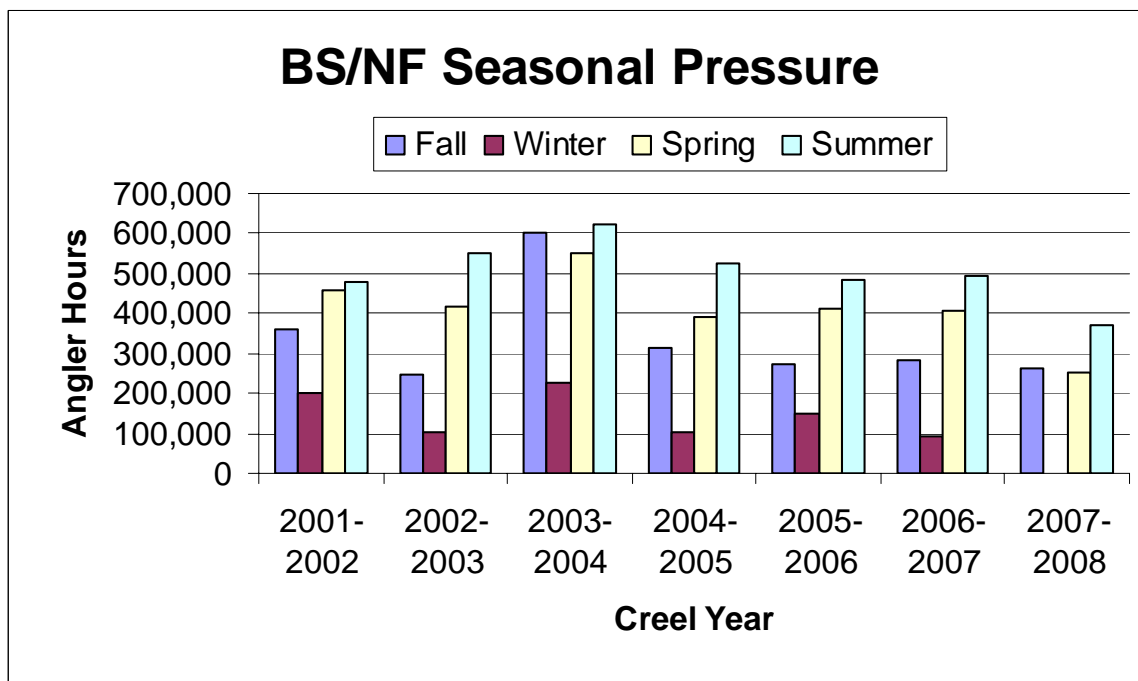


Figure 2. Seasonal estimates of angling pressure (reported as angler hours) for Bull Shoals and Norfolk Tailwaters for the last seven years of the creel survey. A seasonal estimate for winter 2007-2008 is not available because of the need to locate a new pilot.

Trout Management Program and District 2-Fisheries biologists have submitted regulation change recommendations for Bull Shoals and Norfolk Tailwaters for 2010. These recommendations are based on two University of Arkansas studies and public input and are the continuation of the management plan process for these two fisheries. The public will have the opportunity to provide additional comments on these recommendations at upcoming meetings in May. If approved, these changes would go into effect January 1, 2010.

The first recommendation would remove the Sylamore catch-and-release area located on the lower end of Bull Shoals Tailwater. Previous population samples and results of the University of Arkansas studies show that this special regulations area is not achieving the management objective of increasing the abundance of larger (> 16 inches) trout. The movement and mortality, which involved tracking trout implanted with radio transmitters, found that high water temperatures in the summer was the factor likely limiting the effectiveness of this area. Beginning in May, water temperatures in this section of the river began to exceed 70° Fahrenheit and approached 75° Fahrenheit, a range which is potentially lethal for trout. As the water began to warm the trout either moved upstream out of the catch-and-release area where they were vulnerable to legal angler harvest. Those that did not move out the area succumbed to the high water temperatures and died.

The next regulation recommendation would involve expanding the boundaries of the Norfolk catch-and-release (C&R) area. Currently, the C&R area extends from the mouth of Otter Creek to approximately 100 yards above the Bill Ackerman/River Ridge Access (Figure 3). Proposed changes would move the upstream boundary up to the bottom of Long Hole and the downstream boundary to the first island upstream of the mouth of the river (Figure 4). This would increase the length of the catch-and-release area from about 1.0 mile to approximately 2.7 miles. Results of the movement/mortality study revealed that although trout generally stayed within the catch-and-release area those that did move outside of the area were quickly harvested. This is attributable to the high angling pressure on the Norfolk Tailwater, which on a per mile basis is four times higher than any other trout water in Arkansas. Expanding the length of this area would substantially increase the protection afforded to the trout by these special regulations.

Focusing on the Norfolk Tailwater for improving quality trout management would also take advantage of the higher growth potential observed for this system. The University of Arkansas growth and bioenergetics study estimated the growth rate of brown trout at about 6 inches per year for brown trout < 10 inches in length. Brown trout in the 10-16 inch length group grew about 4 inches per year while brown trout > 16 inches grew 2 inches per year. Although rainbow trout in the Norfolk C&R area grew slower (2 inches/year) than brown trout, the growth rate for both species was higher than that observed on the Bull Shoals Tailwater.

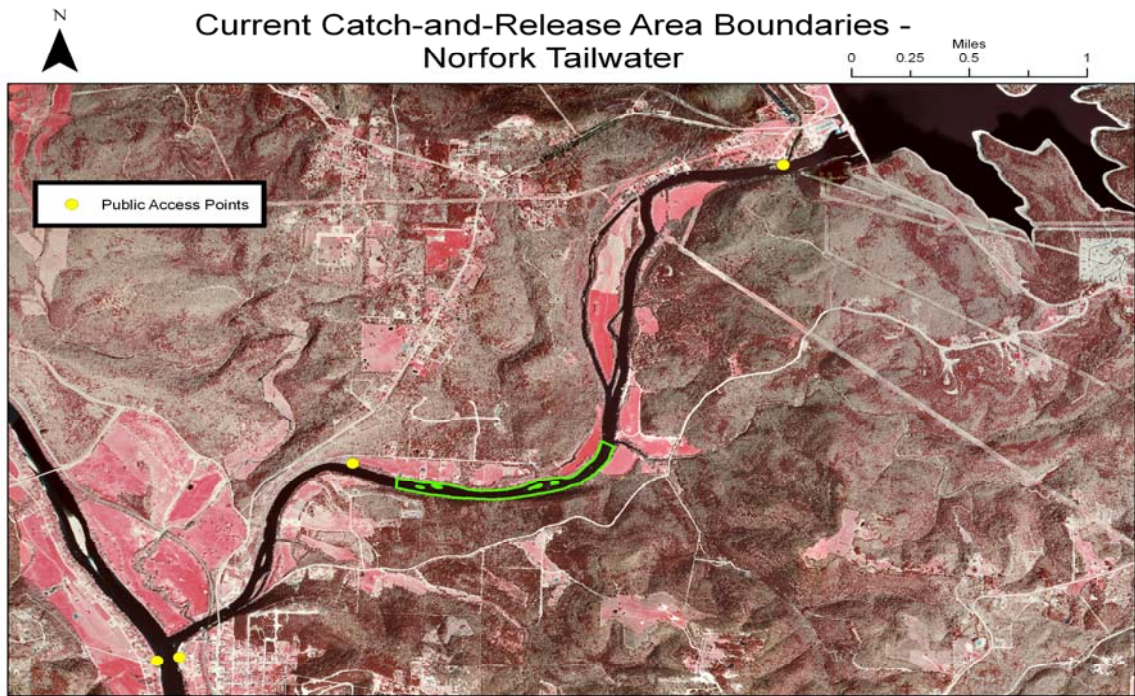


Figure 3. Map depicting the current boundaries of the Norfolk catch-and-release area.

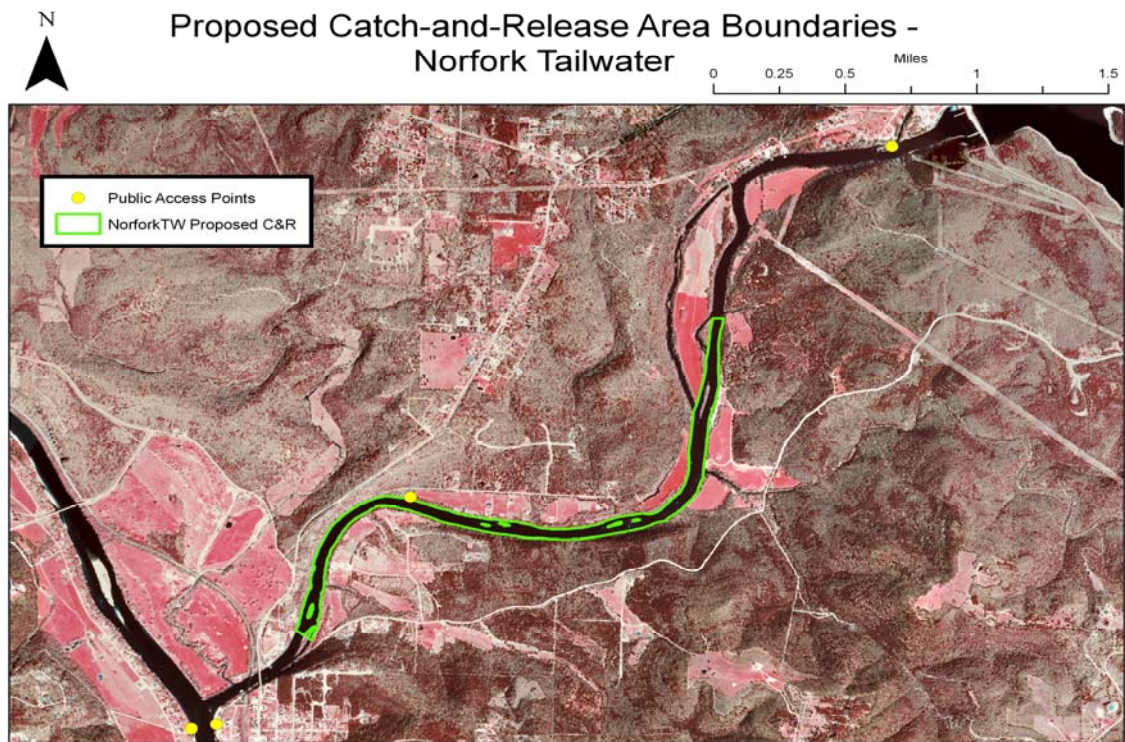


Figure 4. Map depicting the proposed boundaries of the Norfolk catch-and-release area.

The final regulation recommendation would change the tackle restrictions currently in place for catch-and-release areas on Bull Shoals and Norfolk Tailwaters to allow barbed and treble-hooked artificial lures to be used. The extensive scientific literature on the subject of hooking mortality indicates that artificial lures of any type will likely yield less than 10% hooking mortality. This compared to hooking mortality rates associated with bait fishing, which can range as high as 50%-60%. The key to reducing post-release mortality is reducing the incidence of deep or gut hooking, which is more frequent with bait fishing. The prohibition of harvest and prohibiting the use of natural and scented baits would continue in these areas. However, allowing the use of artificial lures would still achieve sufficient post-release survival, but would allow for a wider range of anglers to fish these areas.