

West Branch Susquehanna River and Susquehanna River

2012 Young-of-year black bass survey

Young-of-year (YOY) or recently spawned black bass (*Micropterus* species) are surveyed annually by Division of Fisheries Management staff at major rivers statewide as an index of reproductive success. Since 2005, this index has also been used to determine the prevalence of a recently emerging disease that has been affecting YOY smallmouth bass in the Susquehanna River system as well as for detection in areas that have not seen this condition historically.

Division of Fisheries Management staff from Areas 3, 4, 6, and 7 surveyed YOY black bass (primarily smallmouth bass) in the West Branch Susquehanna River, upper Susquehanna (North Branch), lower Susquehanna, and middle Susquehanna River, respectively. Surveys are conducted using backpack electrofishing gear targeting near-shore, gravel and cobble habitats favored by YOY smallmouth bass at early stages of their development.



Division of Fisheries Management staff conducting a YOY black bass survey on the middle Susquehanna River

Survey results varied by reach, generally decreasing in density in a downstream direction. The moderate stream flows in the late spring delayed the spawn; however, conditions normalized later during early summer and allowed for typical spawning activity in most locations. The upper Susquehanna River (North Branch) yielded YOY catch rates above the long term median (Figure 1). The West Branch Susquehanna River had catch rates below 2010 and 2011 rates and approximately a quarter of the long-term median (Figure 2). The middle Susquehanna River saw catch rates slightly below the historic median but the highest since 2005 (Figure 3). The lower Susquehanna River had catch rates below the historic median and slightly lower than 2010 and 2011 catch rates (Figure 4).

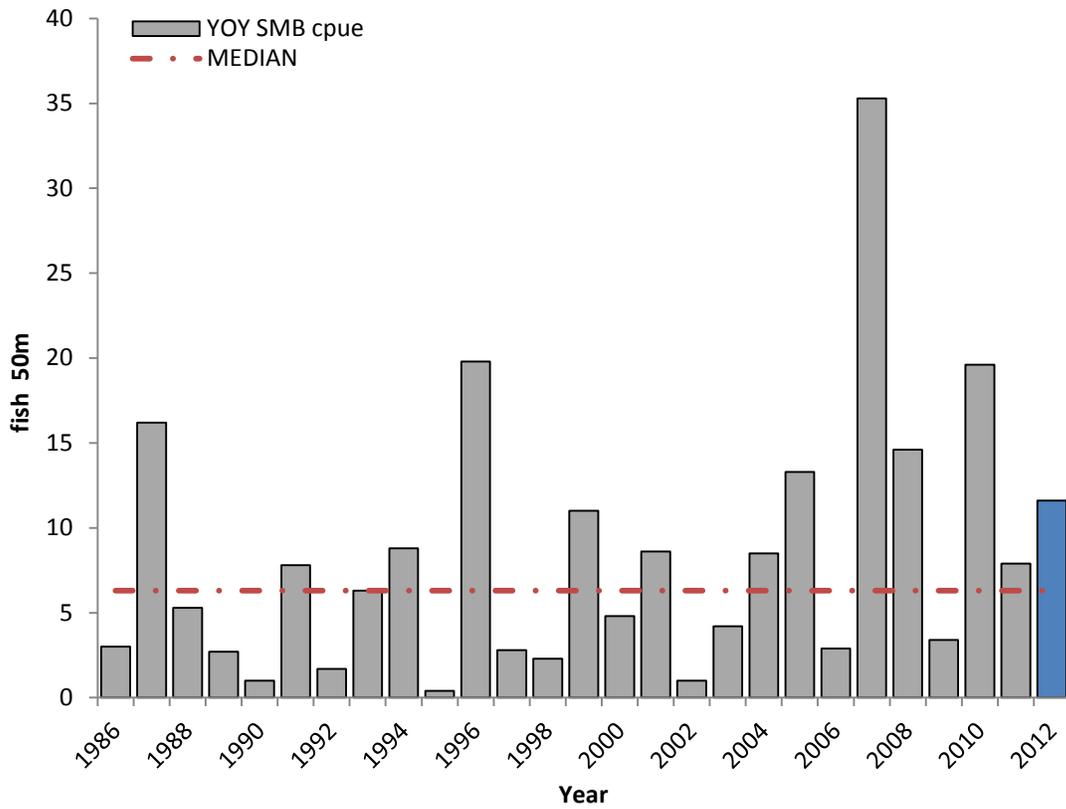


Figure 1. Catch rate of young-of-year black bass at the upper Susquehanna River (North Branch).

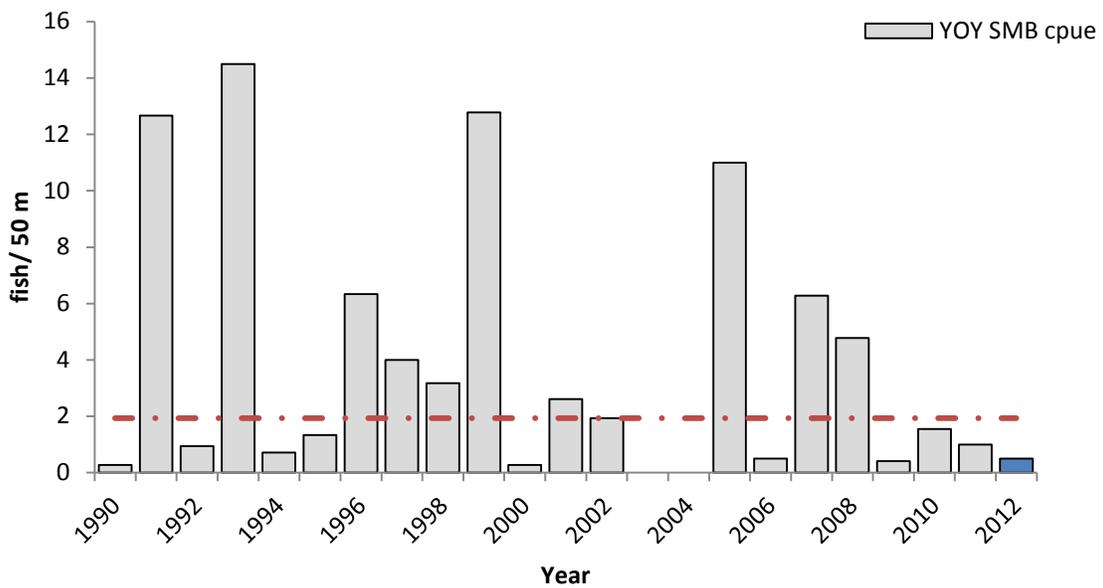


Figure 2. Catch rate of young-of-year black bass at the West Branch Susquehanna River. Blank values indicate years when surveys were not conducted not zero values. Note difference in scale among graphics.

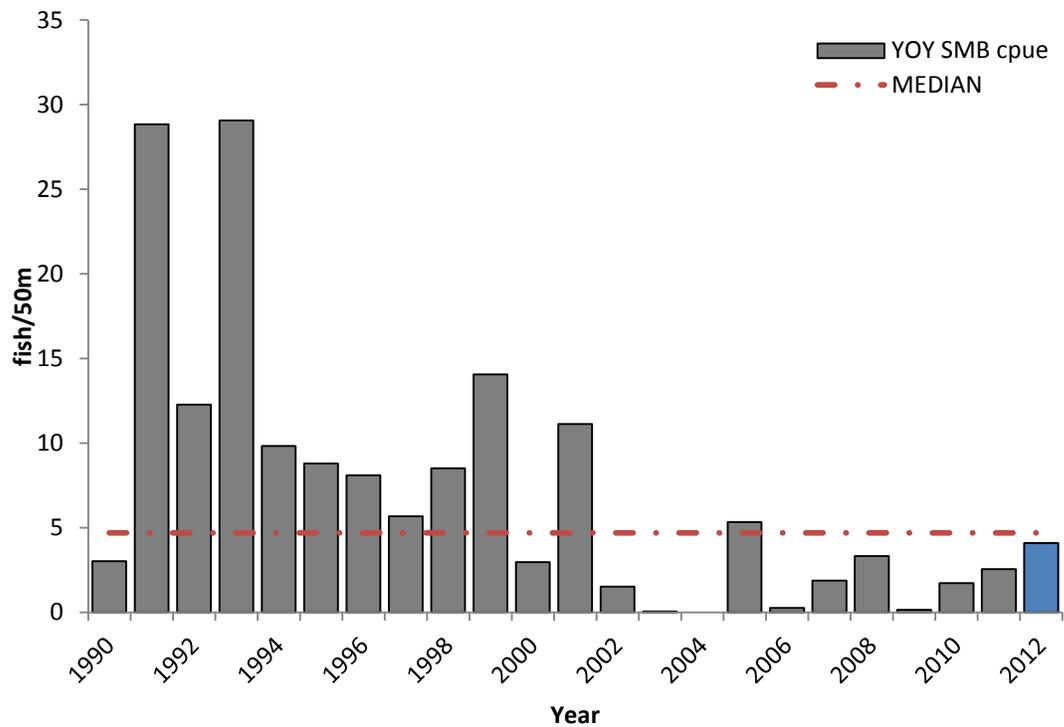


Figure 3. Catch rate of young-of-year black bass at the middle Susquehanna River (Sunbury to York Haven Dam). Blank values indicate years when surveys were not conducted not zero values. Note differences in scale among graphics.

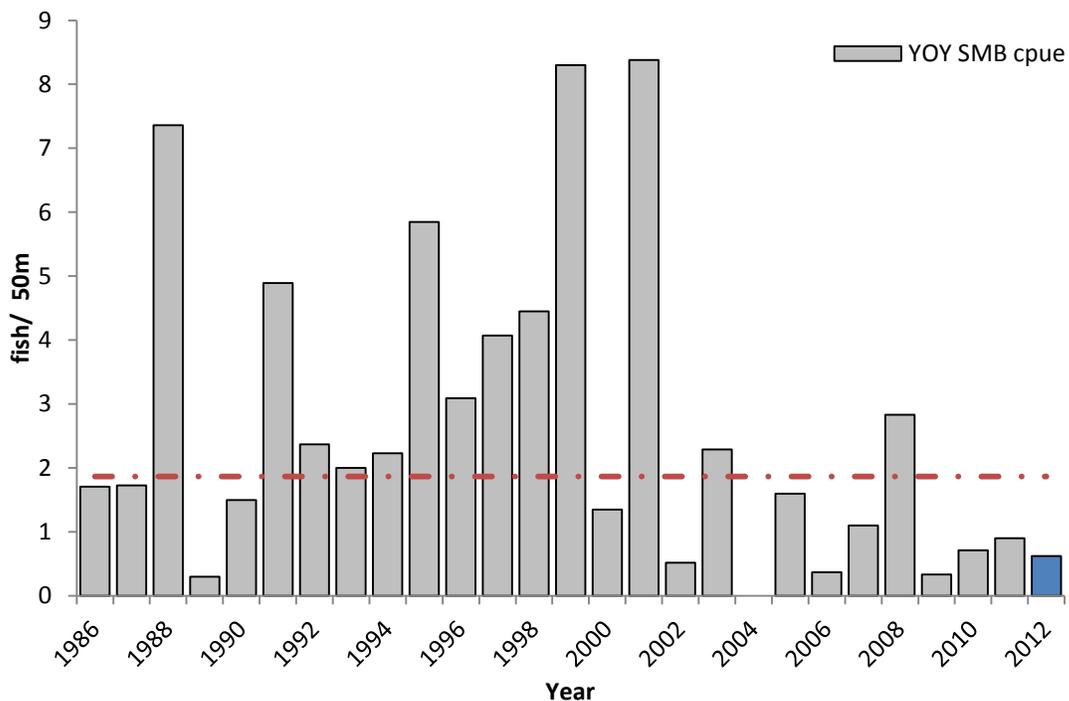


Figure 4. Catch rate of young-of-year black bass at the lower Susquehanna River (York Haven Dam to Holtwood Dam). Blank values indicate years when surveys were not conducted not zero values. Note differences in scale among graphics.

Prevalence of disease among YOY smallmouth bass sampled in 2012 was highest in the upper Susquehanna River. The year 2012 marked the highest prevalence of disease observed in the upper Susquehanna River since outbreaks were first observed in 2005 (Figure 5). At the time of the initial surveys, there were no reported incidence of disease in the West Branch Susquehanna River, middle Susquehanna River, or lower Susquehanna River; however, modest disease outbreaks occurred in those reaches after initial collections in mid-July. The limitations of survey gear and the catchability of the YOY black bass after the initial, mid-July collection prevent accurate estimates of prevalence so quantitative estimates of disease prevalence for those reaches cannot be reported for 2012.

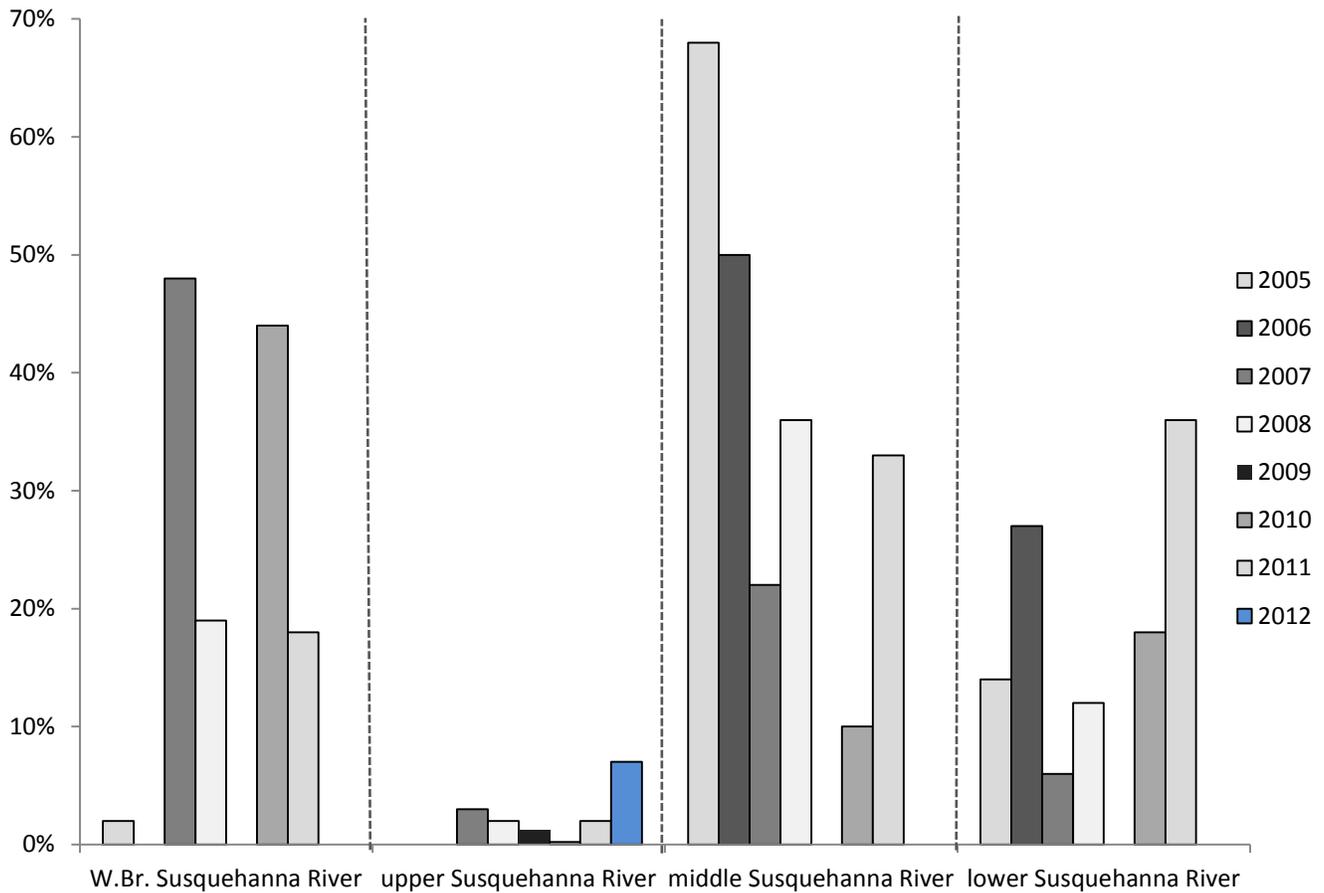


Figure 5. Prevalence of disease among YOY smallmouth bass since discovery in 2005 at the West Branch Susquehanna River and different reaches of the Susquehanna River.

Future boat electrofishing surveys targeting adult smallmouth bass will provide further insight into the survival and contribution level of the 2012 year class to the catchable bass population in the West Branch Susquehanna River and various reaches of the main-stem Susquehanna River.