

# West Branch Susquehanna and Susquehanna Rivers

## 2011 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, and other systems where it has been recently detected.

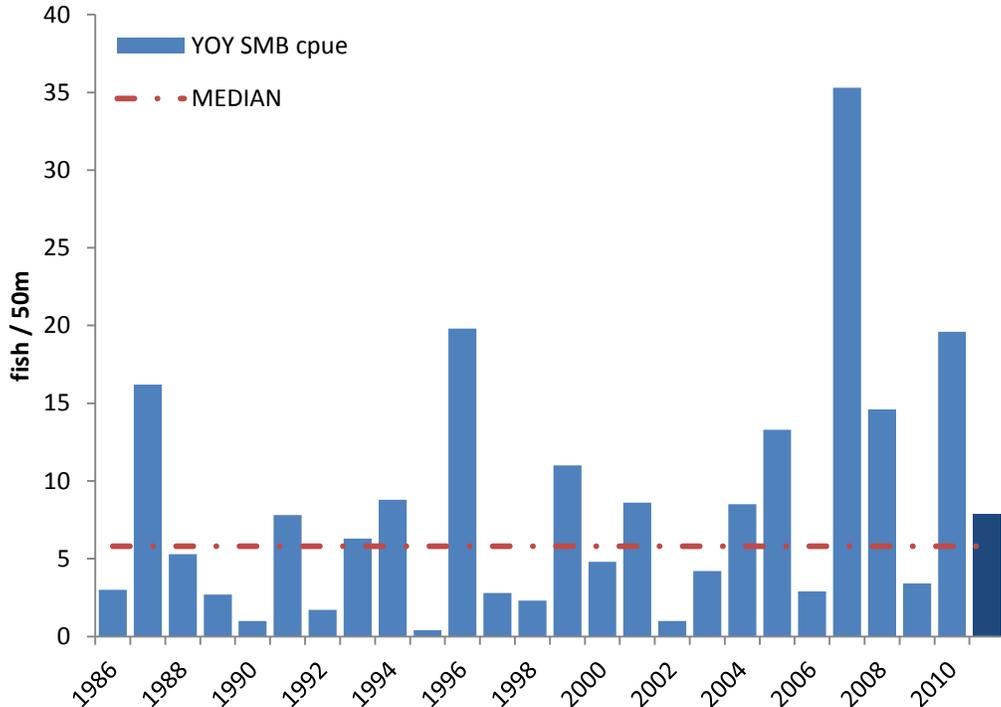
Division of Fisheries Management staff from Areas 3, 4, 6, and 7 surveyed YOY black bass (primarily smallmouth bass) in the West Branch Susquehanna River, upper Susquehanna (North Branch), lower Susquehanna, and middle Susquehanna River, respectively. Surveys are conducted using backpack electrofishing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



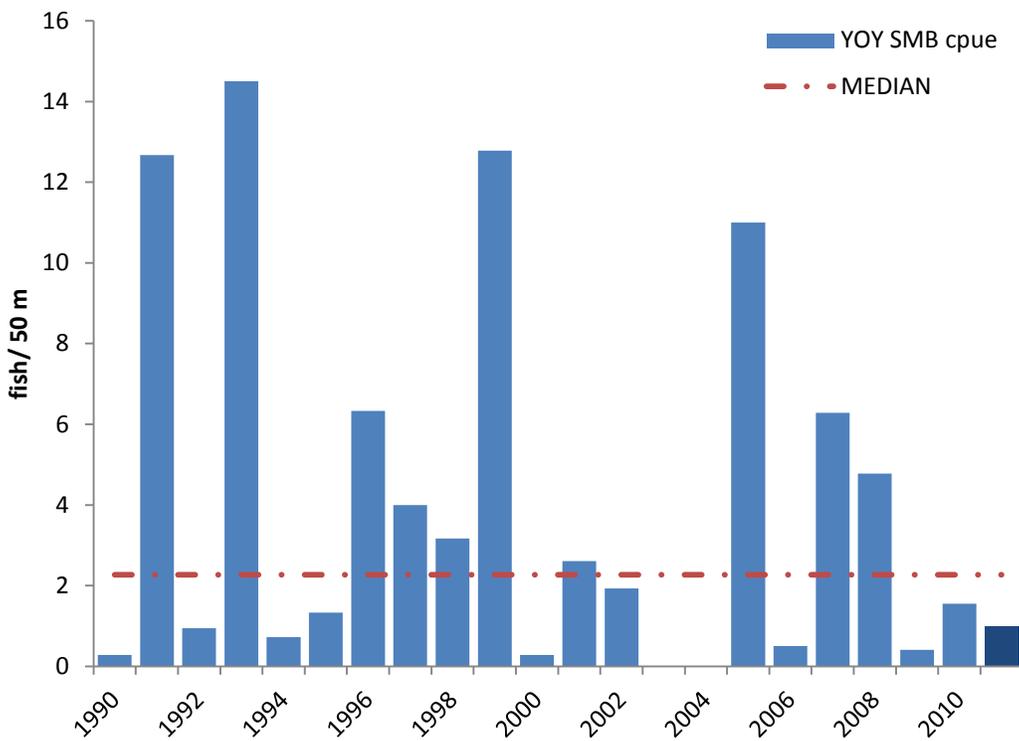
*Division of Fisheries Management staff conducting a YOY black bass survey at the middle Susquehanna River*

Survey results varied by reach, generally decreasing in density in a downstream direction. The high stream flows and cold temperatures in the late spring likely delayed spawning; however, conditions moderated in very late spring – early summer yielding favorable spawning and nursery temperatures and flows. 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 slightly below 2010 rates and approximately half of the long-term median (Figure 2). The middle and lower Susquehanna River also had catch rates below the historic median catch rates, but higher than 2009 and 2010 catch rates (Figures 3-4).

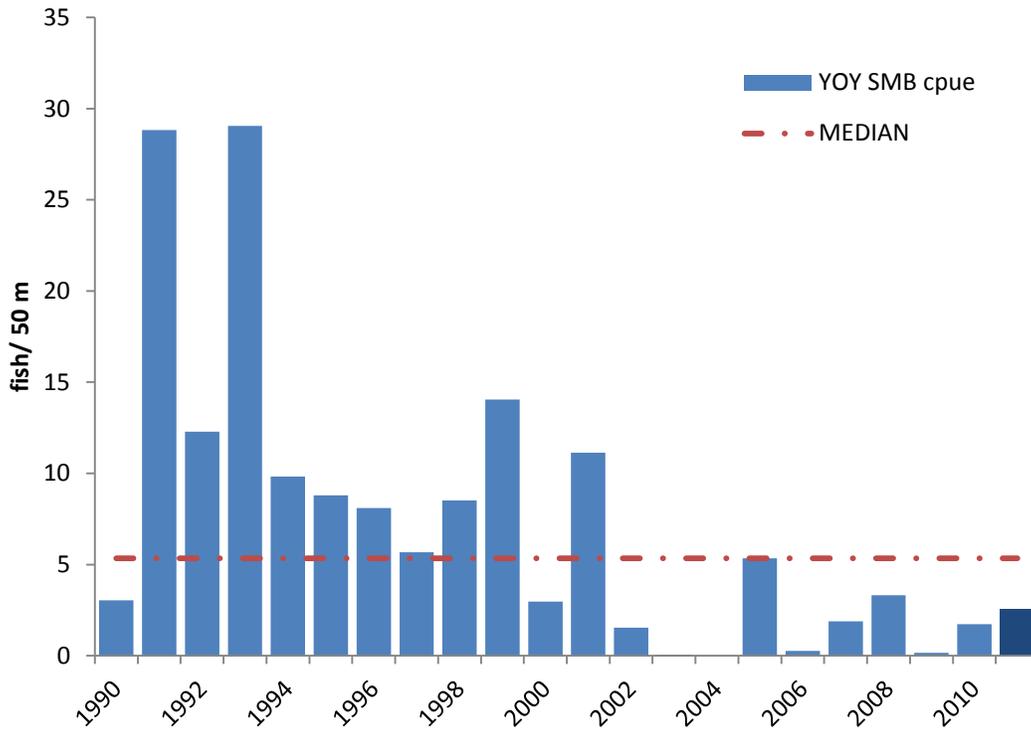
**Figure 1: Catch rate of young-of-year black bass at the upper Susquehanna River (North Branch).**



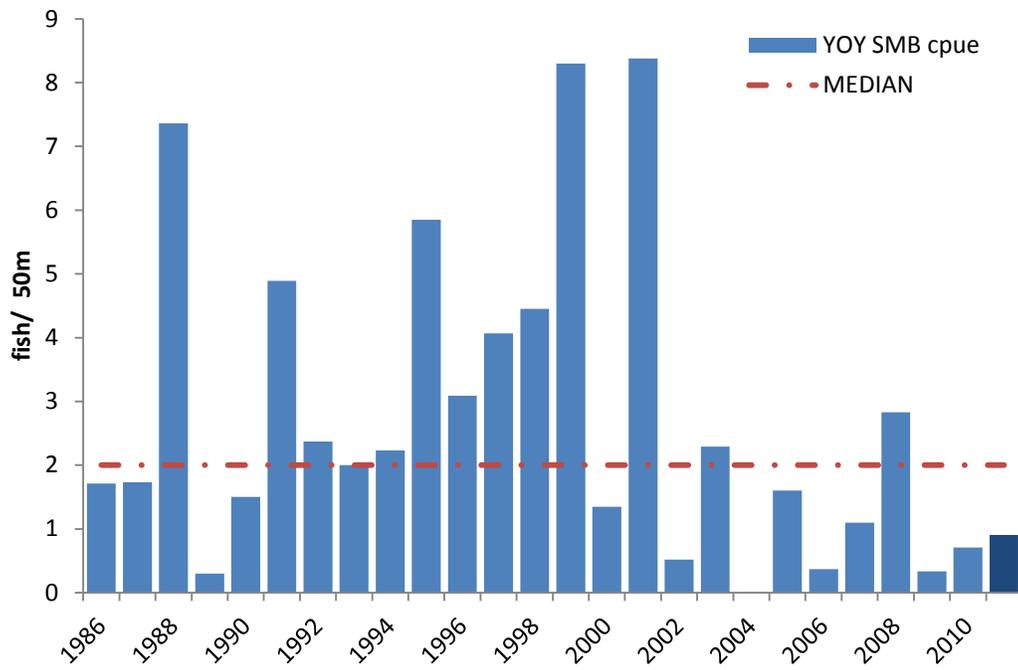
**Figure 2: Catch rate of young-of-year black bass at the West Branch Susquehanna River. Blank values indicate years when surveys were not conducted not zero values. Note difference in scale among graphics.**



**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.**

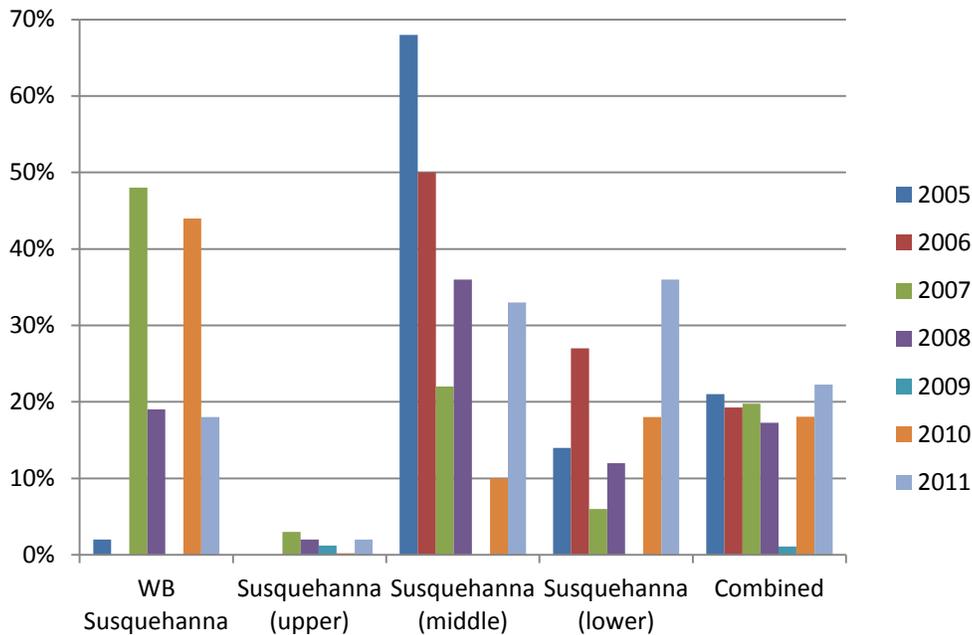


**Figure 4: Catch rate of young-of-year black bass at the lower Susquehanna River (York Haven Dam to Holtwood Dam). Blank values indicate years when surveys were not conducted not zero values. Note differences in scale among graphics.**



Prevalence of disease among YOY smallmouth bass sampled in 2010 was low in the West Branch Susquehanna River and upper Susquehanna River and moderate in the middle and lower Susquehanna River reaches at the time of sampling (Figure 5).

**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 contribution level of the 2011 year class to the catchable bass population in the West Branch Susquehanna and Susquehanna rivers.

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