

West Branch Susquehanna River and Susquehanna River

2013 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 *Micropterus dolomieu* 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 at the middle Susquehanna River

Survey results varied by reach during 2013. The high stream flows in late-June and early-July negatively affected YOY Smallmouth Bass densities, which is common among riverine Smallmouth Bass populations. The West Branch Susquehanna River and all reaches of the Susquehanna River had catch rates below long-term medians. The upper Susquehanna River (North Branch), West Branch Susquehanna River, and middle Susquehanna River yielded YOY catch rates far below the long term medians (Figures 1-3, respectively). The lower Susquehanna River had catch rates only slightly below the historic median (Figure 4).

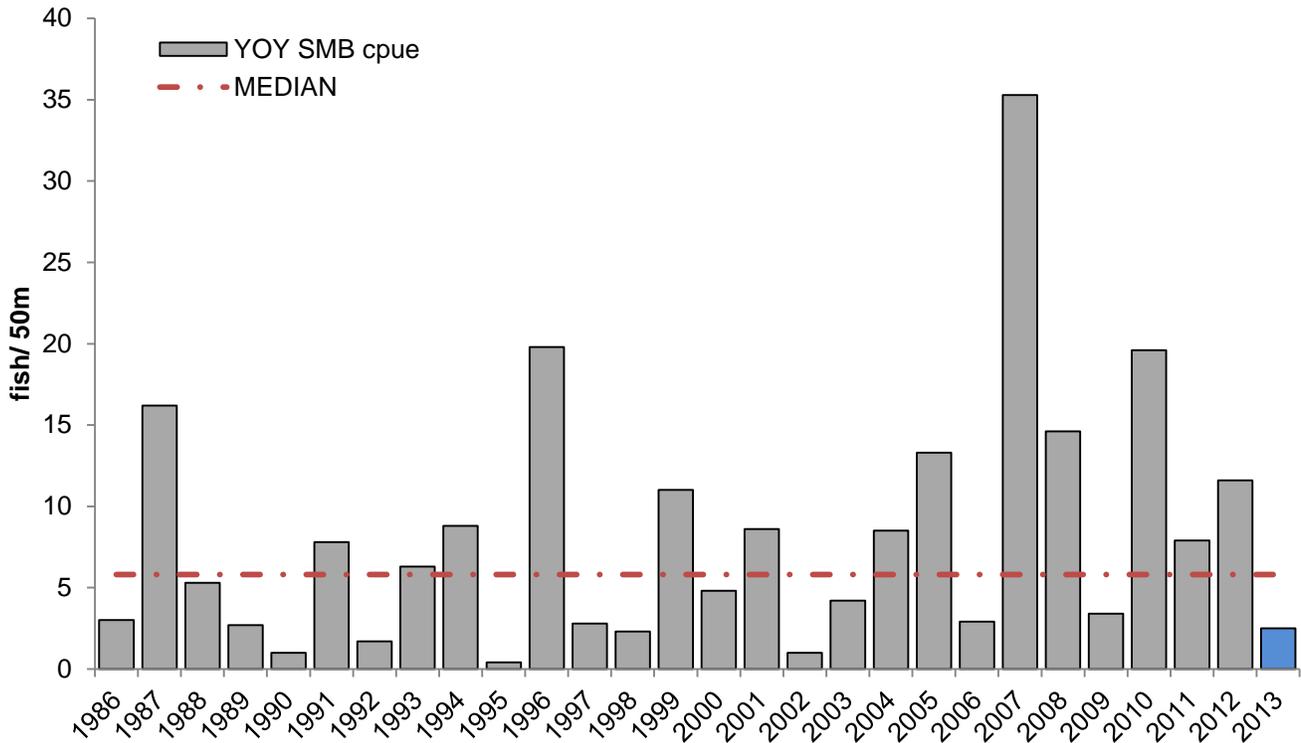


Figure 1: Catch rate of young-of-year Smallmouth Bass at the upper Susquehanna River (North Branch).

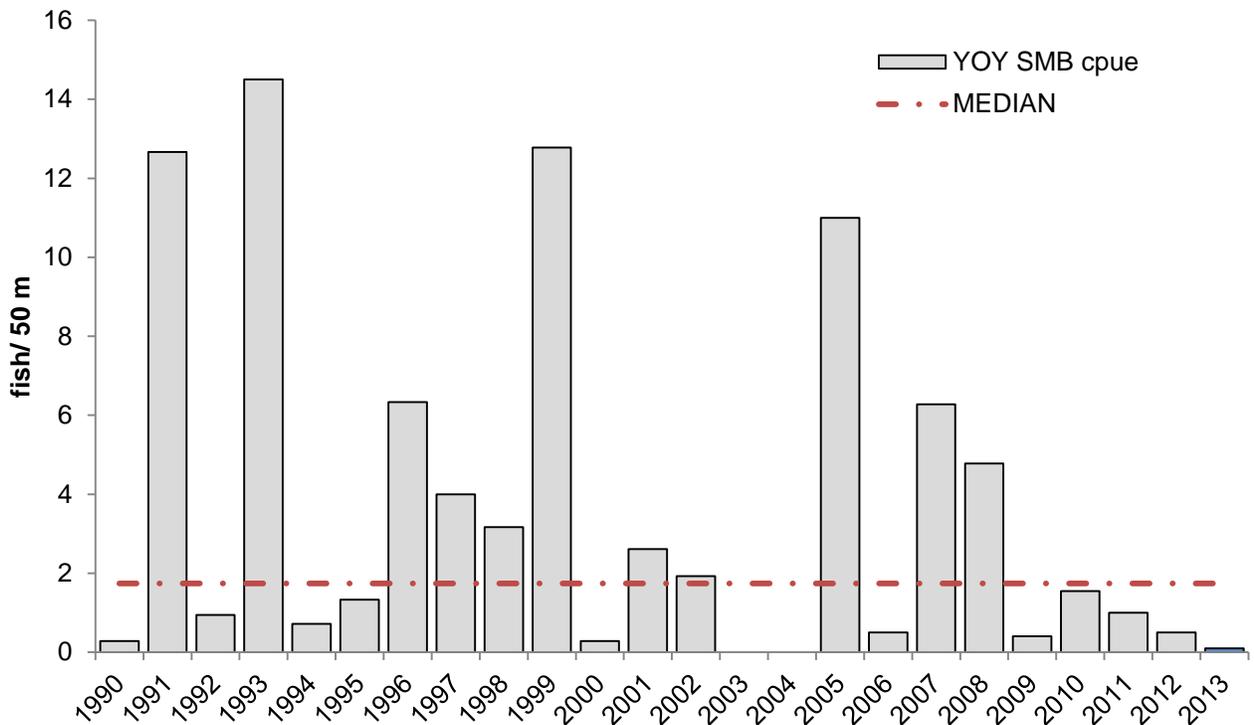


Figure 2: Catch rate of young-of-year Smallmouth Bass at the West Branch Susquehanna River. Blank values indicate years when surveys were not conducted not zero values. Note difference in scale among graphics.

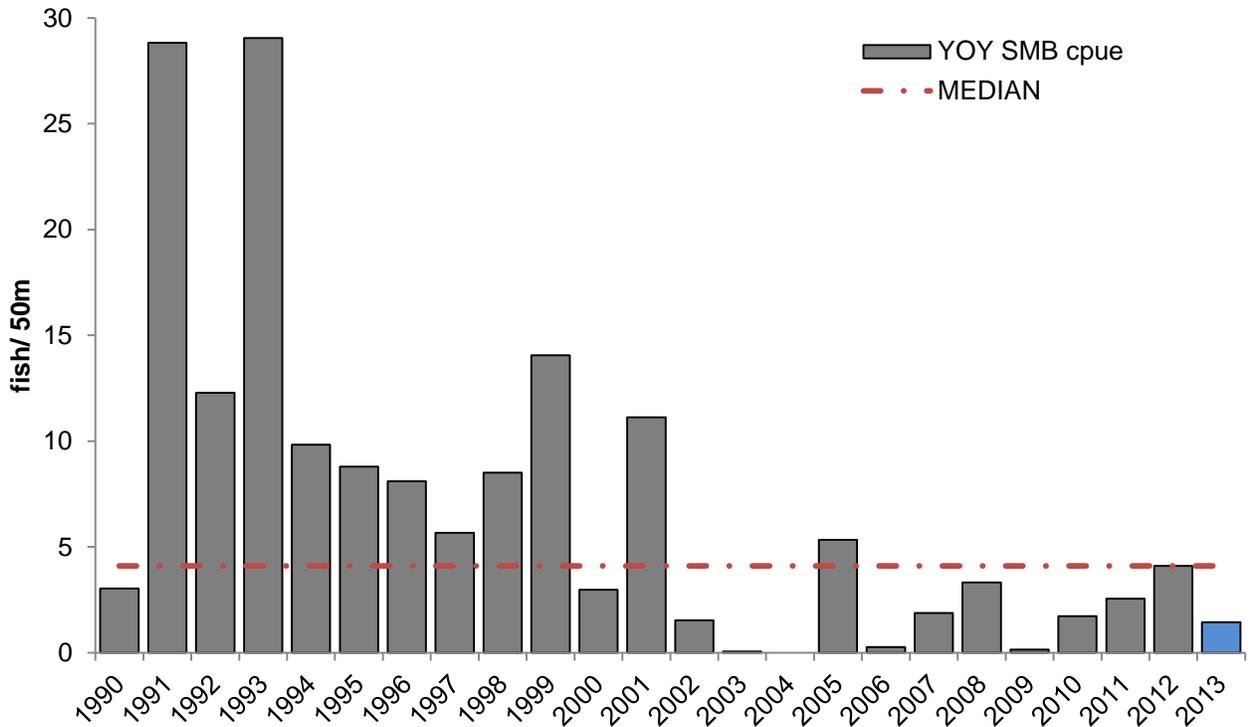


Figure 3: Catch rate of young-of-year Smallmouth Bass at the middle Susquehanna River (Sunbury to York Haven Dam). Blank values indicate years when surveys were not conducted not zero values. Note differences in scale among graphics.

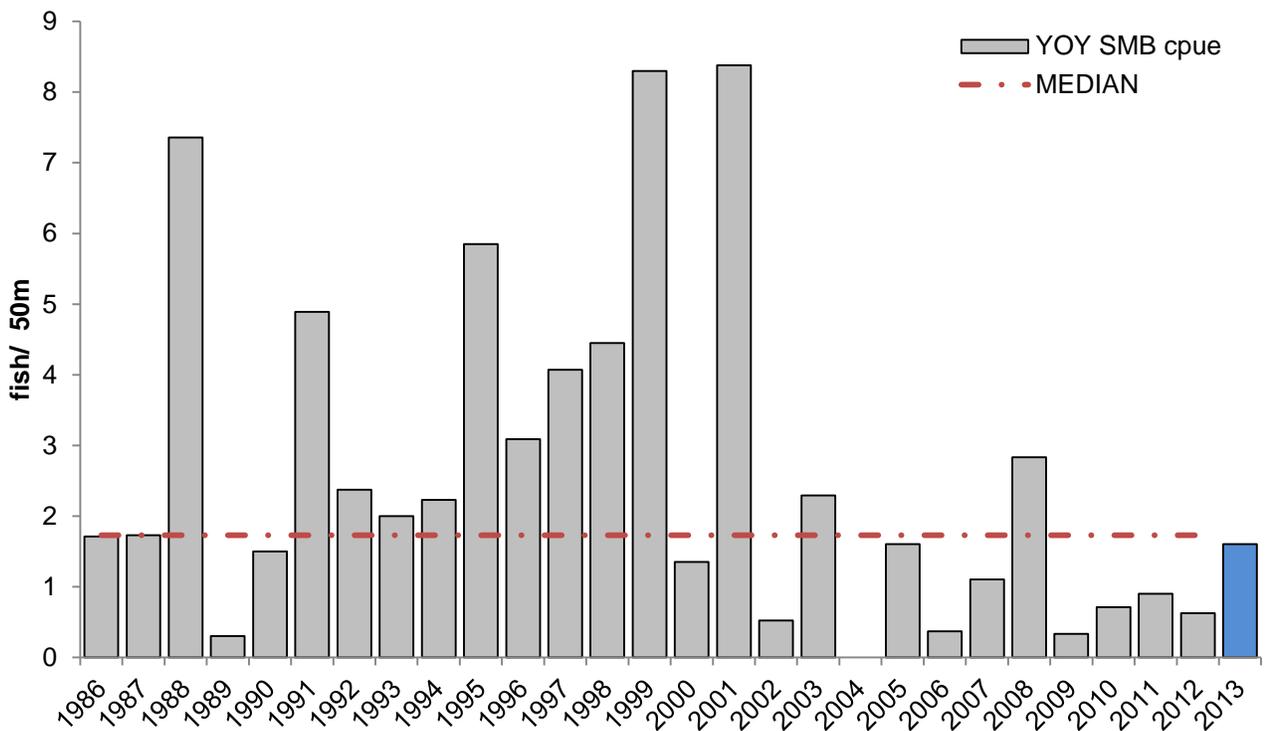


Figure 4: Catch rate of young-of-year Smallmouth Bass at the lower Susquehanna River (York Haven Dam to Holtwood Dam). Blank values indicate years when surveys were not conducted not zero values. Note differences in scale among graphics.

Prevalence of disease among YOY Smallmouth Bass sampled in 2013 was highest in the lower Susquehanna River. The year 2013 marked the highest prevalence of disease observed (47%) in the lower 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 or upper Susquehanna River; however, modest disease outbreaks (16%) occurred in the middle Susquehanna River (Figure 5).

Future boat electrofishing surveys targeting adult Smallmouth Bass will provide further insight into the survival and contribution level of the 2013 year class to the catchable bass population in the West Branch Susquehanna River and various reaches of the main-stem Susquehanna River.

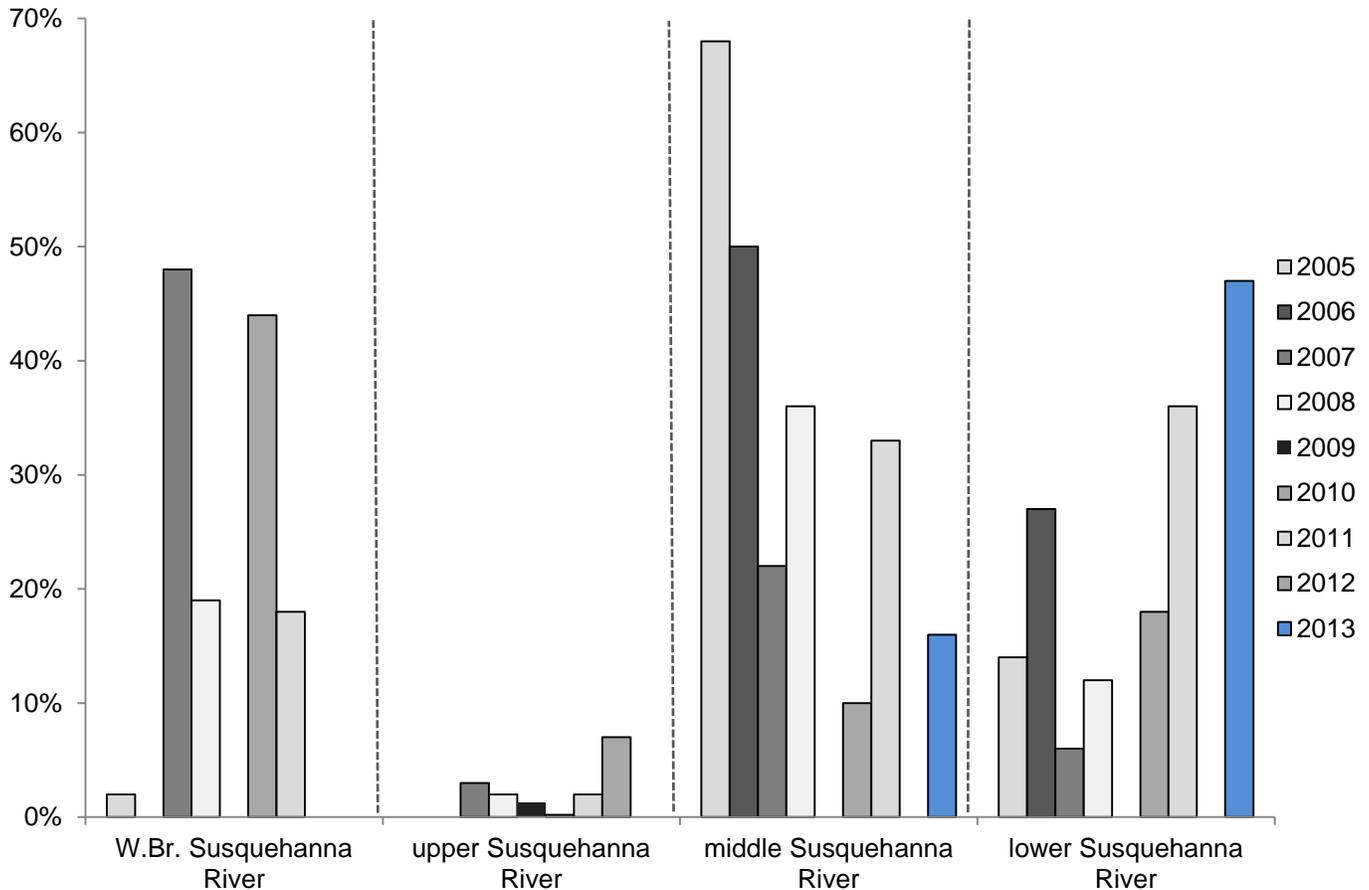


Figure 5: Prevalence of disease among YOY Smallmouth Bass since discovery in 2005 at the West Branch Susquehanna River and different reaches of the Susquehanna River.