

photo-Joe Raymond



Straight TALK

by John A. Arway

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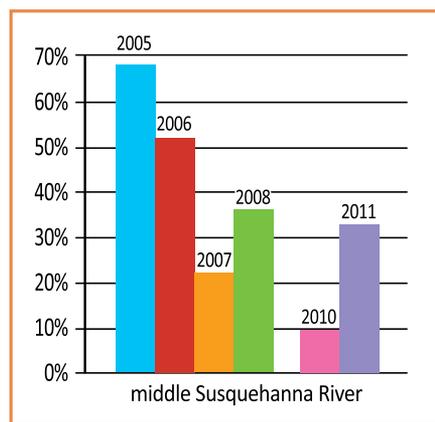
The Last Bass

An adult smallmouth bass with sores and lesions caught in the mouth of the Codorus Creek below Brunner Island Power Plant.

Many of you have hopefully heard by now about the problems that plague the smallmouth bass and the Susquehanna River. It is very frustrating to me as your director to sit in my office in Harrisburg knowing that the river, at the very footstep of the capital city of our Commonwealth, is in very serious trouble. Even more frustrating is the fact that those who are in the position to do something about it won't even admit that there is a problem. I will confess that if one doesn't fish or hasn't had the chance to enjoy the river when it supported a world-class fishery, it may be difficult to understand the changes that have occurred. You can drive over any bridge to the city and the river looks the same as it did decades ago. However, to truly understand the issues, one has to look below the surface of the water to see the change.

Frankly, my agency may also be at fault for not recognizing the problem earlier. Anglers who fished the Juniata and Susquehanna rivers from Sunbury to Maryland told us 20 years ago that rock bass and redbreast sunfish were disappearing. In response, we lowered the creel limit for rock

bass on the Juniata River and its tributaries from 50 per day to 10 per day, which is still the current limit. That action seemed to satisfy the anglers who complained, and we never looked for the reason why the population decline was occurring. In hindsight, we should have paid more attention to what was going on



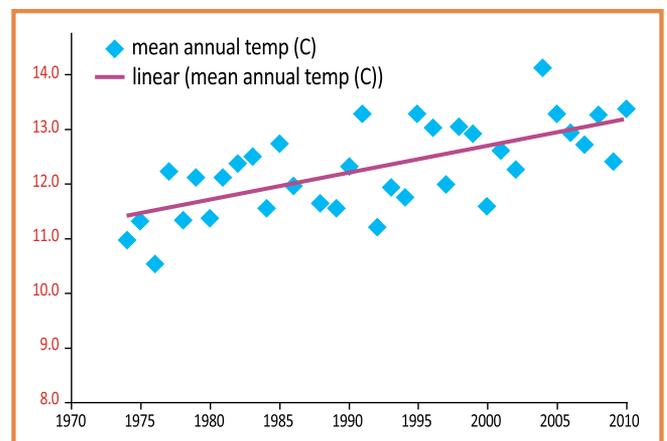
Prevalence of disease among young-of-year smallmouth bass *Micropterus dolomieu* since discovery in 2005 at different sites at the middle Susquehanna River (Sunbury to York Haven Dam).

back then, but we didn't. Fortunately, though, we continued to monitor juvenile smallmouth bass in annual young-of-year surveys and that dataset definitively supports our collective observations, anglers and fisheries biologists alike, that we will soon lose the fishery if we don't get our heads out of the sand, roll up our sleeves and put together a plan to fix what is wrong with the river.



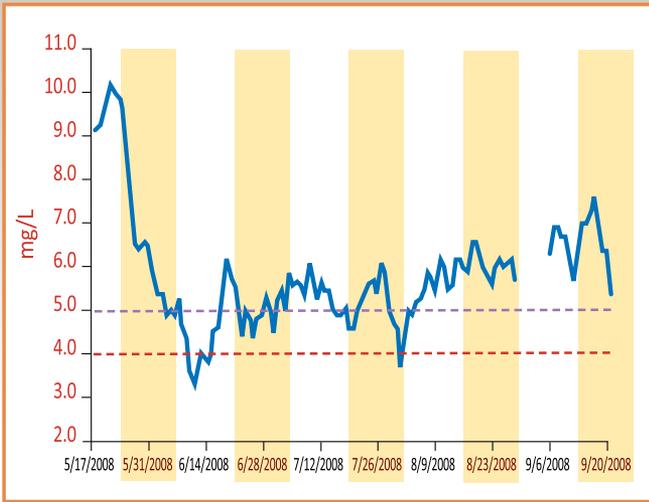
photo-PFBC archives

Young-of-year smallmouth bass with lesions typical of *columnaris* bacterial infections.



Mean annual temperature of the Susquehanna River at Berwick. Data provided by PPL.

I certainly don't have all of the answers, but the Pennsylvania Fish & Boat Commission has spent over \$500,000 of angler and boater funding to study this



Daily minimum dissolved oxygen concentration at the Clemson Island microhabitat location during 2008. The national daily minimum dissolved oxygen criterion for protection of warmwater fishes is 5.0 mg/L (purple line) and the Pennsylvania criterion for protection of warmwater fishes is 4.0 mg/L (red line).

problem. These studies have shown that the river is getting warmer and the oxygen levels and pH of the water (in this case it is too basic because of by-products of plant photosynthesis) are exceeding protection criteria for warmwater fish. Dissolved phosphorus levels are increasing at exponential rates while total nutrient loading is gradually declining—a good thing for the Chesapeake Bay but not for our river. We have gross lesions and sores from bacterial infections on our young bass, which cause them to die and not repopulate the river, and we have started seeing those same types of lesions on the older, adult bass that remain. We have greater frequency of an intersex condition (males showing precursors of eggs in their reproductive systems and having a protein in their systems that should only occur in females) in our smallmouth bass than anywhere else in the region or perhaps country. We began receiving reports of a new condition called hyperpigmented melanosis, commonly called blotchy bass syndrome, just this year, which may or may not be related to the other symptoms we have observed.

We have restricted fishing use of the river contrary to our very mission since we firmly believe that we must protect the bass which remain. However, we will continue to advocate for a solution and not ignore the symptoms like we did with the rock bass. That is our duty, and we will continue to do it until the fishery recovers to a condition we all remember.



photo-Spring Guarhart

Algae on the Susquehanna River in Dauphin County, July 9, 2012. By-products of plant photosynthesis are exceeding protection criteria for warmwater fish.



photo-Coja Yamashita

An adult smallmouth bass with hyperpigmented melanosis (blotchy bass syndrome).

In our opinion, the evidence is clear that the smallmouth bass population in the river is in serious decline because of a number of stressors. We need to take action now and not wait until the last bass is caught from the river to realize that we have a problem. The river needs your help, so my advice to you is to speak out to anyone who will listen.

Your Director,
><(John{(>



The mission of the Pennsylvania Fish & Boat Commission is to protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.