



PROTECT CONSERVE ENHANCE

Chesapeake Bay and the Susquehanna



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At first glance, the recent report by the Chesapeake Bay Foundation (www.cbf.org) stating that the health of the Bay continues to decline would be of little interest to many Pennsylvanians. After all, the Bay is not part of Pennsylvania. It would seem that it should be of primary concern to Maryland and Virginia, the states that comprise the entire Bay shoreline. For most of us, unless you travel down there to fish, boat, or swim, you wouldn't really have a connection to the Bay. Further, and seemingly contradictory to the finding of the 2007 Chesapeake Bay report card, anglers are experiencing striped bass populations at historic highs. Some might even think that the situation is looking pretty optimistic.

Not much could be further from the truth. We need to be concerned about the Bay and cannot let the temporary health of the striper fishery fool us into complacency.

Each year the Chesapeake Bay Foundation puts out its annual report card on the Bay's health. The recent 2007 report card gave the Bay a score of 28 out of 100 as a result of its assessing 13 different measures of Bay health. These measures cover the major categories of pollution (for example, nitrogen and toxics), habitat (for example, forested buffers and wetlands), and the fishery (for example, striped bass and crabs). A score of 100 reflects the pristine state of the Bay about the time of Captain John Smith's "discovery" by the Europeans in the 1600s. An optimistic goal for the Bay in our current state of human land use and resulting impacts to the Bay is a score of 40 by the year 2010. In fact, this has been an official goal of the three state governors (Maryland, Virginia, and Pennsylvania) and sets a great challenge for us if we are to see a healthy Bay in our lifetimes.

The most embarrassing scores on the report card, the ones that you wouldn't want to take home to show your parents, reflect trends in pollution. Success here is tied to major reductions in nutrients such as nitrogen and phosphorus with nitrogen a key. The goal is to reduce nitrogen input into the Bay by 110 million pounds, but so far we have accomplished only a modest 19-million-pound reduction. These nutrient levels have led to reduced water clarity and a monumental loss in aquatic vegetation, which is critical for ecological function of the Bay.

The process is similar to what happens in many of our lakes and ponds. Run-off of fertilizers from yards, golf courses, and farm fields makes any lake highly fertile. Such lakes are then called eutrophic, which leads to algae blooms, lack of oxygen in the deeper water, and loss of vegetation. Equally scary is the soup mixture of other chemicals that we are just learning about and that we are now



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realizing are affecting the Bay. These include antibiotics, hormones, and components of household products such as some of the ingredients in antimicrobial soaps that we all seem to have in our bathrooms. We know that they are affecting fish, but we don't know how they are impacting large systems like the Bay. As you might guess, there is much work to be done if we are to have a healthy Bay.

While this 2007 Bay report card is one that, if brought home from school, would result in a severe grounding by our parents, there are some areas that did show progress. In 2007 the Susquehanna's pollution load contribution to the Bay remained stable while those of other major tributaries such as Virginia's James and Potomac rivers increased. Pennsylvania led the Bay states in restoring riparian buffers with over 600 miles planted in 2006. As all of you should know, healthy riparian buffers along our streams, particularly small headwater streams, is one of the easiest and most important actions that we can take to protect our streams. A good buffer provides shade to reduce temperatures, stabilizes the banks to reduce erosion, and helps to trap pollutants and transform them into forms that are less problematic. As a result, work on forested buffers received a B+, the second-highest score on the report card. But this work must continue and even accelerate if we are to offset the seemingly inevitable impacts of 150,000 new people in the Bay watershed each year and an average daily loss of about 100 acres of forest land in the Bay watershed.



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On the fishery side we have high numbers of striped bass, but the other three measures of shad (grade of F), oysters (F), and blue crabs (C) are in trouble. The connection of lost habitat (vegetation) and poor water quality has contributed to declines in these important species and the poor outlook for the future.

For all of us interested in the health of our streams, rivers, and lakes, the state of the Bay might as well be the state of the Susquehanna. Most, if not all, of the issues that the Bay faces are visible right in this great river that flows through the heart of Pennsylvania. The recent issues we have faced with disease and mortality of young smallmouth bass, although not fully understood, are an indication of a river system under stress. Invasive species, over-allocated water, pollutants that we are just learning to measure, and much more would create a report card for the Susquehanna that may not be positive.

This is our challenge. Responding to it will have ramifications for the river that is so important to us, but these ramifications will also have a huge impact on that large estuary just downstream known as the Chesapeake Bay.

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