

THE CHESAPEAKE BAY IN LANCASTER COUNTY

Why is the Chesapeake Bay Watershed Special?

The Chesapeake Bay was formed about 12,000 years ago as glaciers melted and flooded the vast Susquehanna River Valley. At approximately 200 miles long, and an average depth of 21 ft (175 ft at its deepest part) the Chesapeake Bay is North America's largest estuary and the world's third largest. The Bay's drainage area (64,000 square miles) encompasses parts of six states; Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia as well as Washington D.C. There are more than 100,000 streams, creeks, or rivers in the watershed, including 150 major rivers. With 17 million residents (and growing) living in the Chesapeake Bay watershed, one can reach a Bay tributary in less than 15 minutes.

The word "Chesapeake" derives from the Native American culture and loosely translates into "great shellfish bay." This makes sense since the Bay provides more blue crabs than anywhere in the world. In fact, more than 500 million pounds of seafood is harvested from the Bay every year. The Bay also supports 3,600 species of plant and animal life, including more than 348 fish species, 173 species of shellfish, and 2,700 plant species. Finally, the Chesapeake Bay is home to 29 species of waterfowl and is a resting area for birds along the Atlantic Migratory Bird Flyway. Every year, one million waterfowl winter in the Bay's basin.

Chesapeake Bay blue crabs are valuable commodity



Overview of the Chesapeake Bay Watershed

I live in Lancaster County, why should I care about the Bay?

Since colonial times, the Bay has lost half of its forested shorelines, over half of its wetlands, nearly 90 percent of its underwater grasses, and more than 98 percent of its oysters. During the 350 years between 1600 and 1950, approximately 1.7 million acres of the Bay watershed were developed. During the 30 years between 1950 and 1980, the Bay watershed lost an additional 2.7 million acres to development. All of this development creates water quality threats to the Bay.

The leading threat to the health of the Chesapeake Bay is excess nitrogen and phosphorous pollution that destroys habitat and causes fish kills. Top sources of these pollutants include agriculture, sewage treatment plants, runoff from urban and suburban areas, and air pollution from automobiles, factories, and power plants.

Other threats to the Bay's health include sprawl, toxic pollution, and poor fishery management. So in the big picture we are all responsible for the health of the Chesapeake Bay. Whatever we do in our little portion of the Bay watershed will affect the overall water quality of our natural treasure. Remember **WE ALL LIVE DOWNSTREAM** so what we do "up" here will affect our neighbors downstream in the Chesapeake Bay.



Chesapeake Bay Threats: Sediment and Nutrient Pollution



Streambank Erosion



Chesapeake Bay Threats: Suburban Sprawl



Stormwater Pollution



Examples of yards with native plantings and low or no grass turf for optimal water recharge

What can I do in Lancaster County to Protect the Bay?

Native Plants

Instead of turf grass try planting more native grasses, ground covers, shrubs, and trees. Native species are more tolerant of our local growing conditions. In addition these native varieties usually require less water and handle drought conditions better than non-native species. Native plant species will not only enhance your property value but will also reduce surface runoff from your property. In the process, these native trees and shrubs will filter pollutants before they enter groundwater reserves. This will reduce the amount of nutrients reaching the Chesapeake

Bay and reduce the nutrients entering our local streams and creeks.

Streambank Fencing

If you own or operate a farm, strongly consider the benefits of fencing livestock out of the stream. Fenced streams provide streambank stabilization, improved wildlife value, aesthetic appreciation, increased property values, and overall better water quality. In addition, streambank fencing provides healthier livestock, lower veterinarian visits, and higher commodity prices because of a healthier herd. If a native riparian buffer is planted inside the fencing this adds to the overall water quality benefits for the stream and the Bay.



Streambank fencing benefits can be seen in these before and after pictures

Did You Know...

Chesapeake Bay holds more than 18 trillion gallons of water.



Riparian Buffers

A "buffer" by definition is a person or thing that shields and protects against annoyance, harm, hostile, forces, etc. Connect this term with riparian which means relating to or living or located on the bank of a natural watercourse (as a river) and you get the true meaning of riparian buffers; native trees and shrubs planted along a water body in order to protect that watercourse. Riparian buffer protection and benefits come in many ways; food and cover for wildlife, streambank and in-stream structure, slowing stormwater runoff, groundwater recharge, shade and temperature control for a stream, trapping and filtering runoff, and taking up excess nutrients. Studies have shown that a stream with a mature riparian buffer has a 10 degree temperature difference from an unshaded stream. This is important because cooler water holds more oxygen than warmer water which helps aquatic life in the stream. All of these factors are why riparian buffers are so important not only for water quality but for the entire stream ecosystem.



Mowing next to a stream provides no water quality benefits only additional work and money while riparian buffers create less maintenance but provide so much more water quality benefits

What can I do in Lancaster County to Protect the Bay?

Agricultural Best Management Practices

Once again if you own or operate a farm in Lancaster County, the soil you farm and the nutrients you put on the ground are very important to you; protecting your investment is critical to your livelihood. One way to protect your soil is by implementing agricultural best management practices (BMP's) on your farm. These BMP's make sure the soil and nutrients stay on the field to benefit your operation. Loss of soil and nutrients is a financial loss to your pocket; it is in your best interest to protect your natural resources. In the process of implementing these BMP's you are also helping the Chesapeake Bay by improving water quality in your local watershed. Some common agricultural BMP's implemented in Lancaster County include; contour farming, no-till, manure management systems, barnyard controls, waterways, diversions, terraces, watering systems, and cover crops.

Examples of agricultural BMP's to improve water quality; contour farming and a manure management system



Did You Know...

The Chesapeake Bay has over 11,600 miles of shoreline.
(the same distance from New York to Los Angeles
and back to New York)

Low Impact Development

Recently, we have heard the term smart growth when talking about new residential developments throughout the county. Lancaster County is growing and this growth is pushing us to develop more areas around the county. In order to lessen the impact on our natural resources, ideas like Low Impact Development (LID) have been brought to the forefront. LID is just a different way to develop land that puts more residents on less land while preserving open space and protecting natural features. In essence, LID is a less intrusive way of developing a site while controlling suburban sprawl issues in the process. Is this the answer for every site? Perhaps not but, LID does give our planners and developers another tool to use that lessen our impact on the land and the Chesapeake Bay Watershed. Less development disturbance and more people on less land can only improve the Bay in the long term.



Traditional development site(right) built next to a Low Impact Development site(left)



Example of a LID designed community in Maryland

Did You Know...

90% of the Bay's freshwater comes from 10 major river systems,
and 50% of it comes from the Susquehanna River.
(19 million gallons of water per minute)





For more information check out; www.lancasterwatersheds.org

*Financial and other support for this project
provided by a Small Community Grant
from the ALCOA Foundation.*

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