



Frequently Asked Questions

What is a watershed?

Everybody in the world lives in one watershed or another. A watershed is an area of land where all the water that seeps into it or flows through it empties into the same larger body of water.

For example, there are thousands of little creeks, streams, and small rivers that empty into the large Susquehanna River. There's also lots of land that soaks up rainwater and sends it to the Susquehanna. All that land and those creeks, streams, and small rivers are part of the Susquehanna River watershed.

The Susquehanna River watershed is a part of the Chesapeake Bay watershed. The Chesapeake Bay watershed is huge. There are hundreds of miles of land and thousands of creeks, rivers, and streams that are a part of it.

What states are in the Chesapeake Bay watershed?

The Chesapeake Bay watershed is in six states, plus the District of Columbia. But that doesn't mean that the watershed takes up six WHOLE states. Parts of these states are in other watersheds.

All of Washington, D.C. is in the Chesapeake Bay watershed.

93.3% of Maryland is in it.

55.9% of Virginia is in the Chesapeake Bay watershed.

49.1% of Pennsylvania is in the Chesapeake Bay watershed.

28.8% of Delaware is in it.

14.7% of West Virginia is in the Chesapeake Bay watershed.

And 11.5% of New York is in it.

How big is the Chesapeake Bay?

The Chesapeake Bay watershed is 64,000 square miles big! It includes parts of Maryland, Virginia, Pennsylvania, Delaware, West Virginia, and New York. The whole city of Washington, DC is in the Chesapeake Bay watershed. The Bay itself is about 200 miles long, stretching from Havre de Grace, Maryland to Norfolk, Virginia.

It is 35 miles across at its widest point, and 3.4 miles across at its narrowest point.

How deep is the Chesapeake Bay?

The Chesapeake Bay is not that deep. It's actually pretty shallow. The average depth is about 21 feet. There are lots of areas in the Bay where a person who is only six feet tall can walk without even getting his hair wet. In some spots, like in the very middle of the Bay, the water gets much deeper. There are even a few narrow areas that can be up to 174 feet deep.

How much water is in the Bay?

The Chesapeake Bay holds more than 18 trillion gallons of water.

Is the Chesapeake Bay salty?

Depending on where you are in the Chesapeake Bay, the water might be very salty or not salty at all. That's because the Bay is an estuary—a place where freshwater meets salty water. Near the mouths of the major rivers, like the Susquehanna, it's freshwater. But near the mouth of the Bay, where the Bay meets the ocean, it's extremely salty. The salinity (or amount of salt) of the Bay can change depending on certain things. If there hasn't been a lot of rain one season, the Bay is saltier than normal. If there has been a lot of rain, the water is less salty. Also, if you measure the level of salt all the way at the bottom of the Bay, it will be higher than it is closer to the top.





What is an estuary?

An estuary is a place where salt water from the ocean meets freshwater flowing from rivers and streams. Estuaries are usually very fertile places, where lots of different kinds of plants and animals live. There are 130 estuaries in the United States. The Chesapeake Bay is the largest of these.

Where does all the water in the Bay come from?

Almost half of all the water in the Bay comes from the Atlantic Ocean. The Susquehanna River provides another twenty-five percent of it. And the other twenty-five percent comes from the other rivers and streams in the watershed. There are about 150 major rivers and streams that flow into the Chesapeake Bay, and lots more smaller streams and rivers. Some of the water that's in the Bay even comes from under the ground. It's called groundwater. Some water also comes from rain that falls directly into the Bay.

How close do I live to a stream in the Chesapeake Bay watershed?

If you live in the Chesapeake Bay watershed, you're probably only a few minutes away from one of its streams. There are more than 100,000 streams and rivers in the Chesapeake Bay watershed. Each stream flows into another body of water that eventually flows into the Bay. They are like all the tiny blood vessels in your body that eventually flow into the blood that gets to your heart.

How long has the Chesapeake Bay been around?

The Chesapeake Bay is ancient. The outline of it was formed almost 12,000 years ago, when ice sheets from the Ice Age began to melt. The Chesapeake Bay as we know it today was formed between 5,000 and 8,000 years ago.

Does the Chesapeake Bay watershed look different now than it did when the colonies were founded?

Before Europeans arrived to this part of the world, the Chesapeake Bay didn't look much different than it had for hundreds of years. But as more and more people began coming to this area, the landscape changed rapidly.

In order to build houses, farms, towns, and cities, much of the original forest land was cut down. By 1900, only 30% of the original woods remained.

Some towns that used to be on the water are now inland, because they were silted in from all the sediment that was getting in the water.

A lot of coastal marsh land has been destroyed by development.

Many of the streams and creeks have been paved over or have dried out due to erosion.

The Bay waters are cloudier. The water used to be so clear that people could see things that were 2 meters below the surface. Now in some places it's not even possible to see things 5 inches below the surface.

Much of the Bay grasses have died.

Despite all of these changes, there are many people trying to help protect the Bay. Many laws have been passed and organizations have been formed to clean up the Chesapeake Bay, plant more trees, and protect the natural landscape. In some ways the Bay is in better shape than it was just thirty years ago.

How many people live in the Chesapeake Bay watershed?

More than 15 million people live in the Bay watershed. By the year 2020, there could be up to 18 million people. As the population grows, its impact on the Bay grows as well.





How many kinds of birds live in the Bay area?

There are dozens of different species of birds that live in the Chesapeake Bay watersheds different habitats. There are water birds (like the Great Blue Heron) and waterfowl (like ducks and geese); raptors (like osprey); aerial gleaners (like herring gulls); wading birds (like the ruddy turnstone), and many others

Some waterfowl live in the Chesapeake all year round. Some live other places during part of the year and only migrate to the Chesapeake Bay area during winter. Every year almost one million waterfowl spend winter in the Chesapeake Bay basin.

How many kinds of fish live in the Chesapeake Bay watershed?

There are 348 different species of finfish (fish that have fins), and 173 different species of shellfish (fish that have shells or live inside of shells). Some of the finfish include striped bass (or Rockfish), menhaden, bluefish, and sturgeon. Some of the shellfish include the blue crab, soft-shelled clams, oysters, and grass shrimp.

Are all the plants and animals in the area important? Are some more important than others?

All animals and plants in the Chesapeake Bay are part of an ecosystem. This means that they all depend on each other and on the environment for their food and shelter. Every creature is part of a food web, too. They eat other plants and animals, and certain other animals eat them. So it's hard to say whether one plant or animal is more important than another because they're all a part of an ecosystem that needs them.

What are invasive species? What's so bad about them?

Invasive species are species that are not native to an area. They usually find their way to a new area when people travel. Sometimes people bring invasive species intentionally. But sometimes the invasive species arrive accidentally. Lots of plant seeds and pests (like the Norway rat and some kinds of termites) can be hidden in baggage, on boats, or in people's clothes.

When an invasive species gets to the new area, it usually grows out of control because it doesn't have any natural predators in the area. That can have horrible impacts on the environment. For example, nutria (water rodents from South America) ate out thousands of acres of marsh land in the Bay; mute swans are destroying much of the Bay's underwater grasses; and phragmites (an invasive marsh plant) choke out other native plants as they grow.

Why are trees important for the Chesapeake Bay?

Trees are extremely important for the health of the Chesapeake Bay, and for the animals that live in the watershed. Trees produce oxygen. They provide habitat for many birds, mammals, and insects. They capture rainfall. And their roots also help to keep soil together, so it doesn't erode. When soil erodes, it can wash into the Bay, making the Bay waters very cloudy. This makes it hard for sunlight to get to underwater plants.

What is a riparian forest buffer?

A riparian forest buffer is an area of trees and other vegetation that can be found growing along streams, rivers, and lakes. Forest buffer slows down runoff and can remove some of the excess nutrients and chemicals that could harm the water stream. Buffer zones also control erosion, help keep the water temperature steady (so it doesn't get too hot for the fish and plants that live there), remove sediments, reduce flooding, and provide a nice habitat for wildlife.

Why are SAV or underwater grasses important for the Bay?

SAV, or submerged aquatic vegetation (underwater grasses) are important to the Chesapeake Bay for many reasons. They provide shelter from predators for young crabs and fish that can't really protect themselves. They provide food for lots of different species of waterfowl. They produce oxygen that the fish need to survive. And they help prevent erosion, because their roots hold soil together so that it doesn't wash away.



How much fish is caught from the Chesapeake Bay?

Every year, the Chesapeake Bay produces about 500 million pounds of seafood. This might sound like a lot, but watermen used to be able to catch a lot more. Some things that have reduced the amount of seafood caught are pollution, disease, and over-harvesting (or taking too many fish out of the water).

What are the major problems facing the Chesapeake Bay?

One of the main problems facing the Bay is all of the excess nutrients in it. There is too much nitrogen and phosphorous in the water. Nitrogen and phosphorous are two nutrients that make algae grow out of control. When algae grows out of control, it makes it hard for underwater grasses to grow, and it also uses up a lot of oxygen that other creatures in the water need to breathe.

Besides there being too much nitrogen and phosphorous in the Chesapeake Bay, there are also other problems. These problems include: air pollution, destruction of natural areas, toxic chemicals in the water, and sediment (or dirt) in the water.

Why are nutrients bad for the Bay? Aren't things that have nutrients supposed to be good?

When people talk about nutrients in the Chesapeake Bay, they are usually talking about nitrogen and phosphorus. These are essential things that plants need to grow. Phosphorus helps plants convert sunlight into the energy needed to make its own food. It helps cells grow and reproduce. Nitrogen helps plants and animals make more body tissue.

You can see that nitrogen and phosphorus are good. But when there is too much of it, it makes algae grow out of control. Some algae are necessary in the Bay, because it feeds many of the creatures that live there. But too much algae actually does harm. It robs other plants of sunlight and robs the animals of oxygen.

Where does all the pollution in the Chesapeake Bay come from? How does it get there?

The government has made it illegal for people or companies to dump harmful things into the Chesapeake Bay. So most of the pollution in the Bay doesn't come from any one person or company. Most of the pollution is what's called "non-point source" pollution. It is pollution that you can't trace back to one specific place or source. It comes from lots of different people and places.

All of us contribute in some way to non-point source pollution, just from things that we do in our everyday lives. Pollution comes from cars, construction, chemicals and fertilizer that we put on our lawns, trash, sewage, and lots of other things.

Usually the way that most of the pollution gets into the Bay is by runoff. After it rains, water washes the pollution into the sewers, streams, rivers, and then into the Bay. Also, pollution gets into the air and then falls into the Bay.

How does driving cars pollute the Bay?

Cars run on gasoline. When gasoline is burned, it emits (or gives off) gases like hydrocarbons, nitrogen oxides, carbon monoxide, and carbon dioxide. Some of these gases get into the air and cause acid rain. It is also believed that the gases cause temperatures around the world to rise. When it rains, the gases can get washed into the Bay. The chemicals in these gases can make fish sick and make algae grow out of control. The gases can also make humans sick.

How does the growing population affect the Bay?

More than 15 million people live in the Bay watershed. The population is expected to keep growing. The more people there are, the more houses, roads, and resources they'll need. Also, the more people there are, the more pollution there will probably be—just from normal things that people do in our daily lives. All of these things put a serious strain on the Chesapeake Bay.

