

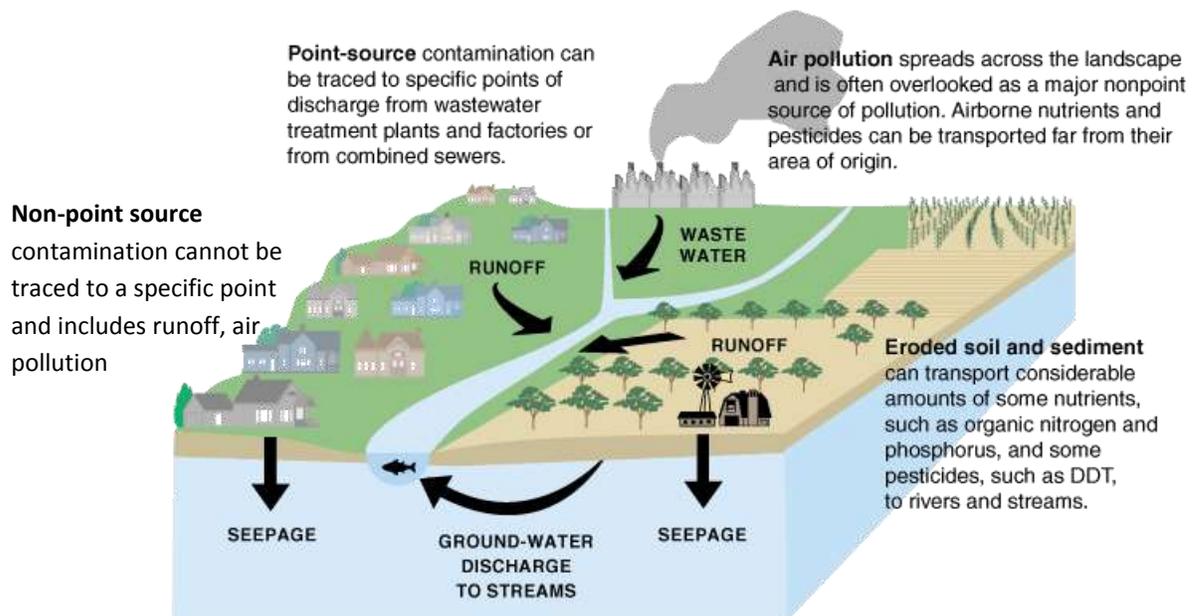
Supplement A: Background Information

Background Information for Activity leaders

Pollution is the presence in or introduction into the environment of a substance or thing that has harmful or poisonous effects. Pollution can be either point source or non-point source. Point source pollution is a pollution that has a localized identifiable source that is regulated by the government, e.g. chemical plant runoff, sewer system outfall, storm water outfall etc. Non-point source pollution is a pollution that does not have a localized identifiable source and is hard to be regulated by the government, e.g. road salt runoff, irrigation runoff from farms, car exhaust etc.

Pollution can be carried by stormwater runoff during heavy rain and storm events. Pervious surfaces are able to infiltrate some of the polluted water where the trees and plants or man-made materials help to clean, cool, and hold the water so it does not overflow storm drains. These pervious areas include wetlands and forests, as well as some man-made surfaces like bio-retention areas, which allow water to infiltrate the soil quickly. Impervious surfaces, which are those that do not allow water to soak into the soil (or, allow it to soak in only very slowly) include roads, parking lots, construction sites, lawns, playing fields, or barren landscapes. If stormwater flows over impervious surfaces, it does not infiltrate into the ground and can instead carry pollutants from the land directly into waterways.

Sources of contamination:



From the U.S. Geological Survey, <http://ga.water.usgs.gov/edu/waterquality.html>

Supplement B : Journal Page

POLLUTION SOLUTION

Type of surface:

Pollution source:

Did you know?

72.8 million dogs live in
the US and deposit
30,000 tons of waste
every day!

**SCOOP THE
POOP!**

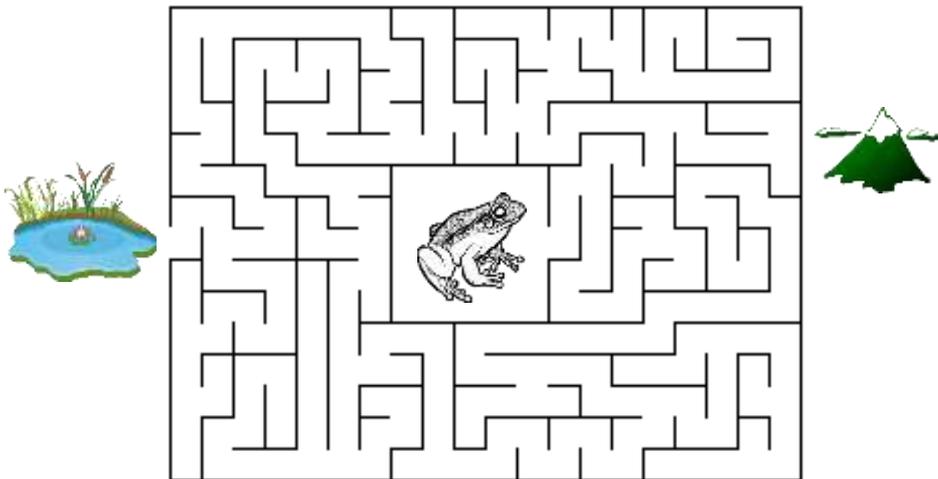


Hypothesis:

Results:

Chesapeake Stewards know that step pools are a great way to reduce pollution and sedimentation, but they also provide habitat for organisms. Why are step pools a good environment for frogs and dragonflies?

Help the frog find its habitat!



SUPPLEMENT C: Sedimentation Discussion Pictures

Severn River Photo:

This is an image of sediment in the Severn River. A construction site neglected to put up its silt fence over the weekend. That weekend there was a heavy rainstorm. With nothing to hold the soil in place all of the loose dirt and clay washed down the hill into the Severn River. We are still feeling the effects today.



Hurricane Irene:

Photo A:

This is a satellite image of the Chesapeake Bay a few days before Hurricane Irene, which occurred on August 27, 2011.

Photo B:

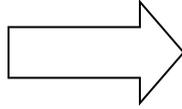
This is a satellite image of the Chesapeake Bay a few days AFTER hurricane Irene, which occurred on August 27, 2011. Note the sediment in the bay and its tributaries.



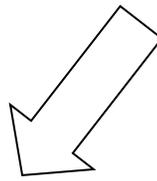
SUPPLEMENT D: Erosion Discussion Pictures



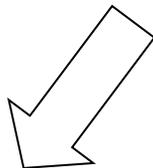
This is an outfall. Stormwater that goes into storm drains from the streets exits here. This is on Riva Road in Annapolis Maryland.



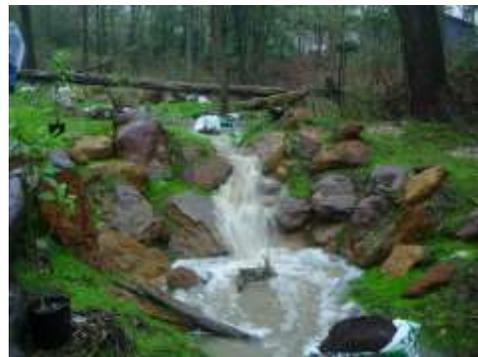
This is erosion caused by a poorly placed outfall. Nothing was planted near the outfall to slow down the water and let it soak in. After a major rain event, the water flows faster over the land and causes erosion.



These are step pools. They are built to help slow down water and let it soak into the ground to prevent erosion.



These are the step pools during a heavy rainstorm. Look at how the step pools allow the water to flow into pools where it can soak into the ground.



The step pools are made to look natural by adding native plants and rocks. Students from Anne Arundel County helped to plant plants around the site.