Simple Ways to Improve Water Quality

Researched and written by Loudoun Valley High School students working on the Trail to Water Quality Project at the Chapman DeMary Trail with The Nature Generation.

Nonpoint source pollution contaminates watersheds from many separate sources rather than from one specific source.

Nonpoint source pollution occurs when rainwater carries pollutants and litter from farm fields, urban areas, construction sites, and residential areas into streams, rivers, oceans, lakes, and ponds, infecting them with deadly chemicals, trash, sediment, and other pollutants. Eventually, the pollutants and litter can contaminate a body of water to the point that plants and animals may suffer or cannot survive.

Nonpoint source pollutants include fertilizers, pesticides, insecticides, motor oil, antifreeze, toxic chemicals, sediment, salt, bacteria, nutrients, pet waste, and trash.

Here are some simple actions you can take to help reduce these pollutants and improve water quality:

- Recycle, especially plastic bags which are a huge source of pollution in the streams and rivers that go to the Chesapeake Bay.
- Utilize reusable alternatives to plastics (bottles and shopping bags especially) to reduce waste.
- Use a natural fertilizer instead of a chemical-based fertilizer so harmful chemicals don't runoff into the stream. Ask your local nursery for recommendations.
- Check vehicles for leaks of motor oil, antifreeze, brake fluid, etc., and repair them so they don’t runoff into our streams. If you find a leak, don’t hose it into the street and don’t pour anything into storm drains because it will eventually get into our waterways.
- Stop chemicals from running into storm drains.
- Properly dispose of household chemicals during local household hazardous waste collection days.
- Use dog waste bags to pick up after your pet instead of leaving it on the ground where it will eventually get into our streams. This waste carries harmful nutrients, bacteria, and parasites that can potentially cause infections and bacterial diseases in the people and animals that swim in the water.
- Keep farm animals out of creeks by using proper fencing.
- Protect creek banks from erosion by planting native grasses and shrubs.
- Respect the stream as a living thing and treat its inhabitants courteously.

More than 12,000 miles of streams and rivers in Virginia and most of the Chesapeake Bay remain polluted from dirty water running off streets, parking lots, lawns, and farms, from poorly treated wastewater, air pollution, and other sources.

The Chesapeake Bay, which receives water from the Catoctin Creek, contains a large dead zone, where not enough dissolved oxygen exists to sustain life. Dead zones are caused by chemical pollutants in the water that create algal blooms (algae). The algae consume the oxygen and grow rampantly, sucking life from the precious water. This dead zone covers nearly a third of the bay, harshly reducing the seafood industry’s ability to harvest Maryland’s famous blue crabs.
We all have the ability to help restore the glorious Catoctin Creek to pristine, healthy condition. Together, through the simple acts of recycling, reducing, reusing, and finding safe alternatives to harmful chemicals, we can create a stream that will become a showcase that will champion the reduction of nonpoint source pollution for watersheds everywhere.

Water quality testing conducted in June 2012 through The Trail to Water Quality project with The Nature Generation, Loudoun Valley High School students, and local experts, showed that the portion of the Catoctin Creek along the Chapman DeMary Trail is in a “Gray Zone,” meaning is it between acceptable and unacceptable ecologic condition. This is an improvement since the late 1990’s when citizen monitoring started and found the creek to be in the unacceptable range.

Sources:
- http://www.epa.gov/owow_keep/NPS/whatis.html
- http://water.epa.gov/polwaste/nps/whatudo.cfm
- http://www.chesapeakebay.net/blog/2011/03