

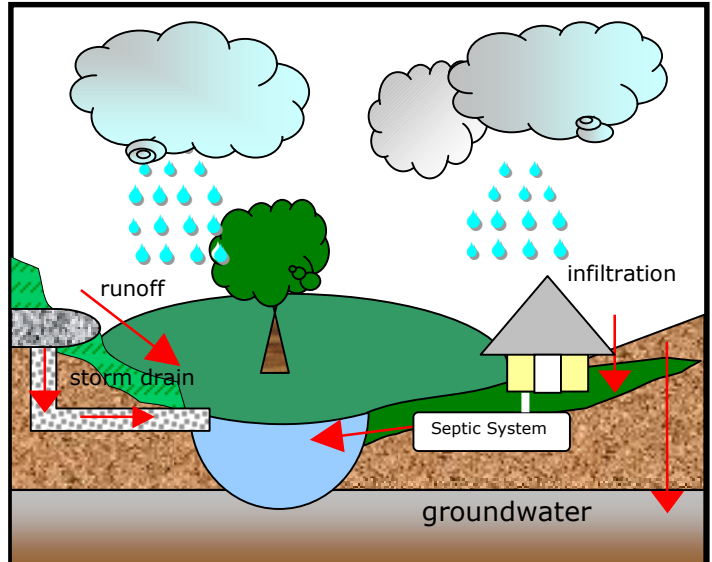


GIVE OUR WATERS THE BLUES!

Protect Merrimac's **Waterways** from Nonpoint Source Pollution

Water Quality, Watersheds, and Nonpoint Source Pollution

The quality of Merrimac's lakes, streams, and ponds reflects what is happening in their surrounding watersheds. A watershed includes all the land – or drainage area – that drains into a stream, pond, or other waterbody. Nonpoint source (NPS) pollution occurs when water (i.e., stormwater, snowmelt, water from a garden hose) flows across the watershed landscape, picking up pollutants and depositing them into streams and ponds. Common types of NPS pollutants include phosphorus and nitrogen in lawn and garden fertilizers, pet waste, phosphorus and bacteria from septic systems, oil and grease from parking lots, and sediment from construction activities and soil erosion.



NPS pollution does not observe property lines. It flows wherever water takes it throughout the watershed – typically into **storm drains** and then, without any treatment, into nearby streams and ponds.

How Does NPS Pollution Affect Water Quality?

The combined effect of NPS pollutants such as phosphorus, sediment, and bacteria is degraded water quality and loss of recreational use and wildlife habitat. This accelerated degradation of a waterway as a result of *human* activity in the watershed is called “cultural eutrophication”.

- ◆ Excessive nutrients such as **phosphorus** stimulate algal and plant growth, limiting the recreational use of streams and ponds (fishing, swimming, and boating) and degrading wildlife habitat.
- ◆ **Sediment** can cause serious damage to our waterways by causing turbidity and filling-in sensitive habitat that is needed for aquatic life. It also transports excessive amounts of phosphorus.
- ◆ **Bacteria** from failing or substandard septic systems, pet waste, and waterfowl can pollute groundwater and force the closure of swimming areas.

Is There a Solution to NPS Pollution?

Cumulatively, watershed residents can have the greatest beneficial impact on the health of our waterways. Steps to prevent or reduce NPS pollution can be simple and inexpensive. Preventing and reducing NPS pollution is the key to improving water quality. Every little bit helps!

Best Management Practices (BMPs) are activities that prevent or alleviate the effects of nonpoint source pollution. It is easier and more cost effective to prevent pollution than to restore a degraded resource. BMPs can be *structural*, such as planting a buffer strip, or *non-structural*, such as limiting the use of lawn fertilizer. Some simple and cost effective BMPs for Merrimac residents include:

Encourage Infiltration and Control Sedimentation

- ◆ Minimize impervious surfaces such as driveways and parking lots to encourage infiltration.
- ◆ Slow or divert stormwater runoff toward vegetated areas where water can seep into the ground.
- ◆ Mulch and seed exposed soils to eliminate erosion.
- ◆ Wash cars over pervious surfaces, such as lawns, not over driveways; and wash undercarriages at a commercial car wash facility.

Reduce and Eliminate Nutrients and Bacteria

- ◆ Plant vegetation around driveways, along shorelines, and on slopes. The vegetation will absorb nutrients, filter out pollutants, and trap sediment.
- ◆ Keep yard waste such as grass clippings and leaves out of streams and ponds, storm drains, and off streets. Although yard waste is natural, when it decomposes it releases high nutrient levels.
- ◆ Reduce or eliminate fertilizer application; use organic, no-phosphate or slow-release fertilizer. To determine the phosphorus content in a fertilizer, look at the middle number in the formula on the package (i.e., Formula 16-4-8). Also, have your soil tested (Call the UMASS Extension Soil Testing Lab at (413) 545-2311 or download a soil test order form at <http://www.umass.edu/plsoils/soiltest>). You may find that you do not need to add fertilizer.
- ◆ Use phosphate-free or low phosphate (less than 1%) automatic dishwashing detergents. Phosphate content in various dishwashing detergents sold in Massachusetts ranges from 0% up to 8.7% by weight. Gel detergents tend to have less phosphorus than powder detergents.
- ◆ Maintain septic tanks with regular pumping and inspection at least **every 3-5 years**.
- ◆ Pick up pet waste and dispose of it properly in the toilet, compost pile, or trash.
- ◆ Establish a vegetated buffer strip along shorelines to discourage waterfowl, such as geese, and do **not** feed them – *the average goose will produce one pound of droppings a day!*

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