



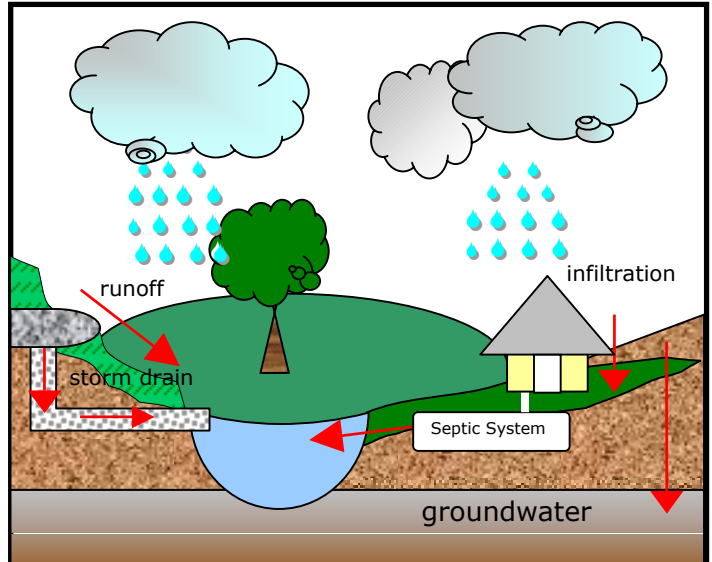
Massachusetts
Department
of
ENVIRONMENTAL
PROTECTION

GIVE YOUR LAKE THE BLUES!

Protecting Your Lake from Nonpoint Source Pollution

Lake Water Quality, Watersheds, and Nonpoint Source Pollution

A lake's water quality reflects what is happening in its surrounding watershed. A watershed includes all the land, or drainage area, that drains into a stream, lake or other waterbody. Nonpoint source (NPS) pollution occurs when water (i.e. stormwater, snowmelt, water from a garden hose) flows throughout the watershed, picking up pollutants and depositing them into water resources. 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 to stormdrains and then, without any treatment, into nearby streams and lakes.

How Does NPS Pollution Affect Lake Water Quality?

The combined effect of NPS pollutants such as phosphorus, sediment and bacteria result in degraded water quality and loss of recreational use and wildlife habitat. This accelerated degradation 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 the lake (fishing, swimming and boating) and degrading wildlife habitat.
- ◆ Sediment can cause serious damage to the lake by causing turbidity and filling-in sensitive habitat that is needed for aquatic life. It also transports phosphorus.
- ◆ Bacteria from failing or substandard septic systems, pet waste, and waterfowl often cause swimming beach closures.

This information is available in alternative format by calling our ADA Coordinator at (617) 574-6872.

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Is There a Solution to NPS Pollution?

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

Best Management Practices (BMPs) are activities that prevent nonpoint source pollution or mitigate the effects of NPS. 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 analyzing lawn soils prior to applying fertilizer. Some simple and cost effective BMPs for 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, 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 the lake, storm drains, and off streets. Although yard waste is natural, when it decomposes it becomes high in nutrients.
- ◆ 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 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 in the trash.
- ◆ Establish a vegetated buffer strip along shorelines to discourage waterfowl, such as geese, and avoid feeding them. The average goose will produce one pound of droppings a day!

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