



Grass Clippings and Stormwater Runoff

Managing stormwater runoff to protect water quality

By George Hurd, Environmental/Resource Development Educator, Penn State Cooperative Extension

Hheavy spring rains often cause property owners to mow their lawns more often. These heavy rains can also contribute to grass clippings ending up in stormwater runoff. Grass clippings that are blown into the street eventually enter the street storm drain.

When lawn clippings, fertilizers, soil, leaves or animal wastes, are picked up by stormwater runoff, they are carried directly to our local streams and lakes. All of these materials including grass clippings contain phosphorus.

According to the U.S. Environmental Protection Agency (EPA), phosphorus is one of the most troublesome pollutants in stormwater runoff and it is considered the primary cause of water quality problems in our lakes, ponds and streams.

Grass clippings contribute nutrients such as nitrogen and phosphorous, which cause

unwanted and uncontrolled growth of algae and aquatic weeds in the waterways. Increased algae growth is observed as green algae blooms or "scums" on lakes and ponds. Too much algae is harmful to a lake system. It blocks sunlight and prevents other plants from growing.

When it dies and decays, it also takes much needed oxygen away from fish. Limiting phosphorus reduces algae blooms. According to the Northeast Wisconsin Stormwater Coalition, one bushel of fresh grass clippings can contain 0.1 pounds of phosphorus which if it ends up in lakes or ponds is enough to produce 30 to 50 pounds of algae.

There are things your borough can do to protect waterways. When mowing yards, make certain that you do not blow grass clippings into the street. When mowing, make the first few passes with the lawnmower blowing the grass clippings into the lawn not the street. If there are grass clippings on the street or sidewalk, use a broom

or leaf blower to blow them back into the lawn. Do not use a hose to wash them into the street or storm drains.

Keeping your leaves and lawn clippings out of the streets and gutters will have significant benefits for your local lake or stream. You can reduce the amount of phosphorus entering a lake or stream.

You should apply only the amount of fertilizer your lawn needs. A soil test will tell you how much—if any—fertilizer your lawn needs. A soil test will inform you of the amount of phosphorus in your soil and the appropriate application rate.

Excess fertilizer may harm your lawn or pollute surface water. Fertilizer applied to your streets or sidewalks will get into the nearest lake or stream. Soil test kits are available at your Penn State Extension office.

You should mow your lawn when the grass is dry, to avoid clumping. Set the mower cutting height up to 2

to 2.5 inches to hide clippings better, and make a healthier lawn. Try to remove only one-third of grass length per mowing. If the grass is very overgrown, mow twice: first at a high setting, then wait a few days and mow lower.

Mow every five to seven days in the spring. In the summer, mowing every two weeks may be enough. You'll still save time over bagging and dragging clippings to the curb, water and fertilize less. Sharpen mower blades twice a year.

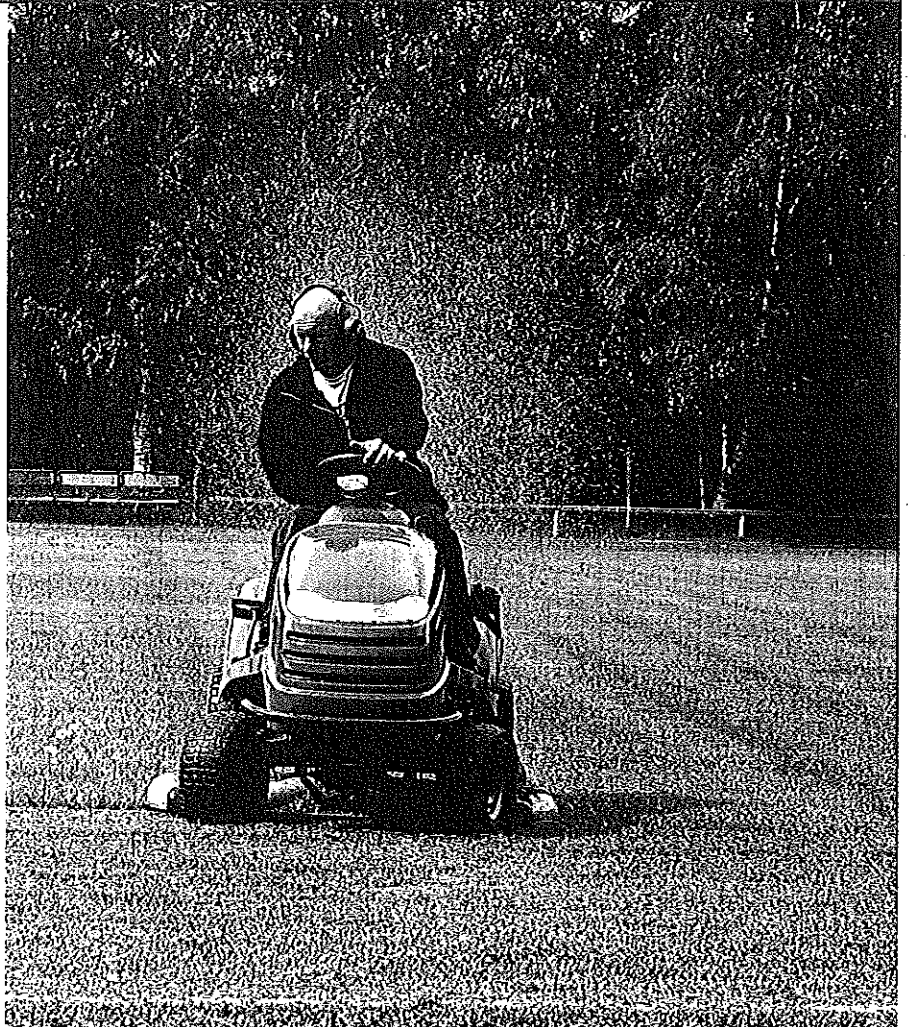
Control soil erosion around your house. When soil is left bare, rain water will run quickly over it. The moving water picks up soil particles. These soil particles have phosphorus attached to them. Some soils are high in phosphorus and are another source of phosphorus in stormwater runoff.

Keep your grass clippings on the lawn and not in the street or gutter. Remember, when you leave your grass clippings on the lawn, you add free fertilizer to the lawn. According to the EPA, leaving your grass clippings on the lawn doesn't cause thatch buildup.

Grass clippings are about 90 percent water, so they decompose very quickly. Leaving your grass clippings on the lawn can reduce your lawn's annual fertilizer needs, reduce your fertilizer costs and reduce water pollution.

More information on stormwater best management practices is available at the Stormwater PA website at www.stormwaterpa.org. To learn more about your local Penn State Extension office, visit <http://extension.psu.edu>. (B)

This article was originally published in the Watershed Winds newsletter. For more information, or to sign up for the newsletter, visit <http://extension.psu.edu/natural-resources/water/discovery-watersheds/news>.



KEEPING IT CLEAN Grass clippings are about 90 percent water, so they decompose very quickly, and one bushel of fresh grass clippings can contain 0.1 pounds of phosphorus which if it ends up in lakes or ponds is enough to produce 30 to 50 pounds of algae

Other Stormwater Management Tips

- Develop a comprehensive stormwater management plan for your borough.
- Do not dispose of used motor oil, flushings from radiators, pet wastes, household toxic wastes, etc., by placing them into the gutters or storm sewer inlets.
- Create anti-litter ordinances and educational programs for your borough.
- Include erosion controls in building codes and subdivision regulations.
- Ensure frequent trash removal and street cleaning.
- Maintain cleaning of catch basins and sewer pipes.
- Implement controls on herbicide and pesticide usage.
- Direct downspouts to the lawn.
- Wash your car on your lawn or at a car wash. (B)