

**MAMARONECK UNION FREE
SCHOOL DISTRICT
1000 WEST BOSTON POST
ROAD
MAMARONECK, NY 10543**

**MS4PY12 STORMWATER
PROGRAM**

**FACT SHEET #5
DECEMBER 2022**

**ENVIRONMENTAL IMPACTS OF
PHOSPHORUS ON OUR WATER
QUALITY**

**FOR MORE INFORMATION, CONTACT
YOUR STORMWATER COORDINATOR:**

**STEVE BRUGGE AT
914-220-3081**

**OR AT
sbrugge@mamkschools.org**

**1. WATER QUALITY IMPACTS OF EXCESS
PHOSPHORUS IN OUR WATERS**

Excess phosphorus in our streams, lakes and ponds, as well as our drinking water reservoirs, can cause algae overgrowth, with serious impacts to the environment and public health.

2. ALGAL BLOOMS

Algal blooms most frequently occur in nutrient-rich waters, particularly during the hot summer months. Most algae are harmless and are an important part of the food chain. Algae are naturally present in slow moving streams, lakes, coastal waters and ponds. Some, algae blooms, such as Blue-Green algae, can cause serious impacts to the environment and public health:

- **Oxygen Depletion:** Heavy mats of algae deplete the water of oxygen that fish need to survive
- **Recreational Use Impacts:** Algae overgrowth makes recreational water use unpleasant and potentially harmful
- **Depletion of Sunlight:** Heavy mats of algae deplete sunlight that underwater plants and microorganisms need to survive
- **Drinking Water Impacts:** Algae growth may cause carcinogens to form in drinking water during chlorination

Because it is hard to tell harmful algae blooms, the NYSDEC recommends you avoid contact with any waters covered by floating scums and discolored waters. It is not easy to tell if a bloom will produce toxins harmful to human health or animals. Laboratory analysis of the water sample is required to confirm the presence of toxins from harmful algae blooms.

3. HARMFUL ALGAL BLOOMS

Some algae can produce toxins that can be harmful to people and animals. These are collectively called harmful algal blooms (HAB). Blue-green algae are HABs because they contain cyanobacteria that may produce toxins harmful to human health or animals. Large populations of blue-green algae may produce toxins high enough to prevent those using the water for drinking or recreational use. Blue-green algae blooms have the appearance of spilled green paint or pea soup.

Symptoms include:

- **Allergic Reactions:** Symptoms include nausea, vomiting, diarrhea, skin or throat irritation as well as breathing difficulties
- **Liver and Nervous System Disorders:** Toxins can affect the liver and nervous systems when water is consumed in sufficient quantities

4. AVOID HARMFUL ALGAL BLOOMS

People and pets should avoid contact with the water that is discolored or has algae scums on the surface.

- **Rinse Thoroughly:** If contact does occur, rinse thoroughly with clean water to remove algae
- **Avoid Drinking Untreated Surface Water:** Never drink untreated

surface water, whether or not algae blooms are present

5. SOURCES OF PHOSPHORUS POLLUTION

Phosphorus is one of the leading causes of water pollution. Key sources of phosphorus include:

- **Lawn and Garden Fertilizers:** Excessive amount of lawn and garden fertilizers are washed off the lawns and gardens polluting our lakes and streams
- **Human and Animal Wastes:** Improperly maintained septic fields and uncollected and improperly disposed pet waste also contain high amounts of phosphorus that can be carried by runoff into our lakes and streams

6. FERTILIZING YOUR LAWN

It is against the law to use phosphorus on your lawns and gardens if your soil does not need it:

- **Fertilizing Your Lawn:** Do not use lawn fertilizer that contains phosphorus unless you are establishing a new lawn that does not have enough phosphorus
- **Fertilizer Application:** Do not apply fertilizer from December 1 to April 1, as lawn is dormant during the winter season
- **Impervious Surfaces:** Do not apply fertilizer on sidewalks, driveways or other impervious surfaces. If fertilizer spills onto these surfaces, you must sweep it up to prevent it from washing into drains or waterways. Do not hose it off
- **Buffer to Adjacent Waterbodies:** Do not apply fertilizer within 20 feet of any water body unless:

1) There is at least a 10-foot buffer of shrubs and trees or other plants between the area you are fertilizing and the water

2) The fertilizer can be applied no closer than 3 feet from the water using a device with a spreader guard, deflector shield or drop spreader

7. **BUYING LAWN FERTILIZER**

Phosphorus is carried to ponds, rivers lakes and streams by stormwater runoff. Phosphorus-impaired waters can negatively impair recreation and tourism activity. Treating drinking water from phosphorus effects can be costly:

- **Look for the Zero:** Before buying fertilizer, check the fertilizer bag for a set of three numbers showing the percentage of nitrogen (N) phosphorus (P) and potassium (K). Buy a bag with “0” in the middle
- **Zero Waste:** Why pay for a chemical your lawn does not need? Generally, only newly established lawns or those with poor soil need phosphorus. Phosphorus applied to a lawn that does not need it, will not be used and causes water pollution
- **Test Your Soil:** Test your soil to determine if your soil needs extra phosphorus. Have your local Cooperative Extension Office

conduct the test. Tests cost \$10 to \$20 at a commercial laboratory

8. **NEW YORK STATE LAW ON PHOSPHORUS RESTRICTIONS**

The NYS Dishwasher Detergent and Nutrient Runoff Law went into effect on **August 14, 2010**. This law restricts the use of dishwasher detergents that contain phosphorus. Beginning on **January 1, 2012**, New York State Law went into effect, restricting the use of lawn fertilizers:

- **Commercial Pesticide Applicators:** Applicators and any other person using fertilizers, including homeowners, must comply with the new phosphorus restriction law
- **Commercial Permittees:** Commercial permittees that sell fertilizer/pesticide combinations or fertilizers alone must comply with new retailer signage requirements
- **Phosphorus Restrictions:** Under the law, use of fertilizer that contains up to 0.67% phosphorus is not restricted. Fertilizer containing more than 0.67% phosphorus can only be used if a new lawn is being established or a soil test indicates it is necessary
- **Signage:** Any person purchasing fertilizer/pesticides combination products should read the product label to ensure that the product purchased contains 0.67% or less phosphorus