

NITROGEN - TOO MUCH OF A GOOD THING!

In the Winter edition of WATERSHED, (Vol. 27, No. 1, pg. 2), WPWA informed readers of its partnership with other, like-minded non-profit organizations in Southern RI & nearby CT. The group's collaborative goal is **Nitrogen Reduction Education**. In this issue we offer a major source of the overabundance of Nitrogen and a few simple solutions that anyone can practice. Please share this information with your friends & family!

Nitrogen is an important & naturally occurring element in our ecosystem, However, it can cause problems when too much is present, an issue often resulting from human influence. The presence of too much nitrogen is sometimes difficult to detect since the first visible sign of it is growth. When plants appear to be growing very quickly with a vibrant green color it is often thought to be a good thing. Unfortunately, this is usually not the case.

Let's use the example of a river's ecosystem, where quality fish habitat is essential. These cold blooded swimmers need a lot of oxygen to survive which exists in the water in a 'dissolved' form. When there is an overabundance of nitrogen in a river it often results in a 'bloom'. When this happens the aquatic plants grow and spread rapidly, destroying fish habitat and quality of life through eutrophication. When waters are eutrophic they are rich in phosphates, nitrates, and organic nutrients (all the elements often found in fertilizer) that encourage plant growth. This may not sound like a problem, however, eutrophic waters significantly deplete the amount of dissolved oxygen present which negatively impacts the lives of aquatic animals.



7 14.0067 N Nitrogen	15 30.97376 P Phosphorus	19 39.0983 K Potassium
Nitrogen No. 7	Phosphorus No. 15	Potassium No. 19

You may have figured out that the largest contributor of eutrophication is fertilizer. If you look at a package of fertilizer sold at a garden center you'll find that it is most likely comprised of: Nitrogen, Phosphates, and Potash (Potassium). When fertilizer is added to the soil in your garden or lawn or even when watering, it often ends up in our ground water. Soil texture is what affects how well the nutrients and water are retained in the soil. For example, a soil with more clay will hold more water than a soil with lots of sand. When water drains from sandy soil it usually carries along with it much of those nutrients from the fertilizer. This process is called 'leaching'. If you live miles away from a local river you may think that you couldn't possibly be adding to the overabundance of nitrogen by using fertilizer on your yard & gardens but you'd be mistaken. All the water that lands on your yard, either by precipitation or by watering with hoses or sprinklers ends up in the ground water beneath you. That ground water is the very same water that comprises the rivers and ponds and lakes around us. So, in order to combat adding nitrogen to our local waterways you'll need to know some simple solutions and alternatives to using fertilizer.



First Things First - **Test your soil!** Inexpensive, DIY soil test kits can be purchased easily and often include charts listing the ideal pH for flowers and vegetables, grasses and trees. Perhaps your lawn or garden doesn't even need the ready-mix fertilizer found in most stores but rather an adjustment in pH.

Avoid Invasive Plants! Native species often grow well without adding fertilizer. When invasive species grow successfully it usually results in a decrease in species diversity and out-compete the natives. Do your part by learning to recognize invasives and how to control them.

Common Native Species To Use for Landscaping: WILD HONEYSUCKLE QUAKING ASPEN
 INKBERRY SPICEBUSH PUSSY WILLOW HAWTHORNES MOUNTAIN HOLLY PINXTER-FLOWER
 DEERBERRY WILD RAISIN BEACH PLUM FETTERBUSH SILKY DOGWOOD WITCH HAZEL
 SYCAMORE SUGAR MAPLE SILVER MAPLE CHESTNUT OAK MOUNTAIN LAUREL
 AMERICAN BEECH AMERICAN ELM BIRD CHERRY LINDEN
 TUPELO SASSAFRAS WINTERBERRY



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More Practical Solutions & Resources to Help Reduce the Harmful Affects of Nitrogen

- **If you must use fertilizer** please be sure that the nitrogen component is water soluble & from a slow release source; this will be written right on the packaging.
- **Be daring** - make your own fertilizer using grass clippings & **compost** to maintain Nitrogen; **compost** & bone meal to add Phosphorus; fireplace wood ashes, **compost**, aged manure & seaweed for Potash supply.
- **Start a Compost Pile** - This practical way of recycling yard clippings & kitchen waste will create an excellent soil conditioner for free! You will also be keeping about 30% of usual collected trash out of the landfill or other disposal facility.

← Did you notice the common element to all 3 essential components of fertilizer?



- **Leave grass clippings** on the lawn after mowing. This will help the lawn retain water & keep the soil cooler during hot weather. Grass clippings also provide up to 30% of your lawn's nutrient needs!
- **Don't Worry**, a brown lawn is simply dormant & will green again with rain!
- **Re-set your mower blade to 3"** Grass mowed to this length needs less water and keeps the soil shaded which prevents sun-loving weeds from over-sprouting. Encouraging a healthier root system, longer grass is more tolerant of drought and more resistant to pests and disease.
- If you employ a landscaping service kindly ask them to raise their blades.

Please Apply Fertilizer Properly!

- It is best to apply fertilizer when the soil is moist and then water lightly. This will help the fertilizer move into the root zone where it is available to the plants, rather than stay on top of the soil where it can be blown or washed away.
- Watch the weather. Avoid applying it immediately before a heavy rain system is predicted to arrive. Too much rain (or sprinkler water) will take the nutrients away from the lawn's root zone.



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- Use the minimal amount of fertilizer necessary and apply it in small, frequent applications. An application of 2 pounds of fertilizer five times per year is better than 5 pounds of fertilizer twice a year.
- Calibrate your fertilizer spreader to be sure you know exactly how much material is being discharged in a given space. Follow instructions accompanying your spreader.
- Dispose of fertilizer bags or containers in a safe manner.

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