SIERRA CLUB
FOUNDED 1892

Understanding Nutrient Pollution in Illinois

One of Illinois' top water quality problems is nutrient pollution. Learn more about the problem, the solution and how to keep your lawn green and water clean

Phosphorus and nitrogen are found naturally in small concentrations which means they act as limiting nutrients in many ecological processes. Nutrient pollution occurs when too much nitrogen and phosphorus are added to bodies of water where they act like fertilizer promoting excessive algae and plant growth leading to oxygen depletion which can kill fish and other aquatic life.

Commericial agriculture is not the only culprit. Fertilizers from residential lawns and gardens contribute significantly to the nutrient pollution problem. In 2010, the IL General Assembly passed a law that limits phophorus application to lawns unless a soil test demonstrates phosphorus deficiency (For details see Nutrient Regulation on the back of this fact sheet).

Did you know?

Unless you have a soil test showing phosphorus deficiency, all fertilizer applied by hired landscapers must be phosphorus-free.

Water Quality Effects

When algae die, oxygen in the water is used up to decompose the organic matter. Although plants produce oxygen, the process of decay actually consumes more oxygen than the plants give off. Large algae blooms leave large areas or "dead zones" where there is little to no dissolved oxygen in the water that fish and other aquatic life need to survive.

Keep our streams fish friendly by preventing algae blooms like those in Cedar Creek near Avon, IL.

Human Health Effects

Having too much nitrate, the common form of nitrogen found in surface waters, can cause blue baby syndrome in which babies digestive system converts nitrate to nitrite which reduces the amount of oxygen your blood can hold. Nutrient pollution is also shown to increase harmful blue green algae blooms that create toxic byproducts. Exposure to these algae through ingestion, skin contact or inhalation can lead to skin and eye irritation, allergic reactions and gastrointestinal upset.

Vegetative Effects

Too much nitrogen has been shown to reduce cold hardiness in certain tree species and can reduce fine root density making it harder for plants to take up water and other nutrients. Nutrient loading also decreases plant diversity because only plants that are fast-growing and able to use the excess nutrients in the system can survive.

Nutrient Regulation

• Illinois state law prevents the application of phosphorus-containing fertilizers to turf grass unless soil tests show that the lawn area is deficient in phosphorus OR it is within the first two growing season when grass is being established. The law further protects water quality by restricting application to frozen lawns or impervious surfaces such as driveways that reduce or prevent the absorption of stormwater into land. View the Agriculture Fertilizer Act online at:
http://www.ilga.gov/legislation/BillStatus_pf.asp?DocNum=6099&DocTypeID=HB&LegID=&GAID=10&SessionID=76&GA=96

• The new law does not apply to agricultural lands, or golf courses. Fines will be imposed for violations of the restrictions regarding phosphorus containing fertilizers.

• Prior to the statewide law a number of towns had enacted their own more stringent versions of this bill so check local rules and regulations before applying fertilizer in your community.

• The US EPA asked all states to develop nutrient criteria standards for their watersheds. Illinois has failed to set a numeric goal and still relies on a narrative standard that is hard to enforce and does little to protect aquatic life. Illinois should move forward and establish a clear limit for phosphorus in all Illinois rivers and streams.

Without P-fertilizer how do I keep my lawn healthy?

Phosphorus is an important element for plant life but most soil in Illinois has more than enough phosphorus to promote growth. Furthermore, nitrogen is what makes your lawn green so no P-fertilizer won't affect the color of your turf. Leaving grass clippings after mowing provides a natural nutrient source that won't rinse away with the rain.

Do I have to worry about nutrient pollution in my drinking water?

The IEPA has set a drinking water standard of 10 mg.L for nitrates but the more costly problem to Illinois taxpayers is from algae. Water treatment facilities most common grievance are odor and taste problems from algae.

What can I do to stop nutrient pollution?

1) Use fertilizer sparingly if it all and replace your old fertilizer if it still contains phosphates (look for 0 as the middle number on the bag).

2)Check that your lawncare provider is using phosphorus free fertilizer.

3) Control water runoff by reducing paved with porous areas and look into rain barrels or creating a rain garden.

4) Plant native prairie vegetation around local streams to act as a buffer reducing stream bank erosion while filtering pollutants and providing shade which cools the water temperatures and increases dissolved oxygen levels for aquatic life.

Where it all ends...
...The Gulf of Mexico

Illinois has over 87,000 miles of rivers and streams that come together to join the Mississippi River. This means nutrient pollution in your community is not just a local problem but affects everyone downstream. Illinois is the number one contributor of phosphorous and nitrogen to the hypoxic zone (aka "dead zone") in the Gulf of Mexico. This area devoid of life is larger than the size of New Jersey.