

## Effect of Phosphorus on Water Bodies

Many of our water bodies are negatively impacted because of excess phosphorus, which is an essential plant nutrient found naturally in the soil, in fertilizers, and human and animal waste. Where human activities do not dominate the land, phosphorus is normally in short supply. Its absence or low levels in the environment limit the growth of algae and aquatic plants. When additional phosphorus becomes available to an aquatic system, it stimulates growth of algae and other plants. Nutrient enrichment and excess plant growth or productivity is referred to as eutrophication.



Under eutrophic conditions, recreational activities in lakes and streams may be impaired. At first, fishing may improve as plant growth increases the food supply. However, when algae and aquatic plants die, their decomposition consumes oxygen causing fish kills and other disagreeable conditions. Initially, it is difficult to see changes in water quality when excess phosphorus has been reduced or stopped; previous additions of phosphorus can be stored in the sediments and biota. It is therefore important to take preventative steps to limit phosphorus movement from the surrounding lands to our various water bodies.

## Did you know?

In 2011, Illinois instituted a law (the **Agriculture Fertilizer Act**) prohibiting commercial landscape care industry applicators from applying fertilizer containing phosphorous unless a soil test shows the soil is phosphorous-deficient. Establishment of seed and sod is exempted from the law.





Lawn to Lake is a collaborative program to protect water resources in the Great Lakes region by promoting healthy lawn and landscape practices. With funding from the U.S. EPA Great Lakes Restoration Initiative, partners are coordinating a pollution prevention campaign addressing the needs of those responsible for lawn and landscape care in the Southern Lake Michigan basin. Collaborating partners include Illinois-Indiana Sea Grant, Lake Champlain Sea Grant, Safer Pest Control Project, and University of Illinois Extension.



IISG-12-28



LCSG-12-7

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LAWN TO LAKE



**Don't "P" On  
Your Lawn**  
and other lawn care tips for  
green lawns, not green lakes

Phosphorus (P) is a plant nutrient found in lawn fertilizer that promotes the development of roots, flowers, fruit and seeds but also feeds algal blooms in waterways. There are other ways to promote healthy root growth without using phosphorus. Create a beautiful lawn and keep "P" from polluting water by using P-free fertilizers and following the tips in this brochure.

## How can my lawn help or harm lakes, ponds and rivers?

Having a healthy lawn and reducing phosphorus benefits water quality! If your lawn is bare and patchy, soil and phosphorus will wash off the land and pollute local waters. If you use too much fertilizer, it can also wash off and feed algal blooms and other



aquatic plants.

The solution is to create healthy soils and grass for an attractive and lake-friendly lawn. Healthy soils include organic matter and a soil structure that supports a microbial community that helps release nutrients and combat fungal pests. To keep grass healthy, don't stress it by over watering or mowing it too short.

Your lawn will then be better able to tolerate pests and out compete weeds.

**Follow these tips for a green lawn, not a green lake!**



## Healthy Lawn Tips

### Fertilize

- Only if a soil test confirms a need to add extra nutrients. Use organic fertilizer or compost. Fertilize only once/year in spring.
- If a soil test is not taken and you want to apply fertilizer, assume your lawn has enough phosphorus – most soils in Illinois and Indiana have enough phosphorus. Apply a phosphorus-free fertilizer.

### Look for the Middle Number

- A string of three numbers on a fertilizer bag shows its nutrient analysis – the middle number is the phosphate (phosphorus) content. A “zero” in the middle means it contains no P.
- The best time to fertilize is spring and fall.
- Use a drop spreader, sweep up fertilizer from sidewalks and driveways, and don't fertilize before a rain storm.



### Water

- If desired, in early morning, when there is less than 1 inch a week of rain during the growing season. Grass will survive droughts without watering.

### Plant Grass Seed

- On existing lawns in fall and spring to out compete weeds.
- Use a grass mixture that does well in the setting (consider soil type, light, activity).
- Leave legumes, such as common white clover, among the grass to add nitrogen, which will naturally fertilize your lawn.

### Aerate

- Aerate heavily compacted lawns in early fall by removing small cores of soil from your lawn to prevent compaction. This will increase water, nutrient and oxygen movement into the soil, improve grass rooting, and prevent fertilizer and pesticide run-off.

### Mow

- Maintain a height of 3 to 4 inches and cut off no more than 1/3 of the grass blade. Leave clippings on lawn to add nutrients and organic matter.

### Weed

- Weeds will be discouraged by following these healthy lawn tips! Just pull any that are left by hand.