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# Illinois Chapter

## Nutrient Reduction Strategies for Homeowners

How you manage your home and property can have a significant impact on the health of Illinois' rivers, lakes and streams. You can have a beautiful home, lawn and garden while keeping excess nutrients from feeding smelly, ugly and potentially dangerous algal blooms in your nearby waterway.



### What are nutrients?

Phosphorus (P) and nitrogen (N) are naturally occurring nutrients critical to plant growth. In nature, they are typically found at very low levels in water bodies, and thus are a limiting factor in ecological processes. Nutrient pollution occurs when excess phosphorus and nitrogen are added to rivers, lakes, and streams, essentially over-fertilizing the water and promoting excessive algae and plant growth.

### Why are excess nutrients in our waters a problem?

Extensive algal blooms and aquatic plant growth create unhealthy conditions which adversely impact aquatic life, drinking water and recreational uses. During the night, dissolved oxygen (DO) in the water can drop to critically low levels for fish and other aquatic life due to nighttime oxygen consumption by the excessive plant and algae material. Low DO can cause fish kills, and excess algae means water treatment plants have increased costs to address odor and taste problems in drinking water. In rare instances, blue-green algal blooms can produce algal toxins that pose a health risk to people and animals.

### How do nutrients get into our waters?

The major sources of excess nutrients in our waterways are three-fold.

- **Agricultural Runoff** contributes a significant amount of nutrients to our waters via direct runoff from soils enriched with fertilizers and animal manure.
- **Sewage Discharges and Combined Sewer Overflows:** Many sewage treatment plants do not remove nutrients from their treated effluent before it is discharged into waterways. Studies estimate that 47% of the phosphorus in Illinois rivers comes from sewage effluent. In addition, some cities, like Chicago, store runoff in the same system as the city's sewage, known as a combined sewer. During storms, these sewer systems can become overwhelmed and overflow a mixture of stormwater and untreated sewage.
- **Urban Surface Runoff** picks up nutrients from private lawns and gardens, thus introducing more nutrients into our rivers, streams and lakes.



## How Can you Help?



Outdoor Nutrient Reduction	Indoor Nutrient Reduction
<p>Limiting fertilizer use is key to reducing nutrient loading in runoff. Here in Illinois, soil phosphorus levels are typically sufficient to grow healthy turf grass. <b>Purchase phosphorus-free lawn fertilizer by only buying fertilizer in which the center number is '0'.</b></p>	<p>Inside your home, be sure to double check that your liquid dish soap, laundry detergent, and dishwasher detergents <b>are all phosphate free.</b></p>
<p>If you hire a lawn care company, check with them to <b>make sure they are complying with Illinois law and are using no-phosphorus lawn fertilizer.</b></p>	<p>Excessive private water usage can keep sewage treatment plants from operating most efficiently. To <b>reduce your indoor water use</b>, consider the following to help you save money along with Earth's most precious resource:</p> <ul style="list-style-type: none"> <li>✓ purchase low flow shower heads</li> <li>✓ use shower timers</li> <li>✓ turn off faucets when brushing teeth</li> <li>✓ check your indoor pipes for leaks</li> <li>✓ if you live in Chicago and haven't already done so, install a water meter in your home! Read more at <a href="http://metersave.org">metersave.org</a></li> </ul>
<p>To combat nutrient runoff, using native plants in your garden is the most effective method of reducing need for fertilizers. <b>Native plants are naturally adapted to the Illinois climate and once established, can be grown without the need to fertilize or water.</b></p>	
<p><b>Arranging native plants into rain gardens is doubly effective</b>, since rain gardens increase soil porosity and the ground's capacity to absorb rainwater. Using rain gardens has proven to reduce overall water runoff into our sewers. Read more at <a href="http://prairierivers.org/raingardens/">http://prairierivers.org/raingardens/</a></p>	
<p>Disconnecting your downspouts and <b>installing rain barrels to catch water collected from the roof will further reduce runoff.</b> This water can be then used to water plants and gardens during non-rainy weather.</p>	



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### Illinois' History of Reducing Phosphorus Pollution

- **In 1972** Chicago banned the sale of detergents containing phosphorus.
- **In 2006** new and expanding sewage treatment plants discharging more than one million gallons per day were required to limit their phosphorus discharges to 1 mg/L.
- **In 2007** Illinois' Regulation of Phosphorus in Detergents Act limited the use of phosphorus in all detergents, including dishwasher detergent, to very low levels. The law went into effect in July 2010, giving industry time to create dishwasher detergent formulas without phosphorus.
- **In 2010** Illinois' Lawn Care Products Application and Notice Act banned the use of phosphorus-containing lawn fertilizers by for-hire applicators. The act also provides a buffer for waterways and provides exceptions if a test shows the soil is lacking in phosphorus sufficient for healthy turf grass or during the first two growing seasons in which a lawn is being established.
- **In 2012** Public Act 97-0960 established the Nutrient Research and Education Council (NREC), whose mission is to enhance nutrient effectiveness, increase crop production and protect water quality. To fund their research, the Council enacted a 75¢ fee per ton of fertilizer sold, which simultaneously encourages farmers to reduce their usage.

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