

Illinois has a nutrient problem.

Your help is needed to clean up the Gulf of Mexico and our state's lakes and rivers!

High levels of nutrients entering our waterways are causing algae blooms in our rivers, lakes and ponds. Nutrient pollution from Illinois cities and farms also travels all the way down to the Gulf of Mexico where it contributes to a dead zone larger than the state of Connecticut.

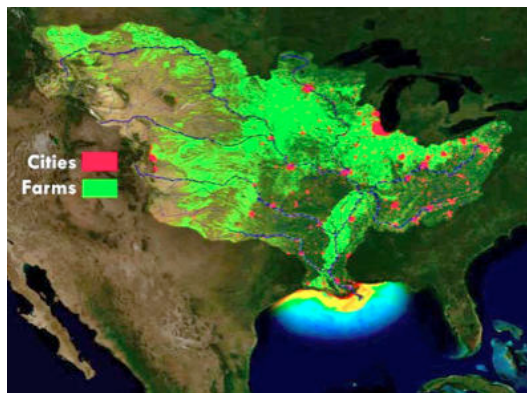
What is nutrient pollution?

Phosphorus (P) and nitrogen (N) are naturally occurring nutrients critical to plant and animal growth and survival. However, these nutrients pollute our waterways when too much of either is carried into our lakes, rivers and streams in runoff from agricultural lands and urban surfaces and from sewage discharges and combined sewer overflows. This excess P and N over-fertilizes bodies of water, creating extensive algae and plant growth. The plant and algal over-growth consume the dissolved oxygen (DO) in the water, dropping it below the levels needed by fish, mussels and other aquatic life for survival.

How do excess nutrients harm our waterways?

Algae blooms and low DO from excess P and N create unhealthy conditions which adversely impact aquatic life, drinking water and recreational uses. In Illinois waters, low DO can cause fish kills, and excess algae increase costs of water treatment plants to address odor and taste problems in drinking water. Certain types of blue-green algae can also pose a health risk to people and animals when they are exposed to them in large quantities. Referred to as **Harmful**

Dead Zone in the Gulf of Mexico caused by excess nutrients covers an area the size of Connecticut.



Algal Blooms (HABs), they produce

toxins that can cause health effects such as skin and irritation, nausea, vomiting, allergic reactions and difficulty breathing. These symptoms can be caused by swallowing or skin contact with surface scums or waters, or by inhaling airborne droplets of water containing high levels of algal toxins. The liver and nervous system can be affected if water is ingested in sufficient quantities, so the safest thing to do is to treat every algal bloom as if it could be dangerous. See the [Illinois EPA HAB page¹](#) for more information.

In the Gulf of Mexico, P and N washed down by the Mississippi River have created a 'dead zone' that covers thousands of square miles and, as one of the largest hypoxic (low oxygen) areas in the world, is referred to as [Gulf Hypoxia²](#).

What is Illinois doing to combat this problem?

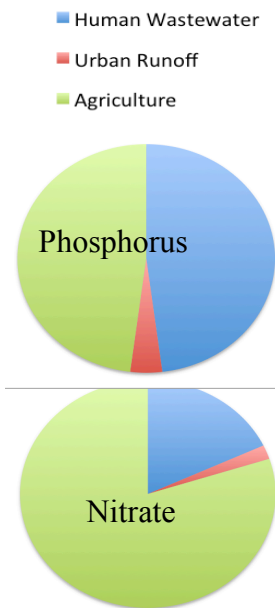
The [Illinois Nutrient Loss Reduction Strategy³](#) (INLRS), finalized in 2015, is designed to reduce Illinois' contribution to Gulf Hypoxia and to combat nutrient pollution in Illinois waterways. INLRS key strategy components include—

- Reducing phosphorus and nitrate (a form of nitrogen) loss from Illinois by 45% by 2035
- Addressing impacts of nutrients on local water quality
- Reducing phosphorus by 25% and nitrate by 15% by 2025

Illinois is among twelve states in the [Hypoxia Task Force⁴](#) developing their own state strategies with a goal to reduce the size of the Gulf dead zone to one-third its current size by 2035. Illinois and Iowa are the states contributing the most N and P to the Gulf.

Sources of Nutrients In Illinois Waterways

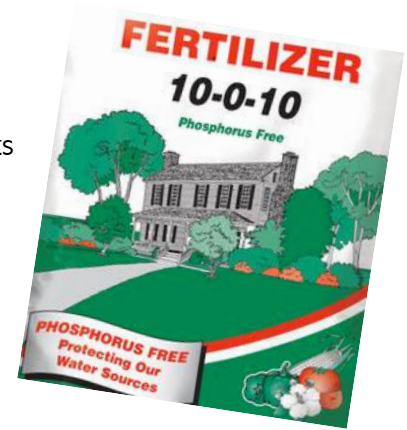
On a Statewide basis



Source: Illinois Nutrient Loss Reduction Strategy

What you can do to help

Agricultural groups like farm bureaus are working to address over-fertilization and resulting runoff that contributes to algal blooms. Citizens should applaud farmers' efforts and campaigns to identify best management practices they can use on their lands to prevent the runoff of nutrients. Even more importantly, citizens should support improvements in the treatment of wastewater from Illinois' cities and help to reduce the runoff of nutrients from the urban environment. Removing phosphorus from effluent in wastewater plants often requires treatment plant upgrades, so letting your municipal officials know that you are willing to do your part to cover the cost of improving local discharged effluent water quality is critical.



You can also do your part on your own property by using no-phosphorus lawn fertilizer, native landscaping, rain gardens and rain barrels to capture and collect water. Here are some resources that will help you:

- Sierra Club Illinois on No-Phosphorus Fertilizers <http://illinois.sierraclub.org/priorities/water/nutrients>
- Illinois-Indiana Sea Grant on Natural Lawn Care http://www.iiseagrant.org/l2l_lawncare.php
- Prairie Rivers Network on Rain Gardens <http://prairierivers.org/raingardens/>
- The Wildflower Preservation & Propagation Committee on Rain Barrels <http://thewppc.org/barrels.html>
- Wild Ones on Native Landscaping <http://www.wildones.org/connect/chapters/illinois-chapters/>

Case Studies of Local Initiatives to Combat Nutrient Pollution

Downers Grove's Stormwater Utility

In January 2013, the Village of Downers Grove implemented a [monthly stormwater fee](#)⁵, billed to all property owners in the village. This fee is based on the total amount of impervious area on each parcel, including parking lots, roofs, driveways, patios, decks, swimming pools, and gravel and stone areas. The stormwater fee covers the cost of maintaining the village's stormwater infrastructure by charging the most to properties that create the most runoff. The stormwater fee provides an incentive for landowners to reduce the runoff from their properties, through the use of rain barrels and rain gardens. This is an example of a local community avidly addressing their urban runoff, helping to achieve the goals of the INLRS.

Fox River Study Group

Since 2003, a non-profit called the [Fox River Study Group](#)⁶ (FRSG) has been monitoring, modeling, and assessing ways to improve the levels of dissolved oxygen and reduce excess algae in the Fox River. Over half the river within Illinois is impounded by dams; algae thrive in the still water in the dam pools. Investigations have focused on reducing phosphorus inputs to the river and removing dams that have outlived their original purposes. In December 2015, FRSG released its [Fox River Implementation Plan](#)⁷ (FRIP) that includes the group's current research and model simulations of the most effective means to clean up the Fox River. The FRIP outlines actions currently being taken in the watershed including reductions in P outputs from wastewater plants, removal of two dams and reporting of P reductions achieved through projects implemented to reduce pollution from stormwater runoff from agricultural and urban areas. Further study of problem sites is underway. This is an example of an effort to address local water quality on a watershed scale. Throughout the state, other watershed groups are also working to implement the INLRS.

FOOTNOTES

- ¹ <http://www.epa.illinois.gov/topics/water-quality/surface-water/algal-bloom/index>
- ² <https://www.epa.gov/ms-htf/hypoxia-101>
- ³ <http://www.epa.illinois.gov/topics/water-quality/watershed-management/excess-nutrients/nutrient-loss-reduction-strategy/index>
- ⁴ <https://www.epa.gov/ms-htf>
- ⁵ <http://www.downers.us/res/stormwater-management/stormwater-utility>
- ⁶ <http://foxriverstudygroup.org>
- ⁷ <http://foxriverstudygroup.org/plan.htm>

FOR MORE INFORMATION:

Contact- Cindy Skrukud
Clean Water Program Director
Cindy.Skrukud@SierraClub.org
312-251-1680 x110



Background Photo: Algae in the Fox River at Yorkville-Sept. 2012