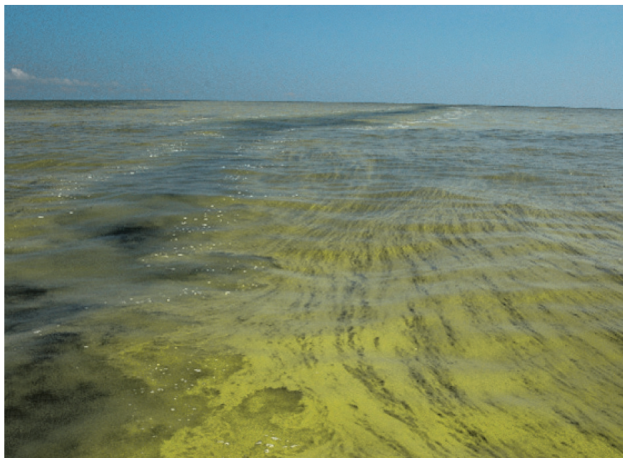


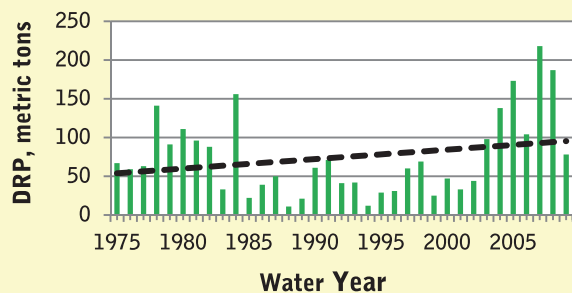
## WHAT IS THE PROBLEM?

Fertilizer that is not taken up by the crop can run off the field during rain and snowmelt events. Fertilizer losses into our streams and river contribute to algal blooms in Lake Erie, making recreation unpleasant and swimming unhealthy, and harming our local economy.



Summer algal bloom in Western Lake Erie.

### Dissolved Reactive Phosphorus, Annual Loads



Since the 1980s, one of the most significant nutrients, dissolved reactive phosphorus, has more than doubled in Lake Erie.

Cover image courtesy of Beaver County Conservation District.

Above images courtesy of Dr. David Baker, Director Emeritus, National Center for Water Quality Research, Heidelberg University.

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## HOW IS THIS RELEVANT TO ME?

Your land is an investment. The practices your tenant uses on the farm impact the value of your land. Using best practices to reduce nutrient losses from your land are a win-win for you, your tenant and our watershed.

As a farmland owner, you are essential to successful farm operations even if you do not farm the land yourself. Your tenant may already be doing a good job at reducing fertilizer losses, but there are always opportunities for further improvement. Become part of the solution by starting the dialogue with your tenant.

## HERE'S HOW YOU CAN HELP!

Join the Sandusky River Watershed Coalition to learn more and stay informed about upcoming events! Contact Cindy Brookes at [cabrookes@wsos.org](mailto:cabrookes@wsos.org) or (419) 334-5016, or visit [www.sanduskyriver.org](http://www.sanduskyriver.org).

Have a conversation with your tenant about what they are doing on the farm. Here are some suggestions on what to ask:

- ▶ What management practices could be used on my farm to better keep fertilizer on the field?
- ▶ What problems, if any, like damage tiles or waterways need to be repaired or better maintained?
- ▶ When do you apply fertilizer? If you broadcast apply fertilizer in the fall, do you incorporate shortly after to reduce losses over the winter?

Discuss best practices to reduce nutrient losses. Many of the following recommended practices use the 4R Framework – right fertilizer source, right rate, right time, right place ([www.nutrientstewardship.org](http://www.nutrientstewardship.org)). Ask your tenant if they already use any of these practices or if they would be interested in learning more.

- ▶ **Soil testing:** Soil tests help farmers know how many nutrients are already in the soil and what additional fertilizer may be needed. Applying only what's needed will reduce costs and nutrient losses from cropland.
- ▶ **Grid soil sampling and variable rate applications:** This approach allows farmers to apply nutrients at rates that match the needs of specific locations within fields. This can also save money by reducing the amount of fertilizer applied where sufficient nutrients are already present, and increase yield by providing fertilizer where nutrients are needed.
- ▶ **Apply phosphorus and other nutrient inputs in rooting zone:** Following broadcast applications of manure or fertilizer with light incorporation, or applying fertilizer with subsurface injection provides the crop with greater access to the nutrients and reduces the chance that nutrients will move out of the rooting zone.
- ▶ **Shift timing of fertilizer application closer to crop need:** The longer nutrients remain on the field before the crop is ready to use them, the higher the risk that rain or melting snow will carry them off the field. Applying phosphorus annually, rather than once every two or three years, may reduce losses. Applying phosphorus in the spring may also be an option, at least for high-risk fields that experience runoff to surface water.
- ▶ **Repair tiles:** Underground tiles help with infiltration on poorly drained soil to control the amount of runoff.
- ▶ **Repair waterways:** Grassed waterways drain rainwater from the fields and catch the soils and nutrients that would otherwise runoff.
- ▶ **Use cover crops:** Cover crops, such as alfalfa or wheat, are planted in fall to cover the soil over the winter. Cover crops reduce soil erosion and nutrient losses, and improve soil quality.

