

What's wrong with phosphorous?

Phosphorus is a fertilizer. It's present naturally in soil and that's good for plants. But when it washes into lakes, it's bad because phosphorous also fertilizes tiny, floating aquatic plants called algae.

Normally phosphorus is retained and recycled in the forest ecosystem, but soil disturbance and changes in land use allow phosphorus to be transported in surface water run-off. Then it's carried to lakes in stormwater, streams and drainage channels. It can be attached to soil particles or dissolve in the water itself.

Roads, construction projects and agricultural activities all add phosphorus to lake ecosystems. Phosphorus can also come from other sources that are more concentrated such as septic systems, lawn fertilizers and soaps and detergents.

When excessive amounts of phosphorous wash into a lake, that can fuel an algae population explosion, called an algae "bloom." That deceptively pleasant name means algae have formed colonies so dense they cover lakes with a greenish-brown scum — complete with an unpleasant odor. It blocks sunlight to beneficial aquatic plants, consumes oxygen (which may lead to fish kills) and interferes with feeding cycles of other aquatic organisms. All of this makes phosphorous a huge threat to Maine's lakes.

That's why it's so important to use phosphate-free detergents (a list is available at LEA) and phosphorous-free fertilizers. Most Maine soils are already high in phosphorus, but you can check the content in your soil with a simple test, available through the Maine Soil Testing Service (<http://anlab.umesci.maine.edu>) for under \$20. If you must fertilize, many stores now carry phosphorus-free fertilizer. When buying fertilizer, remember the amount of phosphorus is represented by the middle number in the ratio on the bag.

Another way to prevent phosphorous from entering lakes is to wash vehicles and boats at public car washes or areas where there's ample soil to infiltrate run-off water. Maine law prohibits washing or bathing in lakes or ponds.

“For lake water quality, there is no other issue that compares to phosphorous.”

— Colin Holme, LEA Executive Director



Photo by Maine Department of Environmental Protection