

Testimony on LD 1550

Resolve, Directing the Department of Health and Human Services to Amend Its Rules to Protect Water Quality by Reducing Nutrient Pollution from Septic Systems

By Jennifer Jespersen

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Senator Ingwersen, Representative Meyer, and distinguished members of the Health and Human Services Committee. My name is Jennifer Jespersen, and I am the Principal & Senior Scientist at Ecological Instincts. Based in Manchester, Ecological Instincts is an environmental consulting firm specializing in environmental planning, water quality monitoring, natural resource assessments, and environmental education. I am pleased to express my support for LD 1550, *Resolve, Directing the Department of Health and Human Services to Amend Its Rules to Protect Water Quality by Reducing Nutrient Pollution from Septic Systems*.

As a Maine native that has worked in the field of watershed planning here in the state for over 20 years, I have come to appreciate just how central water quality is to our way of life. Our lakes, rivers, and streams are the lifeblood of our communities. They support thriving aquatic ecosystems, local economies, and generational ties to our great state. Careful stewardship of these incredible resources is paramount.

My time working in the field of environmental consulting has opened my eyes to a hidden threat to water quality across our state: septic systems. At Ecological Instincts one of our most common requests is to assist our clients (including towns and lake/watershed associations) with developing watershed-based management plans. These plans focus on improving and restoring lakes and streams with poor or degrading water quality by identifying the primary sources of pollution in the watershed and proposing management actions that can be taken to reduce or eliminate these sources. This is accomplished through a combination of water quality monitoring, field surveys, GIS mapping, and watershed modeling. The Maine Department of Environmental Protection (DEP) and the US Environmental Protection Agency (US EPA) review and approve these plans based on a strict set of standards, and today they serve as one of the primary instruments of how the Clean Water Act (CWA) gets implemented on the ground.

Our watershed modeling and assessments include development of a septic system database and a septic system vulnerability analysis to help better understand the current state of septic systems in these watersheds in order to quantify their impact to the resource and to identify the highest priority systems. Most septic systems in Maine are not designed to treat nutrients, and many are old and poorly maintained, having been built prior to current subsurface wastewater standards. Since rural development in Maine is often concentrated on lakes, waterbodies with high concentrations of development (and associated septic systems) often experience algal blooms that damage the ecosystem and can threaten human health in cases where the algae produce toxins.

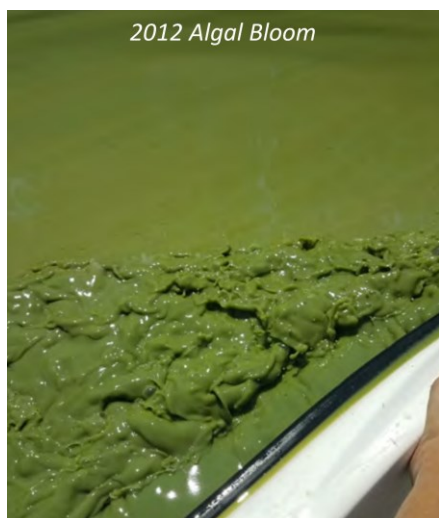
One form of septic pollution that has emerged in recent years is the concept of septic system “short circuiting” that has been coined by former State Soil Scientist David Rocque. This phenomenon occurs when systems are installed in coarse sandy soils (or shallow-to-bedrock soils) and the wastewater that exits the disposal field enters groundwater without the same level of nutrient removal that occurs in finer soils.

A recent grant-funded project we helped coordinate at Georges Pond in Franklin, Maine, investigated the issue of “short circuiting” following the development of a watershed-based management plan that indicated that a majority of shoreline development is located on sandy soils with a high risk of short circuiting. In addition, the septic system database found that a third of septic systems had no permits on file and were assumed to be installed pre-1974 before subsurface wastewater rules were enacted, a third of systems were installed before current standards were updated in 1995, and a third were installed after 1995 (many with a risk of short-circuiting). Beginning in 2012, Georges Pond experienced significant recurring algal blooms that turned the water the color of pea soup (see photos below).

As a result of outreach to local residents about these risks, six property owners volunteered to allow an in-depth field inspection of their septic systems. Of the five properties that received a full inspection, three had systems that were malfunctioning and needed to be replaced, one was found to be short circuiting, and another was found to have a direct connection to the lake. **Only one of the six systems lacked significant concerns.** One of the biggest takeaways from these inspections was that age, usage, distance to the waterbody and **soil type are important factors for whether a septic system will impact water quality as a result of a short-circuit.**

LD 1550 aims to fix this discrepancy by making it so that the septic system design standards better align with desired water quality outcomes. By requiring that disposal fields be designed to take the texture of the underlying soil into consideration for water quality purposes in addition to the existing sizing purpose, this bill will prevent future septic systems from contributing to similar water quality issues observed in Georges Pond.

To support clean water and the communities across Maine that depend on it, I strongly urge the Committee to vote Ought to Pass on this important piece of legislation. Thank you for your time and consideration.



Algal blooms in Georges Pond in 2012 and 2018.
(Photo Credit: John Eliasberg, Georges Pond Association)