

Understanding Septic Systems in light of Pharmaceutical and Personal Care Products
What do we know now?

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Maine has been actively regulating septic systems and their location and construction for decades. We have established setbacks between both private and public water supply wells, and have worked to assure that leachfields are designed, constructed, and maintained appropriately. Recent research suggests that many of the synthetic organic products we have routinely disposed of in septic systems are not broken down or immobilized by the system, and may persist in water at low levels.

A review of overall septic system performance suggests that, for nitrate and bacterial removal, systems work as designed, and are protective of public health and safety. We reviewed the relation of leachfields to public water supplies, and saw no correlation between nitrate and coliform detection on a statistical scale.

However, recent testing results from a town in southern Maine, where a large correctional facility utilized a septic system, have shown that this system not only had released large quantities of nitrate, but also lower concentrations of several pharmaceuticals, including antipsychotics, antibiotics, and birth control chemicals. Low levels of birth control chemicals (Ethinyl Estradiol) were detected in water pumped from a public water system in the same aquifer. We are evaluating what lessons this case study may provide for both public and private water supply safety.

Submitted to NE Private Well Water Symposium for:
Oral presentation, Land Use Impacts, PPCP/septic systems