

## **Pennsylvania Lessons from the New Massachusetts Rules for Cape Cod On-Lot Sewage Systems**



**By David G. Mandelbaum | [August 15, 2023](#) | [The Legal Intelligencer](#)**

Cape Cod has a problem with nitrogen pollution of its embayments and waterways. The solution that Massachusetts began to implement on July 7 may offer some lessons for Pennsylvania practitioners. That is because the Cape Cod problem is a specific instance of a more general environmental issue: the nitrogen in surface waters does not come from a few very large polluters, but instead from distributed on-lot sewage systems on individual properties no one of which is a big deal.

Cape Cod is not densely developed, and a large swath of the Outer Cape is a National Seashore. Historically, there has been no need, and little taste, for developing public sewer in many of the fifteen towns. Most properties depend upon on-lot sewage systems. Those systems are blamed for increases in nitrogen concentrations in the freshwater ponds left from the last glaciation and in certain of the embayments of both the Atlantic Ocean and Cape Cod Bay. The wastewater from those on-lot systems ultimately percolates to a surface water, and the overall process does not remove enough nitrogen.

Nitrogen correlates with the loading of nutrients. Too high a concentration can cause blooms of algae and microbes, reductions in dissolved oxygen, and therefore a water quality problem for fish and ultimately for swimmers.

There are thousands of existing on-lot systems of various sorts, all permitted under chapter 5 of chapter 314 of the Code of Massachusetts Regulations. Further, Cape Cod is experiencing a housing shortage. Businesses cannot stay open because they cannot hire staff; they cannot hire staff because there is

nowhere for those workers to stay. Therefore, just when one might say that the capacity of the receiving groundwater has been reached, there is enormous pressure to add more discharges to it. And, because the current need is for lower cost housing, those will be from smaller, denser, units, and so producing more wastewater per acre.

Parts of Pennsylvania suffer from parallel issues with wastewater treatment. Some resort areas around lakes encounter issues with overuse and importation of invasive aquatic plants. Control of nutrients and sediments in the Chesapeake Bay watershed bear some similarities to the Cape Cod problem. Other analogous situations come to mind. Oil and gas development, a bugaboo of many, is really only problematic because it may involve many wells. Each individual well has an impact well within the parameters of what many would ordinarily accept in all sorts of uses.

The Cape Cod example also illustrates the very common issue of existing facilities causing unacceptable environmental conditions, but a regulatory scheme that, without amendment, would burden new entrants with the solution. That is, if every on-lot system has a permit, and yet the nitrogen load to nearby surface waters is too high, one might be tempted not to allow any new systems, or to require significantly more efficient technology for new construction. But that would impede development of needed housing.

Massachusetts' solution began with adoption of an areawide water quality management plan under section 208 of the Clean Water Act, 33 U.S.C. § 1288. Section 208 provides a mechanism for a state or a regional planning authority to develop a plan for the development of wastewater treatment facilities to address a water quality problem. Then, Massachusetts adopted a total maximum daily load ("TMDL") for nitrogen over much of Cape Cod. It amended its regulations for on-lot sewage systems to require better technology for any new construction in an area subject to the TMDL. But the hammer was that it also required upgrades to existing systems within five years.

That hammer – the threat to existing homeowners that they would require system upgrades soon – was intended to induce municipalities to obtain "watershed permits" under new chapter 21 of title 314 of the Code of Massachusetts Regulations. Watershed permits would create something analogous to a "bubble" – a plantwide applicability limit -- familiar under the federal Clean Air Act. A municipality with a watershed permit can regulate how it will achieve an upgrade in nitrogen controls across existing systems and new construction, allowing up to 20 years for any upgrades to be required. The difference here from a "bubble" is that in this case one operator would not allocate emissions among sources on the same property, but instead one regulator would allocate nitrogen discharge rights across lots of individual properties.

All of this came into effect on July 7. We will not know how it works for a while. What does the *idea* offer for problems in Pennsylvania?

Pennsylvania is no stranger to devolving regulatory control to municipalities or to county conservation districts. The difference here would be to make the municipality explicitly a clearinghouse for the tradeoffs among individual facilities. And those trades would be political trades, not market trades. This is not a cap-and-trade program. No one expects Jones to compensate Smith if Jones is allowed to delay a septic upgrade and Smith has to upgrade new construction.

Our Department of Environmental Protection likes permitting programs with prescribed permit terms and very high certainty about what is required. The watershed permit example assumes a great deal of variation in how a permittee will achieve compliance. Massachusetts also explicitly regards its new program as calling for adaptive management, so that the local controls and strategies will change as conditions change and the regulators learn from the results of the initial approach. Applying any scheme of that sort in Pennsylvania would require uncharacteristic regulatory nimbleness.

A TMDL or any similar allocation scheme poses a bit of a litigation puzzle. Ultimately, some regulator must impose a limit on discharges, emissions, or technology upon each private actor. In the Massachusetts case, the regulation will literally hit close to home, and people are sensitive about their houses. If a regulated person feels that the obligations imposed on him or her are arbitrarily or illegally onerous, the regulated person may wish to appeal. In Pennsylvania, if DEP makes the decision, the appeal goes to the Environmental Hearing Board in the first instance. Each regulated person's appeal would, if successful, give that person more right to discharge or emit, leaving less for everyone else. But if the entire assimilative capacity of the receiving resource has been allocated, an individual appellant cannot prevail without the EHB deciding that someone else must emit less. The EHB has no provision for third-party practice or involuntary joinder. There is no way for Smith to litigate Jones's right to discharge in an appeal from Smith's permit. We would need to solve that problem if we are going to have allocations more regularly.

Overall, however, the notion of bubbles across different owners' facilities may well have merit in many circumstances. That may be especially true in situations like the on-lot sewage treatment case, because each of the individual facilities is so small. This Cape Cod scheme may be an idea worth watching.

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