

To: Leelanau Board of Commissioners
From: Dean Manikas
Date: 12/7/20

Please accept my comments pertaining to Mr. Ansorge's countywide septic ordinance proposal. Thank you, Mr. Ansorge, for taking the time to develop a thoughtful recommendation. As Mr. Ansorge writes, properly designed, installed and maintained septic systems treat waste water. The essential question at hand is, how do we know if all three elements of a proper septic system are in place?

In Cleveland Township, our Master Planning process surveyed every property owner. Of no surprise, 97% of our residents value clean water, the highest value of all township characteristics. Further, 89% supported a septic inspection ordinance to protect clean drinking and surface water. Improper septic systems release excessive nutrients and other chemicals (including pharmaceuticals) and organic matter into our ground and surface water. Leelanau lake associations have been concerned about excessive algae growth. The associations have contracted with researchers to assess the role of septics in this nutrient loading of our lakes. As Tony notes, genetic markers were used for **human enteric bacteria**, a source of organic material that could be **directly linked to septic systems**. A study was conducted two years ago that revealed distressing findings leading to a new three-year study, which just completed its first year. In the studies to date, at least 25% of the samples show human enteric bacteria in our surface water using qPCR. This year, with private property owner permission, lake associations assessed wells and again found the presence of human waste. Mr. Ansorge is in error when he states, "...the bacteria cells must be dead..." 4B(ii) for qPCR tracking. The fact is that cells may be dead or alive, the genetic material is the same. Bottomline, we know Leelanau ground and surface water are being impacted by failing septic systems.

The health risk is not simply from pathogens that may flow out of improper septic systems. Excessive nutrients (e.g. nitrates) in drinking water may result in permanent damage to unborn and young children and feed toxic algae which can make people, especially children, ill in swimming areas. There is an economic risk in losing, through degradation of clean water, one of our most valuable resources in the county. An ounce of prevention now is worth a pound of cure later.

We know septic systems are failing. We have the evidence. We know a significant number of septic systems are old (check the health department's records) and not properly designed or installed. We know these failing systems are not only around our lakes. Leelanau's surface and ground water are a connected and a flowing system. An ordinance needs: 1) to be countywide; 2) to protect the quality of our connected water supply; 3) to have a trigger for compliance (townships must rely on realtors and are not staffed to monitor title transfers, or a schedule of inspections); 4) to include well inspection as a part of the ordinance. It is wishful to think individuals will know why and then do the right thing; we do have speed limits to protect each other even though people know how to drive their own car.