

07-25-08 Toxins and Travesties

Public health is our health: yours, mine, everyone's. Its success depends on continual partnerships and exchanges of information. It involves science, certainly, but the science is not always as accurate as we want it to be or need it to be. For, you see, it, too, is always evolving and dependent on accurate and up to the minute input of data. Some of that data arrives in the form of observations at the local level. That is what happened last week in Halifax. An algal bloom was observed and reported to DPH's Department of Environmental Health. DPH was interested in testing the algae and so they agreed to drive to Halifax and take several samples back to the State Lab.

Massachusetts's State Departments of Environmental Health and Department of Toxicology were interested because of increasing reports worldwide of disease and deaths due to exposure to toxins from algae. Previous decades saw these concerns more often in connection with tropical waters but they have been creeping closer to and now include the U. S. Recent studies from Oklahoma and Oregon investigated toxigenic cyanobacteria in recreational waters, providing guidance for their public health advisories. That is where we are now. We are learning how to "read" the water and better understand its health implications. Sometimes we only see what we are looking for.

Many of us are accustomed to seeing our pond water turn green in the spring and early summer from pollen. Some of our fresh waters are also turbid. Those waters are filled with suspended soil and mineral particles giving the water a brown color and a level of opacity, making it difficult to see the child in trouble under the surface. No sooner has the pollen cleared and the weather become hot enough to really want to go swimming and water skiing and boating, then its color changes again, this time to green from an increase in algae. We accept the algal blooms as "normal" and that acceptance allows us to let down our guard. We are also dependent on "experts" to guide us. After all, they, whoever they are, determine when there is a "Red Tide" and, therefore, we know when we can and cannot eat our local shellfish. Right?

Now, though, I think back to the times I have received calls of concern that a rash is from the pond water or that time when all the children were vomiting after a long busy day splashing at the pond, or perhaps, they wondered, if the children's ear infections could be from the pond water. I explained at all of those times, that I only sample and test for what is mandated. The tests for E. coli are one of many unfunded mandates. There is no budget for testing for nitrogen, phosphorous, carbon or algae or their toxic microcystins. I could only advise in those cases that they seek medical advice but added that I had no reason to suspect the ponds' water as a culprit because the test results have been fine. Test results are only as meaningful as what we test for and our ability to interpret the test results. We have been thinking, "No E. coli. No problem. No beach closures."

It is time to rethink that model. We need to think past the few unfunded mandates and start to consider other sources of information as well. I now know that not only is it unwise to have contact with blue/green algae, it also continues to be unwise for at least two weeks after we see the algae disappear. When the algae are intact, they can irritate the skin and mucous membranes. When they are ingested, because a person or pet has swallowed the water, the cell wall dissolves and toxins are released, causing liver damage, liver failure, heart failure and, possibly initiating cancerous tumors. Toxins are

also released into the pond water when the algae die off, say from abrupt temperature changes or a heavy rain. When large numbers of algae die, the cells rupture, releasing the toxins into the pond, just when we can no longer see the warning signs of the green-paint-scum or the pea-soup-bloom.

My own primary care physician, an infectious diseases specialist, was happy to receive a copy of my advisory and the accompanying fact sheet. He certainly knew of the phenomena. He was not only happy to receive a reminder but it triggered in him the memory of unsolved cases of liver disease. He would now keep this in mind as one possibility, especially when it began in summer.

I am hoping that people will pay attention to the algae advisory. Within hours of posting it last week, I was asked how would I enforce the closing of a whole pond. I do not want to punish people when I am trying to help them. Exacerbated asthma from aerosolized water in boat sprays and wakes, skin rashes from dermal contact, children vomiting from swallowed water, eye and ear infections from jumping and splashing in pond water or even liver failure would all be punishment enough. That scenario reminds me of Massachusetts' current treachery, whereby somebody had good intentions of wanting everyone to have health insurance and then decided to motivate everyone by punishing them if they don't have it. That is treachery and a travesty.

Pay attention to health advisories. Please do not wait for an order.

This is the health advisory:

No swimming (people and pets) or motor boating or water skiing on the West Monponsett Pond, (or any other water body that is green from an algal bloom).

Also, keep children and pets away from the green scum that collects on the beach.

If the above advice is understood and followed, canoeing and rowing is of low to moderate risk, if the skin is rinsed after walking the boat into the water and if no one falls into the water.

It is best for you and your pets to stay out of waters that are green with algae and for two weeks after the green color is gone.

Please call with questions and to report other areas of algal blooms. Call the Halifax Board of Health at 781 293 6768. Call the MA DPH Center for Environmental Health at 617 624 5757.

Cathleen Drinan is the health agent for the Town of Halifax. She welcomes your comments and can be reached at 781 293 6768 or cdrinan@town.halifax.ma.us