

Non-point Source Pollution

Non-point source pollution is a term used to characterize water pollution not discharged from the end of a pipe but from acid rain, along with all the sediment, nutrients, waste products, pathogens, chemicals, oils and pesticides it picks up along its journey to our water bodies.

We need only to look out our windows at our waterways to see the affects of non-point source pollution. Non-point source pollution begins with the destruction of our first line of defense...our wetlands. Wetlands slow down and attenuate storm water allowing sediments to settle out and pollutants to become chemically bound. Wetlands are our kidneys, if you will. The development that has occurred in and around wetlands since colonial times has resulted in the destruction of approximately 50% of the wetlands that once existed in Massachusetts. Now that we're living with only one kidney, all remaining wetlands become overwhelmed, yet still we continue to destroy them.

Once, clean water flowed through our waterways but now, well, we've seen the algae problems at Lake Mascuppic, the contamination of Flint Pond, and the continual erosion occurring along the Merrimack River. If only that was the worse that could happen. That is merely the beginning. In the case of Lake Mascuppic, an increase in algae population causes a reduction in photosynthesis of aquatic plants. A decrease in photosynthesis causes a reduction in oxygen released into the water column. A reduction in oxygen levels, leads to fish kills. Or, you can reduce the population of algae by introducing chemicals into the water system which can lead to more extensive impacts to the aquatic system. Non-point source pollution can cause detrimental effects that can be felt all the way up the food chain...to humans.

Even more troubling is the effects of non-point source pollution to our groundwater supply in which many of us receive our drinking water from. Ninety-six percent of the freshwater found in the United States is found underground. Dilution, biological activities and chemical reactions occur much slower in groundwater than in surface water, thus contamination of groundwater takes much longer to clean up. Groundwater becomes contaminated through spills, mining, sewage disposal systems, solid waste sites, improper well construction and the illegal disposal of hazardous materials.

It is imperative that we become pro-active against the war on pollution. Can we restore an impaired waterway to its pristine conditions? In most cases the answer is no. We must prevent them from become contaminated in the first place. Once there is a significant water quality problem, it is not easily reversed. The introduction of these pollutants into our water bodies can initiate a series of unfavorable biological and chemical reactions. Human activities only exacerbate the problem. Only you can decide if you want to be part of the solution, or part of the pollution.

If you have any questions, please do not hesitate to contact Lori Capone, Director of Conservation at 978-649-2300 ext. 109 or at loric@tyngsboroughmass.com.