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## Maine WasteWater Control Association

Local Government Center • 60 Community Drive • Augusta, ME 043301-800-452-8786  
(in Maine) • 207-623-8428 • Fax 207-626-5947www.mwwca.org

June 3, 2005

Mr. Forrest Lowe, Chairman  
Brunswick Town Council  
30 Federal Street  
Brunswick, ME 04011

Subject: Amendments to Aquifer Protections Ordinance

We live in a complex world, and this is always most apparent when issues of science are debated in the public arena. I am writing on behalf of the Maine Wastewater Control Association (MWWCA). We represent the wastewater "industry" that has been demonized in the debate on amendments to the Aquifer Protection Zone ordinance by concerned parties. Repeatedly in the testimony to the Town Council, and in letters to the editor, "environmental" groups have implied or stated that we are somehow motivated to move forward with options for sewage sludge disposal that endanger public health and the environment.

These groups have repeatedly cited the same sources of misinformation (or misguided use of the facts) as the basis of these allegations. Indeed, there is an outdated perception in our society of widespread and blatant water pollution from municipal and industrial sources. The image of toxic wastewater emissions is a popular "bad guy" theme in the media including references in children's cartoons and adult humor like "The Simpsons." This stereotype has been outdated for decades.

The modern wastewater industry is a group of environmental professionals dedicated to creating a sustainable society by tackling the problems of wastewater treatment including biosolids (treated sewage sludge) management. The MWWCA represents the operators and managers of the over 95 wastewater treatment plants serving over 125 communities throughout the state as well as various private contractors and consultants that contribute to their effective operation. The cleanup of our nation's waters under the Clean Water Act is one of the great success stories of our time. Nevertheless, we face new challenges every day due to the pressures of population growth, aging infrastructure, and our increasing understanding of the environment.

I am proud to say that members of the Maine wastewater community were among the early leaders in the environmental movement to recognize that recycling of wastewater solids through agricultural or horticultural use is the preferred management approach for a sustainable society. In Maine, agronomic use of sewage sludge has a track record of safety and positive benefits dating back to at least the early 1960s. Up until the early 1990s, the Maine Organic Farmers and Gardeners Association allowed the use of biosolids products meeting specific criteria on organic fields. At that point in time, I would argue that the organic agriculture movement was taken over by fundamentalists who believe that sewage sludge is never acceptable regardless of what scientific studies have shown. Under the National Organic Program, sewage sludge products were categorically defined as a synthetic matrix, and any constructive dialog ended on specific quality criteria to be considered an acceptable soil amendment for organic agriculture.

One of the most relevant questions to the debate on the aquifer protection ordinance is "Why is the use of any sewage sludge-derived product so controversial?" The first part of the answer is because sewage sludge disposal is an issue facing communities across the country, and indeed across the globe. It will continue to be an increasing issue as long as human populations and development continue to grow. The second part of the answer is that people have an intuitive appreciation of the potential risks from disease causing organisms (pathogens) from human waste, and that the images of widespread water pollution from the 1960's and 70's are still part of our collective unconscious. Of course, the risks from pathogens can easily be addressed by treating the solids in various ways. These processing options have cost ramifications, but are readily achievable otherwise.

The most prevalent problem has been the perception of uncontrolled toxic emissions. The reality is that this issue was addressed in the municipal wastewater sector over two decades ago. Industries are not allowed to discharge toxic materials that would adversely affect either the wastewater treatment process (i.e. water quality) or the suitability of the resulting solids for agronomic use. As a result of this and other efforts, the levels of heavy metals and other contaminants in wastewater solids have decreased dramatically over time.

One of the "facts" cited repeatedly in the debate on the Aquifer Protection Ordinance is that there are over 5,000 chemical in use daily in Maine and over 75,000 licensed for use. The implication is that the vast majority of these are "toxic" compounds and are "uncontrolled." The reality is that the vast majority of the "chemicals" are safe products in the context of wastewater disposal and the resulting sewage sludge. EPA has evaluated the risks from heavy metals and toxic organic-based compounds in sewage solids, and concluded repeatedly that toxic organic compounds are not present in quantities sufficient to justify regulation. EPA has determined that limits are necessary for heavy metals and established safe levels for agronomic use.

In 1993, the EPA published the 503 regulations that addressed agronomic use of sludge-derived products. Within the wastewater industry, there was a misguided belief that the new regulations and the detailed risk assessment that EPA carried out had resolved any concerns about sludge-derived products. In fact, for a short period of time the State of New Hampshire Department of Environmental Services dissolved its residuals management unit, because of the belief that the new federal regulations would address all concerns. The lone dissenting voice at the time was the Cornell Waste Management Institute, which published the "Case for Caution." I believe that this was very healthy for the wastewater industry in the long run, but in fact the "Case for Caution" was initially met with a certain form of fundamentalist response by many in the wastewater industry. There was eventually a rational review of the "Case for Caution" that disputed the findings and found it was not necessary to revise the federal regulations.

Because of the ubiquitous nature of the sewage sludge disposal problem, public concern was still rampant. With the advent of the internet, web sites posting information on concern about agronomic use of sewage sludge-derived products became prevalent, and fueled public concern in an increasing number of cases. In response to the public concern, the National Academy of Science was called upon to review the science of the federal regulations. Their 2002 report is cited by both supporters and opponents of agronomic use. The lead investigator clarified the overall conclusions in a special supplement, because it was being misquoted repeatedly. The overall conclusion was that there is no evidence that current practices of agronomic use are unsafe in any way. However, the Academy also noted that there is a need to update the scientific analysis to reflect improvements in risk assessment methodologies. It acknowledged that there are number of new or emerging concerns that warrant further investigation. It also noted that there are gaps in the federal regulations and in federal enforcement that should be addressed. For the wastewater industry, there was a repudiation of the fundamentalist perspective that all was resolved for all time.

The good news in Maine is that the Department of Environmental Protection developed one of the most comprehensive and protective set of regulations on agronomic use of biosolids, not just in the U.S., but in the world in the late 1990s. While initially there was concern that the regulations were excessive, we have come to recognize that the regulations, and DEP enforcement, address the gaps in federal regulations outlined in the National Academy report. Indeed, the recently released White Paper from the George Mitchell Center for Environmental and Watershed Research reached this same conclusion. Similar to the National Academy report, the White Paper concludes that we need to continue to be on the look out for emerging issues.

The other side of the Aquifer Protection Zone debate is the blind allegiance to the use of "organic" composts from other "natural" sources like manures. Until recently, there was actually very limited data on the quality of raw manures. We now know that metals levels in manures vary widely depending on feed, supplements (eg. vitamins and minerals), and medical treatments (eg. antibiotics). While manures tend to have somewhat lower metal levels on average, some manures exceed the limits required of sewage sludge. My point is not to disparage manures or organic agriculture. However, elements of the organic movement have sought to distinguish themselves by the "purity" of their input. The lack of comparable scrutiny to "organic" fertilizers contributes to one of the dogged criticisms of the Organic movement - that it is just about marketing.

It is also interesting that whereas we have an intuitive understanding of the risk of pathogens in human waste, there has been a marked lack of concern with animal manures. Indeed, this perspective is rapidly changing, due to a variety of serious public health consequences. In this area, the organic agriculture movement is to be commended for taking a leadership role in requiring that all manures be composted for pathogen reduction prior to use. However, as we have heard in the debate on the Aquifer Protection Ordinance, these products are typically not tested to confirm that effective pathogen reduction is being achieved. This is fundamentally a cost issue.

There are many different ways that sewage sludge can be treated for different types of applications. Class A biosolids compost is the only sewage sludge product that is being proposed for the Aquifer Protection Zone, because it is safe for this application. Class A biosolids compost is tested much more thoroughly than any other product in the marketplace, and is safe both for children to play on, and for the aquifer. Indeed, hundreds of thousands of cubic yards of biosolids compost have been utilized in Maine successfully over the past decade with a undeniable track record for safety.

While we must continue to assess current practices and be on the look out for emerging issues, by all reasonable measures the use of Class A biosolids compost is safe for use in the aquifer protection zone.

I would urge the Council to focus on keeping your goals simple. The Town is providing an excellent role model by banning pesticides in the aquifer protection zone. The current ban on fertilization is excessive, because it prevents effective cultivation of turfgrass. Organic soil amendments (including Class A biosolids compost), are a great way to provide nutrients, and also tend to have disease suppressive properties. However, the key issue from an aquifer protection perspective is ensuring that application rates of any fertilizer or soil amendment match agronomic uptake rates of the turfgrass. I would urge the Council to avoid excessive regulation that has no proven benefit.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Jeffrey R. Pinnette". The signature is written in a cursive style with a large initial "J".

Jeffrey R. Pinnette, P.E.  
Chairperson, Residuals Management Committee  
Maine Wastewater Control Association  
jrp@wright-pierce.com