

PO Box 539
Ophelia VA 22530
October 23, 2017

Hon. Terry McAuliffe, Governor
PO Box 1475
Richmond VA 23218

Dear Gov. McAuliffe,

The recently released JLARC draft report 497 entitled “ Land Application of Biosolids and Industrial residuals” (jlarc.virginia.gov/pdfs/reports/Rpt497.pdf) is blatantly dishonest, as I pointed out in a Letter to the Editor of the Richmond Times Dispatch published 10/23/17. It states “The risk of water contamination from biosolids application is generally very low.....” Nutrient contamination caused by the land application of sewage sludge (the real name for the waste) is, in fact, extremely high. Sewage sludge disposal in Virginia is “Nitrogen-based,” assuming that 30% of the applied Nitrogen is available to the succeeding crop. Most of the remaining Nitrogen ends up in the water and a great deal of Phosphorus is disposed in excess of crop needs. The pollution has been quantified in a published scientific paper entitled “Chesapeake Bay nutrient pollution: Contribution from the land application of sewage sludge in Virginia” (dx.doi.org/10.1016/j.marpolbul.2012.07.003).

According to EPA, and confirmed by my calculations, at least a quarter of Chesapeake Bay Nitrogen pollution is caused by the disposal of animal waste (poultry litter, manure and sewage sludge) by land application in the guise of “free fertilizer.” Cheaper alternatives than land application exist for disposal if the cost of pollution is honestly accounted. Methane generation from sewage sludge at the DCWASA Blue Plains facility provides about one-third of the facility’s power requirements. According to the JLARC report “In 2016, land application occurred in at least 53 different localities, but only to about 1.5 percent of Virginia’s 8.2 million acres of farmland.” Very few farmers profit from disposal by land application and even if the sludge was disposed in a landfill designed for methane recovery, the increase in wastewater bills for customers would be trivial.

In contrast, there is a huge cost to society from the land application of animal waste because of Chesapeake Bay nutrient pollution. According to Shaik et al. (2002, Direct and Indirect Shadow Price Estimates of Nitrate Pollution Treated as an Undesirable Output and Input, Journal of Agricultural and Resource Economics: 27, 420-432), the cost of Nitrogen pollution is about \$1 per pound. Given a pollution rate of over 400 pounds of Nitrogen per acre (Marine Pollution Bulletin, 2012, v. 64/11, p. 2305-2308), the cost to society is at least twice the benefit.

The existing JLARC report must account for the cost of nutrient pollution from the disposal of sewage by land application. The value of Chesapeake Bay to the Commonwealth is documented in publications such as the 2003 “Report to the Chesapeake Executive Council from the Chesapeake Bay Watershed Blue Ribbon Finance Panel.” If the General Assembly accepts this report as written, they will certify that the profits of a very few farmers and trivially lower wastewater bills are more important to the Commonwealth than improved Chesapeake Bay water quality. The land application of sewage sludge should be banned, or at the very least, the law should read: **“The land application of poultry litter, sludge and manure shall be limited to supplying the phosphorus (P) needs of the crop, based on a soil analysis for P.”**

Respectfully,

Dr. Lynton S. Land
Emeritus Prof. Geological Sciences and
Edwin Allday Centennial Chair in Subsurface Geology
Univ. Texas, Austin

Cc: Elected members of the Commission via email
Posted on www.VaBayBlues.org