P. O. Box 539
Ophelia VA 22530
March 3, 2009

Lisa Jackson, EPA Administrator
Ariel Rios Building
1200 Pennsylvania Avenue NW
Washington DC 20460

Dear Ms. Jackson,

This letter is to urge EPA to take immediate actions that will reduce nutrient pollution of the formally impaired Chesapeake Bay. More commissions and more studies are not needed. It has been known for 1/3 century, since the 1973 ACOE study, that inefficiencies in agricultural fertilization practices are the largest source of nutrient pollution of the Bay. We must change current fertilization practices, which put farm profits above all other considerations, so that more nitrogen and phosphorus are consumed by the crops and less are released to the environment. Other sources of pollution, such as point source discharges from wastewater treatment facilities must be addressed as well, but because agricultural practices overwhelm other sources of pollution, especially in rural areas, they must have first priority for action.

A simple and inexpensive action that can be taken immediately to eliminate a massive source of pollution is to ban the land application of animal waste, including poultry litter, municipal sewage sludge and manure. These are the most inefficient fertilizers in use, and they are used by very few farmers. They also cause concerns with regard to human health and the dissemination of potentially dangerous substances such as pharmaceuticals (including antibiotics) and industrial chemicals on the land.

I addressed the nutrient pollution issue quantitatively in the December 2006 and May 2007 Bay Journal (www.bayjournal.com/article.cfm?article=2969 and =3096) and refer you to those two articles. Unfortunately the table published with the 2006 article is not posted on the web site. Here it is:

	Pounds applied	*	fraction N	*	fraction N not used	=	pounds N pollution
Sewage sludge	494,648,000	*	0.02	*	0.45	=	4,452,000
Poultry litter	1,115,268,000	*	0.03	*	0.30	=	10,037,000
Other manure	468,509,000	*	0.03	*	0.50	=	7,028,000
							21,517,000

Nearly one half billion pounds of municipal sewage sludge was land applied in Virginia in 2003. The sludge contains 2% nitrogen, of which no more than 55% constitutes “plant

available nitrogen." Thus nearly 4.5 million pounds of nitrogen are disposed on Virginia fields each year, to no benefit of crops. For perspective, and using the summation for all three forms of animal waste land applied in Virginia in 2003, nearly 22 million pounds of nitrogen were applied to fields but not used by crops. This huge number is similar in magnitude to the 26 million pounds of nitrogen released annually by all wastewater treatment plants in Virginia. The Virginia Tributary Strategies claim that Virginia rivers supply 78 million pounds of nitrogen to Chesapeake Bay annually. The 2010 Cap Load Allocation for nitrogen is 51 million pounds. The goal of reducing 78 million pounds of nitrogen discharge to 51 million pounds annually (78 – 51 = 27) is similar to the reduction in nitrogen pollution achieved by simply eliminating the land-application of animal waste.

Agricultural fertilization inefficiency is the primary cause of nutrient pollution of Chesapeake Bay, and animal waste is the least efficient fertilizer used. Those are indisputable facts.

The mantra that animal waste constitutes "free fertilizer" for farmers resonates with politicians, but the cost to society of the resulting massive pollution is unaccounted. There are real costs to society caused by water quality degradation, in loss of property values and tax revenues, and from reduction in value of commercial and recreational water-related activities. Because animal waste is mostly organic material, it is a biofuel, and the most desirable way to dispose of it is to generate energy, either on the scale of large wastewater treatment facilities or CAFOs, or for single poultry sheds. Many facilities generate energy from animal wastes today, and many promising new technologies exist. The sooner a tax on fossil carbon is imposed, the sooner economic incentives will encourage more alternatives to disposing of this highly polluting waste on the land.

By banning the land application of animal waste, EPA would not only meaningful reduce nutrient pollution of the Bay at very little cost, but technological advances in efficient uses of the waste as fuel would be expedited. Perhaps more significantly, a ban on the land application of animal waste in the watershed would send a clear message to agronomists that the efficiency of agricultural fertilization processes must be improved. New kinds of (timed release?) fertilizers must be developed and fertilization practices must factor in the cost of pollution as part of the farmer's bottom line. Taking immediate action in the country's largest estuary, formally impaired because of nutrient pollution, would set a precedent that would have far-reaching consequences for the entire country.

Yours sincerely,

Dr. Lynton S. Land
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www.VaBayBlues.org
cc: Sen. James Webb; Del. Rob Wittman; CBF