

CBF on agriculture

The Chesapeake Bay Foundation (CBF) recently released a document entitled “Assessing the State of Chesapeake Bay Agriculture in 2005” available at www.cbf.org. CBF rated twelve agricultural criteria in the Chesapeake Bay Watershed from **unhealthy** to **good**. It is not a pretty picture.

- 1) Number of farms (**weak**): The number of farms decreased from about 350,000 in 1950 to about 120,000 in 1975, and has remained relatively constant ever since.
- 2) Acres of Farmland (**unhealthy**): Farm acreage decreased from about 34 million acres in 1950 to 20 million acres in 1975. Today it is about 18 million acres. More than 90,000 acres are lost each year to development.
- 3) Federal Farm Payment Distributions (**weak**): Chesapeake Bay farmers receive only about \$0.04 for every dollar of production compared to the national average of \$0.06.
- 4) Local and Regional Markets (**unhealthy**): Corn, soybeans, wheat and barley are the most common crops grown locally, and local and regional markets are not likely to improve.
- 5) Farm Share of Food Dollar (**unhealthy**): In 1953 farmers received \$0.47 of every dollar spent on food. Today they receive only about \$0.20.
- 6) Opportunities for New Farmers (**weak**): Economic barriers such as the high cost of land, machinery, fuel and fertilizer discourage new farmers. The average farm family in the US earns only about 10% of its income from farming operations and 90% from off-farm work. Land prices have more than tripled in the last 40 years. Farm incomes roughly doubled between 1960 and 1990 but have fallen ever since.
- 7) Diversity of Farm Production (**weak**): The livestock industry provides the economic foundation for farming in the Bay watershed. 8% of the farms account for 75% of farm sales and although large farms are more efficient, they employ few people, they use large and expensive equipment and depend on the economy of scale.
- 8) Fertilizer Efficiency (**good**): “..... farmers are managing commercial fertilizer more efficiently and substituting manure for commercial fertilizers, a smart move if manure is applied based on careful soil testing.” I couldn’t disagree more!
- 9) Reduction of Nitrogen in Surface Water (**weak**): “The reductions to date are only a little more than a third of the reductions needed to achieve nitrogen loading goals.”
- 10) Soil Erosion (**fair**): Soil erosion is not in the farmers’ best interest and causes extensive phosphorus pollution. Progress has been made, but more effort is needed because the rate of erosion reduction in the watershed is below the national average.
- 11) Phosphorus in Agricultural Soils (**unhealthy**): About 2/3 of soils in the watershed test “optimum” or higher for phosphorus and should receive no phosphorus fertilizer, and certainly no phosphorus-rich animal waste (poultry litter, municipal sewage sludge or manure). In 1956 less than 1/3 of the soils tested high in phosphorus. Virginia continues to violate its own law (12VAC 5-585-550A) by ignoring phosphorus in nutrient management plans in order to encourage the land application of municipal sewage sludge.

12) Chesapeake Bay Agriculture Tributary Strategy Implementation (**weak**): Unless considerably more effort and money are expended there is no chance of meeting the 2010 nutrient reduction goals.

CBF recommends that we all “work together to assure a brighter future.” “Commodity prices have changed little over several decades, fuel and other costs have risen steeply, and the price of farm land has sky rocketed.” CBF believes that “...government investment in conservation technology for farmers has been inadequate and must change if farming is going to remain viable and clean water goals are to be met.”

Many of trends that CBF advances for the entire watershed are in accord with trends in the Northern Neck as summarized in the Appendix of the Northumberland County Comprehensive Plan currently undergoing revision (available at www.co.northumberland.va.us or at the library).

The statement “...substituting manure [poultry litter or municipal sewage sludge] for commercial fertilizers, [is] a smart move if manure is applied based on careful soil testing.” is blatantly false. The reason CBF (and USDA) are wrong is very simple. A typical single-application of chemical fertilizer is about 60 to 70% efficient in terms of nitrogen. If a farmer applies 100 pounds of nitrogen fertilizer to grow 100 bushels of corn per acre, the corn that is produced and removed from the field contains about 65 pounds of nitrogen. The remainder of the applied nitrogen, 35 pounds, is pollution, as is proven beyond doubt by the high nitrate concentrations in local groundwater. No process in the Universe can be 100% efficient, and fertilization is no exception. If poultry litter or municipal sewage sludge is used as a nitrogen source, then between about 170 and 190 pounds of nitrogen is applied to grow the same crop if DCR nutrient management criteria are followed. Instead of about 35 pounds of nitrogen pollution per acre, the use of animal waste results in over 100 pounds of nitrogen pollution per acre because about half of the nitrogen is not “crop available” according to DCR. No amount of “careful soil testing” can negate the inefficiency of organic material as a source of either nitrogen or phosphorus. The fact that phosphorus concentrations in Virginia soils are currently ignored in calculating the land-application rate for animal waste guarantees massive phosphorus pollution. In my opinion, the rules and regulations currently favor agricultural production and the disposal of animal waste. “It’s always about the economy, stupid.” Existing regulations do little or nothing to reduce the massive pollution of local waterways and the Bay that results from the growing use of animal waste as fertilizer.

Two things are absolutely certain. First, unless agricultural practices change significantly there can be no significant improvement in water quality in local waterways or in the Bay. It has been known for over three decades that agriculture is the primary polluter of the Bay. Somehow, we must find a way to reduce pollution from agricultural fertilization while continuing to permit profitable farming, just as we must reduce pollution from other sources such as wastewater treatment plants and lawns. Addressing the biggest source of pollution, namely agriculture, is a massive challenge that nobody, including CBF, knows how to resolve. The first step toward a solution is to agree on the

cause of the problem. Fertilizer is the problem, and it is absolutely certain that the growing use of animal waste as fertilizer is the most significant and easily addressable source of fertilizer pollution.

The second certainty is that all potential solutions incur costs that will increase taxes, wastewater fees and/or the cost of food to consumers. The cost of reducing nutrient pollution of Chesapeake Bay must be borne by everyone, not just farmers. For example, unless consumers are willing to pay more for poultry in order to dispose of poultry litter without pollution, then the cheapest alternative, namely land application, will prevail. In the absence of regulation demanded by citizens, the cost of “free fertilizer” for farmers will continue to be paid by society in the form of degraded water quality. The NAPS web site, www.napsva.org, addresses many of these issues in more detail.