

**SUMMARY OF REMARKS BY OTTO DOERING**  
**Mississippi River/Gulf of Mexico Watershed Nutrient Task Force's Monitoring,**  
**Modeling and Research Workgroup Meeting**  
**Oct. 16<sup>th</sup>, St Louis, MO**

I first want to plea for a particular mode of operation as we move ahead trying to fill the gaps and bring good information to bear on the water quality problem in the basin and in the Gulf. When we pulled together the initial team to lead the integrated assessment the team leaders met on a regular basis. We each described what we were doing, what our goals were, and what we thought we needed to do next. We also hustled the other groups for information we needed or got direction from them in terms of meshing with their trajectory. This interactive process which took place from the outset and through the assessment was absolutely critical to the validity and integrity of the final product. I believe that it is critically important for there to be active interaction between and among the various groups working on this problem. This is not just information transfer, but serious debate about what should be done and how to do it! This debate should be continuous and intense.

My second concern is placing the new Farm Bill in context. It may not be as positive a force in helping to mitigate nutrient losses as many think. There is always something of a trade-off between the commodity title and the conservation title. This bill gives rich subsidies to crop production. That encourages farmers to maximize production and the land under production. The Conservation title envisions spending greatly increased (manyfold) amounts of money on good conservation works. What is critically important is that this expenditure will not likely be targeted to the extent that it was in the past. The Environmental Quality Incentive Program (EQIP) will grow from several hundred million dollars to over a billion dollars annually. However, where farmers used to compete for EQIP money through an application and scoring procedure that targeted environmental benefits, this will no longer be required to anything like the same extent by the Federal Government. More money will be distributed for less specified "good works".

Prior to the passage of the 2002 Farm Bill, key Congressional staff made it clear that their concern was to ensure that more farmers would qualify for conservation dollars. If the large amount of EQIP money is to be of significant help in nutrient management, the direction of targeting will likely have to come from the state level based on the discretion given to state technical advisory committees and state level conservation staff. Many of the priorities for such things as improved nutrient management for agricultural producers will have to be set at the state or local level – not the Federal level.

My third general concern is about the nature of the water quality problem in the Gulf and the basin. To some extent, this problem has similarities with global climate change and will face many of the same obstacles in getting action underway to mitigate it. This is an intergenerational problem. We know we are dealing with long time lags just from soil systems that may take a decade to release stored nutrients. Tuning our practices and

activities to reduce nutrient losses in the watershed and seeing an impact in the Gulf will take a generation or longer. The problem involves many sectors, air pollution, point source, as well as non-point source. From a public cooperation standpoint, all sectors have to be seen making contributions to solving with the problem. We are dealing with a large geography, but incidence of cost may be very specific to individuals or small areas. As with other public policy concerns, public perception will drive.

The key economic factor that I want to emphasize is increasing marginal cost. The more we push to clean a pollutant or produce a good with limited resources, the higher the cost becomes. Our graphics in the economic assessment demonstrate this. If we try to deal by creating more and more wetlands to intercept water and reduce nutrient content our costs increase as we buy more and more wetlands. If our strategy is to limit nutrients at the source and we increasingly restrict or provide incentives for reducing nutrient losses, this becomes more costly as we reduce losses more and more. Our general conclusion was that we could probably reduce nutrient losses up to about 30% without extreme costs and undue hardships to the sectors and economic activity on the whole. That is not to say that some people will not be hurt in this process, but overall pain should be minimal.

There are several things that economic analysis can contribute. One is benefit/cost analysis. The narrower the scope the easier this tends to be. With the extensive geography and the dependence on so many factors for a given outcome, this is difficult and raises controversy. We can try to do it, but it will be more effective if it is targeted to limited situations and alternatives. We need to do more on incidence, i.e. who benefits and who is hurt by efforts to mitigate the problem of nutrient losses. Here is where people have equity concerns and where society may be willing to compensate losers. We need to continue to stress the importance of cost effectiveness. The array of alternatives for action should be accompanied by estimates that will allow choices based on cost effectiveness of actions. The public may choose to clean up a problem at a greater level of cost than would be prescribed in a cost benefit analysis. If this is the case, the public is best served if alternatives for public choice include indications of relative cost effectiveness.

The primary gap in our knowledge worth closing is the whole set of difficult cause-effect relationships. This would include the linkage of given nutrient flows from the edge of a farm field or urban runoff to the impact on the Gulf. We also need more precise information about the actual impact of a practice or control activity in many different locations and under different conditions. Better understanding here will greatly increase the confidence we will have in the economic analysis as representing the actual cost (and benefit) of actions taken.

Finally, this last point serves to emphasize again the critical importance of a close working relationship between the various groups and disciplines working on water quality in the Gulf and in the basin. Economists need to be involved at the outset when the biophysical questions are asked and research is designed so that the appropriate biophysical answers are there for economic analysis. The converse is true as well.

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