Stakeholder Involvement In Modeling For Meeting Md's Bay Restoration

Lee Currey (1), Jim George (1,2) and Thomas Thornton (1,3)

(1) Maryland Department of the Environment, 21230 Baltimore, United States of America

Telephone: 410-537-3913 Email: lcurrey@mde.state.md.us

 $(2) \ Telephone: 410\text{-}537\text{-}3579 \ Email: jgeorge@mde.state.md. us$

(3) Telephone: 410-537-3656 Email: tthornton@mde.state.md.us

The Maryland Chesapeake Bay Watershed Implementation Plan, which was developed to meet Maryland's Chesapeake Bay restoration responsibility, results in a total cost of approximately \$14 billion. This level of funding produces a reduction of 11.6 millionpounds of nitrogen, 0.5 million pound phosphorus and 26 million pounds of sediment from agricultural lands; developed communities and their corresponding stormwater runoff, septic systems and wastewater treatment plants; industrial treatment plants; atmospheric deposition and forest harvesting. Given this significant cost, the complexity of the Bay, and change from a voluntary restoration to a now regulatory restoration, providing the opportunity for the decisions makers to understand the watershed management and modeling tools that are applied is a priority for successful implementation. The tools we use today are some of the most comprehensive and complex that we have used to date, as they should be. That said, we must understand that we need to educate decision makers in the process and recognize that this process will come with its successes and pitfalls. This message resonated throughout the recent Chesapeake Bay modeling Symposium titled "Interfacing between modeling, management and the public: TMDLs, politics, litigation and conflicting stakeholder interests" and engaging local decision makers is a priority in Maryland. In 2010 Maryland began a significant outreach effort to educate and work with decision makers and their staff to make them aware of the modeling process supporting Maryland Bay Restoration activities and build their understanding of the tools that are being applied. This was accomplished through webinars, regional meetings, and face-to-face discussions. While traditional watershed modeling outreach and consensus building will many times focus on the physical processes represented and successful calibration of a model when compared to observed data, what was even more important to these decision makers was fundamental information such as landuse, credit for strategies that are already in place, consistency in loading rates across sectors and jurisdiction, performance of BMP practices and the cost of implementation strategies. This is the type information that builds a level of understanding in what is required for restoration to move forward. It is our experience, and many others, that some decision makers may look for and find fault in the tools, but are more accepting of the information knowing that there is an opportunity to make future adjustments. This was communicated to Maryland's

Watershed Implementation Plan Development teams and resulted in significant feedback that is currently being used to improve the tools by 2017, at the midway point of the final restoration completion date. It is also our experience that the "adaptive" management approach must be clearly communicated, and expectations clearly defined, so that restoration continues to move forward. Ultimately, decision makers must recognize that while improved information may result in minor adjustments in strategies as we near the Bay restoration completion of year 2025, we must make informed decisions with the best tools available.