Local Perspectives on Watershed Modeling

Greg O'Connell

Sea Grant VIRGINIA

Chesapeake Bay Program

Science. Restoration. Partnership.

Research Question

How does the Bay Watershed Model influence local planning

Partners: Chesapeake Bay Program (CBP) and Chesapeake Bay Commission network

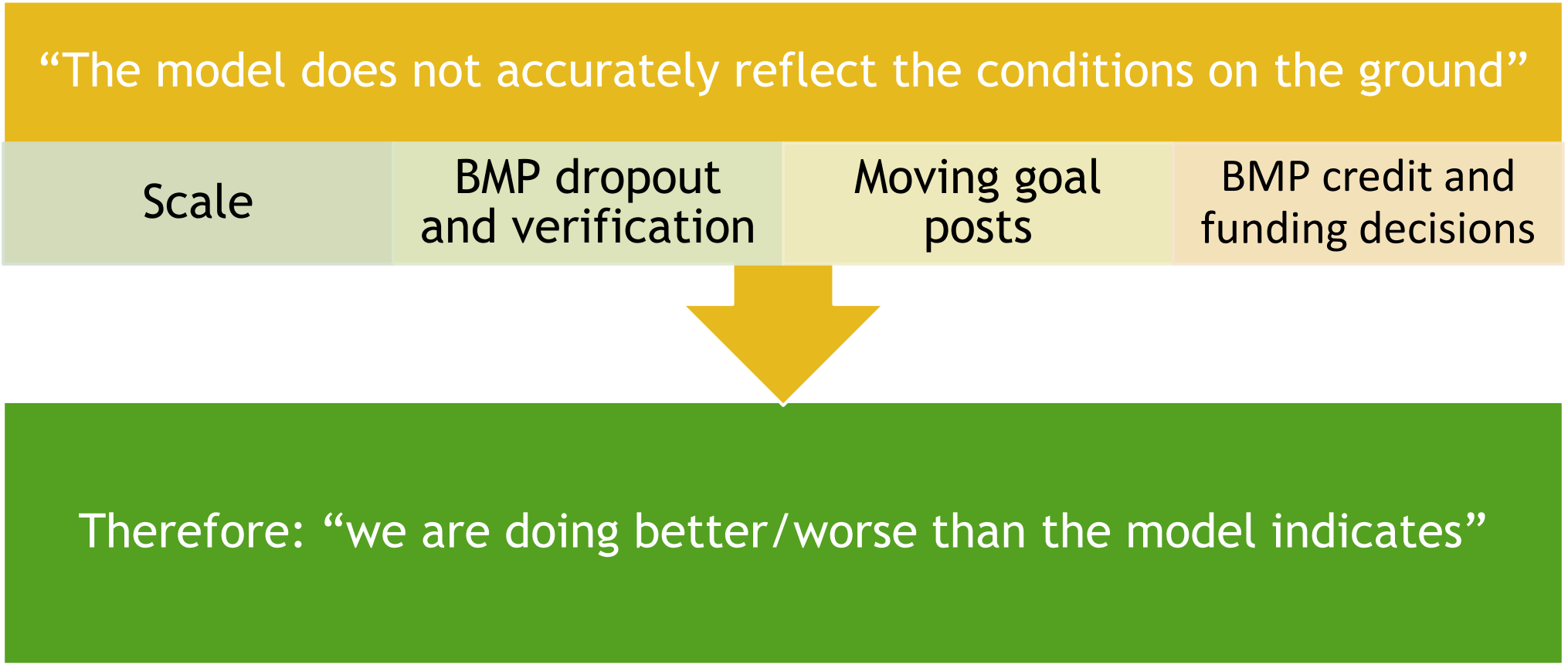
Methodology: informational interviews

How Does the Model Impact Local Implementation?

Model Based Targets → Watershed Implementation Plans: State Priorities → Funding → Local Implementation

Complicating Factors:
- Differences in state law
- Type of best management practice (BMP) implemented

Local Perceptions of Model Based Planning



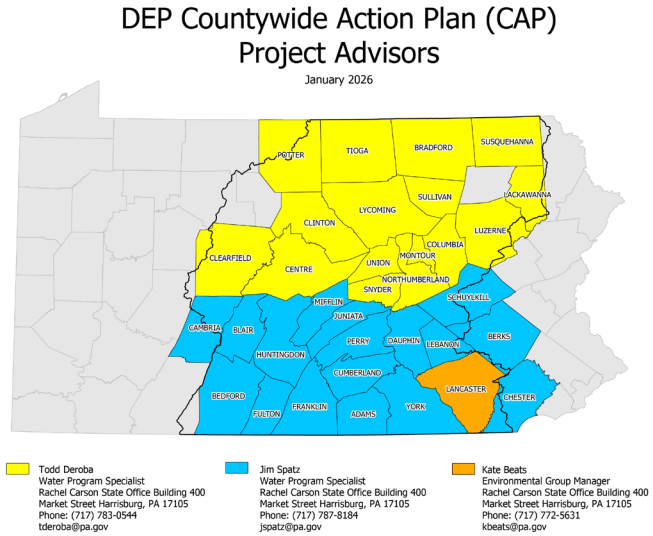
Common Sentiments from Interviews

Communication: significant resources are spent defining the problem scientifically, while not enough emphasis is placed on practical outreach

Water quality monitoring: some localities have good water quality monitoring data and are frustrated that local data is not more heavily prioritized in planning

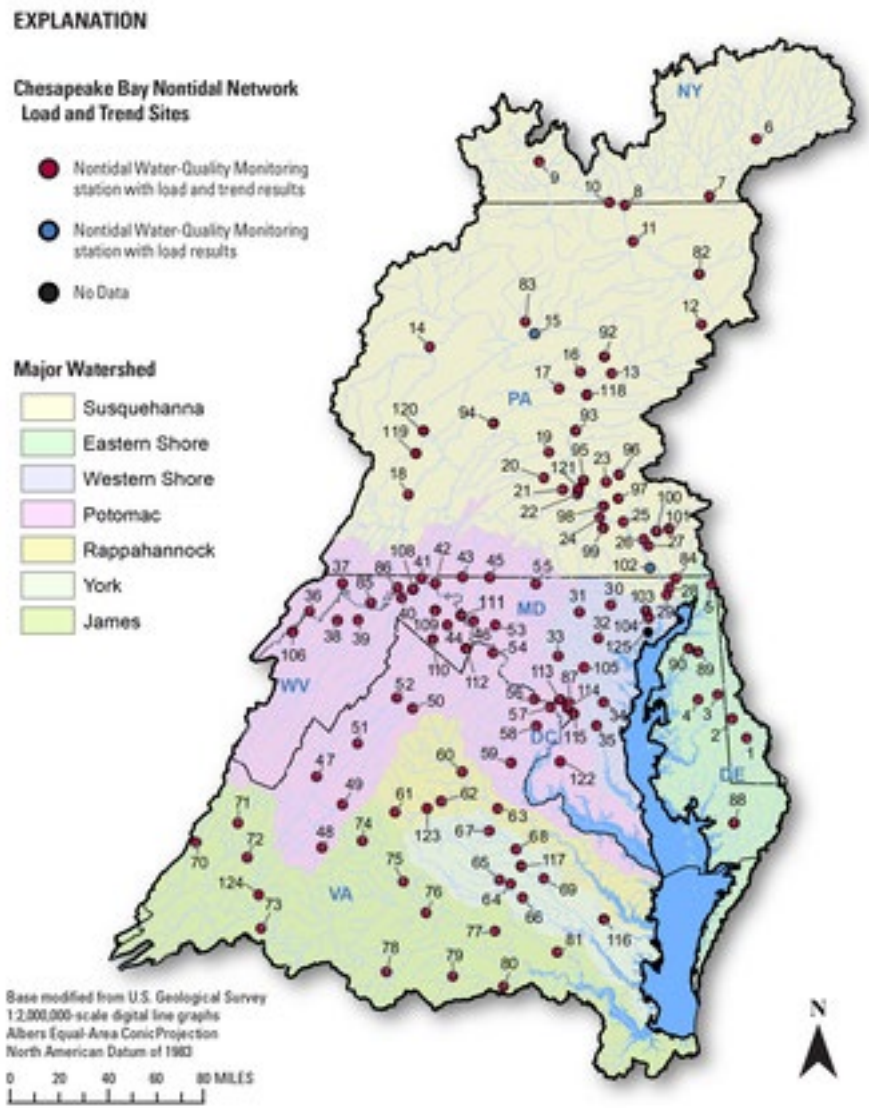
Communication Between State and Local Planners

- Increased communication between state and local planners could help:
  - Set achievable goals
  - Acknowledge limitations
  - Align state and local priorities
  - Identify legislative and budgetary needs for policy makers
  - Ensure adaptive management throughout the life of the Watershed Implementation Plan
- Examples of effective communication:
  - PA's County Action Plans, VA's Chesapeake Bay Advisory Group



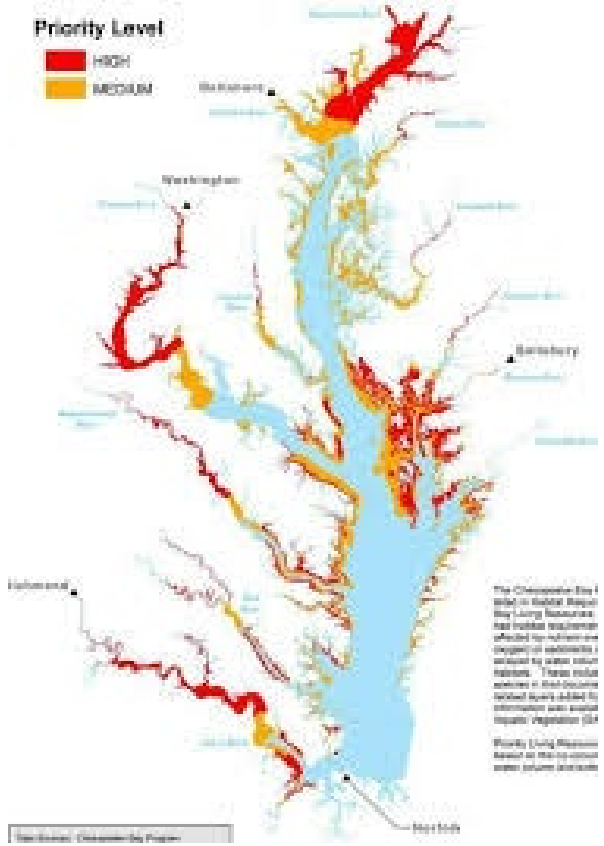
Water Quality Monitoring

- Most respondents expressed a desire to increase the use of water quality monitoring in local planning
  - However, monitoring data does currently inform the model
- Limitations of water quality monitoring
  - Snapshot of data at one point in time in one body of water
  - Needs years of data to identify trends
  - May include too much local context unrelated to nitrogen, phosphorous, or sediment reductions from a BMP
  - Requires a lot of resources
- Predictive planning requires a predictive model, not a single data point
- The model standardizes implementation across the watershed, monitoring is not as universal



Tiering Implementation

- Conversations in the partnership should include using tiered implementation as a strategy to address local concerns
- CBP's Scientific and Technical Advisory Committees' Comprehensive Evaluation of Systems Report (CESR) Report:
  - tiering implementation will require use of smaller scale models and data, “since larger scale models may not accurately capture uncertainty at small scales”
- Targeting implementation in specific areas with more benefits for living resources acknowledges local context
- Localities are concerned about feeling targeted
- Overwhelming majority of respondents expressed excitement about tiered implementation



Takeaways

- The model is the culmination of the best available science we can use for predictive planning
- When drafting and implementing new or updated plans, prioritize consistent communication between local implementors and state planners
- Water quality monitoring is a tool that can be used to help inform planning, but is not replacement for modeling and it has its own limitations
- Tiered implementation could provide an effective framework to use monitoring data

Questions?