Initial Scenarios of the Water Quality and Sediment Transport Model

WQGIT Conference Call
March 1, 2010

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CBP Modeling Team

The WQSTM is now being calibrated to Phase 5.3 loads and we expect it to be fully operational on COE and EPA computers by mid-March.

We'll provide calibration information as soon they're available in mid-March. Initial calibration results can be generally characterized as "as good or better" than the 2003 Water Quality Model and similar to the previous calibration to the Phase 5.1 loads. WQSTM scenarios will begin immediately after calibration.

Initial Phase 5.3 Scenarios Underway

- 2010 E3 Scenario (needed for allocation methodology)
- 2010 No Action Scenario (needed for allocation methodology)
- 2007 Scenario (Needed by Scenario Builder to generate other scenarios.)
- 2008 Scenario (recent benchmark for Phase 4.3 and Phase 5.3)

Initial Phase 5.3 Scenarios Underway *(continued)*

- Tributary Strategy Scenario
- VA EPIL* (requested by Virginia)
- 1985 Scenario (highest load benchmark for Phase 4.3 and Phase 5.3)
- 2002 Scenario (benchmark for Phase 4.3 and Phase 5.3)
- 1985 E3 Scenario (requested by New York)
- 1985 No Action (requested by New York)
- 2017 VA EPIL (requested by Virginia)
- 2025 VA EPIL (requested by Virginia)

* Enhanced Program Implementation Level

Mission Critical WQSTM Scenarios: What We Need To "Nail Down" the DO Allocation.

- Target Load Option 3 Scenario (198TN, 14.8TP) – We derive these loads.
- E3 Scenario (P5.2 = 138TN, 12.0TP).
- About 3 Intermediate Scenarios (if the Target Load Option 3 doesn't achieve WQSs - something like a 195, 190, and 185 TN and corresponding 13.5, 13, and 12.5 TP, respectively).
- Tributary Strategy Scenario (P5.2 = 236TN, 21.1TP) (We may put a hold on this if it approximates the loads from the Option 3 Scenario).

Initial WQSTM Scenarios Completed After the April 5-6 PSC

• Either a 1985 or 1998 Progress Scenario – TBD.

• Any additional intermediate load scenarios needed to get closer to target loads needed to meet the State's Bay DO WQ standards.

• A series of sediment reduction scenarios, as needed, directed towards reduced tidal shoreline erosion and other tidal loads to support establishment of the sediment allocations achieving the SAV/clarity WQS.

• 10x Current (~10% historic) Oyster Biomass on Target Load Option 3.

• 50x Current (~50% historic) Oyster Biomass on Target Load Option 3.

• 5x Current Menhaden Biomass on Target Load Option 3.

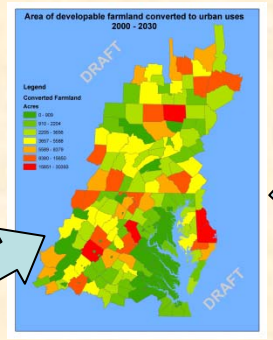
• Current Menhaden Biomass with no Bay Harvest on Target Load Option 3.

Decision Requested

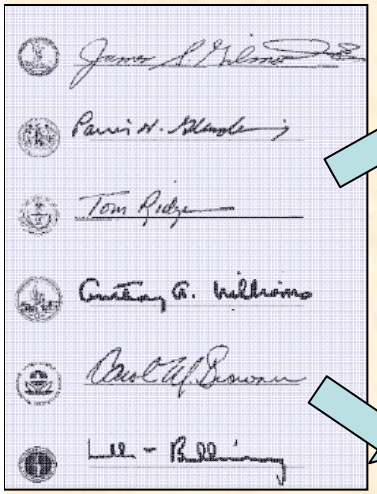
WQGIT approval of the initial set of Watershed Model and Water Quality Sediment Transport Model scenarios.

Chesapeake Bay Program Modeling

Land Use Change Model

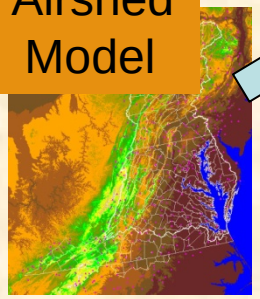


Management Actions

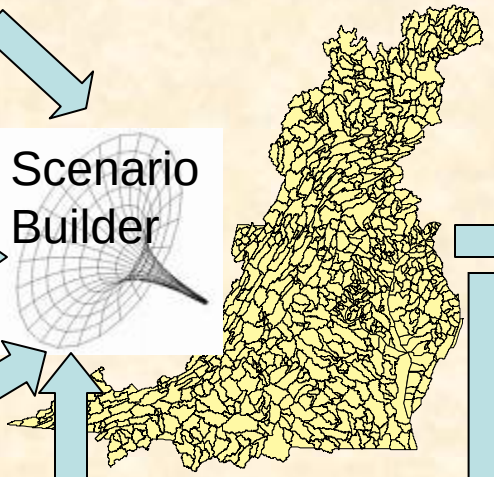


Scenario Builder

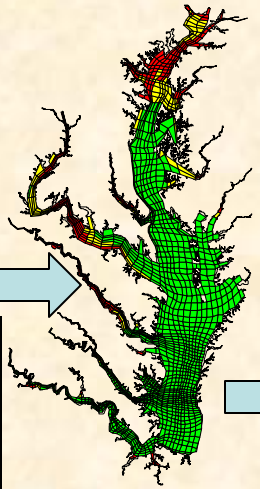
Airshed Model



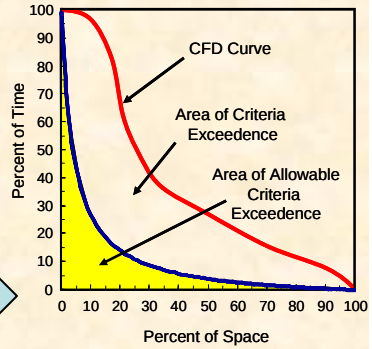
Watershed Model



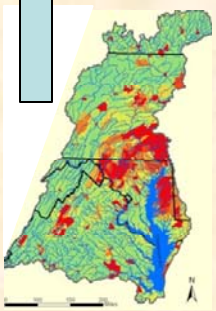
Bay Model



Criteria Assessment Procedures



Sparrow



Effects

Allocations