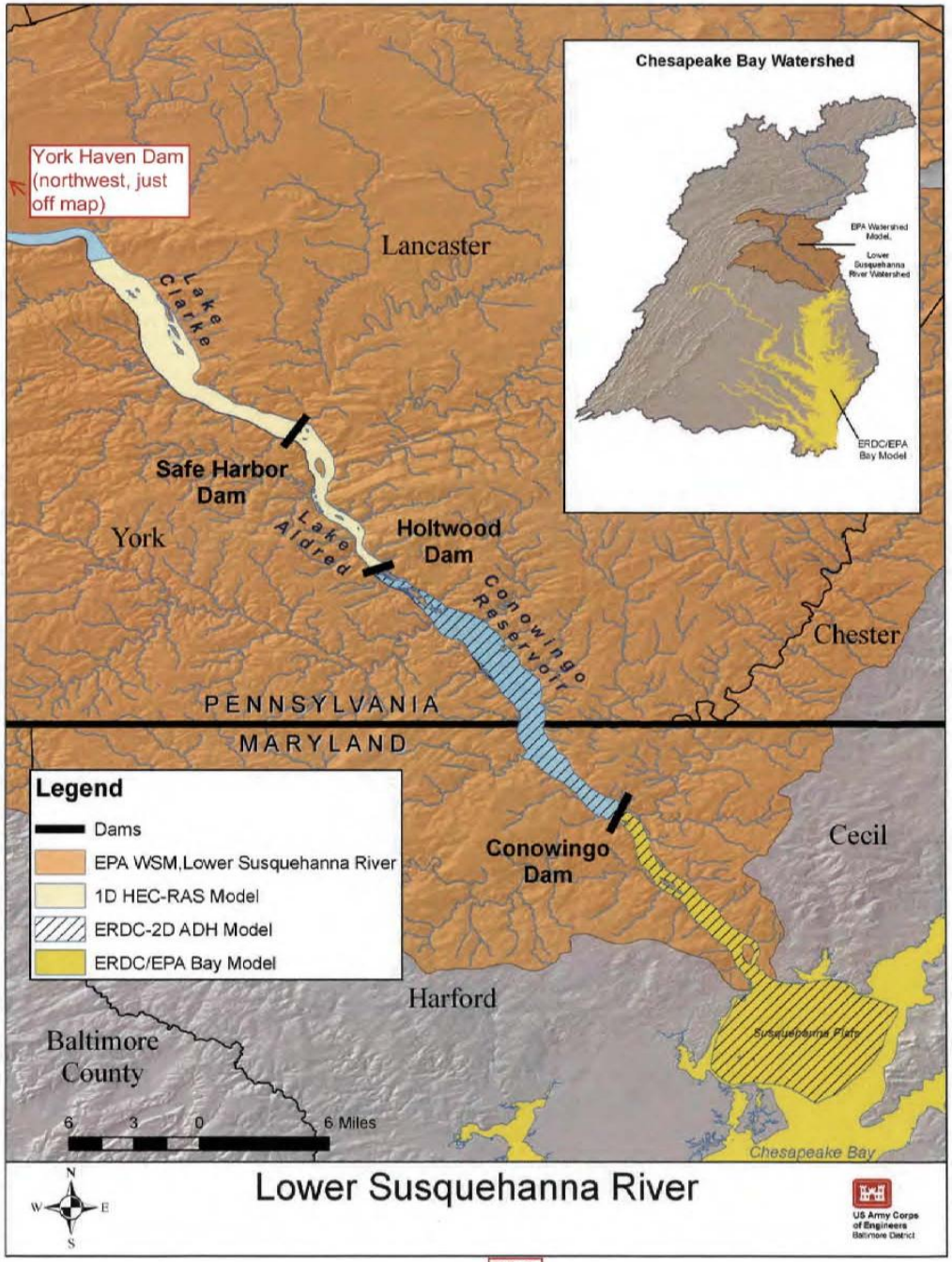
Lower Susquehanna River Watershed Assessment

- Forecast and evaluate sediment loads to the system of hydroelectric dams on the lower Susquehanna River.
- Analyze hydrodynamic and sedimentation processes within the lower Susquehanna River watershed.
- Consider structural and non-structural strategies for sediment management.
- Assess cumulative impacts of future conditions and sediment management strategies on the upper Chesapeake Bay.



ES-2

Model Approaches

- 1-D HEC-RAS Lakes Clarke and Aldred (USGS).
- 2-D ADH Conowingo Reservoir (USACE).
- 2-D ADH Susquehanna Flats (USACE).
- 3-D CE-QUAL-ICM upper Chesapeake Bay (USACE).

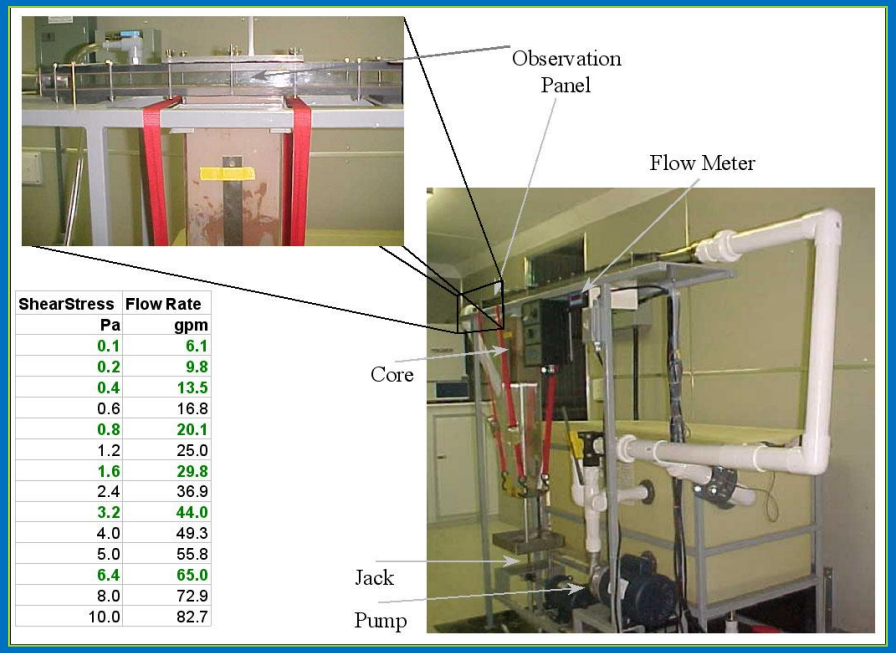
Key Dates

- March 2012 – Initial HEC-RAS hydraulic model.
- June 2012 – Measurements of critical shear stress in Conowingo Reservoir.
- October 2012 – Initial ADH model of Conowingo Reservoir.
- March 2013 – Commence CBEMP simulations of Chesapeake Bay.
- August 2013 – Modeling activities completed.
- October 2013 – Development of Recommendations.
- March 2014 – Draft Report.

Project Status – HEC-RAS

- Conducted by Mike Langland at USGS.
- As of our last conference call, everything was proceeding according to plan.

Project Status – SEDFLUME



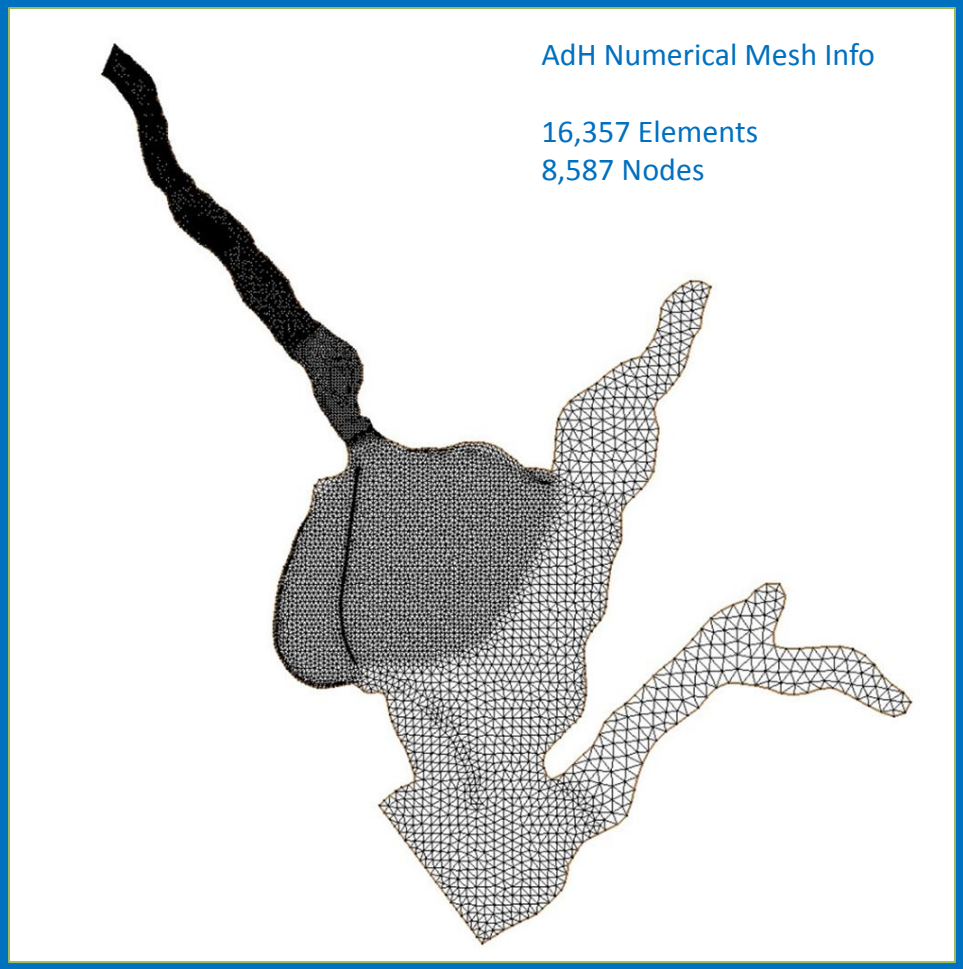
ShearStress	Flow Rate
Pa	gpm
0.1	6.1
0.2	9.8
0.4	13.5
0.6	16.8
0.8	20.1
1.2	25.0
1.6	29.8
2.4	36.9
3.2	44.0
4.0	49.3
5.0	55.8
6.4	65.0
8.0	72.9
10.0	82.7

- Sediment erosion as a function of depth and shear stress will be measured at up to 20 locations in Conowingo.
- Everything proceeding according to plan for measures in summer 2012.

Project Status – ADH Conowingo

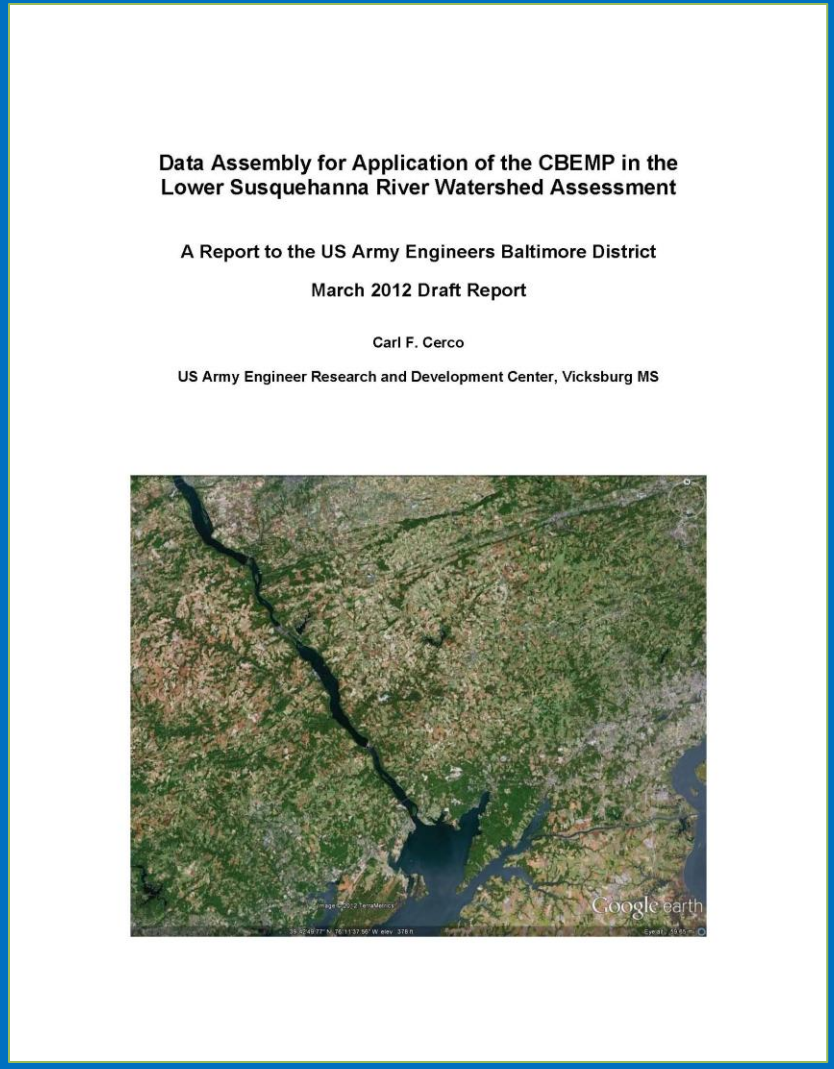
- Mesh constructed.
- Modeling proceeding according to schedule.

Project Status – ADH Susquehanna Flats



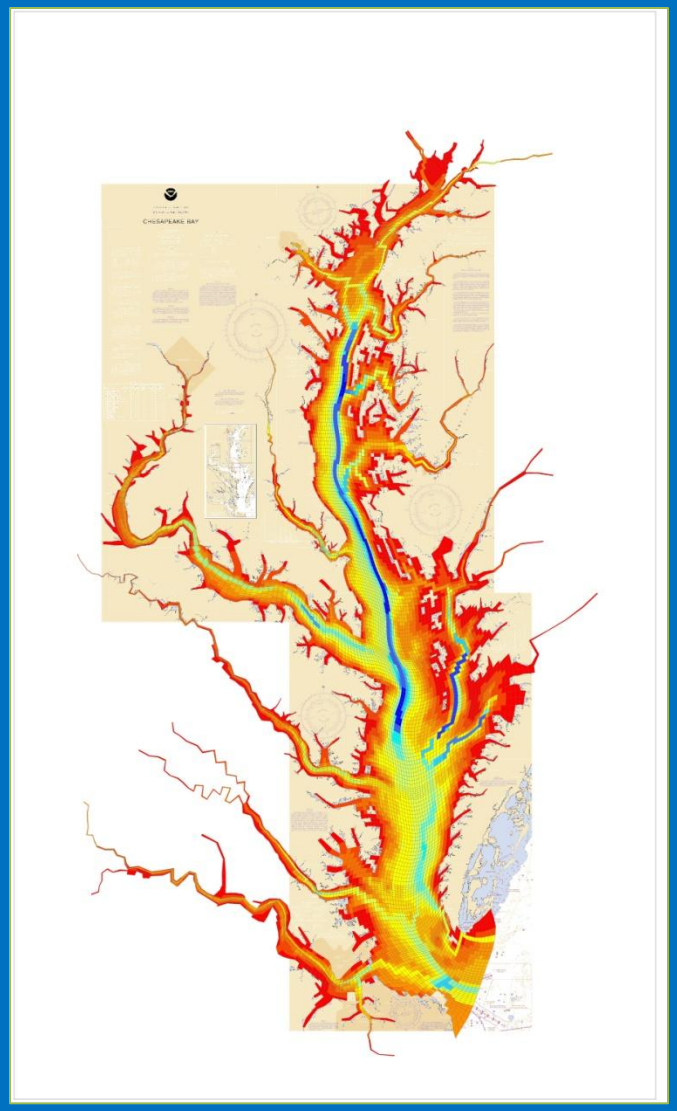
- Mesh constructed.
- PI participating in "Coordination of Susquehanna Flats Sampling" e-mail exchange.

Project Status – Data Report



- Summary of particulate nutrient and related data in Conwingo outfall and bed sediments.
- Comments on draft due April 30.

Project Status – CBEMP



- Employ the versions (WSM, WQSTM) used in the TMDL.
- Some adjustments necessary to couple to ADH and utilize sediment nutrient data.
- This project is not in the President's FY13 budget.
- Funding on hand for one to three scenarios. Reduced from ten in project plan.