



Maryland
Department of
the Environment

Conowingo Reservoir Modeling Study Update

September 14, 2026



Scope of Work

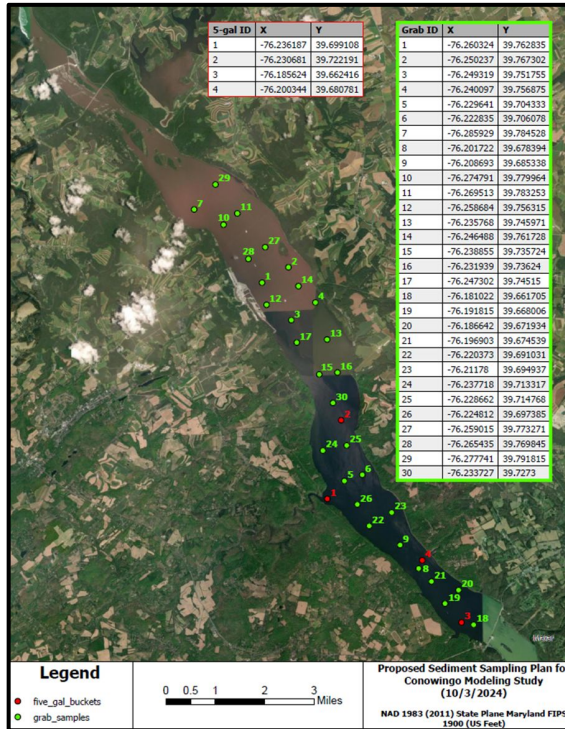
Objective: Develop a 3D water quality model to simulate biogeochemical, sediment transport, and hydrodynamic processes in the Conowingo Reservoir

- Cost-share agreement between Maryland Department of the Environment and U.S. Army Corps of Engineers Baltimore District
- Evaluating potential nutrient reductions from dredging activities
- Simulating different dredging and climate scenarios



Model Development

Sampling Locations June 2025



Model Course Grid





Proposed Climate Scenarios

Climate Conditions	Time Period	High Flow Events
2025	January 2011-June 2012	• High spring season flows • Tropical Storm Lee (September 2011) • Unnamed tropical storm (October 2011)
2055		

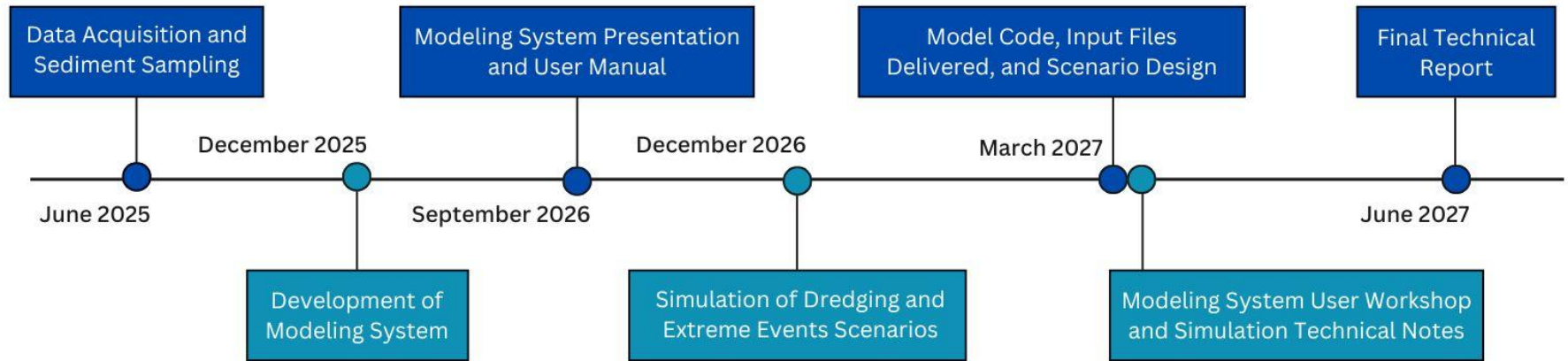


Proposed Dredging Scenarios

Scenario	Volume	Location	Geometry	Flow conditions and time period
1	3 MCY	Upper Reservoir near the MD/PA line	Create a catch basin to trap sediments - dimensions TBD based upon allowable depth of dredging and exclusion zone constraints	• 2014 Average Flow conditions • Dredge once • Simulate 18 months
2	6 MCY			
3	3 MCY	Lower Reservoir as close as possible to the dam		
4	6 MCY			



Conowingo Modeling Timeline



Contact for questions: Christina Lyerly, MDE