

## Murderkill River Study Reports

1. [Primary Production Study](#) (by: Dr. Jonathan Sharp) - This study was conducted to determine the rate of nutrient uptakes via photosynthesis processes.
2. [Sediment Flux Survey](#) (by Chesapeake Biogeochemical Associates) - This study was conducted to measure the nutrient and dissolved oxygen exchanges between river and tidal marsh sediments and water column.
3. [Study of Tidal Marsh Fluxes of Nutrients and DO](#) (by Drs. William Ullman and Anthony Aufdenkampe) - This study was conducted to quantify the exchange of nutrients, organic matter, and dissolved oxygen between the River and its tidal marsh.
4. [Study of Tidal Marsh Inundation](#) (by Dr. Tom McKenna) - This study was conducted to quantify the volume of water that covers tidal marshes during each tidal cycle.
5. [Study of Sediment Nutrients and Ecological History](#) (by Drs. David Velinsky, Christopher Sommerfield, and Don Charles) - This study was conducted to track environmental changes in the Murderkill Watershed by studying sediment cores.
6. [Fish Survey](#) (by Michael J. Greco) - This survey was conducted to determine population, density and diversity of fishes utilizing the Murderkill River.
7. [Watershed and Tidal River Hydrodynamic and Water Quality Modeling](#) (by HDR) This modeling effort included developing three models: 1) a Watershed Model (HSPF), 2) a Tidal River Hydrodynamic Model (ECOMSED), and 3) a Tidal River Water Quality Model (RCA). These modeling tools were used to analyze various loading scenarios and to quantify their impacts on water quality of the Murderkill River.
8. [Tidal Murderkill River Use Attainability Analysis and Alternative Dissolved Oxygen Criteria](#). This report discusses development of the site-specific DO criteria for tidal Murderkill River based on Use-Attainability Analysis.
9. [Revised TMDL for Murderkill River Watershed](#) – This report discusses establishment of revised TMDL for the Murderkill River Watershed based on the recently adopted site-specific DO criteria.