Mattaponi River

Tidal Fresh Patuxent River

St. Mary's River

Bush River

Fishing Bay

Chester River

Mattaponi River – Tidal fresh environment, abundant wetlands. Continuous monitor at Muddy point, Walkerton.

St. Mary's River – One of many Potomac embayments, well-monitored, some management interest.

Tidal Fresh Patuxent – Abundant wetlands, usually a problem area for the model. Continuous monitor at Jug Bay, Iron Pot Landing.

Bush River – Typical upper Bay embayment. Continuous monitor at Lauderick Creek.

Chester River – Site of shallow-water multi-modeling effort. Will allow for inter-model comparisons between system-wide and individual models. Continuous monitoring at Ralph's Wharf and Deep Landing.

Fishing Bay – Lower eastern shore embayment. Under influence of wetland erosion. Several continuous monitoring stations.

First Indications

- The selected systems are characterized by high chlorophyll (> 20 μg/L) and low DO (≈4 mg/L during daylight hours).

- The St. Mary's River is a standout. Repeated complete anoxia.

- The Bush and Chester are standouts. Chlorophyll repeatedly attains 100 μg/L or more.

First Indications

- Problem: How can we raise chlorophyll concentration while simultaneously lowering DO concentration?

- Nutrients aren't always so abundant as to readily support additional phytoplankton.

- Are there pH effects with bottom sediments? Anoxia effects? What happens at night?

First Indications

- Can we generalize model parameters across systems? What parameters/processes from the Bush River can be applied to Fishing Bay?

- It appears our erosion rates etc. for Blackwater aren't helping the model results in Fishing Bay.