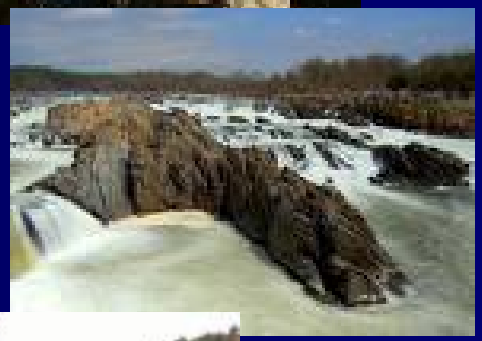


Update on Potomac River Water Quality Report

Briefing to the
Water Resources Technical Committee
November 13, 2008

Purpose of Report

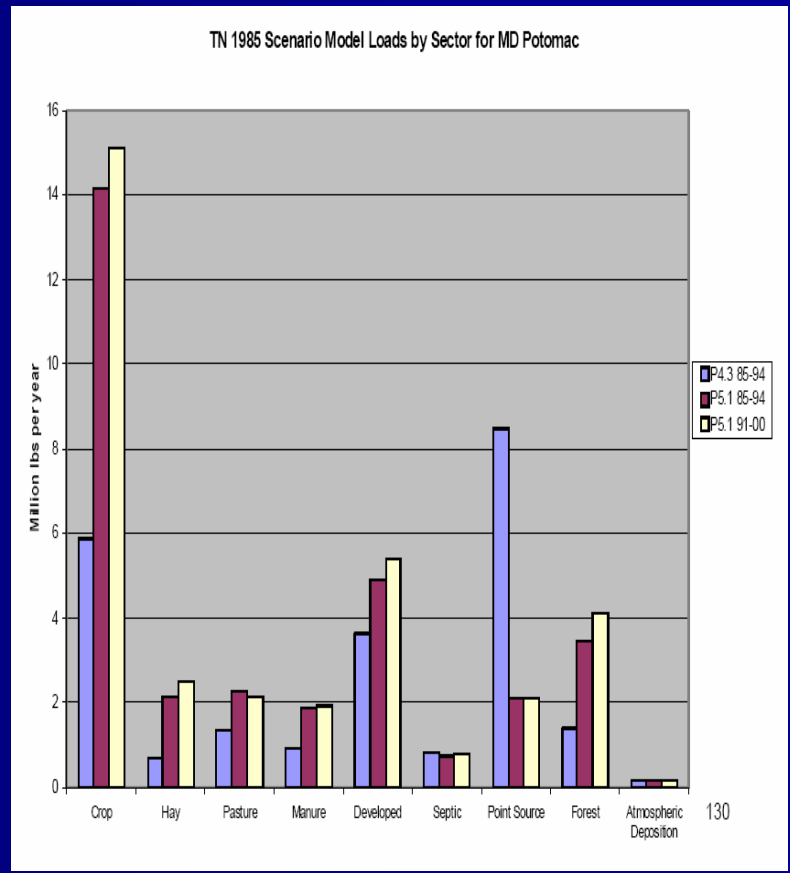
- Explain what defines healthy Potomac River water quality.
- Describe the causes/sources of water quality problems in the Potomac.
- Explain how we measure/model changes in water quality and pollutant loads.
- Describe how Potomac River water quality has changed over time.
- Present some of the biggest challenges to protecting Potomac water quality in the future.
- Present recommendations for COG action.

What defines healthy Potomac River water quality?

- Overview of water quality standards and benchmarks for:
  - Human health
    - Pathogens
    - Toxics
  - Environmental health
    - Dissolved oxygen
    - Nutrients
    - Chlorophyll a
    - Sediment
    - Clarity
    - Toxics

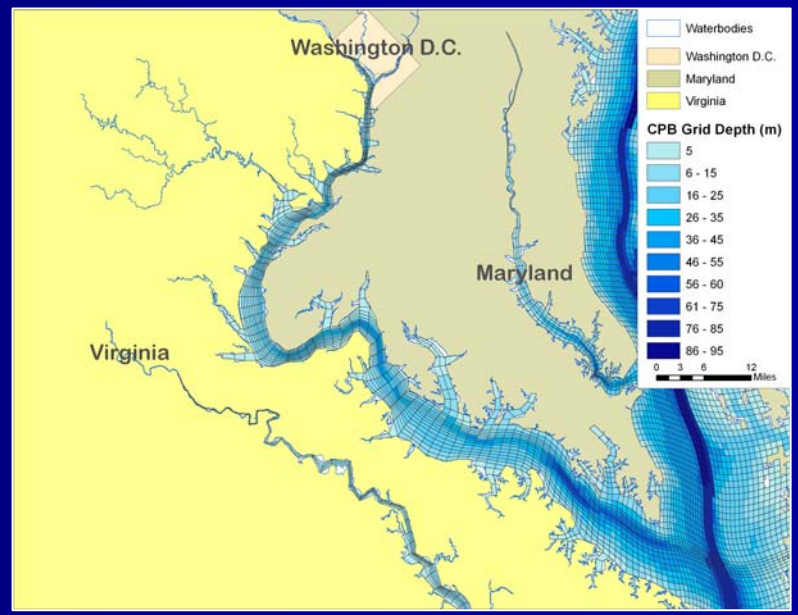
What are the causes/sources of water quality problems in the Potomac?

- Causes and consequences of nutrient over enrichment
- Overview of Potomac River nutrient and sediment loads
  - Broken out by sector
    - Agriculture
    - Point sources
    - Developed land
    - Forest
    - Air deposition
  - Above the Fall Line
  - Below the Fall Line



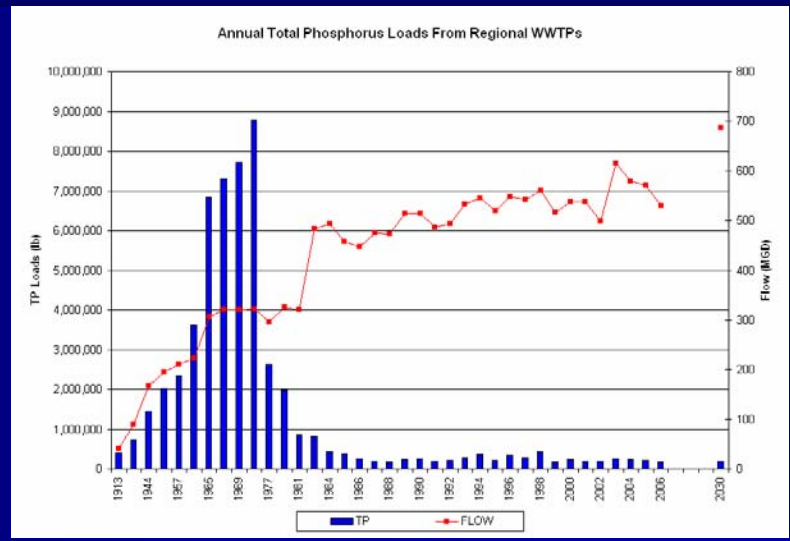
How do we measure / model changes in water quality and pollutant loads?

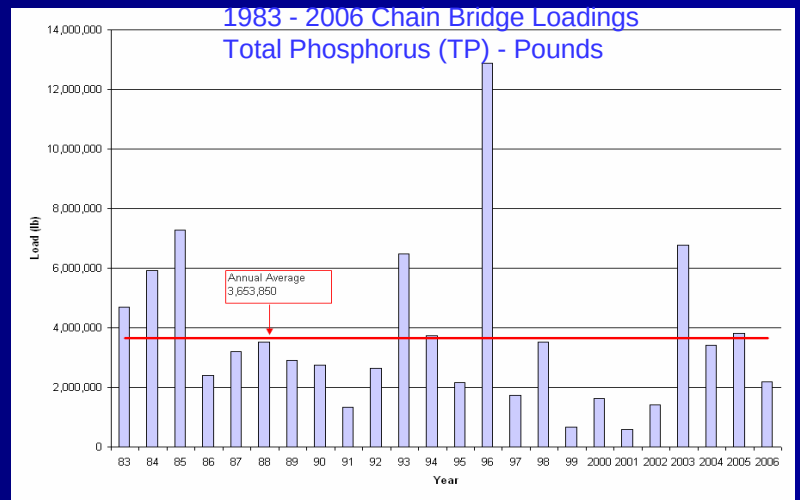
- Overview of Potomac River water quality monitoring programs
  - Chain Bridge monitoring station
  - Potomac Estuary monitoring program
  - Various nontidal monitoring programs
- Chesapeake Bay Program Models
  - Watershed Model
  - Water Quality and Sediment Transport Model



How has Potomac River water quality changed over time?

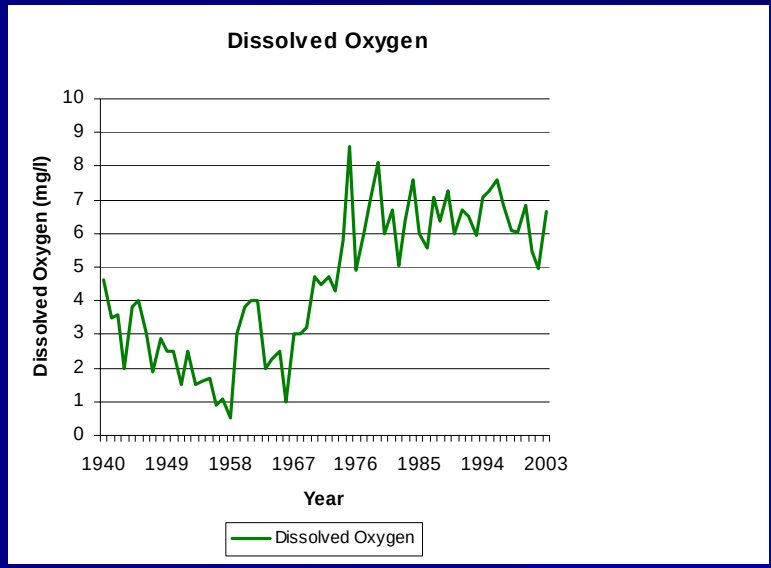
- Overview of changes in nutrient and sediment loadings over time
  - At Chain Bridge due to changes in land use, agriculture, etc.
  - From WWTPs due to treatment upgrades.
  - From local stormwater management and stream restoration efforts.
  - Other sources (e.g., air deposition).

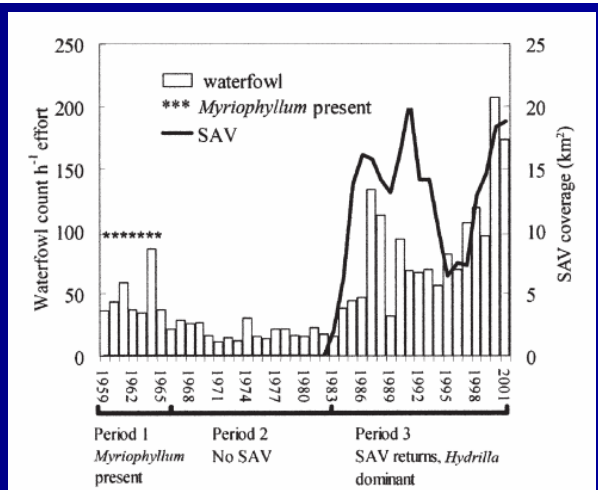




How has Potomac River water quality changed over time?

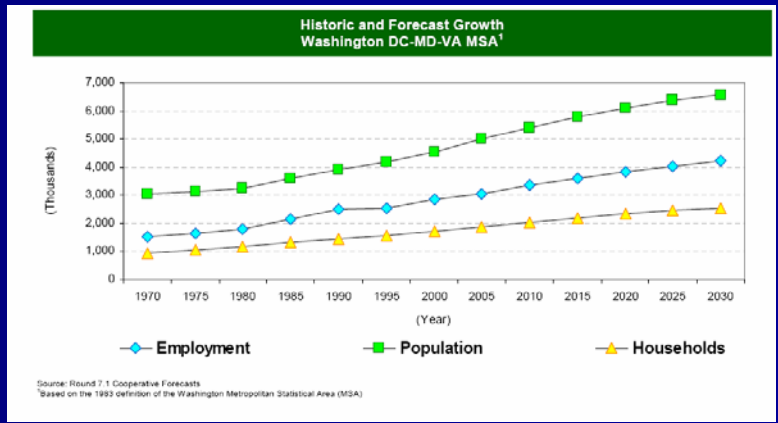
- Overview of changes in Potomac River water and habitat quality over time
  - Dissolved oxygen
  - Chlorophyll a
  - Total Nitrogen
  - Total Phosphorus
  - Water Clarity
  - SAV
  - Fish abundance
  - Waterfowl

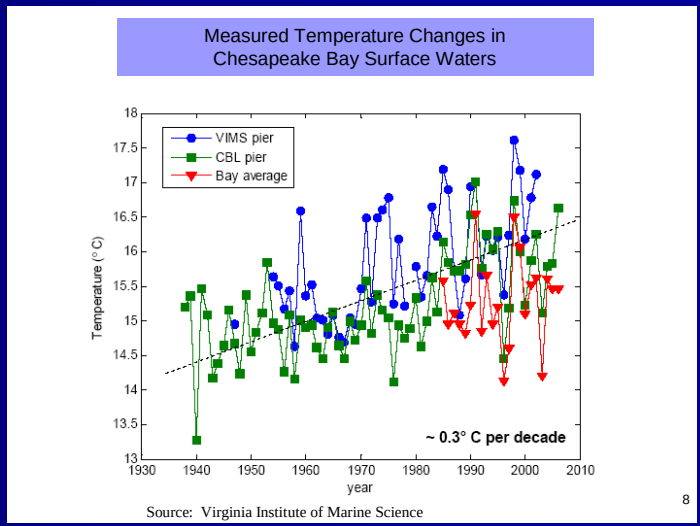




What are some of the biggest challenges to protecting Potomac water quality in the future?

- Population growth and development.
- Climate change.
- Funding for infrastructure.
- Toxic contaminants.
- Your ideas for recommended COG action.





Next steps

- Present draft report outline to Chesapeake Bay Policy Committee – November 21, 2008
- Complete draft report.
- Distribute draft report to WRTC for review and comment.
- Present final report to COG Board early 2009.