

# South River Hg TMDL Update

# Recap From TAC Meeting

- Overview of TMDL Process
  - Required
  - Consent Order schedule
  - Set Hg load reductions for the various sources in the watershed
  - A TMDL Implementation Plan would come later and would attempt to identify actions to meet those targeted reduction levels
  - No one is currently envisioning the “yellow equipment” type approaches of dredging the length of the river or digging up contaminated floodplain from Waynesboro to Front Royal
  - Measure of success will be fish tissue levels in the river

# Recap From TAC Meeting

- Review of Hg TMDL Approaches Nationwide
  - Approaches varied greatly
    - What was the TMDL target?
    - How mercury loads were linked to water column?
    - How water column was linked to fish?

# Recap From TAC Meeting

- Current approach of South River Hg TMDL
  - Link fish tissue concentrations to a protective water column concentration using a non-linear bioaccumulation factor
    - Based on total mercury or methylmercury
  - Link mercury loadings to water column concentrations through watershed loading, transport, and water quality modeling
    - Hydrologic model (HSPF)
    - Sediment erosion and transport model (HSPF)
    - Mercury loading and transport model (HSPF/WASP)

# Recap From TAC Meeting

- Discussion
  - Some members of the group felt strongly that the model should be based on methylmercury
    - So that remediation options that effect methylation rates can be evaluated
  - Other members felt strongly that a mechanistic mercury cycling, uptake, and trophic transfer model should be used
    - Data is not currently available to develop such a model

# Next Steps

- Hydrologic model is practically calibrated
- Sediment model is being set up and will be calibrated soon
- Regarding technical approach to linkages
  - We will consider all of the input given to date
  - Meet with DEQ and EPA management to determine the most technically defensible approach within the TMDL constraints