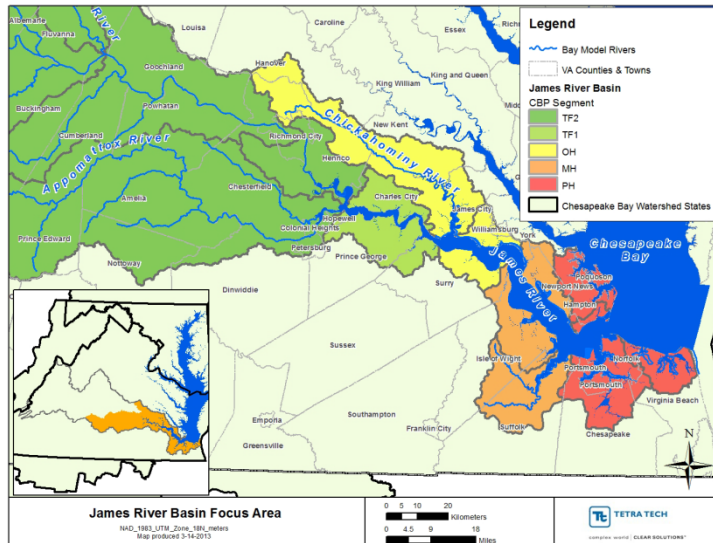


James River Chlorophyll Study

Status Update: March 2015



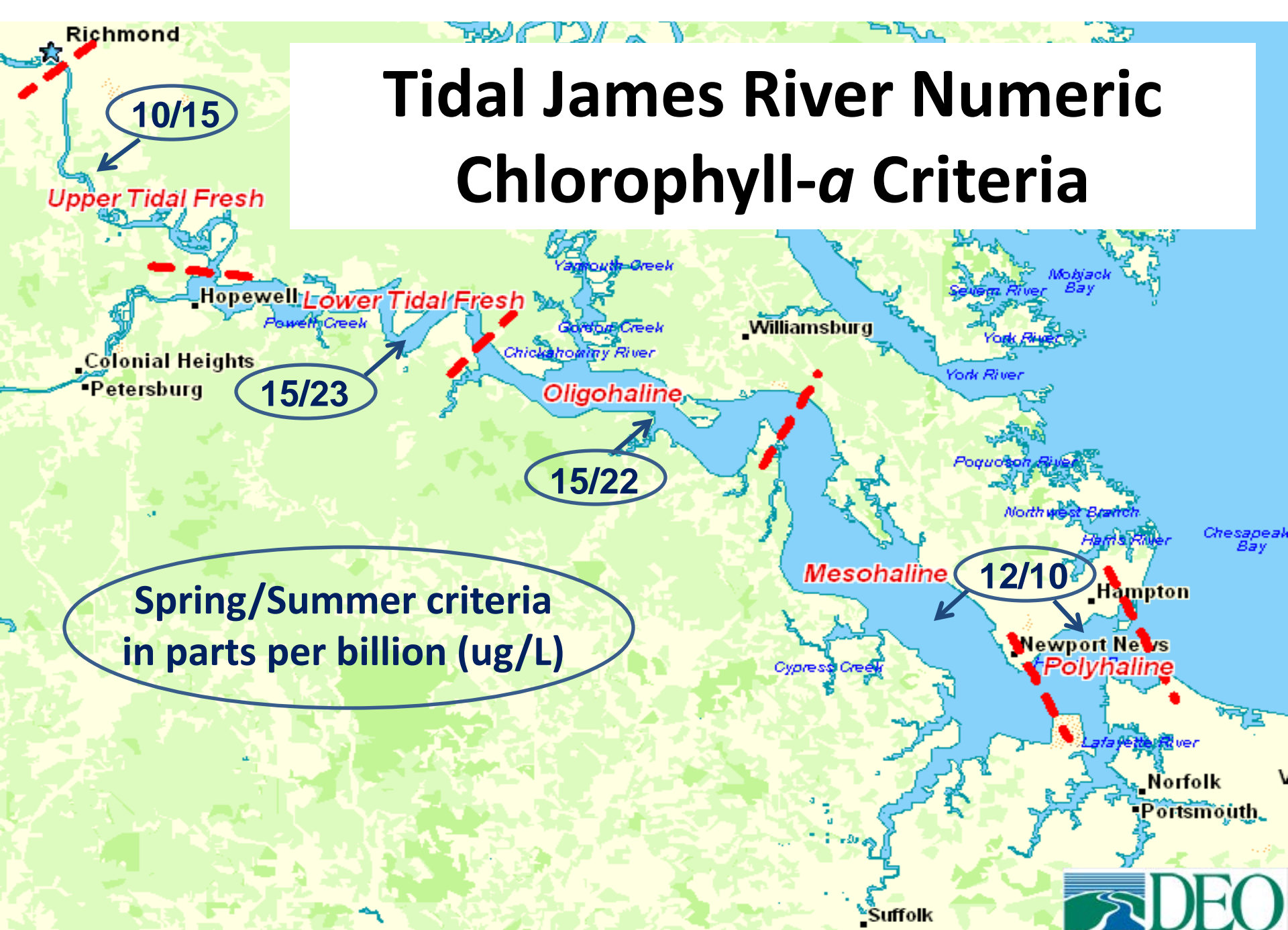
Chesapeake Bay Stakeholder Advisory Group

John Kennedy, DEQ Office of Ecology

Background:

- Tidal James chlorophyll standards adopted in 2005
- Driver was impaired aquatic life designated use
- Chesapeake Bay TMDL adopted in 2010:
 - Set more stringent James Basin nutrient reductions than were used to establish 2005 standards
 - Estimated cost of additional controls needed to meet new reduction targets ranged from \$1 – 1.5 billion
- VA conclusion: scientific study needed to provide more precise and scientifically defensible basis for nutrient allocations under the Bay TMDL

Tidal James River Numeric Chlorophyll- α Criteria



Spring/Summer criteria
in parts per billion (ug/L)

Purpose of Study:

- 2011 General Assembly approved \$3 million from WQIF for Study:
 - Review current chlorophyll standards and confirm if they are protective of aquatic life
 - Improve modeling capability to test nutrient loading scenarios and standards attainability

JR Chl-a Study Schedule:

- 2011 - - - - -** **Workplan Developed**
Notice of Intended Regulatory Action (NOIRA)
Formed Science Advisory Panel and Stakeholders
Advisory Group
- 2012 - - - - -** **Workplan Implementation**
- 2012-14 - - - -** **Enhanced Monitoring and Model Development**
- 2015 - - - - -** **Science Advisory Panel criteria recommendations**
EPA/STAC criteria review
JR Model TMDL Scenarios
- 2016 - - - - -** **Develop Regulatory Proposal (if appropriate)**
EPA/STAC Model Review
- 2017 - - - - -** **Complete Regulatory process and WIP revisions**

Study Status:

- Enhanced monitoring and laboratory experiments completed
- Meeting held in Jan. to review model calibration to-date
- Finalizing report on relationships between harmful algal blooms and potential impacts to aquatic life and other water quality indicators (e.g., DO, pH, water clarity)
- Scientific Study Report summarizing Panel findings due June 2015
- Modeling efforts extended to end of 2015 to include the 2011-2013 monitoring data for calibration

For Detailed Information:

- DEQ webpage (*WQ Standards/Nutrient Criteria Development*) has:
 - Science Advisory Panel and Stakeholder Advisory Group meeting summaries/materials
 - Reports from Science Advisory Panel and Principal Investigators

An aerial photograph showing a large body of water, likely a bay or estuary. A long bridge spans across the water, connecting different landmasses. On the left, there are industrial areas with various structures and docks. On the right, there are residential neighborhoods with houses and trees. The water is dark blue, and the sky is clear.

Questions?