Water Quality Standards Regulation
James River Chlorophyll Criteria Study
Regulatory Advisory Panel Meeting
April 25, 2017 – DEQ Piedmont Regional Office
Start Time: 10 AM

DRAFT Agenda

Roll Call; Opening Remarks – John Kennedy, DEQ-Office of Ecology, Director

VIMS Modeling contract for Water Quality Modeling - Update
CBF/JRA joint letter on rulemaking actions/schedule
VAMWA proposed nutrient loading model scenarios and summary of criteria & assessment alternatives
STAC Preliminary feedback on DEQ's proposed criteria/assessment methods

Wrap-up; next steps

Advisory Panel Members and Alternates Present:
Chesapeake Bay Foundation (CBF): *Joe Wood*
City of Hopewell; *Jeanie Grandstaff, Matt Ellinghaus*
City of Richmond: Robert Steidel, *Pat Bradley, Robert Steidel*
Dominion Power: *Oula Shehab-Dandan*
Environmental Protection Agency Chesapeake Bay Program Office (EPA CBPO): *Richard Batiuk*
Hampton Roads Sanitation District (HRSD): *Jim Pletl,*
James River Association (JRA): *Adrienne Kotula, Jamie Brunkow*
VA Association of Municipal Wastewater Agencies (VAMWA): *Jim Pletl, Chris Pomeroy*
VA Manufacturer's Association (VMA): *Andrew Parker*
VA Dept. Conservation & Recreation (DCR): *Darryl Glover*
VA Dept. Of Health (VDH): *Caroline Holsinger*

Invited Science Advisory Panel (SAP) Members Present
Paul Bukaveckas (VA Commonwealth University)
Clifton Bell (Brown & Caldwell)
Will Hunley (Hampton Roads Sanitation District)

Dept. of Environmental Quality Staff Present
Jutta Schneider, John Kennedy, David Whitehurst, Tish Robertson, Allan Brockenbrough, Matt Richards, Brandon Bull

Observers
Aqualaw/VAMWA: *Justin Curtis*

The Regulatory Advisory Panel (RAP) for the James River chlorophyll water quality standards rulemaking met for the fourth time on 4/25/2017. John Kennedy, Office of Ecology Director, greeted the attendees and made introductions.

VIMS contract

Mr. Kennedy informed the Panel that DEQ has prepared a scope of work for the VIMS modeling contract. He stated the timeline is heavily dependent on the Phase 6 model, which has been delayed. The contract specifies that up to 10 loading scenarios may be run. June is the approximate time when loading input decks will be ready for VIMS. The contract is open-ended with a 12 month duration. DEQ is hoping that all scenarios will be run by the fall.

Rich Batiuk (EPA/CBPO) told the RAP that the Bay Program model calibration is almost done. Input for the James River will be available soon.

CBF/JRA Letter

Mr. Kennedy then told the RAP that, on April 19th, DEQ received a letter from CBF/JRA expressing the desire for DEQ to present to the State Water Control Board the proposed chlorophyll-a criteria sooner rather than later.

Dr. Joe Wood, CBF staff scientist, stated it is their preference that the implementation process not to delay the development of the Chesapeake Bay Watershed Implementation Plan III. The revised criteria are not that different from the original criteria, and so there seems to be no obvious reason why DEQ cannot go to the Board in July.

Mr. Kennedy explained that DEQ views the modeling as part and parcel of the criteria development process. The model can help to determine how much leeway we have with the baseline criteria within the value ranges where no harmful effects were observed. State code also requires that DEQ do an economic impact analysis on any modified water quality standard regulation so the Board can make an informed decision. The modeling enables this analysis. Modeling can also help with variances.

Jamie Brunkow stated that modeling for compliance should not determine criteria values.

VAMWA/Modeling scenarios

Chris Pomeroy (VAMWA) presented model scenarios for the James River chlorophyll 'a' alternatives analysis. He explained the rationales for each of the eight waste load allocation (WLA) scenarios that VAMWA would like to see run. Then a response curve could be developed from the results to allow the RAP to come to agreement on key decision points. The eight scenarios are:

- Stage 1A: Represents state 1A allocations and HRSD transfers and acquisitions.
- Stage 1B: Interim loadings that dischargers agreed upon as detailed in Appendix X of the Bay TMDL (2010).

- DO: “new” DO scenario (according to input deck used in the updated Bay model)
- B+: Reductions made to phosphorus loadings only. Nitrogen loadings equal to Stage 1B)
- C: Intermediate between B and E. 20-25% reduction in N and P.
- B/D Seasonal hybrid – Scenario B as Annual average. Scenario D as Summer average.
- D: Intermediate between B and E, but more stringent than C.
- E: 2010 input desk used for chlorophyll-a attainment during 2010 TMDL model. Could be seen as the Limit of Technology scenario.

John Kennedy: According to state code, limit of technology treatment is considered 3 mg/l TN, 0.3 mg/l TP.

Rich Batiuk: Modeling team can put together the input decks to help VIMS and save them time.

Joe Wood: It is important that we have a scenario that allows us to determine what nutrient loading is necessary for criteria attainment, assuming that none of the above scenarios results in attainment.

John Kennedy: A scenario more stringent than limit of technology treatment would not provide useful information for us. Perhaps the “all forest” scenario run by the Bay Program would, though.

James Tidal Freshwater pH Representativeness Presentations

Clifton Bell made the case that the area immediately surrounding the Rice Center has elevated pH compared to the rest of the tidal fresh and thus should be considered a “subzone”. If we “correct” the Rice Center chl’a’-pH relationship used to derive the chlorophyll criteria by lowering the y-intercept of the regression by either 0.1 SU (most conservative assumption) or 0.2 SU, we get alternative criteria for both tidal fresh segments that are slightly higher than the current proposed criteria and are thus more attainable.

Presentation
http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/Rulemaking_materials/Potent_CHL_a_Criteria_Alt_Bell_25APR2017.pdf?ver=2017-09-07-120637-457

Dr. Tish Robertson made the case that there is no empirical evidence that water quality at the Rice Center is different relative to the overall “zone” that encompasses it. Chlorophyll and pH samples taken at the Rice Center are not significantly different from samples taken at other locations in the upper JMSTFL zone. In addition, the relationships derived from Rice Center data are not significantly different from relationships derived from recent data taken at the mid-channel station closest to the Rice Center. Furthermore, the habitat at the Rice Center appears to be relatively representative of the overall habitat, at least in terms of bathymetry. Dr. Robertson is open to considering alternative criteria, but right now, she believes not enough information has been presented to support Clifton’s recommendation.

Presentation
http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/Rulemaking_materials/pH_CHL_a_concen_Rice_represent_25APR2017.pdf?ver=2017-09-07-120637-737

STAC Review of DEQ proposals on Criteria and Assessment Methodology

Mr. Kennedy told the RAP that, on April 7, Dr. Robertson walked the Scientific and Technical Advisory Committee peer review panel through the proposed assessment methodology and the approach used to derive the chlorophyll criteria. The STAC panel shared their initial thoughts in a memo and Mr. Kennedy invited the RAP to read and consider their remarks. He stated that DEQ looks forward to more fleshed-out comments but DEQ does not intend to respond directly to the STAC panel. He also stated that DEQ progress toward criteria and assessment methodology development is not contingent on the STAC review unless they provide comment during the comment period.

Next Steps

John Kennedy: The timing of the next RAP meeting is milestone dependent. Modeling work is currently about a month behind schedule. DEQ may need to convene another technical sub-workgroup meeting to get agreement on the specifics of the loading scenarios.

Joe Wood: How do the scenarios and draft assessment methodology work together?

John Kennedy: We will want to determine attainment with both current and proposed assessment procedures.

Bob Steidel: It is very important to get the cost estimates given the changes the City of Richmond is seeing in median household income in the city.