

**Minutes - James River Chlorophyll *a* Study
Stakeholder Advisory Group Meeting
Tuesday August 13, 2013
VCU Rice Center**

Agenda

- 10:00 Greetings & Introduction (John Kennedy)
- 10:10 Background on James River Chl *a* Criteria (Arthur Butt)
- 10:20 JR Chl *a* Study: Goals, 2012 Study Results, (Paul Bukaveckas)
- 11:20 JR Chl *a* Study – 2013 Studies (Arthur Butt)
- 11:50 Journal Article Presentation; “Scientific Bases for Numerical Chlorophyll Criteria in Chesapeake Bay” (Rich Batiuk – Ches. Bay Program)
- 12:00 Q & A

The Stakeholder Advisory Group (SAG) for the study on James River chlorophyll water quality standards met for the second time on 8/13/13. John Kennedy, manager for the Office of Ecology and Infrastructure, greeted the attendees and made introductions.

The SAG was briefed by Dr. Arthur Butt on the study background. The study was prompted by concerns that the nutrient load allocations for the James River under EPA’s Chesapeake Bay Total Maximum Daily Load (TMDL) issued in December 2010 were significantly lower than the loadings originally allocated in 2003 which were expected at the time the standards were adopted. Preliminary estimates for the additional cost to achieve the lower loadings needed to meet the current standards are on the order of \$1-2 billion. The study will reexamine the appropriateness of the current chlorophyll standards as being protective of the aquatic life designated use, whether or not they should be revised, and a sense of the “achievability” of the final standards.

Dr. Paul Bukaveckas, project manager for the study, provided a general explanation of the problem encountered when trying to determine whether the tidal James River is experiencing eutrophication due to nutrient over-enrichment. Dissolved oxygen criteria are commonly used to establish target nutrient loads but are problematic when used in well mixed estuaries such as the tidal James that do not experience hypoxia. Dr. Bukaveckas then outlined study findings from 2012 briefly describing the magnitude, duration, and composition of observed algal blooms. He also explained that algal blooms were frequently dominated by potentially toxic algae species and briefly described the results of toxicity bioassay studies performed with the most prevalent algae species.

The presentation for this portion of the meeting providing detailed information is located at: http://deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/SAG%20Presentation_Bukaveckis_AUG2013.pdf

Dr. Arthur Butt provided a summary of monitoring and research to date for 2013. He explained monitoring efforts were directed toward providing characterization of algal communities, identifying factors that may contribute to algal blooms and their dynamics, and the potential impact of the algal blooms to aquatic life. He then reviewed the study schedule and the timeline for nutrient model development. There is also a proposal under consideration to extend the James River Model calibration beyond 2010 to include 2011 through 2013, so the most recent monitoring data generated by the current study can be utilized for model calibration/verification. If approved, such action could extend the modeling timeline by another 6 months with final delivery in December, 2015. The presentation for this portion of the meeting providing more detailed information is located at:

http://deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/SAG_Meeting_2013_Monitoring_AB_slides_AUG2013.pdf

Rich Batiuk, Associate Director for Science, Analysis and Implementation for the Chesapeake Bay Program (CBP), informed the group of a recently available journal article titled, “Scientific Bases for Numerical Chlorophyll Criteria in Chesapeake Bay” coauthored by himself and several other individuals that are members of the science advisory panel for the James River chlorophyll ‘a’ study. He stated that the article provides a scientific basis and support for the development of chlorophyll ‘a’ criteria. He said that EPA supports Virginia’s study to reexamine the James River chlorophyll ‘a’ criteria and that CBP and EPA headquarters believe it to be appropriate to have the final study report and its findings subject to peer review. He also conveyed EPA’s appreciation that the study addresses issues regarding endangered species issues (Atlantic sturgeon) that had been previously discussed. He urged continued collaboration with EPA with regard to nutrient control management decision making as well as monitoring and assessment implementation.

Notes on Question & Answer Session.

Comment (City of Richmond): The study is being done during the same time frame as the City’s waste water and stormwater treatment improvements. They hope that the study observations indicate water quality improvements in the tidal James River.

Response (John Kennedy): Study data can be used for assessment purposes if it meets DEQ quality assurance/quality control.

Question (James River Association): Asked for clarification of the purpose of the meeting and of the stakeholder advisory group (SAG).

Response (John Kennedy): The purpose is to maintain a flow of information to parties most likely to be members of a regulatory advisory panel should study results indicate a water quality standards change is warranted.

Question (City of Richmond): Why are toxicity bioassays being done on sturgeon and not recreationally important gamefish such as striped bass or largemouth bass that are frequently eaten by humans? Will human health be addressed?

Response (John Kennedy): The current driver for the study is the question of whether or not the criteria are protective of the aquatic life designated use and, if not, to determine if other criteria would be better suited. Determination of criteria protective of human health could take several

years of epidemiological studies. Currently, the aquatic life use is considered to be a more sensitive use with regard to harmful algal blooms than the human health use through fish consumption.

Attendees

NAME	AFFILIATION
Chris Moore	Chesapeake Bay Foundation
Ken Roller	Dominion Power
Camille Cook	Dominion Power
Richard Batiuk	EPA Ches. Bay Program
Jamie Brunkow	James River Association
Rebecca Leprell	VA Dept. Health
Jim Pletl	Hampton Roads Sanitation District
Kelly Ryan	American Water - VA
Jack Frye	Chesapeake Bay Commission (VA)
Scott Wolff	VA Manufacturers Association (Honeywell Corp.)
Alice Scott	VA Manufacturers Association
Paul Bukaveckas	VA Commonwealth University
Amy Ewing	VA Dept. Game & Inland Fisheries
Robert Steidel	City of Richmond
Grace Lerosé	City of Richmond
Mark Haley	VA Association of Municipal Wastewater Administrators
Jeanie Grandstaff	Hopewell Regional Wasterwater Treatment Facility
Suzanne Dyba	James City County Stormwater
Russ Baxter	Dept. Environmental Quality
Allan Brockenbrough	Dept. Environmental Quality
Arthur Butt	Dept. Environmental Quality
Melanie Davenport	Dept. Environmental Quality
John Kennedy	Dept. Environmental Quality
Alex Barron	Dept. Environmental Quality
David Whitehurst	Dept. Environmental Quality
Anne Schlegel	Dept. Environmental Quality