



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219

P.O. Box 1105, Richmond, Virginia 23218

(800) 592-5482

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

MINUTES REGULATORY ADVISORY PANEL MEETING Triennial Review Water Quality Standards (WQS) May 18, 2021

Welcome and Introductions

Advisory Panel Members and Alternates Present:

- Patrick Fanning, *Chesapeake Bay Foundation*
- Grace LeRose, *City of Richmond*
- Kevin Whalen, *Friends of NF Shenandoah*
- Evan Branosky, *Home Builders Association of Virginia*
- Jamie Brunkow/Anna Killius, *James River Association*
- Phillip Musegaas, *Potomac Riverkeeper Network*
- Jamie S. Heisig-Mitchell/Richard Sedgley, *VA Association of Municipal Wastewater Agencies (VAMWA)*
- Martha Moore, *VA Farm Bureau Federation*
- Andrew Parker, *VA Manufacturers Association (VMA)*
- David Sligh, *Wild Virginia*
- Leigh Mitchell, *Upper Mattaponi Indian Tribe/Regional Tribal Operations Committee*
- Juan J. Vicenty-Gonzalez, *EPA Region 3*
- Rene Hypes, *Dept. of Conservation & Recreation (DCR)*
- Todd Egerton, *Virginia Dept. of Health (VDH)*
- Aaron Moses, *Virginia Dept. of Health (VDH)*
- Ernie Aschenbach, *Dept. of Wildlife Resources (DWR)*

DEQ Staff Present:

Jutta Schneider (Facilitator), Dr. Tish Robertson, David Whitehurst, Sandra Mueller, Allan Brockenbrough, Tara Wyrick, Andrew Hammond, Melanie Davenport

Others Present:

Dr. Ken Moore, Virginia Institute of Marine Science (VIMS, ret.)

Overview and Discussion of Triennial Review Potential Amendments

Ms. Schneider, Water Planning Division Director, opened the meeting with a brief review of Executive Order Number 51 pertaining to electronic meetings, introductions, purpose and expectations of the

Regulatory Advisory Panel (RAP, or Panel), and that group is a public body subject to the Freedom of Information Act. A recording of the meeting is available at:

<https://attendee.gotowebinar.com/recording/6818791099507276046>

The triennial review process and timeline was reviewed. DEQ staff intends to ask the Board in September 2021 for approval to go to public hearing with a proposed regulation. The current tentative timeline plans for a final regulation by late 2022. Elements of Virginia's water quality standards regulation were presented. These include antidegradation, use designations, and criteria. During triennial review, and during the Notice Of Intended Regulatory Action (NOIRA), all aspects of the regulation were opened for review and comment. A summary of the issues to be addressed for possible inclusion in a proposal identified by DEQ staff and by stakeholder comment received during the NOIRA was reviewed. They are itemized as follows:

DEQ staff-identified issues:

- Human Health Criteria – 21 criteria updates based upon EPA exposure factor recommendations published in 2011
- Aquatic Life Criteria – updated acute and chronic freshwater aluminum criteria for the protection of aquatic life based upon a Multi-Linear Regression model
- Chesapeake Bay Criteria – potential updates to Submerged Aquatic Vegetation (SAV) acreages in 5 segments of the Bay
- Shenandoah Algae – criteria to protect the recreational use from nuisance algae impacts
- Trout Waters - Adjustments based on staff identified issues and input from Dept. of Wildlife Resources (DWR)
- Public Water Supply – clarifications, additions, or deletions
- River Basin Clarifications – clarifications for various stream/river segments
- Special Standards – clarifications, additions, or deletions

Regarding human health criteria, Dr. Tish Robertson informed the RAP that the State Water Control Board (Board) adopted 94 nationally recommended updates during the last triennial review. Those criteria reflected updates to reference dose values, cancer slope factors, and exposure factors. There are 21 human health criteria that were not updated in the previous Triennial Review. They are currently based on outdated exposure factors. The updated values reflect EPA recommendations published in 2011.

- Adult body weight (80 kg)
- Fish consumption rate (22.0 g/day)
- Drinking water consumption rate (2.4 L/day).

Exposure factors are used to assess human exposure to contaminants from a variety of sources such as drinking water and fish consumption. Average adult body weight is also included as an exposure factor.

Dr. Robertson then informed the RAP that currently the WQS regulation has no language describing the duration of the human health criteria. To address this issue, DEQ is proposing insertion of the following language: "Human health criteria are based on the assumption of average amount of exposure on a long-term basis."

A Panel member asked if DEQ had a definition of "long-term basis" as that terminology appeared to be indeterminate and not very clear. Dr. Robertson responded that EPA assumes a 70-year duration when

calculating human health criteria for carcinogens which DEQ considers to be too broad of a time period when considered in the context of other agency programs (assessment, permits, TMDL). EPA guidance allows States to delineate a shorter duration when expressing the criteria in their WQS regulation. It is DEQ's current position to let implementation guidance for the various programs specify "long-term basis" so that it meets their programmatic needs.

It was clarified that the criteria updates are solely based upon the exposure factors and that reference doses and cancer-slope factors had not changed.

Ms. Leigh Mitchell had a question about the fish consumption rate. She asked if there had been any outreach to Tribes when the consumption rate had been determined given that many tribal members are subsistence fishermen. Dr. Robertson responded that DEQ uses EPA's recommendation which is designed to protect the general population. The value of 22 grams per day does reflect the 90th percentile of fish consumption which considers those that depend on locally caught fish on a daily basis.

Philip Musegaas asked how the updated human health criteria for selenium compare to EPA's ambient water quality criteria for aquatic life. Dr. Robertson responded that the proposed updates presented are only for the protection of human health through fish and water consumption and reflect long term exposure which results in a higher concentration value than the criteria value for the aquatic life use.

Jamie Brunkow asked how the addition of language pertain to the duration for human health being a "long-term basis" would assist the agency. Dr. Robertson responded the assessment staff currently consider data for human health parameters to be instantaneous data rather than a long term average value. Currently, fish tissue data is not averaged over a period of time. With language in place specifying a "long-term basis", data could be averaged over a year or some longer period of time. That would then be used to determine whether criteria exceedances occur rather than looking at individual samples. This brings the human health more in line with the intent of the nationally recommended criteria. It was then reiterated that it is DEQ's current position to let implementation guidance for the various programs specify "long-term basis" so that it meets their programmatic needs.

Kevin Whalen expressed the possibility of concern with problems caused by high concentration exposures during a short-term incident that may not be captured utilizing a "long-term basis". Dr. Robertson responded that EPA does not provide any human health criteria based upon short-term durations.

Dr. Robertson then reviewed the freshwater aquatic life aluminum criteria for the group and explained the acute and chronic criteria are calculated based on a waterbody's pH, hardness, and dissolved organic carbon (DOC) and are expressed as total recoverable as opposed to dissolved. The criteria once with language referring to EPA's Excel workbook model which will likely be incorporated by reference into the water quality standards. Currently there are no human health criteria for aluminum.

Dr. Robertson then reviewed suggested updates to submerged aquatic vegetation (SAV) criteria in section 9VAC25-260-185. The Chesapeake Bay SAV workgroup reviewed the basis for the Bay jurisdictions' adopted SAV restoration goals and compared them to the 1993 Chesapeake Bay Program restoration targets. This work was published in the 2017 EPA Chesapeake Bay Technical Document. The workgroup found that five Virginia segments have SAV restoration goals that are considerably less than the CBP restoration targets. The workgroup found that the adopted acreages for these segments are inconsistent with the methodology used in the other Bay segments.

Dr. Ken Moore (VIMS) responded to a question from Martha Moore regarding the legal basis of the Chesapeake Bay Program (CBP) SAV goals compared to the legal requirements for the water quality standards. Dr. Moore began by explaining the relationship between SAV, water clarity, excess nutrients, and sediment. Therefore, SAV abundance was determined to be a primary designated use. He also gave some background on how SAV restoration acreages sufficient to support the Chesapeake Bay's designated uses were developed and that these acreages were considered to be interim targets. These SAV acreage targets were promulgated as standards by the State Water Control Board. He wanted to advise that the CBP believes that the Chesapeake Bay Restoration Targets are conservative and there probably was more SAV acreage in the past. There are legal requirements to achieve SAV restoration targets because they have been promulgated as water quality standards. Dr. Robertson added that there are some policy considerations that go into water quality standards that don't necessarily apply to restoration targets and as DEQ reviews bio-criteria for the Bay we will consider those.

Evan Branosky asked what added benefit was for the additional need to review the SAV restoration goals. Dr. Robertson responded that changes in SAV coverage for the five segments since the original water quality standards were adopted should be considered. Some segments are exceeding those numbers and that is information that can be used to use to consider revision of those SAV acreage numbers.

Mr. Branosky wished to point out there's an understanding within the regulated community of how achievement of D.O., water clarity, and sediment goals relate to the implementation BMP efficiencies of construction general permit and individual permit conditions. He stated there's just not a clear link to SAV acreage and he thinks that can cause a lot of confusion.

Dr. Moore responded that SAV acreage is valuable as a metric for measuring the Bay's health and valuable as a designated use because of the ecological services it provides. This review of SAV coverage for the five segments is an effort to achieve consistency with the way SAV coverage targets are determined in the other Bay segments.

Jamie Brunkow stated that the James River Association agrees with restoration targets being set in a consistent way to the other segments across the Bay.

David Sligh referred back to the human health criteria and some of the concerns that people raised, and stated that he shares some of those concerns. He stated that consideration of the most sensitive groups is warranted and necessary. Just because EPA's numbers are based on adults, doesn't mean that Virginia should necessarily do the same thing. He is also interested in the issue that was raised regarding aquatic plants that are consumed and whether things would be of special concern there. He believes it is something that DEQ can and should look into. He also expressed concern of whether or not human health criteria numbers are truly protective of subsistence fish consumers. Mr. Whalen agreed with the views expressed by Mr. Sligh.

After a short recess, Sandra Mueller then gave a presentation regarding the background, monitoring and data collection protocols, and development of proposed criteria for filamentous green algae in segments of the North Fork, South Fork, and main stem of the Shenandoah River. Ms. Mueller also reviewed how sample sites are selected. The criteria are being developed to address nuisance algae growth that impacts the recreational use of those waters.

Mr. Whalen expressed the opinion that the data gathered at select sites would not capture recreation impacts due to excessive algal growth in other reaches of the river. He suggested that percent coverage would be a better metric than benthic chlorophyll-a density as a way to determine deleterious recreational impacts. Ms. Muller responded that a percent cover estimate is subjective in some cases and depends on how strong an individual is at identifying the percent cover across a transect and it doesn't give an indication of the volume. The methodology DEQ is considering is quantitative and repeatable. Also, the percent cover approach does not give an indication of the volume of algal growth.

Mr. Sligh stated that he doesn't think that averaging the data from a 2 month period or a whole season would reflect what is really impacting the recreational use. He stated there may be a month and a half of high algae values and then you have a die off and you don't capture those really bad conditions if sampling hasn't occurred during that month of high values.

After additional discussion, Ms. Schneider said time would be provided at a future meeting for any RAP members that would like to present any alternative proposals or recommendations for discussion by the members. She then explained that part of what went into the development of the suggested language is in the realm of frequency, magnitude, and duration as to how one defines a persistent nuisance condition.

Philip Musegaas echoed similar sentiments as expressed by Mr. Sligh and Mr. Whalen regarding DEQ's nuisance algae determination methodology and he stated he would like time during the June 16th meeting to present to the Panel. He thinks a more proactive approach should be considered.

Mr. Sligh said he would welcome a place on the agenda. He also stated that while it's not this agenda, this effort points out the importance of DEQ working on and establishing numeric nutrient criteria. He further stated that the implementation of narrative criteria important because it requires DEQ to deal with impairments. He hopes that the group will be able to talk about those two issues.

David Whitehurst then presented a list of anticipated miscellaneous updates such as any necessary modifications to stockable and/or natural trout waters and public water supply designations. Mr. Whitehurst then provided a list of issues received during the NOIRA comment period that stakeholders requested that DEQ address during this triennial review.

- Removal of Bis(chloromethyl)ether criteria
- Turbidity/color criteria
- Removal of hardness-based copper criteria
- PWS removal for Flat Creek
- Cyanotoxin criteria
- PFAS criteria
- Addition of footnote for dinitrophenols criteria
- Nutrient criteria
- Tidal chlorophyll-a criteria
- Statewide non-tidal filamentous algae criteria
- Sodium criteria
- Review of mixing zone policy
- Aquatic life selenium criteria
- Review of human health criteria assumptions

- Incorporate climate change effects into TMDL development

Mr. Sligh stated that his request that DEQ address implementation of narrative criteria was not on the list of requested items. Ms. Schneider responded to the comment stating that what DEQ is proposing for nuisance filamentous algal growth is certainly an implementation process for the narrative criteria as is DEQ's methodology for Benthic Aquatic Life Assessments. DEQ would be interested if there's any particular proposals that people wanted to bring to the group to discuss and invited members an opportunity to present that and have some more discussion around those issues.

Mr. Sedgley stated that VAMWA has concerns regarding the copper biotic ligand model approach to freshwater copper criteria and restated their preference that Virginia retain the current hardness-based criteria.

Planning of future meetings was then discussed and dates of June 16th and tentatively sometime in July 2021 with the Shenandoah algae criteria issue being an area of focus for the meeting on the 16th.

Mr. Brunkow reminded the group of JRA's interest in addressing the mixing zone policy and wish to have that issue as an agenda item for a future meeting. The mixing zone policy was identified in the Executive Order 6 report from the Secretary of Natural Resources to review agency guidance on mixing zones and he would like to get some thoughts from DEQ regarding when the last time the guidance was updated. Melanie Davenport clarified that EO6 was not envisioned as a change to standards or regulations, but an examination of implementation guidance. Ms. Davenport also reminded the group that comments made during the RAP process are not official comments for the regulatory record. Official comment must be submitted during the comment period established by a published Notice.

Mr. Brunkow then asked if DEQ had thoughts and response at this point on adopting the cyanotoxin criteria since that is coming from EPA. Ms. Schneider responded that the VA Health Department is using those recommendations to issue swimming advisories and that DEQ is proposing to use these advisories to make assessments, including possible impairment designations, during the 2022 water quality assessment. It is believed that is sufficient for the time being and DEQ is not planning on incorporating those into the water quality standards at this time.

The public forum portion of the meeting was then opened. There were no comments from the general public.

The meeting was adjourned at 12:30.