TENTATIVE AGENDA AND MINIBOOK
STATE WATER CONTROL BOARD MEETING

THURSDAY, JUNE 27, 2019

DOUBLETREE BY HILTON RICHMOND AIRPORT
BALLROOM 1 AND 2
445 INTERNATIONAL CENTER DRIVE
SANDSTON, VIRGINIA 23150

Convene – 10:00 a.m.

Agenda Item	Presenter	Tab
Minutes		A
Final Regulation: Virginia Pollutant Discharge Elimination System Regulation -2019 Legislation Amendment	Davenport	B
Final Regulation: Virginia Water Protection Permit Program Regulation - 2019 Legislation Amendment	Davenport	C
Final Regulation: Ground Water Withdrawal Regulation - Technical Amendments	Porterfield	D
Final Regulation: Water Quality Standards Amendments - Chlorophyll-a Criteria for the Tidal James River and Assessment Criteria	Kennedy/Robertson	E
Total Maximum Daily Loads (TMDLs) - Approval of Three Reports and Adoption of Corresponding Wasteload Allocations	Meadows	F
Significant Noncompliance Report	Sadtler	G
Living Shorelines Loan Program Guidelines and Local Plan Guidelines - Revisions	Doran	H
Agricultural Best Management Practices Loan Program Guidelines - Revisions	Doran	I
Division Directors' Report	Schneider/Davenport	
Public Forum (time for this item not to exceed 45 minutes)		
Future Meetings (September 6 and December 13, 2019)		

ADJOURN

NOTE: The Board reserves the right to revise this agenda without notice unless prohibited by law. Revisions to the agenda include, but are not limited to, scheduling changes, additions or deletions. Questions on the latest status of the agenda should be directed to Cindy M. Berndt at (804) 698-4378.

PUBLIC COMMENTS AT STATE WATER CONTROL BOARD MEETINGS: The Board encourages public participation in the performance of its duties and responsibilities. To this end, the Board has adopted

public participation procedures for regulatory action and for case decisions. These procedures establish the times for the public to provide appropriate comment to the Board for its consideration.

For REGULATORY ACTIONS (adoption, amendment or repeal of regulations), public participation is governed by the Administrative Process Act and the Board's Public Participation Guidelines. Public comment is accepted during the Notice of Intended Regulatory Action phase (minimum 30-day comment period) and during the Notice of Public Comment Period on Proposed Regulatory Action (minimum 60-day comment period). Notice of these comment periods is announced in the Virginia Register, by posting to the Department of Environmental Quality and Virginia Regulatory Town Hall web sites and by mail to those on the Regulatory Development Mailing List. The comments received during the announced public comment periods are summarized for the Board and considered by the Board when making a decision on the regulatory action.

For CASE DECISIONS (issuance and amendment of permits), the Board adopts public participation procedures in the individual regulations which establish the permit programs. As a general rule, public comment is accepted on a draft permit for a period of 30 days. In some cases a public hearing is held at the conclusion of the public comment period on a draft permit. In other cases there may an additional comment period during which a public hearing is held.
In light of these established procedures, the Board accepts public comment on regulatory actions and case decisions, as well as general comments, at Board meetings in accordance with the following:

REGULATORY ACTIONS: Comments on regulatory actions are allowed only when the staff initially presents a regulatory action to the Board for final adoption. At that time, those persons who commented during the public comment period on the proposal are allowed up to 3 minutes to respond to the summary of the comments presented to the Board. Adoption of an emergency regulation is a final adoption for the purposes of this policy. Persons are allowed up to 3 minutes to address the Board on the emergency regulation under consideration.

CASE DECISIONS: Comments on pending case decisions at Board meetings are accepted only when the staff initially presents the pending case decision to the Board for final action. At that time the Board will allow up to 5 minutes for the applicant/owner to make his complete presentation on the pending decision, unless the applicant/owner objects to specific conditions of the decision. In that case, the applicant/owner will be allowed up to 15 minutes to make his complete presentation. The Board will then allow others who commented at the public hearing or during the public comment period up to 3 minutes to exercise their rights to respond to the summary of the prior public comment period presented to the Board. No public comment is allowed on case decisions when a FORMAL HEARING is being held.

POOLING MINUTES: Those persons who commented during the public hearing or public comment period and attend the Board meeting may pool their minutes to allow for a single presentation to the Board that does not exceed the time limitation of 3 minutes times the number of persons pooling minutes, or 15 minutes, whichever is less.

NEW INFORMATION will not be accepted at the meeting. The Board expects comments and information on a regulatory action or pending case decision to be submitted during the established public comment periods. However, the Board recognizes that in rare instances new information may become available after the close of the public comment period. To provide for consideration of and ensure the appropriate review of this new information, persons who commented during the prior public comment period shall submit the new information to the Department of Environmental Quality (Department) staff contact listed below at least 10 days prior to the Board meeting. The Board's decision will be based on the Department-developed official file and discussions at the Board meeting. In the case of a regulatory action, should the Board or Department decide that the new information was not reasonably available during the prior public comment period, is

significant to the Board's decision and should be included in the official file, the Department may announce an additional public comment period in order for all interested persons to have an opportunity to participate.

PUBLIC FORUM: The Board schedules a public forum at each regular meeting to provide an opportunity for citizens to address the Board on matters other than those on the agenda, pending regulatory actions or pending case decisions. Those persons wishing to address the Board during this time should indicate their desire on the sign-in cards/sheet and limit their presentations to 3 minutes or less.

The Board reserves the right to alter the time limitations set forth in this policy without notice and to ensure comments presented at the meeting conform to this policy.

Department of Environmental Quality Staff Contact: Cindy M. Berndt, Director, Regulatory Affairs, Department of Environmental Quality, 1111 East Main Street, Suite 1400, P.O. Box 1105, Richmond, Virginia 23218, phone (804) 698-4378, fax (804) 698-4346, e-mail: cindy.berndt@deq.virginia.gov.

Additional Meeting Information:

- Attendees are not entitled to be disorderly or disrupt the meeting from proceeding in an orderly, efficient, and effective fashion. Disruptive behavior may result in a recess or removal from the meeting.
- Possession or use of any device that may disrupt the conduct of business is prohibited, including but not limited to: voice-amplification equipment; bullhorns; blow horns; sirens, or other noise-producing devices; as well as signs on sticks, poles or stakes; or helium-filled balloons.
- Attendees shall not block or gather in exits, doors, or aisles.
- All attendees are asked to be respectful of all speakers.
- Rules will be enforced fairly and impartially not only to ensure the efficient and effective conduct of business, but also to ensure no interference with the business of the hotel, its employees and guests.
- All violators are subject to removal.

VPDES — Schedules of Compliance — Budget Bill (HB1700) Language. Final approved language in the Budget Bill (HB1700), Item 366, Section K directs the State Water Control Board to amend its regulation at 9VAC25-31-250.A.3 regarding the maximum time for a Virginia Pollutant Discharge Elimination System permitted discharger to attain compliance with water quality-based limitations so as to be consistent with the time for compliance established by the United States Environmental Protection Agency section 122.47(a)(1) of Title 40, Code of Federal Regulations. The Board shall complete this amendment by October 1, 2019. This action shall be exempt from the procedures and requirements of Article 2 of Chapter 40 of Title 2.2, Code of Virginia. Section 122.47(a)(1) of Title 40, Code of Federal Regulations states, "Any schedules of compliance under this section shall require compliance as soon as possible, but not later than the applicable statutory deadline under the Clean Water Act."

The approved budget language requires the removal of the phrase "not to exceed the term of the permit" from Subsection A.3 of the VPDES Regulation's Schedules of Compliance (9VAC25-31-250). This regulatory amendment will be effective 30 days after publication in the *Virginia Register of Regulations.*

Virginia Water Protection Program Amendments Final Exempt Action – Amendment Conforming to 2019 Legislation. During the 2019 General Assembly, changes were made to the State Water Control Law (Chapter 3.1 of Title 62.1 of the Code of Virginia) regarding compensatory mitigation under the Virginia Water Protection (VWP) program. This final regulatory action will amend the State Water Control Board's Chapter 210 in order to incorporate the changes made by Chapter 545 of the 2019 Virginia Acts of Assembly. The conforming changes to the regulations include: (i) revising a term; (ii) adding a definition;

and, (iii) revising language to clarify how the evaluation of compensatory mitigation proposals is conducted in accordance with the legislation.

9VAC25-210-10	None	Made changes necessary to incorporate Chapter 545 by adding a definition for "Temporal loss".
9VAC25-210-10	"Ecologically preferable" means capable of providing a higher likelihood than alternative proposals of replacing existing wetland acreage and functions, stream functions, water quality, and fish and wildlife resources.	Revised the term to be consistent with the language of Chapter 545. Chapter 545 refers to "Ecologically and environmentally preferable" so the term was revised to be consistent with the statute. There was no change to the definition.
9VAC25-210-116	**Compensation.**	Revised to the updated term "ecologically and environmentally preferable" in Subsection B, Subdivisions C.1 and E.2 Amended Subdivisions C.2 and C.3 to be consistent with Chapter 545. The following change was made to both Subdivision C.2 and C.3: (i) deleted "the appropriate compensatory mitigation option for project impacts shall be evaluated on a case-by-case basis, in terms of replacement of wetland acreage and functions and the greatest likelihood of success"; and, (ii) added "the Board shall evaluate the appropriate compensatory mitigation option on a case-by-case basis with consideration for which option is practicable and ecologically and environmentally preferable, including, in terms of replacement of acreage and functions, which option offers the greatest likelihood of success and avoidance of temporal loss of acreage and function. This evaluation shall be consistent with the U.S. Army Corps of Engineers Compensatory Mitigation for Losses of Aquatic Resources as provided in 33 CFR Part 332." A compensatory mitigation option will be evaluated to determine if it is practicable and ecologically and environmentally preferable to purchasing bank credits.

Ground Water Withdrawal Regulations (9VAC25-610 et seq.) Exempt Final Amendment. At the June 27, 2019, meeting of the State Water Control Board (Board), Department of Environmental Quality (DEQ) staff will request the Board to accept final amendments to the Ground Water Withdrawal Regulation (9VAC25-610 et seq.). This regulatory amendment will be processed using the exempt final regulatory

process. This amendment corrects a citation referencing the Code of Virginia. The regulation has been revised to reference subdivision 9 of § 62.1-256 of the Code of Virginia.

Final Adoption of Water Quality Standards Regulation Amendments (9VAC25-260): Numeric Chlorophyll-a Criteria for the Tidal James River and their Assessment Methodology. Staff will ask the Board to adopt final amendments to the Water Quality Standards Regulation (9 VAC25-260-310 (bb)), regarding the numeric chlorophyll-*a* criteria applicable to the tidal James River. The final amendments are the outcome of the Department of Environmental Quality's (DEQ) seven-year-long effort to update the regulation with best available science, evaluating the protectiveness of the current criteria and determining if revisions were appropriate, as well as modifying the methods used to assess criteria attainment. In addition, an enhanced water quality model was developed to simulate chlorophyll-*a* concentrations in response to varying levels of point source nutrient reduction. Modeling scenarios have been run and results have been presented to communicate the potential economic implications of the proposed amendments.

Background

Low dissolved oxygen (DO) is a problem found in much of the Chesapeake Bay and its tributaries. Excessive nitrogen and phosphorus pollution are well-established causes of algal blooms, which can then lead to low DO. In 1999, EPA identified most of the waters of the Bay as impaired due to inadequate DO for aquatic life. This action spurred efforts to manage nutrient loads throughout the entire Bay watershed. The tidal James River poses a challenge since its physical characteristics make it resistant to low DO, yet it has experienced frequent and intense algal blooms that are occasionally comprised of potentially toxic phytoplankton. During development of the Chesapeake Bay Total Maximum Daily Load (TMDL), EPA urged Virginia to adopt chlorophyll-a criteria for the tidal James River so that nutrient loads in the James basin could be managed in a similar fashion as loads in other Bay tributary basins. Chlorophyll-a is the primary pigment of phytoplankton and is thus highly correlated with both phytoplankton biomass and nutrient levels. DEQ developed James River chlorophyll-a criteria in collaboration with the EPA-Chesapeake Bay Program Office and the Board adopted these criteria in 2005. Along with Bay-wide DO criteria and water clarity acreage goals for underwater grasses, the James River chlorophyll-a criteria were used as endpoints in EPA's Chesapeake Bay TMDL, which was finalized in December 2010. However, under the TMDL the annual nitrogen and phosphorus loads allocated to the James River were much more stringent than the loads used to test attainability of the chlorophyll-a criteria adopted in 2005, due to the use of a revised water quality modeling framework by EPA. For this reason it was decided to conduct a comprehensive study of the criteria to determine what chlorophyll-a levels were protective of the aquatic life use, before pursuing a nutrient control plan for the basin that would add an estimated $0.5 to 1.0 billion dollars to the cost of compliance.

The 2011 General Assembly authorized DEQ to use up to $3 million from the Water Quality Improvement Fund (WQIF) to conduct the James River Chlorophyll-a Study. The primary purpose of the James River Chlorophyll-a Study was to verify whether the potential impact on permitted dischargers was justified by assessing the scientific defensibility of the criteria and their assessment methodology and developing alternatives if deemed necessary. DEQ's intention to review the regulation for this purpose was announced in a Notice of Intended Regulatory Action (NOIRA) published September 12, 2011. The Governor's counselor approved a waiver (signed 3/29/2011) from the standard regulatory process to provide time to conduct a thorough study of the regulation. Through the WQIF allocation, DEQ funded a number of scientific research projects to fill in knowledge gaps pertaining to estuarine nutrient dynamics, spatial and temporal distributions of James River chlorophyll-a, phytoplankton composition and dynamics, and harmful algal bloom toxicity. Another critical component of the study was the development of a water quality model specific to the James River, so that the full implications of the existing regulation and any amendments to it could be communicated to stakeholders. DEQ also convened a scientific advisory panel (SAP) comprised of university, private sector, and state/federal government scientists and experts to review this research and provide recommendations regarding the technical aspects of the criteria and assessment methodology. The

regulatory advisory panel (RAP) formed for this regulatory action reviewed the SAP's recommendations and provided their own input on the criteria amendments. The RAP has also reviewed draft proposals presented by DEQ staff. DEQ staff has reasonably considered all the recommendations of the SAP and the RAP when developing the proposed amendments. EPA-Chesapeake Bay Program Office staff participated on both panels and engaged its Scientific and Technical Advisory Committee and Bay partner jurisdictions to provide additional input in the review process.

Summary of Final Regulation Presented for Adoption

The James River Chlorophyll-a Study revealed some substantial weaknesses in both the existing criteria and assessment methodology. First, the existing criteria were developed from datasets that were relatively limited in scope and that were drawn from areas of the Chesapeake Bay that may not be representative of the James River. In contrast, the proposed amendments provide criteria that were developed from larger, more refined datasets almost entirely developed within the tidal James. Secondly, while the existing criteria were developed to promote a balanced phytoplankton assemblage that is relatively free from harmful taxa, the absence of clear relationships between chlorophyll-a and phytoplankton composition necessitated some subjective decision-making in the selection of thresholds. In contrast, toxicity tests and robust statistical models were used to objectively inform all aspects of the proposed criteria. Furthermore, both physicochemical factors (dissolved oxygen, water clarity, and pH) and phytoplankton metrics were considered in the development of the proposed criteria, as opposed to just phytoplankton metrics. Thirdly, the study found that the existing criteria must be assessed as geometric means (as directed by implementation guidance referenced in subsection D of 9 VAC 25-260-185) even though they were developed as arithmetic means. Research conducted by EPA-Chesapeake Bay Program Office in 2010 determined that the geometric mean is the more appropriate statistic for characterizing James River chlorophyll-a central tendency. The proposed seasonal mean criteria were developed with this understanding. Finally, the existing assessment methodology and the rules used to delineate allowable exceedance frequency, described in references cited in subsection D of 9 VAC 25-260-185, were developed separately from the existing criteria and were found to be ill-suited for a parameter like chlorophyll-a, which can vary considerably in space and time even under ideal conditions. The mismatch between these elements and the existing criteria likely accounts for some of the stringency of the nutrient load reductions determined under the Bay TMDL by EPA to be necessary for criteria attainment. Another factor was that the modeling framework used at the time had limitations in its ability to accurately predict chlorophyll-a concentrations resulting from simulated nutrient reduction scenarios. An enhanced model is now being used in the analysis with improved calibration and validity. The proposed amendments provide a procedure for analyzing data that is tailored to James River chlorophyll-a and is fully consistent with the way data were analyzed in the development of the proposed criteria. The proposed amendments stipulate allowable exceedance frequencies that are also consistent with the design of the proposed criteria.

9 VAC 25-260-310 (bb) provides the criteria for site-specific chlorophyll-a levels in the tidal James River (excluding tributaries) and contains a table listing two seasonal mean criteria (spring and summer) for each of the five James River segments (delineated by salinity regime), for a total of ten paired sets of criteria. The final regulation would amend each of the listed values, with eight values being lowered and two values being raised. Compliance with the seasonal mean criteria is achieved if no more than two exceedances are observed in a six year assessment period. Additionally, the final regulation would insert another table of short-duration criteria that apply only during the summer. A James River segment would not be allowed to exceed these criteria more than 10% of the time. Compliance with the new criteria is expected to minimize short-term effects of harmful algal blooms to aquatic life. The final regulation would also delete the reference to subsection D of 9VAC25-260-185. Lastly, the final regulation would insert new language stipulating the following:

- Seasonal mean criteria should be calculated as geometric means.

- The allowable exceedance frequency and length of assessment period over which criteria should be evaluated, along with the duration of those criteria.
- The manner in which chlorophyll-a data should be aggregated and how two of the segments should be subdivided for the purposes of data aggregation.
- A reference to the EPA technical document that provides the boundaries of the James River segments.
- Assessment guidance will be developed to address the appropriate assessment category if consecutive exceedances of the same seasonal mean criterion occur in a water body segment.

The complete text of the final amendments to the James River chlorophyll-a criteria and assessment methodology is included after public comment and responses.

Public Comment and DEQ Response

The Board's authorization to hold a public hearing and receive public comments on the proposal was received at their September 20, 2018 meeting. Notice of Public Comment on the proposed criteria amendments was issued January 21, 2019, and the public review period ran from January 21, 2019 to March 22, 2019. A public hearing was held on February 26, 2019. There were 19 attendees at the public hearing and 7 persons provided oral comment. Written public comments were received from: EPA; two environmental organizations; 124 citizens; Virginia Association of Municipal Wastewater Agencies; Virginia Manufacturers Association; three industrial owners; nine local governments; and, four Water and Sewer Authorities on the proposed changes to the water quality standards regulation. A summary of comments received and DEQ's response is presented below. DEQ made one change in the proposal to address comments received by adding the following text in section 9VAC25-260-310 (bb), preceding the numeric seasonal mean criteria table:

> Should consecutive exceedances of the same seasonal mean criterion occur in a water body segment after the effective date of these chlorophyll-a criteria, the Department will examine additional lines of evidence including, but not limited to, the occurrence of harmful algal blooms, physicochemical monitoring and phytoplankton datasets, and fish kill reports in the evaluation of the appropriate assessment category for the water body segment. The Department will develop guidance for inclusion in the Water Quality Assessment Guidance Manual to address evaluating the appropriate assessment category when consecutive exceedances of the same seasonal mean criterion occur. The Department will determine if additional monitoring for harmful algal blooms is warranted.

Commenter: U.S Environmental Protection Agency (EPA)
EPA Comment 1: A reference to the conceptual model developed by Hagy et al. (2008) would provide additional conceptual rigor, since VADEQ utilizes a couple of the approaches presented in that model.

> DEQ Response: VADEQ agrees with this suggestion and has incorporated this reference in its technical support document, which can be found on the DEQ website: https://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/Rulemaking_materials/James_R_Chlorophyll_TSD_DEC2018.pdf?ver=2019-03-13-140711-020.

EPA Comment 2: There are inconsistencies in the log-transformation of data in empirical relationships. Log-transforming pH is questionable, since pH is logarithmic.

> DEQ Response: Given the importance of the empirical models, model variables were transformed to maximize model fit. This required log-transforming both variables for some models, while the fit of

other models was better when only one variable was transformed. VADEQ agrees that it is questionable to log-transform pH. However, redeveloping the pH- chlorophyll-a models using only a log-transformed independent variable (chlorophyll) results in predictions that are very similar to those generated by the original models.

EPA Comment 3: The temporal expression of the DO water quality standard is a 30-day mean, but the DO variable in the DO- chlorophyll-a empirical relationships is expressed as a summer mean. These different temporal scales need to be reconciled. Additionally, by averaging summer DO measurements, physiologically significant observations in the data could be masked.

DEQ Response: VADEQ agrees that its treatment of DO could be enhanced, especially given the diversity of available datasets. Monthly mid-channel grab samples were used to relate chlorophyll-a and DO because such data form the basis of the biennial assessment of the 30-day DO mean criterion. However, it actually makes more sense to use the continuous monitoring (ConMon) data for this purpose, since this information enables the calculation of robust 30-day means. Monthly data were averaged across each summer-year because other researchers (Harding et al., 2014 and Sutula et al., 2017) have had success finding a relationship between chlorophyll-a and DO when they are averaged over long periods (seasons). However, VADEQ agrees that presenting plots of chlorophyll-a and DO at different temporal scales would be equally informative, as it would support VADEQ's assertion that the relationship between James River chlorophyll-a and low DO cannot be substantiated with the available data. The technical support document has been revised to incorporate EPA's recommendations.

EPA Comment 4: A prediction interval (the upper prediction limit) would be the more appropriate approach for deriving a baseline criterion.

DEQ Response: VADEQ agrees with EPA that an upper prediction limit (rather than upper confidence limit) is a superior way of pinpointing a seasonal chlorophyll-a mean threshold that distinguishes "normal" from "extreme", since the upper prediction limit (UPL) takes into account measurement uncertainty. The table below compares the baseline criteria derived from the upper confidence limit of the mean (UCL) with those derived from the UPL. While the UPL is a statistically valid way of selecting criteria developed to protect baseline conditions, for the following reasons VADEQ has decided to continue to use the UCL to inform the criteria for those segment-seasons without documented harmful chlorophyll-related effects:

- Criteria derived from the UPL would be substantially greater in magnitude than those derived from the UCL. The baseline criteria are developed to mitigate any unknown or poorly understood harmful effects that could occur by allowing phytoplankton biomass to increase above current levels. UPL-derived criteria would not provide this protection as well as UCL-derived ones would, given the former's greater magnitude. Long-term compliance with UCL-derived criteria would prevent upward trends in chlorophyll-a concentrations in the segments that would be regulated by those criteria. UPL-derived criteria would only prevent extreme upward shifts in chlorophyll-a concentrations and would thus allow degradation in the segments regulated by them.

- By definition, values greater than the UPL are expected to occur very rarely. In contrast, while values greater than the UCL would be unusually high, such values are still expected to occur occasionally. For example, the upper 95% confidence limit of the spring mean estimates for JMSMH is 7 µg/l, a value that was exceeded twice over the 2005-2015 period (in 2005 and 2013). In contrast, the upper 95% prediction limit for JMSMH spring means—10 µg/l—was not exceeded in any spring season over the 2005-2015 period. Thus, two exceedances of UCL-derived criteria over six years would not be incompatible with the normal variability of chlorophyll. But two exceedances of the UPL over six years would be a considerable departure from "normal".

Segment-Season	UCL*	U95%PL
JMSTFU spring	8	10
JMSTFL spring	10	13
JMSOH spring	13	20
JMSOH summer	11	15
JMSMH spring	7	9
JMSMH summer	7	10
JMSPH spring	8	11

* U99%CL for TF and OH segments, U95%CL for JMSMH and JMSPH

EPA Comment 5: It is not clear from the descriptions in the technical support document whether VADEQ accounted for differences in scale between the Continuous Monitoring (ConMon) data and the Dataflow data.

DEQ Response: The different high-frequency monitoring datasets (ConMon and Dataflow) were used for different purposes. ConMon datasets were used to develop empirical relationships and to characterize baseline temporal variability in those segments that were not monitored with weekly Dataflow (the tidal fresh and oligohaline segments). In JMSMH and JMSPH, weekly Dataflow datasets were used to estimate baseline central tendency and temporal variability. ConMon datasets in those segments were only used to determine the frequency of pH exceedances and were not combined with other datasets. While VADEQ does agree that spatial and temporal scales are important considerations, VADEQ believes that it treated the different high-frequency datasets properly.

EPA Comment 6: The proposed chlorophyll-a criteria index period for assessment needs to be clarified.

DEQ Response: VADEQ intends to use a static index period for determining compliance with the proposed criteria for 305(b)/303(d) purposes. That is to say, the proposed criteria would be assessed for the same six-year assessment window that VADEQ uses to determine aquatic life use support for the majority of the state's waters.

The proposed frequency statement for the seasonal mean criteria will be modified to read as follows: "The following site-specific seasonal mean criteria should not be exceeded in the specified tidal James River segment more than twice in six years."

Commenters: Chesapeake Bay Foundation, James River Association, and 124 Citizens

Comment: VADEQ should revise the assessment methodology to prohibit consecutive seasonal mean exceedances due to remaining knowledge gaps regarding the effects of algal blooms and because allowing

consecutive exceedances is not consistent with the EPA-recommended allowable exceedance frequency for most water quality standards.

DEQ Response: VADEQ appreciates the concerns expressed over unknown impacts stemming from algae in the James River and how those effects may manifest if exceedances occur in back-to-back years. VADEQ does prohibit closely spaced exceedances of toxic pollutants in accordance with EPA's recommended frequency statement, "No more than one exceedance every three years".[1] When this frequency rule is successfully implemented through pollution control measures, exceedances should occur no frequently than once every three years, on average. However, this recommendation pertains to substances that always cause aquatic life mortality at high concentrations. It is reasonable to expect the effect of high exposure events to compound the closer they occur in time when mortality is always an outcome of such events. Toxic substances also tend not to naturally occur at a concentration relevant to regulatory standards. However, chlorophyll-a is a non-toxic substance that naturally occurs in all waterbodies in appreciable amounts. VADEQ believes a less stringent allowable frequency is justified on this basis. The following arguments add further support to the position that VADEQ's frequency statements for the proposed criteria are sufficiently protective of aquatic life:

1. The proposed allowable frequencies of both sets of criteria (seasonal mean and short-duration) are consistent with EPA recommendations for the kind of effects the criteria are developed to protect aquatic life from. EPA's "one exceedance in three years" recommendation applies to toxic substances which comprise the overwhelming majority of the Commonwealth's regulated pollutants. It does not apply to conventional pollutants/parameters which are evaluated based on this requirement. VADEQ believes that chlorophyll, as an indicator parameter, is much more like a conventional parameter (e.g., dissolved oxygen or pH) than a toxic substance. The frequency statements for the seasonal mean and short-duration chlorophyll-a criteria are compatible with EPA's recommended exceedance frequency for conventional pollutants2 and the EPA-approved "two exceedances in three years" rule used for Chesapeake Bay water clarity restoration goals.

2. Chlorophyll-a concentrations are influenced by a number of non-nutrient, non-anthropogenic variables (e.g., flow, light availability, temperature, tides, wind, and grazing rates). Marginal exceedances of the seasonal mean criteria are expected to occasionally occur simply due to natural variability. The spacing of these exceedances is expected to occasionally cluster in time (e.g., two back-to-back years) but would not necessarily be indicative of harmful water quality conditions.

3. In segments where harmful algal blooms have been documented, the seasonal mean criteria would work in tandem with the proposed short-duration criteria. Compliance with the latter would place a constraint on the upper limit of summer mean concentrations, since these criteria are designed to minimize the frequency of the very high chlorophyll-a concentrations one would expect to see during harmful algal blooms. The goal of the amended water quality criteria for chlorophyll-a is for "high

---

[1] United States Environmental Protection Agency. 1985. Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, MN, Narragansett, RI, Corvallis, OR. PB85-227049.

[2] United States Environmental Protection Agency. 2002. Consolidated Assessment and Listing Methodology—A Compendium of Best Practices. U.S. Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds, Washington D.C. July 2002.

risk" seasonal chlorophyll-a concentrations—those most likely to be driven by severe HABs—to occur no more frequently than once every six years. VADEQ believes long-term compliance with the seasonal mean and short-duration criteria will achieve this goal.

Commenters: Virginia Association of Municipal Wastewater Agencies, Virginia Manufacturers Association, AdvanSix, DuPont Spruance, WestRock, and Town of Buena Vista, Hanover County, City of Richmond, Rivanna Water and Sewer Authority, South Central Wastewater Authority, County of Henrico, Dinwiddie County Water Authority, City of Lynchburg, Campbell County, Chesterfield County, Town of Amherst, City of Hopewell, Hampton Roads Sanitation District

Comment: The proposed summer mean criteria for the two tidal fresh segments should be increased from 21 µg/l to 23 µg/l (JMSTFU) and from 24 µg/l to 25 µg/l (JMSTFL) because the proposed values are based on a very limited dataset that is not representative of the tidal fresh segments in their entirety. Additionally, the short-duration criteria should not be adopted since they are "late additions" to the proposal and because the "patchiness" and non-toxicity of chlorophyll-a makes these criteria questionable.

DEQ Response: Attachment 3 including in the Board book provides a presentation and discussion of analyses that challenge the commenters' assertions that (1) the dataset that VADEQ used to generate the summertime tidal fresh chlorophyll-pH empirical relationship is not spatially representative and (2) a more accurate relationship can be constructed from more recent data using a different modeling technique. The analyses show that even if VADEQ were to accept the second assertion, no adjustments would need to be made to the currently proposed criteria.

The seasonal mean criteria are developed to protect aquatic life from the short-term and long-term harmful effects caused by phytoplankton. Because these criteria were derived using conservative assumptions regarding spatial and temporal variability of James River chlorophyll-a expression, VADEQ expects that these criteria will be protective of aquatic life the majority of the time. However, when these assumptions are not met (i.e., when spatial and/or temporal chlorophyll-a variability is unusually high), it is possible for a segment to demonstrate compliance with its seasonal mean criteria despite experiencing numerous HAB events. The short-duration criteria help to ensure that the frequency of potentially harmful high exposure events is minimized. The short-duration criteria also constrain the duration of potentially harmful algal blooms much more effectively than the seasonal mean criteria do. For instance, in the absence of the short-duration criteria, very intense, month-long Microcystis blooms would be permitted every year in JMSTFL. The short-duration criterion for JMSTFL would limit such blooms to once every six years.

It is also important to note that the efficacy of the seasonal mean criteria is highly dependent on the robustness of the assessment dataset. According to the power analysis performed by VADEQ, an average of 20 stations is needed in each James River segment to generate a highly accurate estimate of spatial chlorophyll-a central tendency most of the time, and these stations would have to be sampled twice weekly to generate a highly accurate estimate of seasonal chlorophyll-a central tendency. VADEQ is currently unable to support such a monitoring program and it is unlikely it ever will. The relatively high sampling error rates expected from a conventional monitoring program (2-3 stations sampled monthly) necessitates a "stop-gap" to minimize the likelihood of false negatives, i.e., an assessment decision that a segment meets a criterion when it actually fails it. The short-duration criteria provide this function, since they approximate instantaneous criteria the smaller the assessment dataset becomes.

Final Regulatory Text:

Part VII
Special Standards and Scenic Rivers Listings

9VAC25-260-310. Special standards and requirements.

The special standards are shown in small letters to correspond to lettering in the basin tables. The special standards are as follows:

….

bb. The following site-specific seasonal mean criteria should not be exceeded in the specified tidal James River segment more than twice [~~over~~ in] six [~~consecutive spring or summer seasons~~ years] . [Should consecutive exceedances of the same seasonal mean criterion occur in a water body segment after the effective date of these chlorophyll a criteria, the Department will examine additional lines of evidence including, but not limited to, the occurrence of harmful algae blooms, physicochemical monitoring and phytoplankton datasets, and fish kill reports in the evaluation of the appropriate assessment category for the water body segment. The Department will develop guidance for inclusion in the Water Quality Assessment Guidance Manual to address evaluating the appropriate assessment category when consecutive exceedances of the same seasonal mean criterion occur. The Department will determine if additional monitoring for harmful algal blooms is warranted] .

Designated Use	Chlorophyll a µ/l	Chesapeake Bay Program Segment	Temporal Application
Open water	8	JMSTF2	March 1 - May 31 (spring)
	10	JMSTF1	
	13	JMSOH	
	7	JMSMH	
	8	JMSPH	
	21	JMSTF2	July 1 - September 30 (summer)
	24	JMSTF1	
	11	JMSOH	
	7	JMSMH	
	7	JMSPH	

The following site-specific chlorophyll a concentrations at the specified duration should not [be exceeded ~~occur~~] more than 10% of the time over six [~~consecutive~~] summer seasons in the specified area of the tidal James River. These criteria protect against aquatic life effects due to harmful algal blooms. Such effects have not been documented in the upper portion of JMSTF2 or in JMSOH.

Chlorophyll a µg/l	Chesapeake Bay Program Segment	Spatial Application	Duration
--	JMSTF2	Upstream boundary of JMSTF2 to river mile 95	--
52	JMSTF2	River mile 95 to downstream boundary of JMSTF2	1-month median
52	JMSTF1	Upstream boundary of JMSTF1 to river mile 67	1-month median
34	JMSTF1	River mile 67 to downstream boundary of JMSTF1	1-month median
--	JMSOH	Entire segment	--
59	JMSMH	Entire segment	1-day median
20	JMSPH	Entire segment	1-day median

(1) The ~~following site specific~~ site-specific numerical chlorophyll a criteria apply ~~March 1 through May 31 and July 1 through September 30 as seasonal means~~ to the tidal James River segments (excludes

tributaries) ~~segments~~ JMSTF2, JMSTF1, JMSOH, JMSMH, and JMSPH ~~and are implemented in accordance with subsection D of 9VAC25-260-185~~, the boundaries of which are described in EPA 903-R-05-004.

~~Designated Use~~	~~Chlorophyll a µ/l~~	~~Chesapeake Bay Program Segment~~	~~Temporal Application~~
~~Open water~~	~~10~~	~~JMSTF2~~	~~March 1 - May 31~~
	~~15~~	~~JMSTF1~~	
	~~15~~	~~JMSOH~~	
	~~12~~	~~JMSMH~~	
	~~12~~	~~JMSPH~~	
	~~15~~	~~JMSTF2~~	~~July 1 - September 30~~
	~~23~~	~~JMSTF1~~	
	~~22~~	~~JMSOH~~	
	~~10~~	~~JMSMH~~	
	~~10~~	~~JMSPH~~	

(2) For segments JMSOH, JMSMH, and JMSPH, the median of same-day samples collected one meter or less in a segment should be calculated to represent the chlorophyll a expression of a segment over that day, and the median of same-month chlorophyll a values should be calculated to represent the chlorophyll a expression of a segment over that month. The seasonal geometric mean shall be calculated from the monthly chlorophyll a values for a segment.

(3) For segment JMSTF2, chlorophyll a data collected in the "upper zone" (from the upstream boundary at the fall line to approximately river mile 95 (N37° 23' 15.27" / W77° 18' 45.05" to N37° 23' 19.31" / W77° 18' 54.03")) should be pooled, in the manner described in subdivision bb (2) of this section, separately from chlorophyll a data collected in the "lower zone" (from river mile 95 to the downstream boundary of JMSTF2). The seasonal geometric mean for each of these zones should be calculated from their respective monthly chlorophyll a values. To calculate the seasonal segment-wide geometric mean, an area-weighted average of the zonal geometric means should be calculated using the following equation:

Upper Zone Geometric Mean x 0.41 + Lower Zone Geometric Mean x 0.59

(4) For segment JMSTF1, chlorophyll a data collected in the "upper zone" (from the upstream boundary of JMSTF1 to approximately river mile 67 (N37° 17' 46.21" / W77° 7' 9.55" to N37° 18' 58.94" / W77° 6' 57.14")) should be pooled, in the manner described in subdivision bb (2) of this section, separately from chlorophyll a data collected in the "lower zone" (between river mile 67 to the downstream boundary of JMSTF1). The seasonal geometric mean for each of these zones should be calculated from their respective monthly chlorophyll a values. To calculate the seasonal segment-wide geometric mean, an area-weighted average of the zonal geometric means should be calculated using the following equation:

Upper Zone Geometric Mean x 0.49 + Lower Zone Geometric Mean x 0.51

Approval of three TMDL reports and amendment of the Water Quality Management Planning regulation to include the corresponding TMDL wasteload allocations. Staff will ask the Board to approve portions of three TMDL reports and adopt amendments to Virginia's Water Quality Management Planning regulation adding 21 new and three revised wasteload allocations based on the three reports. The three reports are: (1) *"Revision of the Benthic Total Maximum Daily Load (TMDL) Developed for the Blacks Run and Cooks Creek Watershed Located in the City of Harrisonburg and Rockingham County"* proposes sediment reductions for the Blacks Run and Cooks Creek watersheds, (2) *Bacteria and Sediment Total Maximum Daily Load (TMDL)_Development for the James River and Tributaries Located in Botetourt and Craig Counties Virginia"* proposes *E. coli* reductions for the Sinking Creek, Barbours Creek, Lapsley Run, Little Patterson Creek, Upper Craig Creek, Middle Craig Creek, Lower Craig Creek, Catawba Creek watersheds and a portion of the James River watershed, and (3) *"Bacteria Total Maximum Daily Load*

(TMDL) Development for the Rappahannock River and Tributaries Located in Caroline, Essex, King George, Richmond, and Westmoreland Counties Virginia" proposes *E. coli* reductions for Mill Creek, Jetts Creek, Portobago Creek, Stillwater Creek, Baylors Creek, Elmwood Creek, Peedee Creek (non-tidal) and Unnamed Tributary of Peedee Creek watersheds; and amending the Water Quality Management Planning regulation is specified in §2.2-4006A.14 and §2.2-4006B of the Code of Virginia.

Report On Facilities In Significant Noncompliance. Two new permittees were reported to EPA on the Quarterly Noncompliance Report as being in significant noncompliance (SNC) for the quarter ending December 31, 2018. The permittees, the facilities and the reported instances of noncompliance are as follows:

1. Permittee/Facility: **Town of Front Royal/Front Royal WWTP**
Type of Noncompliance: **Failure to Meet Permit Effluent Limits (Total Suspended Solids, TSS)**
City/County Front Royal, Virginia
Receiving Water: Shenandoah River
Impaired Water: The Shenandoah River is listed as impaired for recreational and fish consumption uses. The causes of the fish consumption impairment are PCBs and mercury and the recreational use is impaired for E. coli bacteria.
River Basin: Potomac River Basin
Dates of Noncompliance: September 2018 through March 2019
Requirements Contained In: VPDES Permit
DEQ Region: Valley Regional Office
The Town attributes the exceedances to high influent flows. The Town also completed an upgrade for enhanced nutrient removal in 2018 and continues to fine tune operations at the Plant. The Town has made several operational changes including the use of a storm mode at the Plant during significant rain events. The Town is under a Consent Order to address inflow and infiltration (I&I) issues with the Town's collection system and is currently advertising a $3 million project involving 2.4 miles of sewer pipe lining and 0.7 miles of pipe replacement. The project also includes rehabilitation and repair of 226 sewer laterals and connections, and rehabilitation of 116 manholes. DEQ VRO staff is working with the Town to resolve the current enforcement action.

2. Permittee/Facility: **Halifax County Service Authority/Maple Ave WWTP**
Type of Noncompliance: **Failure to Meet Permit Effluent Limits (Total Suspended Solids, TSS)**
City/County Halifax County, Virginia
Receiving Water: Dan River
Impaired Water: The Dan River is listed as impaired for recreation and fish consumption uses. The causes of the recreation impairment are E. coli from livestock grazing, unspecified domestic waste, wastes from pets, and wildlife other than waterfowl and the fish consumption use is impaired because of the presence of PCBs and mercury in fish tissue. The source of the PCBs and mercury are unknown.
River Basin: Roanoke River Basin
Dates of Noncompliance: September, October and November 2018
Requirements Contained In: VPDES Permit
DEQ Region: Blue Ridge Regional Office
The Authority attributes the exceedances to unusually high precipitation. DEQ's Blue Ridge Regional Office has issued a Notice of Violation to the Authority for the exceedances. The Authority has not had any additional TSS exceedances since November 2018. DEQ BRRO staff is in discussions with the Authority to resolve the enforcement action.

Approval of Revised Living Shorelines Loan Program Guidelines and Local Plan Guidelines. DEQ has operated the Living Shorelines Loan Program since April 2016 to provide a source of low interest financing to a local government to establish living shorelines or to a local government with a local loan program to

individual citizens to establish living shorelines to protect or improve water quality. During the 2019 session, the Virginia General Assembly amended the code to include loans from a local program to businesses located within a locality that is in the Rural Coastal Virginia Community Enhancement Authority as defined in §15. 2-7600. Eligible businesses include bed-and breakfast operations, campgrounds, and restaurants, as defined in §35. 1-1; and businesses that use working waterfronts, as defined in §15. 2-2201. DEQ staff have revised the Living Shorelines Loan Program Guidelines and Local Plan Guidelines to address these changes and presented them to the public for comment May 13 to June 12, 2019.

Background. The Virginia Clean Water Revolving Loan Fund (VCWRLF) program was established in 1988 to create a self-perpetuating source of low interest financing which would be available to Virginia municipalities for improving publicly owned wastewater treatment works and collection systems. On behalf of the State Water Control Board (Board), DEQ developed and continues to administer the VCWRLF program. In 2015, the Virginia General Assembly amended Chapter 22 of the Code of Virginia by adding §62. 1-229. 5. This code section further expanded the activities of the VCWRLF by allowing the State Water Control Board to authorize low interest loans from the Fund to a local government for establishing living shorelines or to a local government that has developed a funding program to individual citizens for the puq)ose of establishing living shorelines to protect or improve water quality. Further, the legislation authorized the Board to develop Guidelines for the administration of those living shoreline loans, which were approved during the March 2016 meeting. On May 13, 2019, the revised Guidelines were presented to the public for a 30-day public comment period ending June 12, 2019. At the time of this memo, no public comments had been received. Following completion of the public comment period, any comments received will be addressed and the Guidelines will be finalized and presented to the Board at the June 27, 2019 Board meeting for approval.

Summary of Guidelines Revisions. In order to be consistent with changes to the Code, the Guidelines were revised to include an expanded list of eligible applicants for loans from a local program for living shorelines projects. Eligible applicants now include these business types: bed-and-breakfast operations, campgrounds, restaurants, and businesses that use working waterfronts. Additionally, the business must be located within a locality that is in the Rural Coastal Virginia Community Enhancement Authority.

Conclusion. The 2019 Virginia General Assembly expanded the Living Shorelines Loan Program to include specific small businesses located within the Rural Coastal Virginia Community Enhancement Authority. In order to address this change, DEQ staff revised the Living Shorelines Loan Program Guidelines and Local Plan Guidelines and provided the Guidelines for public review and comment. Following completion of the public participation period, comments will be addressed and the Living Shorelines Loan Program Guidelines and Local Plan Guidelines will be finalized and provided to the State Water Control Board for approval.

Virginia Clean Water Revolving Loan Fund
Living Shorelines Local Plan Guidelines

The development of a local plan is a requirement for participation in the Living Shorelines Program if the applicant local government is developing a funding program for businesses or individual citizens. The local plan documents the local government's processes and procedures for utilizing loan proceeds and for administering the program.

Once a loan application has been selected for funding through this program, DEQ and VRA will discuss each component of the local plan with the applicant local government. Only after the local plan has been developed by the applicant, and approved by both DEQ and VRA, can loan closing occur.

The local plan must be presented in writing to DEQ and VRA. There is no required format, but each of the following items should be addressed.

I. Marketing and Outreach Strategy: Describe the plans for making businesses or individual property owners aware of the local program. Include a discussion of each of the following:

A. Solicitation of Applications: Describe the plan for marketing the program and soliciting applications from property owners in the area(s) that are to be served by the program. Include the projected schedule for advertising the program and an estimate of program demand. Consider direct outreach efforts to local wetland contractors providing information on the availability and terms of the loans and the value of living shoreline projects.

B. Income Guidelines: The local plan should include a discussion of any income guidelines or criteria to be used in soliciting loan applications from businesses and property owners, or, in establishing interest rates on loans.

~~***Note***: There are no income eligibility guidelines or restrictions imposed by the Living Shorelines Program.~~

Shorelines Program.

C. Interest Rates: Describe the interest rates to be offered to the businesses and individual property owners. If the local government plans to determine interest rates based on income or other criteria, describe the criteria.

D. Term of Loans: For what term (number of years) does the local government plan to make the loans?

~~***Note***: The term of the loans to the property owners cannot exceed that of the loan from the VCWRLF to the local government, and when feasible, should be for a shorter period.~~

E. Size of Loan: Will there be a minimum or maximum loan size?

F. Service Charges or Other Fees: Provide a description of any application fees, service charges or other fees the local government plans to impose upon borrowers. Include a description of late fees.

G. Scope of Work: To the extent possible, estimate the number of properties that are eligible to apply for this loan and the types or size of the projects that would be done.

II. Loan Application and Review:

A. Application Guidelines: Describe how applications will be received from businesses and individuals.

B. Review and Approval of Applications: Describe how the local government will assess and verify the credit-worthiness of the ~~-~~businesses and individual applicants.

C. Certification of Living Shoreline: Virginia Marine Resources Commission (VMRC) officials must certify the project(s) meet the definition of a living shoreline, as defined in *§ 28.2-104.1*. Describe the process by which the locality will obtain that certification.

III. Loan ~~Agreements~~Agreement with Business or Individual Property ~~Owners~~Owner:

A. Execution of the Loan Agreement: Describe the proposed process for closing the loan with the business or individual property ~~owners~~owner.

B. Security: Describe the security the local government plans to require from each business or individual who receives assistance through the Program.

~~At a minimum, the VRA will require that the loans be secured by a note that states the individual will make principal and/or interest payments of a certain amount on a certain date and encourages loans in excess of $10,000 be secured with a deed of trust. Additionally, where feasible, the local government will require that if the affected property is sold or transferred before the loan is fully paid, the loan will be paid in full at the time of sale.~~

C. Process of Obtaining Contractors: Describe how contractors will be solicited or pre-qualified, if applicable.

D. Permits, Inspections and Sign-Off: Identify all applicable permits, and the cost and time frame needed to obtain the permits. Identify who will perform inspections and certify that the work was performed as per the permit.

E. Disbursement Process to Businesses and Individual Borrowers: Describe the proposed method of disbursing funds for payment of completed work.

~~***Note***: Once the property owner has completed the living shoreline, all invoices must be submitted to the local government for review, approval and disbursement. Records must be maintained by the local government.~~

must be maintained by the local government.

F. Loan Payment Schedules: Describe when businesses or individuals will begin making loan payments to the local government. How will payments be billed or collected?

IV. Closing the Loan to the Local Government:

One of the most important components of the local plan is the security the local government plans to offer the VCWRLF. In most cases, the loan from the VCWRLF to the local government will be secured with pledge of the revenues generated through the lending program. However, the local government will also be required to agree that in any year the revenues generated through the program are not sufficient to meet the debt service requirements, the local government will request that the governing body appropriate funds sufficient to make the debt service payment to the VCWRLF.

A. Local Investment Strategy: Describe the local government's plans for holding and investing the funds. The local government must invest payments received from individuals or businesses until the funds are needed to make debt service payment on the VCWRLF loan.

   Interest earnings may be applied to recover eligible administrative expenses, used to subsidize the loans to the businesses or individual property owners, enhance the debt service reserve account, or used to fund additional living shoreline projects.

B. Administration: Describe the office(s) or organization(s) designated to administer the local plan. Describe the activities to be assigned to each organization.

   If the designated organization is not a unit of the local government, please describe any contractual arrangements between the local government and the administering agency. Describe any agreements regarding fees to be paid for providing this service. A contract between the administering agency and the local government will be required prior to loan closing.

C. Internal Controls: Describe the internal controls or the other financial controls that are currently in place, or that will be implemented to insure the financial integrity of the local plan.

   Include a discussion of who reviews, authorizes and disburses funds. Describe signatory authorization(s) and oversight responsibilities.

D. Monitoring, Reporting and Records: Local governments receiving funding through this program will submit financial and project implementation reports and transaction summaries to DEQ and VRA every six (6) months. The reports will include an accounting of all loans made, funds disbursed, interest earned, loan payments received, account balances, and other related information. The reports will coincide with debt service payments to the Fund, but will begin within six (6) months of loan closing.

~~All accounting records, transaction logs, expenditure journals and individual project files will be maintained and kept up-to-date in a manner that such records are available for review by DEQ and VRA. DEQ and VRA will also monitor the progress of the lending program to ensure the local government is meeting the goals of the local plan and that funds are being loaned to individual homeowners in a timely fashion. In the event the local government is not making loans as planned, DEQ and VRA will discuss, with the local government, options for revising the local plan to make it more attractive to borrowers.~~

E. Debt Service on the Loan: Payments on the loan will be made semi-annually to VRA after a three-year loan origination period.

V. Notification of Changes to the Local Plan:

Items, activities and criteria described in the local plan are subject to changes as the local government implements the program. Please propose a process by which the local government will make DEQ and VRA aware of any modifications to the local plan in a timely manner.

~~The local plan and its subsequent modifications will be the catalyst for future program funding for the local government.~~

Virginia Clean Water Revolving Loan Fund
LIVING SHORELINES LOAN PROGRAM
GUIDELINES

State Water Control Board

April 2016

Revised June 2019

VCWRLF LIVING SHORELINES LOAN PROGRAM -AND ENABLING LEGISLATION

During the 2015 session, the Virginia General Assembly amended *Chapter 22* of the *Code of Virginia* by adding *§62.1-229.5*. The new code section further expanded the activities of the Virginia Water Facilities Revolving Fund (the Fund) by allowing the State Water Control Board (Board) to authorize low interest loans from the Fund to a local government for establishing living shorelines or to a local government that has developed a funding program to individual citizens for the purpose of establishing living shorelines to protect or improve water quality. In the 2019 session, the code section was expanded to include small businesses as eligible applicants for funds from a local government that has developed a funding program for the purpose of establishing living shorelines to protect or improve water quality.

~~The following is the text of the amendment to the Code of Virginia which enables the State Water Control Board to authorize living shorelines loans through the Virginia Water Facilities Revolving Fund.~~

§ 62.1-229.5. Loans for living shorelines~~.~~

~~L~~oans may be made from the Fund, in the Board's discretion, (i) to a local government for the purpose of ~~establishing living shorelines, as defined in~~ § 28.2-104.1, to protect or improve water quality and prevent the pollution of state waters or (ii) to a local government that has developed a funding program to provide low-interest loans or other incentives to businesses or individual citizens of the Commonwealth to facilitate the establishment of living shorelines to protect or improve water quality and prevent the pollution of state waters. To be eligible for loan funding, a business shall be located within a locality that is in the Rural Coastal Virginia Community Enhancement Authority as defined in § 15.2-7600. Eligible businesses include bed-and-breakfast operations, campgrounds and restaurants, as defined in § 35.1-1: and businesses that use working waterfronts, as defined in § 15.2-2201. The Board shall develop guidelines for the administration of such loans.

~~*interest loans or other incentives to individual citizens of the Commonwealth to facilitate the establishment of living shorelines to protect or improve water quality and prevent the pollution of state waters. The Board shall develop guidelines for the administration of such loans.*~~

The Department of Environmental Quality (DEQ), Clean Water Financing and Assistance Program, on behalf of the State Water Control Board, has developed these guidelines and will administer the VCWRLF Living Shorelines Loan Program.

BACKGROUND AND PURPOSE

Since 1987, the Fund has been providing low interest loan funding for water quality improvement projects throughout the Commonwealth. Funds are currently provided to local governments, public service authorities, agricultural producers, partnerships, and corporations for a variety of project types. Loan repayments are circulated back into the Fund to create a dedicated source of revenue available for future clean water projects.

~~T~~he Board has the authority to administer the policy aspects of the Fund, determining who receives funds, at what interest rates, and under what terms. The Board has delegated responsibility for management of the day-to-day operations of the Fund to ~~its staff in the~~ DEQ. The Virginia Resources Authority (VRA) serves as the financial manager of the Fund.

The purpose of the Virginia Living Shorelines Loan Program is to provide a long term source of low interest financing for the purpose of establishing living shorelines to protect or improve water quality and prevent the pollution of state waters.

FUNDING AVAILABILITY

No special appropriation has been budgeted to begin this funding initiative. Therefore, DEQ will be making loan funding available from existing revenue through the Fund as part of the Virginia Clean Water Revolving Loan Fund Program (VCWRLF).

APPLICATION SUBMITTAL TIMEFRAME

Applications for VCWRLF Living Shorelines Loans will be accepted each year, concurrent with the program's wastewater facility improvement and other loan applications, which normally occurs in July. The completed application form and all necessary support documentation should be mailed to:

M~~r. Walter A. Gills~~Program Manager
Clean Water Financing and Assistance Program
Department of Environmental Quality
6~~29~~1111 East Main Street, Suite 1400
P.O. Box 1105
Richmond, Virginia 23218

ELIGIBLE APPLICANTS

Local governments, meaning any county, city, town, municipal corporation, authority, district, commission, or political subdivision created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, are eligible to apply. There are two separate options available for local governments to utilize this funding to establish living shorelines: Direct Funding and Local Plan. The Direct Funding option involves the local government using the loan funds to directly fund local government living shoreline project(s). The Local Plan option involves the local government utilizing the loan funds to provide low-interest loans or other incentives to businesses or individual citizens of the Commonwealth to establish living shorelines.

To be eligible for loan funding, a business shall be located within a locality that is in the Rural Coastal Virginia Community Enhancement Authority as defined in *§ 15.2-7600*. Eligible businesses include bed-and-breakfast operations, campgrounds and restaurants, as defined in *§ 35.1-1*: and businesses that use working waterfronts, as defined in *§ 15.2-2201*.

DEVELOPMENT OF A LOCAL PLAN

Loan applicants that intend to utilize loan proceeds to implement a funding program to individual citizens must develop a Local Plan identifying how it proposes to administer that program. The local plan must include the following elements:

Marketing and Outreach Strategy

Loan Application and Review Process

Loan Agreements with Individual Property Owners

Closing the Loan to the Local Government

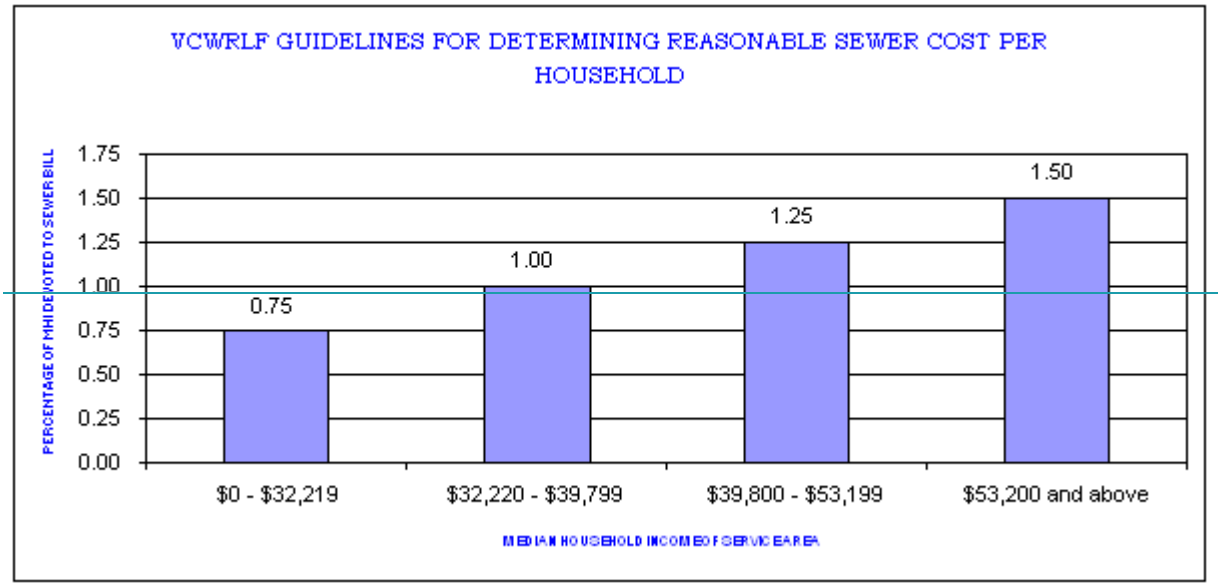
Notification of Changes to the Local Plan

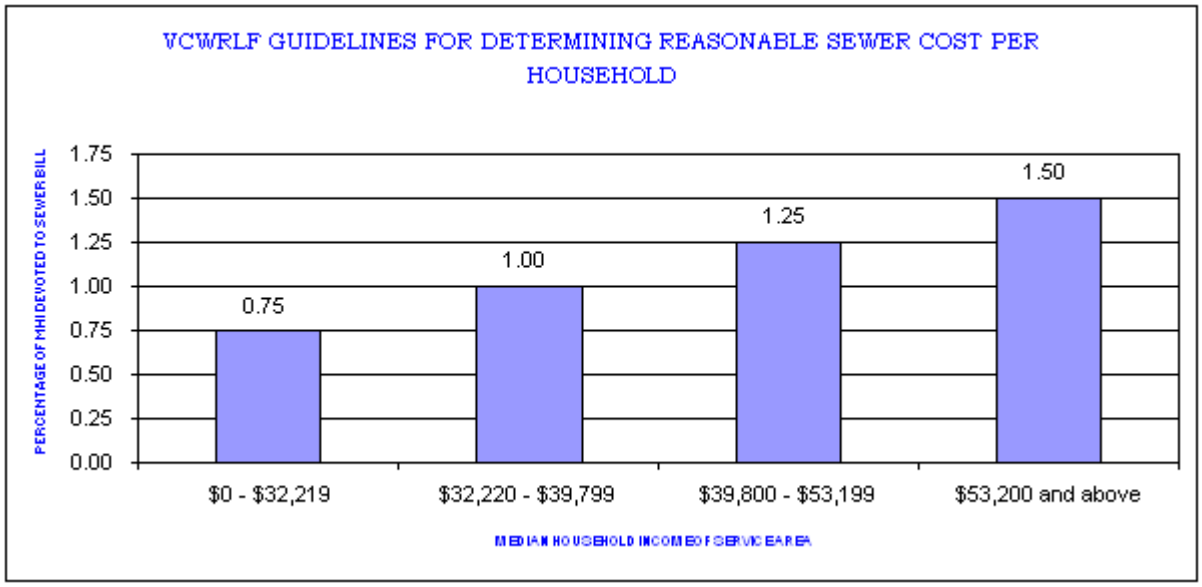
~~❑~~ Additional information regarding the elements of a Local Plan is provided in Attachment 1~~. (~~ – Local Plan Guidelines~~).~~

LOAN INTEREST RATE AND TERMS

Direct Funding: All direct funding applicants are initially considered for an interest rate at the program's ceiling rate for that year. The VCWRLF ceiling rate is adjusted to be 1~~.5%~~% (or 100 basis points) below municipal bond market rates. Interest rates below the ceiling, and down to a no-interest loan, are considered where a financial hardship situation exists. DEQ's initial evaluation of hardship will be based on the applicant's existing monthly residential sewer charges in relation to their affordable cost per household. Guidelines for determining affordable cost per household are shown

below. The loan recipient will be entitled to an additional interest rate reduction of 1% (or 100 basis points) below its established rate from the above determination if the local government has adopted a dedicated source of revenue to implement a stormwater control program in accordance with *§ 15.2-2114* of the Code of Virginia. The loan must be fully amortized not later than twenty years after project completion.





Local Plan: Under the Local Plan option the local government must develop and implement a Local Plan that involves administrative costs as well as the additional risk involved with lending to businesses as defined in *§ 62.1-229.5* or individual citizens. As such interest rates for these loans will be 0% for a period that matches the terms of the Local Plan up to twenty years after a loan origination period of up to three years. Disbursements will be made to the local government upon receipt of a requisition with invoices of documented costs incurred and approval by DEQ.

ALLOWABLE LOAN AMOUNT

The minimum Living Shoreline Loan amount to a local government is $100,000 and there is no maximum loan amount established. Loans may be made for 100% of the eligible costs of the project. These guidelines do not establish a minimum or maximum loan amount to businesses or individuals.

PROJECT ELIGIBILITY / REQUIREMENTS

In order to be eligible for funding, all projects must be certified by the Virginia Marine Resources Commission as a Living Shoreline project as defined in *§ 28.2-104.1* of the Code of Virginia. In addition, all required environmental permits must be obtained prior to commencement of construction and complied with during construction and/or the permitted time period.

LOAN ELIGIBLE EXPENSES

Virginia's program allows for any reasonable and necessary costs associated with the establishment of a living shoreline project, including all associated planning and design costs. Expenses incurred on an approved project prior to the execution of a loan agreement are also eligible costs provided they are necessary and attributable to the project.

INELIGIBLE LOAN COSTS

The following expenses cannot be included when determining the allowable amount of a VCWRLF Living Shorelines Loan.

"In Kind Services"

Costs for which any federal, state, local or other grant funds will be provided, unless those funds will all be paid back to the VCWRLF immediately upon receipt

Administrative costs such as salaries, rent, equipment, and/or travel

Costs to operate or maintain the project

Approval of Revised Agricultural BMP Program Guidelines. DEQ operated the Agricultural Best Management Practices (Ag BMP) Loan Program from December 1999 to June 2016 to provide a source of low interest financing which encouraged the use of specific best management practices that reduce or eliminate the impact of agricultural non-point source (NPS) pollution on Virginia waters. The goal of the program was to improve water quality in the Commonwealth. During the 2019 session, the Virginia General Assembly amended the code to expand the list of eligible applicants to include entities such as Limited Liability Companies (LLCs) and businesses, to allow for grants to producers, and to expand eligible practices to include renovation, improvement, or equipping of facilities and riparian buffers planted in trees. DEQ staff have revised the Ag BMP Program Guidelines to address these new eligibilities and to offer additional incentives. We have presented the Guidelines to the public for comment May 13 to June 12, 2019.

Background. The Virginia Clean Water Revolving Loan Fund (VCWRLF) loan program was established in 1988 to create a self-perpetuating source of low interest financing which would be available to Virginia municipalities for improving publicly owned wastewater treatment works and collection systems. On behalf of the State Water Control Board (Board), DEQ developed and continues to administer the VCWRLF program. DEQ's Virginia Ag BMP Loan Program is a subset of the VCWRLF loan program and is intended to create a continuing source of low cost financing that will be available to Virginia's agricultural producers to assist in their efforts to reduce agricultural non-point source pollution. During evaluation and revision of the Ag BMP Program Guidelines, DEQ reached out to several key stakeholders that provided an integral role in the implementation of the Ag BMP Loan Program. These stakeholders included DEQ's Non-point Source Program, Virginia Resources Authority (VRA), Farm Credit, and the Department of Conservation and Recreation (DCR). Based on this input, DEQ Approval of Agricultural BMP Guidelines produced the first draft of the revised Guidelines. The draft Guidelines were provided to a larger stakeholder group which included Virginia Farm Bureau, Natural Resources Conservation Service, Virginia Dairyman's Association, Virginia Cattleman's Association, Virginia Association of Soil and Water Conservation Districts, Agribusiness Council, Grain Producers Association, Poultry Federation, Farm Service Agency, and the Virginia Cooperative Extension. Stakeholder comments were discussed and resolved during a stakeholder meeting held on April 12, 2019 at the Augusta County Government Center. DEQ has incorporated stakeholder input and made final revisions to the Guidelines. On May 13, 2019, the revised Guidelines were presented to the public for a 30-day public comment period ending June 12, 2019. At the time of this memo, no public comments had been received. Following completion of the public comment period, any comments received will be addressed and the Guidelines will be finalized and presented to the Board at the June 27, 2019 Board meeting for approval.

Summary of Guidelines Revisions. In order to be consistent with changes to the Code, the Guidelines now include a provision allowing for principal forgiveness and an expanded list of eligible applicants and practices. In addition to these changes, DEQ made five other key revisions to the Guidelines:
(1) Interest rate for all loans was reduced from 3% to 0%,
(2) No longer a "long-term" loan requirement,
(3) Minimum loan amount increased from $5,000 to $10,000,
(4) Maximum loan amount set at $500, 000, and
(5) Loan servicing will be through VRA, previously through Farm Credit.

Conclusion. The 2019 Virginia General Assembly expanded the Agricultural BMP Loan Program to allow for grants to producers and to expand the list of eligible applicants and practices to help protect Virginia waters. In order to address these changes, and to offer additional incentives to producers, DEQ staff revised the Ag BMP Loan Program Guidelines with stakeholder input and provided the Guidelines for public review and comment. Following completion of the public participation period, comments will be addressed and the Ag BMP Loan Program Guidelines will be finalized and provided to the State Water Control Board for approval.

VIRGINIA'S AGRICULTURAL BMP LOAN PROGRAM GUIDELINES
STATE WATER CONTROL BOARD

Approved December 7, 1999
Updated May 9, 2012
Amended July 1, 2019

VIRGINIA'S AGRICULTURAL BMP LOAN PROGRAM AND ENABLING LEGISLATION

In order to reduce agriculture non-point source pollution of Virginia's waters, the Virginia General Assembly in its 1999 session amended Chapter 22 of the *Code of Virginia* by adding § 62.1-229.1 which expanded the activities of the Virginia Water Facilities Revolving Fund (the Fund) to the Commonwealth's agricultural producers (Producers) for implementation of specific agricultural best management practices (Ag BMPs). This Code section was amended in 2019 to add a grant funding option, to expand eligible applicants, and to expand eligible practices to include riparian buffers and renovation, improvement or equipping of facilities.

> § 62.1-229.1. Loans for agricultural best management practices
>
> Loans and grants may be made from the Fund, in the Board's discretion, to (i) any person, for the construction, renovation, improvement or equipping of facilities or structures to implement agricultural best management practices to prevent pollution of state waters; (ii) a local government that has developed a low-interest loan program to provide loans or other incentives to facilitate the construction, renovation, improvement or equipping of such facilities or structures; or (iii) a financial institution working with a local government to establish a program pursuant to clause (ii). The Board shall develop guidelines for the administration of such loans and grants and shall determine the terms and conditions of any loan or grant from the Fund.
>
> For purposes of this section, facilities or structures to implement agricultural best management practices may include riparian buffers planted in trees and maintained in accordance with the terms and conditions of the loan or grant.

The purpose of this Ag BMP assistance initiative is to provide a source of low cost financing to encourage the use of specific best management practices that reduce or eliminate the impact of Agricultural Non-point Source (NPS) pollution on Virginia waters. The goal of the program is to improve water quality in the Commonwealth.

FUNDING AVAILABILITY

The Virginia Clean Water Revolving Loan Fund (VCWRLF) program was established in 1988 to create a perpetual source of low and no interest financing which would be available to Virginia municipalities for improving publicly owned wastewater treatment works and collection systems. On behalf of the State Water Control Board (the Board), DEQ developed and continues to administer the VCWRLF program and manage the Fund in conjunction with the Virginia Resources Authority (VRA). Virginia's Ag BMP program is one of a number of program components eligible to utilize the Fund to provide a continuing source of low cost financing to Virginia's agricultural producers to assist in their efforts to reduce agricultural non-point source pollution.

The Ag BMP program is not dependent on legislative appropriations for its fund availability. During the early stages of the Ag BMP loan program, the Board set aside a total of $15 million from the Fund to capitalize the program. All repayments of principal and interest from previous Ag BMP

loans are returned to the Fund and used to provide additional loans to other Virginia agricultural producers. In addition to the revenue available from repayments, DEQ can request that the Board consider making additional funding set-asides from the Fund as necessary to meet Virginia's agricultural non-point source pollution reduction needs.

WHO IS ELIGIBLE TO APPLY

Any Producer wishing to implement eligible best management practices to reduce the amount of polluted agricultural runoff entering Virginia waters adjacent to their existing agricultural operation will be considered by DEQ for Ag BMP program assistance. Producers will be considered for loan assistance regardless of whether they choose to participate in any other state and/or federal agricultural assistance program.

ACRONYMS AND DEFINITIONS

Definitions of terms and acronyms used in this guidance document as they apply to the Virginia Agricultural BMP Loan Program are:

Ag BMP	Agricultural Best Management Practice
Board or SWCB	State Water Control Board
DEQ	Department of Environmental Quality
DCR	Department of Conservation and Recreation
"Fund"	Virginia Water Facilities Revolving Fund
"in-kind services"	Labor and/or materials provided by the Producer or their farm employees and/or rental fees for farm equipment owned by the Producer
Incurred cost	Eligible expenses for which the loan recipient has been invoiced or amounts which are due and stipulated in a contract for labor, material or professional services
NPS	Non-Point Source – Pollution from runoff of agricultural chemicals, animal waste, storm water, fertilizer and/or erosion
NRCS	United States Department of Agriculture, Natural Resources Conservation Service
Producer	Landowner, agent, or operator of record engaged in agricultural production for market and having control of the property on which the practice will be located
SWCD	Soil and Water Conservation District
VCWRLF	Virginia Clean Water Revolving Loan Fund
VRA	Virginia Resources Authority

LOAN AMOUNTS

- Minimum Loan Amount

The minimum allowable loan amount is $10,000.

- Maximum Loan Amount

The maximum allowable loan amount is $500,000.

ELIGIBLE LOAN AMOUNT

Virginia agricultural producers may request loan assistance from the Virginia Ag BMP program to finance implementation expenses under a cost-share grant agreement up to 100% of loan eligible expenses for approved Ag BMPs. In cases where cost-share funds will be provided at completion of one or more practices, these funds must immediately be applied to retirement of the loan obligation to avoid any duplication of funding. Funding is limited to the expenses relating to implementation of the eligible practice(s) and the loan amount cannot be greater than the total estimated cost of implementing the practice(s).

LOAN REPAYMENT PERIOD

The total Ag BMP loan amount, useful life of the structure or facility, and payment capacity are considered in setting the loan repayment period. Based on these factors, repayment periods may range from 1 to 10 years but will not exceed the expected useful life of the practice funded. DEQ may offer extended repayment periods in situations that result in a significant water quality benefit.

ELIGIBLE PRACTICES FOR FINANCING BY PROGRAM

Virginia's legislation specifically limits Ag BMP assistance to facilities and structures that are necessary for Producers to implement agricultural best management practices. The list of best management practices pertains to construction, renovation, improvement, or equipping of facilities or structures as prescribed by statute and is specific to practices for water quality protection. The practices that are eligible for loan assistance through the Virginia Ag BMP program are listed in Table 1.

INTEREST RATE

Loan assistance will be made available at 0% per annum.

PRINCIPAL FORGIVENESS

DEQ may authorize up to 100% of loan assistance in the form of principal forgiveness for 1) projects providing a high water quality benefit and 2) applicants demonstrating financial need. The amount of principal forgiveness, if any, authorized for any project will be based on the availability of principal forgiveness funding in the program, the total amount of loan funds needed for the project, and the amount of grant funds made available to the project from other funding sources.

ELIGIBLE EXPENSES

Authorized assistance amounts will be restricted to costs associated with services, labor, and materials necessary to complete or implement the approved BMP(s). Disbursement of funds will be made as the cost of implementation or construction is incurred. The following expenses may also be included when determining the allowable amount of Ag BMP assistance and can be reimbursed from loan proceeds after the cost is incurred.

- costs associated with professional services for any planning, design, or construction services needed to implement the approved BMP
- contractor(s) invoices for payments due or payments which are due to contractor(s) as specified in a binding contract relating to the approved BMPs
- invoiced cost of materials stored on site / incorporated in the work
- invoiced cost for labor used to install the practice
- other related costs incurred as necessary and as approved by DEQ

INELIGIBLE EXPENSES

The following expenses cannot be included when determining the allowable amount of an Ag BMP loan or reimbursed from loan proceeds:

- "in-kind services"
- costs related to farm production equipment

- costs which have been paid by federal, state, local, or other grant sources cannot be included in the assistance amount or reimbursed; in the event that grant funds are received for work previously paid for with loan funds, the grant funds must be applied to reduction of the loan principal
- finance charges

AG BMP PROCESS OVERVIEW

- APPLICATION – The application (Appendix A) is a short questionnaire which provides the name of the Producer, location of the farm, specific BMP(s) proposed for assistance, estimated total cost of the practice(s), and the applicant's estimate of the amount of assistance that will be required. *Virginia Agricultural BMP Loan Program Guidelines* booklets which include the application form are available to Producers at their local SWCD offices, DEQ and DCR regional offices, and Farm Credit offices.

  Applications do not need to be submitted by any specific date and there is no scheduled solicitation of applications for Ag BMP assistance. After an application is received by DEQ, a member of the Clean Water Financing and Assistance Program (CWFAP) staff will contact the applicant and arrange a meeting at the project location. This "*Initial Meeting*" provides an opportunity for the CWFAP staff to gain a better understanding of what the project will involve, determine if any part of the proposed practice(s) is not eligible, explain what happens next in the loan review and approval process, and answer any questions the applicant may have. (*See Ranking of Applications section below.*)

  At any time during the year, a Producer may take the first step in applying for Ag BMP program assistance from DEQ by completing the application, which can be found online at https://www.deq.virginia.gov/Programs/Water/CleanWaterFinancingAssistance.aspx, and sending it to DEQ at CWFAP@deq.virginia.gov or mailing a hard copy to the address below:

  Clean Water Financing and Assistance Program
  Department of Environmental Quality
  P.O. Box 1105
  Richmond, Virginia 23218

- RANKING OF APPLICATIONS – DEQ staff will prioritize applications for assistance on a monthly basis. Applications for practices which are expected to provide the greatest water quality benefit will be given the highest funding priority. Applications considered to impact segments of Impaired, Nutrient Enriched, or Exceptional State waters and those within watersheds with an approved TMDL Implementation Plan will receive a HIGH funding priority. Applications affecting an area with an impoundment, a natural trout stream, a designated scenic river, or that demonstrate another recognizable water quality benefit will be given a MEDIUM priority rating. All applications which do not meet the criteria for a HIGH or MEDIUM prioritization will receive a LOW ranking. This prioritization process is conducted once per month, generally during the last week of the month. Applications received by the 20th of each month will be considered in that month's applicant group.

  Contingent on availability of funds, all projects that receive a HIGH or MEDIUM priority ranking and are ready to proceed to construction or the implementation phase within a six-month timeframe will be recommended for a conditional funding authorization. The conditions of that authorization are that DEQ receives verification that the applicant has an acceptable conservation plan / nutrient management plan and that DEQ and VRA approve the loan application after loan underwriting is complete.

  HIGH and MEDIUM priority projects that cannot proceed to construction or the implementation phase within a six-month timeframe will be deferred and may be reconsidered for funding at a

later date. The applicant will need to resubmit an application when the project is within six months of construction or implementation.

With no recognizable water quality benefit, all proposed projects that received a LOW priority ranking will be denied for funding.

NUTRIENT MANAGEMENT PLANS – ANIMAL WASTE PRACTICE(S)

Prior to approving loan funding for projects that include animal waste practices, the loan program requires that the applicant obtain a current Nutrient Management Plan (NMP) which has been prepared by a DCR certified planner. If the Producer chooses to have a DCR certified private planner develop the Nutrient Management Plan, the preparation fee can be included in the loan amount. An independent cost estimate for the preparation fee may be required.

CONSERVATION PLANS – ALL PRACTICE(S)

- Prior to funding approval, the loan program requires that the applicant have a conservation plan that has been approved by the local Soil & Water Conservation District (SWCD) and contains the proposed practice(s) and an implementation schedule for the specific site or field. Several types of plans qualify as a conservation plan for non-animal waste practices provided the plan includes a schedule and can be used to fulfill the conservation planning requirement:
  - Conservation Plan (NRCS or DCR standards)
  - Nutrient Management Plan (DCR standards)
  - Ag Stewardship Plan (VDACS standards)
  - Chesapeake Bay Plan (CBLAD standards) – A Chesapeake Bay Plan is required for all practices located within areas included under the Chesapeake Bay Preservation Act.
- If the proposed practice(s) is not included in an existing plan, appropriate government agencies such as the local SWCD, NRCS or DCR can prepare one at no charge to the Producer. If the Producer chooses to have a private planner develop the plan, the fee can be included in the loan amount. The plan must identify the practice and an installation schedule that applies only to the specific field or location of the proposed BMP. While "Whole Farm" plans are not required to fulfill conservation plan requirements, the development of plans which address additional water quality issues is encouraged.

- CONDITIONAL AUTHORIZATION AND CREDIT REVIEW – Shortly after the prioritization process is completed, each applicant who submitted a request for assistance for a practice(s) that resulted in a HIGH or MEDIUM priority and is ready to proceed will receive a Conditional Loan Authorization letter from DEQ. The letter will state the amount of funds that have been authorized, contingent on two conditions being fulfilled prior to DEQ's final approval of the loan. The first condition is that the applicant will provide DEQ with evidence that they have a conservation plan or nutrient management plan in place that meets the loan program requirement. The second condition is that the applicant is approved by DEQ and VRA following credit review and underwriting. Included with the Conditional Loan Authorization letter will be two financial forms. One is the *Virginia Agricultural BMP Loan Program Application for Loan* and the other is the *Financial Information* worksheet. It is very important that applicants who are selected for funding enter the credit review process in a timely manner. Within 30 days after receiving a Conditional Loan Authorization Letter, the applicant should complete the two financial forms and submit them to their local Farm Credit office. Once the Farm Credit office has received the completed financial information forms and any additional financial information that was requested from the applicant, Farm Credit will conduct an underwriting analysis. Based on the result of that analysis, Farm Credit will provide DEQ and VRA with a recommendation for either approval or denial of the loan based on approved underwriting standards. Recommendations will also specify any collateral that Farm Credit has recommended as appropriate security for the loan. DEQ will then approve or deny the request.

- DESIGN – Many practices that will be financed with Ag BMP program assistance will require development of design documents. This is especially the case for those projects involving construction of animal waste control facilities. The design documents usually consist of a set of specifications and construction drawings, which demonstrate that the practice or practices meet, at least, the minimum standards established by NRCS, DCR or DEQ. If the Producer elects to hire a private consultant to prepare the design documents, the fee for design of the BMP will be eligible for reimbursement from loan proceeds. Upon completion of the design, the Producer must provide DEQ with a copy of the design document(s) and the most recent estimate of the cost of implementing the practice(s).

- LOAN APPROVAL – Once a loan has been approved by DEQ and VRA and the appropriate conservation plan or nutrient management plan and design document(s) have been received, DEQ will finalize the terms and conditions of the loan and provide the applicant and VRA with authorization to execute the loan agreement. The authorization will include the amount and term of the loan as well as a list of any special conditions that are applicable.

- LOAN AGREEMENT – After receipt of authorization from DEQ, VRA will, on behalf of the Commonwealth, execute a loan agreement with the Producer. The loan agreement will specify the loan amount, interest rate, repayment period, loan security arrangements and any special conditions which were stipulated by DEQ. The loan agreement will also require the loan recipient to operate and maintain the practice which is constructed with the loan funds for the life of the loan and utilize the practice for its intended use as an agricultural BMP.

- CONSTRUCTION AND DISBURSEMENT OF LOAN FUNDS – Loan funds are disbursed on a reimbursement basis, after costs have been incurred. VRA may disburse loan funds to the Producer only upon written authorization from DEQ. Therefore, when loan recipients have incurred expenses which are eligible for payment from loan funds, it is necessary for them to submit a *Request for Disbursement of Ag BMP Loan Funds* form to DEQ. Copies of loan eligible invoices or contracts must accompany the disbursement request form. Upon receipt of the Producer's request for disbursement, DEQ will review the request and may contact the Producer to arrange a visit to the project site. Once DEQ has completed their review of the request and supporting documentation (including any additional information requested of the recipient) and conducted the site visit (as deemed appropriate by DEQ) DEQ will then authorize VRA to disburse the eligible amount of loan funds to the Producer. Usually the disbursement is authorized within 3 to 5 working days from the date DEQ receives a complete request for disbursement.

- CONSTRUCTION COMPLETION AND FINAL DISBURSEMENT – Once construction activities are complete, the Producer will request a final inspection of the practice(s) which were financed with Ag BMP loan proceeds. After receiving the request for a final inspection, a DEQ representative will conduct an onsite review of the practice(s) to determine that the Ag BMP project is complete and meets the minimum standards set forth in the plans and specifications. DEQ will review the final disbursement request and authorize the final disbursement after a completion determination is made.

LOAN AND FUND MAINTENANCE – VRA will collect repayments on Ag BMP loans for the term specified in the financing agreement.

LOAN DEFAULT – In the event of a default, DEQ and VRA will take all appropriate measures, including legal actions, which are necessary to collect amounts due. At DEQ and VRA's sole discretion, loans in default may be referred to the Virginia Office of the Attorney General and the Borrower will be responsible for any additional fees and collection costs.

Table 1 – Practice Descriptions

Practice #	Practice Name	Practice Description	Practice Purpose
EM-1AT	Small Scale Manure Composting for Equine Operations – Aerated Systems	A small-scale manure composting practice is a system designed to manage solid waste from areas where horses and other small barn-lot animals are concentrated. This practice is designed to provide for the storage and composting of livestock waste so as to control surface runoff from facilities and permit the safe recycling of animal waste onto the land.	Improve water quality through the proper storing, composting and spreading of waste on small-scale livestock operations.
EM-1T	Small Scale Manure Composting for Equine Operations – Static Systems	A small-scale manure composting practice is a system designed to manage solid waste from areas where horses and other small barn-lot animals are concentrated. This practice is designed to provide for the storage and composting of livestock waste so as to control surface runoff from facilities and permit the safe recycling of animal waste onto the land.	Improve water quality through the proper storing, composting and spreading of waste on small-scale livestock operations.
FR-3	Woodland Buffer Filter Area	Creates a woodland buffer filter area to protect waterways or water bodies by reducing erosion, sedimentation, and the pollution of water from agricultural nonpoint sources.	Change land use and establish a forest buffer to provide stream bank protection and to control soil erosion, sedimentation, and nutrient loss from surface runoff to improve water quality. This practice will also provide forest areas for the benefit of wildlife and aquatic environments.
LE-1T	Livestock exclusion with riparian buffers	A structural and/or management practice that will restrict access to surface waters to reduce sediment, nutrient, and bacteria loadings to streams and reduce NPS pollution associated with grazing livestock on pastures within identified TMDL Implementation Areas only.	Provide livestock watering systems and fencing that will improve water quality by eliminating direct access to surface waters, establishing riparian buffers, and by improving pasture management by establishing rotational grazing to control erosion. Stream exclusion fencing is a required component of this practice. When rotational grazing is established, participants must implement a rotational grazing plan.
LE-2T	Livestock exclusion with reduced setback	This practice will promote structural and/or management practice(s) that will enhance or protect vegetative cover to reduce runoff of nutrients, sediment, and bacteria from existing pastureland within TMDL implementation areas and therefore reduce NPS pollution associated with grazing livestock.	Provide alternative livestock watering systems and fencing that will improve water quality by eliminating direct access to surface waters and by improving pasture management by establishing rotational grazing to control erosion. When rotational grazing is established, participants must implement a rotational grazing plan. Stream exclusion fencing is a required component of this practice.
SE-2	Shoreline Stabilization	Structures and/or vegetative measures will be designed and implemented to stabilize shoreline areas of estuaries, bays and the ocean.	Improve water quality by stabilizing shoreline areas that are being eroded because of waves, boat wake or overland flow.
SL-4	Terrace System	Earth embankment, channel, or a combination ridge and channel constructed across the slope.	Improve water quality by reducing slope and slope length to one that will slow the movement of sediment and nutrients from cropland.
SL-5	Diversion	Channel with a supporting ridge on the lower side constructed across the general land slope.	Improve water quality by directing nutrient and sediment laden water from large areas to sites where in can be used or disposed of safely.
SL-6A	Small acreage grazing system	This practice is designed to reduce soil erosion in pastures and to prevent those areas exposed to heavy alternative livestock traffic from experiencing excessive manure and soil losses due to the destruction of ground cover and eliminate direct access to or a direct runoff input to live streams.	Prevent manure and sediment runoff from a heavy use area and pastures from entering watercourses and to capture a portion of the manure as a resource for other uses such as fertilizer. This is accomplished by dividing the pasture into grazing paddocks. Livestock is rotated from paddock to paddock as is necessary to maintain a permanent vegetative cover. One lot is stabilized and designated as a heavy use area for use in periods of wet weather and when the grass in the grazing paddocks needs to rest in order to re-grow to the appropriate grazing height.
SL-6AT	Small acreage grazing system	This practice is designed to reduce soil erosion in pastures and to prevent those areas exposed to heavy alternative livestock (non-bovine) traffic from experiencing excessive manure and soil losses due to the destruction of ground cover and eliminate direct access to or a direct runoff input to live streams. Alternative livestock are addressed as pollutant sources in TMDLs.	Prevent manure and sediment runoff from heavy use areas and pastures from entering watercourses and to capture a portion of the manure as a resource for other uses such as fertilizer. This is accomplished by dividing the pasture into grazing paddocks. Livestock is rotated from paddock to paddock as is necessary to maintain a permanent vegetative cover. One lot is stabilized and designated as a heavy-use area for use in periods of wet weather and when the grass in the grazing paddocks needs to rest and re-grow to the appropriate grazing height.
SL-6B	Alternative Water System	Structural practice that will provide an alternative water source for livestock to discourage animal access to streams.	Provide watering facilities for livestock to reduce or eliminate the need for livestock to access streams, which reduces erosion and livestock waste reaching the stream.
SL-6N	Stream Exclusion with Narrow (<35 ft) Width	Structural and/or management practice that will enhance or protect vegetative cover to reduce runoff of sediment and nutrients from existing pastureland and reduce NPS pollution associated with grazing livestock.	Provide livestock water systems and/or fencing that will improve water quality by establishing rotation grazing to control erosion and eliminate direct access to live streams where there is a defined water quality problem.

	Buffer and Grazing Land Management		
SL-6W	Stream Exclusion with Wide (>35 ft) Width Buffer and Grazing Land Management	Structural and/or management practice that will enhance or protect vegetative cover to reduce runoff of sediment and nutrients from existing pastureland and reduce NPS pollution associated with grazing livestock.	Provide livestock water systems and/or fencing that will improve water quality by establishing rotation grazing to control erosion and eliminate direct access to live streams where there is a defined water quality problem.
SL-7	Support for Extension of CREP Watering Systems	This practice is designed to provide additional funding to Conservation Reserve Enhancement Program (CREP) projects to encourage full enrollment in all of Virginia's CREP areas. This practice must be planned, in conjunction with a new CREP CP-22 contract. This practice cannot be used with a CREP CP-21, CP-23 or CP-29.	Implement rotational grazing on those fields receiving watering facilities to increase forage cover through the proper grazing and forage management techniques that will allow a pasture to rest and re-grow its cover. The system receiving cost-share should reflect the least costly, most technically feasible, environmentally effective approach to resolve the existing water quality problem.
SL-11B	Animal Travel Lane Stabilization	Structural and/or management practice that will protect surface water from pollution from travelways of farm equipment and livestock.	Protect or maintain water quality by stabilizing travelways used by farm equipment and/or livestock.
WP-1	Sediment Retention, Erosion or Water Control Structures	Structures that will collect and store debris or control the grade of drainageways.	Improve water quality by reducing the movement of sediment and materials from agricultural land to receiving streams.
WP-2A	Streambank Stabilization	Protection methods along steams to reduce erosion, sedimentation and the pollution of water from agricultural Nonpoint sources.	Offer an incentive that will change land use, provide vegetative stabilization or improve management techniques to more effectively control soil erosion, sedimentation and nutrient loss from surface runoff to improve water quality.
WP-2B	Stream Crossing & Hardened Access	A stabilized area to provide access to and/or across a stream for livestock and/or farm machinery.	Improve water quality by controlling bank and streambed erosion and reducing sediment by providing a controlled crossing and/or access to streams.
WP-2C	Stream Channel Stabilization	Stabilizing the stream channel with the use of non-erodible material and/or structures that will prevent the stream channel from eroding.	Improve water quality by reducing erosion by stabilizing stream channels.
WP-2N	Stream Protection - Fencing with Narrow (<35 ft) Width Buffer	Protection methods along streams to reduce erosion, sedimentation, and the pollution of water from agricultural Nonpoint sources.	Offer an incentive that will change land use, provide vegetative stabilization, or improve management techniques to more effectively control soil erosion, sedimentation, and nutrient loss from surface runoff to improve water quality.
WP-2W	Stream Protection - Fencing with Wide (>35 ft) Width Buffer	Protection methods along streams to reduce erosion, sedimentation, and the pollution of water from agricultural Nonpoint sources.	Offer an incentive that will change land use, provide vegetative stabilization, or improve management techniques to more effectively control soil erosion, sedimentation, and nutrient loss from surface runoff to improve water quality.
WP-2T	Stream protection (fencing)	Protection by fencing along all waterbodies and streams in a field to reduce erosion, sedimentation, and the pollution of water from agricultural nonpoint sources in TMDL implementation areas.	Change land use or improve management techniques to more effectively control soil erosion, sedimentation, and nutrient loss from surface runoff to improve water quality.
WP-4	Animal Waste Control Facility	A planned system designed to manage liquid and solid waste from areas where livestock and poultry are concentrated.	Improve water quality by storing and spreading waste at the proper time, rate, and location.
WP-4B	Dairy Loafing Lot Management System	Prevent areas which are exposed to heavy livestock traffic from experiencing excessive manure and soil losses due to the destruction of ground cover.	Prevent manure and sediment runoff from entering water courses and to capture a portion of the manure as a resource for other uses such as crop fertilizer. Accomplished by dividing the area into lots. Cattle are rotated from lot to lot as necessary to maintain vegetative cover. One lot is designated as a sacrifice area for use in wet weather. Loose housing may be installed in lieu of a typical sacrifice lot.
WP-4C	Composter Facilities	Planned system designed to manage treatment and disposal of poultry/livestock carcasses resulting from normal mortality.	Facilities for composting normal mortality poultry/livestock carcasses, storage of raw materials necessary for composting, storage of the composted end product, and the recycling of composted carcasses by land applying the end product in a manner that will abate pollution that would otherwise result from existing disposal methods.

WP-4E	Animal Waste Structure Pumping Equipment	Mechanism used to agitate and/or pump liquid and/or simi-liquid animal waste for the purpose of land application.	Insure that animal wastes are land applied at optimum times so water quality is not adversely effected.
WP-4F	Animal Mortality Incinerator Facilities	A planned mortality incineration system.	Dispose of poultry and livestock carcasses resulting from normal mortality.
WP-5	Stormwater Retention Pond	Structure that collects and retains stormwater in order to release the water at a rate that will reduce the amount of downstream erosion due to storm flow.	Improve water quality by reducing the amount of channel erosion during storm events.
WP-6	Agricultural Chemical & Fertilizer Handling Facility	Facility to adequately store, mix and contain agricultural chemicals and fertilizers.	Improve water quality by properly handling chemicals and fertilizers during mixing and cleaning equipment.
WP-7	Surface Water Runoff Impoundment for Water Quality	Structure that will impound surface water runoff and allow sediment and nutrients to settle out.	Improve water quality by impounding surface water and allowing sediments and nutrients to settle out.
WP-8	Relocation of Confined Feeding Operations	Relocation of confined feeding facilities from areas that have an increased chance of contaminated runoff entering the state's streams, rivers and estuaries.	Improve water quality by relocating confined feeding operations away from environmentally sensitive areas such as sink holes, streams and rivers to prevent pollution laden runoff from reaching these areas.
WQ-5	Water Table Control Structure	Water control structure for the management of drainage water.	Regulate and manage drainage water to improve water quality by trapping sediment and managing dissolved or suspended nutrients.
WQ-6	Constructed Wetlands	Construction of a wetland for the treatment of animal waste runoff or stormwater runoff.	Improve water quality by using a constructed wetlands to remove nutrients from animal waste or sediments and nutrients from stormwater runoff.
WQ-6B	Wetland Restoration	Activities which restore land to the hydraulic condition that existed prior to 1985 and the installation of drainage and conversion to cropland.	Improve water quality by returning environmental sensitive land back to its original wetland condition before it was converted to cropland.
WQ-7	Irrigation Water Recycling System	A system of practices designed to distribute, collect and reuse irrigation water and surface runoff from agricultural fields involved in the production of vegetable and horticultural crops.	Improve water quality by collecting and reusing irrigation and surface runoff that may be high in nutrients, sediments, or pesticides from a variety of vegetable and horticultural crops grown using plastic or synthetic fiber mulches and impervious surfaces.
WQ-8	Fuel Storage Treatment	Excavation of farm underground fuel storage tanks and the construction of an above ground farm storage facility with proper containment system.	Improve water quality by removing leaky or possibly leaking fuel storage tanks and contaminated soil and replacing the tank with an above ground storage tank with the proper spill and rupture containment facility.
WQ-11	Agricultural Sinkhole Protection	This practice will provide a protection method to improve groundwater quality from surface contamination.	Improve water quality by removing sources of pollution from sinkholes and providing an adequate buffer to trap and filter sediments and nutrients from surface flows that enter the groundwater through sinkholes.
WQ-12	Roof Runoff Management System	A planned system designed to manage roof runoff from agricultural structures in areas where concentrated runoff creates a water quality concern. This practice is designed to collect, control and convey precipitation runoff from a roof to an appropriate discharge area in a way that will protect water quality.	Protect water quality by capturing roof runoff and routing it away from contaminated and/or sensitive areas to control erosion and nutrient input.
NTD	No-Till Planter/Drill	Purchase of no-till planters or no-till drills that are not replacements or upgrades of a no-till planter or drill that is currently owned by the applicant.	Improve water quality by encouraging the use of continuous no-till planting and cover crops. Reduce the acres which are under conventional tillage.