COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION

Subject: Nutrient Crediting of Shoreline Management Projects

To: Nonpoint Source Nutrient Trading Program Staff

From: Scott Morris, DBA, P.E., Director, Water Division

Date: November 21, 2024

Copies: Shoreline Restoration Practitioners and Nutrient Bank Stakeholders

Summary:

Authority to develop and implement a market-based point source nutrient credit trading program is granted by §§ 62.1-44.19:12 Through 62.1-44.19:23 of the Code of Virginia. State law and regulation allows for the generation of nonpoint source (NPS) nutrient credits through various practices approved by DEQ. The over-arching regulation for the nutrient trading program can be found at 9VAC25-900.

Living shorelines (LS), as a nature-based solution, use a combination of marsh restoration and creation, with channel ward structures, where necessary, for shoreline erosion abatement, while maintaining the biological, chemical, and physical processes associated with natural systems. Living shorelines can create conditions wherein eroding shorelines no longer serve as a loading source for sediments, and associated nitrogen and phosphorus, into tidal waters. In this way, as sediment is prevented, LS can provide a quantifiable reduction in pollutant loading to the waterway. While LS projects are the preferred practice type due to their additional environmental benefits, bulkheads or seawalls may be credited under certain conditions. Practitioners utilize Table 7. Criteria for Chesapeake Bay TMDL pollutant load reduction for shoreline management practices in the "Recommendations of the Expert Panel to Define Removal Rates for Shoreline Management Projects" to identify the appropriate practice type based on the basic qualifying conditions.

Pursuant to 9VAC25-900-90, when phosphorus credits are acquired in accordance with 9VAC25-875-610, the associated nitrogen credits generated by the nutrient credit-generating project will be retired and removed from the registry by DEQ. When nitrogen credits are acquired for purposes other than compliance with 9VAC25-875-610, the associated phosphorus credits generated by the nutrient credit-generating project shall not be available for compliance under 9VAC25-875-610.

This memo provides an interim approach for perpetual nutrient crediting of shoreline management projects where phosphorous is the keystone pollutant to aid staff with assessing shoreline management projects while guidance is finalized.

Contact Information Central Office:

Derick Winn – Office (804) 965-4875 or derick.winn@deq.virginia.gov
Tyler Monteith – Office (804) 489-1809 or tyler.monteith@deq.virginia.gov

1. Background

Beginning in the Fall of 2022, the Nonpoint Source Nutrient Trading Program (Program) began accepting applications for shoreline stabilization projects. The Program certifies nutrient reductions that can be sold in an off-set market and utilizes the Chesapeake Bay Program's (CBP) "Recommendations of the Expert Panel to Define Removal Rates for Shoreline Management Projects" as the basis for crediting methodologies. However, some credit calculation protocols provided in the expert panel report remained open for interpretation, and depending on the interpretation can greatly affect the number of nutrient reductions generated by each project. To date the Nonpoint Source Nutrient Trading Program has approved two different methodologies for two shoreline restoration projects: Lamberts Point (Eco-Cap LLC) and Lucas Farm (RES). Subsequently DEQ has suspended additional approvals until an interim approach can be developed for all shoreline stabilization projects.

On June 4, 2024, DEQ requested support from the Virginia Institute of Marine Science (VIMS) to review and develop a standardized method for crediting nonpoint source nutrient banks imple mented using a LS technique.

On July 3, 2024, DEQ received the "Standardizing Nutrient Crediting Methodology for Shoreline Management Projects" document created by Virginia Environmental Restoration Association (VERA) members. DEQ shared this document with VIMS staff for review, which resulted in the creation of a document reviewing the VERA proposed methodology on August 26, 2024. This review was shared with VERA members, who revised their original document on October 18, 2024, with updated criteria.

The above referenced documents are provided as Attachment B to this document.

2. Comparison of Differences between VIMS and VERA Recommended Approaches

The following chart compares aspects that differ between the approaches recommended by VIMS and VERA.

Aspect	VERA	VIMS
Historical Shoreline Identification	Top of Bank	Toe of Bank (MHW)
Historical Baseline Date	2009 (12-in resolution) VGIN imagery, or 2011 (3–6-inch resolution) VGIN imagery where available	2002 VGIN imagery
Present Day Shoreline Identification	Field GPS located Top of Bank and verified with present day aerial imagery	Most current VGIN imagery available
Soil Sampling	• less than 300': 2 sample locations • 300-500': 3 sample locations • 500-1,500': 4 sample locations • 1,500 – 2,500': 5 sample locations • greater than 2,500': 5 sample locations, +1 additional sample at a minimum for every 500' beyond	The VERA proposed sampling spacing is likely too infrequent to capture significant changes in in soils along the shoreline. Future research efforts should be directed toward investigating required sampling intervals for Virginia shorelines.

	2,500'. Additional samples may be required above the minimum to document changes in soil types, soil texture, strata depth, or other properties that may affect soil nutrient concentrations and bulk density results.	
Prevented Pollutant Load Calculation	Multiply these values by the soil stratum's percentage of the bank composition (ex: Stratum B at Location #1 encompasses 90% of the sample location's bank face. Multiply the bulk density, TP, TN, and % fine particle values by 0.90). This will calculate the weighted value. Divide the sum weighted value by the number of sampling locations.	$$\textit{Prevented Sediment Load}\left(\frac{lbs}{yr}\right) = \left[\left(\left(\textit{bulk density}, \frac{lbs}{ft^3} \times \textit{Strata Layer 1 thickness}, ft\right) + \left(\textit{bulk density}, \frac{lbs}{ft^3} \times \textit{Strata Layer 2 thickness}, ft\right) + \cdots\right) \times (\textit{shoreline length}, ft) \times \left(\textit{annual rate of shoreline erosion}, \frac{ft}{yr}\right)\right]$$
Gully Erosion Crediting	Allow a separate crediting approach consistent with those listed in the Recommendation for Crediting Outfall and Gully Stabilization Projects in the Chesapeake Bay Watershed	Exclude landward gully areas from Protocol 1 calculations

3. Interim Approach

1. Historical Shoreline Identification

   A consistent point of reference is the critical factor for accurate measurement of shoreline erosion rates. The CBP Expert Panel does not define whether top of bank or toe of slope is to be used when defining present day and historic shorelines.

   For the purpose of crediting a shoreline management project with preventing sediment from becoming a pollution load resulting from shoreline erosion, it is critical to verify the cause of erosion and assess the proposed shoreline management project for preventing future sedimentation. A failing, or eroding bank could be the result of any, or a combination of, overland flow, groundwater discharge and tidal erosion. Bank erosion does not occur as a uniform retreat of the top, face, or toe of the bank. Using the top of bank may lead to an over-estimation of sediment prevented if the bank sloughs from the top, but does not retreat from the toe, which is a common occurrence. Therefore, the toe of bank (MHW) at 25-foot transect intervals are used.

2. Historical Baseline Date

   Historical Toe of Bank (MHW) is assessed referencing 2009 12-inch resolution VGIN orthophotography or, where available, select upgrades to the 2009 VGIN dataset with 2011 3-inch or 6-inch resolution, with approval by DEQ. The application includes a historical conditions map with Toe of Bank illustration overlaid on reference orthophoto at 25-foot transect intervals.

   VIMS has mapped historic shorelines and makes this data available on their website (https://www.vims.edu/research/units/programs/ssp/gis_maps/). The bank sponsor may propose the use of an alternative publicly available high-resolution historic aerial imagery or historic LIDAR data if the sponsor provides to DEQ documentation that the VIMS dataset is not appropriate for the given site and clear evidence that the selected supplemental reference data does not produce an outlier rate of erosion.

3. Present Day Shoreline Identification

   Applications will use the most current VIMS MHW analysis utilizing VGIN imagery. Supplemental MHW data may be accepted if there is a demonstrated data gap in the VIMS dataset.

4. Soil Sampling

   There is high variability in soil test results between sites and between strata, but soil results from the same strata on the same site tend to be relatively uniform. The critical soil sampling factors are (i) that samples are taken for each stratum at each sample location to tie nutrients, bulk density, and a sand reduction factor, (ii) that sampling locations document changes in strata composition across the site on a per reach basis, and (iii) that calculations provide a weighted average of stratum composition.

   Soil sample locations are to be evenly distributed along the length of each reach identified in the project area. The following sampling location rates are recommended:

   - Less than 1,500’ - sample every 100’
   - Between 1,500’ and 2,500’ - sample every 150’
   - Greater than 2,500’ - sample every 200’

   This frequency is intended to capture significant changes in soil data that may occur due to geologic or land use changes while not being overly cumbersome. The following criteria is also considered when sampling:

   - All soil samples are to be obtained on the actively eroding face of the bank.
   - Strata soil samples are to be collected to determine bulk density, total nitrogen and total phos phorus.
   - Visual identification of soil strata/horizons is appropriate to determine how many layers/strata are in the bank being assessed. Once layers are defined, the relative percentage of thickness of each layer to the total bank height are calculated. Measurement of strata

thickness are be performed at the same locations as the previously utilized 25-foot transects to determine the mean percent area for the layer (Figure 1). Photo documentation for soil strata at each assessment location and location of sample are GPS located.

- Soil samples are obtained from each major soil stratum at each sample location. A soil stratum is defined as a distinct soil layer with a unique color and texture as determined by field staff at the time of sampling. To the greatest extent practicable, obtain samples within the middle of the strata.
- Sloughed bank material from the eroding face are not to be included in the soil sampling. If sloughed material is present along the entire project length, either manually remove the material with a shovel until the intact face is exposed or use best professional judgment to apply soil results from the above stratum to the buried stratum.
- A soil core ring is preferred for sampling.
- Use of soil sampling/processing standard procedures is recommended, for example, as detailed in the ASTM or NRCS.

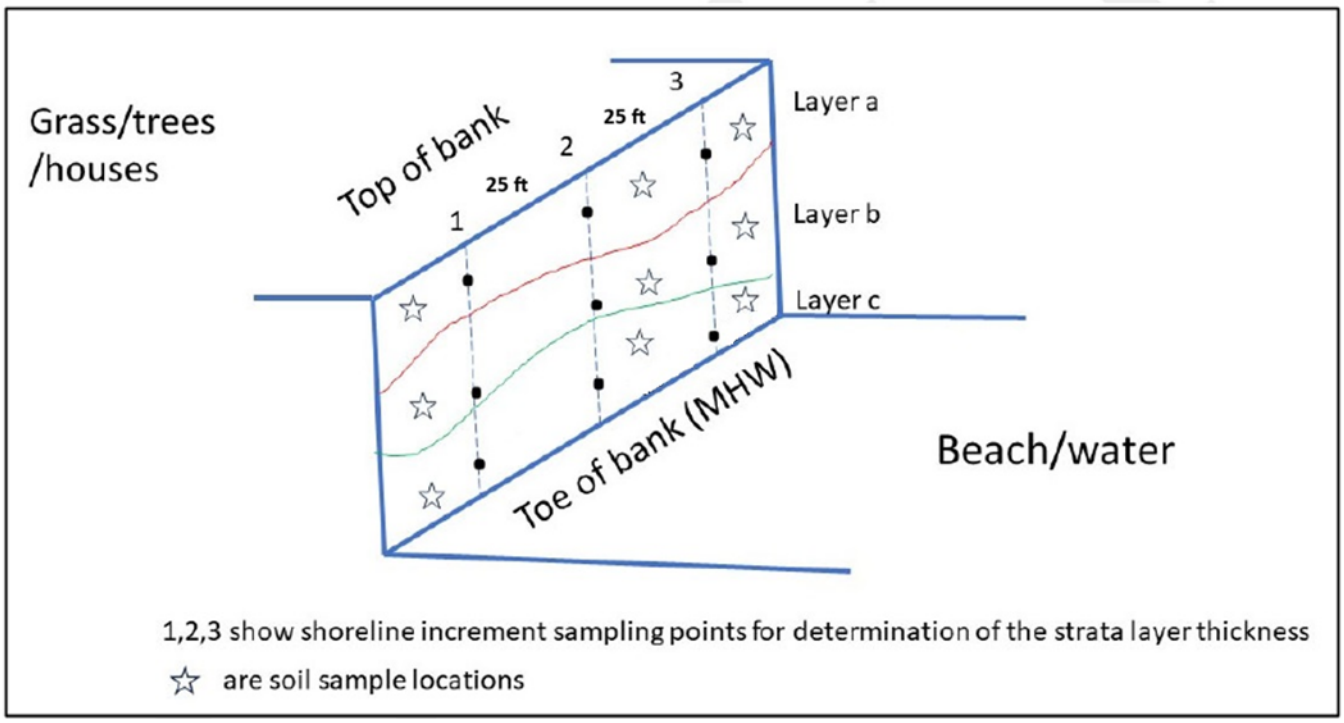

Figure 1. *Example of an unscaled shoreline reach with a generic bank to display measurement and soil sampling locations to determine: 1) mean strata thickness and 2) collect soil samples to analyze for bulk density, total nitrogen and total phosphorus.*

5. Prevented Pollutant Load Calculation

Load reduction credits for shoreline management best management practices (BMPs) are determined by four protocols:

- Protocol 1. Credit for prevented sediment
- Protocol 2. Denitrification in vegetated areas
- Protocol 3. Sedimentation in vegetated areas
- Protocol 4. Marsh Redfield ratio for vegetated areas (See CBP Expert panel report https://www.chesapeakebay.net/what/publications/bmp-panel-report-for-shoreline-management-amended).

This document focuses on Protocol 1 for prevented sediment calculations, which are calculated using the following formula from the CBP Expert Panel Report:

Volume of Sediment (ft^3/yr) =

[Length of Shoreline (ft)] * [Annual Rate of Shoreline Erosion (ft/yr)] * [Bank Height (ft)]

The annual shoreline erosion rate is calculated as follows:

$$\textbf{Annual Shoreline erosion rate}, \frac{ft}{yr} = \frac{[mean\ shoreline\ change, ft]}{[(current\ shoreline\ year - historic\ shoreline\ year)]}$$

In order to calculate the total prevented pollutant load for a project, the site-specific soil sampling data are to be incorporated as follows:

$$\textbf{Prevented Sediment Load}\left(\frac{\textbf{lbs}}{\textbf{yr}}\right) =$$
$$\left[\left[\left(bulk\ density, \frac{lbs}{ft^3} \times Strata\ Layer\ 1\ thickness, ft\right) + \left(bulk\ density, \frac{lbs}{ft^3} \times Strata\ Layer\ 2\ thickness, ft\right) + \cdots\right] \times (shoreline\ length, ft) \times \left(annual\ rate\ of\ shoreline\ erosion, \frac{ft}{yr}\right)\right]$$

Length of Shoreline (ft) is the current shoreline length

Annual rate of shoreline erosion (ft/yr) is the mean shoreline change (ft) for the site divided by the number of years between current and historic shorelines

Strat layers thickness (ft) is the mean thickness for the strata based on the 25-foot transect increment measurements

Bulk density is the mean value of bulk density from soil samples in each strata multiplied by the percent contribution of each strata (mean layer thickness(ft))

6. Gully Erosion Crediting

This approach does not address proposals for nutrient reduction crediting associated with “gully areas” that extend landward from an eroding shoreline. The exposure associated with gullies is

different from the eroding bank. There may be stabilizing vegetation on or at the base of the gully.

7. Consistent Approaches

   Several credit calculation protocols in the CBP expert panel report that remained open for interpretation were agreed upon between the VIMS and VERA recommendation documents. No specific concerns were raised regarding crediting procedures for Protocols 2, 3, and 4. Where Protocols 2, 3, and 4 apply, use the crediting protocols featured in the CBP's "Recommendations of the Expert Panel to Define Removal Rates for Shoreline Management Projects" document.

   Bank Height measurements are calculated as the sum of strata thickness for a given shoreline transect. They are measured from the MHW line to the top of bank using LIDAR, handheld survey equipment (GPS), or previously referenced datasets accounting for the most recent MHW lines. The top of bank measurement is defined as the point where the slope breaks and vegetation along the bank slope is no longer rooted because of active shoreline erosion. In some cases, vegetation may "hang" over the edge of the bank, but the top of bank is measured at the "rooted" end of the vegetation. The same 25-foot transects are utilized for assessing bank height and associated with erosion measurements on the same transects. Additional transects may be necessary where bank height anomalies occur, such as headlands, embayments, or where MHW line location varies significantly.

   Documentation in the application includes transects overlaid on topography, including an accurate top of bank and MHW illustration, to present a bank height measurement that is verifiable via desktop review. The as-built credit release documentation includes preconstruction survey topography verifying the accuracy of top of bank location as well as total bank height. Since bank heights vary across the length of a given shoreline, divide the shoreline into reaches that contain similar conditions. The average bank height for a given reach is used to calculate how many nutrient reduction credits can be generated at a given site. It is the bank sponsor's responsibility to explain in the NRIP the reasoning used to break the shoreline into the different reaches proposed as part of the credit calculations.

4. Application Checklist

See Attachment A

5. Future Guidance Development

DEQ will convene a stakeholder workgroup, with VIMS staff serving as the subject matter expert, to develop DEQ guidance to serve as the technical criteria for crediting shoreline projects. Other stakeholder workgroup participants may include representatives from VERA, Home Builders Association of Virginia, The Nature Conservancy, Chesapeake Bay Foundation, James River Association, and the Potomac Conservancy.

Until this guidance is finalized, the path outlined here provides an interim approach to review proposed Shoreline Management Project applications received by the Nonpoint Source Nutrient Trading Program.

Crediting criteria not outlined in this document adheres to the CBP "Recommendations of the Expert Panel to Define Removal Rates for Shoreline Management Projects".

Appendix A – Application Checklist

Certification of Nonpoint Source Nutrient Credits

Complete Application and Credit Release Checklist

Shoreline Stabilization/Restoration Activities Application for Perpetual Credit Generation

Disclaimer: Checklists are provided as a tool when applying for plan approval and certification of nonpoint source nutrient and sediment credits. DEQ decisions will be made by applying the State Water Control Law, Certification of Nonpoint Source Nutrient Credits regulations (9VAC25-900) and project-specific facts. **Refer to sections of 9VAC25-900 noted herein for details of required information for complete applications.**

For specific questions regarding the application or process please contact Derick Winn (derick.winn@deq.virginia.gov; 804-965-4875) or Tyler Monteith (tyler.monteith@deq.virginia.gov; 804-489-1809).

Application status may be viewed on the DEQ Permit Enhancement and Evaluation Platform (PEEP).

Information Required for a complete application is in accordance with the following regulations, unless otherwise noted on item in this checklist. The Certification of Nonpoint Source Nutrient Credits Regulations are 9VAC25-900; procedure for application for certification of nutrient credits 9VAC25-900-80 and determination of application fee amount 9VAC25-900-200. 9VAC25-900-150 contains recordkeeping and reporting requirements. Documents incorporated by reference should be reviewed for information on baseline best management practice (BMP) specifications and the DCR invasive species list. 9VAC25-900-91, GM21-2007, 9VAC25-870-69, § 62.1-44.19:20, and § 62.1-44.19:21 should be used as references for requirements on the exchange of credits.

Items identified as “Optional” will assist DEQ in expediting your request. Item numbers below do not correspond to regulation numbering.

For a Complete Application, Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
Part A: Procedure for Application for Certification of Nutrient Credits **9VAC25-900-80**		
1: A brief narrative description of the nutrient credit-generating project.		
2: Contact information for the applicant including name, address, telephone number, and email address.		

For a Complete Application, Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
3: Contact information for the nutrient credit-generating project, including the project's mailing address, street address, telephone number, and the contact person's name and email address.		
4: Status of the applicant as owner, co-owner, operator, or lessee of the nutrient credit-generating project or the site on which the project is located. The applicant shall provide documentation of the applicant's right to exercise control of the nutrient credit-generating project and the site on which it is located for the purposes of generating and maintaining the proposed nutrient credit-generating project via a title, deed, grant, lease, or easement agreement as outlined in 9VAC25-900-80.A.4.		
5: The name, mailing address, telephone number, and responsibilities of all known contractors responsible for any operational or maintenance aspects of the nutrient credit-generating project.		
6: A topographic map, geotechnical survey, or another type of map deemed acceptable by the department that delineates the property boundary of the management area, the location of all practices including nutrient credit-generating projects and any baseline practices. Additional documentation includes current and historic identification of toe of bank (mean high water line), shoreline length, bank height, soil sampling locations, and identified shoreline evaluation transects.		
7: A description of current site conditions with photographs.		
8: The 8-digit, 10-digit, and 12-digit HUC in which the nutrient credit-generating project is located.		
9: The appropriate fee required pursuant to Part V (9VAC25-900-190 et seq.)		
10: A draft of the proposed site protection instrument for the site on which the project is located. If the landowner is not an individual, documentation will be required establishing that the person executing the protection instrument has the authority to do so.		
11: A description of any state or federal water quality grants received for water quality actions in the management area.		
12: Demonstration by the applicant that the site on which the nutrient credit-generating project is located is held with title free from all defects, liens, and encumbrances that would interfere with or be in conflict with the establishment and operation of the nutrient credit-generating project. The demonstration may include documentation of the subordination of property interests (e.g., mineral rights, mortgages, easement) if DEQ determines that the property interest would interfere with or conflict with the establishment and operation of the nutrient credit-generating project.		
13: A tax map showing the management area and adjacent parcels.		
14: Any other information deemed necessary by DEQ. List information requested by DEQ:		

For a Complete Application, Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
Part B: Establishing Baseline 9VAC25-900-100		
1: Baseline for shoreline restoration shall be established using the pre-restoration condition of the shoreline. Annual rates of erosion should be calculated using historic aerial imagery and MHW lines with the historic baseline date of 2009.		
2: Baseline soil sample test results to account for bulk density, nitrogen and phosphorus concentrations, and sand reduction factor. Soils are to be sampled from each soil stratum at each sampling site location. Samples are to be calculated as a weighted average of the stratum composition. Sampling frequencies are to adhere to the following recommended intervals based on the length of the restored reach: • Less than 1,500' - sample every 100' • Between 1,500' and 2,500' - sample every 150' • Greater than 2,500' - sample every 200'		
Part C: Credit Calculation Procedures 9VAC25-900-110		
1: Credit Calculations: The number of potential nutrient and sediment credits determined by applying Chesapeake Bay Program Expert Panel Publications protocols and the Interim Approach for Nutrient Crediting of Shoreline Management Projects on a case-by-case basis using the best available scientific and technical information, as approved by DEQ.		
Part D: Implementation Plan Requirements 9VAC25-900-120		
1: An operation and maintenance plan that provides a description and schedule of operation and maintenance requirements and detailed written specifications and process diagrams for the practices used for nutrient credit generation.		
Shoreline Restoration Projects		
1: Certification that the owner will obtain all appropriate permits or other authorizations needed to construct and maintain the restoration activities, prior to initiating work in state waters.		
2: An initial shoreline restoration plan, which includes the following: The goals and objectives in terms of proposed nutrient reductions and restoration activities.		
2.b: A description of the surrounding land use and observation of any submerged aquatic vegetation		

For a Complete Application, Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
2.c: The preliminary proposed shoreline segment restoration locations, including plan view, profile, and cross-section sketches;		
3: A preliminary marsh sill and buffer planting scheme, including suggested plant species and zonation of each vegetation type proposed.		
4: A statement that no fertilizer is to be used in upland buffer area.		
5: A plan for phased planting, if applicable.		
6: A description of agricultural baseline requirements implemented in accordance with 9VAC50-900-100 B, if applicable.		
7: Performance standards and reporting procedures demonstrating ongoing compliance with the baseline requirements of 9VAC25-900-100 B, if applicable.		
8: Descriptions of existing soils, including general information on topsoil and subsoil conditions, permeability, number of soil strata and percentage of eroding cliff face for each stratum and the need for soil amendments for grading.		
9: A preliminary design of any water control systems or breakwater structures for restoration or establishment.		
10: Depiction of any land conversion or additional buffer areas associated with the nutrient credit-generating project, if applicable.		
11: A description of any hardened structures or features necessary for the success of the site.		
12: A preliminary schedule for site construction.		
13: The existing shoreline deficiencies that need to be addressed.		
14: The proposed restoration measures to be employed, including bank grading, conceptual upland planting scheme, marsh vegetation establishment plan, beach nourishment plans, and any proposed aquatic structures.		
15: Reference shoreline data, if available.		
16: Prior to construction of the restoration site, submit the following final plans where appropriate to the type of restoration:		
16.a: A final shoreline restoration plan, which includes a summary of the type and acreage or linear feet of impacts to state waters anticipated during the construction of the restoration site and the proposed compensation for these impacts;		
16.b: A detailed plan view, profile, and cross-section sketches with the location of proposed restoration measures.		

For a Complete Application, Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
16.c: A site access plan.		
16.d: An erosion and sediment control plan meeting the requirements of 9VAC25-875.		
16.e: The final construction schedule.		
17: A monitoring plan, which includes:		
17.a: Monitoring goals;		
17.b: Proposed performance standards;		
17.c: Parameters to be monitored;		
17.d: Methods of monitoring;		
17.e: Length of monitoring period;		
17.f: Monitoring and reporting schedule;		
17.g: Reporting requirements; and		
17.h: Entities responsible for monitoring and reporting.		
18: Performance standards for restoration including specific, measurable parameters for determination of performance in comparison to as-built conditions. For shoreline restoration, performance standards may include applicable parameters to demonstrate characteristics of shoreline stability, including backslope and structure stability, sediment accumulation, planting stabilization, and additional intertidal zone performance standards.		
Part G: Signature Requirements 9VAC25-130		
1: For a corporation, the application shall be signed by a responsible corporate officer (a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy-making or decision-making functions for the corporation or the manager of the nutrient credit-generating project provided the manager is authorized to make management decisions that govern the operation of the project).		

For a Complete Application, Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
2: For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.		
3: For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes the chief executive officer of the agency or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.		

For Credit Release Requests Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
Part A: Nutrient Credit Release and Registration 9VAC25-900-90		
1: Final Credit release table in accordance with 9VAC25-900-90		
2: Monitoring methods and parameters selected based on type of restoration, the implementation plan, and performance standards of the nutrient credit-generating project, and outlined in the monitoring plan. For shoreline restoration, the plan includes the location and number of stations utilized for photo-monitoring, cross-sections, profiles, pattern measurements, shoreline stability measurements, vegetation surveys, bank pins, other monitoring equipment, and reference shorelines, if available.		
3: The monitoring and reporting schedule, including an as-built survey.		
4: A long-term management plan, which includes: basic management as necessary to ensure long-term sustainability of the nutrient credit-generating project such as long-term repair or replacement, maintenance of water control or other structures, or easement enforcement.		
5: The owner shall designate a responsible long-term steward in the plan. The owner of the nutrient credit-generating project is the default long-term steward and is responsible for implementing the long-term management plan and management of the financial assurance. However, the owner may transfer the long-term management responsibilities and management of the long-term financial assurance to a long-term steward or land stewardship project, such as a public agency, nongovernmental organization, or private land manager, upon review and approval by the department.		

For Credit Release Requests Provide at Minimum:	Included (Y, N, or N/A)	Page Number(s) Or Location(s)
6: Long-term management needs, annual cost estimates for these needs, and identifying the funding mechanism that will be used to meet these needs shall be included.		
7: A copy of the recorded site protection instrument for the site on which the nutrient credit-generating project is located.		
8: Evidence that the buffer has achieved a minimum of 400 woody stems per acre for any land conversion included in the project.		
9: For land conversion associated with the project and for year one post-growing season credit release requests after an initial credit release has been issued, provide evidence that the implementation plan's performance criteria required has been achieved.		
10: DEQ has conducted a post-construction site visit.		
Part B: Financial Assurance 9VAC25-900-230		
1: An owner of a nutrient credit-generating project using shoreline restoration practices for the generation of perpetual credits shall be required to submit and maintain financial assurance.		
2: A monitoring plan financial assurance mechanism shall be established to ensure implementation of the monitoring plan pursuant to 9VAC25-900-120 for any nutrient credits generated from restoration in accordance with 9VAC25-900-230.C.1.		
3: A long-term management fund financial assurance mechanism shall be established in support of required long-term management plan tasks pursuant to 9VAC25-900-120 for any nutrient credits generated from restoration 9VAC25-900-230.C.2, C.3, and D.		
Part C: Cost Estimates 9VAC25-900-250		
1. The owner of the nutrient credit-generating project utilizing shoreline restoration practices will develop a separate written cost estimate for each of the applicable financial assurance requirements provided in 9VAC25-900-230.		
2: Monitoring plan financial assurance cost estimates shall be sufficient to hire another qualified entity to monitor and report on performance standards for the nutrient credit-generating project in the event of noncompliance in accordance with 9VAC25-900-250.B.1.		
3: Long-term management fund financial assurance cost estimates shall be based on the size and complexity of the implementation plan, long-term management plan tasks, and any other factors that the department deems appropriate and will state the total dollar amount required to fund this financial assurance in accordance with 9VAC25-900-250.B.2.		

Part D: Financial Assurance Requirements for Perpetual Credits 9VAC25-900-270 and 9VAC25-900-280		
1: The owner may only use a trust fund as provided in 9VAC25-900-290 to demonstrate financial assurance for the long-term management fund as described in 9VAC25-900-230.C.2, unless a third-party long-term steward is approved by the department in accordance with 9VAC25-900-230.C.3.		
2: The financial assurance mechanism used shall provide funding for the full amount of the cost estimate or of the sum of all cost estimates at all times.		
3: Subject to the limitation and requirements outlined in 9VAC25-900-270, an owner of a nutrient credit-generating project utilizing restoration practices to generate perpetual credits and required to submit financial assurance pursuant to 9VAC25-900-230, may use any one or combination of mechanisms listed in 9VAC25-900-290 through 9VAC25-900-330 to meet the financial assurance requirements for the monitoring plan; however, only a trust fund may be used to meet the financial assurance requirements for the long-term management fund, unless a third-party long-term steward is approved by DEQ in accordance with 9VAC25-230.C. 3.		

How to Submit:

☐ DEQ Shoreline Management Project Nutrient Credit Certification Application Review Process:

Please begin the application process by completing this Application Checklist and provide an **Application Document** containing all the information required on this checklist for initial submission to the DEQ Nonpoint Source Trading Coordinators via email to Tyler.Monteith@deq.virginia.gov and Derick.Winn@deq.virginia.gov. Please contact the Nonpoint Source Trading Coordinators to schedule a pre-application site visit prior to initial plan submission. Pre-application site visits are highly encouraged but not required.

Applications with a large file size may be submitted to DEQ electronically through the file sharing service VITAShare. Please contact the Nonpoint Source Trading Coordinators above to initiate a file transfer via the VITAShare site. DEQ is unable to accept plans submitted through other file-sharing services at this time. Once this Checklist is submitted, DEQ staff will respond within 48 hours or by the end of the following business day.

Paper copies of the plans are not required for DEQ review.

All submissions are reviewed in the order they are received unless otherwise specified. Submissions are assigned to an individual Nonpoint Source Trading Coordinator who will act as the project's primary Point of Contact (POC). Project specific inquiries should be directed to the POC.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information."

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Applicant Printed Name

_____ _____

Applicant Signature *Date*