Form: TH- 03

Virginia Regulatory Town Hall

Final Regulation
Agency Background Document

Agency Name:	State Water Control Board - 25
VAC Chapter Number:	260
Regulation Title:	Water Quality Standards
Action Title:	Stony Creek Nutrient Enriched Waters Designation - Sections 350 and 400 section 6
Date:	April 17, 2000

Please refer to the Administrative Process Act (§ 9-6.14:9.1 *et seq.* of the *Code of Virginia*), Executive Order Twenty-Five (98), Executive Order Fifty-Eight (99) , and the *Virginia Register Form,Style and Procedure Manual* for more information and other materials required to be submitted in the final regulatory action package.

Summary

Please provide a brief summary of the new regulation, amendments to an existing regulation, or the regulation being repealed. There is no need to state each provision or amendment; instead give a summary of the regulatory action. If applicable, generally describe the existing regulation. Do not restate the regulation or the purpose and intent of the regulation in the summary. Rather, alert the reader to all substantive matters or changes contained in the proposed new regulation, amendments to an existing regulation, or the regulation being repealed. Please briefly and generally summarize any substantive changes made since the proposed action was published.

Water Quality Standards consist of designated uses of the water body and narrative and numeric criteria that protect those uses by describing water quality in general terms and specifically as numerical limits for physical, chemical and biological characteristics of water.

The State Water Control Board amended the State's Water Board Standards Regulation at 9 VAC 25-260-350 and 9 VAC 25-260-400 to designate Stony Creek and its tributaries in Shenandoah County as a nutrient enriched water. After the effective date of the nutrient enriched waters classification, a companion regulation, the Board's policy for Nutrient Enriched waters (9 VAC 25-40-10) requires certain municipal and industrial dischargers with a design flow of 1.0 MGD or greater and effluents containing phosphorus to maintain a monthly average total phosphorus concentration of 2 milligrams per liter (mg/l) or less. Rocco Farm Foods near Edinburg - based on a design flow of 1.3 MGD - will be the only point source discharger

impacted by this regulatory requirement to install a phosphorus removal system to control total phosphorus.

Changes Made Since the Proposed Stage

Please detail any changes, other than strictly editorial changes, made to the text of the proposed regulation since its publication. Please provide citations of the sections of the proposed regulation that have been altered since the proposed stage and a statement of the purpose of each change.

No changes have been made to the proposed stage.

Statement of Final Agency Action

Please provide a statement of the final action taken by the agency: including the date the action was taken, the name of the agency taking the action, and the title of the regulation.

On March 29, 2000 the State Water Control Board adopted as an amendment to sections 9 VAC 25-260-350 and 9 VAC 25-260-400 of the Water Quality Standards the classification of Stony Creek and its tributaries in Shenandoah County as nutrient enriched waters.

Basis

Please identify the state and/or federal source of legal authority to promulgate the regulation. The discussion of this statutory authority should: 1) describe its scope and the extent to which it is mandatory or discretionary; and 2) include a brief statement relating the content of the statutory authority to the specific regulation. In addition, where applicable, please describe the extent to which proposed changes exceed federal minimum requirements. Full citations of legal authority and, if available, web site addresses for locating the text of the cited authority, shall be provided. If the final text differs from that of the proposed, please state that the Office of the Attorney General has certified that the agency has the statutory authority to promulgate the final regulation and that it comports with applicable state and/or federal law

§62.1-44.15(3a) of the Code of Virginia, as amended, authorizes the State Water Control Board to establish water quality standards and policies for any State waters consistent with the purpose and general policy of the State Water Control Law, and to modify, amend or cancel any such standards or policies established. Such standards shall be adopted only after a hearing is held and the Board takes into consideration the economic and social costs and benefits which can reasonably be expected to be obtained as a result of the standards as adopted, modified or canceled.

Purpose

Please provide a statement explaining the need for the new or amended regulation. This statement must include the rationale or justification of the final regulatory action and detail the specific reasons it is essential to protect the health, safety or welfare of citizens. A statement of a general nature is not acceptable, particular rationales must be explicitly discussed. Please include a discussion of the goals of the proposal and the problems the proposal is intended to solve.

Amendments to the Water Quality Standards (9 VAC 25-260-350 and 9 VAC 25-260-400 section 6) designated Stony Creek and its tributaries as nutrient enriched waters in order to hold the line on nutrient enrichment in these waters via the point source total phosphorus control requirements in the Board's Policy for Nutrient Enriched Waters (9 VAC 25-40-10 et seq.).

The regulation is essential in protecting the health, safety and welfare of the citizens of the Commonwealth. It enhances the Department's ability to protect the water quality and living resources of Stony Creek for consumption of fish, recreation uses and conservation in general.

Although nutrients such as phosphorus are necessary for the growth of algae which are an essential part of the food chain, problems occur when an overabundance of these nutrients cause excessive growths of algae. Excessive amounts of aquatic plants, particularly algae, can discolor the water, create taste and odor problems for water supply managers, reduce water clarity and block sunlight from submerged aquatic vegetation. Another side effect of excessive algal blooms is impairment of primary contact recreation due to the aesthetically displeasing appearance of the water. The most serious problem resulting from algal growth occurs when the plants die and decay; at that time they can deplete the oxygen level of the water to the point where fish and other aquatic organisms cannot survive. It is important, therefore, that there are nutrient controls so that the symptoms of nutrient enrichment, i.e., the excessive growth of plants and fluctuating levels of dissolved oxygen, be avoided.

The regulation is also essential for the efficient and economical performance of an important governmental function. The amendment establishes the appropriate standards for use in calculating permit limits for point source discharges under the Virginia Pollution Discharge Elimination System Permit program.

Substance

Please identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. Please note that a more detailed discussion is required under the statement of the regulatory action's detail.

The Department's evaluation of agency in-stream nutrient monitoring data for Stony Creek for the period of July 6, 1994 through May 6, 1997 indicated nutrient enriched conditions. Consequently, the Department proposed that the watershed (Stony Creek and its tributaries) qualified for regulatory designation as a nutrient enriched water in sections 350 and 400 of the water quality standards regulation. The basis for this determination was monitoring data for

total phosphorus, which is one of three indicators of nutrient enrichment used for regulatory designation of waters as nutrient enriched.

Issues

Please provide a statement identifying the issues associated with the final regulatory action. The term "issues" means: 1) the advantages and disadvantages to the public of implementing the new provisions; 2) the advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please include a sentence to that effect.

Once these waters are designated as nutrient enriched, a companion regulation, the Board's Policy for Nutrient Enriched Waters (9 VAC 25-40-10 et seq.) requires certain point source dischargers to these waters with a design flow of 1.0 MGD or greater and effluents containing phosphorus to maintain a monthly average total phosphorus concentration of 2 milligrams per liter (mg/l) or less. Rocco Farm Foods near Edinburg - based on a flow of 1.3 MGD - will be the only point source discharger impacted by this regulatory requirement to install a phosphorus removal system to control total phosphorus. The other three point source dischargers in the watershed, Stony Creek Sanitary District, Shrine Mont, and Edinburg Sewage Treatment Plant, have design flows below that covered in the Policy and thus would not be required to install phosphorus controls. New dischargers with flows greater than or equal to 50,000 gallons per day who propose to discharge to these nutrient enriched waters would be required to meet the monthly average total phosphorus effluent limitation of 2 mg/l. Although costs will be incurred by Rocco Farm Foods to install a phosphorus removal system, the company has accepted in their new VPDES permit a schedule for complying with these requirements which are in effect and there will be substantial benefits to the environment resulting from decreased discharges of phosphorus. These benefits will include a reduction in phosphorus discharges to the Chesapeake Bay, protection of nearby fish and wildlife and maintenance of recreation uses of the river.

Public Comment

Please summarize all public comment received during the public comment period and provide the agency response. If no public comment was received, please include a statement indicating that fact.

PURPOSE

This summarizes public comments received in response to a Public Comment Period Notice regarding the agency's consideration whether to designate Stony Creek and its tributaries in Shenandoah County as "nutrient enriched waters." The summary includes the comments provided by the public at an October 27, 1999 public hearing in Woodstock on this matter.

LIST OF COMMENTERS

The following organizations and individuals provided comment. All were in favor of the proposal to designate Stony Creek and its tributaries as "nutrient enriched waters."

David G. Brickley, Director, Virginia Department of Conservation and Recreation (DCR)

Jeff Corbin, Chesapeake Bay Foundation

Sarah P. Faulconer, Friends of the North Fork of the Shenandoah River (FNFSR)

Bill Gaines, FNFSR

William P. Gaidos, President, FNFSR

Bobbie Hinkins, FNFSR

Patricia Maier, FNFSR

Meredith L. Sine, Board of Directors, FNFSR

Henry Staudinger, LFSWCD

Edward J. Ward, LFSWCD

The following individuals were present at the public hearing but did not provide comment:

Robert Bricker, Shenandoah Valley Pure Water 2000 Forum

Charlotte Hughes

Tim Maupin, Rocco, Inc.

Donald Moomaw, Shrine Mont Inc.

Karen Staudinger

W. F. Wise, Shrine Mont

Bob Wolfe, Rocco Farm Foods

SUMMARY AND RESPONSE TO COMMENT BY ISSUE

The summary of public comments has been organized by issue. The names of all commenters providing similar comment are enclosed in parenthesis beside each issue. Staff response is provided after each issue.

In addition, Bob Wolfe requested a copy of the water quality standards regulation and William Gaidos suggested that future DEQ public notices be rewritten so that the 6:30 p.m. prehearing question and answer session is mentioned at the top of the public notice next to the 7:00 p.m. hearing time.

ISSUE: No phosphorus discharge reduction is contemplated if Rocco should redesign its flow capacity below 1.0 MGD. Although DEQ appears comfortable that Rocco will not so design, the excessive nutrient discharge and nutrient enrichment occur at levels below the 1 MGD. DEQ should work with Rocco to make sure that this does not happen because it would defeat the purpose of the nutrient enrichment designation and would make it impossible to meet Tributary Strategy Nutrient Reduction Goals. (LFSWCD)

STAFF RESPONSE: DEQ staff have met with Rocco on this issue and the company has taken the position that they cannot operate at their current or projected production levels at a flow less than 1.0 MGD.

ISSUE: In a letter dated July 14, 1999 from William L. Kregloe, CBF was informed that the State Water Control Board had approved a revised VPDES permit for Rocco Farm Foods, Inc. that included several critical improvements, including: 1) monthly average effluent limitations for total phosphorus and total nitrogen, 2) revisions to the stream monitoring program to include sample collection and analysis for total phosphorus and total nitrogen, and 3) requirements for the permittee to submit a plan to address any projected increases in loading above the current design flow. These changes were strongly supported by CBF and the CBF urges DEQ to ensure that the permittee fully complies with these provisions at the earliest possible date.

STAFF RESPONSE: As with all permits, DEQ's Valley Regional Office will monitor the company's compliance with these permitting conditions which is the standard schedule in the permit (per Reg.) with up to four years if Rocco accepts the total nitrogen limit of 10 mg/L.

ISSUE: The DEQ proposal fails to include a nitrogen reduction requirement because DEQ has not yet established nitrogen standards. The Tributary Strategy Program makes clear that this must be addressed. This can be done by quickly developing nitrogen standards, and/or working with Rocco to voluntarily reduce the discharge of excessive amounts of nitrogen. Failure to address this nutrient pollution factor will only mean that it will have to be addressed at a later date. The delay could also cause considerable hardship to farmers and others who have already done their part to reduce nitrogen runoff. The District urges DEQ to work with Rocco to address this issue now. (LFSWCD)

STAFF RESPONSE: DEQ is a participating state in the EPA Region 3 efforts to develop default regional nutrient criteria which includes numerical criteria for nitrogen and phosphorus. Virginia and other states are expected to adopt nutrient criteria for various water body types by the year 2003. Currently total phosphorus is one of the three indicators of nutrient enrichment used for regulatory designation of waters as nutrient enriched in Virginia. The Department's monitoring data indicate that total phosphorus levels in this creek above the nutrient enrichment trigger for this parameter. The technical advisory committee report which DEQ staff use to evaluate whether a waterbody is nutrient enriched does not consider nitrogen to be an appropriate indicator of nutrient enrichment in flowing waters. Rocco has voluntarily accepted the four-year schedule of compliance and is conducting studies of treatment technologies to achieve compliance with the effluent limits for TP and TN.

ISSUE: Activities dependent upon improved water quality represent potential benefits that far outweigh the cost to the polluter, Rocco, of eliminating the problem. The Chesapeake Bay Agreement, signed by our state, calls for a reduction of nutrients and for the Shenandoah Valley, that reduction could be met by this one facility's being mandated to adhere to the nutrient enriched waters regulation. The State's Economic Impact Study of this proposed amendment cannot estimate, if the nutrient enriched waters designation is denied, the cost of loss of the natural habitat of some creatures caused by the nutrient enriched effluent of the Rocco plant nor can the cost of loss of fish, animals, and plants. There is too the monetary cost to citizens and/or businesses of treating waters that have been degraded by overenriched effluent. Because of the liberal permit that is written for a discharger (Rocco) on Stony Creek, the resulting waters below the discharge are such that any entity, whether business or municipality, that wishes to use that water must spend untold amounts of money to clean it up. This makes it difficult for the Economic Development Council to sell the property, to compete with other counties. The first question a business asks when it proposes to locate in Shenandoah County is the cost of the water, and if they must treat before use, -- and they certainly must on Stony Creek. As a nutrient enriched water, Stony Creek would be under regulations to prevent such degradation, and would provide clean water for prospective buyers. (FNFSR)

STAFF RESPONSE: The State economic analysis does not specifically mention the savings in clean up costs to downstream users of the water but it does cover the other suggested economic benefits. The nutrient reduction benefit to downstream users will be included in the Department's final action on the regulation.

ISSUE: The designation of Stony Creek and its tributaries in Shenandoah County as "nutrient enriched waters" will complement and enhance efforts on the part of DCR and its local partners, Lord Fairfax Soil and Water Conservation District and the Friends of the North Fork of the Shenandoah River, to implement the Shenandoah-Potomac Tributary Strategy. DCR has heavily promoted Nutrient Management planning and best management practices in the agricultural community in order to reduce nitrogen and phosphorus loads in the basin but there are still several permitted discharges whose nutrient loadings have the potential to negatively impact the gains made thus far. The "nutrient enriched waters" designation will directly address the issue of permitted dischargers that were not accounted for in the original tributary strategy document. (DCR, LFSWCD)

STAFF RESPONSE: DEQ recognizes this benefit of the proposed rulemaking.

ISSUE: Improving the water quality of Stony Creek will be beneficial to the wood turtle, Clemnys insculpta, which has been documented in Stony Creek and is classified as threatened by the Virginia Department of Game and Inland Fisheries. (DCR)

STAFF RESPONSE: DCR's comments are acknowledged and were mentioned in the DPB economic analysis.

ISSUE: Tributary strategy data show that Rocco exceeds all three municipal discharges in the release of nutrients. (Bill Gaines)

STAFF RESPONSE: If these waters are designated nutrient enriched, a companion regulation, the Board's Policy for Nutrient Enriched Waters (9 VAC 25-40-10) requires certain municipal and industrial dischargers with a design flow of 1.0 MGD or greater and effluents containing phosphorus to maintain a monthly average total phosphorus concentration of 2 milligrams per liter (mg/L) or less. Rocco Farm Foods near Edinburg - based on a design flow of 1.3 MGD - would be the only point source discharger impacted by this regulatory requirement to install a phosphorus removal system to control total phosphorus. The other three point source dischargers in the watershed, Stony Creek Sanitary District, Shrine Mont, and Edinburg Sewage Treatment Plant, have design flows below that covered in the Policy and thus would not be required to install phosphorus controls. New dischargers with flows greater than or equal to 50,000 gallons per day who propose to discharge to these nutrient enriched waters would be required to meet the monthly average total phosphorus effluent limitation of 2 mg/L.

ISSUE: Virginia's Department of Planning and Budget performed an Economic Impact analysis related to the proposed designation of Stony Creek. The results of the analysis indicated that implementation of nutrient reduction technology at the Rocco facility would cost in the range of 2 - 2.5 million dollars. Albeit large in absolute dollars, this expenditure is relatively small compared to financial commitments from wastewater treatment facilities committed to reducing nutrient discharges throughout the Chesapeake Bay watershed and minuscule compared to the potential economic benefits resulting from activities dependent upon improved water quality. In addition, a report by Dr. Clifford W. Randall at Virginia Tech dated May, 1998 concluded that - for a total investment of 4.5 million dollars - average total nitrogen concentrations in Rocco's effluent could be drastically reduced to 3 mg/L. Installation of this technology would thereafter result in decreased annual maintenance and operation costs. This is a significant improvement relative to the current annual average effluent concentration of 128 mg/L. It should also be noted that a letter from Jeffrey L. Rein, Maryland Department of the Environment to William L. Kregloe dated July 29, 1998 stated that similar poultry processing facilities in Maryland have received very stringent nutrient limits in their discharge permits. Total nitrogen limits range from 5 to 10 mg/L.

STAFF RESPONSE: A summary of these and other comments will be provided to the State Water Control Board for consideration before they take action on the proposed amendments and this summary of comments will also be included in the final action on this regulation. As a point of clarification, the value for total nitrogen of 128 mg/L referred to in Dr. Randall's report

was subsequently corrected to 42 mg/L because the initial value was reported as phosphate instead of phosphorus.

Detail of Changes

Please detail any changes, other than strictly editorial changes, that are being proposed. Please detail new substantive provisions, all substantive changes to existing sections, or both where appropriate. This statement should provide a section-by-section description - or crosswalk - of changes implemented by the proposed regulatory action. Include citations to the specific sections of an existing regulation being amended and explain the consequences of the changes.

Once the water is designated nutrient enriched a companion regulation, the Board's policy for Nutrient Enriched waters (9 VAC 25-40-10) requires certain municipal and industrial dischargers with a design flow of 1.0 MGD or greater and effluents containing phosphorus to maintain a monthly average total phosphorus concentrations of 2 milligrams per liter (mg/l) or less. Rocco Farm Foods near Edinburg - based on a design flow of 1.3 MGD - would be the only point source discharger impacted by this regulatory requirement to install a phosphorus removal system to control total phosphorus.

Family Impact Statement

Please provide an analysis of the regulatory action that assesses the impact on the institution of the family and family stability including the extent to which the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

This action will help ensure that the water quality of the classified waters are maintained for the enjoyment and benefit of future generations of the families which currently recreate on or otherwise use these waters but will not impact directly the institution of the family and family stability.