



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Secretary of Natural Resources

David K. Paylor
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Regional Director

April 21, 2006

Dr. Lynton Land
PO Box 539
Ophelia, VA 22530

RE: February 17, 2006 Correspondence on the Northumberland County Shellfish TMDLs

Dear Dr. Land:

Thank you for your written comments regarding DEQ's TMDL effort. We appreciate you taking the time to provide us with your thoughts and your continued participation in local TMDL meetings.

As you noted in your letter, you corresponded with Pete Gold (EPA Region III) regarding several of your concerns in the recent past. I am including a copy of his response for reference.

Responses to your comments are italicized below each comment submitted following this cover page. Your comments and these responses, along with all received comment documents, will be posted on the DEQ TMDL Web site with the TMDL documents and become part of the official record.

Please let me know if you have any questions regarding the information provided.

Sincerely,

A handwritten signature in cursive script, appearing to read "Chris French".

R. Christopher French
TMDL Coordinator
Piedmont Regional Office, DEQ

Comment 1. The reason for poor water quality (impairment) in local waterways has nothing to do with bacteria. Impairment is due to nitrification...

Response: Shellfish harvesting is one of several designated uses for these water bodies. Water quality monitoring data collected by the VA Department of Health - Division of Shellfish Sanitation shows exceedances of the bacterial water quality standards. The Clean Water Act and VA state law require the development of TMDL plans to address the sources of impairment and to establish goals to achieve water quality standards. There is no question these areas exceed the bacterial water quality standards for shellfish harvesting.

Please refer to Mr. Gold's letter regarding nutrient impairments.

Comment 2. The BST (MST) methodology DEQ is using to identify the source of bacteria is inadequate.

Response: Please refer to Mr. Gold's previous comments.

Comment 3. A source of bacteria, namely the anoxic sediment, has been ignored. It is now well established the coliform bacteria are resident in the anoxic mud that characterizes the bottom of impaired waterways... This being true, even if all new bacteria input was curtailed, the waterways would still be contaminated.

Response: Thank you for providing a link to Dr. Kator's research. While this shows some promise, it is not definitive. Dr. Kator states in the abstract, "Overall results suggest that the sediment fecal coliform reservoir requires further evaluation and should be considered as a potential source factor in TMDL budgets." Additional research is required before anything definitive can be asserted regarding sediment sourcing of fecal bacteria, especially in regard to bacterial viability, re-suspension and survival in the system. DEQ continues to monitor scientific research in this field. When there is more consensus on this subject, we will evaluate its applicability to the TMDL program.

Comment 4. No attempt has been made to determine the runoff load of bacteria or its BST signal.

Response: As you are aware, there are very limited resources to conduct monitoring throughout Virginia. This is true of BST monitoring for bacterial impairments. The VDH bacterial data is one of the largest continuous data sets in the state. Their samples are not targeted specifically at precipitation events, but do capture the bacterial deposition of runoff events into estuarine waters over their period of record. Because of the limited resources for additional monitoring at the more than 200 shellfish TMDLs due in Virginia by 2010, DEQ makes the assumption that the robust VDH bacterial dataset reflects the inputs of non-point source storm runoff into the estuaries sampled.