FINAL

Comment Response Document
Regarding the Total Maximum Daily Loads of Fecal Coliform for Restricted Shellfish Harvesting Areas in Whitehall Creek, Indian Creek, Goose Creek, Warwick River, and San Domingo Creek for the Lower Choptank River Basin in Dorchester and Talbot Counties, Maryland

The Maryland Department of the Environment (MDE) has conducted a public review of the proposed Total Maximum Daily Loads (TMDLs) of Fecal Coliform for Restricted Shellfish Harvesting Areas in Whitehall Creek, Indian Creek, Goose Creek, Warwick River, and San Domingo Creek for the Lower Choptank River Basin. The public comment period was open from June 2, 2006 through July 3, 2006. MDE received two sets of written comments.

Below is a list of commentors, their affiliation, the date comments were submitted, and the numbered references to the comments submitted. In the pages that follow, comments are summarized and listed with MDE's response.

List of Commentors

Author	Affiliation	Date	Comment Number
Jennifer Schaafsma	Maryland Department of Agriculture	June 5, 2006	1 through 5
Jennifer Sincock	U.S. Environmental Protection Agency Region 3	June 29, 2006	6 through 10

Comments and Responses

1. The commentor states that they checked with their districts about the animal count numbers. The commentor states that livestock has been decreasing especially in that part of the county so the actual numbers are lower than the 2002 census figures used. The commentor continues that the seasonality of the distribution would indicate that a major source is migrating wildfowl, since it peaks in the late fall. The commentor also states that the district reports that cover crops were hard to establish because of the wild geese grazing them. The commentor states that wildlife numbers have been increasing.

   Response: MDE is committed to developing TMDLs for all of its impaired waters on a schedule developed in cooperation with the U.S. Environmental Protection Agency (EPA). In keeping with that schedule, Maryland slated this and other fecal coliform/bacteria TMDLs to be completed in this timeframe. MDE is currently conducting bacteria source tracking (BST) for all fecal coliform TMDLs currently scheduled or completed for TMDL development as soon as possible. Unfortunately, MDE's completion of BST analyses for these watersheds is constrained by the laboratory capacity with which the State has contracted to perform the work. This is a necessary constraint, given that BST is a new science. MDE is using one research laboratory to reduce possible discrepancies in source library building between multiple laboratories. It is expected that the BST results will

provide a more accurate estimate of bacteria sources within the embayment. The TMDL reports will be revisited upon receipt of the BST results.

MDE has received approval from EPA to proceed in this manner, with the understanding that the TMDL reports will be revisited and receive potential revisions that are subject to public consideration upon receipt of the BST results. In the mean time, the State is using the best available information to estimate the bacteria loading contributions by the four major source categories (human, pet, livestock and wildlife). It is expected that these data will be used as a tool to identify significant source contributions in the basin.

Please note that the TMDL is an estimate of the assimilative capacity of the water body and is based on the water quality criteria. We typically estimate the current condition (baseline) to give an approximation of the reduction that will be required for attainment of water quality standards. Therefore, the BST source information will not change the estimated assimilative capacity, but will provide more precision and accuracy to the current source distribution. The BST information will be available for Lower Choptank River Basin in 2008.

2. The commentors state that there are no feedlots and no pasture. The commentor states that cropland is not a source of fecal coliform, especially where the land is level and there is more infiltration than runoff. The commentor continues that this is an area that uses chemical fertilizer because manure sources are not close.

   Response: Please see response to Comment #1.

3. The commentor states that the estimate for humans is too low. The commentor continues that septic systems that have less than four feet clearance from the groundwater are considered to be failing according to the EPA Chesapeake Bay Program. The commentor continues that all of the watersheds have numerous septic systems, only two have partial sewerage.

   Response: Please see response to Comment #1.

4. The commentor states that contributions from boats cannot be ignored.

   Response: The State considered methods to include sources from recreation activity but decided the information required for the analysis was limited and the calculation would be very uncertain. Recall from the report that the source analysis methodology presented in this document is to provide a relative ranking of probable sources in the watershed, assuming all sources are contributing.

   It is expected that the BST results will provide a more accurate estimate of bacteria sources within the embayment.

5. The commentor states that the domestic animals (dogs, etc.) outnumber the livestock. The commentor states that logic would indicate the TMDL's assignment of loads to livestock is

wrong especially in the Whitehall Creek where the assumption of MDE is that 6 hogs equal 81% of the fecal pollution.

Response: Please see response to Comment #1.

6. The commentor referencing Section 2.2 and Appendix D; Section 2.2 states that there are five shellfish monitoring stations in the restricted shellfish harvesting areas addressed in this report. Additionally, there are three shellfish monitoring stations (Stations 10-02-005, 10-01-010, and 08-07-005) that are used as model boundary conditions. Tabulations of observed fecal coliform values at each monitoring station are provided in Appendix D. However, Appendix D does not include data from the three boundary condition stations. The commentor states that Appendix D should also include data for stations 10-02-005, 10-01-010, and 08-07-005.

   Response: The appendix has been revised to include the requested data.

7. The commentor states that Section 2.3, page 22, last paragraph, second sentence the following is stated: "The water quality impairment was assessed as not meeting the 90th percentile at seven monitoring stations, and not meeting either the median or the 90th percentile at four monitoring stations...". The commentor states that this statement is inconsistent with Section 2.2 and Table 2.3.1. Section 2.2 states that there are a total of eight shellfish monitoring stations with five stations in the five restricted shellfish harvesting areas and three stations used as model boundary conditions. The commentor continues that Section 2.2 also states that the boundary condition stations are not used in the impairment analysis. Table 2.3.1 shows the five shellfish harvesting stations with all five exceeding the 90th percentile and three of the five exceeding the median criteria. The commentor requests a clarification in this section.

   Response: A clarification has been made in the document.

8. The commentor states that in Section 4.3, page 29, first paragraph, the following is stated: "The seasonal fecal coliform distributions for the nine applicable monitoring stations are presented in Appendix C." However, Appendix C shows only five stations.

   Response: The sentence in Section 4.3 has been revised to correctly state five stations were used.

9. The commentor states that Section 4.4, page 29, second paragraph, last three sentences should be revised to clarify which station is the boundary station and which represents the restricted shellfish harvesting area concentrations. (Original comment clarified by phone conversation.)

   Response: The paragraph has been revised to clarify which stations are boundary stations and which represents the restricted shellfish harvesting area.

10. The commentor, referencing Appendix C, Figures C-2, C-3, and C-4, states that the titles of these figures do not match the monitoring station data presented in the figures. Figure C-2 should be for Indian Creek not Whitehall Creek. Figure C-3 should be for Goose Creek not Indian Creek. Figure C-4 should be for Warwick River not Goose Creek.

    Response: The titles for the figures have been corrected.