

HARRIS COUNTY
PUBLIC INFRASTRUCTURE DEPARTMENT

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December 15, 2006

C. Allan Jones, Ph.D., Director
Texas Water Resources Institute
1500 Research Parkway, Ste. 240
College Station, TX 77843-2118

SUBJECT: BTMDL Task Force Report – Second Draft, December 4, 2006

Dear Dr. Jones:

Harris County appreciates the opportunity to comment on the referenced report. We are deeply appreciative of the time and effort taken by you and the other members of the Task Force in guiding future work in the field of water quality. Transmitted herewith for consideration by the Task Force please find attached Harris County's comments on the Second Draft of the Report.

If you have any questions regarding these comments or need further information, please call me at (713) 316-4877 or Alisa Max at (713) 290-3089.

Sincerely,



John Blount, P.E.
Deputy Director
Planning & Operations

Attachments: Comments on BTMDL Task Force Report

cc: Kevin Wagner – TWRI
Alisa S. Max, P.E. – Harris County
Trent Martin – Harris County
Joe Myers, P.E. – Harris County Flood Control District
Catherine Elliot – Harris County Flood Control District

Comments on Bacteria Total Maximum Daily Load Task Force Report
Second Draft – dated December 4, 2006

John Blount, P.E. – Harris County

1. The Bacteria Source Tracking section describes several commonly-used BST tools. However, a TCEQ study for Buffalo and White Oak Bayous and another for Orange County was recently initiated to examine enteric viruses. These studies have a source tracking component. Since enteric viruses appears to be a currently-used tracking methodology, Harris County recommends changing the name of this section from “Bacteria Source Tracking” to “Microbial Source Tracking” and include a discussion and analysis on enteric viruses.
2. Recommended Decision-Making Process for Texas TMDL and I-Plan Development – Page 32. “Step 2” describes “Sanitary Surveys”. The connotation of this phrase denotes sanitary sewerages. However, surveys in this context involve efforts far beyond the scope of WWTPs and collection systems. Therefore, Harris County recommends changing the name from “Sanitary Survey” to “Source Survey”.

Also, please change the phrase, “cities and municipalities” to “local governments”. This broader concept includes special districts and counties, in addition to cities and municipalities.

3. Recommended Decision-Making Process for Texas TMDL and I-Plan Development – Page 33. “Step 3” states that monitoring should not begin until input from the stakeholders is received. Harris County is in full agreement with this statement and appreciates its inclusion.

Also, we request that a statement be added that water quality in one waterway should not be extrapolated and applied for another waterway.

Lastly, in “Step 5”, it is our understanding that BST does not distinguish the means in which the bacteria arrived in a stream (ie- did the human bacteria come out of a pipe or did it regrow from other human bacteria already in the stream). These means are different inputs into most models and could also influence greatly the implementation approaches proposed. Understanding how the bacteria arrived in the stream is also vital in determining what the ratio of human: non-human truly means with respect to reducing point loads into the stream.

4. Recommended Decision-Making Process for Texas TMDL and I-Plan Development – Page 34, “Step 7”. Harris County requests that a discussion of adaptive management occur here, including mention of the potential for adverse economic impact in implementing BMPs that are not shown to be effective. Harris County is adamant, as an entity that will be responsible for implementation, that due science

prove the effectiveness of a BMP before its use is required. We do not believe that wasting taxpayers' money on ineffective "solutions" is palatable.

5. "Bacteria Source Tracking", Page 20. Please include a discussion on the limitations of BST regarding regrowth of bacteria. If regrowth of bacteria occurs, such as is seen in urban streams, then researchers must address if bacteria from different sources re-grow at the same rates; otherwise, differential regrowth rates would badly skew any conclusions.

Also, fecal indicator bacteria has been found in high numbers from a number of non-animal sources, from rooftops and gardens to mulch stockpiles and forests. Some study designs, such as the BST Study completed for Buffalo and White Oak Bayous in Harris County, assign all bacteria isolates to an animal group. This approach ignores contributions of bacteria from non-animal sources. We recommend including in this discussion an examination and recommendation to address subject bacteria from non-animal sources.

6. Research and Development Needs – Page 35. This section addresses tools and methods for TMDL and I-Plan development. Although important, an equally-important - if not more important - need is the research required for development of tools and methods for *implementation*. That is, once a TMDL and I-Plan is in place, how can local governments and stakeholders feasibly and effectively achieve desired results?
7. Characterization of Sources – Page 36. Please add among the studies needed, studies to quantify bacteria production/shedding from non-animal sources, such as mulch, gardens, or other organic-rich environments.
8. Characterization of Sources – Page 37. The description of studies to improve characterization of loadings from WWTPs states that "(r)e-growth of bacteria after incomplete disinfection can be another concern worthy of more study." Please remove the word "incomplete" from this sentence. Harris County has found that even fully-disinfected WWTP effluent provides a superb growth media for indicator bacteria.
9. Characterization of Kinetic Rates and Transport Mechanisms – Page 40 The last paragraph describes studies to quantify suspended bacteria in stream water column and sediments. Included for consideration is a "...need to consider die-off and re-growth of bacteria under various..." conditions. Harris County requests that bacteria die-off and re-growth be studies of their own; *i.e.*; have its own bullet point. In addition to the conditions listed (sediment, nutrient, water temperature) please include "occurrence of WWTP effluent".

10. In general, this report does not delve into implementation, which was a stated objective for the Task Force. If the Task Force agrees that an assessment of implantation needs and strategies is beyond its scope, then Harris County requests that the Task Force recommend that an independent group, comprised of practitioners as well as academia and under the auspices of TSSWCB and TCEQ, be developed to form a white paper on this subject.
11. Table 1 – please add a row to address complexity and/or cost. Also, please note that no model is believed to adequately model bacteria re-growth. This could be a particular hindrance for effluent dominated streams.
12. The concept in the Load Reduction Curve of “Exceeds Feasible Management” is a great concept that should be added to other models.
13. Determination of Effectiveness of Control Measures, Page 42. Harris County disagrees with the statement that determination of effectiveness of various controls is beyond the scope of TMDL and I-Plan development. It is critical to recognize where to draw the line for “exceeds reasonable management”. The only true way to know this is to understand how effective treatment controls are. Rather than considering effectiveness of controls as a separate issue from TMDL and I-Plan development, Harris County would like to see a fuller treatment of this subject incorporated into these discussions.

Also, please change the word “could” to “should” in the second sentence of each bullet point.

14. Harris County’s comments from the First Draft are referenced by hyperlink. Please include these and future comments from Harris County in full text. The County can provide comments in electronic format if it would facilitate this request.
15. Several comments from our previous review have not been addressed in this draft. They include Comments # 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, and 15. Please address those comments as well.