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July 11, 2014

Mr. Jim de Lambert
Bassett Creek Watershed Management Commission
7800 Golden Valley Road
Golden Valley, MN 55427

Dear Mr. Lambert:

Thank you for your comments on the *Draft Upper Mississippi River Bacteria Total Maximum Daily Load (TMDL) Study and Protection Plan*. Below are our responses to your comments.

*Comment 1: Impaired waters listings for bacteria in Plymouth Creek, #0701 0206-526 and North Branch Bassett Creek, #07010206-552- our experience has been that both of these stream reaches routinely go dry each year. In addition, both of these reaches are highly channelized and have been significantly altered by ditching. It is suggested that these listings be considered as Category 4C water bodies. The category applies to both Plymouth Creek and North Branch Bassett Creek because the non-attainment of the applicable water quality standard is not caused by a pollutant. Examples of circumstances where an impaired segment may be placed in Category 4C include waterbodies impaired solely due to lack of adequate flow or to stream channelization.*

Response 1: As you know, the Environmental Protection Agency's Consolidated Assessment and Listing Methodology (CALM) Category 4C defines waterbodies that are "Impaired, but a TMDL study is not required because the impairment is not caused by a pollutant". In this case, *E. coli* is considered a pollutant and these reaches exceed that standard. Thus, it is appropriate that a TMDL Study be conducted for this impairment.

*Comment 2: Bacteria delivery factor (p. 84) - the Water Quality Risk GIS layer, despite the adjustment for imperviousness, represents a questionable basis for the bacteria delivery factors in urbanized watersheds because these areas are mostly serviced by storm sewer systems that can deliver various sources of bacteria several miles, regardless of proximity or terrain. As a result, we are concerned that this GIS data was used to develop the list of relative potential bacteria sources in Tables 4-15 and 4-16, which could result in misallocating resources (funding, staffing, etc.) for future implementation efforts.*

Response 2: It is our feeling that the adjustment for imperviousness does an adequate job of representing the increase in delivery that happens in developed, storm-sewer influenced areas. While one could argue that it does not weight the increased delivery factor high enough, all watersheds with urban land uses are treated in the same manner so each of the various sources are weighted in the same way. We plan to work closely with local partners such as your organization as we develop more detailed implementation strategies as part of the Implementation Plan for this TMDL. This will help ensure that proposed implementation efforts are appropriate for each TMDL subwatershed.

*Comment 3: Tables 4-15 and 4-16- we question why any kind of livestock (registered or otherwise) are depicted in either table for any of the three impairments in the Bassett Creek watershed, since it is not expected that any of these animals are present. Table 4-15 indicates that all three of the Bassett Creek subwatersheds have a low potential of delivery from land application of septage. Do you have documented examples of this practice anywhere within these subwatersheds? If not, please remove any indication of septage from the corresponding subwatershed(s). Based on our review of Table 4-3, we understand why Table 4-15 depicts illicit connections as having low potential for delivery within all three of the BCWMC impaired subwatersheds, but do not understand why humans are depicted as having medium-low potential for the respective subwatersheds in Table 4-16, when Table 4-9 indicates that this source should represent a low relative rank among all potential sources. In Table 4-16, please change humans to having low potential for the subwatersheds.*

Response 3: Livestock presence within the subwatershed was determined using the 2007 National Agricultural Statistics Service data which is a fairly general data set so it is likely that as the dataset was intersected with the subwatershed shapefile there was an overlap. We will add a footnote to Table 4-15 that states that local sources note that grazing animals are not present in this subwatershed. We will also clarify that in the Implementation Plan which is under development. We do not have documentation that septage is applied within the subwatersheds of the BCWMC but we also have no documentation that it is not applied. We do not have a reliable dataset that shows where septage is or is not applied within any of the areas within the study area so we used the assumptions that are stated in the TMDL. We will add a footnote to Table 4-15 that clarifies the lack of locational data for the "Land Application of Biosolids" column. Humans are correctly depicted as having medium-low potential for the respective subwatersheds in Table 4-16 because when each of the individual human source values are added together that total results in the higher potential ranking. Please note that this was a very high level source analysis and we will work with you during the development of the Implementation Plan for this project to determine the best approaches to reduce bacteria concentrations.

*Comment 4: Plymouth Creek TMDL loading capacity, existing geometric means and percentage reductions (pp. 167, 168, 184, 185, 217, 226)- Appendix C, Table C-1 does not indicate any monitoring sites for the source of the E. coli data for Plymouth Creek, but Figures 6-60 and 6-61, and Table D-1 show existing monitoring data for portions of 2008, 2009 and 2010. Please indicate which monitoring stations were used for the analysis of Plymouth Creek. Table C-1 also indicates that you are using flow data from the Bassett Creek WOMP station in Minneapolis to develop the loading capacity for Plymouth Creek in Plymouth. It is strongly recommended that you use more representative flow monitoring data to determine the loading capacity and allocations for Plymouth Creek since the WOMP station and Plymouth Creek are far apart and separated by Medicine Lake. It is expected that the City of Plymouth and/or Three Rivers Park District have collected flow data from the impaired reach of Plymouth Creek during the open water periods between 2001 and 2013 that would be better suited for this TMDL.*

Response 4: Thank you for catching the monitoring location error in Table C-1. We will add information to the report that the monitoring stations used for Plymouth Creek were S005-012, S005-346, and S005-351. We were not aware of any flow data for Plymouth Creek and we are confident that the data from the WOMP station was an appropriate surrogate. While pollutant concentrations would vary from upstream to downstream of a lake, it is expected that the flows would be relatively similar.

*Comment 5: Monitoring Plan (Section 11) - Given the spatial/temporal limitations of the microbial source tracking study, and its limited ability to differentiate human and pet sources of bacteria, it is unclear how the intensive watershed monitoring approach prescribed for the next ten-year cycle will significantly improve on the current understanding of the problem and better inform future implementation efforts, despite the potential for assistance from local partners. It is recommended that MPCA devote more resources to better understanding the sources, fate and transport of pathogens at an appropriate scale for BMP implementation and source reduction, including a better understanding of the legacy effects of past discharges (such as septic systems, land application of septage or biosolids, etc.). In the Bassett Creek watershed, it will be important for future assessments of TMDL compliance to include flow monitoring data for all three of the impaired reaches addressed in this report, since the flow-duration characteristics of the upper subwatersheds cannot adequately be characterized by the MCES WOMP monitoring in the downstream reach. In addition, dispensation should be given for the fact that the upstream reaches are not likely to maintain flow throughout the year.*

Response 5: As we have still not even monitored all of Minnesota's rivers, lakes, and wetlands, our Intensive Watershed Monitoring (IWM) approach is currently appropriate based on the funds available. During the IWM process, efforts will be made to assess and fill existing data gaps so an effective assessment can be made on a particular surface water resource within the watershed. We will take your suggestions of flow monitoring and source assessment into consideration during the next IWM cycle and look forward to working with you to identify monitoring gaps in the Implementation Plan. Also, note our response above that considers the Watershed Outlet Monitoring Program (WOMP) station flow data appropriate for this TMDL Study. There are many issues that impact the health of Minnesota's surface waters. The MPCA is committed to sustaining our strong working relationships with our partners across the state and working together in the restoration and protection of these vital resources.

Again, thank you for taking the time to review and provide comments on the *Draft Upper Mississippi River Bacteria TMDL Study and Protection Plan.* Please feel free to contact us if you have further questions.

Sincerely,

Barb Peichel and Phil Votruba
Project Managers, Watershed Section
Minnesota Pollution Control Agency

BP:kb

cc: Mark Wettlaufer, Minnesota Department of Health
Pat Conrad, Emmons & Olivier Resources, Inc.