MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Draft Bacteria Total Maximum Daily Loads (TMDLs) and Implementation Plans

for

Black Creek (WBID 3825), Deer Creek (WBID 3826),
Gravois Creek (WBID 1712 and 1713), Gravois Creek Tributary (WBID 4051),
and Maline Creek (WBID 1709)

SUMMARY OF PUBLIC COMMENTS AND DEPARTMENT RESPONSES

Public Notice
March 3, 2016 – May 2, 2017

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INTRODUCTION

U.S. Environmental Protection Agency regulations require that total maximum daily loads, or TMDLs, be subject to public review (40 CFR 130.7). The Missouri Department of Natural Resources placed the draft Black Creek, Deer Creek, Gravois Creek, and Maline Creek bacteria TMDLs and implementation plans on a 45-day public notice and comment period from March 3, 2017 to May 2, 2017. All original comments received during this public notice period are available in their entirety online and can be accessed from the department's website at the following water body record pages:

Black Creek and Deer Creek: dnr.mo.gov/env/wpp/tmdl/3825-3826-black-cr-deer-cr-record.htm
Gravois Creek: dnr.mo.gov/env/wpp/tmdl/1712-1713-gravois-cr-record.htm
Maline Creek: dnr.mo.gov/env/wpp/tmdl/1709-3839-maline-cr-record.htm

This document summarizes and paraphrases the comments received, provides the department's responses to those comments, and notes any changes made to the final TMDL or implementation plan resulting from these comments. Similar comments have been grouped and addressed with a single response. Although consideration is given to all comments, not all comments result in changes to the final TMDL or implementation plan documents. Suggested edits or language changes provided as public comments that provide additional clarification or corrected inaccurate statements or incorrect information are incorporated into final documents as appropriate. Suggested changes that conflict with Missouri's Water Quality Standards, department style guidelines, or elements required for EPA approval are not incorporated.

Comments were received from the following groups or individuals:

Deer Creek Watershed Alliance

Haake, Danelle

Kuechenmeister, Mark

Metropolitan St. Louis Sewer District

Sherburne, Dan

RESPONSE TO COMMENTS
(Public comments in bold)

1. General Comments: **Several commenters noted the lack of a nonpoint source load allocation in the draft TMDLs or questioned the use of an aggregated wasteload allocation for all stormwater driven sources. Bacterial loading from specific nonpoint sources such as wildlife, onsite wastewater treatment systems, municipalities not regulated by an MS4 permit, and stabled horses were mentioned as needing to be considered. One commenter questioned the lack of allocations to specific sources such as onsite wastewater treatment systems, illicit straight pipe dischargers and MoDOT's TS4.**

1. Response: Federal regulations issued in 1999 require that discharges from municipal separate storm sewer systems, or MS4s, that are located in U.S. Census Bureau defined urban areas be regulated through permits. As discussed in Section 2.3 of the TMDLs, the entire watershed areas addressed by these TMDLs fall within the boundaries of a defined Census Bureau urban area and therefore fall within areas regulated by MS4 permits. Federal regulations at 40 CFR 130.2 require that permitted discharges be included in the wasteload allocation of a TMDL. Therefore, for purposes of these TMDLs, all stormwater discharges within the defined urban area are included in an aggregated wasteload allocation (See Section 8.3 of the TMDLs). Such an approach is acceptable where there are insufficient data to calculate loads on an outfall-by-outfall basis or in cases where it is difficult to discern regulated from nonregulated discharges, which would typically be included in the load allocation portion of the TMDL. Individual pollutant sources are identified in the source assessment in Section 5 of the TMDLs and are quantified to the extent that information is available. Additional data collection, as suggested by one commenter, can be used to inform the implementation process by focusing pollutant reduction efforts and identifying critical areas. Best management practices, potential watershed partners, and funding sources to address specific pollutant sources identified in the TMDL are included in the supplemental implementation plans. Additionally, guidance for addressing pollutant loading from specific permit holders, such as the Missouri Department of Transportation, are included in Section 6.1.1 and Table 3 of the Gravois Creek and Maline Creek TMDL implementation plans, and Table 4 of the Deer Creek and Black Creek TMDL implementation plan. Illicit straight pipe dischargers, which are illegal, and onsite wastewater treatment systems, which if operating properly should not be contributing loads above *de minimis* levels, were assigned allocations of zero.

2. Comment: **The Deer Creek Watershed Alliance recommends deleting from Section 5.2.2. of the Deer Creek and Black Creek TMDL the sentence reading, "For this reason, no nonpoint urban runoff sources have been identified that are likely to be contributing to the bacteria impairment of either Deer Creek or Black Creek." Language primarily pertaining to the Deer Creek Watershed Management Plan and voluntary implementation of stormwater BMPs by watershed landowners is provided and suggested as a replacement to the deleted sentence.**

2. Response: As stated in the response to comment 1, due to the Deer Creek watershed being located wholly within a U.S. Census Bureau defined urban area, all urban runoff sources were included in the point source discussion of the TMDL. The sentence immediately following the one requested for deletion notes this and directs readers to Section 5.1.3 of the TMDL where there is a more detailed discussion of urban runoff sources. The department appreciates the efforts of the Deer Creek Watershed Alliance to improve water quality in the Deer Creek watershed. The department also recognizes the importance of voluntary BMP implementation to help achieve the stated TMDL targets. To this end, the supplementary TMDL implementation plan notes the development of the Deer Creek Watershed Management Plan and specifically points to this plan as a means of implementation for achieving pollutant reductions from nonpoint sources. The department looks forward to continuing to support the watershed planning efforts of the Deer Creek Watershed Alliance. More information regarding voluntary BMP implementation through the department's Section 319 Nonpoint Source Implementation Program can be found online at dnr.mo.gov/env/swcp/nps/index.html or by contacting Trish Rielly, Section 319 Nonpoint Source Unit Chief, at trish.rielly@dnr.mo.gov or 573-426-4662. No changes to the TMDL or implementation document were made as a result of this comment.

3. Comment: **Mark Kuechenmeister extended an offer to collect volunteer water quality monitoring data from Maline Creek through the department's Cooperative Stream Investigation, or CSI, program.**

3. Response: The department appreciates Mr. Kuechenmeister's interest in water quality monitoring efforts in the Maline Creek watershed. Currently enough information is available to develop a TMDL, however as implementation activities occur additional water quality data will be needed to document water quality improvements and for estimating pollutant loading reductions. Some implementation actions, such as the elimination of combined sewer overflows, will occur over a number of years and water quality improvements may not be immediately noticeable. Mr. Kuechenmeister's offer to monitor water quality in Maline Creek and his contact information have been shared with Randy Sarver, Volunteer Water Quality Monitoring Coordinator. Mr. Sarver may be contacted for additional information at Randy.Sarver@dnr.mo.gov or 573-522-8286. Information regarding the department's CSI program is available online at http://dnr.mo.gov/env/esp/csi.htm.

4. Comment: **The Metropolitan St. Louis Sewer District provided additional clarification regarding the potential for bacteria loading from highway corridors in the urban areas of St. Louis County as discussed in Section 5.1.3 of the draft TMDLs. It is suggested that two sentences, which characterize the significance of highway bacterial contributions, be deleted.**

A similar comment: **Dan Sherburne states, "..it's unclear how the contribution these highways may be making to bacterial pollution can be dismissed as insignificant."**

4. Response: Bacteria loading contributions from highway systems were characterized based on information provided in two separate Federal Highway Administration studies published in 1984 and 1998. As noted in the TMDLs, bacteria contributions from highway systems are sporadic, vary widely in intensity, and are affected primarily by site-specific conditions. The difference in potential loading from urban areas vs. rural areas where livestock transportation is more common was specifically stated. Despite TMDL assumptions that highway corridors are not a significant contributor to the bacteria impairments, contributions from these highway areas are included in the aggregated wasteload allocation. Additionally, guidance for addressing pollutant loading from specific permit holders, including the Missouri Department of Transportation, is provided in Section 6.1.1 and Table 3 of the Gravois Creek and Maline Creek TMDL implementation plans, and Table 4 of the Deer Creek and Black Creek TMDL implementation plan. Furthermore, conditions and requirements specific to the Department of Transportation's stormwater permit require consistency with TMDL wasteload allocations as well as continued implementation of six minimum control measures including illicit discharge detection and elimination. It should also be noted that although not identical, the language included in the draft TMDLs is similar to that which appeared in bacteria TMDLs for four other St. Louis area streams, which were approved by EPA on July 13, 2016. No changes were made as a result of this comment.

5. Comment: **The Metropolitan St. Louis Sewer District notes the TMDLs' mention of a supplemental environmental project, or SEP, to decommission some onsite wastewater treatment systems as part of their consent decree. The commenter states that the final report regarding this SEP will be submitted in August 2017.**

5. Response: The department appreciates Metropolitan St. Louis Sewer District's efforts to keep the department informed about its progress in meeting the consent decree requirements.

6. Comment: **The Metropolitan St. Louis Sewer District states, "According to its Missouri State Operation Permit, Lambert St. Louis International Airport discharges stormwater into Maline Creek (MO-0111210). The Maline Creek TMDL does not mention this permit or discharge."**

6. Response: The Lambert-St. Louis International airport permit is discussed in Section 5.1.2 of the Maline Creek TMDL. The location of this facility is also indicated in Figure 5 of the TMDL. Section 8.2 of the TMDL expresses the wasteload allocation for this facility as "current permit conditions."

7. Comment: **The Metropolitan St. Louis Sewer District questions the validity of the flow duration curve that was derived for the unnamed tributary to Gravois Creek, water body identification number 4051. Factors cited by the commenter include differences in watershed size and land use from the greater Gravois Creek watershed and gage drainage area. The commenter requests the department validate the flow duration curve or use another approach.**

7. Response: The flow duration curve and subsequent load duration curve for the tributary to Gravois Creek were derived using area corrected flow data from USGS gage 07010180 located on Gravois Creek near Mehlville. Specific information regarding this gage and the correction factor used for deriving the load duration curve are provided in Appendix B of the TMDL report. This gage was determined to have representative flow data due to its location within the watershed being addressed by the TMDL where similar land cover, soil, and climatic conditions influence stream flow conditions. Figures 2, 3, and 4 of the TMDL report illustrate the relatively uniform soils, land cover, and climatic conditions found throughout the Gravois Creek watershed. Although the flow estimation technique used in the Gravois Creek TMDL is an appropriate method, consistent with other approved Missouri TMDLs and EPA guidance, specific loading capacities and allocations for this segment have been removed from the final document. Loading capacities were calculated for the main segments of Gravois Creek and implementation activities to achieve those stated targets will occur using a watershed-based approach. The supplemental TMDL implementation plan recognizes this watershed-based approach and continues to provide pollutant reduction estimates for attaining water quality standards in the impaired tributary. At this time, TMDLs specific to tributaries to Gravois Creek will be of lower priority for development in order to allow for implementation actions targeting the calculated loading capacities for Gravois Creek to occur. Such activities are expected to result in pollutant load reductions throughout the watershed. The department will continue to assess water body segment 4051, as well as other tributaries to Gravois Creek, as required for Clean Water Act 305(b) and 303(d) reporting.

8. Comment: **Dan Sherburne comments that the TMDL does not propose any water quality-based controls. The commenter further states, "There is no basis then for concluding that the draft TMDL and plan, as currently written, will end the impairment…"**

8. Response: Per federal regulations at 40 CFR §130.7(c)(1), TMDLs must be established at levels necessary to attain and maintain applicable water quality standards. For these TMDLs, the applicable *E. coli* criterion concentration for the protection of whole body contact recreation was used to establish daily loading targets. Therefore, meeting the established wasteload and load allocations will result in attainment of water quality standards. Additionally, conservative assumptions in the modeling of this TMDL provide an implicit margin of safety that accounts for uncertainties or data inadequacies. Regarding water quality-based controls, TMDLs are not self-implementing and are not in and of themselves regulatory documents. However, federal regulations at 40 CFR §122.44(d)(1)(vii)(B) require point source permit conditions to be consistent with the assumptions and requirements of TMDL wasteload allocations. Therefore, water quality-based controls implemented to comply with such permit limits and conditions will work towards meeting the specified TMDL targets. Nonpoint sources are not regulated by

permits and loading reductions from these sources will be reliant upon the voluntary implementation of BMPs. Guidance for meeting the reduction goals for nonpoint sources is provided in the supplementary TMDL implementation plans.

9. Comment: **Dan Sherburne comments, "The purpose of a TMDL is to identify these 'impairment factors'—whether the bacteria is of human or other origin, whether it arrives via point or non-point sources, where those sources are located along the streams, and how much bacteria is contributed from each of the sources. Only then can appropriate total maximum daily loadings be determined. Collecting that information requires onsite monitoring and investigation. No such data appears in this draft TMDL, and it is clear that no monitoring or on-the-ground investigations were conducted to elicit that data." The commenter also states, "…it is not likely that overflows were the 'primary bacteria contributors'…." and "I respectfully request that the draft TMDL be withdrawn so that the requisite data collection can finally be undertaken."**

9. Response: Section 5 of these TMDLs contains a comprehensive source inventory and assessment, which considers all known, suspected, and potential sources of bacteria to the impaired water bodies. Pollutant sources identified in the TMDL reports are categorized and quantified to the extent that information is available. The sources and conditions described in the TMDLs have been identified as being potential contributors of bacteria to the impaired streams. Additional monitoring or investigations, as suggested by the commenter, can be used to inform the implementation process by focusing pollutant reduction efforts and identifying critical areas. Total maximum daily loads using the load duration curve approach are calculated independently of the identified sources and are based solely on stream flow and the applicable *E. coli* criterion.

10. Comment: **Dan Sherburne comments, "While affirming that illicit straight pipe discharges are a potential source of bacteria, the draft TMDL simply states that 'there are no data about the presence or number illicit straight pipe discharges in the Deer Creek watershed. That does not mean that there are none." The same comment is provided in regards to the draft Gravois Creek TMDL.**

10. Response: The department agrees that illicit straight pipe discharges may be potential sources of bacteria to the impaired water bodies. Nevertheless, these sources are illegal and therefore are not allocated a portion of the allowable wasteload allocation. Instead a wasteload allocation of zero is specifically assigned to these sources indicating the need to completely eliminate these sources (100 percent loading reduction). The TMDL notes that illicit discharge detection and elimination is a specified MS4 permit condition.

11. Comment: **Dan Sherburne comments, "We cannot then expect, as this draft TMDL does, that if we wait for the MSD-EPA consent decree to be fully effected, the impairment will be resolved. Not only will it not be resolved, we will have wasted years in which other, critical sources of implement from bacteria could have been addressed." The commenter also states, "Unfortunately, the timetable is an inappropriately long one and, even when eventually met, will not, for reasons noted above, result in the purpose for which a TMDL is intended: the restoration and protection of water quality."**

11. Response: As noted in the response to Comment 8, TMDLs are not self-implementing and are not in and of themselves regulatory documents. Although initial TMDL implementation is expected to occur through already existing and planned activities, such as existing permit conditions and actions carried out as part of the Metropolitan St. Louis Sewer District's consent decree, neither the TMDL nor the implementation plan documents prohibit or restrict other actions that may help to reduce bacteria loading to the impaired water bodies. In fact, the supplemental implementation plans were developed to provide additional technical guidance and support to local communities and landowners residing in the watershed who may be interested in improving water quality in the impaired streams. The implementation plan documents are not intended to serve as the sole means of remediation and restoration, and specifically state that additional goals and milestones established in other stormwater management plans and nonpoint source watershed management plans should be considered. As noted in the TMDL implementation plans, pollutant reductions from nonpoint sources are reliant upon voluntary implementation of BMPs. Additional financial and technical support for addressing nonpoint sources is available from the Section 319 Nonpoint Source Implementation Program as described in Section 7 of the TMDL implementation plans. Information regarding this program can be found online at dnr.mo.gov/env/wpp/nps/index.html or by contacting Trish Rielly, Section 319 Nonpoint Source Unit Chief, at trish.rielly@dnr.mo.gov or 573-526-4662. The appropriateness of timetables or any other conditions specific to the Metropolitan St. Louis Sewer District's consent decree is outside the scope of these TMDLs.

-- END SUMMARY OF COMMENTS AND RESPONSES