Response to Comments to the Lower Minnesota River Dissolved Oxygen TMDL Implementation Plan

The Lower Minnesota River Dissolved Oxygen TMDL Implementation Plan was on public notice from September 5 through October 3, 2005. Comments were received from the University of Minnesota, the Metropolitan Council, and the City of Willmar. The implementation plan was edited based on many of the suggestions provided by those who commented.

Metropolitan Council

The Metropolitan Council has an interest in the implementation plan as the owner/operator of two major wastewater treatment plants discharging to the Lower Minnesota River.

The following comments are provided:

1. References to the “Minnesota River Basin” or “Basin” throughout the text

   Comment: Many times the word “basin” is used when the language only applies to a portion of the Minnesota River Basin.

   Suggested Change: Throughout the plan, clarify when "Basin" refers to only a portion of the watershed. For example, in Section 1.2, you could use "Minnesota River Basin to Jordan" or a similar phrase or acronym.

   Response: Text changed.

2. Page 8, Phases II and III

   Comment: No timeframe is provided for these two phases.

   Suggested Change: Provide timeframes for Phases II and III.

   Response: Text changed.

3. Page 42, Section C.1.a

   Comment: The title does not specify the targeted location for monitoring water-quality improvements in the Lower Minnesota River.

   Suggested Change: Change the title to "Targets for lower Minnesota River at Jordan." Add Shakopee if appropriate.

   Reponse: Text changed.

4. Pages 43-44, Sections 1.a, 2.a, and 2.b

   Comment: Some of the information on monitoring and modeling in the lower Minnesota River is incorrect, incomplete, or repetitive.

   Suggested Changes:

   b. Monitoring plan for the Lower Minnesota River—There are several long-term and short-term monitoring programs in the Lower Minnesota River, which should provide comprehensive coverage.

   (i) The Metropolitan Council operates a long-term river-monitoring program in the Twin Cities Metropolitan Area, which includes five stations on the Lower Minnesota River at Jordan, Shakopee, Savage, Black Dog, and Fort Snelling. BOD5, phosphorus, chlorophyll, and other variables are monitored twice per month at Jordan, Black Dog, and Fort Snelling. BOD5 is also monitored twice per month at Shakopee. Dissolved oxygen is monitored weekly at all five stations and continuously at Fort Snelling. Phytoplankton samples are collected annually in the summer near Jordan and Fort Snelling. For more information, see http://www.metrocouncil.org/environment/RiversLakes/Rivers.

   (ii) The U.S. Geological Survey operates continuous stream-flow gauging stations near Jordan and at Fort Snelling State Park. The Jordan station has been operating since 1935. The Fort Snelling station began operation in 2004 and will continue through at least March 2007 with the cooperation of the Lower Minnesota River Watershed District and Metropolitan Council.

   (iii) The Metropolitan Council with the assistance of local partners operates a stream-monitoring program in the Metro Area. This program includes nine tributaries to the Lower Minnesota River. For more information, see http://www.metrocouncil.org/environment/RiversLakes/Streams. In addition, Carver County monitors Chaska and East Chaska Creeks, and the Riley-Purgatory-Bluff Creek Watershed District monitors Purgatory Creek.

   (iv) During water years 2004, 2005, and 2006, the Metropolitan Council is intensifying its river, stream, and effluent monitoring programs to collect data needed to build an advanced water-quality model of the lower 40 miles of the Minnesota River, which is described below under model validation. Monitoring is planned at all flows and seasons but will be further intensified at summer low flows if they occur. A number of special field studies are planned including a comprehensive assessment of oxygen dynamics (reaeration, sediment oxygen demand, community production and respiration, and others) and research on nutrients and sediment. For more information, see http://www.metrocouncil.org/environment/Water/LMRM

   (v) [Insert your section on the MPCA continuous recording buoy stations.]

   (vi) [Insert your section on the MAC's river monitoring requirements.]

(vii) [Add information on Xcel Energy's 316A demonstration study.]
…

2.a. Update 1985 Waste Load Allocation—The 40-percent reduction goal for the TMDL was established by a waste load allocation study completed in 1985 (amended in 1986) by the MPCA using data from the 1970s and 1980 and a steady-state water-quality model (version of QUAL II). The Metropolitan Council is leading an effort to build an advanced water-quality model (CE-QUAL-W2) of the lower 40 miles of the Minnesota River using data from 1988-1991 (low-to-high flows) and 2004-2006 (see description above under monitoring). Major partners in this effort are the MPCA, MAC, Lower Minnesota River Watershed District, US Army Corps of Engineers, and US Geological Survey. This six-year project began in 2003 and will be completed in 2008, with a fully tested model ready by the end of 2007. The MPCA will use the Lower Minnesota River Model to update the waste load allocation study by 2010. For more information on the modeling project, see http://www.metrocouncil.org/environment/Water/LMRM

[Do not repeat the monitoring information here. Delete section 2.b on SOD because there are many factors that may change the WLA and its margin of safety, and we shouldn't speculate on how they may change.]

Response: Text changed.

Les Everett – University of Minnesota

1. There is a lot of reliance on "protecting open tile inlets" without adequate definition of "protection." There should be some technical standard specified that will deliver the desired water quality outcome.

   Response: Comment noted.

2. Since PCA has significant influence on feedlot inspection, the plan would increase its "reasonable assurance" status by including some performance goals for county feedlot officers on specific aspects of inspections, such as review of records of manure applications near waters.

   Response: Milestone added to plan to increase county feedlot officer review of manure management plans.

3. Reasonable assurance is not attained in the case of percent crop residue coverage, since there is no actual plan for attaining the targets, nor any mechanism specified for developing such a plan apart from what is already in place. There has been no progress in residue coverage in recent years, so doing what we are doing is not going to get us there. You need to add a section on what PCA will do to organize and have funded a basin-wide residue management improvement plan.

   Response: Comment noted.

4. Again, regarding reasonable assurance, I believe it is time for the state to adopt the Wisconsin rules on water quality. They provide a long but firm movement toward soil and nutrient management standards on all crop land. PCA could include in its TMDL plans a statement that a proposal for such rules will be provided to the state legislature.

   Response: Comment noted.

Brian Bollig – City of Willmar

1. Stormwater is said to represent 16 percent of the phosphorous during low flow conditions. Per Table 9, it appears that the phosphorous as a contribution of stormwater in this instance, is strictly urban in nature, is this true?

   Response: The phosphorus sources in this TMDL were divided into four sectors. Stormwater refers to urban areas. Runoff from agricultural land is in the agricultural sector.

2. Based on 2000 census data, the total urban population is 53,200 plus 126,200 = 179,400 people. Using the City of Willmar census, we would contribute 18,351 divided by 179,400 people or 10 percent of the total population or 0.10 x 0.16 = 1.6 percent of the total load. Is it a fair analogy to assume that Willmar's stormwater accounts for 1.6 percent of the total phosphorous load to the Minnesota River? Actually, some of our land area discharges to the lower fork and therefore, would not be included here.

   Response: Generally this is true. However, the estimates were at a large scale and did not factor in individual differences in urban areas such as the amount of impervious surfaces, number of best management practices in place, and other factors.

3. How will the Lake Pepin TMDL change the urban stormwater phosphorous reductions Implementation Plan shown here?

   Response: At this point it is hard to say what will change for urban stormwater. The Lake Pepin TMDL Study will determine this. The Lake Pepin TMDL is underway and there are opportunities for stakeholder involvement.

4. What does the Implementation Plan mean by "retrofitting existing infrastructure?" This sounds similar to the non-degradation policy being implemented for the thirty largest medium size MS4's. Will this be a requirement for all 179,400 people?

   Response: Changed retrofitting existing infrastructure to retrofitting already developed areas. This means making changes to existing streets, neighborhoods, and ponds that already exist. The TMDL Report and implementation plan provided a longer implementation timeframe for areas with existing development.

5. Will MPCA prepare the case studies? Will MPCA assist in WQ modeling or other efforts to substantiate case studies?

Response: The MPCA will be involved in the case studies, but may not prepare them. Results from other studies may also be useful. The MPCA will be involved in effectiveness monitoring.

6. If communities implement a storm water utility based on EPA recommended guidelines at $9.16 per year per household will this be sufficient to cover costs for both MS4 activities, this TMDL Plan, and other near future TMDL's? Why is the cost of the Minnesota survey ($38.27) so much higher than the national average?

   Response: The costs were from two surveys, one a national survey and the other a Twin Cities survey. The Twin Cities survey was probably higher because it focused on a metropolitan area, where the other survey was nationwide. The cost estimates were intended to provide an example. Actual costs will vary.