UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

FEB 07 2011

REPLY TO THE ATTENTION OF:
WW-16J

Paul Aasen, Commissioner
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Dear Mr. Aasen:

The U.S Environmental Protection Agency has conducted a complete review of the final Total Maximum Daily Load (TMDL) for Unnamed Creek #07010202-542, including supporting documentation and follow up information. Unnamed Creek #07010202-542, located in Stearns County, flows into the Sauk River, which is a tributary to the Upper Mississippi River. This TMDL addresses the aquatic life use impairment in Unnamed Creek #07010202-542 due to excess turbidity.

This TMDL meets the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, EPA hereby approves Minnesota's one TMDL for turbidity for Unnamed Creek #07010202-542. The statutory and regulatory requirements, and EPA's review of Minnesota's compliance with each requirement, are described in the enclosed decision document.

We wish to acknowledge Minnesota's effort in submitting this TMDL and look forward to future TMDL submissions by the State of Minnesota. If you have any questions, please contact Mr. Peter Swenson, Chief of the Watersheds and Wetlands Branch, at 312-886-0236.

Sincerely,

Tinka G. Hyde
Director, Water Division

Enclosure

Cc: Greg Van Eeckhout, MPCA
Dave L. Johnson, MPCA

wq-iw8-27g

TMDL: Unnamed Creek #07010202-542 Turbidity, Stearns County, MN
Date: February 7, 2011

DECISION DOCUMENT FOR GETCHEL, UNNAMED AND STONY CREEKS, MN, TURBIDITY TMDL

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. Part 130 describe the statutory and regulatory requirements for approvable TMDLs. Additional information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation. Use of the term "should" below denotes information that is generally necessary for EPA to determine if a submitted TMDL is approvable. These TMDL review guidelines are not themselves regulations. They are an attempt to summarize and provide guidance regarding currently effective statutory and regulatory requirements relating to TMDLs. Any differences between these guidelines and EPA's TMDL regulations should be resolved in favor of the regulations themselves.

1. Identification of Waterbody, Pollutant of Concern, Pollutant Sources, and Priority Ranking

The TMDL submittal should identify the waterbody as it appears on the State's/Tribe's 303(d) list. The waterbody should be identified/georeferenced using the National Hydrography Dataset (NHD), and the TMDL should clearly identify the pollutant for which the TMDL is being established. In addition, the TMDL should identify the priority ranking of the waterbody and specify the link between the pollutant of concern and the water quality standard (see section 2 below).

The TMDL submittal should include an identification of the point and nonpoint sources of the pollutant of concern, including location of the source(s) and the quantity of the loading, e.g., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the waterbody. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for EPA's review of the load and wasteload allocations, which are required by regulation.

The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as:

(1) the spatial extent of the watershed in which the impaired waterbody is located;
(2) the assumed distribution of land use in the watershed (e.g., urban, forested, agriculture);
(3) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources;
(4) present and future growth trends, if taken into consideration in preparing the TMDL (e.g., the TMDL could include the design capacity of a wastewater treatment facility); and
(5) an explanation and analytical basis for expressing the TMDL through *surrogate measures*, if applicable. *Surrogate measures* are parameters such as percent fines and turbidity for sediment

impairments; chlorophyll *a* and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices

Comment:

Location Description/Spatial Extent: Getchel, Unnamed and Stony Creeks are located in the Sauk River watershed in Stearns County, Minnesota. Getchel and Stony Creeks are not listed on Minnesota's 2008 303 (d) list as impaired for turbidity, but previously had high TSS concentrations. Sources and benchmark allocations were prepared for the unimpaired streams, but a TMDL was only prepared for Unnamed Creek. In this decision document, the US EPA will review the TMDL for the 303(d) listed water, Unnamed Creek (MPCA river assessment unit ID 07010202-542). The remaining two waters, Getchel and Stony Creeks, will be reevaluated for complete TMDLs by MPCA at a later date.

Unnamed Creek is located in the North Central Hardwood Forest Ecoregion. The Unnamed Creek watershed comprises 10,912 acres and is dominated by fine, deep loamy soils, with relatively lower drainage relative to neighboring watersheds. Higher slopes are characteristic of the watershed, with 25% of the area containing slopes greater than 3%. Flow from Unnamed Creek discharges to the Sauk River, which then discharges to the Upper Mississippi River.

Land Use: Satellite imagery from the National Agricultural Statistical Survey (NASS) and National Wetlands Inventory (NWI) were used to develop land use classification of the watersheds. Annual images available from 1997 forward were combined to provide updated land use coverage. Complete results of land use classification are shown in Table 1. The major land use in the Unnamed Creek watershed is corn and soybean rotation, which comprises 41% of the watershed area, with pasture cropland the second major land use. Less than 1% of the land is utilized for road networks and buildings (Section 2.5 and Table 2.4 of the TMDL).

Table 1. Land use of Unnamed Creek watershed.

Land Use from NASS and NWI	Acres	Percent of Total Area
Pasture/Hay	3,495	32
Corn	3,314	30.4
Soybeans	1,119	10.3
Alfalfa	705	6.5
Spring Wheat	688	6.3
Open Space	627	5.7
Deciduous Forest	373	3.4
Open Water	203	1.9
Herbaceous Wetlands	152	1.4
Grass Pasture	68	0.6
Developed/Low-Med Intensity	35	0.3
Other	134	1.2
TOTAL	10,912	100%

Problem Identification: Water quality data collected from 1994-2008 by the Sauk River Watershed District (SRWD) have shown that turbidity in Unnamed Creek exceeds water quality standards for Class 2B aquatic life uses. Excess turbidity affects sight-feeding organisms, reduces and/or clogs fish gills, and covers spawning habitat with sediment. MPCA found that total suspended sediment (TSS) concentrations, collected by the SRWD in the Sauk River, increased immediately downstream of the Getchel, Unnamed, and Stony watersheds, indicating mass loading of TSS from these watersheds. To further support this point, MPCA states that in-stream sources are not thought to be a major sediment source in that segment of the Sauk River (Section 2.3 of the TMDL).

Priority Ranking: The schedule for completion of the TMDL reflects Minnesota's priority of the water body. Unnamed Creek was prioritized to start TMDL studies in 2009 and to be completed by 2012.

Pollutant of Concern: Unnamed Creek was included on Minnesota's 2008 303(d) list due to impairment by turbidity. Turbidity is not a measure of mass, but rather is a measure of light scatter and absorption that occurs proportional to the amount of sediment, algae, and organic matter in the water column. Thus, in order to develop a mass per unit time load for the TMDL, TSS was used as a surrogate pollutant. The strength of the turbidity and TSS relationship, on which the surrogate target is derived, varies by land use and soil type. To derive a TSS target, it is ideal for both variables to be measured at the same time and through various flow conditions. These data were unavailable for Unnamed Creek, however over 100 paired TSS-turbidity readings were available from the adjacent North Fork Crow River Watershed which belongs in the same ecoregion, has similar land use, and soils to the Sauk River Watershed, of which Unnamed Creek is a part. Thus MPCA determined that the TSS target of 79 mg/L, developed as a turbidity surrogate for the North Fork Crow Watershed would also be appropriate for use in the Unnamed Creek TMDL (Section 2.4 of the TMDL).

Source Identification (point and nonpoint sources): The following sources were identified as possible contributions to Unnamed Creek: field erosion, stream bank erosion, algae and plant production, stormwater, and point sources. Field erosion appeared to be the most significant source in the watershed. Active signs of erosion, particularly on 4th order streams, indicated that stream bank erosion contributes TSS to the stream.

Potential field erosion was measured with the Soil Water Assessment Tool (SWAT) which incorporates land cover, soils, and slope information to determine the mass of soil loss from fields based on the Modified Universal Soils Loss Equation (MUSLE). Once removal of sediments in wetlands was accounted for, sediment yield from field erosion was estimated at 4,001 tons/year in Unnamed Creek watershed (Section 4.2.1 of the TMDL).

Stream bank erosion was estimated using field data and the Natural Resources Conservation Service (NRCS) direct volume method. Randomly sampled transects in the Unnamed Creek watershed were ranked based on their bank condition. A lateral recession rate was assigned based on the bank stability score, which in turn was multiplied by the total eroding area to estimate the total annual volume of soil loss (Table 4.5 of the TMDL). This analysis provided an estimated rate of annual soil loss based on 1st through 4th order streams. These values were

extrapolated to Unnamed Creek based on the distribution and total length of stream order types in the Unnamed Creek watershed. The resulting estimate for soil loss from stream bank erosion was 76 to 212 tons/year (Section 4.2.2 of the TMDL).

No chlorophyll-a data were available to assess the potential contribution of algae and plant production to turbidity. In the Unnamed Creek watershed, TSS exceeded the 79 mg/L target mostly in high flows; and in these conditions MPCA expects algae and plants are not a significant contributor to turbidity. Further, visual observations made during bank stability studies suggest that algae are not a significant contributor to turbidity impairment in low flow conditions (Section 4.2.3 of the TMDL).

There are no Municipal Separate Storm Sewer Systems (MS4s) in this watershed. Only a low density road network and few farm buildings comprise impervious surfaces in the watershed. Thus urban stormwater is not expected to be a large source of suspended solids, or increased turbidity in Unnamed Creek (Section 4.2.4 of the TMDL).

There are no individually permitted point sources in Unnamed Creek. Any new permitted discharger of TSS will need to have an assigned wasteload allocation and also meet any requirements under the National Pollutant Discharge Elimination System (NPDES) program (Section 4.2.5 of the TMDL).

Future Growth: A review of NPDES construction permits in the Unnamed Creek watershed indicated minimal construction activity. However, to address loading from potential future growth a reserve capacity equal to less than 1% of the total loading capacity, for each flow zone, was allocated to construction stormwater in the TMDL equation (Section 3.2.1 of the TMDL).

The U.S. EPA finds that the TMDL document satisfies the requirements of the first criterion.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribal water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the antidegradation policy. (40 C.F.R. §130.7(c)(1)). EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

The TMDL submittal must identify a numeric water quality target(s) – a quantitative value used to measure whether or not the applicable water quality standard is attained. Generally, the pollutant of concern and the numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target. Occasionally, the pollutant of concern is different from the pollutant that is the subject of the numeric water quality target (e.g., when the pollutant of concern is phosphorus and the numeric water quality target is expressed as Dissolved Oxygen (DO) criteria). In such cases, the

TMDL submittal should explain the linkage between the pollutant of concern and the chosen numeric water quality target,

Comment:
Designated Uses: Unnamed Creek is designated a Class 2B stream that supports warm and cold water aquatic life and all recreational uses. This TMDL addresses the turbidity impairment to aquatic life use (Section 2.2 of the TMDL).

Standards and Target: Minnesota Rules Chapter 7050.0220 identifies the water quality standards for Class 2B waters for turbidity as 25 Nephelometric Turbidity Units (NTUs). For the purposes of this TMDL, a TSS target of 79 mg/L was selected as a surrogate pollutant by MPCA, under the premise that attainment of the TSS target also results in attainment of the turbidity standard (Sections 2.2 and 2.4 of the TMDL).

The U.S. EPA finds that the TMDL document satisfies the requirements of the second criterion.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a waterbody for the applicable pollutant. EPA regulations define loading capacity as the greatest amount of a pollutant that a water can receive without violating water quality standards (40 C.F.R. §130.2(f)).

The pollutant loadings may be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. §130.2(i)). If the TMDL is expressed in terms other than a daily load, e.g., an annual load, the submittal should explain why it is appropriate to express the TMDL in the unit of measurement chosen. The TMDL submittal should describe the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In many instances, this method will be a water quality model.

The TMDL submittal should contain documentation supporting the TMDL analysis, including the basis for any assumptions; a discussion of strengths and weaknesses in the analytical process; and results from any water quality modeling. EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

TMDLs must take into account *critical conditions* for steam flow, loading, and water quality parameters as part of the analysis of loading capacity (40 C.F.R. §130.7(c)(1)). TMDLs should define applicable *critical conditions* and describe their approach to estimating both point and nonpoint source loadings under such *critical conditions*. In particular, the TMDL should discuss the approach used to compute and allocate nonpoint source loadings, e.g., meteorological conditions and land use distribution.

Comment: The loading capacity for Unnamed Creek was determined for five representative flow ranges: very high, high, middle, low, and dry flow. The flow zone ranges were delineated from a load duration curve (LDC) analysis (Section 3.2 and Table 3.3. of the TMDL).

Table 2. TSS load allocations (tons/day) per flow ranges.

TMDL component	Very High	High	Mid-Range	Low	Dry
Wasteload Allocation	0.036	0.016	0.012	0.010	0.010
Load Allocation	2.317	1.048	0.731	0.670	0.647
Margin of Safety (MOS)	0.069	0.012	0.008	0.002	<0.001
Total Maximum Daily Load (TMDL)	**2.422**	**1.076**	**0.751**	**0.682**	**0.657**

The TMDL was determined by multiplying the TSS target of 79 mg/L by the flow duration curve to develop a load duration curve that illustrates the assimilative capacity, or TMDL, for the stream. From the load duration curve, the loading capacities for five representative flow regimes were calculated. These are the loads that are needed to meet water quality standards (Section 3.1 of the TMDL).

At Unnamed Creek, near the confluence with Sauk River, a total of 701 flow data points were collected by a continuous SRWD gauge from 1994-2002, and 56 instantaneous flow measurements were taken during 1995-2008. Data gaps in the flow record were not filled because of lack of a valid relationship between SRWD gauge data and other nearby long-term continuous gauges (Section 2.6.1 of the TMDL).

The distribution of the flow data determined the range of the five flow zones. High flows were flow values that were exceeded only 0-10% by the recorded flow values in the data set. The remaining flow zones were divided as follows: 10-40% for moist conditions, 40-60% for mid-range flows, 60-90% for low flow, and 90-100% for the dry range. These distributions of flow data were plotted to form the flow duration curve shown in Figure 3.1 of the TMDL report. The flow duration curve was then multiplied by the TSS standard of 79 mg/L to determine the assimilative capacity of Unnamed Creek (Figure 3.3 of the TMDL).

Next, 67 TSS samples taken from 1994 to 2008 at a station near the outlet of Unnamed Creek, were plotted along the load duration curve. Of these observations, TSS exceeded the target 37% of the time. A majority of the TSS violations occurred within the high flow zone (Figure 3.3. of the TMDL).

The U.S. EPA finds that the TMDL document satisfies the requirements of the third criterion.

4. Load Allocations (LAs)

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity attributed to existing and future nonpoint sources and to natural background. Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. §130.2(g)). Where possible, load allocations should be described separately for natural background and nonpoint sources.

Comment: MPCA states that assigned load allocations were not partitioned to potential sources based on their proportional contribution. Rather, load allocations were back calculated once wasteload allocations, margin of safety, and reserve capacity were determined. The load allocation is aggregated for the following nonpoint sources: agricultural runoff, stormwater runoff, nonpoint sources not subject to National Pollutant Discharge Elimination System (NPDES) permits, and soil erosion from stream channels and upland areas. Potential loading from these sources is discussed in Section 1 of this decision document. Load allocations for each of the five representative flow ranges are shown in Table 3.3 in the TMDL and in Table 3 in this decision document.

Table 3. TSS load allocations (tons/day) for flow ranges.

	Very High	High	Mid-Range	Low	Dry
Load Allocation	2.317	1.048	0.731	0.67	0.647

The U.S. EPA finds that the TMDL document satisfies the requirements of the fourth criterion.

5. Wasteload Allocations (WLAs)

EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to individual existing and future point source(s) (40 C.F.R. §130.2(h), 40 C.F.R. §130.2(i)). In some cases, WLAs may cover more than one discharger, e.g., if the source is contained within a general permit.

The individual WLAs may take the form of uniform percentage reductions or individual mass based limitations for dischargers where it can be shown that this solution meets WQSs and does not result in localized impairments. These individual WLAs may be adjusted during the NPDES permitting process. If the WLAs are adjusted, the individual effluent limits for each permit issued to a discharger on the impaired water must be consistent with the assumptions and requirements of the adjusted WLAs in the TMDL. If the WLAs are not adjusted, effluent limits contained in the permit must be consistent with the individual WLAs specified in the TMDL. If a draft permit provides for a higher load for a discharger than the corresponding individual WLA in the TMDL, the State/Tribe must demonstrate that the total WLA in the TMDL will be achieved through reductions in the remaining individual WLAs and that localized impairments will not result. All permittees should be notified of any deviations from the initial individual WLAs contained in the TMDL. EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA, as expressed in the TMDL, remains the same or decreases, and there is no reallocation between the total WLA and the total LA.

Comment: Currently there are no individually permitted point source discharges, no MS4s, or permitted industrial facilities in the Unnamed Creek watershed. The only existing point sources in Unnamed Creek are general construction NPDES permits. A review of permits issued

indicates that less than 0.1% of the total watershed area is subject to construction activity. Although MPCA expects future growth to be minimal, a reserve capacity of less than 1% of the total loading capacity for construction, and 0.5% for industrial stormwater was included in the total wasteload allocation. The wasteload allocation is presented in Table 3.3 of the TMDL report and in Table 4 in this decision document. The wasteload allocation includes general construction permits, future industrial permits, and future point sources (Section 3.2.1 of the TMDL). For any new dischargers, a wasteload allocation must be determined and meet the requirements of the NPDES program before discharging.

Table 4. TSS wasteload allocations (tons/day) for flow ranges

Wasteload Allocation	Very High	High	Mid-Range	Low	Dry
(Permitted point source dischargers/ Construction and Industrial Stormwater)	0.036	0.016	0.012	0.01	0.01

The U.S. EPA finds that the TMDL document satisfies the requirements of the fifth criterion.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety (MOS) to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)). EPA's 1991 TMDL Guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

Comment: An explicit margin of safety was used in developing the TMDL. The explicit number was determined for each flow zone by subtracting the 45th percentile value from the median in each flow zone. To get a daily load TSS value, the resulting flow volume was then multiplied by the 79 mg/L TSS target.

The U.S. EPA finds that the TMDL document satisfies the requirements of the sixth criterion.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The TMDL must describe the method chosen for including seasonal variations. (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)).

Comment: MPCA collected continuous, or instantaneous flow data from 1994-2008. The best available flow data were used to calculate the load duration curve (LDC). Given that the flow data used capture a representative sample of hydrologic conditions in Unnamed Creek watershed, this method appropriately considers seasonal variation into the TMDL effort. Allocations are given for varying flow conditions, determined by the LDC, and therefore should be protective of water quality standards in varying seasonal conditions (Section 3.0 of the TMDL).

The U.S. EPA finds that the TMDL satisfies the requirements of the seventh criterion.

8. Reasonable Assurance

When a TMDL is developed for waters impaired by point sources only, the issuance of a National Pollutant Discharge Elimination System (NPDES) permit(s) provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved. This is because 40 C.F.R. 122.44(d)(1)(vii)(B) requires that effluent limits in permits be consistent with "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.

When a TMDL is developed for waters impaired by both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur, EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. This information is necessary for EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.

EPA's August 1997 TMDL Guidance also directs Regions to work with States to achieve TMDL load allocations in waters impaired only by nonpoint sources. However, EPA cannot disapprove a TMDL for nonpoint source-only impaired waters, which do not have a demonstration of reasonable assurance that LAs will be achieved, because such a showing is not required by current regulations.

Comment: MPCA states that Best Management Practices (BMPs) in the implementation plan have improved water quality, and watershed landowners are likely to implement BMPs, as they have done so for the past 20 years. The goal of this TMDL, to attain water quality standards, aligns with Stearns County Comprehensive local water management plan and the SRWD watershed management plan which provides an implementation framework. Also, NPDES regulatory programs that permit point sources, industrial, municipal, construction, and feedlot sources can reasonably be expected to keep these operate such that water quality standards are in attainment. MPCA highlights five possible state and federal sources of funding for implementation activity in section 6.0 of the TMDL.

Details of three entities that promote, finance, and implement BMPs and promote attainment of water quality were provided in Section 6.1-6.3 of the TMDL and are also described below:

The SRWD, established in 1986 has the role of managing and protecting water resources. They collect monitoring data, permit some watershed activity, and provide implementation projects and public education. The SRWD is currently working on updating its watershed management plan. The plan's term extends from 2003 to 2012 and provisions of the TMDL will likely be included.

The Stearns County water management plan contains implementation activities that focus on watershed restoration, education, and financial support for landowners to implement BMPs. The plan also promotes conservation programs from local, state, and federal government, including inspection of feedlots and manure pits.

Implementation activity of this TMDL is also in accord with the Stearns County Soil and Water Conservation District's mission to conserve soil and water resources. This entity currently provides funding for implementation of BMPs that slow flow and reduce soil loss and erosion

The U.S. EPA finds that the TMDL document satisfies the requirements of the eighth criterion.

9. Monitoring Plan to Track TMDL Effectiveness

EPA's 1991 document, *Guidance for Water Quality-Based Decisions: The TMDL Process* (EPA 440/4-91-001), recommends a monitoring plan to track the effectiveness of a TMDL, particularly when a TMDL involves both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur. Such a TMDL should provide assurances that nonpoint source controls will achieve expected load reductions and, such TMDL should include a monitoring plan that describes the additional data to be collected to determine if the load reductions provided for in the TMDL are occurring and leading to attainment of water quality standards.

Comment: To track the progress in load reductions achieving water quality standards, the SRWD will monitor the implementation of capital projects annually, as well as the physical and chemical characteristics of the waterbody routinely. Results will indicate progress and inform management.

The U.S. EPA finds that the TMDL document satisfies the requirements of the ninth criterion.

10. Implementation

EPA policy encourages Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired by nonpoint sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that nonpoint source LAs established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. In addition, EPA policy recognizes that

other relevant watershed management processes may be used in the TMDL process. EPA is not required to and does not approve TMDL implementation plans.

Comment: Upon approval of this TMDL, an implementation plan will be developed to include adaptive management of BMP implementation. BMPs will target reducing sediment generation and transport, for example vegetation management practices, primary tillage, structural practices, and stream and channel restoration. MPCA's forthcoming implementation plan will target activities based on the soil, land use, and climate characteristics typical of the central till agroecoregion, in which the Unnamed Creek watershed lies.

The U.S. EPA finds that this criterion has been adequately addressed.

11. Public Participation

EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 C.F.R. §130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. §130.7(d)(2)).

Provision of inadequate public participation may be a basis for disapproving a TMDL. If EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

Comment: A public meeting was held in December 2008 to explain the TMDL process and preliminary results for the Unnamed Creek TMDL. An unknown number of stakeholder meetings were held after the draft to inform interested parties of TMDL progress. Unnamed Creek Turbidity TMDL was on public notice from August 2, 2010 to September 1, 2010. The public noticed copy was titled: "Draft Upper Mississippi River Basin, Getchel, Unnamed and Stony (GUS) Creeks Turbidity TMDL." The public comment period was announced through a news release, posted on MPCA's website, and published in the 2 Aug 2010 Minnesota State Register. MPCA received 1 written public comment during this period. The comment apprised MPCA that sediment fingerprinting work in a nearby geographic area suggested that half of the sediment load comes from the field, where the TMDL MUSLE and SWAT model suggested a greater proportion came from fields. The comment was responded to by acknowledging the importance of including ongoing research and that implementation will be adaptive in order to consider available information.

The U.S. EPA finds that the TMDL document satisfies the requirements of this eleventh element.

12. Submittal Letter

A submittal letter should be included with the TMDL submittal, and should specify whether the TMDL is being submitted for a *technical review* or *final review and approval*. Each final TMDL submitted to EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final review and approval, should contain such identifying information as the name and location of the waterbody, and the pollutant(s) of concern.

Comment: On January 12, 2011 EPA received a submittal letter dated January 6, 2011 signed by Rebecca Flood, MPCA Acting Commissioner, addressed to Tinka Hyde, U.S. EPA Region 5, Water Division Director. The submittal letter identified the name and location of Unnamed Creek for which the TMDL was developed. The letter explicitly states that the Unnamed Creek TMDL is being submitted for final approval by USEPA under Section 303(d) of the Clean Water Act.

The U.S. EPA finds that the TMDL satisfies the requirements of this twelfth element.

13. Conclusion

After a full and complete review, the US EPA finds that this TMDL for turbidity for Unnamed Creek meets all of the required elements of an approvable TMDL. This decision document addresses **one (1) turbidity TMDL for Unnamed Creek #07010202-542** as identified on Minnesota's 2008 303(d) list.

EPA's approval of this TMDL does not extend to those waters that are within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action to approve or disapprove TMDLs for those waters at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under the CWA Section 303(d) for those waters.