



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
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CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF:

MPCA COMMISSIONERS
OFFICE

WW-16J

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

Dear Mr. Eger:

We have reviewed the recent TMDL approval for Silver Lake (ID # 62-0083-00) and noted that there is an error in the cover letter. The correct number of TMDLs is one (1) for total phosphorus for Silver Lake, as discussed in the decision document. If you have any questions, please contact David Werbach of my staff at 312-886-4242.

Sincerely,

A handwritten signature in black ink that reads "Peter Swenson".

Peter Swenson, Chief,
Watersheds and Wetlands Branch

Enclosure

cc: Brooke Asleson, MPCA
Dave Johnson, MPCA

wq-iw8-12g

TMDL: Silver Lake, Minnesota TMDL
Effective Date:

Decision Document for Approval of Silver Lake, Minnesota TMDL Report

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 non-point 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 non-point 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:

Summary: The Minnesota Pollution Control Agency (MPCA) submitted a TMDL to EPA for Silver Lake. Silver Lake is located in the southwest portion of the Rice Creek Watershed, and is within the North Central Hardwood Forest Ecoregion. Silver Lake is listed on the 2002 303(d) list for eutrophication due to excess total phosphorus (TP) impairing the aquatic recreation use. Development of the TMDL began in 2008 with the final TMDL submitted in 2010. The Silver Lake TMDL will not only address impairments in the lake itself, but also reduce phosphorus loads to the Rice Creek Watershed and ultimately to the Mississippi River. The TMDL will reduce the amount of total phosphorus from 325 lbs/yr to 308 lbs/yr (a 5% reduction). EPA is approving the TMDL for the pollutant, total phosphorus, for Silver Lake.

Location Description:

Silver Lake (ID# 62-0083-00) is located in the Rice Creek Watershed and is located mainly in Ramsey County. Silver Lake is 72.5 acres in size and has a 678.6 acre watershed (Figure 1 of the TMDL). Silver Lake watershed is located within four municipalities and three counties (Anoka, Hennepin and Ramsey). Section 1B of the TMDL report states that Hart Lake drains to Silver Lake from the southwest and a series of natural wetlands are found northeast of the lake within Silverwood Park. Silver Lake drains to Ramsey County Ditch (RCD) 3 which drains into RCD 2 and eventually to Rice Creek and the Mississippi River. Silver Lake is located partially in the City of Columbia Heights and partially in the City of St. Anthony. The Silver Lake TMDL addresses aquatic recreation impairments due to total phosphorus.

Silver Lake has a maximum water depth of 47 feet, a mean depth of 7.5 feet, and has approximately 88% littoral area (defined as water depth areas of 15 feet or less)(Section 3 of the TMDL). Silver Lake is subject to MPCA's general eutrophication standards for shallow lakes.

Topography and Land Use: Section 1B of the TMDL report states that the land uses in the Silver Lake watershed are single family residential (40%), institutional (13%), multi-family (12%), open water (12%), industrial (1.7%), parks, recreation, and preserves (3.3%), undeveloped (7%), and commercial (11%).

Land uses projected for 2020 show an increase in commercial, industrial, park, recreation and preserves, and single family residential land uses. Land uses projected for 2020 shows a decrease in institutional, multi-family residential, and undeveloped land uses.

Pollutant point sources:

The entire watershed load within the Silver Lake watershed consists of runoff from the surrounding urbanized area. All stormwater runoff in the Silver Lake watershed is regulated under Municipal Separate Storm Sewer System (MS4) permits, and is therefore considered a

point source (Section 4A of the TMDL). No other point source dischargers were identified by MPCA in the watershed. The following point sources that contribute to the watershed loadings and treated as one regulated point source under NPDES are:

- Current, regulated MS4s: Anoka County (MS400066), Columbia Heights (MS400010), Hennepin County (MS400138), Minneapolis (MN0061018), New Brighton (MS400038), Ramsey County Public Works (MS400191), St. Anthony Village (MS400051)
- Construction stormwater activities
- Industrial stormwater activities

No CAFO permitted facilities exist within the Silver Lake watershed.

Pollutant nonpoint sources:

- Internal total phosphorus loading
- Atmospheric deposition

Nonpoint sources identified by MPCA in the TMDL report as contributing to the nutrient impairments are internal total phosphorus loading and atmospheric deposition. MPCA determined that watershed runoff contributes to 74% of the total phosphorus loading, internal loading contributes to 20% of the total phosphorus loading, and atmospheric deposition contributes to 6% of the total phosphorus loading to Silver Lake (Table 16 in the TMDL report). Details on phosphorus loads from point and nonpoint sources are described in Section 4 in the TMDL report.

Population and growth trends:

The Silver Lake watershed is completely built-out and covered under existing MS4 permits which all have been given a wasteload allocation (WLA) in the TMDL. Although future population growth is projected to occur in all cities, the MS4 boundaries will not expand (Section 1B, Table 4 in the TMDL report). As a result, the MS4 permit will already state the allowable phosphorus loading required to be met regardless of population size. In addition to the phosphorus WLA, the Rice Watershed District has its own set of rules that all of the MS4s must follow for new development and redevelopment limiting runoff volume.

Priority Ranking: Minnesota does not include separate priority rankings for its waters in the TMDL. MPCA prioritizes its waters during the development of the impaired waters list. Development of the TMDL was scheduled to begin in 2008 with final TMDL to be submitted in 2010.

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this first element.

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 Use of Waterbody: Silver Lake is classified under Minnesota Rule 7050.0430 as Class 2B, 3B, 4A, 4B, 5, and 6 waters. The most protective of these classes is Class 2 waters, which are protected for aquatic life and recreation. MN Rules Chapter 7050.0140 Water Use Classification for Waters of the State reads:

Subp. 3. Class 2 waters, aquatic life and recreation. Aquatic life and recreation includes all waters of the state which do or may support fish, other aquatic life, bathing, boating, or other recreational purposes, and where quality control is or may be necessary to protect aquatic or terrestrial life or their habitats, or the public health, safety, or welfare.

Water Quality Standard:

Silver Lake is subjected to MN Eutrophication Standards, North Central Hardwood Forests Ecoregion (Table 6 in the TMDL report and Table 1 below). Numerical standards are given in MN's Rule 7050.0222 with narrative standards in MN's Rule 7050.0222 subpart 4a. According to the MPCA definition of shallow lakes, a lake is considered shallow if its maximum depth is less than 15 ft or if the littoral zone for areas where water depth is less than 15 ft covers is greater than 80%. Although Silver Lake has a maximum depth of 47 feet, its littoral area is 88% of the lake's total surface area. As such, Silver Lake is subjected to the eutrophication standard for shallow lakes.

Table 1. MN Eutrophication Standards, North Central Hardwood Forests Ecoregion

Parameter	Eutrophication Standard, Shallow Lakes
TP (ug/L)	TP < 60
Chlorophyll-A (ug/L)	Chl-A < 20
Secchi depth (m)	SD > 1.0

Targets: To achieve the designated use and the applicable eutrophication criteria, MPCA selected the total phosphorus criterion (60 µg/L) as the primary target of the TMDLs and the Secchi depth as the secondary standard (Section 2.0 of the TMDL).

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this second element.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a water body 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 stream 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:

Loading Capacity:

The loading capacity for Silver Lake is **0.84 lbs/day** of phosphorus.

Models were used by MPCA to calculate the phosphorus loads from each source as part of the loading capacity calculation for Silver Lake. Phosphorus loads to Silver Lake are watershed runoff (wasteload allocation), internal loading (load allocation), and atmospheric deposition (load allocation). Phosphorus loads from each of these sources were modeled and used as input to the lake response model. The lake response model calculated the loading capacity.

The Program Predicting Polluting Particle Passage thru Pits, Puddles and Ponds Water Quality Model (P8) model is designed to simulate flow conditions and pollutant transport in an urban environment in addition to modeling best management practices (Section 4A of the TMDL). The phosphorus loadings from watershed runoff were modeled using P8 and StormNET models (Appendices A and D of the TMDL). For the Silver Lake watershed, a P8 model was already developed by Ramsey County Public Works Lake Management Program in 2000. The 2000 P8 model was refined by MPCA to incorporate additional data and account for changes in the watershed that occurred since 2000. Due to the lack of flow data for the Silver Lake watershed, the StormNET model was used to account for the hydrologic and hydraulic component of the watershed model (Appendix A of the TMDL). The StormNET model output (i.e., flow information) was incorporated into the refined P8 model by MPCA. The refined P8 model was calibrated against the 2000 P8 model and StormNET model outputs. The output from the refined P8 model was the input to the BATHTUB (Version 6.1) model to determine the current loading of phosphorus (Table 12 in the TMDL report). The watershed runoff loading was calculated to be 241 lbs/yr (Table 16 in the TMDL report). Atmospheric deposition was modeled using the BATHTUB software application. Atmospheric deposition over the growing season was calculated to be 19 lbs/yr using the BATHTUB default rate of 0.27 lbs/ac-yr (Section 4C of the TMDL). The internal loading rate calculated for Silver Lake was 0.89 lbs/ac-yr, or 65 lbs/yr (Section 4B and Appendix C of the TMDL). Based on the model results, the existing phosphorus loads to Silver Lake are 241 lbs/yr (watershed runoff) + 19 lbs/yr (atmospheric deposition) + 65 lbs/yr (internal loading) = 325 lbs/yr.

To calculate the margin of safety (MOS), the statistical equations from Walker (2003) were used. The numerical input to the equations was the existing phosphorus load, 325 lbs/yr. The MOS was calculated to be 32 lbs/yr (Section 6 below; Section 6A in the TMDL report) and was an input to the BATHTUB model for the TMDL calculation.

To determine the load allocations and wasteload allocations to achieve the water quality standards in Silver Lake, the BATHTUB model was selected MPCA to link phosphorus loads with in-lake water quality (Section 5 A of the TMDL). BATHTUB contains a menu of mass balance phosphorus models. The Canfield-Bachman method within the BATHTUB model was selected for the Silver Lake TMDL calculation. For lakes in Minnesota, the Canfield-Bachmann method is generally used by MPCA since it incorporates chlorophyll-A and Secchi depth as model parameters. The numerical values of 325 lbs/yr (existing phosphorus load), 241 lbs/yr (watershed runoff), 19 lbs/yr (atmospheric deposition), 65 lbs/yr (internal loading), MOS (32 lbs/yr), and total phosphorus water quality standard (60 ug/L) were input to the BATHTUB model. This yielded 75 lbs/yr for LA and 201 lbs/yr for WLA in order to meet the total phosphorus water quality standard. Thus, **$TMDL = 308 \text{ lbs/yr} = 0.84 \text{ lbs/day} = 75 \text{ lbs/yr (load allocation)} + 201 \text{ lbs/yr (wasteload allocation)} + 32 \text{ lbs/yr (margin of safety)}$** .

The loading capacity developed to meet the phosphorus criterion of the shallow lake phosphorus criterion of 60 ug/l and existing phosphorus load for Silver Lake is presented in Table 2 below and in Tables 20 and 23 in the TMDL report. The loading capacity is the combination of the wasteload allocation, load allocation, and margin of safety (Table 3 below). Thus, the loading capacity is equal to the TMDL assigned for the waterbody.

Table 2. Existing Loads and TMDLs

Lake	Model Scenario	Total Load to Lake (lbs/yr)	TMDL (lbs/day)
Silver	Existing	325	--
	Standard (60 ug/L TP)	308	0.84

Table 3. TMDL Summary

Lake	Load Allocation (lbs/day)	Wasteload Allocation (lbs/day)	Margin of Safety (MOS) (lbs/day)	TMDL* (lbs/day)
Silver	0.21	0.55	0.09	0.84

*Although three significant figures were used when calculating the TMDL, results presented in the table are shown to two significant figures.

Critical conditions: The TMDL Summary and Section 7 of the TMDL report states that the critical conditions in Silver Lake occurs in the summer when TP concentrations peak and clarity is at its worst, often in late July and August. Since the standards are based on June through September water quality averages, the standard addresses the lake condition during critical conditions. The load reduction is designed so Silver Lake will meet the water quality standard over the course of the growing season (June through September).

Further detail on Load Capacity can be found in Section 5 of the TMDL report.

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this third element.

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 non-point 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 non-point sources.

Comment: Section 6D of the TMDL report states that the LA includes internal lake and atmospheric loads. Although the load designated for each of these sources was estimated separately, they are jointly included as one overall LA. Table 22 of the TMDL report and Table 4 below presents the load allocation.

Table 4. Total Phosphorus Load Allocation

Lake and Standard	Load Allocation* (lbs/day)	Source* (lbs/day)	
Silver Lake: (60 ug/L)	0.21	Internal Load	0.15
		Atmospheric Load	0.05

*Although three significant figures were used when calculating the TMDL, results presented in the table are shown to two significant figures.

Section 6D in the TMDL report provides further detail on load allocation calculation by source.

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this fourth element.

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:

The only point source identified by MPCA is the stormwater runoff load regulated under NPDES as discussed in Section 6C of the TMDL. All land area in the watershed is regulated NPDES through the MS4 program. There are no non-MS4s regulated point sources in the watershed. MPCA determined a categorical WLA for industrial facilities discharging stormwater, construction stormwater, and MS4s. Section 6C of the TMDL report and the draft TMDL Implementation Report provides further detail on wasteload allocation and proposed allocations for stormwater permittees.

Table 5. Total Phosphorus Wasteload Allocation

Lake and Standard	Wasteload Allocation (lbs/day)	Permit Number	
Silver Lake: (60 ug/L)	0.55	Construction (various permits)	NA
		Industrial Stormwater (future permits)	NA
		Anoka County MS4	MS400066
		Columbia Heights MS4	MS400010
		Hennepin County MS4	MS400138
		Minneapolis MS4	MN0061018
		New Brighton MS4	MS400038
		Ramsey County Public Works MS4	MS400191
		St. Anthony Village MS4	MS400051

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this fifth element.

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:

MPCA used an explicit MOS for the Silver Lake TMDL. A MOS of 32 lbs/yr was calculated using the method described in Section 6 of the TMDL. The method used by MPCA entails calculating a margin of variability (MOV) and margin of uncertainty (MOU) using the existing phosphorus loading to Silver Lake, 325 lbs/yr. The MOV is based on an annual variability of phosphorus concentrations in the lake and the frequency of meeting the water quality goal. The MOU is based on the uncertainty in predicting phosphorus concentrations and the probability of meeting the water quality goal at the desired frequency. The MOS was calculated to be 32 lbs/yr. Section 6A of the TMDL report provides further detail on the MOS calculation.

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this sixth element.

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 determined that total phosphorus concentrations are highest and clarity is at its worst during the summer months for Silver Lake. The nutrient standards were set by MPCA to meet the most critical period (summer), therefore, the TMDLs will be protective of water quality during all other seasons in all lakes (Section 7 of the TMDL report).

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this seventh element.

8. Reasonable Assurances

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 non-point sources, and the WLA is based on an assumption that non-point source load reductions will occur, EPA’s 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that non-point 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 non-point sources. However, EPA cannot disapprove a TMDL for non-point 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:

Reasonable Assurance is discussed in detail in Section 10 of the TMDL report. Federal, State, watershed, local, and water utility authorities will tap into their programs and funding to provide reasonable assurance for the TMDLs. Potential funding to implement the Silver Lake TMDL may come from the Clean Water Legacy Act grants, Clean Water Partnership program, and Section 319 grants. An update to Rice Creek Watershed District’s (RCWD) watershed

management plan is planned. The RCWD, Three Rivers District, and all MS4s review and comment on the municipal Storm Water Pollution Prevention Programs (SWPPPs). The RCWD, Three Rivers Park District, and cities within the watershed have plans to implement the Silver Lake TMDL according to cost and schedule and is detailed in the draft Implementation Plan. As discussed in Section 10 below, a draft Implementation Plan discusses activities, costs, and capital projects that will be implemented to reduce phosphorus loads in Silver Lake.

EPA finds that the TMDL document submitted by MPCA addresses this eighth element.

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 non-point sources, and the WLA is based on an assumption that non-point source load reductions will occur. Such a TMDL should provide assurances that non-point 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:

Currently, Ramsey County and Citizen Lake Monitoring Program conduct water quality sampling for nutrients and the typical suite of water quality parameters in Silver Lake. Future plans for monitoring in Silver Lake include the continuation of monitoring at a bi-weekly basis with the completion of spring and fall aquatic macrophyte surveys. Further detail on monitoring is located in Section 8 of the TMDL report.

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this ninth element.

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:

The MPCA policy is to require an Implementation Plan within one year of EPA approval of the TMDL. The MPCA reviews and approves the Implementation Plans. The Rice Creek Watershed District has completed a draft TMDL Implementation Plan. A public meeting took place on July 8, 2010 by the Rice Creek Watershed District to present the draft Implementation

Plan. The draft Implementation Plan has not yet been tentatively been approved by MPCA and final approval of the Implementation Plan by MPCA will occur once EPA finalizes the TMDL.

Section 9 of the TMDL report and the TMDL Implementation Plan includes efforts to reduce internal and external total phosphorus loadings to each lake. Implementation of urban retrofitting and redevelopment, management, and regulatory controls is planned for Silver Lake in partnership with the local governments in the watershed and MPCA. Further detail on the type and extent of activities for Silver Lake is described in the draft TMDL Implementation Plan and is summarized in Section 9 of the TMDL report.

EPA reviews, but does not approve, implementation plans. 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:

Two local advisory meetings and one stakeholder meeting took place throughout the TMDL development process. The local advisory meetings took place on August 8, 2007 and April 9, 2008. A stakeholder meeting took place on June 27, 2008, to discuss the proposed TMDL with local governments and citizens. An additional public meeting to discuss the TMDL was held at the Rice Creek Watershed District office and took place on July 8, 2010, to discuss the proposed implementation plan.

The Silver Lake TMDL was posted on the MPCA's website for public comment and review for a 30-day public comment period. The review period took place from March 15, 2010 through April 14, 2010. The draft TMDL Study was posted at: <http://www.pca.state.mn.us/water/tmdl/project-silverlake-nutrients.html>, the MPCA's TMDL web site. During this time the MPCA received and responded to one comment letter from the public. Public comments were submitted with the TMDL report and addressed appropriately by MPCA.

EPA finds that the TMDL document submitted by MPCA satisfies all 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 June 23, 2010, EPA received the Silver Lake TMDL, and a submittal letter dated June 10, 2010, signed by Paul Eger, Commissioner, addressed to Tinka Hyde, U.S. EPA, Region 5, Water Division. In the submittal letter, MPCA stated "I am pleased to submit the Silver Lake Total Maximum Daily Load (TMDL) study for excess nutrients to the U.S. Environmental Protection Agency (EPA) for final approval." The submittal letter included the name and location of the waterbody and the pollutant of concern.

EPA finds that the TMDL document submitted by MPCA satisfies all requirements of this twelfth element.

13. Conclusion

After a full and complete review, EPA finds that the total phosphorus TMDL for Silver Lake in the Silver Lake watershed within the Rice Creek Watershed District satisfy all of the elements of an approvable TMDL. This decision document addresses 1 TMDL for 1 waterbody as identified on Minnesota's 303(d) list (Table 6).

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.

Table 6. Impaired Waters Listing

Waterbody	DNR ID #	HUC Code	Pollutant	Impairment
Silver Lake	62-0083-00	7010206	Total Phosphorus	Nutrient/Eutrophication Biological Indicators