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

REPLY TO THE ATTENTION OF:
WW-16J

SEP 0 2 2014

Rebecca J. Flood, Assistant Commissioner
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Dear Ms. Flood:

The U.S. Environmental Protection Agency has conducted a complete review of the final Total Maximum Daily Loads (TMDL) for the Jefferson-German Lake Chain and Lake Volney, including support documentation and follow up information. The Jefferson-German Lake Chain and Lake Volney is located in south central Minnesota in Le Sueur and Blue Earth Counties. The Jefferson-German Lake Chain and Lake Volney TMDLs address impaired aquatic recreation due to excessive nutrients (phosphorus).

EPA has determined that the Jefferson-German Lake Chain and Lake Volney TMDLs meet the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations set forth at 40 C.F.R. Part 130. Therefore, EPA approves Minnesota's six nutrient TMDLs. 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 efforts in submitting these TMDLs 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: Celine Lyman, MPCA
Shaina Keseley, MPCA

wq-iw9-14g

**TMDL:** Lake Volney, Le Sueur County, Minnesota
**Date:** September 2, 2014

# DECISION DOCUMENT FOR THE LAKE VOLNEY NUTRIENT TMDL, LE SUEUR COUNTY, MN

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., lb/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:**
Lake Volney is located approximately five miles east of Le Center in Le Sueur County in south-central Minnesota. Lake Volney is in the far west portion of the Upper Cannon Watershed of the Lower Mississippi River Basin. The Lake Volney watershed (approximately 2,017 acres) is located in the central portion of Le Sueur County.

The Minnesota Pollution Control Agency (MPCA) placed Lake Volney on the State of Minnesota's 303(d) Impaired Waters List in 2002. Table 1 of this Decision Document below identifies the waterbody segment covered by the TMDL as it appears on the 2012 Minnesota 303(d) list. The lake is identified for not meeting the Class 2B designation of aquatic life and recreational use due to exceedances of the total phosphorus (TP) criteria. This Decision Document approves **one** TMDL for Lake Volney.

**Table 1.** 303(d) List Summary for Lake Volney

| Waterbody Name | Listing Year | Pollutant | Designated Use |
|---|---|---|---|
| Lake Volney | 2002 | Total Phosphorus | Aquatic Life and Recreational Use |

***Location Description/Spatial Extent:***
V1 to V4 are water quality monitoring stations as depicted in Figure 1 of this Decision Document. Lake Volney receives a majority of its total volume from the large ditch system that passes through monitoring location V2 on the north eastern side of Lake Volney. Discharge from this ditch system represented 78% of the total flow volume entering Lake Volney during the 1995 monitoring season. Flow passing through monitoring location V3 comprised 13.8% of the total flow volume entering Lake Volney during the 1995 monitoring season. Together these sites comprised close to 92% of the total calculated flow volume entering Lake Volney during the 1995 study; therefore, these locations were chosen as the main sampling points for the TMDL study. Based on data collected during the 2009 and 2010 sampling seasons, flow from V2 was again the dominant surface water inflow site within the watershed. Flow passing through V2 represented 35.5% of the total flow by volume entering Lake Volney during this study; V3 contributed 12.9% of the total flow by volume to Lake Volney. The remaining 51.6% of the flow volume to Lake Volney was derived from immediate watershed contributions not monitored during this study.

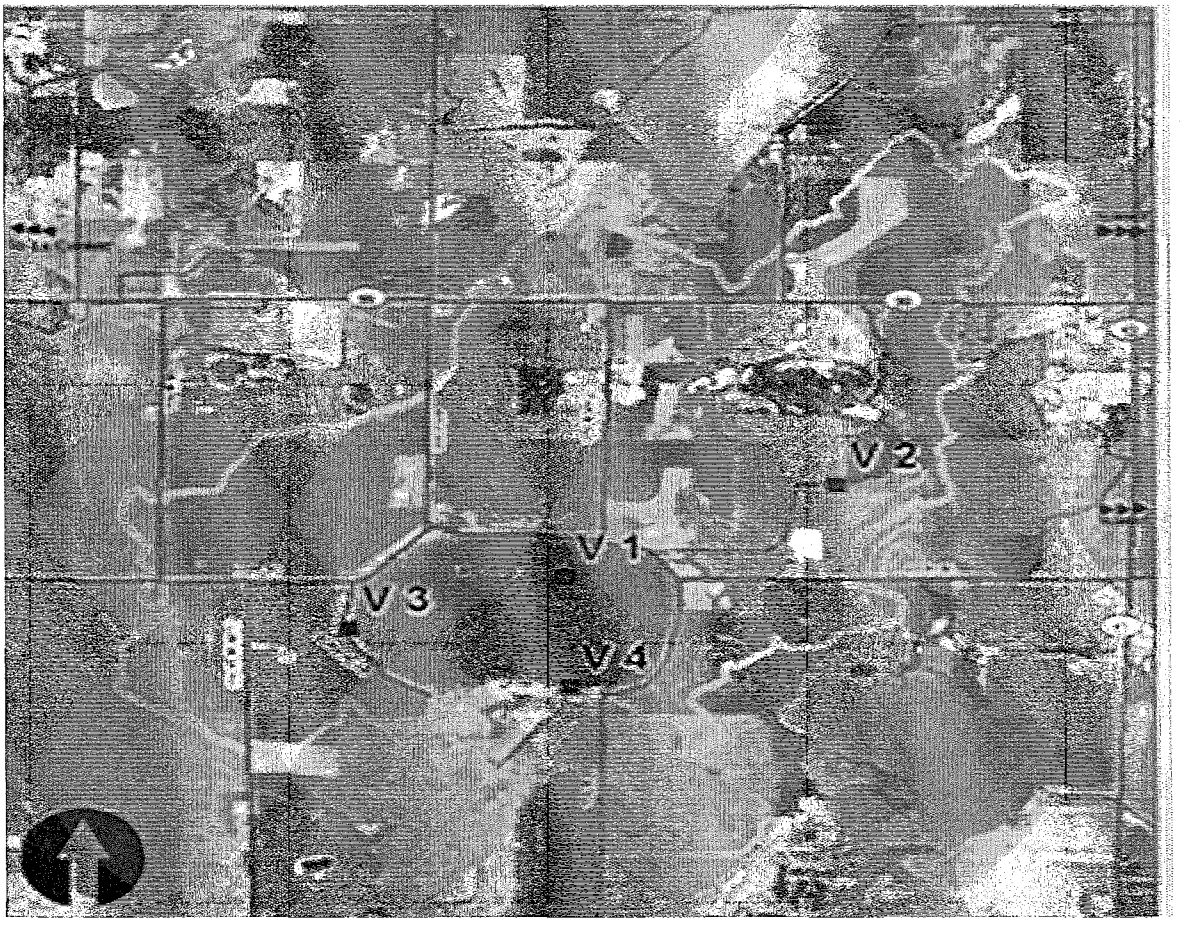
Table 2 of this Decision Document presents the physical details for Lake Volney. Lake Volney is classified by MPCA as a deep lake (having a maximum depth of greater than 15 feet or less than 80% littoral).

**Table 2.** Lake Characteristics[1]

| Parameter | Lake Volney |
|---|---|
| Surface Area (ac) | 277 |
| Average Depth (ft) | 22.7 |
| Maximum Depth (ft) | 65 |
| Watershed (ac) [includes lake surface area] | 2,017 |
| Littoral Area (acres) | 127 |

[1] Section 1.1, page 13, of the TMDL report.

**Figure 1. Location of water quality monitoring station (V1 to V4) in the Lake Volney watershed**




***Population and Future Growth:***
MPCA does not anticipate that there will be significant development in the Lake Volney watershed (Section 5.4 of the final TMDL document). MPCA explained that the Lake Volney watershed is not expected to be an area of future development for business or industry. MPCA did not account for future growth in the Lake Volney TMDL since no municipal separate storm sewer systems (MS4s) exist in the watershed. Generally, MPCA includes 5% of the MS4 loading to account for future growth in their TMDLs. Since MPCA did not calculate a load for MS4s, future growth was not included as a part of the loading capacity for the Lake Volney TMDL.

***Priority Ranking:***
The development for the Lake Volney TMDL was given priority due to: the impairment impacts on public health and aquatic life, the public value of the impaired water resource, the likelihood of completing the TMDL in an expedient manner, the inclusion of a strong base of existing data and the restorability of the waterbody, the technical capability and the willingness of local partners to assist with the TMDL, and the appropriate sequencing of TMDLs within a watershed or basin. Areas within the Lake Volney watershed are popular locations for aquatic recreation. Water quality degradation has led to efforts to improve the overall water quality within the watershed, and to the development of the TMDL for Lake Volney.

***Land Use:***
Table 3 of this Decision Document summarizes land use in the Lake Volney watershed. The dominant land use for Lake Volney watershed is agricultural (52%), followed by pasture/forest/grassland/shrubland/wetlands (23%).

Section 1.4 of the TMDL provides further detailed information.

**Table 3.** Land Use Characteristics for Lake Volney[2]

| Land Use | Acres | Percent land use (%) |
|---|---|---|
| Corn | 297.57 | 14.79 |
| Soybean | 704.40 | 35.02 |
| Sweet Corn | 29.45 | 1.46 |
| Alfalfa | 6.97 | 0.35 |
| Other Hays | 1.55 | 0.08 |
| Dry Beans | 0.77 | 0.04 |
| Peas | 0.77 | 0.04 |
| Pasture/Grass | 51.14 | 2.54 |
| Open Water (Lake) | 277 | 12.98 |
| Developed/Open Space | 155.76 | 7.74 |
| Developed/Low Intensity | 30.22 | 1.50 |
| Barren | 3.10 | 0.15 |
| Deciduous Forest | 87.57 | 4.35 |
| Evergreen Forest | 0.77 | 0.04 |
| Shrubland | 0.77 | 0.04 |
| Grassland-Herbaceous | 41.07 | 2.04 |
| Pasture/Hay | 259.60 | 12.90 |
| Woody Wetlands | 13.17 | 0.65 |
| Herbaceous Wetlands | 65.87 | 3.27 |
| **TOTAL** | **2017.67** | 100 |

***Problem Identification/Pollutant of Concern:***
The pollutant of concern for Lake Volney is total phosphorus. Levels of phosphorus are above water quality targets, limiting all types of aquatic recreation, including fishing and swimming. Excess phosphorus stimulates excessive plant growth (algae and nuisance plants/weeds). This enhanced plant growth reduces dissolved oxygen in the water when dead plant material decomposes and can cause other organisms to die. The Lake Volney TMDL also includes water quality data and information for the nutrient indicators chlorophyll-a (chl-a) and Secchi depth (SD). Chlorophyll-a is a primary pigment in aquatic algae. Measured chl-a concentrations typically correlate with algal production. Secchi depth is an indicator for water clarity and quality and is measured by lowering a Secchi disk into the water until it can no longer be seen from the surface (Sections 1.9 and 3.0 of the TMDL).

Total Phosphorus Data Results:
MPCA explained that algal blooms in Lake Volney diminish its use for public recreation (page 13 of the final TMDL document). In response to frequent algal bloom events MPCA completed water quality monitoring in Lake Volney in the summers of 2009 and 2010. MPCA defined June to September 2009-2010 data as current conditions for Lake Volney for the TMDL assessment.

[2] Table 1.4, page 17, of the TMDL report.

On average, total phosphorus concentration in Lake Volney was 63 µg/l from June to September of 2009 and 2010. Total phosphorus water quality samples were taken from June to September of 2009 and 2010 at two lake inlet locations (V2, V3) and one lake outlet location (V4). Fourteen of the total eighteen samples exceeded MPCA's deep lake eutrophication standard. The TP concentrations demonstrate that Lake Volney consistently exceeds MPCA's deep lake eutrophication standard of 40 µg/L and indicate high inputs from the watershed or in-lake sources.

For more information, see Section 3.3C, Figures 3.3C.1 and 3.3C.2 of the TMDL Report.

Chlorophyll-a Data Results:
Chl-a samples were collected in the summers of 2009 and 2010 at two lake inlet locations (V2, V3) and one lake outlet location (V4). The summer average water column Chl-a concentrations for Lake Volney was 15.6 µg/l based on data from the two summer field seasons and demonstrates that Lake Volney consistently exceeds MPCA's deep lake eutrophication standard of 14 µg/L. MPCA explained that high Chl-a concentrations in Lake Volney are indicative of algal growth which lead to nuisance algal blooms.

For more information, see Section 3.3C, Figures 3.3C.5 and 3.3C.6 of the TMDL Report.

Secchi Depth Data Results:
Secchi depth measurements were collected in the summers of 2009 and 2010 at sampling locations V2, V3 and V4. The summer average Secchi depth measurements for Lake Volney was 3.27 meters. In general, the Secchi depth measurements were greater than the Secchi depth water quality standard (1.4 meters).

For more information, see Section 3.3C, Figures 3.3C7 and 3.3C.8 of the TMDL Report.

Fish Population Data Results:
Lake Volney is identified for not meeting the Class 2B designation of aquatic life and recreational use due to exceedances in total phosphorus concentrations. The fish population data collected by Minnesota Department of Natural Resources (MDNR) for Lake Volney does not support the Class 2B designation of aquatic life and recreational use. The MDNR performed fish surveys at Lake Volney in 2008. Carp, northern pike, largemouth bass, bluegill, black crappie, and yellow perch have been collected at Lake Volney during the 2008 sampling. Data from the fish survey shows that improvement is still needed in fish trophic balance and demonstrates that the Class 2B designation of aquatic life and recreational use is not supported.

Common carp are abundant in Lake Volney. Common carp, a non-native species, were observed during 2008 field monitoring, and are likely contributing to higher internal phosphorus loads. Carp causes increased nutrients in waterbodies by uprooting aquatic macrophytes during feeding and spawning. The uprooting causes resuspension of bottom sediment and nutrients resulting in increased nuisance algal blooms. Section 1.9A of the TMDL Report provides further details.

Aquatic Plants Data Results:
Lake Volney is identified for not meeting the Class 2B designation of aquatic life and recreational use due to exceedances in total phosphorus concentrations. The vegetation survey data collected by MDNR does not support the Class 2B designation of aquatic life and recreational use. High abundance and

density in aquatic plants limit recreation activities. Additionally, excess nutrients within the water column may lead to non-native, invasive aquatic plants in the Lake Volney. The inclusion of invasive aquatic plants may ultimately lead to shifts in the fish community since high densities of one aquatic plant species favors one fish species over another.

Vegetation surveys were taken twice by MDNR in 2009. The first survey conducted on May 12, 2009 showed that curly-leaf pondweed was abundant. The second survey conducted on August 11, 2009 showed poor macrophyte growth in Lake Volney. The very limited macrophyte growth is likely a factor of the deep morphometry and composition of sediment found in Lake Volney which may be prohibitive of macrophyte growth.

Curly-leaf pondweed, an invasive species, had been observed in Lake Volney twice from MDNR's surveys in 2009. Curly-leaf pondweed increases TP concentrations resulting in eutrophication. MDNR's observations of curly-leaf pondweed in the first survey supports Lake Volney being listed as impaired for not meeting the Class 2B designation of aquatic life and recreational use. Section 1.9B of the TMDL report provides further information on aquatic vegetation data.

***Source identification:***
Section 5.0 of the TMDL report provides details on phosphorus loads from point and nonpoint sources to the Lake Volney watershed.

The potential point sources to Lake Volney are:
Lake Volney and its surrounding watershed are not considered a part of a MS4 community and therefore have no WLA loading attributed to MS4 contributions. There are no NPDES-permitted industrial dischargers or municipal dischargers within the Lake Volney watershed. Stormwater runoff from construction activities is covered under NPDES/SDS General Stormwater Permit for Construction Activity (MNR100001). Stormwater runoff from industrial activities are covered under NPDES/SDS Industrial Stormwater Multi-Sector General Permit (MNR050000).

MPCA determined that industrial and construction stormwater contribute 0.104% of the TP loading for the Lake Volney watershed. There are five CAFOs in the Lake Volney watershed (Figure 5.1 in the TMDL report).

The potential nonpoint sources to Lake Volney are:

- Unmonitored inflows within the Lake Volney watershed (unregulated stormwater runoff)
- Monitored inflows from tributaries to Lake Volney
- Atmosphere deposition

MPCA determined that unmonitored inflows within the Lake Volney watershed contribute 22% of the total phosphorus loading and that monitored inflows contribute 74% of the total phosphorus loading. Atmospheric deposition contributes 4% of the total phosphorus loading to Lake Volney (Figure 4.4A in the final TMDL report).

*EPA finds that the TMDL document submitted by MPCA satisfies all requirements of the 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:

Lake Volney is classified under Minnesota Rule 7050.0430 as Class 2B waters. Minnesota 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:

Lake Volney is subject to Minnesota's Eutrophication Standards, North Central Hardwood Forests Ecoregion. Numeric 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, a lake is considered deep if its maximum depth is greater than 15 feet or less than 80% littoral. Based upon the physical data and lake morphology, Lake Volney is classified by MPCA as a deep lake rather than shallow lake.

**Table 4.** Minnesota's Eutrophication Standards, North Central Hardwood Forests Ecoregion[3]

| Parameter | Eutrophication Standard, Deep Lakes |
|---|---|
| TP (µg/L) | TP < 40 |
| Chlorophyll-a (µg/L) | Chl-a < 14 |
| Secchi depth (m) | SD > 1.4 |

**Targets:**

To achieve the designated use and the applicable eutrophication criteria, MPCA incorporated a 10% explicit Margin of Safety (MOS) into the TP standard for the NCHF deep lake water quality standard.

[3] Table 2.1A, page 26, of the TMDL report.

Therefore, the TP water quality target was reduced to 36 µg/l for TP concentration. By calculating the TMDL to meet the TP standard of 36 µg/l, MPCA believes that all three parameters will be met by the TMDL (Section 2.1 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 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:**
Table 5 of this Decision Document presents the loading capacity for Lake Volney. The TMDL was calculated using average growing season TP loads from 2009 to 2010.

**Table 5.** Loading capacity for Lake Volney meeting the 36 µg/l TP WQS with 10% MOS.

| Lake | Current loading (lb/day) | Load Reduction needed to meet WQS | Wasteload Allocation (lb/day) | Load Allocation (lb/day) | Margin of Safety | TMDL (lb/day) |
|---|---|---|---|---|---|---|
| **Lake Volney** | 3.153 | 62% | 0.004 | 1.955 | Implicit | **1.959** |

Four models were used to assess nutrient loading and to determine loading capacities for the lake, including: the Minnesota Lake Eutrophication Analysis Procedure (MINLEAP) model; the Nürnberg equation (2004); use of wet and dry deposition rates from MPCA's Detailed Assessment of Phosphorus

Sources to Minnesota Watersheds; and use of BATHTUB with the FLUX component for the water quality analyses.

BATHTUB has built-in statistical calculations which account for data variability and provide a means for estimating confidence in model predictions. BATHTUB employs a mass-balance TP model that accounts for water and TP inputs from tributaries, direct watershed runoff, the atmosphere, and sources internal to the lake, and outputs through the lake outlet, water loss via evaporation, and TP sedimentation and retention in the lake sediments. BATHTUB provides flexibility to tailor model inputs to specific lake morphometry, watershed characteristics and watershed inputs. The BATHTUB model also allows MPCA to assess different impacts of changes in nutrient loading and the choice among several different mass-balance TP models.

The FLUX model was used to calculate TP loading from inflow drainage areas. The MINLEAP model was used as a quick method to analyze predicted phosphorus, chl-a and Secchi depths to the actual, observed data based on its location and reference lakes in the area, to actual loading levels based on the sample results. The Nürnberg equation (2004) was used to calculate TP loading from internal loading. The use of wet and dry deposition rates from MPCA's Detailed Assessment of Phosphorus Sources to Minnesota Watersheds was used to calculate TP loadings from atmosphere. All model outputs were used as model inputs to the BATHTUB model. The BATHTUB model was used to calculate in-lake water quality resulting from the phosphorus loads.

Watershed loading: MPCA used MINLEAP and FLUX to assess watershed loadings within the Lake Volney watershed. MPCA first estimated hydrologic and eutrophication indicators using the MINLEAP model. MINLEAP is useful in that it requires minimal input of information and relies on general ecoregion values for stream phosphorus concentrations, precipitation, evaporation and runoff concentrations. These values are estimated based on reference lakes within the ecoregion. Due to its simplicity, MPCA considers MINLEAP as a screening tool and uses it to test for differences between the observed water quality conditions and the MINLEAP predicted water quality conditions.

MINLEAP tests for Lake Volney confirmed that the lake exhibits higher in-lake TP and chl-*a* concentrations than ecoregion reference lakes. The MINLEAP calculations of predicted TP, chl-a and Secchi depth values were then compared against the observed water quality data (from 2009-2010) for each lake. This comparison provides MPCA and watershed managers a rough estimate of the reductions necessary to meet water quality standards and to what degree the model should be calibrated to match observed values. This information was employed in the BATHTUB modeling efforts of the Lake Volney TMDL.

FLUX was used to calculate phosphorus and water budget loadings at V2 and V3 which were inlet locations at Lake Volney. Measured inlet loads compared to outlet load at V4 indicate the amount of TP accumulating within the lake each season. MPCA found that in 2010 the TP load of V2 and V3 was 2317 lb/yr and the TP load of V4 outlet location was 875 lb/yr. The FLUX model outputs were used as BATHTUB model inputs. MPCA used FLUX model outputs of 1,043 lb/yr TP at V2 and 271 lb/yr TP at V3 as BATHTUB model inputs. Appendix E provides further information on MINLEAP. Section 3.2 and Tables 3.2A and 3.2B of the final TMDL report provide more information on MPCA's FLUX results.

Atmospheric Load: An atmospheric load of phosphorus to Lake Volney was determined with deposition rates (lb/ac/yr) from the literature (MPCA cites Barr 2004 in Section 5.2F of the TMDL report). Deposition rates from wet, dry, and average years were multiplied by the lake area (acres) to determine atmospheric loads (lb/yr). MPCA found atmospheric deposition to be a small percentage of the total load. MPCA calculated the average atmospheric deposition rate to be 0.28 lb/ac-yr.

Internal loading: Internal loading was already accounted for in the BATHTUB model (Section 5.2C of the final TMDL report).

Loading Capacity: Loading capacities were determined using Canfield-Bachmann equations from BATHTUB. The model equations were originally developed from data taken from over 704 lakes. The model estimates in-lake phosphorus concentration by calculating net phosphorus loss (phosphorus sedimentation) from annual phosphorus loads as functions of inflows to the lake, lake depth, and hydraulic flushing rate. To estimate loading capacity, the model is rerun, each time reducing current loads to the lake until the model result shows that in-lake total phosphorus would meet the applicable water quality standards. MPCA left the coefficients at default values and no calibration factors were applied to the response model. Predicted modeled and monitored TP values are presented Appendix F of the TMDL report. The resulting loading capacities are shown in Tables 5 to 6 of this Decision Document.

Linking targets to water quality standards: The total phosphorus loading capacities are then input to the Canfield-Bachmann (BATHTUB) model. This time, the model calculates in-lake concentrations of phosphorus and Chl-a, and Secchi depth as the lake's phosphorus input was equal to the proposed loading capacity. The model results showed that if the phosphorus TMDL was met for the lake, the phosphorus, Chl-a, and Secchi depth water quality criteria would be achieved (Appendix C of the TMDL report).

**Table 6.** Total Phosphorus TMDL for Lake Volney

| Load Allocation (lb/day) | | Wasteload Allocation (lb/day) | | Margin of Safety (%) | TMDL (lb/day) |
|---|---|---|---|---|---|
| Watershed load | 1.955 | MS4 stormwater load | 0 | 10 | 1.959 |
| Failing Septic Systems | 0 | Municipal and Industrial WWTFs | 0 | | |
| Atmospheric | 0 | CAFOs | 0 | | |
| Internal Load | 0 | Construction and Industrial stormwater runoff | 0.004 | | |
| **Total** | **1.955** | **Total** | **0.004** | | |

The current TP loading is 3.153 lb/day and a TP reduction of 62% is needed to meet the TP water quality standard of 36 µg/L which includes a 10% explicit MOS for Lake Volney.

EPA supports the data analysis and modeling approach utilized by MPCA in their calculation of wasteload allocations, load allocations and margin of safety for the Lake Volney TMDL. Additionally, EPA concurs with the loading capacities calculated by the MPCA in the Lake Volney TMDL. Further detail on Load Capacity can be found in Section 5.0 of the TMDL report.

*Critical conditions:*
Section 7.0 of the TMDL report and data presented in the TMDL report states that the critical conditions at Lake Volney occur in the summer when TP concentrations peak and clarity is at its worst, often from July to September. Since the phosphorus standard is based on June through September water quality averages, the standard addresses the lake condition during critical conditions. The load reduction is designed so Lake Volney will meet the water quality standard over the course of the growing season (June through September).

*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 5.0 of the TMDL report states that the LA is comprised of direct watershed inputs, including unregulated stormwater. MPCA calculated the stormwater loading using the area of total developed spaces, and multiplying them times the mean phosphorus runoff coefficients (ranging from 1.10 to 2.75 lb/ha) and recorded climatic data. The resulting values were inputs to the BATHTUB model. FLUX outputs for the inflows to Lake Volney were used as phosphorus loadings to the lake. No reduction in atmospheric loading was calculated because MPCA concluded this source is not possible to control on a local basis.

Through enforcement and implementation measures, Le Sueur's County Department of Environmental Services has reduced the number of failing septic systems within the Lake Volney watershed. MPCA explained that a number of septic systems have been upgraded from 2000 to 2005. Due to the minimal and/or no inputs of TP to Lake Volney from failing septic systems, MPCA determined that contributions from septic systems will not be accounted for directly in the TMDL nutrient budget. Table 6 of this Decision Document presents the load allocation for Lake Volney. EPA concurs with the State's approach in determining the LA for which the Lake Volney TMDL has been established.

EPA finds the MPCA's approach for calculating the LA to be reasonable. Section 5.2 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:**
MPCA assigned a WLA for construction and industrial stormwater runoff for the Lake Volney TMDL to account for future stormwater runoff due to construction and/or industrial activity. MPCA determined that 0.104% of the total TMDL load should be allocated to the WLA portion for construction and industrial stormwater runoff.

Lake Volney and its surrounding watershed are not considered a part of a MS4 community and therefore have no WLA loading under the MS4 category. There are no municipal and industrial wastewater facilities in the Lake Volney watershed and therefore no WLA loading was assigned under this category. Although there are 5 NPDES-permitted CAFOs within the Lake Volney watershed, a WLA loading was not assigned to the CAFOs since the permits generally do not allow for nutrient discharge. Table 6 of this Decision Document presents the WLA for Lake Volney.

EPA finds the MPCA's approach for calculating the WLA to be reasonable.

*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 of 10% and an implicit MOS for the Lake Volney TMDL. The explicit 10% MOS was applied to the TP water quality standard of 40 µg/l resulting in a TP TMDL of 36 µg/l. For the implicit MOS, conservative modeling assumptions included applying sedimentation rates from the Canfield-Bachmann model that likely under-predict the sedimentation rate for deep lakes. The Canfield-Bachmann equation does not account for the expected higher sedimentation rates (and thus phosphorus lost to the water column) expected in healthy deep lake systems. The model therefore overestimates the phosphorus concentration in the lake, and correspondingly overestimates the reductions needed to achieve the WQS.

Section 5.3 of the final TMDL report provides further information on MOS.

*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:**
Seasonal variation was accounted for via loading capacity based on growing season averages for Lake Volney and developing targets during the summer period (i.e., critical conditions). The TMDL was set to meet TP standards during the summer period which is the most protective since critical conditions occurs during the summer months. BATHTUB incorporates precipitation data and flow data over a two-year period thus capturing seasonal variations such as spring rain, snowmelt, and summer low flows.

Section 7.0 of the final TMDL report provides further information on seasonal variation.

*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:**
The Lake Volney nutrient TMDL provides reasonable assurance that actions identified in the implementation strategy, as discussed in the TMDL in Section 8.0, will be applied to attain the loading capacities and allocations calculated for Lake Volney. The recommendations made by MPCA will be successful at improving water quality if the appropriate local groups work to implement these recommendations. Those mitigation suggestions, which fall outside of regulatory authority, will require commitment from state agencies and local stakeholders to carry out the suggested actions.

MPCA has identified local partners, such as the Lake Volney Association (LVA), which have expressed interest in working to improve water quality within the Lake Volney watershed. Implementation practices will be implemented over the next several years. Local groups are expected to work closely with one another to ensure that pollutant reduction efforts via BMPs are being implemented within the Lake Volney area. Groups which could contribute to implementation efforts could be the LVA, the Cannon River Watershed Partnership, and the Soil and Water Conservation District (SWCD) for Le Sueur county.

Continued water quality monitoring within the basin is supported by MPCA. Additional water quality monitoring results could provide insight into the success or failure of BMP systems designed to reduce nutrient loading into the surface waters of the watershed. Local watershed managers would be able to reflect on the progress of the various pollutant removal strategies and would have the opportunity to change course if observed progress is unsatisfactory.

MPCA reasonably assures that the TP water quality standard will be achieved for Lake Volney via the following:

1) 2011 Cannon River Watershed Management Strategy. The 2011 Cannon River Watershed Management Strategy includes implementation projects aimed at improving and restoring water quality at Lake Volney. Details of the plan can be found at the Cannon River Watershed website (http://crwp.dreamhosters.com/wp-content/uploads/2013/01/Cover-and-Table-of-Contents.pdf ).
2) Implementation Plan for Lake Volney. Following approval of the Lake Volney TMDL, MPCA will work with the Cannon River Watershed and others to develop and approve an implementation plan within one year. The implementation plan will include the use of federal and state programs to improve and restore water quality in the lake.
3) Monitoring and water quality improvement projects conducted by Cannon River Watershed. Cannon River Watershed actively monitors Lake Volney and manages water quality projects designed to improve water quality within its watershed.
4) *Clean Water Legacy Act (CWLA):* The CWLA is a statute passed in Minnesota in 2006 for the purposes of protecting, restoring, and preserving Minnesota water. The CWLA provides the

process to be used in Minnesota to develop TMDL implementation plans, which detail the restoration activities needed to achieve the allocations in the TMDL. The TMDL implementation plans are required by the State to obtain funding from the Clean Water Fund. The Act discusses how MPCA and the involved public agencies and private entities will coordinate efforts regarding land use, land management, water management, etc. Cooperation is also expected between agencies and other entities regarding planning efforts, and various local authorities and responsibilities. This would also include informal and formal agreements and to jointly utilize technical educational, and financial resources. MPCA expects the implementation plans to be developed within a year of TMDL approval. The CWLA also provides details on public and stakeholder participation, and how the funding will be used. The implementation plans are required to contain ranges of cost estimates for both point and nonpoint source load reductions, as well as monitoring efforts to determine effectiveness. MPCA has developed guidance on what is required in the implementation plans (Implementation Plan Review Combined Checklist and Comment, MPCA), which includes cost estimates, general timelines for implementation, and interim milestones and measures. The Minnesota Board of Soil and Water Resources administers the Clean Water Fund as well, and has developed a detailed grants policy explaining what is required to be eligible to receive Clean Water Fund money (FY '11 Clean Water Fund Competitive Grants Policy; Minnesota Board of Soil and Water Resources, 2011).

5) Reasonable assurance that the WLA set forth will be implemented is provided by regulatory actions. According to 40 CFR 122.44(d)(1)(vii)(B), NPDES permit effluent limits must be consistent with assumptions and requirements of all WLAs in an approved TMDL. MPCA's stormwater program and the NPDES permit program are some of the implementing programs for ensuring effluent limits are consistent with the TMDL. The NPDES program requires construction and industrial sites to create a Stormwater Pollution Prevention Plan (SWPPP) that summarizes how stormwater will be minimized from the site.

   The NPDES program requires construction and industrial sites to create SWPPPs which summarize how stormwater will be minimized from construction and industrial sites. Under the MPCA's Stormwater General Permit, managers of sites under construction or industrial stormwater permits must review the adequacy of local SWPPPs to ensure that each plan meets WLA set in the Lake Volney TMDL. In the event that the SWPPP does not meet the WLA, the SWPPP will need to be modified within 18-months of the approval of the TMDL by the U.S. EPA. This applies to sites under the MPCA's General Stormwater Permit for Construction Activity (MNR100001) and its NPDES/SDS Industrial Stormwater Multi-Sector General Permit (MNR050000) or NPDES/SDS General Permit for Construction Sand & Gravel, Rock Quarrying and Hot Mix Asphalt Production facilities (MNG490000).

*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:**
The Cannon River Watershed Management Strategy contains a detailed monitoring plan for Lake Volney. Volunteers from the Citizen Lake Monitoring Program regularly monitor for water clarity at Lake Volney. In addition, MPCA's Implementation Plan for the Lake Volney TMDL will include a monitoring plan.

Section 9.0 of the TMDL report provides further information on monitoring.

*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 draft TMDL Implementation Plan for Lake Volney has been developed but not yet finalized. Final approval of the Implementation Plan by MPCA will occur once EPA finalizes the TMDL.

Section 6.0 of the TMDL report includes efforts to reduce external TP loadings to Lake Volney. Implementation of activities such as monitoring, agricultural best management practices (BMPs), developed land BMPs, and in-lake implementation activities is planned for Lake Volney in partnership with the local governments in the watershed and MPCA.

*Internal loading:* The release of phosphorus from lake sediments, the release of phosphorus from lake sediments via physical disturbance from benthic fish (rough fish, ex. carp), the release of phosphorus from wind mixing the water column, and the release of phosphorus from decaying curly-leaf pondweeds, may all contribute internal phosphorus loading to Lake Volney. Phosphorus may build up in the bottom waters of the lake and may be resuspended or mixed into the water column when the thermocline decreases and the lake water mixes.

*Stormwater runoff from agricultural land use practices:* Runoff from agricultural lands may contain significant amounts of nutrients which may lead to impairments in Lake Volney. Manure spread onto fields is often a source of phosphorus, and can be exacerbated by tile drainage lines, which channelize

the stormwater. Tile lined fields and channelized ditches enable particles to move more efficiently into surface waters. Phosphorus may be added via surface runoff from upland areas which are being used for Conservation Reserve Program (CRP) lands, grasslands, and agricultural lands used for growing hay or other crops. Stormwater runoff may contribute nutrients to surface waters from livestock manure, fertilizers, vegetation and erodible soils.

*Unrestricted livestock access to streams:* Livestock with access to stream environments may add nutrients directly to the surface waters or resuspend particles that had settled on the stream bottom. Direct deposition of animal wastes can result in very high localized nutrient concentrations and may contribute to downstream impairments. Smaller animal facilities may add nutrients to surface waters via wastewater from these facilities or stormwater runoff from near-stream pastures.

*Stream channelization and stream erosion:* Eroding streambanks and channelization efforts may add nutrients to local surface waters. Nutrients may be added if there is particulate phosphorus bound with eroding soils. Eroding riparian areas may be linked to soil inputs within the water column and potentially to changes in flow patterns. Changes in flow patterns may also encourage down-cutting of the streambed and streambanks. Stream channelization efforts can increase the velocity of flow (via the removal of the sinuosity of a natural channel) and disturb the natural sedimentation processes of the streambed.

*Atmospheric deposition:* Phosphorus may be added via particulate deposition. Particles from the atmosphere may fall onto lake surfaces or other surfaces within the Lake Volney watershed. Phosphorus can be bound to these particles which may add to the phosphorus inputs to surface water environments.

*Urban/residential sources:* Nutrients may be added via runoff from urban/developed areas in the Lake Volney watershed. Runoff from urban/developed areas can include phosphorus derived from fertilizers, leaf and grass litter, pet wastes, and other sources of anthropogenic derived nutrients.

*Wetland Sources:* Phosphorus may be added to surface waters by stormwater flows through wetland areas in the Lake Volney watershed. Storm events may mobilize phosphorus through the transport of suspended solids and other organic debris.

*Forest Sources:* Phosphorus may be added to surface waters via runoff from forested areas within the watershed. Runoff from forested areas may include debris from decomposing vegetation and organic soil particles.

*Wildlife:* Wildlife is a known source of nutrients in water bodies as many animals spend time in or around water bodies. Deer, geese, ducks, raccoons, and other animals all create potential sources of nutrients. Wildlife contributes to the potential impact of contaminated runoff from animal habitats, such as urban park areas, forest, and rural areas.

Further detail on the type and extent of activities for Lake Volney is described in Section 6.0 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:**
Stakeholder meetings for the Lake Volney TMDL were held throughout the TMDL development process in 2009, 2010 and 2011. The stakeholders in attendance were concerned citizens, MPCA, MDNR, Minnesota Department of Transportation (MN/DOT), local officials, representatives from lake associations, and local governing agencies.

The Lake Volney TMDL report was posted on the MPCA's website for public comment and review for a 30-day public comment period. MPCA held two public comment periods, the first was held from December 9, 2013 to January 9, 2014. The second public comment period took place from February 17, 2014 to March 3, 2014. During this time the MPCA received and responded to six comment letters from the public.

Comment letters submitted by Cannon River Watershed Partnership, Le Sueur County Environmental Services and by Dan Girolamo requested further clarification on implementation efforts after the completion of the TMDL. Each of the commenters cited source reduction challenges of attaining the water quality targets discussed in the TMDL. MPCA answered each commenter by acknowledging the challenges faced and asking for the commenters support in post-TMDL implementation efforts. MPCA also explained that the TMDL provides numeric goals for future planning and that working toward those goals will require appropriate land management efforts from point and nonpoint contributors, adaptive management of BMP efforts in accordance of existing laws and most importantly the support and commitment from landowners and other stakeholders. MPCA encouraged these three commenters to continue to work with the MPCA and other watershed groups toward attaining the goals of the TMDL.

A comment was submitted by the LVA and requested that MPCA include detail related to specific inflow sources to the Jefferson-German Chain (JGC) watershed and suggestions on potential specific implementation activities in the watershed. MPCA answered the requests of the LVA by updating the TMDL document, where appropriate, and updating the discussion of the implementation section (Section 6.0) and the reasonable assurance section (Section 8.0) of the final TMDL document.

A comment was shared by Warren West which asked questions related to mitigation strategies to address internal load, source reduction of upland contributing areas and funding availability for

restoration efforts in the Lake Volney watershed and the JGC watershed. MPCA answered the concerns of Mr. West in its response and referenced the implementation plan which is anticipated to be developed after the completion of the TMDL and the Watershed Restoration and Protection Strategy (WRAPs) efforts for the Upper Cannon River watershed.

A comment was submitted from the Minnesota Department of Agriculture (MDA) and requested additional explanation to be included within the TMDL document related to; evaporation versus precipitation assumptions, local climate/precipitation data collected in the Lake Volney watershed and the JGC watershed, agricultural drainage/tile drainage discussion of the implementation and reasonable assurance sections of the TMDL document, failing septic systems, agricultural BMPs and urban stormwater. MPCA agreed to update language within the Jefferson-German Lake Chain TMDL and the Lake Volney TMDL document as appropriate to answer the concerns raised by the MDA.

EPA believes that MPCA adequately addressed each of these comments and updated the final TMDL with appropriate language to address these comments. The MPCA submitted all of the public comments and responses in the final TMDL submittal packet received by the EPA on August 7, 2014.
*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 August 7, 2014, EPA received the Lake Volney nutrient TMDL, and a submittal letter dated August 3, 2014, signed by Rebecca J. Flood, Assistant Commissioner, addressed to Tinka Hyde, U.S. EPA, Region 5, Water Division. MPCA stated in the submittal letter, "I am pleased to submit two Total Maximum Daily Load (TMDL) studies to the U.S. Environmental Project Agency (EPA) for final approval: Lake Volney and Jefferson-German Lake Chain. These lakes are located in the Upper Cannon River Watershed and they are listed as impaired for excess nutrients." 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 nutrient TMDL for Lake Volney satisfies 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 1 of this Decision Document).

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.