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

SEP 2 7 2013

REPLY TO THE ATTENTION OF:

WW-16J

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

Dear Ms. Flood:

The U.S. Environmental Protection Agency has conducted a complete review of the final Total Maximum Daily Loads (TMDLs) for Lino Lakes Chain of Lakes, including supporting documentation and follow-up information. The Lino Lakes Chain of Lakes are George Watch Lake, Reshanu Lake, Marshan Lake, Rice Lake, and Baldwin Lake. The lakes are located in Anoka County, Minnesota, in the Rice Creek watershed, specifically in the City of Lino Lakes. The TMDLs address impairment of the aquatic recreation beneficial use due to elevated levels of total phosphorus.

The TMDLs meet the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, EPA hereby approves Minnesota's 5 TMDLs for total phosphorus for Lino Lakes Chain of Lakes. The statutory and regulatory requirements, and EPA's review of Minnesota's compliance with each requirement, are described in the enclosed decision document.

We wish to acknowledge Minnesota's effort in submitting the 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: Celin Lyman, MPCA
Chris Zadak, MPCA

TMDL: Lino Lakes Chain of Lakes, Minnesota
Date: SEP 2 7 2013

DECISION DOCUMENT FOR Lino Lakes Chain of Lakes TMDLs, 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., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the waterbody. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for EPA's review of the load and wasteload allocations, which are required by regulation.

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

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

The physical details for the lakes are in Table 2 below. Based upon the physical data and lake morphology, all of the lakes are classified by MPCA as shallow lakes (having a maximum depth less than 15 feet or more than 80% littoral) versus deep lakes (having a maximum depth of greater than 15 feet or less than 80% littoral). Although Reshanau Lake has a maximum depth greater than 15 feet, the lake's littoral zone is greater than 80%.

Table 2. Lake Characteristics[1]

Parameter	George Watch	Marshan	Reshanau	Rice	Baldwin
Surface Area (ac)	886	312	372	442	220
Average Depth (ft)	3.9	2.5	5.8	4.0	3.9
Maximum Depth (ft)	7	5	16	5	5
Volume (ac-ft)	3,458	781	2,159	1,769	859
Residence Time (year	0.07-0.18 (~1-2 months)	0.02-0.04	1.1-3.0	0.04-0.08	0.02-0.04
Watershed (ac) [includes lake surface area]	1,981	6,344	3,465	11,554	12,015
Littoral Area (acres)	886	312	372	442	220

Population and Future Growth:
To account for future growth in the watershed, land use projections for 2020 were used for TMDL calculations. Very minimal growth at 1-2% is projected to be seen for single family residential, park and recreation, multi-family, industrial, commercial, mixed use, and water land uses by 2020. Undeveloped land use will decrease from 31% to 10%. Agricultural land use will be replaced by rural residential at 22% and major highway/roadway land use will increase by 6% by 2020. As such, reserve capacity was not calculated. Section 5.1.2, pg. 5-3, and Table 5.2 of the TMDL report provides more details on population growth.

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.

Land Use:
As seen in Table 3 below, the dominant land uses for all lakes covered by these TMDLs are undeveloped (31%), single family residential (23.5%), and park/recreation areas (16.9%). This means that the major source of the runoff comes mostly from undeveloped areas, followed by developed areas, with little runoff contribution from agricultural sources. Although specific percentages of source input to each lake varies, the relative ranking of the sources for each lake are the same since source inputs are assessed on a watershed-wide scale basis that encompass all lakes.

Section 3.2 of the TMDL provides further detailed information.

[1] Table 3.1, page 3-1, of the TMDL report.

Chlorophyll-a Data Results:
Chl-a samples were taken at all lakes during the summer months of 2007. The summer average water column Chl-a concentrations for George Watch was 89.3 µg/l, 56.3 µg/l for Marshan, 88.5 µg/l for Reshanau, 62.3 µg/l for Rice, and 69.6 µg/l for Baldwin. The summer Chl-a concentrations for all lakes demonstrate that the lakes consistently exceed MPCA's shallow lake eutrophication standard of 20 µg/L and that the high Chl-a concentrations in the lakes are indicative of high levels of algal growth and nuisance algal blooms.

Historical summer mean Chl-a concentrations (1996 to 2005) for the chain of lakes ranged from 31 µg/L to 128 µg/L, which exceeds the state standard of 20 µg/L. For more information, see Table 3.3, Figure 3-5, and Section 3.4.3 of the TMDL Report.

Secchi Depth Data Results:
Secchi depth measurements were taken at all lakes during the summer months of 2007. The summer average Secchi depth measurements for George Watch was 0.92 m, 0.80 m for Marshan, 0.48 m for Reshanau, 1.00 m for Rice, and 0.90 m for Baldwin. The summer Secchi depth measurements for all lakes demonstrate that all lakes did not meet MPCA's shallow lake Secchi depth standard of > 1.0 m.

Historical summer mean Secchi depth measurements (1996 to 2005) for the chain of lakes ranged from 0.26 m to 1.0 m, which exceeds the state standard of > 1.0 m. For more information, see Table 3.3, Figure 3-6, and Section 3.4.3 of the TMDL Report.

Fish Population Data Results:
The lakes are identified for not meeting the Class 2B designation of aquatic life and recreational use due to exceedances in total phosphorus (TP) concentrations. The fish population data collected by Minnesota Department of Natural Resources (DNR) for the chain of lakes does not support the Class 2B designation of aquatic life and recreational use. The DNR performed fish surveys at all lakes in 2007. Carp, forage species, top predators, rough fish, and pan fish have been collected at all lakes. Data from the fish surveys from all lakes show 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 George Watch Lake. Common carp, a non-native species, were observed in Marshan Lake during 2007 field monitoring, and are likely contributing to reduced water clarity and higher internal phosphorus loads. For Reshanau Lake, fish surveys were conducted by the DNR in 1962, 1972 and 1992. In all three surveys the catch was dominated by rough fish, including black bullhead and common carp. Rough fish accounted for approximately 95 percent of the total catch abundance and over 90 percent of the total catch biomass from all three surveys. During the 2007 survey the catch was dominated by pan fish, with bluegill and black crappie accounting for over 85 percent of the total catch. For Rice Lake, panfish were the most abundant group of fish collected during the 2007 trap net survey at 65%, including bluegill and black crappie and rough fish at 32%. For Baldwin Lake, due to the turbid water conditions no fish species were observed during 2007 field monitoring.

Carp and rough fish 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 3.5.2 of the TMDL Report provides further details.

Watch Lake, 0.09% for Marshan Lake, 0.87% for Reshanau Lake, 0.16% for Rice Lake, and 0.09% for Baldwin Lake. MPCA determined that inflow from drainage areas contribute 0.65%% of the total phosphorus loading for George Watch Lake, 2.3% for Marshan Lake, 1.75% for Reshanau Lake, 0.75% for Rice Lake, and 0.4% for Baldwin Lake (Table 5.4 in the TMDL report).

MPCA determined that the only point sources for the chain of lakes are regulated stormwater. The stormwater is regulated by Municipal Separate Storm Sewer System (MS4) permits. The permittees for all lakes are:

- Lino Lakes – MS400100
- Centerville – MS400078
- Circle Pines – MS400009
- White Bear Township – MS400163
- Shoreview – MS400121
- Blaine – MS400075
- Ham Lake – MS400092
- North Oaks – MS400109
- Anoka County – MS400066
- Ramsey County – MS400191
- MN/DOT Metro District – MS400170
- Minnesota Correctional Institute – Lino Lakes – MS400177

There are no NPDES-permitted industrial dischargers within the Lino Lakes watershed. Stormwater runoff from construction activities is covered under NPDES/SDS General Stormwater Permit for Construction Activity (MNR100001). Industrial stormwater runoff from construction activities are covered under 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).[3] MPCA determined that industrial and construction stormwater contribute 0.78% of the TP loading for the Lino Lakes watershed. There are no CAFOs in the Lino Lakes watershed (Table 5.4 in the TMDL report). Sections 4.0 of the TMDL report provides details on phosphorus loads from point and nonpoint sources to the Lino Lakes chain of lakes.

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

[3] Pg.7-8 of the TMDL report.

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 presents the loading capacity for the Lino Lakes chain of lakes. The TMDLs were calculated using average growing season TP loads from 2002 to 2004 for all lakes except Reshanau. Because Reshanau Lake discharges to the chain and no data were collected from 2002 to 2004, the TMDL was set using an annual average using 2001, 2005, and 2007 data. The growing season average was not used for Reshanau Lake because Reshanau Lake experiences a longer residence time (> 1 year) compared to the other lakes (< 3 months).

Table 5. Loading capacity for the Lino Lakes chain of lakes meeting the 60 µg/l TP WQS.

Lake	Wasteload TP Allocation (lb/day)[1]	Load TP Allocation (lb/day)	Margin of Safety	Total Phosphorus TMDL (lb/day)
George Watch Lake	0.43	31.52	Implicit	31.95
Marshan Lake	1.5	24.5	Implicit	26
Reshanau Lake	0.03	0.68	Implicit	0.71
Rice Lake	1.2	29.48	Implicit	30.68
Baldwin Lake	0.22	27.72	Implicit	27.94

Five models were used to assess nutrient loading and to determine loading capacities for the lakes, including: the XP-Stormwater Management Model (XP-SWMM) model; the Program for Predicting Polluting Particle Passage Through Pits, Puddles, and Ponds (P8) 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 for the water quality analyses.

lbs/yr for Rice Lake, and 3,109 lbs/yr for Baldwin Lake. The annual average TP load for Reshanau Lake was 1,786 lbs/yr (Table 4.2 of the 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 9 (Section 5, Table 5.4 of the TMDL report).

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 if each lakes' phosphorus input were equal to the proposed loading capacity. The model results showed that if the phosphorus TMDL was met for each lake, the phosphorus, Chl-a, and Secchi depth water quality criteria would be achieved (Appendix C of the TMDL report).

Table 5. Total Phosphorus TMDL for George Watch[5]

Load Allocation (lbs/day)		**Wasteload Allocation (lbs/day)**		**Margin of Safety (MOS) (lbs/day)**	**TMDL (lbs/day)**
Watershed load	0.92	Stormwater load	0.42	**Implicit**	**31.95**
Upstream Lake load	19.9	Stormwater load-MN/DOT	0.01		
Atmospheric	0.3				
Internal Load	10.4		**0.43**		
Total	**31.52**	Total			

The current TP loading is 141.65 lbs/day and a TP reduction of 77% is needed to meet the TP water quality standard of 60 µg/L for George Watch Lake.

[5] Table 5.4, page 5-6, of the TMDL report.

The current TP loading is 107.3 lbs/day and a TP reduction of 71% is needed to meet the TP water quality standard of 60 µg/L for Rice Lake.

Table 9. Total Phosphorus TMDL for Baldwin Lake[5]

Load Allocation (lbs/day)		Wasteload Allocation (lbs/day)		Margin of Safety (MOS) (lbs/day)	TMDL (lbs/day)
Watershed load	0.34	Stormwater load	0.22	**Implicit**	**27.94**
Upstream Lake load	22.7	Stormwater load- MN/DOT	0		
Atmospheric	0.08				
Internal Load	4.6		**0.22**		
Total	**27.72**	Total			

The current TP loading is 88.04 lbs/day and a TP reduction of 68% is needed to meet the TP water quality standard of 60 µg/L for Baldwin Lake.

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 Lino Lakes chain of lakes TMDLs. Additionally, EPA concurs with the loading capacities calculated by the MPCA in the Lino Lakes chain of lakes TMDLs. Further detail on Load Capacity can be found in Section 5.1 of the TMDL report.

Critical conditions:
Section 5.1.3 of the TMDL report and data presented in the TMDL report states that the critical conditions in Lino Lakes chain of lakes occur in the summer when TP concentrations peak and clarity is at its worst, often in late July and August. 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 Lino Lakes chain of lakes 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 of the TMDL report states that the LA is comprised of direct watershed inputs, atmospheric loading, upstream lake loads, and internal loading for all lakes. No reduction in atmospheric loading was calculated because MPCA concluded this source is not possible to control on a local basis. Since the internal loading is so high in most of the lakes, reductions were applied to determine if the standard could be met by reducing only internal loads. The state phosphorus standard could be met in all of the

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:

Since there was not enough information available to assign loads to individual permit holders, MPCA combined the wasteload allocations (with the exception of Mn/DOT Metro District) in this TMDL as categorical wasteload allocations (WLA). Section 5.1.2 of the TMDL notes that the only NPDES-regulated discharges are for MS4 stormwater discharges. MPCA included stormwater runoff from NPDES permitted areas within the MS4 boundaries in the categorical WLA. The loadings from the unpermitted area within the MS4 are apportioned to the LA. MPCA decided to use a categorical WLA for each TMDL since there was not enough information available to assign individual loads to each permit holder. Industrial and construction stormwater loads were included in the categorical WLA. MPCA calculated individual WLAs for MN/DOT for lake watersheds having roads. Thus, MN/DOT WLAs were calculated for George Watch, Marshan, and Rice Lakes. There are no CAFOs within the watershed. EPA concurs with the State's approach in determining the WLAs for the Lino Lakes chain of lakes TMDLs.

Comment:

MPCA used an implicit MOS for the TMDLs for the five lakes. Conservative modeling assumptions included applying sedimentation rates from the Canfield-Bachmann model that likely underpredict the sedimentation rate for shallow lakes. Zooplankton grazing plays a large role in algal and subsequent phosphorus sedimentation in shallow lakes. However, the Canfield-Bachmann equation does not account for the expected higher sedimentation rates (and thus phosphorus lost to the water column) expected in healthy shallow lake systems.

Additionally, empirical relationships used to predict chlorophyll-a and Secchi transparency are more established for deep lakes, and do not account for zooplankton grazing critical to maintaining a clear water state in shallow lakes. Consequently, the models likely underpredict the clarity response of the lakes to reduced phosphorus concentrations. As water quality improves zooplankton consumes higher amounts of algae, thereby removing it from the system. The model therefore overestimates the phosphorus concentration in the lakes, and correspondingly overestimates the reductions needed to achieve the WQS.

Section 5.4 of the 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 annual loads for Reshanau Lake, via loading capacity based on growing season averages for George Watch, Marshan Lake, Rice Lake, and Baldwin Lake, and developing targets during the summer period (i.e., critical conditions). For Reshanau Lake, annual loads capture changes in water quality that can occur over the course of a year. The TMDLs were set to meet TP standards during the summer period which is the most protective since critical conditions occur at all five lakes 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 5.3 of the 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.

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).

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 RCWD will continue to monitor for TP at three locations throughout the Lino Lakes chain of lakes, plus George Watch Lake, and Reshanau Lake on a biweekly basis each summer. Although it is not planned, MPCA recommends that TP water quality samples be taken in at least one of the three lakes (Marshan, Rice, and Balwin) each year and that samples should be taken on a biweekly basis. Data will be used to assess changes in watershed TP loading over time and for management purposes. The data may also be used to recalibrate and validate the P8 model, if needed. The data will be uploaded and maintained on Minnesota's water quality database, EQuIS. Although not planned, MPCA recommends that additional RCWD monitoring activities include vegetation and fish surveys.

Section 8.4 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

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 29, 2013, EPA received the Lino Lakes Chain of Lakes TMDLs, and a submittal letter dated August 23, 2013, 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 the Total Maximum Daily Load (TMDL) studies for impairment excess nutrients for ... Lino Lakes Chain of Lakes to the U.S. Environmental Protection Agency (EPA) for final approval." The submittal letter included the name and location of the waterbodies 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 TP TMDLs for George Watch (DNR Lake # 02-0005), Marshan (DNR Lake # 02-0007), Reshanau (DNR Lake # 02-0009), Rice (DNR Lake # 02-0008) and Baldwin Lakes (DNR Lake # 02-0013) satisfy all of the elements of an approvable TMDL. This decision document addresses **5** TMDLs for **5** waterbodies as identified on Minnesota's 303(d) list (Table 1 above).

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.