



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

MAR 14 2017

REPLY TO THE ATTENTION OF WW-16J

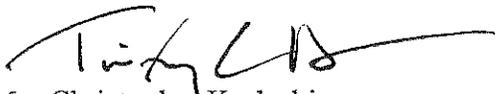
Glenn Skuta, Division Director
Water Division
MPCA
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Dear Mr. Skuta:

The U. S. Environmental Protection Agency has reviewed the final Total Maximum Daily Loads (TMDLs) for the Redeye River watershed (Table 1 of enclosed decision document), including supporting documentation and follow up information. Minnesota submitted TMDLs for *E. coli* to address the bacteria levels that impair the Recreational Use Support in the Redeye River watershed. Based on this review, EPA has determined that Minnesota's TMDLs for *E. coli* 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 eight TMDLs for the impaired reaches in the Redeye River watershed. 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 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,


Christopher Korleski
Director, Water Division

Enclosure

cc: Celine Lyman, MPCA
Bonnie Finnerty, MPCA

wq-iw8-48g

TMDL: Redeye River watershed, Minnesota
Date: March 14, 2017

**DECISION DOCUMENT
REDEYE RIVER WATERSHED
BACTERIA TMDLs**

Section 303(d) of the Clean Water Act (CWA) and U.S. 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 U.S. EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and U.S. 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 U.S. 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 U.S. 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 U.S. 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.

Comments:

Waterbody Identification Discussion:

The Redeye River watershed is located in Becker, Otter Tail, Todd, and Wadena counties in central Minnesota (See [Figure 1](#) of the final TMDL report). The Redeye River watershed has a watershed area of approximately 575,360 acres. The submitted TMDLs for Redeye River watershed include *E. coli* TMDLs to address *E. coli* impairments contributing to the nonattainment of the recreational use affecting the impaired reaches in the watershed (See [Table 1](#) below; and [Table 4](#) and [Figures 2 – 9](#) of the final TMDL report).

Table 1

Assessment Unit (AU) Name	AU ID	Affected Use	Pollutant(s)	Impairment(s) Addressed by TMDL*
Redeye River: Headwaters (Wolf Lk - Hay Cr.)	07010107-503	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>
Leaf River: Oak Cr. to Wing River	07010107-505	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>
Union Creek: Whisky Cr. to Wing River	07010107-508	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>
Leaf River: Bluff Creek to Oak Creek	07010107-514	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>
Bluff Creek: Headwaters to Leaf River	07010107-515	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>
Oak Creek: Unnamed Ditch to T134 R36W S3, north line	07010107-516	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>
Unnamed Creek (Hay Creek): T134 R33W S18, west line to Leaf River	07010107-526	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>
Wing River: Hwy 210 Bridge to Leaf River	07010107-560	Aquatic Recreation	<i>E. coli</i>	<i>E. coli</i>

* None of the AUs/Impairments in the table above were listed in Minnesota's 2012 303(d) List. EPA has not yet taken action on Minnesota's 2014 303(d) List, which included these AUs/Impairments. Until U.S. EPA takes action on the 2014 303(d) List, the 2012 List remains Minnesota's official List of Impaired Waters.

The land use in The Redeye River watershed is primarily composed of agriculture (crops – 25.3% and pasture – 20.6%), woodland (27.2%), wetlands (16.9%), developed (4.7%), grassland (3.8%) and open water (1.6%) (See [Table 5](#) and [Figure 10](#) of the final TMDL report).

Pollutant(s) of Concern Discussion:

***E. coli* bacteria** are indicator organisms that are usually associated with harmful organisms transmitted by fecal matter contamination. These organisms can be found in the intestines of warm-blooded animals (humans and livestock). The presence of *E. coli* and fecal coliform bacteria in water suggests the presence of fecal matter associated bacteria, viruses, and protozoa that are pathogenic to humans when ingested. Based on bacteria sampling data collected by the Minnesota Pollution Control Agency (MPCA) from the most recent 10-year period (2004 - 2013), *E. coli* exceedances were found for the monthly geometric mean ([Tables 6 – 13](#), and [Figures 11 – 23](#) of the final TMDL report), which indicated *E. coli* impairment in the Redeye River watershed.

Sources Discussion:

The sources that contribute *E. coli* to the Redeye River watershed were found to vary depending on hydrologic conditions (Section 3.5.1 of the final TMDL report).

Point sources contributing to the *E. coli* impairments in Redeye River watershed include: four (4) NPDES wastewater dischargers (4 Wastewater Treatment Plants (WWTPs) (Table 2 below), and four (4) concentrated animal feeding operations (CAFOs) (Table 3 below).

Table 2

Facility Name	Permit #	Facility Type
Sebeka WWTP	MN0024856	Pond
Wadena WWTP	MN0020672	Continuous
Deer Creek WWTP	MNG580180	Pond
Hewitt WWTP	MNG580024	Pond

Table 3

Concentrated Animal Feedlot Operations (CAFOs)	Permit #
Red/Eye Hogs LLC	MNG441172
Jennie-O Turkey – Wadena Farm	MNG440421
Jennie-O Turkey – Sandridge N.	MNG440212
Jennie-O Turkey – Verndale Farm	MNG440421

Nonpoint sources contributing to the *E. coli* impairments in Redeye River watershed include non-regulated stormwater runoff, pets, wildlife, livestock and failing/nonconforming subsurface sewage treatment systems (SSTS).

Non-regulated urban runoff: Runoff from urban areas (urban, residential, commercial or industrial land uses) can contribute bacteria to local water bodies. Stormwater from urban areas, which drain impervious surfaces, may introduce bacteria (derived from wildlife or pet droppings) to surface waters.

Stormwater from agricultural land use practices and feedlots near surface waters: Animal Feeding Operations (AFOs) in close proximity to surface waters can be a source of bacteria to water bodies in the Redeye River watershed. These areas may contribute bacteria via the mobilization and transportation of pollutant laden waters from feeding, holding and manure storage sites. Runoff from agricultural lands may contain significant amounts of bacteria which may lead to impairments in the Redeye River watershed. Feedlots generate manure which may be spread onto fields. Runoff from fields with spread manure can be exacerbated by tile drainage lines, which channelize the stormwater flows and reduce the time available for bacteria to die-off.

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

Discharges from Subsurface Sewage Treatment Systems (SSTS) or unsewered communities: Failing septic systems are a potential source of bacteria within the Redeye River watershed. Septic systems generally do not discharge directly into a water body, but effluents from SSTS may leach into

groundwater or pond at the surface where they can be washed into surface waters via stormwater runoff events. Age, construction and use of SSTS can vary throughout a watershed and influence the bacteria contribution from these systems.

Failing SSTS are specifically defined as systems that are failing to protect groundwater from contamination, while those systems which discharge partially treated sewage to the ground surface, road ditches, tile lines, and directly into streams, rivers and lakes are considered an imminent threat to public health and safety (ITPHS). ITPHS systems also include illicit discharges from unsewered communities.

Wildlife: Wildlife is a known source of bacteria 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 bacteria. Wildlife contributes to the potential impact of contaminated runoff from animal habitats, such as urban park areas, forest, and rural areas.

MPCA's analysis of potential contributing *E. coli* sources determined that livestock sources were found to be the largest generators of bacteria impairments to the Redeye River watershed (Table 23 of the final TMDL report). Such sources included runoff from manure spreading activities, which carry recently applied manure to receiving waters, as well as direct stream access from livestock grazing in riparian areas.

Future Growth:

MPCA outlined its expectations for potential growth in the Redeye River watershed in Section 4.1.6 of the final TMDL document. MPCA does not expect significant development in the Redeye river watershed, as it has not changed much in the recent past. The WLA and load allocations for the Redeye River watershed TMDLs were calculated for all current and future sources. Any expansion of point or nonpoint sources will need to comply with the respective WLA and LA values calculated in the Redeye River watershed TMDLs.

Priority Ranking:

Minnesota's 2012 303(d) list includes a projected schedule for TMDL completions. This schedule reflects the state's priority ranking of impaired waters. MPCA identified a TMDL completion target date of 2015 for the impaired reaches addressed in the Redeye River watershed TMDLs (Table 1 of the final TMDL report).

U.S. EPA finds that the TMDL document submitted by MPCA satisfies all requirements concerning 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)). U.S. 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.

Comments:

Minnesota Rules Ch. 7050.0140 define the Designated Use Classifications as: Class 1 waters are those protected for domestic consumption; Class 2 waters are those protected for aquatic life and aquatic recreation; and Class 3 waters are those protected for industrial consumption. The beneficial use classifications for the impaired reaches in the Redeye River watershed are included in Table 4 below, and Table 1 of the final TMDL report. The most protective of these classes is 1B, however water bodies are not currently being assessed by the MPCA for the beneficial use of domestic consumption; therefore, water quality standards for the Class 1B waters are not presented here. The next most protective of these classes are 2A and 2B. Therefore, the TMDL targets for the Redeye River watershed were chosen to accommodate Class 2 waters, which are the most protective designated beneficial use class assessed by the MPCA in the project area. Class 2 waters include all waters of the state that support or may support fish, other aquatic life, bathing, boating, or other recreational purposes and for which quality control is or may be necessary to protect aquatic or terrestrial life or their habitats or the public health, safety, or welfare (Minn. R. Ch. 7050.0150, Subp. 3).

Table 4

Assessment Unit (AU)	AU ID	Beneficial Use Class ¹
Redeye River: Headwaters (Wolf Lk - Hay Cr.)	07010107-503	2B, 3C
Leaf River: Oak Cr. to Wing River	07010107-505	2B, 3C
Union Creek: Whisky Cr. to Wing River	07010107-508	1B, 2A, 3B
Leaf River: Bluff Creek to Oak Creek	07010107-514	2B, 3C
Bluff Creek: Headwaters to Leaf River	07010107-515	2C
Oak Creek: Unnamed Ditch to T134 R36W S3, north line	07010107-516	2C
Unnamed Creek (Hay Creek): T134 R33W S18, west line to Leaf River	07010107-526	1B, 2A, 3B
Wing River: Hwy 210 Bridge to Leaf River	07010107-560	2B, 3C

¹ **Use Classifications:**

1B, 2A, 3B – drinking water use after approved disinfectant; a healthy cold water aquatic community; non-food industrial use with moderate treatment.

2B, 3C – a healthy warm water aquatic community; industrial cooling and materials transport without a high level of treatment

2C – a healthy indigenous fish community

E. coli TMDL Target:

The *E. coli* TMDL target applicable to the *E. coli* impaired reaches in the Redeye River watershed is the *E. coli* water quality standard (WQS) for Class 2 waters (Minn. Rules Ch. 7050.0222 Subp. 5).

The *E. coli* WQS states that *E. coli* concentrations shall “not exceed 126 organisms per 100 milliliters as a geometric mean of not less than five samples in any calendar month, nor shall more than ten

percent of all samples taken during any calendar month individually exceed 1,260 organisms per 100 milliliters. The standard applies between April 1 and October 31.”

The focus of the *E. coli* TMDLs for the Redeye River watershed is on the 126 organisms (orgs) per 100 mL (126 orgs/100 mL) geometric mean portion of the standard. MPCA believes that using the 126 orgs/100 mL geometric mean portion of the standard for TMDL calculations will result in the greatest bacteria reductions within the MRW and will result in the attainment of the 1,260 orgs/100 mL portion of the standard. While the bacteria TMDLs will focus on the geometric mean portion of the WQS, attainment of both parts of the water quality standard is required.

Although surface water quality standards are now based on *E. coli*, wastewater treatment facilities are still permitted based on fecal coliform (not *E. coli*) concentrations. In order to evaluate if fecal coliform concentrations from these dischargers are meeting *E. coli* WQS, MPCA determined that the fecal coliform standard of 200 orgs/100 ml is reasonably equivalent to the *E. coli* concentration standard of 126 orgs/100 ml from a public health protection standpoint.

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

3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a waterbody for the applicable pollutant. U.S. 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. U.S. 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 non-point source loadings under such *critical conditions*. In particular, the TMDL should discuss the approach used to compute and allocate non-point source loadings, e.g., meteorological conditions and land use distribution.

Comments:

The total loading capacities, i.e. total maximum daily loads, of *E. coli* determined by MPCA for the Redeye River watershed are included in [Table 5](#) below, and [Tables 26 – 33](#) of the final TMDL report.

Table 5

<i>E. coli</i> TMDL Allocations (billions of organisms/day)						
Impaired AU	Name	Redeye River				
	ID	07010107-503				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Sebeka WWTP (MN0024856)	4.5	4.5	4.5	4.5	4.5
	Red/Eye Hogs LLC (MNG441172)	0	0	0	0	0
	Total	4.5	4.5	4.5	4.5	4.5
LA	Watershed runoff	703.1	275.5	124.9	55.6	22.0
	Total	703.1	275.5	124.9	55.6	22.0
MOS (10%)		78.6	31.1	14.4	6.7	2.9
TMDL		786.2	311.1	143.8	66.8	29.4
Impaired AU	Name	Leaf River				
	ID	07010107-505				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Jennie-O Turkey – Wadena Farm (MNG440421)	0	0	0	0	0
	Total	0	0	0	0	0
LA	Leaf River (-514) **	1,540.3	590.1	257.1	109.3	38.5
	Oak Creek (-516) **	109.7	34.8	13.3	5.5	2.0
	Watershed runoff	34.4	20.4	10.7	4.7	1.6
	Total	1,684.4	645.3	281.1	119.5	42.1
MOS (10%)		187.2	71.7	31.2	13.3	4.7
TMDL		1,871.6	717.0	312.3	132.8	46.8
Impaired AU	Name	Union Creek				
	ID	07010107-508				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Wadena WWTP (MN0020672)	3.6	3.6	3.6	3.6	3.6
	Total	3.6	3.6	3.6	3.6	3.6
LA	Watershed runoff	120.1	37.8	13.8	4.4	0.1
	Total	120.1	37.8	13.8	4.4	0.1
MOS (10%)		13.7	4.6	1.9	0.9	0.4
		137.4	46.0	19.3	8.9	4.1
Impaired AU	Name	Leaf River				
	ID	07010107-514				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Deer Creek WWTP (MNG580180)	2.5	2.5	2.5	2.5	2.5
	Jennie-O Turkey Sandridge N. (MNG440212)	0	0	0	0	0
	Total	2.5	2.5	2.5	2.5	2.5
LA	Bluff Creek (-515)	482.4	111.2	44.8	15.1	5.8
	Watershed runoff	1,076.8	538.4	337.8	146.2	80.0
	Total	1,559.2	649.6	382.6	161.3	85.8

Table 5

<i>E. coli</i> TMDL Allocations (billions of organisms/day)						
MOS (10%)		173.5	72.5	42.8	18.2	9.8
TMDL		1,735.2	724.6	427.9	182.0	98.1
Impaired AU	Name	Bluff Creek				
	ID	07010107-515				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Total	0	0	0	0	0
LA	Watershed runoff	482.4	111.2	44.8	15.1	5.8
	Total	482.4	111.2	44.8	15.1	5.8
MOS (10%)		53.6	12.4	5.0	1.7	0.6
TMDL		536.0	123.6	49.8	16.8	6.4
Impaired AU	Name	Oak Creek				
	ID	07010107-516				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Total	0	0	0	0	0
LA	Watershed runoff	162.7	67.9	37.9	18.5	6.5
	Total	162.7	67.9	37.9	18.5	6.5
MOS (10%)		18.1	7.5	4.2	2.1	0.7
TMDL		180.8	75.4	42.1	20.6	7.2
Impaired AU	Name	Unnamed Creek (Hay Creek)				
	ID	07010107-526				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Total	0	0	0	0	0
LA	Watershed runoff	183.0	64.3	29.7	13.0	6.5
	Total	183.0	64.3	29.7	13.0	6.5
MOS (10%)		20.3	7.1	3.3	1.4	0.7
TMDL		203.3	71.4	33.0	14.4	7.2
Impaired AU	Name	Wing River				
	ID	07010107-560				
Flow Zones		Very High	High	Mid-Range	Low	Very Low
WLA	Hewitt WWTP (MNG580024)	1.6	1.6	1.6	1.6	1.6
	Jennie-O Turkey - Verndale Farm (MNG440421)	0	0	0	0	0
	Total	1.6	1.6	1.6	1.6	1.6
LA	Watershed runoff	569.3	294.1	165.3	101.0	24.8
	Total	569.3	294.1	165.3	101.0	24.8
MOS (10%)		63.4	32.8	18.5	11.4	2.9
TMDL		634.3	328.5	185.4	114.0	29.3

** The upstream impaired reach LA is based on HSPF modeled flows available for the same time period used to develop the impaired stream LDC. However, the loading capacity for these impaired stream reaches is based on gauged flow data for a different time period, and therefore does not equal the LA presented in this table.

The bacteria data collected by MPCA from eight monitoring station sites from the most recent 10-year period (2004 - 2013) were analyzed to help determine spatial and seasonal variability of *E. coli* exceedances for the Redeye River watershed (Section 3.4 and Appendix A of the final TMDL report). For each impaired stream reach, at least two years of consecutive water quality monitoring (*E. coli*) were conducted over the period 2009 through 2012.

The load duration curve (LDC) method was used by MPCA to develop the *E. coli* TMDLs for the Redeye River watershed. The LDC method considers how stream flow conditions relate to a variety of pollutant sources (point and nonpoint sources), and can be used to make rough determinations as to what flow conditions result in exceedances of the WQS. The LDC method assimilates flow and pollutant (*E. coli*) data across stream flow regimes, and provides assimilative capacities and load reductions necessary to meet WQSs. Because this method uses a long-term record of daily flow volumes virtually the full spectrum of allowable loading capacities is represented by the resulting curve.

Flow duration curves were developed using the MPCA gauged flows or HSPF modeled flows for the period 2000-2009 (Appendix A of the final TMDL report). The flow duration curve relates mean daily flow to the percent of time those values have been met or exceeded. The 50% exceedance value is the midpoint or median flow value. The curve is divided into flow zones which include very high (0-10%), high (10-40%), mid (40-60%), low (60-90%) and dry (90 to 100%) flow conditions. The flow duration curves were transformed to load duration curves by applying water quality criteria values for *E. coli* (126 cfu/100 ml) and appropriate conversion factors (Figures 24, 25, 26, 27, 28, 29, 30 and 31 of the final TMDL report). Plotted values above the curve lines represent exceedances of the *E. coli* standard (black line) while those below the lines are below the *E. coli* standard. The median load of each flow zone was used to represent the total daily loading capacity (TMDL) of *E. coli* for that flow zone. However, it should be understood that the entire curve represents the TMDL.

Critical Conditions for *E. coli* TMDLs:

The critical conditions for the *E. coli* TMDLs in the Redeye River watershed are summer and fall flow related conditions. Data analysis showed that *E. coli* WQS exceedances mainly occur during spring, summer and fall months under all flow regimes, indicating that the *E. coli* impairment is due to a variety of sources and conditions. High flows (wet conditions) can deliver great amounts of pollutants into the streams in runoff conditions. Low flows (dry conditions) can concentrate pollutants because the stream's assimilative capacity is being exceeded and the potential for dilution is the lowest.

The Redeye River watershed TMDLs accounted for the critical conditions by using the load duration curve approach to develop the *E. coli* TMDLs. The load duration curve approach directly accounts for flow and allows for the evaluation of the flow zones for which the largest load reductions are needed.

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

4. Load Allocations (LAs)

U.S. 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.

Comments:

The load allocations (LAs) of *E. coli* determined by MPCA for the Redeye River watershed are included in Table 5 above, and Tables 26 – 33 of the final TMDL report. The existing nonpoint sources contributing to the *E. coli* LA include: agricultural runoff (from surface application of manure, cattle access to streams, and feedlots), non-regulated stormwater runoff, wildlife (e.g. deer, geese, and ducks), pets (not properly managed waste from dogs and cats) and failing/nonconforming subsurface sewage treatment systems (SSTS) (Section 3.5.1 of the final TMDL report).

Mobilization of bacteria in runoff from manure spreading activities, which carries recently applied manure to receiving waters, as well as direct stream access from livestock grazing in riparian areas were determined to be the most significant contributing sources to bacteria impairments in the Red River watershed.

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

5. Wasteload Allocations (WLAs)

U.S. 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 WQs 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. U.S. 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.

Comments:

The wasteload allocations (WLAs) of *E. coli* determined by MPCA for the Redeye River watershed are included in Table 5 above, and Tables 26 – 33 of the final TMDL report. The point sources contributing to the *E. coli* WLAs in the Redeye River watershed include: four (4) NPDES wastewater dischargers (Table 6 below, and Table 15 of the final TMDL report). The potential future growth

impact on the *E. coli* WLAs for wastewater discharge facilities and any future MS4s in the Redeye River watershed is discussed in Section 4.1.6 of the final TMDL report.

Table 6

NPDES Facilities – <i>E. coli</i> WLA Allocations (billions of organisms/day)				
Facility Name	Permit #	Facility Type	Effluent Design Flow (MGD) ¹	WLA
Sebeka WWTP	MN0024856	pond	0.94	4.5
Wadena WWTP	MN0020672	continuous	0.75	3.6
Deer Creek WWTP	MNG580180	pond	0.52	2.5
Hewitt WWTP	MNG580024	pond	0.33	1.6

¹ Continuously discharging municipal WWTPs flow is based on the average wet weather design flow, equivalent to the wettest 30-days of influent flow expected over the course of a year. Municipal controlled (pond) flow is based on a maximum of 6 inches of discharge from the secondary pond in a 24-hour period. Pond systems are only allowed to discharge between April 1 and June 30, and between September 1 and December 15, annually.

The NPDES facility dischargers permit limits for bacteria are currently expressed in fecal coliform concentrations, not *E. coli*. However, the fecal coliform permit limit for each wastewater treatment facility (200 cfu/100 mL) is believed to be equivalent to the 126 cfu/100 mL *E. coli* criterion. The *E. coli* WLAs for wastewater dischargers were calculated by multiplying the facility’s design flow by the permitted fecal coliform effluent limit of 200 org/ 100 mL. The WLAs are based on *E. coli* loads even though the facilities’ discharge limits are based on fecal coliform. If a discharger is meeting the fecal coliform limits of their permit, it is assumed that they are also meeting the *E. coli* WLA in these TMDLs.

The CAFO permitted operations are not allowed by law to discharge to waters of the state (Minn. R. 7020.2003), except as related to process wastewater and production area wastewater and/or manure, silage leachate and runoff which shall comply with effluent limitation requirements in accordance with the permits, which may not cause or contribute to a violation of WQS. All CAFO structures must be properly designed, constructed, and maintained.

E. coli WLAs for regulated construction stormwater (permit #MNR100001) were not developed since *E. coli* is not a typical pollutant from construction sites. Also, there are no *E. coli* WLAs for industrial stormwater permit because no industrial sectors regulated under the permit are known to be *E. coli* sources. There is also no regulated MS4 stormwater in any of the impaired stream subwatersheds.

U.S. EPA finds that the TMDL document submitted by MPCA satisfies all requirements concerning 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)). U.S. 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.

Comments:

The MOS incorporated into the *E. coli* TMDLs for the Redeye River watershed are included in [Table 5](#) above, and [Tables 26 – 33](#) of the final TMDL report. An explicit MOS equal to 10% of the loading capacity for each flow regime was subtracted before allocations were made among wasteload and non-point sources. A 10% MOS was considered appropriate based on the use of load duration curves in the development of the *E. coli* TMDLs. The LDC approach minimized variability because the calculation of the loading capacity was a function of flow multiplied by the target value. Most of the uncertainty was associated with the estimated flows in each assessed segment which were based on simulating a portion of the 10-year flow record at the most down-stream monitoring station. Additionally, certain conservative assumptions were included in the development of the *E. coli* TMDLs. No rate of decay, or die-off rate of pathogen species, was incorporated in the calculation of the load duration curves for *E. coli*. Bacteria have a limited capability of surviving outside their hosts, and normally a rate of decay would be incorporated. Also, the LDC analysis does not address bacteria re-growth in sediments, and natural background levels.

U.S. EPA finds that the TMDL document submitted by MPCA contains an appropriate MOS satisfying all requirements concerning 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)).

Comments:

The aquatic recreation uses, that are the designated uses being impaired by *E. coli*, are applicable from April through October. This period includes all or portions of the spring, summer and fall seasons. *E. coli* loading varies with the flow regime and season. Spring is associated with large flows from snowmelt, the summer is associated with the growing season as well as periodic storm events and receding streamflows, and the fall brings increasing precipitation and rapidly changing agricultural landscapes.

The seasonal variation in the *E. coli* TMDLs for the Redeye River watershed was addressed by establishing load allocations based on the *E. coli* standard, which is applicable to the aquatic recreational period of April 1 through October 31. Seasonal variation was also considered in the *E. coli* TMDLs through the use of the LDC to establish the TMDLs. The development of the LDCs utilized flow measurements (i.e. continuous flow data collected from MPCA gauged flows or HSPF modeled flows data) which represented a range of flow conditions within the watershed and thereby accounted for seasonal variability. The LDC approach captures the variation in pollutant concentrations occurring over a range of flow regime conditions in each waterbody reach.

U.S. EPA finds that the TMDL document submitted by MPCA satisfies all requirements concerning 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, U.S. 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 U.S. EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.

U.S. 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, U.S. 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.

Comments:

Section 5 of the final TMDL report contains a list of several factors at the local, state and federal level that MPCA considers could provide reasonable assurances that the Redeye River watershed TMDLs will be successfully implemented. Additionally, Section 7 presents implementation alternatives for resolving the water quality problems associated with the Redeye River watershed TMDLs. The factors listed by MPCA that could provide reasonable assurances include:

Regulatory programs:

Existing regulatory programs such as those under NDPEs will continue to be administered to control discharges from wastewater treatment facilities and CAFOs to meet the thresholds identified in those regulations (Section 5.2 of the final TMDL report).

Non-regulatory programs:

At the local level, the Becker Soil & Water Conservation District (SWCD), Otter Tail SWCD, Todd SWCD and Wadena SWCD and other local entities currently implement programs that target improving water quality and have been actively involved in projects to improve water quality in the past. Willing landowners within this watershed have implemented many practices in the past including: conservation tillage, buffer strips, urban BMPs, gully stabilizations, prescribed grazing, manure management, etc. It is expected that these activities will continue.

One example is Wadena County Soil and Water Conservation District. The District recently approved a 2016-2026 Wadena County Local Water Resource Management Plan, which specifically notes impaired waters in the county, and prioritizes actions to address those impairments. The plan also notes additional monitoring work to be done, as well as costs for various proposed implementation actions.

Potential state funding of Restoration and Protection projects include Clean Water Fund grants. At the federal level, funding can be provided through Section 319 grants that provide cost-share dollars to implement activities in the watershed. The Redeye River Watershed Restoration and Protection Strategy (WRAPS) was approved by MPCA on October 26, 2016.

Detailed implementation strategies, including the various funding and cost-share existing sources, are included in the Redeye River WRAPS report. In addition, the WRAPS will provide a communication tool that can inform stakeholders, engage volunteers, and help coordinate local/state/federal monitoring efforts so the data necessary for effective water resources planning is available, citizens and stakeholders are engaged in the process, and citizens and governments across Minnesota can evaluate the progress made towards achieving water quality goals.

Clean Water Legacy Act (CWLA):

The CWLA was passed in Minnesota in 2006 for the purposes of protecting, restoring, and preserving Minnesota water. The CWLA provides the protocols and practices to be followed in order to develop TMDL implementation plans. TMDL implementation plans are expected to be developed within a year of TMDL approval and are required in order for local entities to apply for funding from the State. The CWLA outlines how MPCA, public agencies and private entities should coordinate in their efforts toward improving land use management practices and water management. The CWLA anticipates that all agencies (i.e., MPCA, public agencies, local authorities and private entities, etc.) will cooperate regarding planning and restoration efforts. Cooperative efforts would likely include informal and formal agreements to jointly use technical, educational, and financial resources.

The CWLA also provides details on public and stakeholder participation, and how the funding will be used. In part to attain these goals, the CWLA requires MPCA to develop WRAPS. The WRAPS are required to contain such elements as the identification of impaired waters, watershed modeling outputs, point and nonpoint sources, load reductions, etc. (*Chapter 114D.26: CWLA*). The WRAPS also contain an implementation table of strategies and actions that are capable of achieving the needed load reductions, for both point and nonpoint sources (*Chapter 114D.26, Subd. 1(8); CWLA*). Implementation plans developed for the TMDLs are included in the table, and are considered "priority areas under the WRAPS process (*Watershed Restoration and Protection Strategy Report Template, MPCA*). This table includes not only needed actions but a timeline for achieving water quality targets, the reductions needed from both point and nonpoint sources, the governmental units responsible, and interim milestones for achieving the actions. MPCA has developed guidance on what is required in the WRAPS (*Watershed Restoration and Protection Strategy Report Template, MPCA*).

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 2014 Clean Water Fund Competitive Grants Request for Proposal (RFP); Minnesota Board of Soil and Water Resources, 2014).

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

9. Monitoring Plan to Track TMDL Effectiveness

U.S. EPA's 1991 document, *Guidance for Water Quality-Based Decisions: The TMDL Process* (U.S. 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.

Comments:

Two types of monitoring will track the progress toward achieving the load reductions required in the Redeye River watershed TMDLs, and the attainment of WQS: (1) tracking implementation of Best Management Practices (BMPs) on the ground; and (2) physical and chemical monitoring of the waterbody resource (Section 6 of the final TMDL report).

Lake associations and other groups participate in monitoring activities to meet their specific needs. Volunteers throughout the watershed conduct stream and lake condition monitoring through the MPCA Volunteer Monitoring Program. The MPCA currently monitors the Leaf River at the CSAH #29 Bridge. Future monitoring at this site and other sites will take place as part of the next Intensive Watershed Monitoring cycle for this watershed (2021). If funding is available, the Soil and Water Conservation Districts (SWCDs) will set up a monitoring program to monitor for nutrients, E. coli, and flow. If funding is not available for new monitoring programs, the monitoring that is completed will be done following MPCA's 10-year monitoring cycle.

The DNR conducts lake and stream surveys. The frequency of sampling varies. Lakes can be sampled every 5, 7, 10, 12, or 15 years. If there is a management action (regulation or stocking) that needs to be evaluated more quickly, sampling could occur every other year. Full surveys are often only done about every 20 years.

Periodic monitoring is necessary for the adaptive management approach that will be utilized to efficiently meet the TMDL, in which management strategies and implementation activities will be re-evaluated, changed or refined as the water quality dynamics within the watershed are better understood. The results of the monitoring will be used to assess the effectiveness of BMPs, identify progress toward benchmarks, as well as shape the next course of action for implementation of the TMDLs.

U.S. EPA finds that this ninth element has been adequately addressed in the TMDL document submitted by MPCA, although U.S. EPA is not approving these recommendations for monitoring or any other aspect of Minnesota's monitoring program through this decision.

10. Implementation

U.S. EPA policy encourages Regions to work in partnership with States/Tribes to achieve non-point source load allocations established for 303(d)-listed waters impaired by non-point sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that non-point source LAs established in TMDLs for waters impaired solely or primarily by non-point sources will in fact be achieved. In addition, U.S. EPA policy recognizes that other relevant watershed management processes may be used in the TMDL process. U.S. EPA is not required to and does not approve TMDL implementation plans.

Comments:

Section 7 of the final TMDL report presents implementation alternatives for resolving the water quality problems associated with the Redeye River watershed TMDLs (Table 7 below). Also, Section 5 of the final TMDL report contains a list of several factors at the local, state and federal level that MPCA considers could provide reasonable assurances that the Redeye River watershed TMDLs will be successfully implemented.

Table 7

Implementation Strategy Summary	
Permitted Sources	The WWTFs will continue to provide discharge monitoring records to MPCA to track their treatment performance.
Non-Permitted Sources	<p>The high percentage of rangeland and cropland appear to be having an effect on bacteria levels throughout the Redeye River Watershed. The two main sources identified were runoff from manure applied as fertilizer as well as livestock grazing in riparian areas. Failing septic systems were identified as a minor pollutant source to these streams.</p> <p>The Redeye River WRAPS document (https://www.pca.state.mn.us/sites/default/files/wq-ws4-17a.pdf) provides detailed information on restoration activities to improve stream water quality by identifying practices to reduce <i>E. coli</i> levels to meet the state standard. The WRAPS document also provides implementation strategies to protect lakes and streams that are not currently impaired. The implementation plan outlined in the WRAPS is divided into HUC12 watersheds. Each waterbody within the HUC12 where implementation strategies are needed, are specifically identified. Management goals, specific strategies (BMPS), responsible party, timelines and milestones are identified for each waterbody.</p>
Adaptive Management	The response of the streams will be evaluated as management practices are implemented. This evaluation will occur on a 10-year cycle for the next 25 years. Data will be evaluated and decisions will be made as to how to proceed for the next five years. The management approach to achieving the goals should be adapted as new information is collected and evaluated.
Best Management Practices	<p>A variety of BMPs to restore and protect the lakes and streams within the Redeye Watershed have been outlined and prioritized in the WRAPS report. Controlling access of livestock to streams, increasing riparian buffers, reviewing manure management plans and inspecting SSTS for compliance will be the types of strategies used to reduce bacteria levels in streams. The WRAP prioritizes and targets strategies and BMPs within the watershed to focus implementation efforts in order to achieve results in water quality improvement.</p> <p>The top priority in the WRAPS targets the riparian areas in the rural areas of the watershed, (which is the majority of the Redeye River Watershed). The goal is to prevent manure from entering streams by keeping it in storage or below the soil surface and limiting access of animals to lakes, streams and wetlands. This will be achieved by improved field manure (nutrient) management, adhere to or increase fertilizer/manure application setbacks, improve feedlot runoff control, rotational grazing, and livestock exclusion.</p> <p>The second priority in the WRAPS targets the subwatershed near the town of Wadena. The strategies that will be added in addition to those previously discussed, include reducing urban bacteria by limiting exposure of pet or waterfowl waste through pet waste management and increasing filter strips and buffers along the stream. Another strategy includes fixing septic systems so that on-site sewage is not released to surface waters by inspecting SSTS systems, replacing failing systems and maintaining compliant systems.</p>
Education and Outreach	A crucial part in the success of the WRAPS to clean up the impaired streams and protect the non-impaired water bodies will be participation from local citizens. In order to gain support from these citizens, education and civic engagement opportunities will be necessary. A variety of educational avenues can and will be used throughout the watershed. These include (but are not limited to): press releases, meetings, workshops, focus groups, trainings, websites, etc. Local staff (conservation district, watershed, county, etc.) and board members work to educate the residents of the watersheds about ways to clean up their lakes and streams on a regular basis. Education will continue throughout the watershed.

Table 7

Implementation Strategy Summary	
Technical Assistance	<p>The counties and SWCDs within the watershed provide assistance to landowners for a variety of projects that benefit water quality. Assistance provided to landowners varies from agricultural and rural BMPs to urban and lakeshore BMPs. This technical assistance includes education and one-on-one training. Many opportunities for technical assistance are as a result of educational workshops or trainings. It is important that these outreach opportunities for watershed residents continue. Marketing is necessary to motivate landowners to participate in voluntary cost-share assistance programs.</p> <p>Programs such as state cost share, Clean Water Legacy funding, Environmental Quality Incentives Program (EQIP), and Conservation Reserve Program (CRP) are available to help implement the best conservation practices that each parcel of land is eligible for to target the best conservation practices per site. Conservation practices may include, but are not limited to: stormwater bioretention, septic system upgrades, feedlot improvements, wastewater treatment practices, agricultural and rural BMPs and internal loading reduction. More information about types of practices and implementation of BMPs will be discussed in the Redeye River WRAPS Report.</p>
Partnerships	<p>Partnerships with counties, cities, townships, citizens, businesses, watersheds, and lake associations are one mechanism through which the Becker SWCD, Otter Tail SWCD, Todd SWCD and Wadena SWCD will protect and improve water quality. Strong partnerships with state and local government to protect and improve water resources and to bring waters within the Redeye River Watershed into compliance with state standards will continue. A partnership with local government units and regulatory agencies such as cities, townships and counties may be formed to develop and update ordinances to protect the areas water resources.</p>
Cost	<p>The Clean Water Legacy Act requires that a TMDL include an overall approximation of the cost to implement a TMDL [Minn. Stat. 2007 § 114D.25]. The cost estimate for bacteria load reduction is based on unit costs for the two major sources of bacteria: livestock and imminent threat to public health septic systems (ITPHSS). The unit cost for bringing AU under manure management plans and feedlot lot runoff controls is \$350/AU. This value is based on USDA EQIP payment history and includes buffers, livestock access control, manure management plans, waste storage structures, and clean water diversions. Repair or replacement of ITPHSS was estimated at \$7,500 per system (EPA 2011). Multiplying those unit costs by an estimated 238 ITPHSS and 61,896 Animal Units in the impaired reach subwatersheds provides a total cost of approximately \$23.5M.</p>

Although a formal implementation plan is not required as a condition for TMDL approval under the current U.S. EPA regulations, U.S. EPA finds that the TMDL document submitted by MPCA adequately addresses this tenth element.

11. Public Participation

U.S. 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, U.S. EPA has explained that final TMDLs submitted to U.S. 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 U.S. EPA establishes a TMDL, U.S. EPA regulations require U.S. 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 U.S. EPA determines that a State/Tribe has not provided adequate public participation, U.S. EPA may defer its

approval action until adequate public participation has been provided for, either by the State/Tribe or by U.S. EPA.

Comments:

Public participation opportunities for the Redeye River watershed TMDLs were provided in the form of public meetings (Sections 8.1 and 8.2 of the TMDL report), and electronic newsletters. There were several meetings that occurred regarding the Redeye Watershed monitoring, TMDL development, and WRAPS report planning.

The Redeye Watershed is made up of numerous local partners who have been involved at various levels throughout the project. The steering committee is made up of members representing the DNR, Department of Agriculture, Counties and SWCD within the watershed, The Nature Conservancy, and the Board of Water and Soil Resources.

The Redeye River watershed TMDLs were public noticed from June 20 to July 20, 2016. Copies of the draft TMDL Report for Redeye River watershed were available to the public upon request and on the MPCA website at <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/tmdl-projects-and-staff-contacts.html>.

As part of the final TMDL submittal to EPA, the state provided copies of the press releases of public notice, letters of invitation to interested parties, the mailing list of interested parties, and copies of the written comments received during the public comment period and the state responses to these comments.

MPCA received one comment letter from the Minnesota Department of Agriculture (MDA) during the Redeye River watershed TMDL public comment period. This comment letter included several comments that focused mostly on MDA's suggested changes to the TMDL report regarding specific references related to bacteria load contributions from agricultural runoff sources (i.e. applied manure, livestock grazing, feedlots). In response to MDA's comments, MPCA made some text changes to refine some of the specific agricultural runoff source references identified by MDA. MPCA also clarified that some of MDA's suggestions will be more appropriately addressed within the WRAPS/TMDL implementation process. The comments received were adequately addressed by MPCA.

U.S. EPA finds that the TMDL document submitted by MPCA satisfies all requirements concerning 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 U.S. 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 U.S. EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and U.S. 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.

Comments:

The U.S. EPA received the formal submission of the final Redeye River watershed TMDLs on October 17, 2016 along with a cover letter from Rebecca J. Flood, Assistant Commissioner, MPCA dated September 15, 2016. The letter stated that the Redeye River watershed TMDLs were final TMDLs submitted under Section 303(d) of CWA for EPA review and approval. The letter also contained the waterbody segment names, and the causes/pollutants of concern for the TMDLs submitted.

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

13. Conclusion

After a full and complete review, U.S. EPA finds that the TMDLs for the Redeye River watershed satisfy the elements of approvable TMDLs. These approvals address eight (8) segments for one (1) pollutant for a total of eight (8) TMDLs addressing eight (8) impairments (See Table 1 above).

U.S. EPA's approval of the Redeye River watershed TMDLs extend to the waterbodies which are identified in this decision document and the TMDL study with the exception of any portions of the waterbodies that are within Indian Country, as defined in 18 U.S.C. Section 1151. U.S. EPA is taking no action to approve or disapprove the State's TMDLs with respect to those portions of the waters at this time. U.S. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under Section 303(d) for those waters.