



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

December 15, 2020

REPLY TO THE ATTENTION OF

WW-16J

Glenn Skuta, Watershed Division Director  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Dear Mr. Skuta:

The U.S. Environmental Protection Agency has conducted a complete review of the three final Total Maximum Daily Loads (TMDLs) for the Upper Mississippi River, located in Aitkin, Crow Wing, and Itasca Counties. The TMDLs are calculated for Total Suspended Solids (TSS) and address impairments to Aquatic Life designated uses.

EPA has determined that these 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 three TSS TMDLs for the Upper Mississippi River. 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 submissions by the State of Minnesota. If you have any questions, please contact James Ruppel of the Watersheds and Wetlands Branch at [ruppel.james@epa.gov](mailto:ruppel.james@epa.gov) or 312-886-1823.

Sincerely,

 Digitally signed by Tera L.  
Fong  
Date: 2020.12.15  
11:36:13 -06'00'

Tera L. Fong  
Division Director, Water Division

Enclosure

cc: Celine Lyman, MPCA

wq-iw8-60g

# Upper Mississippi River Total Suspended Solids Total Maximum Daily Load Report EPA Final Review and Decision

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.

Language referring to “the TMDL document” in this Decision Document is understood to mean the;

## **Upper Mississippi River Total Suspended Solids Total Maximum Daily Load Report: - November 2020**

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### Section 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 (WQS) (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 National Pollutant Discharge Elimination System (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.

## Section 1 Review Comments:

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The waterbody(s) are identified as they appear on the 303(d) list.

Sections 1.2 and 1.3 of the TMDL document identify the waterbodies and associated watersheds being addressed by the TMDL. Table 1 of the TMDL document provides specific information for the impaired waterbodies. Matching information from the MN 2018 Impaired Waters List is shown in Review Table 1 of this document.

**Table 1. Upper Mississippi River Mainstem Impairments.**

Affected Use: Pollutant/Stressor	AUID	Stream Name	Location/Reach Description	Designated Use Class	Listing Year	Impairment Addressed by:
Aquatic Life: TSS	07010103-708	Mississippi River	Swan River to Willow River	2Bg, 3C	2016	TSS TMDL
Aquatic Life: Turbidity	07010104-655	Mississippi River	Willow River to Pine River	2Bg, 3C	1998*	TSS TMDL
Aquatic Life: TSS	07010104-656	Mississippi River	Pine River to Crow Wing River	2Bg, 3C	2016	TSS TMDL

\* The turbidity impairment was originally listed based on nephelometric turbidity unit (NTU) data; however, this reach also exceeds the TSS standard and will be addressed by a TSS TMDL based on TSS monitoring data collected during the TMDL 10-year timeframe (2009-2018).

*Excerpted from the TMDL document*

TMDL Review Table 1 MN 2018 Impaired Waters List Information.						
Affected designated use	AUID	Water body name	Water body description	Year added to List	Water body type	Pollutant or stressor
Aquatic Life	07010103-708	Mississippi River	Swan R to Willow R	2016	Stream	Total suspended solids
Aquatic Life	07010104-655	Mississippi River	Willow R to Pine R	1998	Stream	Turbidity
Aquatic Life	07010104-656	Mississippi River	Pine R to Crow Wing R	2016	Stream	Total suspended solids

The TMDL identifies the priority ranking of the waterbody.

Section 2.2 of the TMDL document provides a discussion of the priority ranking of the impaired waterbodies.

*The MPCA’s schedule for TMDL completions, as indicated on Minnesota’s Section 303(d) impaired waters list, reflects Minnesota’s priority ranking of this TMDL. The MPCA has aligned our TMDL priorities with the watershed approach and our Watershed Restoration and Protection Strategy (WRAPS) cycle. As the TMDL Study Area crosses two watersheds, it was completed outside of, but concurrent with, the MR-GR and MR-B WRAPS cycles. [Excerpted from the TMDL document.]*

The TMDL clearly identifies the pollutant of concern (POC) for which the TMDL is being established.

Table 1 of the TMDL document identifies Total Suspended Solids (TSS) as the pollutant of concern for all three of the impaired reaches.

The link between the POC and the water quality impairment is specified.

The three reaches subject to this TMDL study are impaired due to the exceedance of the water quality standard for TSS concentration, which is contributing to an impairment of aquatic life use.

Waters within Indian Country, (as defined in 18 U.S.C. Section 1151) are identified and discussed.

Section 3 of the TMDL document discusses the presence of tribal lands within the TMDL study area.

*There are two small areas of Mille Lacs Band of Ojibwe Off-Reservation Trust Land located within the TMDL Study Area (see Figure 6). The Mille Lacs Band of Ojibwe was invited to participate in the WRAPS process by MPCA in August of 2016. [Excerpted from the TMDL document]*

The location and quantity of point and non-point sources (NPS) are identified.

*Permitted Sources*

Section 3.5.1 of the TMDL document discusses permitted sources of TSS that discharge to the impaired reaches.

*Regulated National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permitted sources of pollutants include wastewater treatment plant (WWTP) effluent, permitted feedlots, municipal separate storm sewer systems (MS4s), construction stormwater, and industrial stormwater. TSS loads from NPDES/SDS permitted wastewater and stormwater sources were accounted for using the methods described in subsequent Section 4.2.3. There are no permitted feedlots within the TMDL Study Area.  
[Excerpted from the TMDL document]*

Section 3.5.1.1 of the TMDL document discusses the three types of regulated stormwater in the watershed, including MS4s, construction, and industrial stormwater sources.

Three MS4 permittees are identified in the TMDL document as discharging into the impaired reaches. MPCA explained that ORVW is “Outstanding Resource Value Water”.

*NPDES/SDS Permits administered by the MPCA regulate certain MS4 discharges. The cities of Grand Rapids (MS400269) and Brainerd (MS400266) are regulated MS4 communities because they have a population of at least 10,000 people and discharge to an ORVW. The City of Baxter (MS400231) is a regulated MS4 community because they have a population of at least 5,000 people and discharge, or have the potential to discharge, to an impaired or ORVW. The jurisdictional MS4 boundary for these three communities are shown in Figure 13.  
[Excerpted from the TMDL document]*

Construction and industrial stormwater are identified as relatively minor permitted sources of TSS within the watershed. Less than one percent of the TMDL study area discharges regulated construction or industrial stormwater.

*Construction stormwater is regulated by NPDES/SDS permits (MNR100001) for any construction activity disturbing: (a) one acre or more of soil, (b) less than one acre of soil if that activity is part of a "larger common plan of development or sale" that is greater than one acre, or (c) less than one acre of soil, but the MPCA determines that the activity poses a risk to water resources.  
[Excerpted from the TMDL document]*

*Industrial stormwater is regulated by NPDES/SDS Industrial Stormwater Multi- Sector General Permit (MNR050000) or NPDES/SDS Nonmetallic Mining/Associated Activities General Permit (MNG490000), if the industrial activity has the potential for significant*

*materials and activities to be exposed to stormwater discharges.  
 [Excerpted from the TMDL document]*

Section 3.5.1.2 of the TMDL document discusses the seven permitted municipal and industrial wastewater treatment plant (WWTP) sources that discharge to the impaired reaches. Table 8 of the TMDL document shows the respective impaired assessment units along with the applicable WWTP that discharge to the reach, including the respective NPDES permit numbers.

*Minnesota’s TSS water quality standard is intended to protect aquatic life from the damaging effects of inorganic nonvolatile suspended solids (NVSS) to the gills and filter feeding organs of fish and aquatic invertebrates. TSS associated with municipal wastewater discharges are predominantly organic volatile suspended solids (VSS) which do not tend to persist in the environment. As such, municipal wastewater is not a significant source of TSS to the impaired reaches.  
 [Excerpted from the TMDL document]*

**Table 8. Permitted Municipal Wastewater sources within TMDL Study Area.**

<b>Impaired Reach AUID</b>	<b>Facility Name Permit ID</b>
<b>Mississippi River, Swan River to Willow River</b> 07010103-708	<b>Grand Rapids WWTP</b> MN0022080
	<b>Palisade WWTP</b> MN0050997
	<b>Minnesota Power - Rapids Energy Center</b> MN0066559
<b>Mississippi River, Willow River to Pine River</b> 07010104-655	<b>Aitkin WWTP</b> MN0020095
	<b>American Peat Technology LLC</b> MN0057533
<b>Mississippi River, Pine River to Crow Wing River</b> 07010104-656	<b>Brainerd WWTP</b> MN0049328
	<b>Serpent Lake WWTP</b> MNG585215

*Excerpted from the TMDL document*

### *Non-Point Sources*

Section 3.5.2 of the TMDL document discusses non-point sources of TSS to the impaired reaches. The erodibility of fine grained glacial deposits, the alteration of watercourses within the watershed, increased downstream peak flows due to ditching in peat lands, increased erodibility due to agricultural activities near stream banks, and the effects of changes in land use to stream hydrology

within the watershed are examined and discussed.

A Hydrologic Simulation Program Fortran (HSPF) model is used to analyze the relative impacts of these factors on the overall load of TSS to the impaired waterbodies. Section 3.5.3 of the TMDL document provides a sediment source summary of the findings of the overall TSS source identification efforts. Bed and bank erosion due to a combination of altered hydrology and land use changes near the stream banks are identified as the most significant source of increased TSS to the impaired steam reaches.

*The dominant source of sediment to the Upper Mississippi River within the TMDL Study Area is nonpoint sources (Table 11). Key nonpoint sources include:*

- *bed and bank (in-stream) erosion of the finely grained, easily erodible Glacial Lake Aitkin/Upham clay deposits (see Section 3.5.2.1),*
- *and near stream disturbance from land use conversions near the river channel that contribute sediment through greater soil erosion from physical trampling of the banks from livestock, less stabilization of the soil from shallow rooted plants, more areas of exposed soil, and more concentrated runoff flow paths.*

*[Excerpted from the TMDL document]*

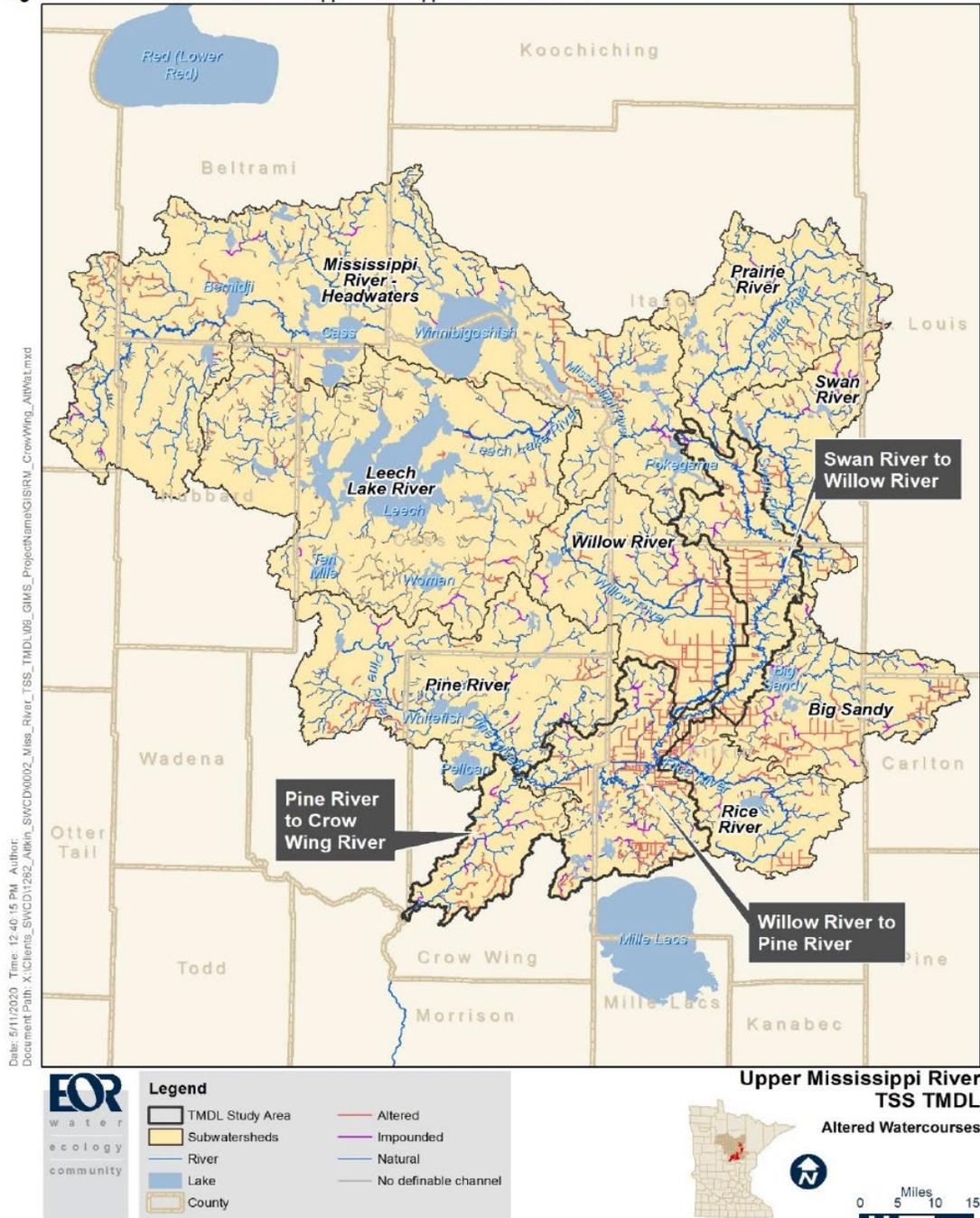
**Table 11. HSPF modeled TSS loads by source and impaired reach.**

Source	TSS loads to Upper Mississippi River impaired reaches:					
	Pine R. to Crow Wing R.		Swan R. to Willow R.		Willow R. to Pine R.	
	(ton/yr)	(% total load)	(ton/yr)	(% total load)	(ton/yr)	(% total load)
Bed/Bank	6,840	56%	8,456	61%	4,295	51%
Cropland	689	6%	254	2%	420	5%
Developed	1,094	9%	678	5%	302	4%
Feedlot	5	0%	1	0%	5	0%
Forest	1,308	11%	2,232	16%	1,264	15%
Grassland	327	3%	538	4%	264	3%
Pasture	899	7%	422	3%	996	12%
Point Sources	250	2%	201	1%	111	1%
Wetland	814	7%	991	7%	768	9%
<b>Grand Total</b>	<b>12,225</b>		<b>13,772</b>		<b>8,425</b>	

*Excerpted from the TMDL document*

Figure 18 of the TMDL document depicts the alteration of watercourses within the overall Upper Mississippi River watershed, and Figure 20 shows the TSS yield from the respective TMDL subwatersheds within the basin.

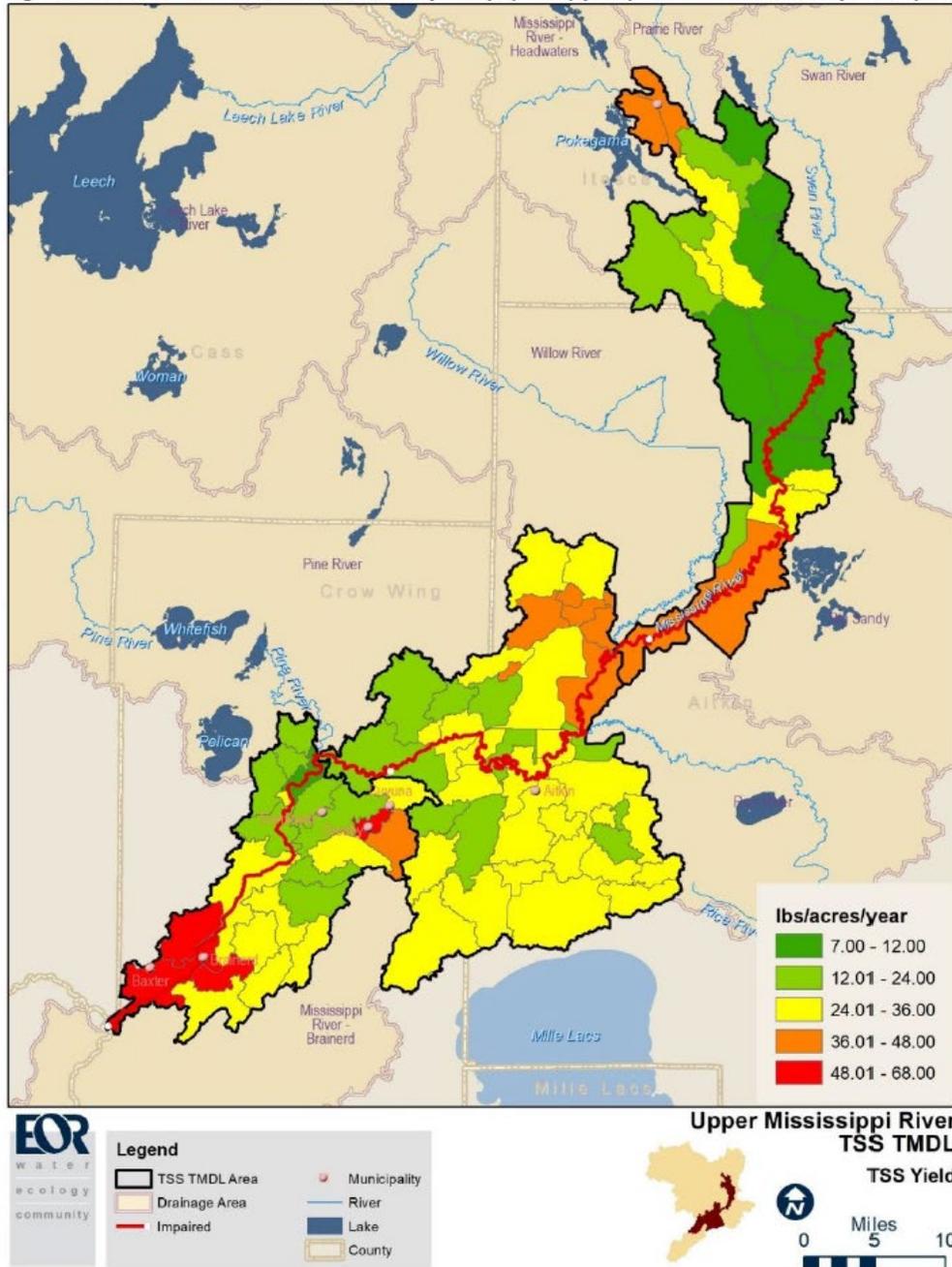
Figure 18. Altered watercourses in the Upper Mississippi River watersheds.



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Excerpted from the TMDL document

Figure 20. HSPF Predicted subbasin TSS yield (lb/acre/year) for the TMDL Study Area (1996-2015).



The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 1.

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

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

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

### Section 2 Review Comments:

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Applicable WQS are identified, described, and a numerical water quality target is included. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target.

Section 2 of the TMDL document discusses the applicable water quality standards, including designated uses and the TSS water quality criterion of 15 mg/l. The water quality target is the numerical water quality standard for the pollutant of concern (POC) which is to be attained through the reduction of loads.

*The TSS criteria for Minnesota are stratified by geographic region and stream class due to regional differences in geology and biological sensitivity differences based on stream size. The assessment window for these samples is April-September, so any TSS data collected outside of this period will not be considered for assessment purposes. The TMDL Study Area is located in the Northern River Nutrient Region with a TSS standard for streams of 15 milligrams per liter (mg/L). For assessment, this concentration is not to be exceeded in more than 10% of samples within a 10-year data window. TSS samples are analyzed by state-certified laboratories.*

*[Excerpted from the TMDL document]*

The three impaired assessment units are also designated as Outstanding Resource Value Waters (ORVW) in MN statutes (Minn. R. 7050.0335, subp. 1B:) Section 2.4 of the TMDL document

discusses the impact of this designation on the water quality standards.

*Three levels of protection are incorporated into antidegradation rules:*

- *Existing uses of the water body must be maintained and protected.*
- *Existing high water quality must be maintained unless a lowering of water quality is deemed necessary to accommodate important economic and social development.*
- *The exceptional characteristics of specific waters designated in Minnesota rules as outstanding, very sensitive, or unique resources – called “outstanding resource value waters” or ORVWs (Minn. R. 7050.0335) -- must be maintained and protected.*

*The three impaired reaches of the Upper Mississippi River addressed by this TMDL are designated as ORVW – Restricted as defined in Minn. R. 7050.0335, subp. 1B: “portions of the Mississippi River from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi River Headwaters Board comprehensive plan dated February 12, 1981.” If there is an improvement (in exceptional characteristics) of an ORVW as a result of changes to control conditions specified in a permit/control document, or if a regulated activity ceases to discharge or adversely impact an ORVW, then the ‘bar’ is reset at a higher level to prevent any degradation of the (improved) ORVW.*

*[Excerpted from the TMDL document]*

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 2.

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### Section 3. Loading Capacity - Linking Water Quality and Pollutant Sources

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

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

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

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

### Section 3 Review Comments:

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The loading capacity is presented for the pollutant of concern (including daily loads).

Section 4.7 of the TMDL document presents the TSS loading capacities based on the numerical water quality criterion of 15 mg/l. Loading capacities are shown in units of lbs of TSS per day for the three impaired reaches in the form of both load duration curves as well as in a tabular format summarized for five separate flow regimes.

Figure 24 and Table 19 of the TMDL document provide a summary of the TMDL for the assessment unit - Mississippi River, Swan River to Willow River (07010103-708).

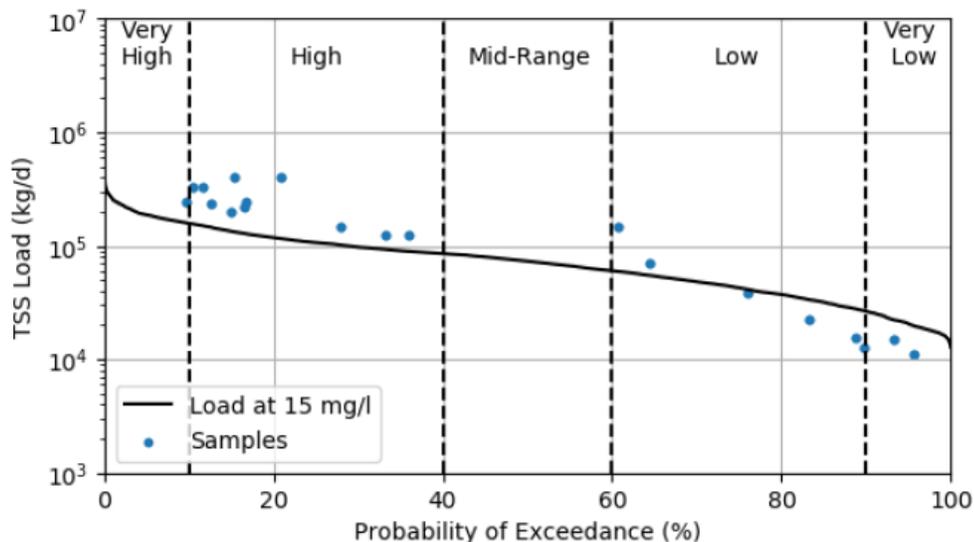


Figure 24. TSS load duration curve: Mississippi River, Swan River to Willow River (07010103-708)  
Existing TSS loads were based on TSS concentration data at S003-663 for the months of April through September and the years 2009-2015 paired with HSPF simulated flows by date. Note that HSPF simulated flows were only available through 2015.

Table 19. TSS TMDL summary: Mississippi River, Swan River to Willow River (07010103-708)

Mississippi River Swan River to Willow River 07010103-708 Load Component		Flow Regime Mid-Point (cfs)				
		Very High	High	Mid	Low	Very Low
		5,111	2,904	2,000	1,163	561
		Total Suspended Solids (lb per day)				
Existing Load*		13,403,822	856,692	604,036	46,954	7,994
Wasteload Allocations	City of Grand Rapids (MS400269)	5,346	3,115	2,105	1,314	639
	Grand Rapids WWTP (MN0022080)	3,805	3,805	3,805	3,805	3,805
	Palisade WWTP (MN0050997)	6	6	6	6	6
	Minnesota Power - Rapids Energy Center (MN0066559)	5,642	5,642	5,642	5,642	5,642
	Construction stormwater (MNR100001)	930	542	366	229	112
	Industrial stormwater (MNG490000, MNR050000)	401	234	158	98	48
	<b>Total WLA</b>	<b>16,130</b>	<b>13,344</b>	<b>12,082</b>	<b>11,094</b>	<b>10,252</b>
Load Allocations	Nonregulated sources	312,402	178,675	117,445	70,325	29,479
	<b>Total LA</b>	<b>312,402</b>	<b>178,675</b>	<b>117,445</b>	<b>70,325</b>	<b>29,479</b>

Excerpted from the TMDL document (Table 19 part 1 of 2)

Mississippi River Swan River to Willow River 07010103-708 Load Component		Flow Regime Mid-Point (cfs)				
		Very High	High	Mid	Low	Very Low
		5,111	2,904	2,000	1,163	561
		Total Suspended Solids (lb per day)				
Boundary Conditions (Upstream Subwatersheds)	Headwaters of the Mississippi River	23,818	16,863	15,957	3,214	1,093
	Prairie River	13,942	2,130	95	24	4
	Swan River	3,322	298	53	11	2
	Big Sandy River	2,529	117	20	0.9	0.2
	<b>Total BC</b>	<b>43,611</b>	<b>19,408</b>	<b>16,125</b>	<b>3,250</b>	<b>1,099</b>
10% MOS		41,349	23,492	16,184	9,407	4,537
<b>Total Loading Capacity</b>		<b>413,492</b>	<b>234,919</b>	<b>161,836</b>	<b>94,076</b>	<b>45,367</b>

\* Existing TSS loads were based on the 90<sup>th</sup> percentile TSS concentration from Table 22 of all samples collected at S003-663 during the months of April-September and the years 2009-2015 multiplied by the HSPF simulated median flow for each flow regime. Note that HSPF simulated flows were only available through 2015.

Excerpted from the TMDL document (Table 19 part 2 of 2)

Figure 25 and Table 20 of the TMDL document provide a summary of the TMDL for the assessment unit- Mississippi River, Willow River to Pine River (07010104-655).

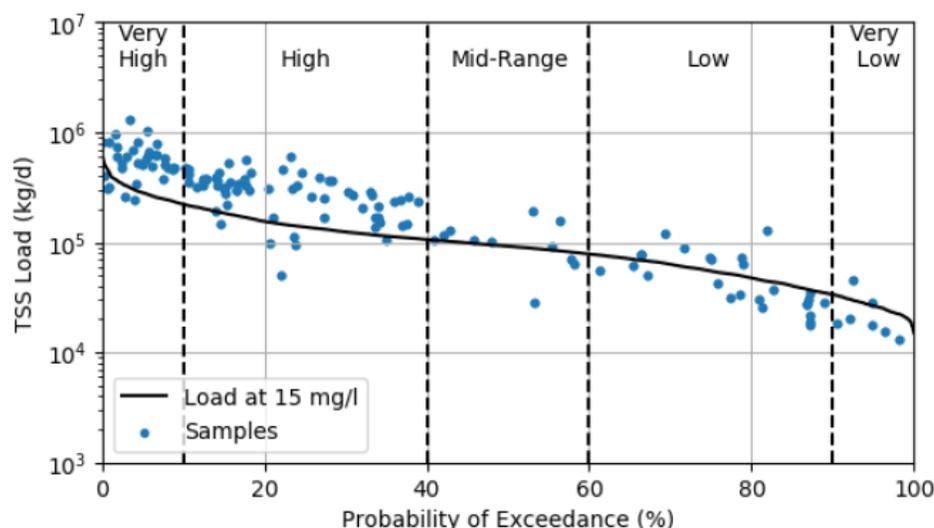


Figure 25. TSS load duration curve: Mississippi River, Willow River to Pine River (07010104-655)  
 Existing TSS loads were based on TSS concentration data at S002-010 and S000-152 or the months of April through September and the years 2009-2015 paired with HSPF simulated flows by date. Note that HSPF simulated flows were only available through 2015.

Excerpted from the TMDL document

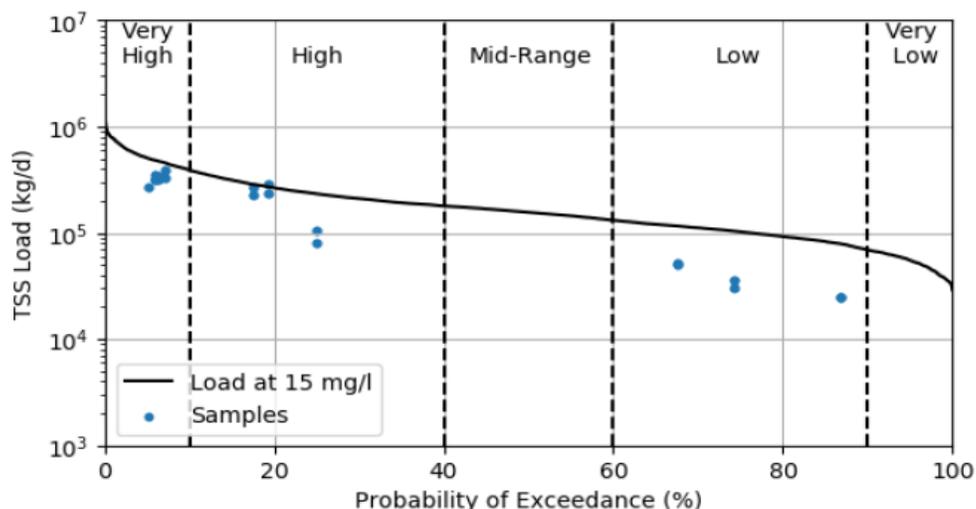
Table 20. TSS TMDL summary: Mississippi River, Willow River to Pine River (07010104-655)

Mississippi River Willow River to Pine River 07010104-655 Load Component		Flow Regime Mid-Point (cfs)				
		Very High	High	Mid	Low	Very Low
		7,716	3,763	2,516	1,499	722
		Total Suspended Solids (lb per day)				
Existing Load*		4,844,053	354,416	220,321	24,449	5,002
Wasteload Allocations	American Peat Technology (MN0057533)	82	82	82	82	82
	Aitkin WWTP (MN0020095)	172	172	172	172	172
	Construction stormwater (MNR100001)	1,453	816	562	337	163
	Industrial stormwater (MNG490000, MNR050000)	313	176	121	73	35
	<b>Total WLA</b>	<b>2,020</b>	<b>1,246</b>	<b>937</b>	<b>664</b>	<b>452</b>
Load Allocations	Nonregulated sources	44,685	26,415	18,951	14,191	6,692
	<b>Total LA</b>	<b>44,685</b>	<b>26,416</b>	<b>18,951</b>	<b>14,191</b>	<b>6,692</b>
Boundary Conditions (Upstream Subwatersheds)	Upstream impaired reach (07010103-708)	413,492	234,919	161,836	94,076	45,367
	Willow River	32,910	9,826	1,307	203	51
	Rice River	68,709	1,603	134	24	2
	<b>Total BC</b>	<b>515,111</b>	<b>246,348</b>	<b>163,277</b>	<b>94,303</b>	<b>45,420</b>
10% MOS		62,424	30,445	20,352	12,129	5,840
<b>Total Loading Capacity</b>		<b>624,240</b>	<b>304,454</b>	<b>203,517</b>	<b>121,287</b>	<b>58,404</b>

\* Existing TSS loads were based on 90<sup>th</sup> percentile TSS concentration from Table 22 of all samples collected at S002-010 and S000-152 during the months of April-September and the years 2009-2015 multiplied by the HSPF simulated median flow for each flow regime. Note that HSPF simulated flows were only available through 2015.

Excerpted from the TMDL document

Figure 26 and Table 21 provide a summary of the TMDL for the assessment unit: Mississippi River, Pine River to Crow Wing River (07010104-656)



**Figure 26. TSS load duration curve: Mississippi River, Pine River to Crow Wing River (07010104-656)**  
 Existing TSS loads were based on TSS concentration data at S000-570 and S007-337 for the months of April through September and the years 2009-2015 paired with HSPF simulated flows by date. Note that HSPF simulated flows were only available through 2015. Most of the existing TSS exceedances were observed since 2015 and therefore are not represented on the load duration curve.

*Excerpted from the TMDL document*

**Table 21. TSS TMDL summary: Mississippi River, Pine River to Crow Wing River (07010104-656)**

Mississippi River Pine River to Crow Wing River 07010104-656 Load Component		Flow Regime Mid-Point (cfs)				
		Very High	High	Mid	Low	Very Low
		13,825	6,356	4,265	2,781	1,505
		Total Suspended Solids (lb per day)				
<b>Existing Load*</b>		<b>5,394,630</b>	<b>1,105,078</b>	<b>379,652</b>	<b>170,640</b>	<b>67,276</b>
<b>Wasteload Allocations</b>	City of Brainerd (MS400266)	12,588	5,456	3,752	2,754	1,700
	City of Baxter (MS400231)	12,454	5,399	3,713	2,723	1,682
	Brainerd WWTP (MN0049328)	783	783	783	783	783
	Serpent Lake WWTP (MNG585215)	2,347	2,347	2,347	2,347	2,347
	Construction stormwater (MNR100001)	1,944	842	580	425	262
	Industrial Stormwater (MNG490000, MNR050000)	960	416	286	210	130
	<b>Total WLA</b>	<b>31,076</b>	<b>15,243</b>	<b>11,461</b>	<b>9,242</b>	<b>6,904</b>
<b>Load Allocations</b>	Nonregulated sources	324,029	135,756	93,247	70,375	43,947
	<b>Total LA</b>	<b>324,029</b>	<b>135,756</b>	<b>93,247</b>	<b>70,375</b>	<b>43,947</b>
<b>Boundary Conditions (Upstream Subwatersheds)</b>	Upstream impaired reach (07010103-655)	624,240	304,454	203,517	121,287	58,404
	Pine River	27,324	7,363	2,339	1,618	353
	<b>Total BC</b>	<b>651,564</b>	<b>311,817</b>	<b>205,856</b>	<b>122,905</b>	<b>58,757</b>
<b>10% MOS</b>		<b>111,852</b>	<b>51,424</b>	<b>34,507</b>	<b>22,502</b>	<b>12,179</b>
<b>Total Loading Capacity</b>		<b>1,118,521</b>	<b>514,240</b>	<b>345,071</b>	<b>225,024</b>	<b>121,787</b>

\* Existing TSS loads were based on the 90<sup>th</sup> percentile TSS concentration from Table 22 of all samples collected at S000-570 and S007-337 during the months of April-September and the years 2009-2015 multiplied by the HSPF simulated median flow for each flow regime. Note that HSPF simulated flows were only available through 2015.

*Excerpted from the TMDL document*

The method to establish a cause and effect relationship between the POC and the numerical target is described, and the TMDL analysis is documented and supported

Section 4.1 of the TMDL document discusses the loading capacity of the impaired reaches for TSS. Flow duration curves were developed using HSPF modeled flows and the numerical water quality criterion for TSS of 15 mg/l.

*For each load duration curve, continuous flow data was based on HSPF model simulations for 1996 through 2015. The existing TSS loads were based on TSS concentration data from April through September during the TMDL 10-year time period of 2009 through 2018, paired with HSPF simulated flows by date (Table 12). The TSS loading capacities presented in the allocation tables represent the median TSS load (in kg/day) along the TSS standard curve within each flow regime. A TSS load duration curve and a TMDL allocation table are provided for each stream segment in Section 4.2.5.*

*[Excerpted from the TMDL document]*

**Table 12. Load duration curve data sources**

<b>Impaired Reach (AUID)</b>	<b>HSPF simulated continuous flows (1996-2015)</b>	<b>TSS Monitoring Stations (years available)</b>
Mississippi River, Swan River to Willow River (07010103-708)	HSPF MR-GR Model Reach 470	S003-663 (2009, 2013-2014)
Mississippi River, Willow River to Pine River (07010104-655)	HSPF MR-B Model Reach 190	S000-152, S002-010 (2009-2015)
Mississippi River, Pine River to Crow Wing River (07010104-656)	HSPF MR-B Model Reach 290	S000-570, S007-337 (2013-2014)

*Excerpted from the TMDL document*

The critical conditions for meeting WQS are described and accounted for.

Flow duration curves account for critical conditions by calculating the loading capacity for all likely flow conditions based on the numerical concentration water quality criterion and the waterbodies monitored and/or modeled flow duration distribution.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 3.

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## Section 4. Load Allocations (LAs)

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity attributed to existing and future nonpoint sources and to natural background. Load

allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. §130.2(g)). Where possible, load allocations should be described separately for natural background and nonpoint sources.

## Section 4 Review Comments

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### The load allocations for non-point sources are accounted for.

Section 4.3 of the TMDL document discusses load allocations for NPS sources of TSS. Load allocations are presented in terms of lbs of TSS per day in the three TMDL summary tables in Section 4.7 (Tables 19-21) of the TMDL document and in this Decision Document. Load allocations are also provided in the tables for each of the tributaries flowing into the impaired reaches and identified as boundary conditions.

Section 4.3 discusses the methodology used for calculating the load allocations.

*The remainder of the loading capacity (TMDL) after subtraction of the MOS, BCs (upstream subwatersheds), and WLAs was allocated to the LA for each impaired stream. The LA includes nonpoint pollution sources that are not subject to permit requirements, including near-channel sources and watershed runoff (as described in Section 3.5.2). The LA also includes natural background sources of sediment.  
[Excerpted from the TMDL document]*

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 4.

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## Section 5. Wasteload Allocations (WLAs)

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

The individual WLAs may take the form of uniform percentage reductions or individual mass based limitations for dischargers where it can be shown that this solution meets 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. 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.

## Section 5 Review Comments

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### The waste load allocations are properly assigned.

Section 4.7 of the TMDL document presents the TSS waste load allocations for all applicable permitted sources in units of lbs of TSS per day, including the applicable NPDES permit numbers. WLAs for each assessment unit are shown in Tables 19-21 of the TMDL document and in this Decision Document.

Section 4.2 of the TMDL document provides a discussion on the development of WLA for MS4s, construction stormwater, industrial stormwater, and municipal and industrial wastewater.

Section 4.2.1 of the TMDL document discusses the WLA for regulated MS4 stormwater.

*The regulated MS4 area for each impaired reach was determined based on the area of NLCD 2016 developed land uses (developed open space, developed low intensity, developed medium intensity, and developed high intensity) within the jurisdictional MS4 boundary and the TMDL Study Area. The NLCD 2016 developed land uses were used to approximate the area within each MS4 boundary with stormwater conveyances, as those are the areas that received WLAs. The percent of regulated MS4 area within the TMDL Study Area (Table 13) within an MS4 boundary was multiplied by the watershed runoff load component to determine the WLA for each MS4. The watershed runoff load component is equal to the total TMDL (loading capacity) minus the sum of wastewater WLAs, BCs (upstream subwatersheds), and the MOS.*

*[Excerpted from the TMDL document]*

**Table 13. Regulated MS4 area by impaired reach**

Impaired Reach (AUID)	MS4 Community	Regulated Area in TMDL Study Area (sq. mi.)	Regulated Area in TMDL Study Area (% total TMDL Study Area)
Mississippi River, Swan River to Willow River (07010103-708)	Grand Rapids	4.64	1.4%
Mississippi River, Pine River to Crow Wing River (07010104-656)	Brainerd	5.66	2.7%
	Baxter	5.60	2.7%

Section 4.2.2 of the TMDL document discusses the WLA for regulated construction stormwater. The area under construction activity ranges from 0.25% to 0.42% as noted in Table 16 of the TMDL.

*A categorical WLA was assigned to all regulated construction activity in each impaired subwatershed. First, the average annual fraction of the watershed area under regulated construction activity over the past five years was calculated based on MPCA Construction Stormwater Permit data from January 1, 2014, to January 1, 2019 for each county (Table 14). The fraction of each county area under regulated construction activity was area weighted by the percent of each county within each impaired subwatershed (Table 15) to determine the 2014 through 2018 annual average percent of the TMDL Study Area under construction activity (Table 16), and then multiplied by the watershed runoff load component to determine the construction stormwater WLA. The watershed runoff load component is equal to the total TMDL (loading capacity) minus the sum of wastewater WLAs, BCs (upstream subwatersheds), and the MOS.*

*[Excerpted from the TMDL document]*

Section 4.2.3 of the TMDL document discusses the WLA for regulated industrial stormwater. The area under industrial stormwater permits ranges from 0.06% to 0.21% as noted in Table 17 of the TMDL.

*A categorical WLA was assigned to all regulated industrial activity in each impaired subwatershed. The area of all regulated industrial stormwater facilities within the TMDL Study Area was estimated using aerial photography. The fraction of the TMDL Study Area for each impaired reach under regulated industrial activity (Table 17) was multiplied by the watershed runoff load component to determine the industrial stormwater WLA. The watershed runoff load component is equal to the total TMDL (loading capacity) minus the sum of wastewater WLAs, BCs (upstream subwatersheds), and the MOS.*

*[Excerpted from the TMDL document]*

Section 4.2.4 of the TMDL document discusses the WLAs for municipal and industrial wastewater. Table 18 of the TMDL document and in this Decision Document provides WLAs in terms of kg/day of TSS associated with each of the seven permitted wastewater dischargers. NPDES permit numbers are included for each of the seven facilities granted WLAs.

*There are a total of seven NPDES/SDS permitted municipal or industrial wastewater facilities located in the TMDL Study Area. The WLAs were set equal to the current NPDES/SDS permit effluent limits (Table 18 [18]), except for Minnesota Power, which currently does not have a permit TSS effluent limit. The WLA concentration assumptions for Minnesota Power is set in accordance with [Minn R. ch. 7053.0225, subp. 1\(B\)](#) and is consistent with existing effluent limits assigned to nearby WWTPs. Future NPDES/SDS permits for this WWTFs may contain water quality based effluent limits that account for the NVSS characteristics of the discharge. American Peat Technology has been assigned a TSS WLA for this TMDL that represents the product of calendar month average TSS effluent limits, the average reported*

*daily flow rate for station SD001, the maximum permitted daily flow rate for Station SD003 and a unit conversion factor.  
 [Excerpted from the TMDL document]*

**Table 18. Regulated wastewater AWWDF, effluent limit assumptions, and WLAs.**

Impaired Reach AUID	Facility Name Permit ID	Surface Discharge Station	AWWDF/MDF (million gallons per day)	Effluent limit and/or WLA concentration assumption	
				(kg/day)	(mg/L)
Mississippi River, Swan River to Willow River 07010103-708	Grand Rapids WWTP MN0022080	SD004	15.2 (13.25 from Blandin)	1,726	30
	Palisade WWTP MN0050997	SD001	0.0226	2.56	30
	Minnesota Power - Rapids Energy Center MN0066559	SD001	22.54	2,559	30*
Mississippi River, Willow River to Pine River 07010104-655	Aitkin WWTP MN0020095	SD004	0.69	78	30
	American Peat Technology LLC MN0057533	SD001	0.29	37	30~
		SD003	0.04		
Mississippi River, Pine River to Crow Wing River 07010104-656	Brainerd WWTP MN0049328	SD003	6.0	355**	30
	Serpent Lake WWTP MNG585215	SD002	6.26	1,065	45

AWWDF = annual wet weather design flow; MDF = maximum design flow

\* The MN Power permit does not currently contain a TSS effluent limit. The WLA concentration assumption was set equal to nearby existing WWTP effluent limits.

~American Peat Technology's 30 mg/L TSS concentration assumption is consistent with the permit's calendar month average TSS limits.

\*\* The existing TSS permit effluent limit for Brainerd WWTP is based on a mass load limit of 355 kg/day based on the facility's antidegradation design flow of 3.13 mgd.

*Excerpted from the TMDL document*

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 5.

## Section 6. Margin of Safety (MOS)

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

### Section 6 Review Comments:

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Whether the MOS is expressed explicitly and/or implicitly, a justification must be provided that explains why the MOS chosen is believed to be adequate to account for any uncertainties and errors in the data and calculation of the TMDL.

#### A margin of safety is provided and justified.

Section 4.5 of the TMDL document discusses the selection of a 10% explicit margin of safety and are contained in Tables 19-21 of the TMDL and this Decision Document. The inherent ability of the load duration curve to address uncertainties within the process through the direct assignment of loads based on flow conditions and concentration based WQS helps to limit uncertainty in the calculation of the loading capacity.

*An explicit MOS equal to 10% of the loading capacity was used for the stream TMDLs based on the following considerations.*

- *There is some inherent uncertainty in flow estimates by HSPF models.*
- *Only two years of monitoring data (2013 and 2014) collected during the TMDL 10-year time period (2009 through 2018) overlapped with HSPF flow estimates (1996 through 2015) to estimate existing TSS loads for the load duration curves, which may not capture the full range of observed year to year variability in TSS.*
- *Allocations are a function of flow, which varies from high to low flows. This variability is accounted for through the development of a TMDL for each of five flow regimes.*

*[Excerpted from the TMDL document]*

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 6.

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## Section 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)).

### Section 7 Review Comments:

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#### Seasonal variation in loads and/or effects are described and accounted for.

Section 4.6 of the TMDL document discusses the effects of seasonal variation on the TMDL load capacity. Both the seasonality of the TSS WQS to which the TMDL is directly addressed, as well as the approach of basing the TMDL load capacity directly on flow conditions which vary seasonally, ensure that seasonal variation is properly accounted for.

*Critical conditions and seasonal variation are addressed in this TMDL through several mechanisms. The TSS standard applies during the open water months, and data was collected throughout this period. The water quality analysis conducted on these data evaluated variability in flow through the use of five flow regimes: from high flows, such as flood events, to low flows, such as baseflow. Through the use of load duration curves and monthly summary figures, TSS loading was evaluated at actual flow conditions at the time of sampling (and by month).*

*[Excerpted from the TMDL document]*

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 7.

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

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

### Section 8 Review Comments:

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#### Reasonable Assurance that point source load reductions will occur is provided in the document.

Reasonable assurance the point source load reductions will occur is provided by the respective NPDES permit requirements.

#### Reasonable Assurance that NPS load reductions will occur is provided in the document.

##### The parties who will be responsible for implementation are identified:

A number of state and local organizations are discussed in Sections 6 and 8 of the TMDL document that have been and will continue to be active in working toward the reduction of NPS loads in the basin.

Section 6.1 of the TMDL document discusses ongoing efforts by a range of local partnerships in improving water quality within the basin.

*A range of local partners is involved in water resource management and implementation, including counties and SWCDs from Aitkin and Itasca counties, and numerous cities and townships. In addition, state agencies (MPCA, Board of Water and Soil Resources (BWSR), DNR and Minnesota Department of Agriculture (MDA)) receive Clean Water Funds for various water resource management duties, including technical assistance.*

*[Excerpted from the TMDL document]*

Section 8.5 further discusses how partnerships with local government and non-governmental entities will be relied upon during implementation.

*Partnerships with counties, cities, townships, citizens, and co-ops are one mechanism through which the MHB, along with Aitkin, Crow Wing, and Itasca SWCDs, 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 TMDL Study Area 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 area's water resources.*

*[Excerpted from the TMDL document.]*

The Minnesota Clean Water Legacy Act provides protocols, practices, and additional financial resources to ensure the goals of the TMDL are met.

Clean Water Legacy Act: 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 protect, enhance, and restore water quality in Minnesota. 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 Watershed Restoration and Protection Strategies (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 WRAPS for the TMDL watershed was approved on July 30, 2020.

[Potential measures to achieve load reductions are identified.](#)

The measures necessary to reduce NPS loads such as BMPs and outreach and education are discussed in Sections 6 and 8 of the TMDL document.

Section 8.2 of the discusses several measures that will be relied upon to achieve NPS load reductions including:

- land conservation through easement and acquisition,
- riparian buffers near stream banks,
- livestock exclusion form sensitive erosional areas, and
- non-point source reduction performance standards:

Section 8.3 discusses the need for education and outreach to local citizens.

*A variety of educational avenues have been and will continue to be used throughout the TMDL Study Area. These include (but are not limited to): press releases, meetings, workshops, focus groups, trainings, websites, etc. Local staff (conservation district, county, etc.) and board members work to educate the residents of the watersheds about ways to improve their waters on a regular basis. Websites:*

- *Mississippi River Headwaters Board: <http://mississippiheadwaters.org/>*
- *Aitkin SWCD: <https://aitkincountyswcd.org/>*
- *Crow Wing SWCD: <https://crowwingswcd.org/>*
- *Itasca SWCD: <https://itascaswcd.org/>*
- *MPCA's Upper Mississippi River Basin: <https://www.pca.state.mn.us/featured/uppermississippi-river-what-protect-what-fix>*

*[Excerpted from the TMDL document]*

#### Potential resource needs for implementation are identified.

Section 8.6 of the TMDL document provides a cost estimate of implementing the measures necessary to achieve the needed load reductions.

*The Clean Water Legacy Act requires that a TMDL study include an overall approximation of the cost to implement the TMDL study (Minn. Stat. 2007, section 114D.25). The total cost estimate for this TMDL is \$17.3M based on the costs to implement the stormwater retrofit projects (see Section 8.1.1) identified by the cities of Baxter (\$1.5M), Brainerd (\$2.4M), and Grand Rapids (\$4.4M); plus \$9M to protect an additional 4,500+ acres and 38+ miles of shoreline along the Upper Mississippi River (see Section 8.2, calculated from the existing cost to protect the first 4,500 acres and 38 miles times a 1.5 multiplier).*

*[Excerpted from the TMDL document]*

Section 6.3 of the TMDL document identifies and discusses potential financial resources available for implementation.

*At the local level, the Mississippi Headwaters Board has received over \$6M for the Mississippi Headwaters Habitat Corridor Easement and Acquisition Program and \$181,000 for project prioritization studies. At the state level, there are a variety of funding sources to help cover some of the cost to implement practices that reduce pollutants from entering*

*surface waters and groundwater. There are several programs listed below that contain web links to the programs and contacts for each entity. The contacts for each grant program can assist in the determination of eligibility for each program, as well as funding requirements and amounts available.*

- *Agriculture BMP Loan Program (MDA)*
- *Agricultural Water Quality Certification Program (MDA)*
- *Clean Water Fund Grants (BWSR)*
- *Clean Water Partnership Loans (MPCA)*
- *Environment and Natural Resources Trust Fund (Legislative-Citizen Commission on Minnesota Resources)*
- *Environmental Assistance Grants Program (MPCA)*
- *Phosphorus Reduction Grant Program (Minnesota Public Facilities Authority)*
- *Clean Water Act Section 319 Grant Program (MPCA)*
- *Small Community Wastewater Treatment Construction Loans & Grants (Minnesota Public Facilities Authority)*
- *Source Water Protection Grant Program (Minnesota Department of Health)*
- *Surface Water Assessment Grants (MPCA)*
- *Wastewater and storm water financial assistance (MPCA)*
- *Conservation Partners Legacy Grant Program (DNR)*
- *Environmental Quality Incentives Program (NRCS)*
- *Conservation Reserve Program (USDA)*
- *Clean Water State Revolving Fund (EPA)*

*[Excerpted from the TMDL document.]*

Section 8.4 of the TMDL document discusses a number of resources that can be relied upon for technical assistance in implementing the measures necessary to achieve the load reductions.

*The SWCDs, NRCS, and county staff within the watersheds provide assistance to landowners for a variety of projects that benefit water quality. Assistance provided to landowners varies based on whether they are implementing urban, agricultural or shoreline BMPs. This technical assistance includes education and one-on-one training. Many opportunities for technical assistance result from 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. Programs such as state cost share, CREP, and RIM are administered through the county. In addition, assistance is available from state and federal sources, including: Clean Water Legacy funding, Environmental Quality Incentives Program (EQIP), CRP, State Buffer Law Implementation, Minnesota Agricultural Water Quality Certification Program (MAWQCP), and Conservation Stewardship Program (CSP). All of these programs 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 and other BMPs, septic system upgrades, feedlot improvements, invasive species control, wastewater treatment practices, agricultural BMPs, forest stewardship planning, and shoreline restorations.*

*[Excerpted from the TMDL document.]*

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 8.

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## Section 9. Monitoring Plan to Track TMDL Effectiveness

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

### Section 9 Review Comments

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[An effectiveness monitoring plan is provided.](#)

Section 7 of the TMDL document provides a comprehensive overview of the monitoring that will be necessary as part of implementing the necessary load reductions and determining their effectiveness. Included are discussion regarding baseline, implementation, flow, effectiveness, trend, and validation monitoring.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 9.

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## Section 10. Implementation

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

## Section 10 Review Comments

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Section 8 of the TMDL document provides an implementation plan that includes a discussion of the types of BMPs that could potentially be utilized to achieve load reductions, public education and outreach measures, technical resources for planning, and the partnerships between state and local organizations that will be relied upon. Section 8.6 of the TMDL document provides an estimate of the cost of implementation, and Section 8.7 discusses the adaptive management process that will be relied upon to make any necessary adjustments to implementation planning based on the performance of installed BMPs and increased knowledge of the system as the process moves forward. Additional detailed review notes on the implementation plan elements are provided in Section 8 of this review document where reasonable assurance is discussed.

EPA reviews but does not approve TMDL implementation plans.

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## Section 11. Public Participation

EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 C.F.R. §130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. §130.7(d)(2)). Provision of inadequate public participation may be a basis for disapproving a TMDL. If EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

## Section 11 Review Comments

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TMDL development provided for adequate public participation.

Public Participation Process is described.

Section 9 of the TMDL document provides a summary of public participation in the development of the TMDL. A technical advisory committee was formed by MPCA and nine meetings were held during the TMDL development process.

Two additional meetings were also held. One with stakeholder groups and one public Webex meeting as part of the public comment period.

- *A meeting with affected MS4s and SWCDs within the TMDL Study Area was held with Agency staff on December 3, 2019, to discuss the TSS impairment and TMDL MS4 Permit Requirements, Stormwater BMPs, and Resources.*
- *A public meeting was held via Webex on August 18, 2020 to present the draft TMDL report and allocations and receive public comments and concerns at the start of public notice.*

*[Excerpted from the TMDL document.]*

[An opportunity for public comment was provided and a summary of significant comments and the State's responses is included in/with the final TMDL submission.](#)

*An opportunity for public comment on the draft TMDL report was provided via a public notice in the State Register from August 17, 2020 through September 16, 2020. One comment letter was received and responded to as a result of the public comment period.  
[Excerpted from the TMDL document]*

The State received three comments from one individual. The comments received were related to the implementation planning and execution rather than the calculation of the TMDL and its constituent parts.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 11.

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## Section 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.

### Section 12 Review Comments:

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A Submittal Letter is provided requesting formal review.

A submittal letter was included requesting final review along with the final submission of the TMDL. The TMDL document includes information on the name, location, and pollutants of concern.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of Section 12.

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## Section 13: Conclusions

After a full and complete review, EPA finds that the TMDL study satisfies all of the elements of an approvable TMDL. The EPA is approving three TMDLs for TSS addressing aquatic life use impairments.

EPA's approval of this TMDL extends to the water bodies identified in TMDL Review Table 2, with the exception of any portions of the water body that is 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.

A letter of invitation for tribal consultation was sent to the Mille Lacs Band of Ojibwe, however the tribe did not express interest to consult.

TMDL Review Table 2 - Approved TMDLs Information.				
AUID	Affected designated use	Water body name	Water body description	Pollutant or stressor
07010103-708	Aquatic Life	Mississippi River	Swan R to Willow R	Total suspended solids
07010104-655	Aquatic Life	Mississippi River	Willow R to Pine R	Total suspended solids
07010104-656	Aquatic Life	Mississippi River	Pine R to Crow Wing R	Total suspended solids