

2019 Modification to Upper Minnehaha Creek Watershed Lakes and Bacteria (Metro) Total Maximum Daily Load Report

OVERVIEW

TMDL Project Name	Upper Minnehaha Creek Watershed Lakes and Bacteria (Metro) TMDL
Date of EPA TMDL Approval	June 26, 2014
EPA Modification Approval Date	June 14, 2019
TMDL segment AUID and pollutant which require modification	27-0160-00 – phosphorus TMDL modification 27-0157-00 – phosphorus TMDL modification
TMDL Tables in final TMDL document which are being modified	Table 4.11. Long Lake TMDL Summary Table 4.19. Tanager Lake TMDL Summary

What is being changed from the final TMDL to the modified TMDL?

The Minnesota Department of Transportation (MnDOT) has transferred ownership of portions of the right-of-way (ROW) to Orono City, Long Lake City, and Hennepin County (Figure 1). The account for this, the Minnesota Pollution Control Agency (MPCA) is making adjustments to stormwater wasteload allocations (WLAs) to shift a portion of MnDOT's Municipal Separate Storm Sewer Systems (MS4) WLA (Permit #MS400170) to Orono City's MS4 WLA (Permit #MS400111), Long Lake City's MS4 WLA (Permit #MS400101), and Hennepin County's MS4 WLA (Permit #MS400138) (Table 1). All four MS4s have existing WLAs in the approved TMDL for Long Lake (AUID: 27-0160-00).

Additionally, MnDOT reconstructed Highway 12, so a portion of the ROW that was originally accounted for in the drainage area of Long Lake TMDL, is now included in the drainage area of Tanager Lake (Table 2; Figure 1). This change resulted in a slight decrease in the overall total loading capacity of Long Lake, and a slight increase in the overall total loading capacity of Tanager Lake. MnDOT also transferred ownership of portions of the ROW to Long Lake City. This resulted in a slight adjustment to Long Lake City's MS4 WLA and MnDOT's MS4 WLA. Long Lake City and MnDOT have existing WLAs in the approved TMDL for Tanager Lake.

Table 1. Current regulated MS4s within the TMDL subwatersheds.

AUID	Reach Name	Current MS4s included in TMDL	MS4 Permit Number	Adjustment to MS4 WLA	Impairment
27-0160-00	Long Lake	MnDOT MS4	MS400105	Yes	Phosphorus
		Hennepin County MS4	MS400138	Yes	
		Orono City MS4	MS400111	Yes	
		Plymouth City MS4	MS400112	No	
		Long Lake City MS4	MS400101	Yes	
		Medina City MS4	MS400105	No	
27-0157-00	Tanager Lake	MnDOT MS4	MS400105	Yes	Phosphorus
		Orono City MS4	MS400111	No	
		Hennepin County	MS400138	No	
		Long Lake City	MS400101	Yes	

Table 2. Long Lake and Tanager Lake Watershed Areas and Area Changes

Long Lake Watershed	MS4 permit #	2014 Area, ac	2019 Area, ac	Area change, ac
Orono City MS4	MS400111	1,409	1,418	8
Hennepin County	MS400138	45	46	1
Plymouth City MS4	MS400112	0.4	0.4	0
Long Lake City MS4	MS400101	289	297	8
Medina City MS4	MS400105	1,817	1,817	0
MnDOT	MS400170	53	17	-36
Regulated MS4 Total		3,613	-18	3,595
Non-regulated watershed		2,355	2,355	0
Long Lake Watershed total		5,968	5,950	-18
Tanager Lake Watershed Part	MS4 permit #	2014 Area, ac	2019 Area, ac	Area change, ac
Orono City MS4	MS400111	1,048	1,048	0
Hennepin County	MS400138	39	39	0
MnDOT	MS400170	23	40	17
Long Lake City MS4	MS400101	168	169	1
Regulated MS4 Total		1,278	1,296	18
Non-regulated watershed		6,288	6,288	0
Tanager Lake Watershed total		7,566	7,584	18
Combined Long + Tanager Lakes Watershed Total		13,534	13,534	0

* Changes followed MnDOT's realignment and reconstruction of U.S. Highway 12 through border area between Long Lake and Tanager Lake watersheds. The changes included both (1) MnDOT right-of-way turnbacks to other MS4s, and (2) MnDOT rerouting of some drainage from Long Lake to Tanager Lake.

Explanation of modifications:

Ownership of portions of MnDOT's ROW have been transferred to Orono City, Hennepin County, and Long Lake City. Reconstruction of Highway 12 has resulted in some small changes to the drainage areas of Long Lake and Tanager Lake. The MPCA is proposing the following modifications:

Long Lake, AUID 27-0160-00: The MPCA is shifting about 2 lbs/yr of total phosphorus from MnDOT's MS4 WLA to Orono City's MS4 WLA, Long Lake City's MS4 WLA, and Hennepin County's MS4 WLA. The overall total loading capacity of Long Lake has decreased slightly as a result of rerouting of some drainage from Highway 12 from Long Lake to Tanager Lake (See Modified Table 4.11).

Tanager Lake, AUID 27-0157-00: The MPCA is shifting about 0.1 lbs/yr of total phosphorus from MnDOT's WLA to Long Lake City's MS4 WLA. The overall total loading capacity of Long Lake has increased slightly as a result of rerouting of some drainage from Highway 12 from Long Lake to Tanager Lake (See Modified Table 4.19).

Maps

MnDOT Right of Way and Drainage Areas Long Lake and Tanager Lake



Date: 4/19/2019

Figure 1. MnDOT right of way, turnback areas, and drainage areas for Long and Tanager Lake watersheds.

Tables

Original TMDL Table 4.11 Long Lake TMDL Summary (pg. 4-14 of TMDL report)

		Existing TP Load		Allowable TP Load		Estimated Load Reduction	
		lbs/yr	lbs/day	lbs/yr	lbs/day	lbs/yr	%
TOTAL LOAD		1,465	4.01	761	2.08	743	51
Wasteload Allocation	Total WLA	665	1.82	255	0.697	411	62
	Construction/Industrial SW	3	0.00812	3	0.00812	0	0
	Orono City MS4 (MS400111)	224	0.614	100	0.273	125	56
	Hennepin County (MS400138)	41	0.113	5	0.015	36	87
	Plymouth City MS4 (MS400112)	0.036	.0001	.036	.0001	0	0
	Long Lake City MS4 (MS400101)	164	0.449	29	0.079	135	82
	Medina City MS4 (MS400105)	216	0.591	113	0.309	103	48
	MNDOT (MS400105)	17	0.0470	5	0.0132	12	72
Load Allocation	Total LA	800	2.19	468	1.28	332	41
	Non-MS4 runoff	8	0.0226	4	0.00999	5	56
	SSTS	0	0	0	0	0	NA
	Upstream lakes	362.88	0.994	97	0.265	266	73
	Atmospheric deposition	69	0.188	69	0.188	0	0
	Groundwater	39	0.106	39	0.106	0	0
	Internal Load	321.63	0.881	261	0.713	61	19
MOS				38	0.104		

Modified TMDL Table 4.11 Long Lake TMDL Summary

		Existing TP Load		Allowable TP Load		Estimated Load Reduction	
		lbs/yr	lbs/day	lbs/yr	lbs/day	lbs/yr	%
TOTAL LOAD		1,465	4.01	759	2.08	744	51
Wasteload Allocation	Total WLA	665	1.82	253	0.692	413	62
	Construction/Industrial SW	3	0.00812	3	0.00812	0	0
	Orono City MS4 (MS400111)	224	0.614	100	0.275	124	55
	Hennepin County (MS400138)	41	0.113	6	0.0153	36	86
	Plymouth City MS4 (MS400112)	0.036	.0001	.036	.0001	0	0
	Long Lake City MS4 (MS400101)	164	0.449	30	0.0811	134	82
	Medina City MS4 (MS400105)	216	0.591	113	0.309	103	48
	MNDOT (MS400105)	17	0.0470	2	0.00418	16	91
Load Allocation	Total LA	800	2.19	468	1.28	332	41
	Non-MS4 runoff	8	0.0226	4	0.00999	5	56
	SSTS	0	0	0	0	0	NA
	Upstream lakes	362.88	0.994	97	0.265	266	73
	Atmospheric deposition	69	0.188	69	0.188	0	0
	Groundwater	39	0.106	39	0.106	0	0
	Internal Load	321.63	0.881	261	0.713	61	19
MOS				38	0.104		

Note: The existing load reflects the conditions at the time of the original TMDL. The modified estimated load reduction for MnDOT MS4 is 3.9 lbs/yr (72%).

Original TMDL Table 4.19. Tanager Lake TMDL Summary (pg. 4-18 in TMDL report)

		Existing TP Load		Allowable TP Load		Estimated Load Reduction	
		lbs/yr	lbs/day	lbs/yr	lbs/day	lbs/yr	%
total load		1,178	3.22	447	1.22	753	64
Wasteload Allocation	total WLA	174	0.477	68	0.187	106	61
	C/I SW	0.9	0.00249	0.9	0.00249	0	0
	Orono City MS4 (MS400111)	114	0.312	55	0.151	59	51
	Hennepin County (MS400138)	7	0.0180	2	0.00562	5	69
	MNDOT (MS400105)	7	0.0197	1	0.00333	6	83
	Long Lake City MS4 (MS400101)	46	0.125	9	0.0242	37	81
Load Allocation	total LA	1,003	2.75	356	0.975	647	64
	Non-MS4 runoff	0.2	0.000640	0.1	0.000335	0.1	48
	SSTS	0	0	0	0	0	NA
	Upstream lakes	737	2.02	258	0.705	480	65
	Atmospheric deposition	13	0.0352	13	0.0352	0	0
	Groundwater	14	0.0382	14	0.0382	0	0
	Internal Load	239	0.654	72	0.196	167	70
MOS				22	0.0612		

Modified TMDL Table 4.19. Tanager Lake TMDL Summary

		Existing TP Load		Allowable TP Load		Estimated Load Reduction	
		lbs/yr	lbs/day	lbs/yr	lbs/day	lbs/yr	%
total load		1,178	3.22	448	1.23	752	64
Wasteload Allocation	total WLA	174	0.477	70	0.191	104	60
	C/I SW	0.9	0.00249	0.9	0.00249	0	0
	Orono City MS4 (MS400111)	114	0.312	55	0.151	59	51
	Hennepin County (MS400138)	7	0.0180	2	0.00562	5	69
	MNDOT (MS400105)	7	0.0197	3	0.00760	4	61
	Long Lake City MS4 (MS400101)	46	0.125	9	0.0244	37	81
Load Allocation	total LA	1,003	2.75	356	0.975	647	64
	Non-MS4 runoff	0.2	0.000640	0.1	0.000335	0.1	48
	SSTS	0	0	0	0	0	NA
	Upstream lakes	737	2.02	258	0.705	480	65
	Atmospheric deposition	13	0.0352	13	0.0352	0	0
	Groundwater	14	0.0382	14	0.0382	0	0
	Internal Load	239	0.654	72	0.196	167	70
MOS				22	0.0612		

Note: The existing load reflects the conditions at the time of the original TMDL. The modified estimated load reduction for MnDOT MS4 is 10.0 lbs/yr (78%)

Implementation

Given the modification described, are there any changes to the Stormwater Pollution Prevention Plan (SWPPP) to account for the modified WLAs?

Hennepin County MS4, Long Lake City MS4, Orono City MS4, and MnDOT MS4 will be required to submit an updated SWPPP when the new MS4 permit becomes effective in late 2019. At that time, Hennepin County MS4, Long Lake MS4, Orono City MS4, and MnDOT MS4 will be required to account for the adjusted phosphorus WLAs for Long Lake and Tanager Lake.

Will the SWPPPs be updated to include the new information included in the modification? If yes, when will the SWPPPs be updated?

The SWPPPs will be updated to include the new information in the modification when the new permit becomes effective in late 2019.

Have the permittee been notified of this proposed change?

We will notify the affected permittees of the proposed change and the permittees will have the opportunity to review and comment on the modifications after EPA's review.