

2019 Modification to Lake St. Croix Nutrient Total Maximum Daily Load Report

Overview

TMDL Project Name	Lake St. Croix Nutrient TMDL
Date of EPA TMDL Approval	August 8, 2012
Public Notice Dates	May 6, 2019 through June 5, 2019
MPCA Approval Date for Modification	June 5, 2019
TMDL segment AUID and pollutant which require modification	MDNR ID: 82-0001, phosphorus modification WDNR ID: 2601500, phosphorus modification
TMDL Tables in final TMDL document which are being modified	Table 17. Lake St. Croix TMDL Phosphorus Allocations- Basin-Wide Table 18. Lake St. Croix TMDL Phosphorus Allocations – State of MN

What is being changed from the final Total Maximum Daily Load (TMDL) to the modified TMDL?

The Minnesota Pollution Control Agency (MPCA) is making adjustments to stormwater wasteload allocations (WLAs) to account for new regulated-MS4s. There are four new regulated- Municipal Separate Storm Sewer Systems (MS4s) within the TMDL project area, Wyoming City (Permit #MS400294), Oak Park Heights City (Permit #MS400290), Bayport City (Permit #MS400295), and the Minnesota Correctional Facility - Stillwater (Permit #MS400289) (Table 1; Table 2). When the TMDL was approved on August 8, 2012, Wyoming City, Oak Park Heights City, Bayport City, and the Minnesota Correctional Facility – Stillwater, were unregulated and the areas associated with the cities were assigned to the load allocation (LA). Now that the three cities and the correctional facility are regulated-MS4s, the LA assigned to them is being transferred to the MS4 WLA. The adjustments will not change the approved overall total loading capacities of the TMDL.

Table 1. Current and new regulated-MS4s within the TMDL subwatershed.

AUID	Reach Name	Current MS4s included in TMDL	New MS4s	Impairment
82-0001	Lake St. Croix	Century College	Wyoming City MS4	Phosphorus
		Cottage Grove	Oak Park Heights City MS4	
		East Bethel	Bayport City MS4	
		Forest Lake	MN Correctional Facility - Stillwater MS4	
		Grant		
		Hugo		
		Lake Elmo		
		Mahtomedi		
		Maplewood		
		North Branch		
		North Saint Paul		
		Oakdale		
		Pine Springs		
		Stillwater		
		Valley Branch Watershed District		
		West Lakeland		
		White Bear Lake		
		Woodbury		
		MnDOT Metro District		
		Ramsey County		
Washington County				

Table 2. Regulated-MS4s and MS4 Permit Numbers

Regulated MS4	MS4 Permit #
Bayport City	MS400295
Century College	MS400171
Cottage Grove	MS400082
East Bethel	MS400087
Forest Lake	MS400262
Grant	MS400091
Hugo	MS400094
Lake Elmo	MS400098
Mahtomedi	MS400031
Maplewood	MS400032
MN Correctional Facility - Stillwater MS4	MS400289
North Branch	MS400260
North Saint Paul	MS400041
Oakdale	MS400042
Oak Park Heights	MS400290
Pine Springs	MS400044
Stillwater	MS400259
Valley Branch Watershed District	MS400217
West Lakeland	MS400162
White Bear Lake	MS400060
Woodbury	MS400128
MnDOT Metro District	MS400170
Ramsey County	MS400191
Washington County	MS400160
Wyoming City	MS400294

Explanation of modifications:

Wyoming City, Oak Park Heights City, Bayport City, and the Minnesota Correctional Facility – Stillwater, were not regulated under the MS4 permit when the TMDL was completed in 2012. Wyoming City, Oak Park Heights City, Bayport City, and the Minnesota Correctional Facility – Stillwater, are now regulated-MS4s and the permitted area needs to be accounted for in the TMDL WLAs for the TMDL segment listed above. The MPCA is proposing the following modifications:

Lake St. Croix, AUID 82-0001

The MPCA is shifting 4.4 pounds/day of phosphorus from the LA to the categorical MS4 WLA to include Wyoming City MS4, Oak Park Heights City MS4, Bayport City MS4, and the Minnesota Correctional Facility - Stillwater MS4 (Modified Table 17; Modified Table 18).

Maps

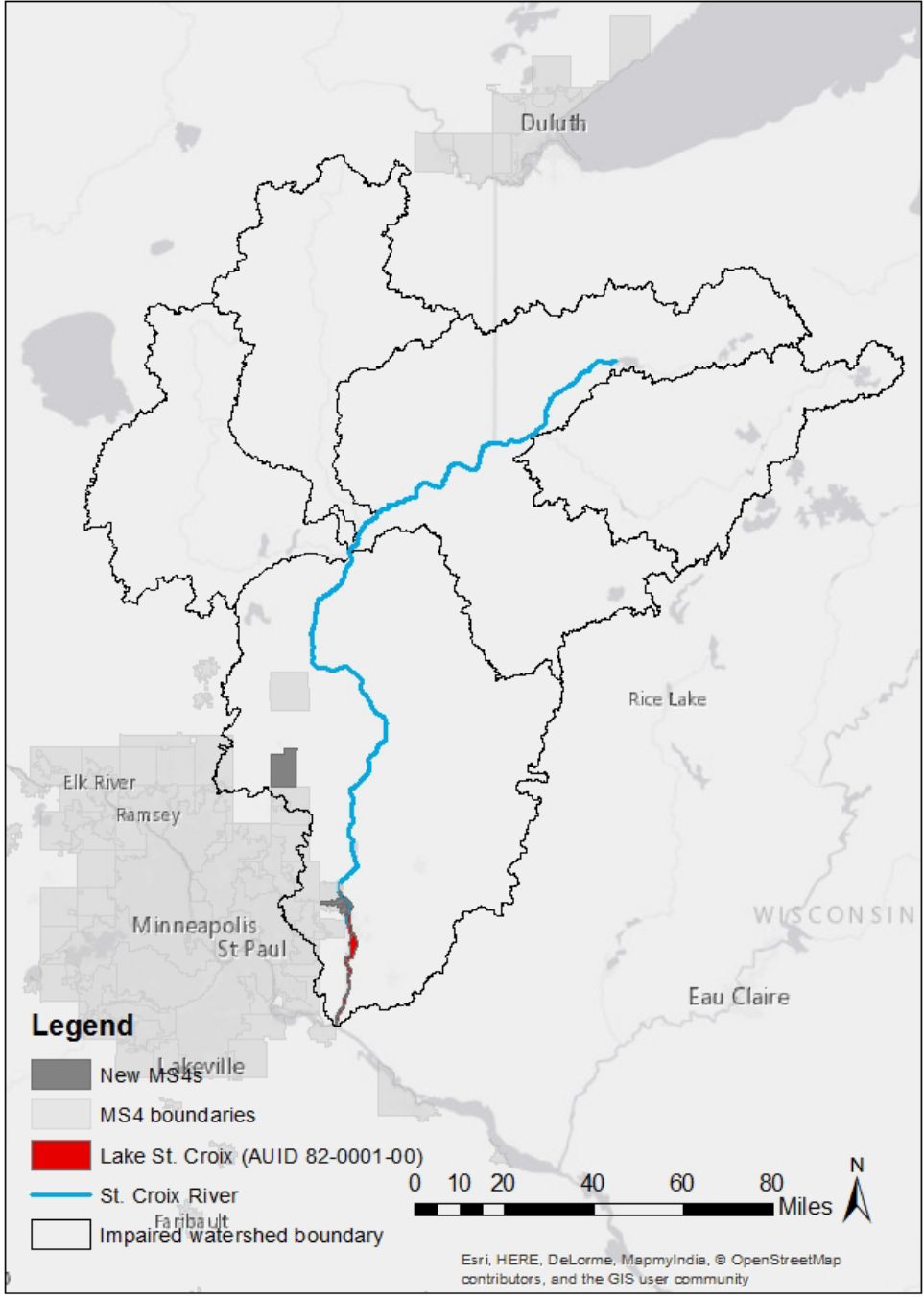


Figure 1. Lake St. Croix (AUID 82-0001) TMDL Subwatershed and regulated MS4 areas.

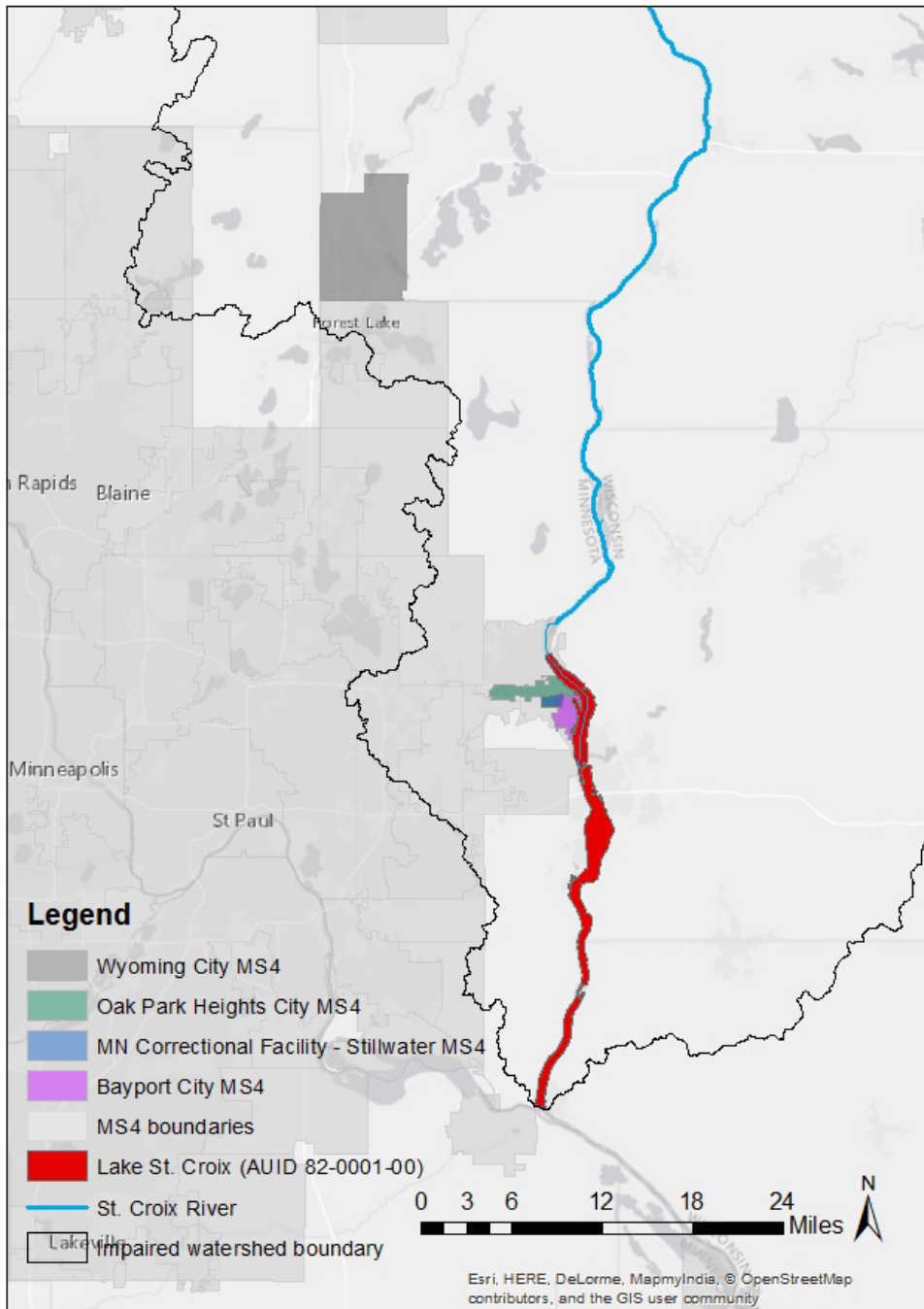


Figure 2. Lake St. Croix (AUID 82-0001) TMDL Subwatershed and regulated MS4 areas.

Tables

Original Table 17. Lake St. Croix TMDL Phosphorus Allocations – Basin-Wide (pg. 36 of the TMDL report).

Component	Existing (1990s)	TMDL	Existing (1990s)	TMDL
	(metric tons/yr)		(pounds/day)	
Non-Regulated Loads (LA)	397.369	296.604	2398.5	1790.3
Watershed background	165.559	165.559	999.3	999.3
Watershed land use	224.274	123.509	1353.7	745.5
Internal	7.095	7.095	42.8	42.8
Atmospheric	0.441	0.441	2.7	2.7
Wasteloads (WLAs)	61.975	39.924	374.1	240.9
MS4 Permittees	8.743	4.688	52.8	28.3
Wastewater Facilities	51.914	33.994	313.3	205.2
General Permits – WI	1.000	1.000	6.0	6.0
Construction runoff – MN	0.159	0.121	1.0	0.7
Industrial runoff - MN	0.159	0.121	1.0	0.7
Reserve Capacity (RC)	--	4.816	--	29.0
RIB conversions – WI	--	1.929	--	11.6
Non-contributing- WI	--	0.396	--	2.4
ISTS	--	2.491	--	15.0
Tribal Load (TL)	0.656	0.656	4.0	4.0
Watershed runoff	0.352	0.352	2.1	2.1
Wastewater	0.304	0.304	1.9	1.9
Margin of Safety (MOS)	--	18.000	--	108.6
Total Load	460.000	360.000	2776.6	2172.8

Modified Table 17. Lake St. Croix TMDL Phosphorus Allocations – Basin-Wide (changes highlighted in yellow)

Component	Existing (1990s)	TMDL	Existing (1990s)	TMDL
	(metric tons/yr)		(pounds/day)	
Non-Regulated Loads (LA)	397.369	295.872	2398.5	1785.9
Watershed background	165.559	165.559	999.3	999.3
Watershed land use	224.274	122.777	1353.7	741.1
Internal	7.095	7.095	42.8	42.8
Atmospheric	0.441	0.441	2.7	2.7
Wasteloads (WLAs)	61.975	40.656	374.1	245.3
MS4 Permittees	8.743	5.420	52.8	32.7
Wastewater Facilities	51.914	33.994	313.3	205.2
General Permits – WI	1.000	1.000	6.0	6.0
Construction runoff – MN	0.159	0.121	1.0	0.7
Industrial runoff - MN	0.159	0.121	1.0	0.7
Reserve Capacity (RC)	--	4.816	--	29.0
RIB conversions – WI	--	1.929	--	11.6
Non-contributing- WI	--	0.396	--	2.4
ISTS	--	2.491	--	15.0
Tribal Load (TL)	0.656	0.656	4.0	4.0
Watershed runoff	0.352	0.352	2.1	2.1
Wastewater	0.304	0.304	1.9	1.9
Margin of Safety (MOS)	--	18.000	--	108.6
Total Load	460.000	360.000	2776.6	2172.8

Original Table 18. Lake St. Croix TMDL Phosphorus Allocations – State of Minnesota (pg. 37).

Component	Existing (1990s)	TMDL	Existing (1990s)	TMDL
	(metric tons/yr)		(pounds/day)	
Non-Regulated Loads (LA)	155.212	120.606	936.8	727.9
Watershed background	73.435	73.435	443.2	443.2
Watershed land use	78.009	43.403	470.9	262.0
Internal	3.548	3.548	21.4	21.4
Atmospheric	0.220	0.220	1.3	1.3
Wasteloads (WLAs)	34.260	22.793	206.9	137.5
MS4s	7.446	3.995	45.0	24.1
Wastewater	26.496	18.556	159.9	112.0
General Permits – WI	--	--	--	--
Construction runoff – MN	0.159	0.121	1.0	0.7
Industrial runoff - MN	0.159	0.121	1.0	0.7
Reserve Capacity (RC)	--	0.959	--	5.8
RIB conversions – WI	--	--	--	--
Non-contributing- WI	--	--	--	--
ISTS	--	0.959	--	5.8
Tribal Load (TL)	0.132	0.132	0.8	0.8
Watershed runoff	0.132	0.132	0.8	0.8
Wastewater	--	--	--	--
Margin of Safety (MOS)	--	7.605	--	45.9
Total Load	189.604	152.095	1144.5	917.9

Modified Table 18. Lake St. Croix TMDL Phosphorus Allocations - State of Minnesota (changes highlighted in yellow)

Component	Existing (1990s)	TMDL	Existing (1990s)	TMDL
	(metric tons/yr)		(lbs/day)	
Non-Regulated Loads (LA)	155.212	119.874	936.8	723.5
Watershed background	73.435	73.435	443.2	443.2
Watershed land use	78.009	42.671	470.9	257.6
Internal	3.548	3.548	21.4	21.4
Atmospheric	0.220	0.220	1.3	1.3
Wasteloads (WLA)	34.260	23.525	206.9	141.9
MS4s	7.446	4.727	45.000	28.5
Wastewater	26.496	18.556	159.9	112.0
General Permits - WI	--	--	--	--
Construction runoff - MN	0.159	0.121	1.0	0.7
Industrial runoff - MN	0.159	0.121	1.0	0.7
Reserve Capacity (RC)	--	0.959	--	5.8
RIB conversions - WI	--	--	--	--
Non-contributing - WI	--	--	--	--
ISTS conversions	--	0.959	--	5.8
Tribal Load (TL)	0.132	0.132	0.8	0.8
Watershed runoff	0.132	0.132	0.8	0.8
Wastewater	--	--	--	--
Margin of Safety (MOS)	--	7.605	--	45.9
Total Load	189.604	152.095	1144.5	917.9

IMPLEMENTATION

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

Wyoming City MS4, Oak Park Heights City MS4, Bayport City MS4, and the Minnesota Correctional Facility – Stillwater MS4 will be required to submit an updated SWPPP when the new MS4 permit becomes effective in late 2019. At that time, Wyoming City MS4, Oak Park Heights City MS4, Bayport City MS4, and the Minnesota Correctional Facility – Stillwater MS4 will be required to account for the phosphorus impaired Lake St. Croix.

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 MS4 permit becomes effective in late 2019.