2026 Modification to North Fork Crow and Lower Crow Bacteria, Turbidity, and Low Dissolved Oxygen Total Maximum Daily Load Report

GENERAL INFORMATION

TMDL project name	North Fork Crow and Lower Crow Bacteria, Turbidity, and Low DO TMDL
Date of original EPA TMDL approval	August 20, 2013
2019 TMDL modification	2019 Modification to North Fork Crow and Lower Crow Bacteria, Turbidity, and Low Dissolved Oxygen Total Maximum Daily Load Report
MPCA approval date for modification	June 5, 2019
2026 TMDL Modification Public Notice Dates	January 5, 2026- February 4, 2026
TMDL Assessment Unit Identification (AUID) and pollutants that require modification	07010204-502 – *Escherichia coli* (*E. coli),* total suspended solids (TSS) 07010204-503 – total suspended solids (TSS)
TMDL tables being modified	Table 2.7 (2019). Summary of Permitted MS4s in the Lower Crow River Watershed. Table 2.8 (2019). Lower Crow *E. coli* impaired reach TMDL load allocations for each flow zone. Table 3.8 (2019). Wasteload allocations for all MS4 communities that contribute directly to or are upstream of the Lower Crow River turbidity impaired reach (07010204-502). Table 3.10 (2019). Lower Crow River impaired reach TSS total daily loading capacities and allocations. Table 3.7 (2013). Wasteload allocations for all MS4 communities that contribute directly to or are upstream of the North Fork Crow River turbidity impaired reach (07010204-503). Table 3.9 (2013). North Fork Crow River impaired reach TSS total daily loading capacities and allocations.

EXPLANATION OF MODIFICATION

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

The Minnesota Pollution Control Agency (MPCA) is making adjustments to Municipal Separate Storm Sewer Systems (MS4s) wasteload allocations (WLAs) to account for two new permittees, an additional existing permittee due to changes in its MS4 regulated area per the 2020 Decennial Census urban area with population over 50,000, and multiple other existing MS4 permittee jurisdictional boundary changes within the TMDL project area (Table 1, Figure 1 through Figure 4). The adjustments do not change the approved overall total loading capacities of the TMDLs.

This memo does not reflect any wastewater modifications, expansions or corrections, which may have affected the overall loading capacity. Wastewater permit limits are established at levels that do not contribute to impairments and wastewater treatment plant modification data are not readily available to incorporate into this modification.

Given the modification described, are there any changes to Stormwater Pollution Prevention Programs (SWPPPs) to account for the modified WLAs? When will the SWPPPS be updated?

Permitted MS4s with assigned WLAs (Table 2) will be required to account for the *E. coli* and TSS impaired Crow River and TSS impaired North Fork Crow River reaches in their SWPPPs when the MS4 General Permit is reissued.

- Delano City and Wright County MS4s will be required to submit SWPPPs when they apply for permit coverage (expected in 2027).
- Current MS4 permittees will be required to submit updated SWPPPs when they apply for permit coverage under the reissued MS4 General Permit (expected in 2026).

Table 1. Water bodies and impairments requiring modifications.

AUID	Reach Name	Impairment	TSS Baseline Year
07010204-502	Crow River	*E. coli,* TSS	2004
07010204-503	North Fork Crow River	TSS	2005

Table 2. Regulated MS4s and MS4 permit numbers within TMDL subwatersheds. Changes underlined.

Regulated MS4	MS4 Permit #	-502	-503
Hennepin County MS4	MS400138	X	
Loretto City MS4	MS400030	X	
Corcoran City MS4	MS400081	X	
Dayton City MS4	MS400083	X	
Independence City MS4	MS400095	X	
Medina City MS4	MS400105	X	
Buffalo City MS4	MS400238	X	X
Monticello City MS4	MS400242	X	
Otsego City MS4	MS400243	X	
St Michael City MS4	MS400246	X	X
MnDOT Metro District MS4	MS400170	X	
Litchfield City MS4	MS400253	X	X
Albertville City MS4	MS400281	X	
Rogers City MS4	MS400282	X	
Hanover City MS4	MS400286	X	
Delano City MS4	MS400332*	X	X
MnDOT Outstate District MS4	MS400180	X	
Wright County MS4	MS400164*	X	

*proposed permit number

Explanation of modifications:

- There are two newly regulated MS4s: Delano City (proposed permit number MS400332) and Wright County (proposed permit number MS400164; Table 2).
    - When the TMDLs were approved on August 20, 2013, and modified in 2019, any stormwater contribution from Delano City was considered unregulated stormwater and were covered under the load allocations (LAs), as it was not designated as an MS4. Because it has been determined that Delano City will now be a regulated MS4 under the next MS4 General Permit, a portion of the LA is being reallocated to the WLA.
    - At the time of TMDL approval and previous modification, any stormwater contribution from Wright County was included in existing permittee's WLAs. Because it has been determined that Wright County will now be a regulated MS4 under the next MS4 General Permit, a portion of the MS4 WLA is being reallocated to WLA for the Wright County MS4.
- Since the TMDLs were approved on August 20, 2013, and modified in 2019, the regulated area for the Minnesota Department of Transportation (MnDOT) Outstate District MS4 has changed (per the 2020 Decennial Census urban area with population over 50,000). MnDOT Outstate District MS4 is being added to the TMDL for the Crow River reach (AUID 07010204-502). The MS4 WLAs are being re-distributed to account for this re-classified area.
- WLAs for MS4s named in the original TMDLs were adjusted according to current MS4 jurisdictional boundaries and regulated areas. Adjustments are LA to WLA as well as WLA to WLA.

Transfer Methodology and rates

For city and township MS4s: WLAs were calculated by multiplying the jurisdictional area within the TMDL subwatershed by the transfer rate (Table 3).

- For county and MnDOT MS4s: WLAs were calculated by multiplying regulated area per 2020 Decennial Census Urban Area with population over 50,000 within the TMDL subwatershed by the transfer rate (Table 3).
- These rates were calculated as the sum of the MS4 WLAs in the most recently approved TMDLs divided by the MS4 area.

Table 3. Transfer rates for WLA modifications.

AUID -impairment	Very high	High	Mid	Low	Dry	Units
503 -TSS	0.001668	0.000682	0.000195	0.000076	0.000054	Tons/ac/day
502 - TSS	0.001238	0.000423	0.000120	0.000047	0.000032	Tons/ac/day
502 - E. coli	0.005608	0.003197	0.001666	0.000528	0.000158	Billions org/ac/day

The MPCA is proposing the following modifications:

Crow River, AUID 07010204-502

The MPCA is shifting between 2 and 47 billion organisms/day of *E. coli* among all MS4s depending on the flow zone from the Lower Crow River LAs to the MS4 permittees' WLAs (Modified Table 2.7; Modified Table 2.8).

Crow River, AUID 07010204-502

The MPCA is shifting between 0.3 and 10.4 tons/day of TSS among all MS4s depending on the flow zone from the Lower Crow Impaired Reach Watershed LAs to the MS4 permittees' WLAs (Modified Table 3.8; Modified Table 3.10).

North Fork Crow River, AUID 07010204-503

The MPCA is shifting between 0.1 and 2.0 tons/day of TSS among all MS4s, depending on the flow zone from the NFC Impaired Reach Watershed LAs to the MS4 permittees' WLAs (Modified Table 3.7; Modified Table 3.9).

MAPS

Figure 1. Crow River (AUID 07010204-502) *E. coli* and TSS TMDL Subwatershed and regulated MS4 areas.

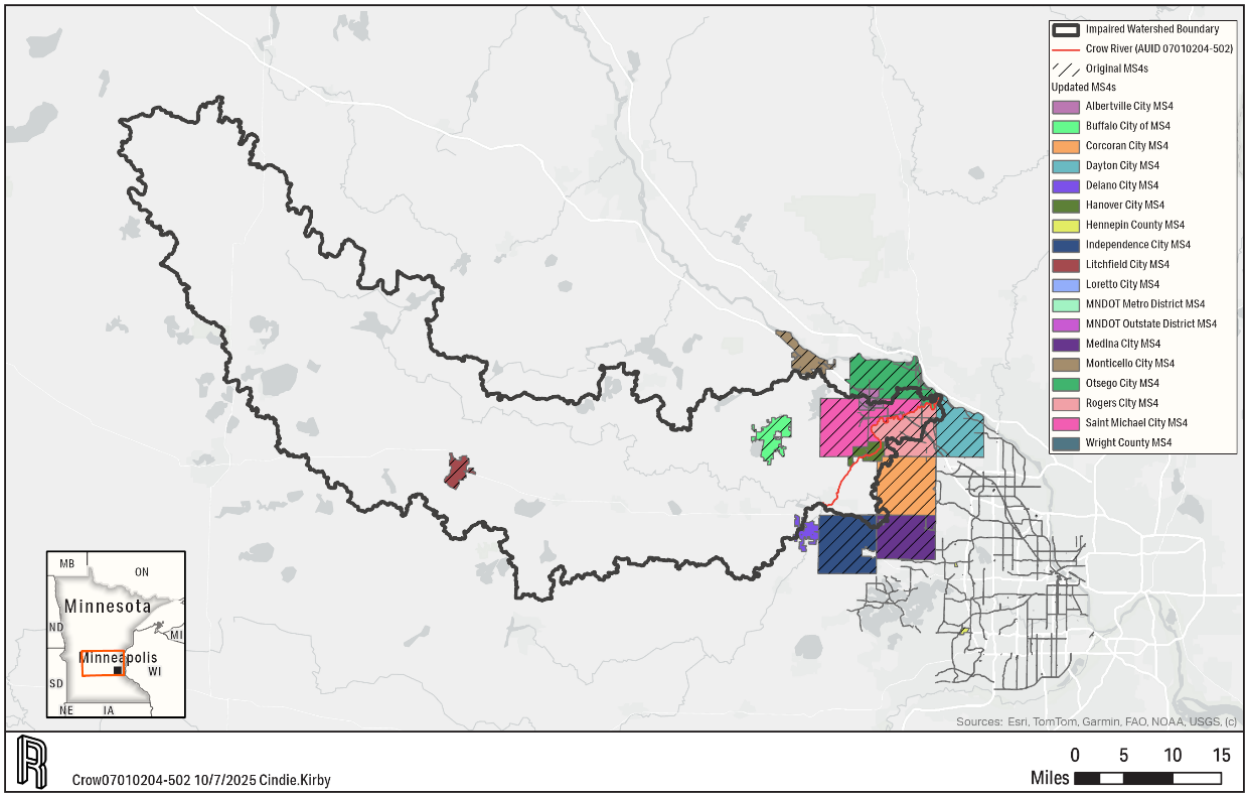


Figure 2. Magnified Crow River (AUID 07010204-502) *E. coli* and TSS TMDL Subwatershed and regulated MS4 areas.

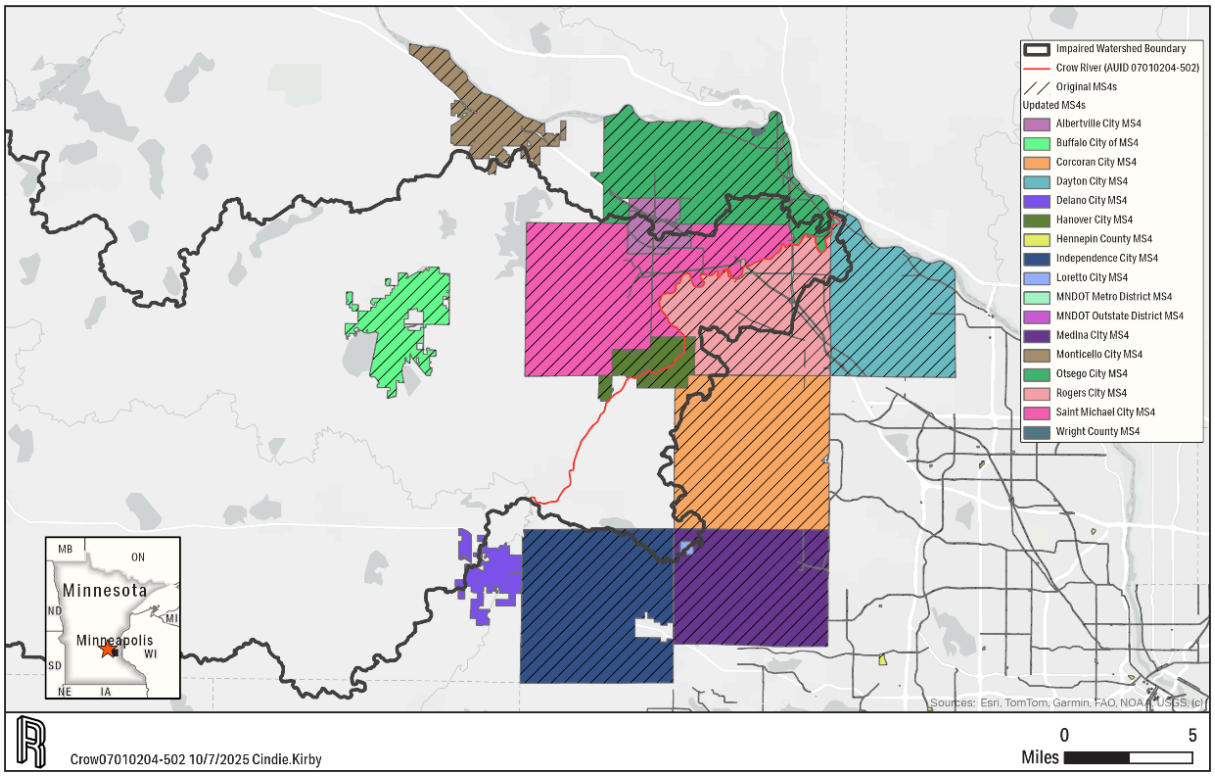


Figure 3. North Fork Crow River (AUID 07010204-503) TSS TMDL Subwatershed and regulated MS4 areas.

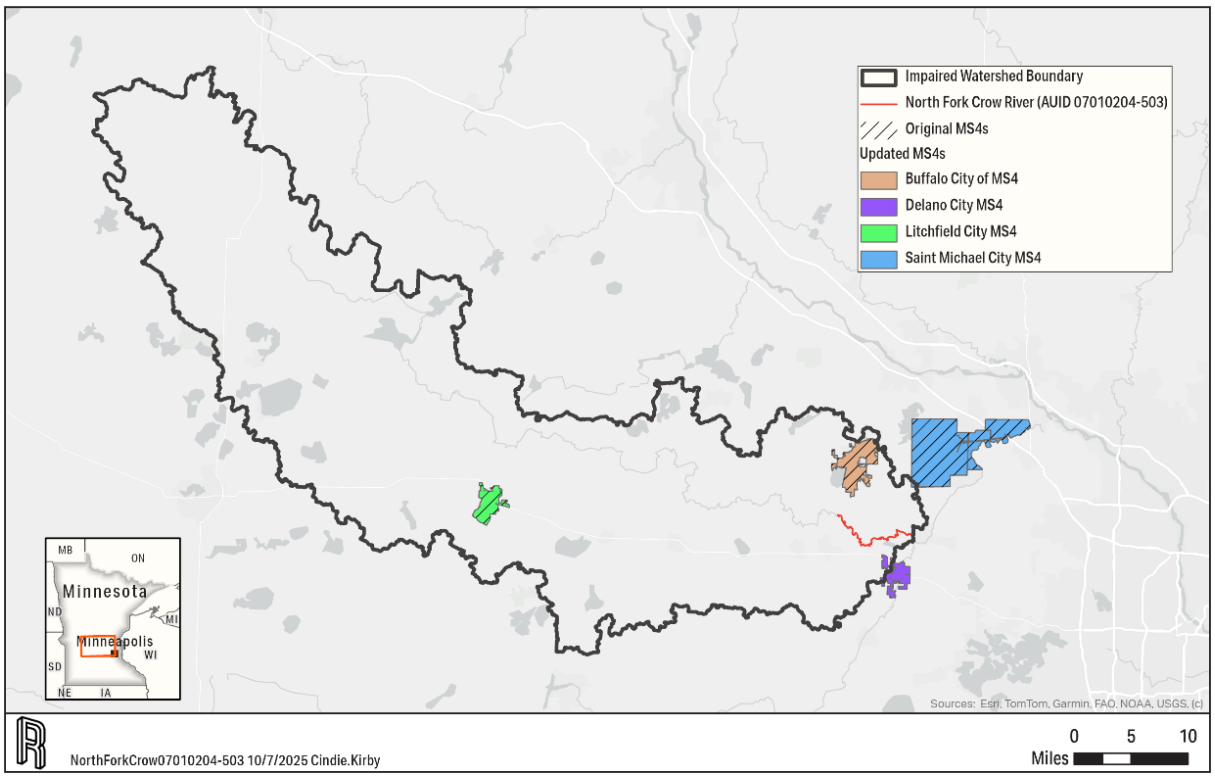
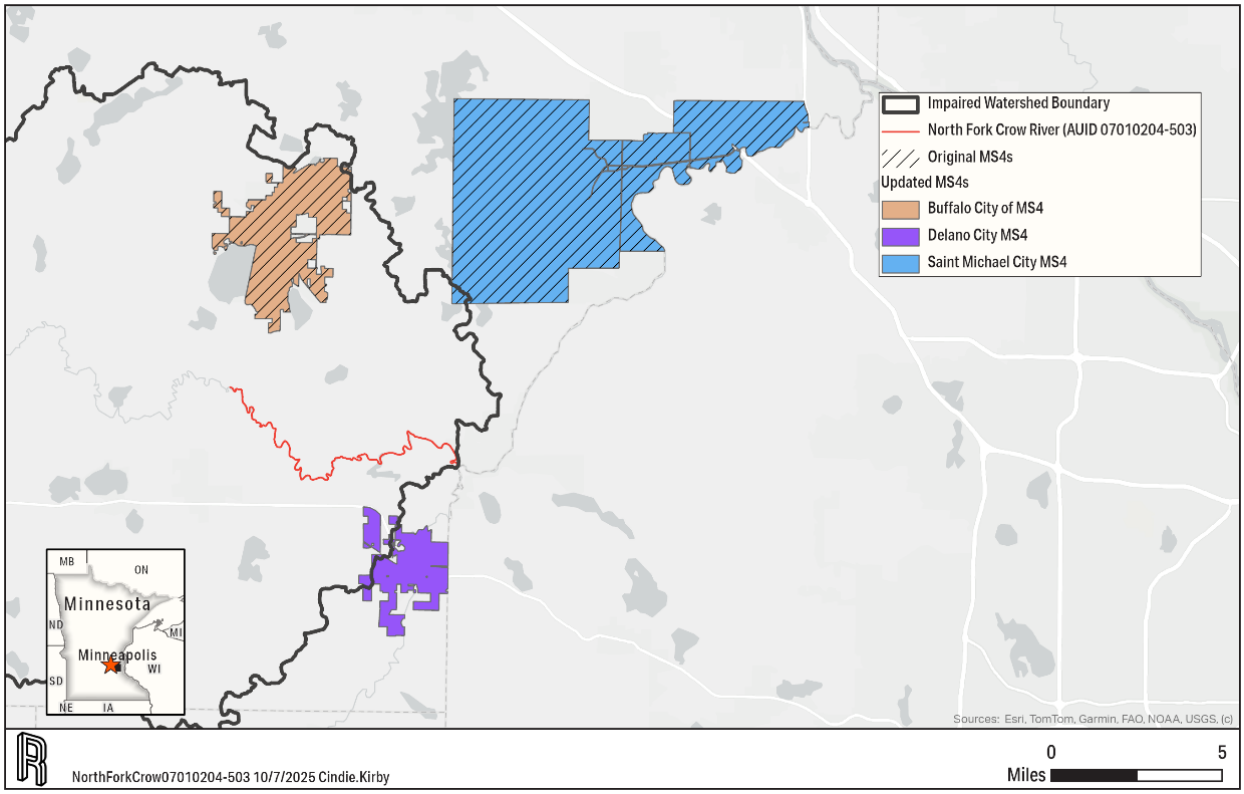


Figure 4. Magnified North Fork Crow River (AUID 07010204-503) TSS TMDL Subwatershed and regulated MS4 areas.



TABLES

Table 2.7 (2019). Summary of Permitted MS4s in the Lower Crow River Watershed (Page 4 of 2019 modification).

MS4	Permit #	Area (acres)	*E. coli* Allocation (billions organisms/day)				
			Very High	High	Mid	Low	Dry
Hennepin County MS4	MS 400138	52	0.3	0.2	0.1	<0.1	<0.1
Loretto City MS4	MS 400030	95	0.5	0.3	0.2	<0.1	<0.1
Corcoran City MS4	MS 400081	1,211	6.8	3.9	2.0	0.6	0.2
Dayton City MS4	MS 400083	754	4.2	2.4	1.3	0.4	0.1
Independence City MS4	MS 400095	2,182	12.2	7.0	3.6	1.2	0.3
Medina City MS4	MS 400105	425	2.4	1.4	0.7	0.2	<0.1
Buffalo City MS4	MS 400242	5,706	32.0	18.2	9.5	3.0	0.9
Monticello City MS4	MS 400242	76	0.4	0.2	0.1	<0.1	<0.1
Otsego City MS4	MS 400243	2,709	15.2	8.7	4.5	1.4	0.4
St Michael City MS4	MS 400246	22,927	128.6	73.2	38.2	12.1	3.6
MNDOT Metro District MS4	MS 400170	52	0.3	0.2	<0.1	<0.1	<0.1
Litchfield City MS4	MS400253	3,435	19.3	11.0	5.7	1.8	0.5
Albertville City	MS4000281	1,486	8.3	4.8	2.5	0.8	0.2
Rogers City	MS400282	2,071	11.6	6.6	3.5	1.1	0.3
Hanover City MS4	MS400286	3,577	20.1	11.4	6.0	1.9	0.6
2019 Modified MS4 Totals	--	**46,758**	**262.2**	**149.5**	**77.9**	**24.7**	**7.4**

Modified Table 2.7. Summary of Permitted MS4s in the Lower Crow River Watershed (modifications highlighted in yellow).

MS4	Permit #	Area (acres)	*E. coli* Allocation (billions organisms/day)				
			Very High	High	Mid	Low	Dry
Hennepin County MS4	MS400138	75	0.42	0.24	0.12	0.04	0.01
Loretto City MS4	MS400030	98	0.55	0.31	0.16	0.05	0.02
Corcoran City MS4	MS400081	1,323	7.42	4.23	2.20	0.70	0.21
Dayton City MS4	MS400083	860	4.82	2.75	1.43	0.45	0.14
Independence City MS4	MS400095	1,062	5.95	3.39	1.77	0.56	0.17
Medina City MS4	MS400105	462	2.59	1.48	0.77	0.24	0.07
Buffalo City MS4	MS400242	6,294	35.29	20.12	10.49	3.32	1.00
Monticello City MS4	MS400242	175	0.98	0.56	0.29	0.09	0.03
Otsego City MS4	MS400243	2,585	14.50	8.26	4.31	1.37	0.41
St Michael City MS4	MS400246	22,834	128.04	73.01	38.04	12.06	3.61
MNDOT Metro District MS4	MS400170	181	1.02	0.58	0.30	0.10	0.03
Litchfield City MS4	MS400253	3,502	19.64	11.20	5.84	1.85	0.55
Albertville City	MS400028 1	1,415	7.93	4.52	2.36	0.75	0.22
Rogers City	MS400282	9,931	55.69	31.75	16.55	5.25	1.57
Hanover City MS4	MS400286	3,541	19.85	11.32	5.90	1.87	0.56
Delano City MS4	TBD	524	2.94	1.68	0.87	0.28	0.08
MNDOT Outstate District MS4	MS400180	96	0.54	0.31	0.16	0.05	0.02
Wright County MS4	TBD	201	1.12	0.64	0.33	0.11	0.03
2025 Modified MS4 Totals	--	**55,159**	**309.31**	**176.36**	**91.90**	**29.14**	**8.73**

Table 2.8 (2019). Lower Crow *E. coli* impaired reach TMDL load allocations for each flow zone (pg. 6 of 2019 modification).

Crow River 07010204-502		Flow Zones				
		Very High	High	Mid-Range	Low	Dry
		E. Coli Load (billions of organisms/day)				
Total Daily Loading Capacity		13,671	7,784	4,061	1,290	383
Margin of Safety (MOS)		1,367	778	406	129	38
Upstream Boundary Condition (S Fork Crow River)		5,602	3,190	1,664	528	157
Wasteload Allocations	NPDES Wastewater Dischargers	109	109	109	109	109
	MS4 Communities	262	150	78	25	7
Load allocation	N Fork Crow River	5,758	3,236	1,641	454	65
	Lower Crow River	573	321	163	45	7

Modified Table 2.8. Lower Crow *E. coli* impaired reach TMDL load allocations for each flow zone (modifications highlighted in yellow).

Crow River 07010204-502		Flow Zones				
		Very High	High	Mid-Range	Low	Dry
		E. Coli Load (billions of organisms/day)				
Total Daily Loading Capacity		13,671	7,784	4,061	1,290	383
Margin of Safety (MOS)		1,367	778	406	129	38
Upstream Boundary Condition (S Fork Crow River)		5,602	3,190	1,664	528	157
Wasteload Allocations	NPDES Wastewater Dischargers	109	109	109	109	109
	MS4 Communities*	309	176	92	29	9
Load Allocation	N Fork Crow River	5,758	3,236	1,641	454	65
	Lower Crow River	526	295	149	41	5

*MS4 WLA values from Table 2.7 are rounded in this table

Table 3.8 (2019). Wasteload allocations for all MS4 communities that contribute directly to or are upstream of the Lower Crow River turbidity impaired reach (07010204-502) (pg. 7 of 2019 modification).

MS4	Permit #	Area (acres)	TSS Allocation (tons/day)				
			Very High	High	Mid	Low	Dry
Hennepin County MS4	MS 400138	52	<0.1	<0.1	<0.1	<0.1	<0.1
Loretto City MS4	MS 400030	95	0.1	<0.1	<0.1	<0.1	<0.1
Corcoran City MS4	MS 400081	1,211	1.5	0.5	0.1	<0.1	<0.1
Dayton City MS4	MS 400083	754	0.9	0.3	<0.1	<0.1	<0.1
Independence City MS4	MS 400095	2,182	2.7	0.9	0.3	0.1	<0.1
Medina City MS4	MS 400105	425	0.5	0.2	<0.1	<0.1	<0.1
Buffalo City MS4	MS 400242	5,706	7.1	2.4	0.7	0.3	0.2
Monticello City MS4	MS 400242	76	<0.1	<0.1	<0.1	<0.1	<0.1
Otsego City MS4	MS 400243	2,709	3.4	1.1	0.3	0.1	<0.1
St Michael City MS4	MS 400246	22,927	28.4	9.7	2.8	1.1	0.7
MNDOT Metro District MS4	MS 400170	52	<0.1	<0.1	<0.1	<0.1	<0.1
Litchfield City MS4	MS400253	3,435	4.3	1.5	0.4	0.2	0.1
Albertville City	MS400281	1,486	1.8	0.6	0.2	<0.1	<0.1
Rogers City	MS400282	2,071	2.6	0.9	0.3	<0.1	<0.1
Hanover City MS4	MS400286	3,577	4.4	1.5	0.4	0.2	0.1
2019 Modified MS4 Totals	--	**46,758**	**57.9**	**19.8**	**5.6**	**2.2**	**1.5**

Modified Table 3.8. Wasteload allocations for all MS4 communities that contribute directly to or are upstream of the Lower Crow River turbidity impaired reach (07010204-502) (modifications highlighted in yellow).

MS4	Permit #	Area (acres)	TSS Allocation (tons/day)				
			Very High	High	Mid	Low	Dry
Hennepin County MS4	MS400138	75	0.09	0.03	0.01	<0.01	<0.01
Loretto City MS4	MS400030	98	0.12	0.04	0.01	<0.01	<0.01
Corcoran City MS4	MS400081	1,323	1.64	0.56	0.16	0.06	0.04
Dayton City MS4	MS400083	860	1.07	0.36	0.10	0.04	0.03
Independence City MS4	MS400095	1,062	1.31	0.45	0.13	0.05	0.03
Medina City MS4	MS400105	462	0.57	0.20	0.06	0.02	0.01
Buffalo City MS4	MS400238	6,294	7.79	2.67	0.75	0.30	0.20
Monticello City MS4	MS400242	175	0.22	0.07	0.02	0.01	0.01
Otsego City MS4	MS400243	2,585	3.20	1.09	0.31	0.12	0.08
St Michael City MS4	MS400246	22,834	28.27	9.67	2.73	1.07	0.73
MNDOT Metro District MS4	MS400170	181	0.22	0.08	0.02	0.01	0.01
Litchfield City MS4	MS400253	3,502	4.34	1.48	0.42	0.16	0.11
Albertville City MS4	MS400281	1,415	1.75	0.60	0.17	0.07	0.05
Rogers City MS4	MS400282	9,931	12.30	4.21	1.19	0.47	0.32
Hanover City MS4	MS400286	3,541	4.38	1.50	0.42	0.17	0.11
Delano City MS4	TBD	524	0.65	0.22	0.06	0.02	0.02
MNDOT Outstate District MS4	MS400180	96	0.12	0.04	0.01	<0.01	<0.01
Wright County MS4	TBD	201	0.25	0.08	0.02	0.01	0.01
2025 Modified MS4 Totals	--	**55,159**	**68.30**	**23.36**	**6.61**	**2.60**	**1.77**

Table 3.10 (2019). Lower Crow River impaired reach TSS total daily loading capacities and allocations (Page 9 of 2019 modification).

Crow River 07010204-502		Flow Zones				
		Very High	High	Mid-Range	Low	Dry
		TSS Load (tons/day)				
Total Daily Loading Capacity		763.1	273.5	75.6	29.3	19.3
Margin of Safety (MOS)		22.9	20.9	3.4	1.3	0.4
Boundary Condition (S Fork Crow River)		337.1	115.0	32.9	12.7	8.6
Wasteload Allocations	NPDES Wastewater Dischargers	3.4	3.4	3.4	3.4	3.4
	MS4 Communities	57.9	19.8	5.6	2.2	1.5
	Construction Stormwater	4.0	1.4	0.4	0.2	0.1
	Industrial Stormwater	2.0	0.7	0.2	0.1	0.1
Load Allocation	NFC Watershed Upstream of Impaired Reach	308.4	103.2	27.3	8.7	4.8
	Lower Crow Impaired Reach Watershed	27.4	9.1	2.4	0.7	0.4

Modified Table 3.10. Lower Crow River impaired reach TSS total daily loading capacities and allocations (modifications highlighted in yellow).

Crow River 07010204-502		Flow Zones				
		Very High	High	Mid-Range	Low	Dry
		TSS Load (tons/day)				
Total Daily Loading Capacity		763.1	273.5	75.6	29.3	19.3
Margin of Safety (MOS)		22.9	20.9	3.4	1.3	0.4
Boundary Condition (S Fork Crow River)		337.1	115.0	32.9	12.7	8.6
Wasteload Allocations	NPDES Wastewater Dischargers	3.4	3.4	3.4	3.4	3.4
	MS4 Communities*	68.3	23.4	6.6	2.6	1.8
	Construction Stormwater	4.0	1.4	0.4	0.2	0.1
	Industrial Stormwater	2.0	0.7	0.2	0.1	0.1
Load Allocation	NFC Watershed Upstream of Impaired Reach	308.4	103.2	27.3	8.7	4.8
	Lower Crow Impaired Reach Watershed	17.0	5.5	1.4	0.3	0.1

*MS4 WLA values from Table 3.7 are rounded in this table

Table 3.7 (2013). Wasteload allocations for all MS4 communities that contribute directly to or are upstream of the North Fork Crow River turbidity impaired reach (07010204-503) (Page 3-11 of TMDL report).

MS4	Area (acres)	TSS Allocation (tons/day)				
		Very High	High	Mid	Low	Dry
Buffalo City MS4	5,675	9.5	3.9	1.1	0.4	0.3
St Michael City MS4	122	0.2	<0.1	<0.1	<0.1	<0.1
Litchfield City MS4	3,435	5.7	2.3	0.7	0.3	0.2
MS4 Totals	**9,232**	**15.4**	**6.3**	**1.8**	**0.7**	**0.5**

Modified Table 3.7. Wasteload allocations for all MS4 communities that contribute directly to or are upstream of the North Fork Crow River turbidity impaired reach (07010204-503) (modifications highlighted in yellow).

MS4	Area (acres)	TSS Allocation (tons/day)				
		Very High	High	Mid	Low	Dry
Buffalo City MS4	6,261	10.44	4.27	1.22	0.47	0.34
St Michael City MS4	122	0.20	0.08	0.02	0.01	0.01
Litchfield City MS4	3,502	5.84	2.39	0.68	0.27	0.19
Delano City MS4	524	0.87	0.36	0.10	0.04	0.03
MS4 Totals	**10,409**	**17.36**	**7.10**	**2.03**	**0.79**	**0.56**

Original Table 3.9 (2013). North Fork Crow River impaired reach TSS total daily loading capacities and allocations (pg. 3-13 of TMDL report).

North Fork Crow River 07010204-503		Flow Zones				
		Very High	High	Mid-Range	Low	Dry
		TSS Load (tons/day)				
Total Daily Loading Capacity		362.3	158.3	43.8	17.0	10.5
Margin of Safety (MOS)		3.8	12.1	2.0	0.7	0.2
Wasteload Allocations	NPDES Wastewater Dischargers	2.8	2.8	2.8	2.8	2.8
	MS4 Communities	15.4	6.3	1.8	0.7	0.5
	Construction Stormwater	3.6	1.5	0.4	0.2	0.1
	Industrial Stormwater	1.8	0.7	0.2	0.1	0.1
Load allocation	NFC Watershed Upstream of Impaired Reach	297.3	119.7	32.5	11.1	6.0
	NFC Impaired Reach Watershed	37.6	15.2	4.1	1.4	0.8

Modified Table 3.9. North Fork Crow River impaired reach TSS total daily loading capacities and allocations (modifications highlighted in yellow).

North Fork Crow River 07010204-503		Flow Zones				
		Very High	High	Mid-Range	Low	Dry
		TSS Load (tons/day)				
Total Daily Loading Capacity		362.3	158.3	43.8	17.0	10.5
Margin of Safety (MOS)		3.8	12.1	2.0	0.7	0.2
Wasteload Allocations	NPDES Wastewater Dischargers	2.8	2.8	2.8	2.8	2.8
	MS4 Communities*	17.4	7.1	2.0	0.8	0.6
	Construction Stormwater	3.6	1.5	0.4	0.2	0.1
	Industrial Stormwater	1.8	0.7	0.2	0.1	0.1
Load allocation	NFC Watershed Upstream of Impaired Reach	297.3	119.7	32.5	11.1	6.0
	NFC Impaired Reach Watershed	35.6	14.4	3.9	1.3	0.7

*MS4 WLA values from Table 3.7 are rounded in this table

Reasonable Assurance

The MPCA is responsible for applying federal and state regulations to protect and enhance water quality in Minnesota. The MPCA oversees stormwater management accounting activities for all permitted MS4 entities listed in this TMDL modification. The MS4 General Permit requires regulated municipalities to implement best management practices (BMPs) that reduce pollutants in stormwater to the maximum extent practicable. A critical component of permit compliance is the requirement for the owners or operators of a permitted MS4 conveyance to develop a SWPPP. The SWPPP addresses all permit requirements, including the following six measures:

- Public education and outreach
- Public participation
- Illicit discharge detection and elimination program
- Construction site runoff controls
- Post-construction runoff controls
- Pollution prevention and municipal good housekeeping measures

A SWPPP is a management plan that describes the MS4 permittee's activities for managing stormwater within their regulated area. The TMDL report and this modification assign WLAs to permitted MS4s in the study area. The MS4 permit requires applicants to submit information at the time of application on applicable WLAs. They must document how they will make progress on performance-based WLAs (bacteria, chloride, temperature), demonstrate they are currently meeting their numerical WLAs (oxygen demand, nitrate, total phosphorus [TP], or total suspended solids [TSS]), or develop a compliance schedule for those numerical WLAs that are not being met. A compliance schedule includes BMPs that will be implemented over the permit term, a timeline for their implementation, and a long-term strategy for continuing progress towards assigned WLAs. The MPCA requires MS4 owners or operators to submit their application and corresponding SWPPP document to the MPCA for review. Once the application and SWPPP are deemed complete by the MPCA, all application materials are placed on 30-day public notice, allowing the public an opportunity to review and comment on the prospective program.

Progress on BMP implementation must be reported annually. For WLAs being met at the time of permit application, the same level of treatment must be maintained in the future. Regardless of WLA attainment, all permitted MS4s are still required to reduce pollutant loadings to the maximum extent practicable.

The MPCA's stormwater program and its National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit program are regulatory activities providing reasonable assurance that implementation activities are initiated, maintained, and consistent with WLAs assigned in this study.

Several nonpermitted reduction programs exist to support implementation of nonpoint source reduction BMPs in the North Fork Crow Watershed. Per the spending for water quality implementation projects website (data compiled by MPCA: Spending for water quality implementation projects), over 148 million dollars in state and federal grants, loans, local government and landowner cost share match

have been spent on nonpoint source projects in the watershed since 2004. Efforts to reduce nonpoint source pollution loading will continue.

Implementation

This TMDL modification assigns an applicable TSS and *E. coli* WLA to Delano City MS4, Wright County MS4 and MnDOT Outstate MS4. This will result in permit requirements for them. Small adjustments were made to WLAs for the other MS4 permittees listed in Table 2, which should not significantly impact WLA determinations in their future MS4 General Permit applications. The target loading rate for both reaches is 135 lbs/ac/yr TSS. The annual flow corrected TSS target concentration is 71.3 mg/L TSS. Permittees can reference the Stormwater Manual for more information: Total Suspended Solids (TSS) in stormwater | Minnesota Stormwater Manual and Making WLA determinations | Minnesota Stormwater Manual.

The MS4 General Permit has instituted performance-based requirements for MS4s with *E. coli* or fecal coliform WLAs requiring reductions. If future permit requirements remain the same, MS4s are expected to inventory potential *E. coli* or fecal coliform sources and prioritize reduction activities that address the identified sources. All of the MS4s named in Table 2 have *E. coli* WLAs requiring reductions in this TMDL. All of the current MS4s had previous *E. coli* WLAs, so this modification will not result in additional permit requirements. Delano and Wright County MS4 do not have prior *E. coli* or fecal coliform WLAs, so this modification will result in additional permit requirements. Further information and up to date guidance can be found at Guidance for meeting bacteria TMDL MS4 permit requirements - Minnesota Stormwater Manual (state.mn.us).

Prior to implementation, permitted MS4s are encouraged to compare their sewersheds (e.g., catchments, pipesheds, etc.) with the drainage areas for each impaired water body to ensure appropriate BMP crediting. If a permitted MS4 sewershed is different from what is defined as the drainage area in this report, the sewershed should be considered part of the MS4 contribution to the impaired water if sufficient evidence of the appropriate sewershed area is provided to the MPCA. With Agency approval, any wasteload-reducing BMP implemented since the TMDL baseline year within the sewershed will be creditable towards an MS4's load reduction for purposes of annual reporting and demonstrating progress towards meeting the WLA(s).

Projects undertaken recently may take a few years to influence water quality. Any wasteload-reducing BMP implemented after the baseline year (Table 1) will be creditable toward the MS4's load reductions. If a BMP was implemented during or just prior to the baseline year, the MPCA is open to presentation of evidence by the MS4 permit holder to demonstrate that it should be considered as a credit.