2026 Modification to North Fork Crow River Watershed Total Maximum Daily Load Report 2023

GENERAL INFORMATION

TMDL project name	North Fork Crow River Watershed Total Maximum Daily Load Report 2023
Date of original EPA TMDL approval	May 15, 2023
TMDL Modification Public Notice Dates	February 9, 2026 - March 12, 2026
TMDL Assessment Unit Identification (AUID) and pollutants that require modification	07010204-502 – total phosphorus (TP) 07010204-503 – Escherichia Coli (*E. coli),* Total Phosphorus (TP) 07010204-542 – Total Phosphorus (TP)
TMDL tables being modified	Table 9. Percentage of drainage areas covered by MS4 in impairment watersheds. Table 48. TP Allocation for Crow River, S Fk Crow to Mississippi River (WID 07010204-502). Table 37. *E. coli* Allocations for the Crow River, North Fork, Mill Cr to S Fk Crow R (WID 07010204-503). Table 46. TP Allocations for the Crow River, North Fork, Mill Cr to S Fk Crow R (WID 07010204-503). Table 47. TP Allocations for Unnamed creek (Regal Creek), Unnamed Creek to Crow River (WID 07010204-542).

EXPLANATION OF MODIFICATION

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 Municipal Separate Storm Sewer Systems (MS4s) wasteload allocations (WLAs) to account for two new permittees and multiple other existing MS4 permittee jurisdictional boundary changes within the TMDL project area. The adjustments will 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 *E. coli* 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 TP impaired Crow River reach, *E. coli* and TP impaired North Fork Crow River reach, and TP impaired Regal Creek reach (Table 1) 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 re-issued MS4 General Permit (expected in 2026).

Table 1. Water bodies and impairments requiring modifications.

AUID	Reach/ Water body name	Impairment	Baseline year
07010204-502	Crow River	TP	2013
07010204-503	North Fork Crow River	*E. coli*, TP	2013
07010204-542	Regal Creek	TP	2013

Table 2. Regulated MS4s and MS4 permit numbers within TMDL subwatersheds. Additions underlined, removals struck through.

Regulated MS4	MS4 Permit #	TMDL Subwatershed		
		-502	-503	-542
Loretto City	MS400030	X		
Corcoran City	MS400081	X		
Dayton City	MS400083	X		
Independence City	MS400095	X		
Medina City	MS400105	X		
Buffalo City	MS400238	X	X	X
Monticello City	MS400242	X		X
Otsego City	MS400243	X		X
St Michael City	MS400243	X	X	X
Litchfield City	MS400253	X	X	
Albertville City	MS400281	X		X
Hanover City	MS400286	X		
Rogers City	MS400282	X		
MNDOT Metro District	MS400170	X		
MNDOT Outstate District	MS400180	X		X
Hennepin County	MS400138	X		
Delano City MS4	MS400332*	X	X	
Wright County MS4	MS400164*	X		X

*proposed permit numbers

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 May 15, 2023, 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, 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.

- Both the regulated area and the division between the Minnesota Department of Transportation (MnDOT) MS4 Districts has been updated since the TMDLs were approved on May 15, 2023. 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. Adjustments are LA to WLA as well as WLA to WLA.

Transfer Methodology

- 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 divided by the MS4 area.

Table 3. Transfer rates for WLA modifications.

AUID -impairment	Transfer Rate per Flow Regime					Units
	Very High	High	Mid-Range	Low	Very Low	
503 - *E. coli*	0.008463	0.003581	0.001513	0.0005255	0.0001457	Billions org/ac/day
503 - TP	0.000384					lbs/ac/day
502 - TP	0.000220					lbs/ac/day
542 - TP	0.000266					lbs/ac/day

The MPCA is proposing the following modifications:

Crow River, AUID 07010204-502

The MPCA is shifting 0.27 pounds/day of TP amongst all MS4s from the LA to the MS4 permittees' WLAs (Modified Table 48).

North Fork Crow River, AUID 07010204-503

The MPCA is shifting between 0.17 and 9.66 billions of organisms/day of *E. coli* amongst all MS4s depending on the flow zone from the LA to the MS4 permittees' WLAs (Modified Table 2.5; Modified Table 37).

North Fork Crow River, AUID 07010204-503

The MPCA is shifting 0.44 pounds/day of TP amongst all MS4s from the LA to the MS4 permittees' WLAs (Modified Table 46).

Regal Creek, AUID 07010204-542

The MPCA is shifting 0.027 pounds/day of TP amongst all MS4s from the LA to the MS4 permittees' WLAs (Modified Table 47).

MAPS

Figure 1. Crow River (AUID 07010204-502) TP TMDL Subwatershed and regulated MS4 areas.

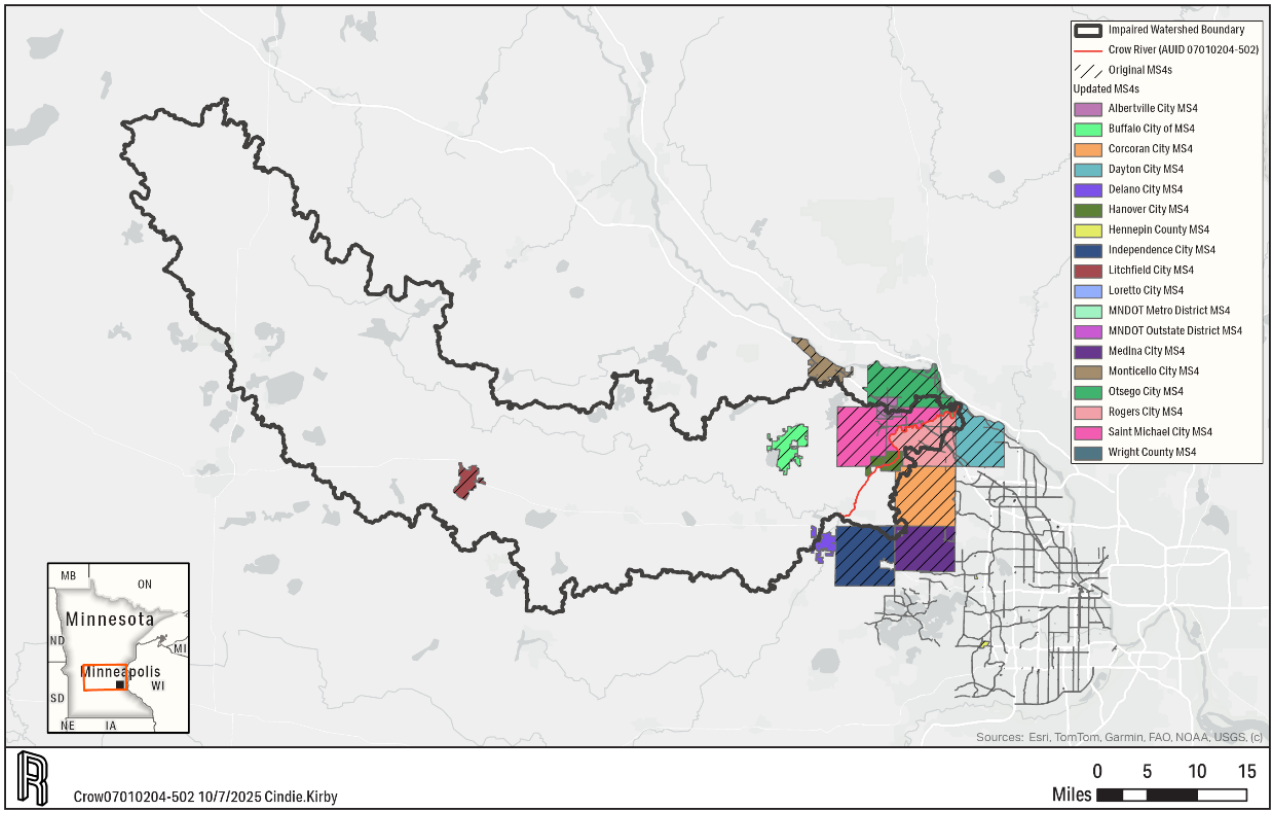


Figure 2. Magnified Crow River (AUID 07010204-502) TP TMDL Subwatershed and regulated MS4 areas.

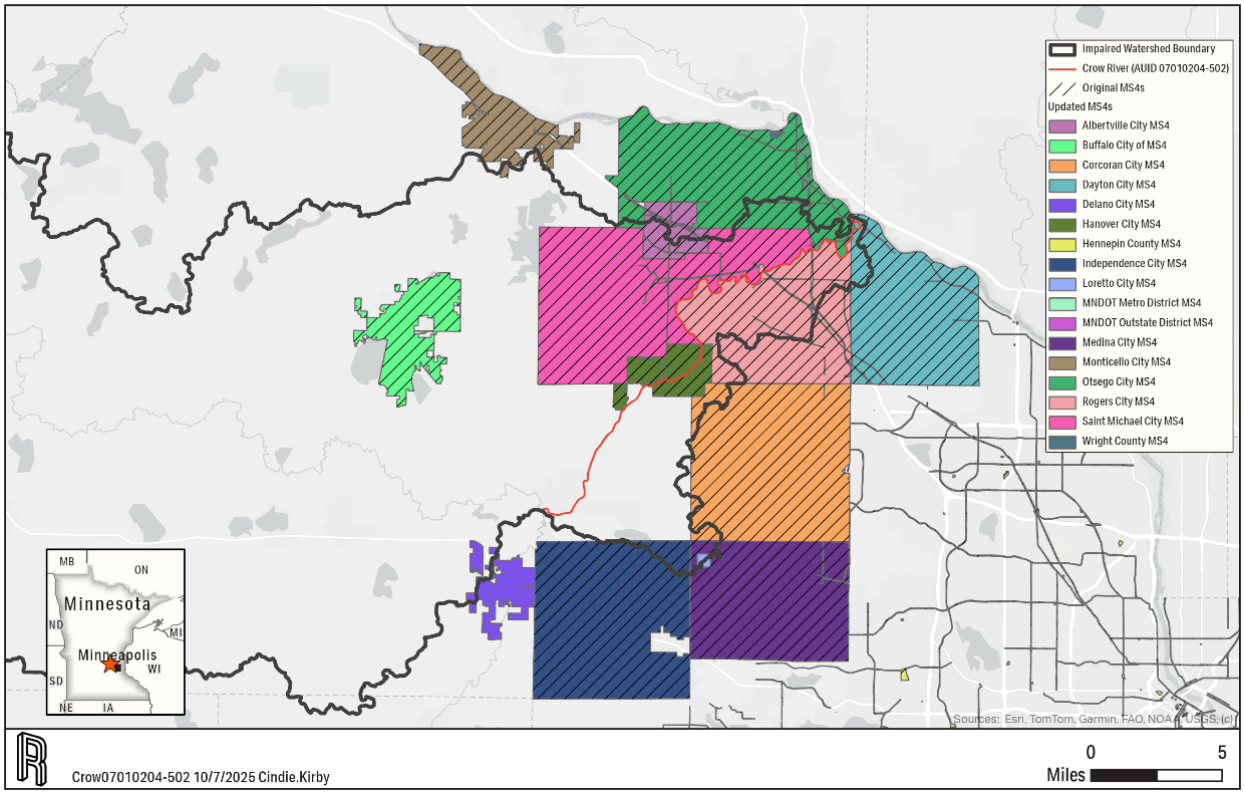


Figure 3. North Fork Crow River (AUID 07010204-503) *E. coli* and TP TMDL Subwatershed and regulated MS4 areas.

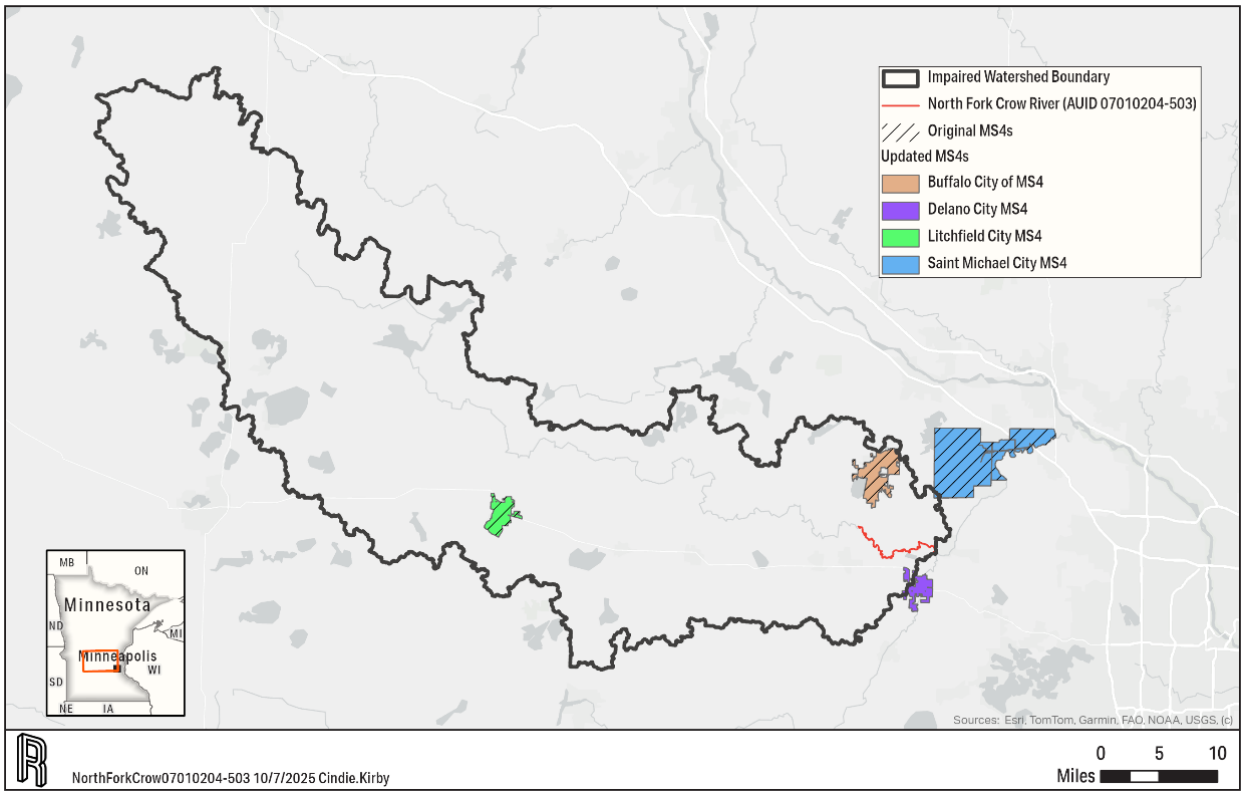


Figure 4. Magnified North Fork Crow River (AUID 07010204-503) *E. coli* and TP TMDL Subwatershed and regulated MS4 areas.

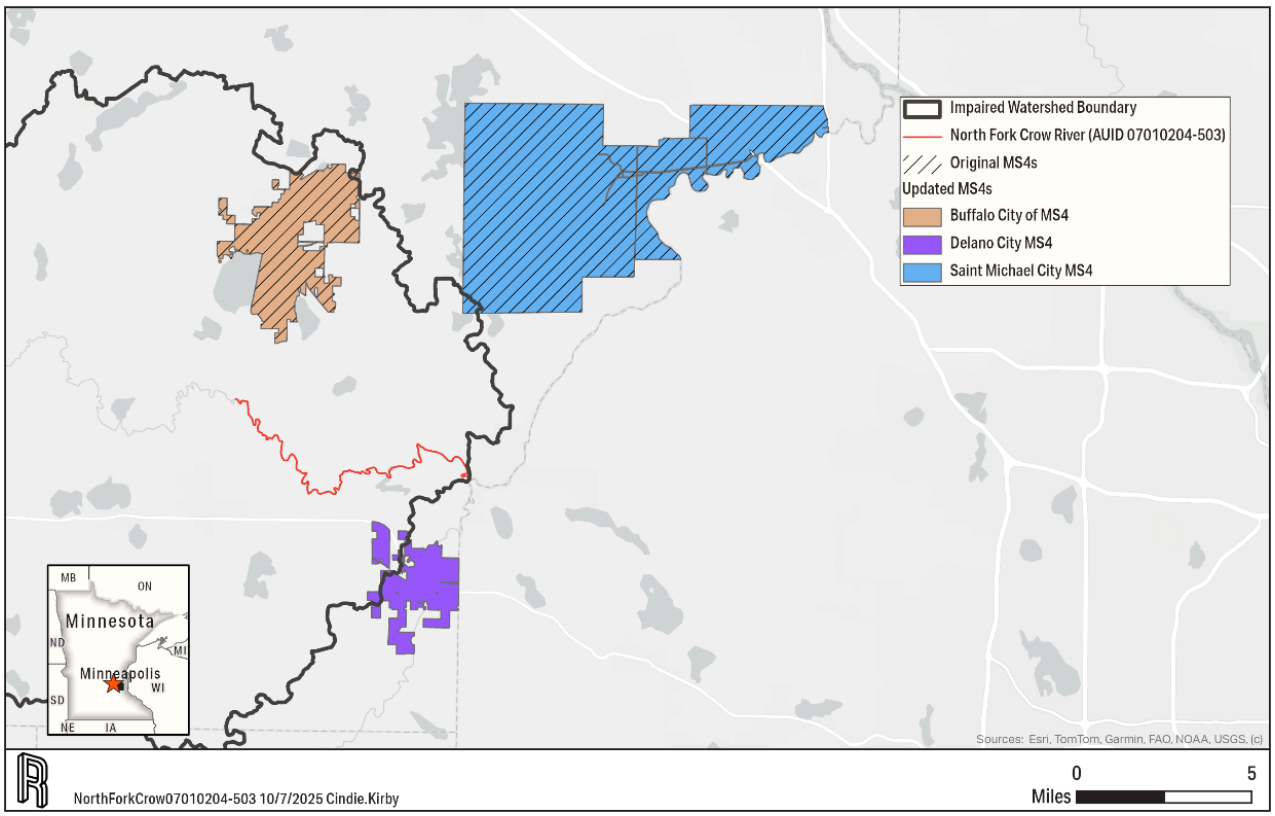
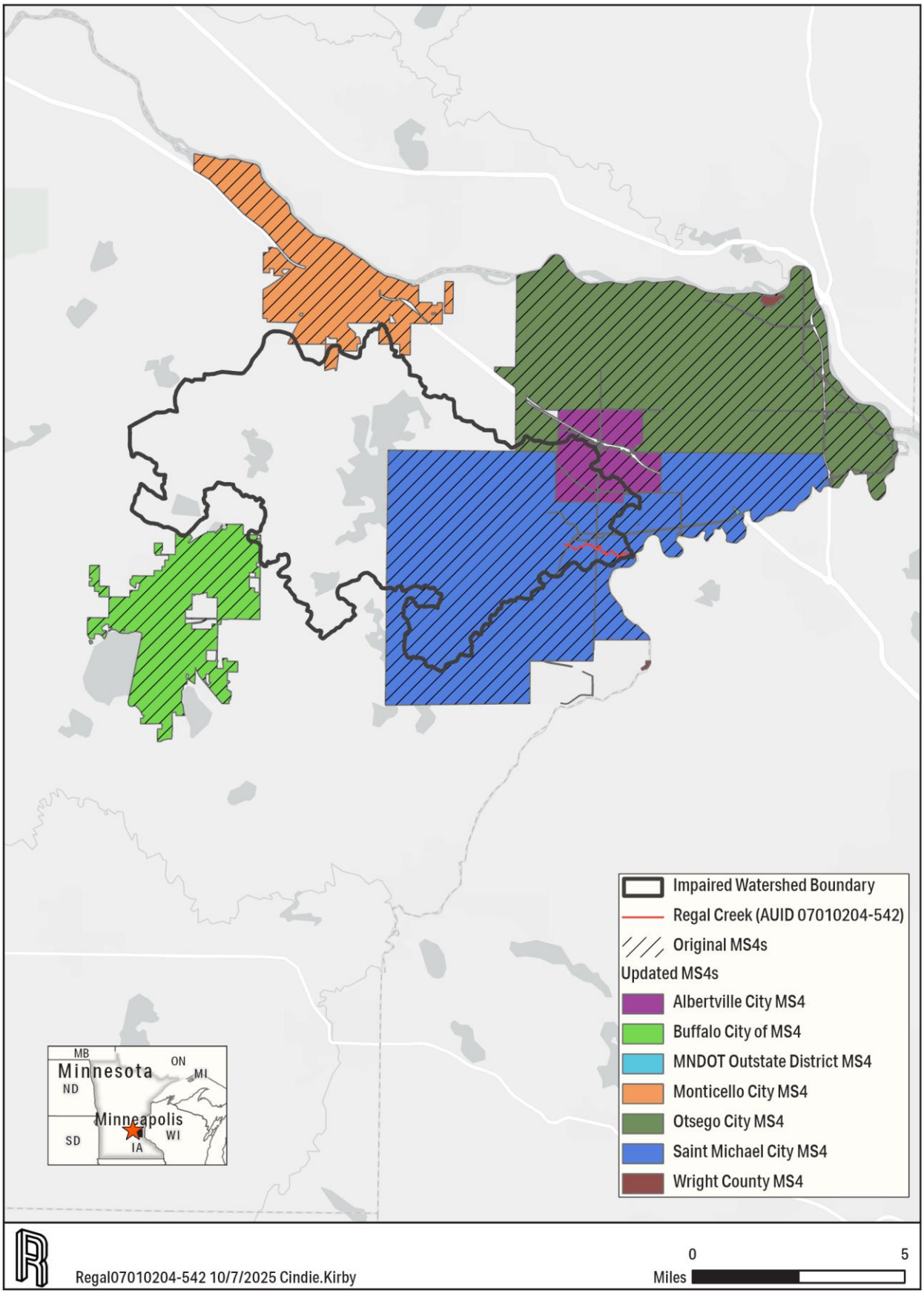


Figure 5. Regal Creek (AUID 07010204-542) TP TMDL Subwatershed and regulated MS4 areas.



TABLES

Original Table 9. Percentage of drainage areas covered by MS4 in impairment watersheds (Page 24 of TMDL report).

WID/Lake ID and pollutant	Drainage Area (sq mi)	MS4	MS4 Area[1] (sq mi)	Percentage of Drainage Area
07010204-502 Phosphorus	2,755	Loretto City	0.15	0.006%
		Corcoran City	2.07	0.075%
		Dayton City	1.34	0.049%
		Independence City	1.66	0.060%
		Medina City	0.72	0.026%
		Buffalo City	8.92	0.324%
		Monticello City	0.12	0.004%
		Otsego City	4.10	0.149%
		St Michael City	35.80	1.299%
		Litchfield City	5.37	0.195%
		Albertville City	2.29	0.083%
		Hanover City	5.59	0.203%
		Rogers City	15.58	0.565%
		MNDOT Metro District	0.23	0.0085%
		MNDOT Outstate District	0.16	0.0059%
		Hennepin County	0.11	0.004%
07010204-503 Phosphorus and *E. coli*	1,346	Buffalo City	8.92	0.663%
		Litchfield City	5.37	0.399%
		St Michael City	0.19	0.014%
07010204-542 Phosphorus	49.4	Buffalo City	0.05	0.10%
		Monticello City	0.12	0.24%
		Otsego City	0.23	0.47%
		St Michael City	18.26	36.97%
		Albertville City	1.75	3.54%
		MnDOT Metro District	0.025	0.05%

[1] MS4 areas from MPCA's MS4 boundaries GIS shapefile (MPCA 2020a)

Modified Table 9. Percentage of drainage areas covered by MS4 in impairment watersheds (modifications highlighted in yellow).

WID/Lake ID and pollutant	Drainage Area (sq mi)	MS4	MS4 Area[1] (sq mi)	Percentage of Drainage Area
07010204-502 Phosphorus	2,755	Loretto City	0.15	0.006%
		Corcoran City	2.07	0.075%
		Dayton City	1.34	0.049%
		Independence City	1.66	0.060%
		Medina City	0.72	0.026%
		Buffalo City	9.83	0.357%
		Monticello City	0.27	0.01%
		Otsego City	4.04	0.147%
		St Michael City	35.68	1.295%
		Litchfield City	5.47	0.199%
		Albertville City	2.21	0.080%
		Hanover City	5.53	0.201%
		Rogers City	15.52	0.563%
		MNDOT Metro District	0.28	0.010%
		MNDOT Outstate District	0.15	0.0054%
		Hennepin County	0.12	0.004%
		Delano City	0.82	0.030%
		Wright County	0.31	0.011%
07010204-503 Phosphorus and *E. coli*	1,346	Buffalo City	9.78	0.727%
		Litchfield City	5.47	0.407%
		St Michael City	0.19	0.014%
		Delano City	0.82	0.061%
07010204-542 Phosphorus	49.4	Buffalo City	0.05	0.10%
		Monticello City	0.27	0.55%
		Otsego City	0.23	0.47%
		St Michael City	18.19	36.84%
		Albertville City	1.68	3.41%
		MnDOT ~~Metro~~ Outstate District	0.026	0.05%
		Wright County	0.14	0.29%

[1] MS4 areas from MPCA's MS4 boundaries GIS shapefile (MPCA ~~2020a~~ 2025c)

Original Table 48. TP Allocation for Crow River, S Fk Crow to Mississippi River (WID 07010204-502) (Page 93 of TMDL report).

Phosphorus as P Listing year: 2016; Baseline year: 2013 Numeric WQ standard used: 125 µg/L		**Flow Condition-Summer Average [lbs /day]**
Wasteload Allocation	**Total WLA**	**46.58**
	Annandale/Maple Lake/Howard Lake WWTP	1.39
	Atwater WWTP	0.55
	Belgrade WWTP	2.43
	Buffalo WWTP	5.05
	Cokato WWTP	1.28
	Dassel WWTP	1.34
	Glacial Lakes SSWD	1.57
	Great River Energy Dickinson	0.37
	Greenfield WWTP	0.29
	Litchfield WWTP	3.62
	Meadows of Whisper Creek WWTP	0.20
	Met Council - Rogers WWTP	3.57
	Montrose WWTP	1.37
	Otsego East WWTP	3.66
	Rockford WWTP	1.81
	Saint Michael WWTP	5.45
	Loretto City (MS400030)[1]	0.02
	Corcoran City (MS400081)[1]	0.29
	Dayton City (MS400083)[1]	0.19
	Independence City (MS400095)[1]	0.23
	Medina City (MS400105)[1]	0.10
	Buffalo City (MS400238)[1]	1.26
	Monticello City (MS400242)[1]	0.02
	Otsego City (MS400243)[1]	0.58
	St Michael City (MS400246)[1]	5.04
	Litchfield City (MS400253)[1]	0.76
	Albertville City (MS400281)[1]	0.32
	Hanover City (MS400286)[1]	0.79
	Rogers City (MS400282)[1]	2.19
	MnDOT Metro District (MS400170)[1]	0.03
	MnDOT Outstate District (MS400180)[1]	0.02
	Hennepin County (MS400138)[1]	0.01
	Construction/Industrial Stormwater	0.78

Phosphorus as P Listing year: 2016; Baseline year: 2013 Numeric WQ standard used: 125 µg/L	Flow Condition-Summer Average [lbs /day]
Load Allocation (LA)	**299.07**
Margin of Safety (MOS)[3]	**38.81**
Reserve Capacity	**3.63**
Boundary Condition (South Fork Crow River outlet)[2]	**486.35**
Loading Capacity	**874.44**
Existing Load	**1564.16**
Estimated Load Reduction	**44.10%**

[1]MS4 areas and allocation methodology provided in Section 4.4.3; WLA based on percentage of LC minus boundary condition.
[2]Boundary condition at the outlet of South Fork Crow River, see Section 4.4.3.1 for more details. Any WLAs and MOS for South Fork Crow are encompassed in the boundary condition.
[3]MOS based on 10% of LC minus boundary condition.

Modified Table 48. TP Allocation for Crow River, S Fk Crow to Mississippi River (WID 07010204-502) (modifications highlighted in yellow).

Phosphorus as P Listing year: 2016; Baseline year: 2013 Numeric WQ standard used: 125 µg/L		Flow Condition-Summer Average [lbs /day]
Wasteload Allocation	**Total WLA**	**46.85**
	Annandale/Maple Lake/Howard Lake WWTP	1.39
	Atwater WWTP	0.55
	Belgrade WWTP	2.43
	Buffalo WWTP	5.05
	Cokato WWTP	1.28
	Dassel WWTP	1.34
	Glacial Lakes SSWD	1.57
	Great River Energy Dickinson	0.37
	Greenfield WWTP	0.29
	Litchfield WWTP	3.62
	Meadows of Whisper Creek WWTP	0.20
	Met Council - Rogers WWTP	3.57
	Montrose WWTP	1.37
	Otsego East WWTP	3.66
	Rockford WWTP	1.81
	Saint Michael WWTP	5.45
	Loretto City (MS400030)[1]	0.02
	Corcoran City (MS400081)[1]	0.29
	Dayton City (MS400083)[1]	0.19
	Independence City (MS400095)[1]	0.23
	Medina City (MS400105)[1]	0.10
	Buffalo City (MS400238)[1]	1.38

Phosphorus as P Listing year: 2016; Baseline year: 2013 Numeric WQ standard used: 125 µg/L		Flow Condition-Summer Average [lbs /day]
	Monticello City (MS400242)[1]	0.04
	Otsego City (MS400243)[1]	0.57
	St Michael City (MS400246)[1]	5.02
	Litchfield City (MS400253)[1]	0.77
	Albertville City (MS400281)[1]	0.31
	Hanover City (MS400286)[1]	0.78
	Rogers City (MS400282)[1]	2.18
	MnDOT Metro District (MS400170)[1]	0.04
	MnDOT Outstate District (MS400180)[1]	0.02
	Hennepin County (MS400138)[1]	0.02
	Delano City MS4	0.12
	Wright County MS4	0.04
	Construction/Industrial Stormwater	0.78
Load Allocation (LA)		**298.80**
Margin of Safety (MOS)[3]		**38.81**
Reserve Capacity		**3.63**
Boundary Condition (South Fork Crow River outlet)[2]		**486.35**
Loading Capacity		**874.44**

[1]MS4 areas and allocation methodology provided in Section 4.4.3; WLA based on percentage of LC minus boundary condition.
[2]Boundary condition at the outlet of South Fork Crow River, see Section 4.4.3.1 for more details. Any WLAs and MOS for South Fork Crow are encompassed in the boundary condition.
[3]MOS based on 10% of LC minus boundary condition.

Original Table 37. *E. coli* Allocations for the Crow River, North Fork, Mill Cr to S Fk Crow R (WID 07010204-503) (Page 81 of TMDL report).

Escherichia coli Listing year: 2012 Baseline year: 2013 Numeric WQ standard used: 126 org/100 mL		Flow Condition				
		Very High	**High**	**Mid-Range**	**Low**	**Very Low**
		[Billions organisms/day]				
Loading Capacity (LC)		**7,283.12**	**3,082.00**	**1,301.49**	**453.01**	**124.85**
Wasteload Allocation	*Annandale/Maple Lake/Howard Lake WWTP*	5.65	5.65	5.65	5.65	5.65
	Atwater WWTP	5.83	5.83	5.83	5.83	5.83
	Belgrade WWTP	7.07	7.07	7.07	7.07	7.07
	Brooten WWTP	5.06	5.06	5.06	5.06	5.06
	Buffalo WWTP	20.60	20.60	20.60	20.60	20.60
	Cokato WWTP	3.46	3.46	3.46	3.46	3.46
	Darwin WWTP	1.55	1.55	1.55	1.55	1.55
	Dassel WWTP	5.83	5.83	5.83	5.83	5.83
	Glacial Lakes SSWD	4.24	4.24	4.24	4.24	4.24
	Grove City WWTP	4.64	4.64	4.64	4.64	4.64
	Litchfield WWTP	14.78	14.78	14.78	14.78	14.78
	Montrose WWTP	3.72	3.72	3.72	3.72	3.72
	Buffalo City (MS400238)[2]	48.27	20.42	8.63	3.00	0.83
	Litchfield City (MS400253)[3o]	29.13	12.33	5.21	1.81	0.50
	St. Michael City (MS400246)[4]	1.03	0.44	0.18	0.06	0.02
	Total WLA	**160.86**	**115.62**	**96.45**	**87.30**	**83.78**
Load Allocation (LA)		**6,393.95**	**2,658.18**	**1,074.89**	**320.41**	**28.58**
Margin of Safety (MOS)		**728.31**	**308.20**	**130.15**	**45.30**	**12.49**
Average existing monthly geometric mean[1]		**150.3 org/100 mL**				
Overall estimated percent reduction		**16%**				

[1]Overall estimated percent reduction was negative (-7%; 117.5 org/100 mL) due to averaging of all months. Representative load reduction taken as load reduction needed in the month of June.

[2]Buffalo City MS4 within drainage area represents 0.66% of total drainage area, therefore gets a WLA of 0.66% of loading capacity (see Section 4.3.3).

[3]Litchfield City MS4 within drainage area represents 0.40% of total drainage area, therefore gets a WLA of 0.40% of loading capacity (see Section 4.3.3).

[4]St Michael City MS4 within drainage area represents 0.01% of total drainage area, therefore gets a WLA of 0.01% of loading capacity (see Section 4.3.3).

Modified Table 37. *E. coli* Allocations for the Crow River, North Fork, Mill Cr to S Fk Crow R (WID 07010204-503) (modifications highlighted in yellow).

Escherichia coli Listing year: 2012 Baseline year: 2013 Numeric WQ standard used: 126 org/100 mL		Flow Condition				
		Very High	**High**	**Mid-Range**	**Low**	**Very Low**
		[Billions organisms/day]				
Loading Capacity (LC)		**7,283.12**	**3,082.00**	**1,301.49**	**453.01**	**124.85**
Wasteload Allocation	*Annandale/Maple Lake/Howard Lake WWTP*	5.65	5.65	5.65	5.65	5.65
	Atwater WWTP	5.83	5.83	5.83	5.83	5.83
	Belgrade WWTP	7.07	7.07	7.07	7.07	7.07
	Brooten WWTP	5.06	5.06	5.06	5.06	5.06
	Buffalo WWTP	20.60	20.60	20.60	20.60	20.60
	Cokato WWTP	3.46	3.46	3.46	3.46	3.46
	Darwin WWTP	1.55	1.55	1.55	1.55	1.55
	Dassel WWTP	5.83	5.83	5.83	5.83	5.83
	Glacial Lakes SSWD	4.24	4.24	4.24	4.24	4.24
	Grove City WWTP	4.64	4.64	4.64	4.64	4.64
	Litchfield WWTP	14.78	14.78	14.78	14.78	14.78
	Montrose WWTP	3.72	3.72	3.72	3.72	3.72
	Buffalo City (MS400238)[2]	52.99	22.42	9.47	3.29	0.91
	Litchfield City (MS400253)[3]	29.64	12.54	5.30	1.84	0.51
	St. Michael City (MS400246)[4]	1.03	0.44	0.18	0.06	0.02
	Delano City MS4[5]	4.43	1.88	0.79	0.27	0.08
	Total WLA	**170.52**	**119.71**	**98.18**	**87.90**	**83.95**
Load Allocation (LA)		**6,384.29**	**2,654.09**	**1,073.16**	**319.81**	**28.41**
Margin of Safety (MOS)		**728.31**	**308.20**	**130.15**	**45.30**	**12.49**

[2]Buffalo City MS4 within drainage area represents ~~0.66%~~ 0.73% of total drainage area, therefore gets a WLA of ~~0.66%~~ 0.73% of loading capacity (see Section 4.3.3).

[3]Litchfield City MS4 within drainage area represents ~~0.40%~~ 0.41% of total drainage area, therefore gets a WLA of ~~0.40%~~ 0.41% of loading capacity (see Section 4.3.3).

[4]St Michael City MS4 within drainage area represents 0.014% of total drainage area, therefore gets a WLA of 0.014% of loading capacity (see Section 4.3.3).

[5]Delano City MS4 within drainage area represents 0.061% of total drainage area, therefore gets a WLA of 0.061% of loading capacity (see Section 4.3.3).

Original Table 46. TP Allocations for the Crow River, North Fork, Mill Cr to S Fk Crow R (WID 07010204-503) (Page. 92 of TMDL report).

Phosphorus as P Listing year: 2016; Baseline year: 2013 Numeric WQ standard used: 100 µg/L		**Flow Condition-Summer Average [lbs /day]**
Wasteload Allocation	**Total WLA**	**23.19**
	Annandale/Maple Lake/Howard Lake WWTP	1.39
	Atwater WWTP	0.55
	Belgrade WWTP	2.43
	Buffalo WWTP	5.05
	Cokato WWTP	1.28
	Dassel WWTP	1.34
	Glacial Lakes SSWD	1.57
	Great River Energy Dickinson	0.37
	Litchfield WWTP	3.62
	Montrose WWTP	1.37
	Buffalo City (MS400238)[1]	2.19
	Litchfield City (MS400253)[1]	1.32
	St Michael City (MS400246)[1]	0.05
	Construction/Industrial Stormwater	0.66
Load Allocation (LA)		**270.83**
Margin of Safety (MOS)		**33.04**
Reserve Capacity (RC)		**3.37**
Loading Capacity (LC/TMDL)		**330.43**
Existing Load		**520.33**
Estimated Load Reduction		**36.50%**

[1]MS4 areas and allocation methodology provided in Sections 3.4.1 and 4.4.3.

Modified Table 46. TP Allocations for the Crow River, North Fork, Mill Cr to S Fk Crow R (WID 07010204-503) (modifications highlighted in yellow).

Phosphorus as P Listing year: 2016; Baseline year: 2013 Numeric WQ standard used: 100 µg/L		**Flow Condition-Summer Average [lbs /day]**
Wasteload Allocation	**Total WLA**	**23.63**
	Annandale/Maple Lake/Howard Lake WWTP	1.39
	Atwater WWTP	0.55
	Belgrade WWTP	2.43
	Buffalo WWTP	5.05
	Cokato WWTP	1.28
	Dassel WWTP	1.34
	Glacial Lakes SSWD	1.57
	Great River Energy Dickinson	0.37
	Litchfield WWTP	3.62
	Montrose WWTP	1.37
	Buffalo City (MS400238)[1]	2.41
	Litchfield City (MS400253)[1]	1.35
	St Michael City (MS400246)[1]	0.05
	Delano City MS4[1]	0.20
	Construction/Industrial Stormwater	0.66
Load Allocation (LA)		**270.39**
Margin of Safety (MOS)		**33.04**
Reserve Capacity (RC)		**3.37**
Loading Capacity (LC/TMDL)		**330.43**

[1]MS4 areas and allocation methodology provided in Sections 3.4.1 and 4.4.3.

Original Table 47. TP Allocations for Unnamed creek (Regal Creek), Unnamed Creek to Crow River (WID 07010204-542) (Page 93 of TMDL report).

Phosphorus as P Listing year: 2020; Baseline year: 2013 Numeric WQ standard used: 100 µg/L		**Flow Condition-Summer Average [lbs /day]**
Wasteload Allocation	**Total WLA[1]**	**3.491**
	Buffalo City (MS400238)[1]	0.008
	Monticello City (MS400242)[1]	0.021
	Otsego City (MS400243)[1]	0.040
	St Michael City (MS400246)[1]	3.104
	Albertville City (MS400281)[1]	0.297
	MnDOT Outstate District (MS400180)[1]	0.004
	Construction/Industrial Stormwater	0.017
Load Allocation (LA)		**3.926**
Margin of Safety (MOS)		**0.840**
Reserve Capacity (RC)		**0.140**
Loading Capacity (LC/TMDL)		**8.397**
Existing Load		**11.986**
Estimated Load Reduction		**30.00%**

[1]MS4 areas and allocation methodology provided in Section 4.4.3.

Modified Table 47. TP Allocations for Unnamed creek (Regal Creek), Unnamed Creek to Crow River (WID 07010204-542) (modifications highlighted in yellow).

Phosphorus as P Listing year: 2020; Baseline year: 2013 Numeric WQ standard used: 100 µg/L		**Flow Condition-Summer Average [lbs /day]**
Wasteload Allocation	**Total WLA[1]**	**3.518**
	Buffalo City (MS400238)[1]	0.008
	Monticello City (MS400242)[1]	0.046
	Otsego City (MS400243)[1]	0.040
	St Michael City (MS400246)[1]	3.093
	Albertville City (MS400281)[1]	0.286
	MnDOT Outstate District (MS400180)[1]	0.004
	Wright County MS4[1]	0.024
	Construction/Industrial Stormwater	0.017
Load Allocation (LA)		**3.899**
Margin of Safety (MOS)		**0.840**
Reserve Capacity (RC)		**0.140**
Loading Capacity (LC/TMDL)		**8.397**

[1]MS4 areas and allocation methodology provided in Section 4.4.3.

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, TP, or 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 applicable TP WLAs to Delano City MS4 and Wright County 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.

When evaluating TP WLA attainment during permit application, permittees should evaluate the areas draining to stormwater conveyance within the impairment subwatershed within their jurisdictional boundary (Figure 1 through Figure 5). Any wasteload reducing BMPS implemented since the baseline year (Table 1) in those areas can be counted toward WLA attainment. The permittees can measure their progress against the load reductions referenced at the bottom of each of the original TMDL tables (Table 46, Table 47, Table 48). See Making WLA determinations | Minnesota Stormwater Manual.

This TMDL modification assigns an applicable *E.coli* WLA to Delano City MS4. 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 City MS4 does 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.