

## **2019 Modification to North Fork Crow and Lower Crow Bacteria, Turbidity, and Low Dissolved Oxygen Total Maximum Daily Load Report**

### **Overview**

<b>TMDL Project Name</b>	<a href="#">North Fork Crow and Lower Crow Bacteria, Turbidity, and Low Dissolved Oxygen TMDL</a>
<b>Date of EPA TMDL Approval</b>	August 20, 2013
<b>Public Notice Dates</b>	May 6, 2019 through June 5, 2019
<b>MPCA Approval Date for Modification</b>	June 5, 2019
<b>TMDL segment AUID and pollutant which require modification</b>	07010204-502 - <i>E. coli</i> , TSS modification
<b>TMDL Tables in final TMDL document which are being modified</b>	<p>Table 2.7. Summary of Permitted MS4s in the Lower Crow River Watershed.</p> <p>Table 2.8. Lower Crow <i>E. coli</i> impaired reach TMDL load allocations for each flow zone.</p> <p>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).</p> <p>3.10. Lower Crow River impaired reach TSS total daily loading capacities and allocations.</p>

### **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 one new regulated- Municipal Separate Storm Sewer Systems (MS4s). There is one new regulated-MS4s within the TMDL project area, Hanover City (Permit #MS400286) (Table 1). When the TMDLs were approved on August 20, 2013, Hanover City was unregulated and the areas associated with the city were assigned to the load allocation (LA). Now that Hanover City is a regulated-MS4, 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 TMDLs.

**Table 1. New regulated-MS4 within TMDL subwatershed.**

<b>AUID</b>	<b>Reach Name</b>	<b>Current MS4s</b>	<b>New MS4</b>	<b>Impairment</b>
07010204-502	Lower Crow River	See Tables 2.7 and 3.8	Hanover City MS4	<i>E. coli</i> , Total Suspended Solids (TSS)

**Explanation of modifications:**

Hanover City was not regulated under the MS4 permit when the TMDL was completed in 2013. Hanover City is now a regulated-MS4 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:

**Lower Crow River, AUID 07010204-502**

The MPCA is shifting between 0.6 and 20.1 billions of organisms/day of Escherichia Coli (*E. coli*) depending on flow zone from the LA to the MS4 WLA for Hanover City (Modified Table 2.7; Modified Table 2.8).

**Lower Crow River, AUID 07010204-502**

The MPCA is shifting between 0.1 and 4.4 tons/day of total suspended solids (TSS) depending on flow zone from the LA to the MS4 WLA Hanover City (Modified Table 3.8; Modified Table 3.10).

## Map

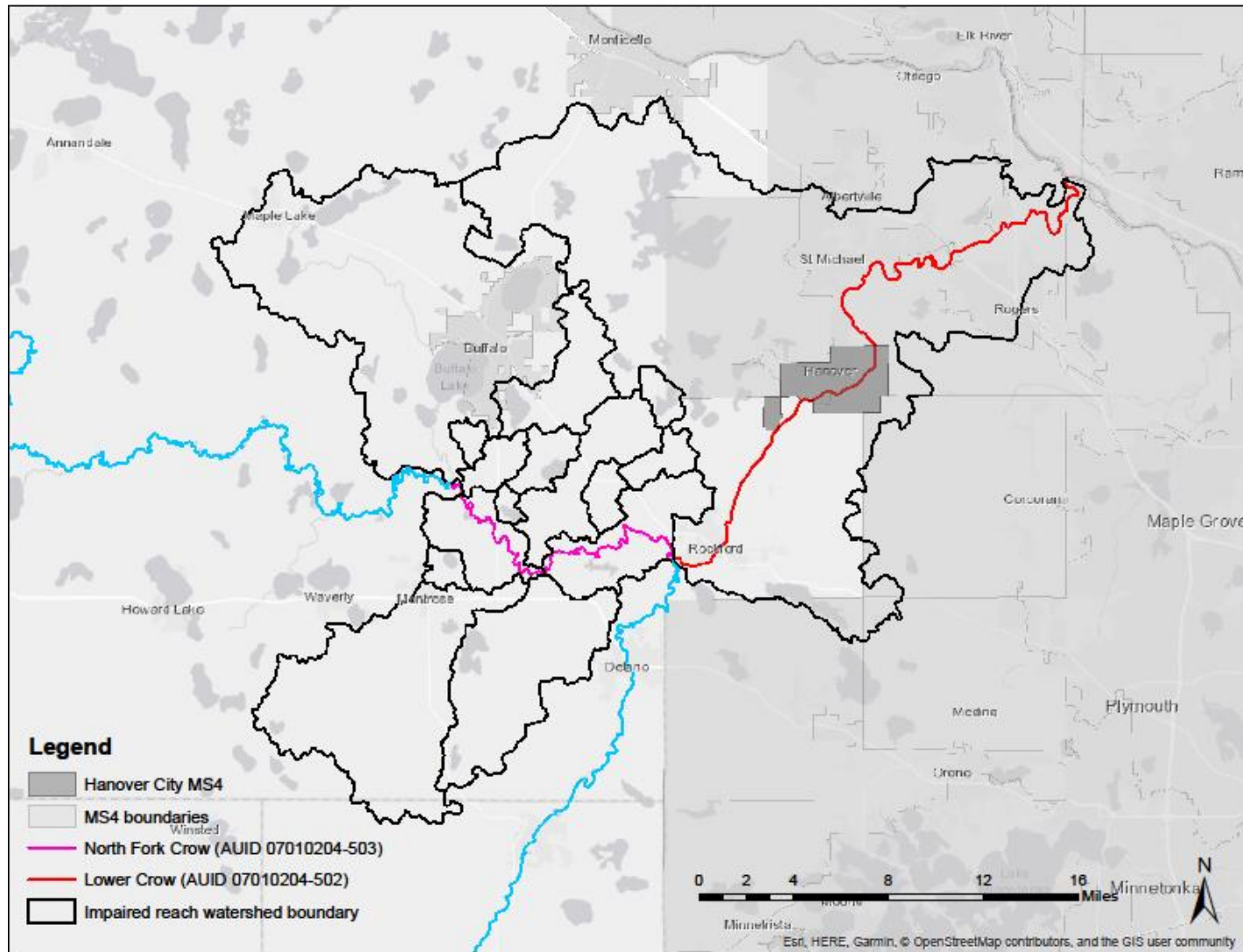


Figure 1. Impaired bacteria and TSS reach Lower Crow River (AUID 07010204-502) TMDL Subwatershed and regulated MS4 areas.

## Tables

**Modified Table 2.7. Summary of Permitted MS4s in the Lower Crow River Watershed (modifications highlighted in yellow) (pg. 2-10 of TMDL report).**

MS4	Permit #	Area (acres)	E. coli Allocation (billions organisms/day)				
			Very High	High	Mid	Low	Dry
Hennepin County MS4	MS400138	52	0.3	0.2	0.1	<0.1	<0.1
Loretto City MS4	MS40030	95	0.5	0.3	0.2	<0.1	<0.1
Corcoran City MS4	MS400081	1,211	6.8	3.9	2.0	0.6	0.2
Dayton City MS4	MS400083	754	4.2	2.4	1.3	0.4	0.1
Independence City MS4	MS400095	2,182	12.2	7.0	3.6	1.2	0.3
Medina City MS4	MS400105	425	2.4	1.4	0.7	0.2	<0.1
Buffalo City MS4	MS400242	5,706	32.0	18.2	9.5	3.0	0.9
Monticello City MS4	MS400242	76	0.4	0.2	0.1	<0.1	<0.1
Otsego City MS4	MS400243	2,709	15.2	8.7	4.5	1.4	0.4
St. Michael City MS4	MS400246	22,927	128.6	73.2	38.2	12.1	3.6
MNDOT Metro District MS4	MS400170	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	MS400281	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
<b>Original MS4 Totals</b>	--	<b>43,181</b>	<b>242.1</b>	<b>138.1</b>	<b>71.9</b>	<b>22.8</b>	<b>6.8</b>
<b>Modified MS4 Totals</b>	--	<b>46,758</b>	<b>262.2</b>	<b>149.5</b>	<b>77.9</b>	<b>24.7</b>	<b>7.4</b>

**Original TMDL Table 2.8. Lower Crow *E. coli* impaired reach TMDL load allocations for each flow zone, pg. 2-11 of TMDL report).**

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 Discharges	109	109	109	109	109
	MS4 Communities	242	138	72	23	7
Load Allocation	N Fork Crow River	5,758	3,236	1,641	454	65
	Lower Crow River	593	333	169	47	7
Values expressed as percentage of total daily loading capacity						
Total Daily Loading Capacity		100%	100%	100%	100%	100%
Margin of Safety (MOS)		10%	10%	10%	10%	10%
Upstream Boundary Condition (S Fork Crow River)		41%	41%	41%	41%	41%
Wasteload Allocation	NPDES Wastewater Discharges	<1%	1%	3%	8%	28%
	Lower Crow MS4 Communities	2%	2%	2%	2%	2%
Load Allocation	N Fork Crow River	42%	42%	40%	35%	17%
	Lower Crow River	4%	4%	4%	4%	2%

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Upstream Boundary Condition (S Fork Crow River)		5,602	3,190	1,664	528	157
Wasteload Allocations	NPDES Wastewater Discharges	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
Values expressed as percentage of total daily loading capacity						
Total Daily Loading Capacity		100%	100%	100%	100%	100%
Margin of Safety (MOS)		10%	10%	10%	10%	10%
Upstream Boundary Condition (S Fork Crow River)		41%	41%	41%	41%	41%
Wasteload Allocation	NPDES Wastewater Discharges	<1%	1%	3%	8%	28%
	Lower Crow MS4 Communities	2%	2%	2%	2%	2%
Load Allocation	N Fork Crow River	42%	42%	40%	35%	17%
	Lower Crow River	4%	4%	4%	4%	2%

**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) (pg. 3-11 of TMDL report).**

MS4	Permit #	Area (acres)	E. coli Allocation (billions organisms/day)				
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<b>Original MS4 Totals</b>	--	<b>43,181</b>	<b>53.5</b>	<b>18.3</b>	<b>5.2</b>	<b>2.0</b>	<b>1.4</b>
<b>Modified MS4 Totals</b>	--	<b>46,758</b>	<b>57.9</b>	<b>19.8</b>	<b>5.6</b>	<b>2.2</b>	<b>1.5</b>

**Original TMDL Table 3.10. Lower Crow River impaired reach TSS total daily loading capacities and allocations (pg. 3-14 of TMDL report).**

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
Upstream Boundary Condition (S Fork Crow River)		337.1	115.0	32.9	12.7	8.6
Wasteload Allocations	NPDES Wastewater Discharges	3.4	3.4	3.4	3.4	3.4
	MS4 Communities	53.5	18.3	5.2	2.0	1.4
	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	31.8	10.6	2.8	0.9	0.5
Values expressed as percentage of total daily loading capacity						
Total Daily Loading Capacity		100%	100%	100%	100%	100%
Margin of Safety (MOS)		3%	7%	4%	4%	2%
Boundary Condition (S Fork Crow River)		44%	42%	43%	43%	44%
Wasteload Allocation	NPDES Wastewater Discharges	<1%	1%	5%	12%	18%
	MS4 Communities	7%	7%	7%	7%	7%
	Construction Stormwater	1%	1%	1%	1%	1%
	Industrial Stormwater	<1%	<1%	<1%	<1%	<1%
Load Allocation	NFC Watershed Upstream of Impaired Reach	40%	38%	36%	30%	25%
	Lower Crow Impaired Reach Watershed	4%	4%	4%	3%	3%



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

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	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
Values expressed as percentage of total daily loading capacity						
Total Daily Loading Capacity		100%	100%	100%	100%	100%
Margin of Safety (MOS)		3%	7%	4%	4%	2%
Boundary Condition (S Fork Crow River)		44%	42%	43%	43%	44%
Wasteload Allocation	NPDES Wastewater Discharges	<1%	1%	5%	12%	18%
	MS4 Communities	8%	7%	7%	7%	8%
	Construction Stormwater	1%	1%	1%	1%	1%
	Industrial Stormwater	<1%	<1%	<1%	<1%	<1%
Load Allocation	NFC Watershed Upstream of Impaired Reach	40%	38%	36%	30%	25%
	Lower Crow Impaired Reach Watershed	4%	3%	3%	3%	2%

## **Implementation**

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

Hanover City MS4 will be required to submit an updated SWPPP when the new MS4 permit becomes effective in late 2019. At that time, Hanover City MS4 will be required to account for the *E. coli* and TSS impaired reach above.

**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.