

## 2026 Modification to Rum River Watershed Total Maximum Daily Load Report

### GENERAL INFORMATION

<b>TMDL project name</b>	<a href="#">Rum River Watershed Total Maximum Daily Load Report</a>
<b>Date of original EPA TMDL approval</b>	September 26, 2017
<b>TMDL Modification Public Notice Dates</b>	January 5, 2026- February 4, 2026
<b>TMDL Assessment Unit Identification (AUID) and pollutants that require modification</b>	07010207-680 – total oxygen demand (TOD) 71-0023-00 – total phosphorus (TP) 71-0022-00 – total phosphorus (TP) 30-0114-00 – total phosphorus (TP)
<b>TMDL tables being modified</b>	Table 4-8. Wasteload Allocations for Municipal Separate Storm Sewer Systems Contributing to Trott Brook. Table 4-9. Trott Brook Dissolved Oxygen Total Maximum Daily Load. Table 4-12. West Hunter Lake Nutrient Total Maximum Daily Load. Table 4-13. East Hunter Lake Nutrient Total Maximum Daily Load. Table 4-18. Baxter Lake Nutrient Total Maximum Daily Load.

### 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 one new permittee, an additional existing permittee due to changes in its MS4 regulated area, 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.

**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 DO impaired Trott Brook reach, TP impaired West Hunter Lake, TP impaired East Hunter Lake, and TP impaired Baxter Lake (Table 1) in their SWPPPs when the MS4 General Permit is reissued.

- Livonia Township MS4 and Baldwin City MS4 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 modification.**

AUID	Reach/ Waterbody Name	Impairment	Baseline Year
07010207-680	Trott Brook	DO	2006
71-0023-00	East Hunter Lake	TP	2006
71-0022-00	West Hunter Lake	TP	2006
30-0114-00	Baxter Lake	TP	2006

**Table 2. Regulated MS4s and permit numbers within the TMDL subwatersheds. Additions underlined.**

Regulated MS4	MS4 Permit #	TMDL subwatershed			
		-680	71-0023-00	71-0022-00	30-0114-00
Elk River City MS4	MS400089	X			
Nowthen City MS4	MS400069	X			
Ramsey City MS4	MS400115	X			
Saint Francis City MS4	MS400296	X			
Sherburne County MS4	MS400155	X			
Anoka County MS4	MS400066	X			
Baldwin City MS4	<u>MS400337*</u>				X
<u>Livonia Township MS4</u>	<u>MS400333*</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>MnDOT Outstate District MS4</u>	<u>MS400180</u>	<u>X</u>			

\*proposed permit numbers

**Explanation of modifications:**

- There is one newly regulated MS4: Livonia Township (proposed permit number MS400333) (Table 2). When the total maximum daily loads (TMDLs) were approved on September 26, 2017, any stormwater contribution from Livonia Township was considered unregulated stormwater and was covered under load allocation (LA) as it was not designated as an MS4. Because it has been determined that Livonia Township will now be a regulated MS4 under the next MS4 General Permit, a portion of LA is being reallocated to WLA for the Livonia Township MS4.
- Since the TMDLs were approved on September 26, 2017, 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 Trott Brook Reach (07010207-680). The MS4 WLAs are being redistributed to account for this reclassified area.
- WLAs for MS4s named in the Trott Brook TMDL were adjusted according to current MS4 jurisdictional boundaries. Adjustments are WLA to WLA.
- When the TMDLs were approved on September 26, 2017, Baldwin City was accounted for as a future MS4, so the stormwater contributions associated with it are already assigned to the 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).
- The rates in Table 3 were calculated as the sum of the watershed LAs and MS4 WLAs divided by the watershed area.

**Table 3. Transfer rates for WLA modifications.**

AUID	Reach/ Water Body Name	Pollutant	Rate	Units
07010207-680	Trott Brook	TOD	0.016	lbs/ac/day
71-0023-00	East Hunter Lake	TP	0.0078	lbs/ac/day
71-0022-00	West Hunter Lake	TP	0.00030	lbs/ac/day
30-0114-00	Baxter Lake	TP	0.00032	lbs/ac/day

The MPCA is proposing the following modifications:

#### **Trott Brook, AUID 07010207-680**

The MPCA is shifting all 24 lbs/day of oxygen demand from the LA to the MS4 permittees' WLAs (Modified Table 4-8; Modified Table 4-9).

#### **West Hunter Lake, AUID 71-0022-00**

The MPCA is shifting 0.39 lbs/day of TP from the Lakeshed LA to the MS4 permittee's WLA (Modified Table 4-12).

#### **East Hunter Lake, AUID 71-0023-00**

In order to accommodate the transfer in this modification, the WLA was calculated only for the direct drainage of East Hunter Lake. A boundary condition was set for West Hunter Lake drainage.

The MPCA is shifting 0.02 lbs/day of TP from the Lakeshed LA to the MS4 permittee's WLA (Modified Table 4-13).

#### **Baxter Lake, AUID 30-0114-00**

The MPCA is shifting 0.83 lbs/day of TP from the Tributary 272 LA to the Livonia Township MS4 permittee's WLA (Modified Table 4-18).

**MAPS**

**Figure 1. Trott Brook (AUID 07010207-680) DO TMDL Subwatershed and Regulated MS4 Areas.**

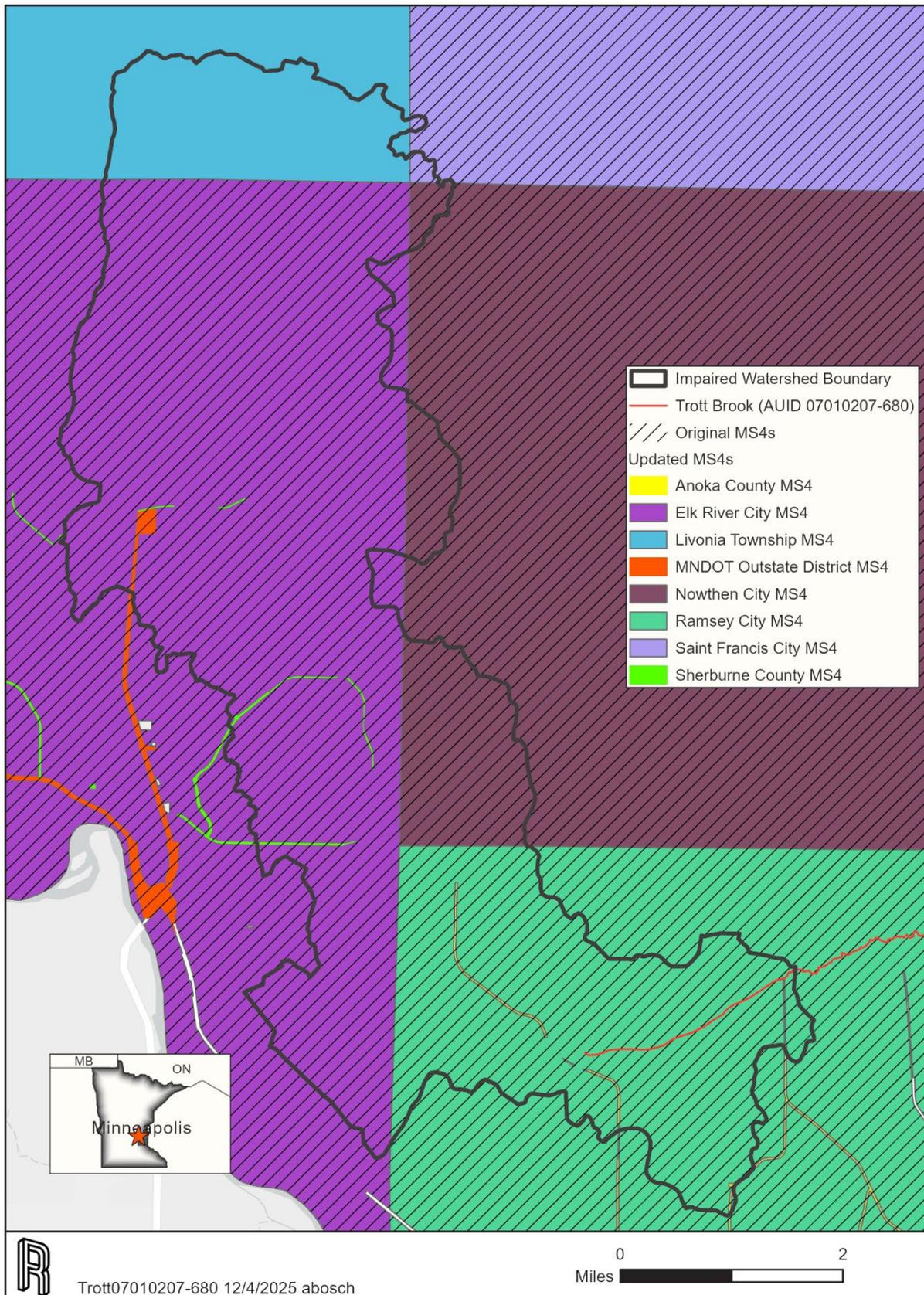


Figure 2. West Hunter Lake (AUID 71-0022-00) TP TMDL Subwatershed and Regulated MS4 Area.

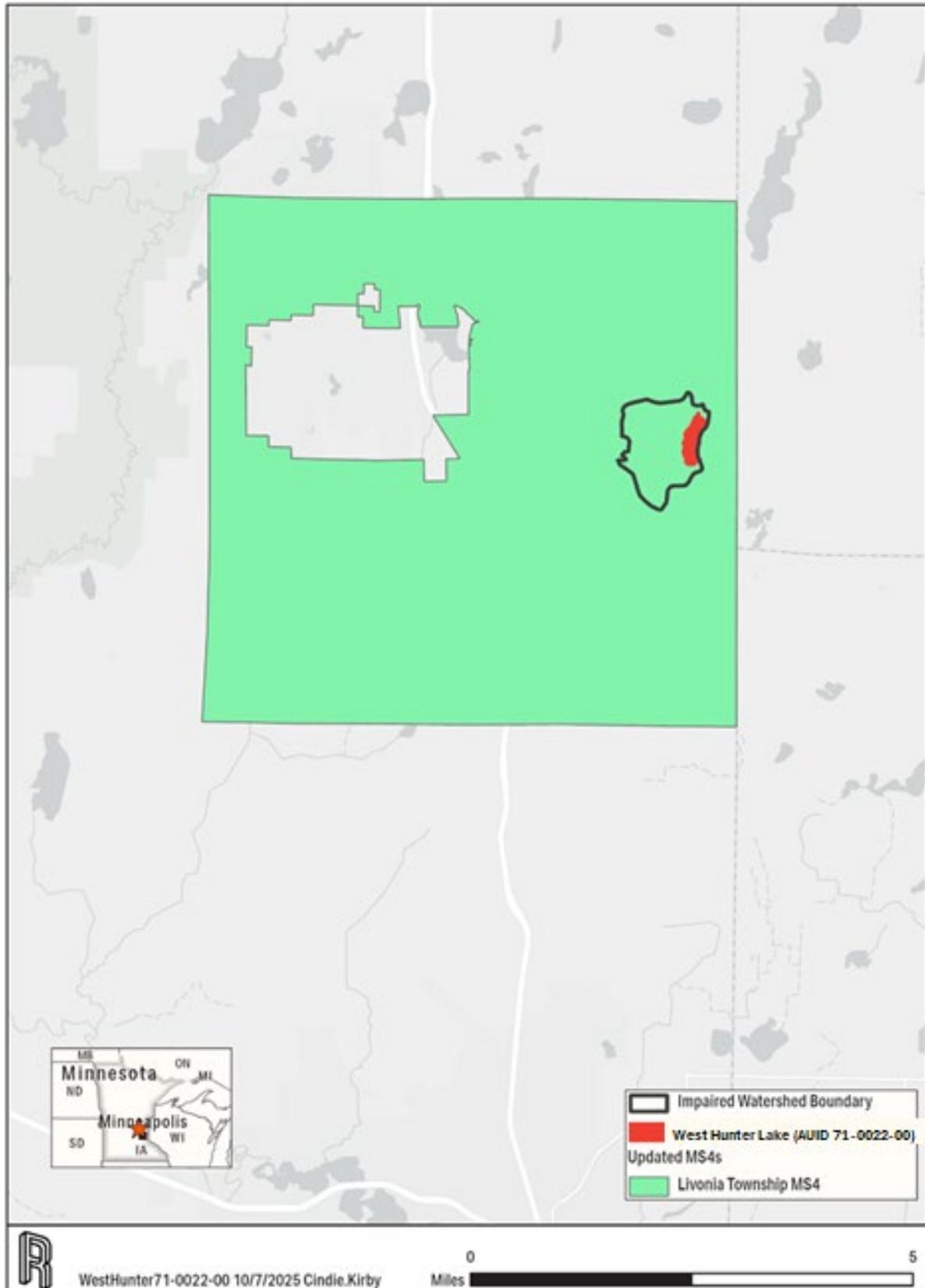


Figure 3. East Hunter Lake (AUID 71-0023-00) TP TMDL Subwatershed and Regulated MS4 Area.

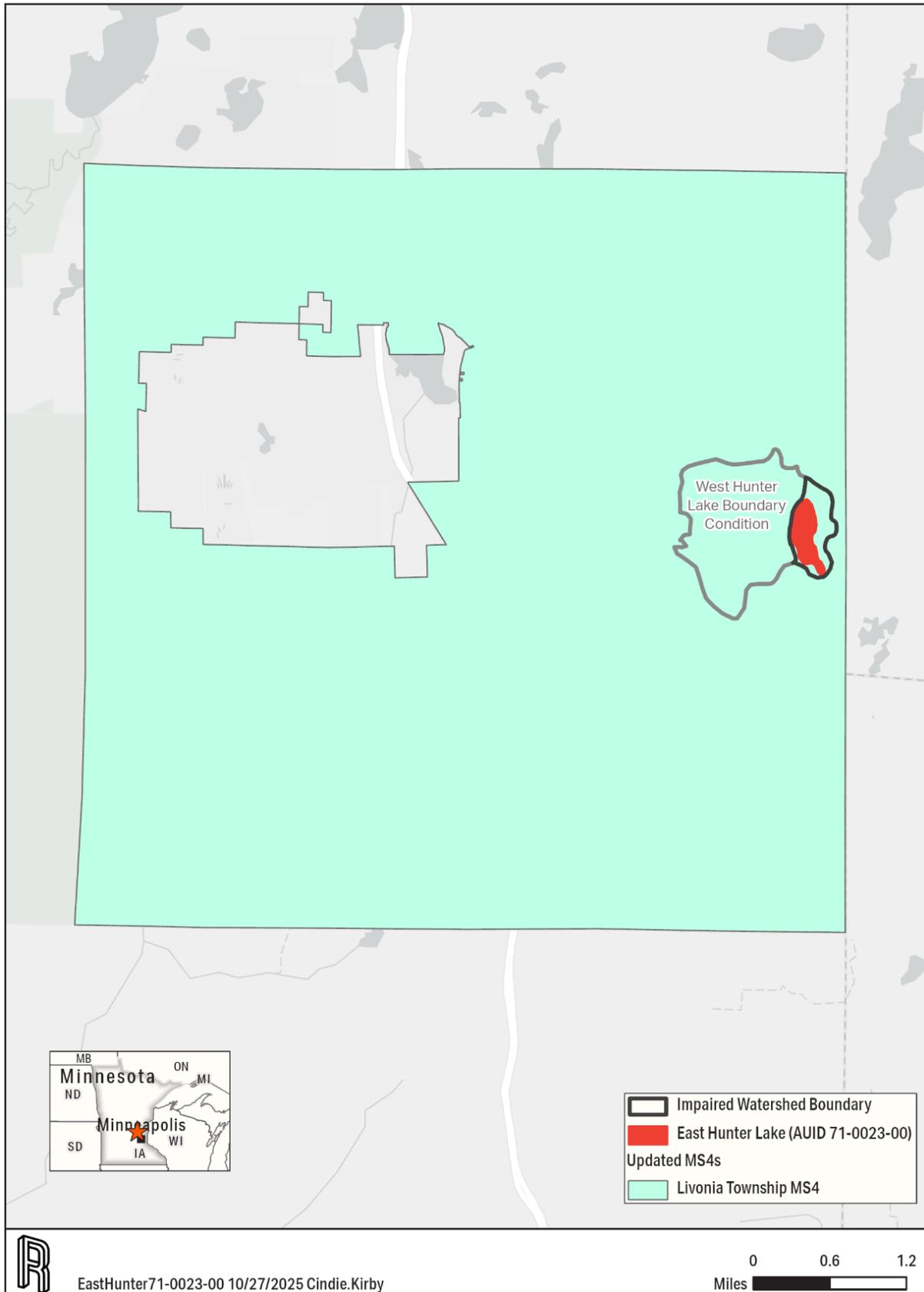
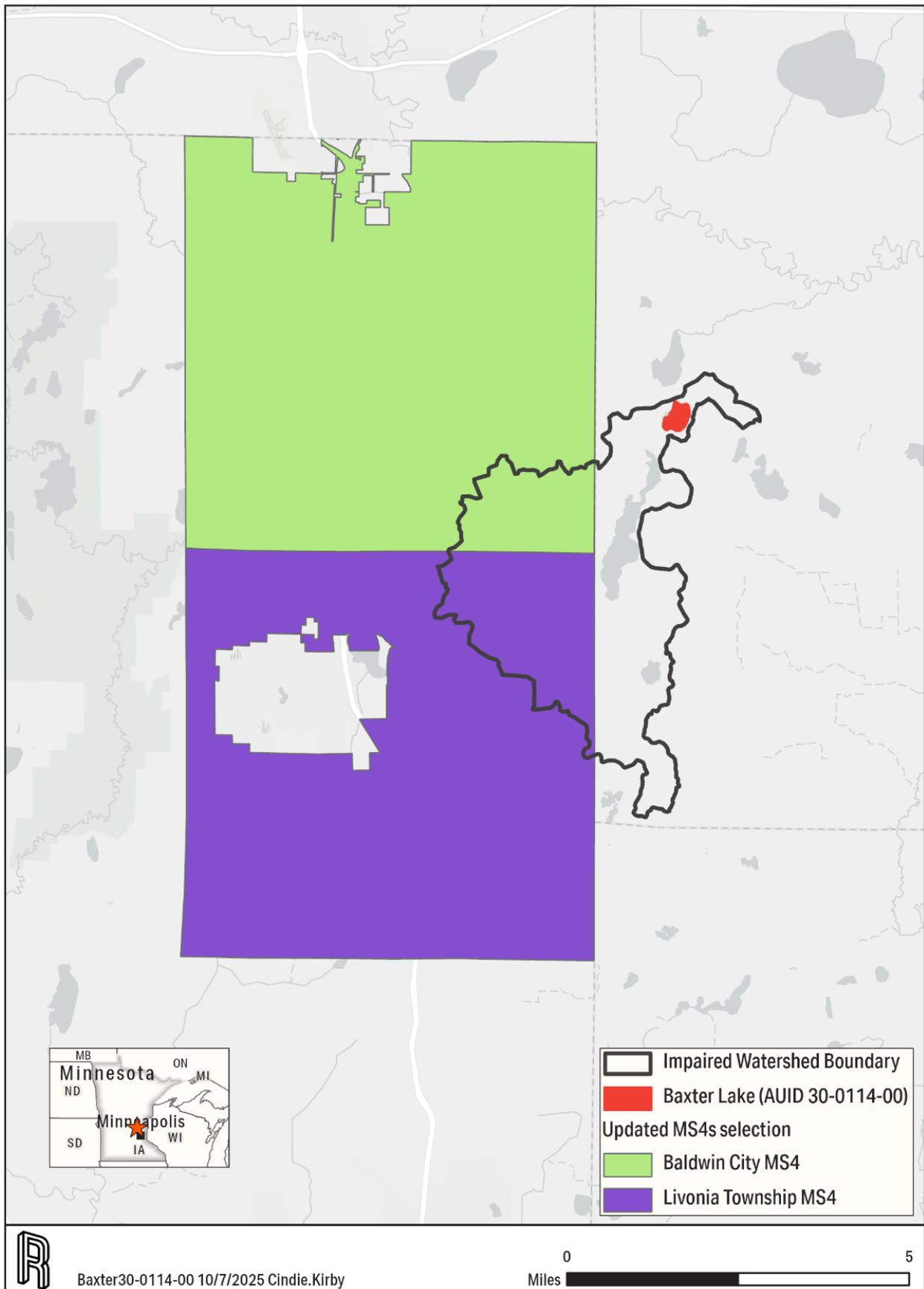


Figure 4. Baxter Lake (AUID 30-0114-00) TP TMDL Subwatershed and Regulated MS4 Areas.



**TABLES**

**Original Table 4-8. Wasteload Allocations for Municipal Separate Storm Sewer Systems Contributing to Trott Brook (Page 66 of TMDL report).**

MS4	Permit No.	Contributing Area (acres)	Percent of MS4 Load	Allowable Oxygen Demand <sup>(a)</sup> (lb/day)
Elk River City	MS400089	10,479	63	171
Nowthen City	MS400069	1,610	10	26
Ramsey City	MS400115	4,440	27	72
Saint Francis City	MS400296	47	< 1	1
Sherburne County	MS400155	53	< 1	1
Anoka County	MS400066	36	< 1	1

<sup>(a)</sup>Oxygen demand accounts for the combination of SOD, NOD, and BOD.

**Modified Table 4-8. Wasteload Allocations for Municipal Separate Storm Sewer Systems Contributing to Trott Brook (modifications highlighted in yellow).**

MS4	Permit No.	Contributing Area (acres)	Percent of MS4 Load	Allowable Oxygen Demand <sup>(a)</sup> (lb/day)
Elk River City	MS400089	10,621	57.5	170.1
Nowthen City	MS400069	1,608	8.7	25.8
Ramsey City	MS400115	4,432	24.0	71.0
Saint Francis City	MS400296	47	0.3	0.8
Sherburne County	MS400155	30	0.2	0.5
Anoka County	MS400066	41	0.2	0.7
Livonia Township MS4	TBD	1,665	9.0	26.7
MNDOT Outstate District MS4	MS400180	33	0.2	0.5

<sup>(a)</sup>Oxygen demand accounts for the combination of SOD, NOD, and BOD.

**Original Table 4-9. Trott Brook Dissolved Oxygen Total Maximum Daily Load (Page 68 of TMDL report).**

TMDL Component		Oxygen Demand <sup>(a)</sup> (lb/day)
Total Daily Loading Capacity		332
Margin of Safety		33
Wasteload Allocations	Permitted Wastewater Dischargers	–
	MS4s	272
	Construction and Industrial Stormwater	3
Load Allocation		24
Current Load		661
Required Reduction		50%

<sup>(a)</sup> Oxygen demand accounts for the combination of SOD, NOD, and BOD.

**Modified Table 4-9. Trott Brook Dissolved Oxygen Total Maximum Daily Load (modifications highlighted in yellow).**

TMDL Component		Oxygen Demand <sup>(a)</sup> (lb/day)
Total Daily Loading Capacity		332
Margin of Safety		33
Wasteload Allocations	Permitted Wastewater Dischargers	–
	MS4s	296
	Construction and Industrial Stormwater	3
Load Allocation		0

(a) Oxygen demand accounts for the combination of SOD, NOD, and BOD.

**Original Table 4-12. West Hunter Lake Nutrient Total Maximum Daily Load (Page 75 of TMDL report).**

West Hunter Lake Load Allocation		Existing TP Load		Allowable TP Load		Estimated Load Reduction	
		lbs/yr	lbs/day	lbs/yr	lbs/day	lbs/yr	%
<b>Margin of Safety 10%</b>				<b>17.86</b>	<b>0.05</b>		
<b>Wasteload</b>	Construction Stormwater	0.40	< 0.01	0.40	< 0.01	0.00	—
	Industrial Stormwater	1.56	< 0.01	1.56	< 0.01	0.00	—
	<b>Total WLA</b>	<b>1.96</b>	<b>0.01</b>	<b>1.96</b>	<b>0.01</b>	<b>0.00</b>	<b>—</b>
<b>Load</b>	Lakeshed	181.99	0.50	144.46	0.39	37.53	21
	SSTS	8.82	0.02	0.00	0.00	8.82	100
	Atmospheric Deposition	14.30	0.04	14.30	0.04	0.00	—
	<b>Total LA</b>	<b>205.11</b>	<b>0.56</b>	<b>158.76</b>	<b>0.43</b>	<b>46.35</b>	<b>23</b>
<b>Total Load (WLA + LA)</b>		<b>207.07</b>	<b>0.57</b>	<b>160.72</b>	<b>0.44</b>	<b>46.35</b>	<b>22</b>
<b>Loading Capacity (WLA + LA + MOS)</b>				<b>178.57</b>	<b>0.49</b>		

**Modified Table 4-12. West Hunter Lake Nutrient Total Maximum Daily Load (modifications highlighted in yellow).**

West Hunter Lake Load Allocation		Allowable TP Load	
		lbs/yr	lbs/day
<b>Margin of Safety 10%</b>		<b>17.86</b>	<b>0.05</b>
<b>Wasteload</b>	Livonia MS4	144.46	0.39
	Construction Stormwater	0.40	< 0.01
	Industrial Stormwater	1.56	< 0.01
	<b>Total WLA</b>	<b>146.42</b>	<b>0.40</b>
<b>Load</b>	Lakeshed	0.00	0.00
	SSTS	0.00	0.00
	Atmospheric Deposition	14.30	0.04
	<b>Total LA</b>	<b>14.30</b>	<b>0.04</b>
<b>Total Load (WLA + LA)</b>		<b>160.72</b>	<b>0.44</b>
<b>Loading Capacity (WLA + LA + MOS)</b>		<b>178.57</b>	<b>0.49</b>

Original Table 4-13. East Hunter Lake Nutrient Total Maximum Daily Load (Page 76 of TMDL report).

East Hunter Lake Load Allocation		Existing TP Load		Allowable TP Load		Estimated Load Reduction	
		lbs/yr	lbs/day	lbs/yr	lbs/day	lbs/yr	%
Margin of Safety 10%				<b>15.95</b>	<b>0.04</b>		
Wasteload	Construction Stormwater	0.40	< 0.01	0.40	< 0.01	0.00	—
	Industrial Stormwater	1.59	< 0.01	1.59	< 0.01	0.00	—
	<b>Total WLA</b>	<b>1.99</b>	<b>0.01</b>	<b>1.99</b>	<b>0.01</b>	<b>0.00</b>	<b>—</b>
Load	West Hunter Discharge	80.33	0.22	62.21	0.17	18.12	23
	Lakeshed	11.16	0.03	10.57	0.02	0.59	5
	Internal Load	97.45	0.26	55.81	0.15	41.64	43
	SSTS	6.62	0.02	0.00	0.00	6.62	100
	Atmospheric Deposition	13.00	0.04	13.00	0.04	0.00	—
	<b>Total LA</b>	<b>208.56</b>	<b>0.57</b>	<b>141.59</b>	<b>0.38</b>	<b>66.97</b>	<b>32</b>
<b>Total Load (WLA + LA)</b>		<b>210.55</b>	<b>0.58</b>	<b>143.58</b>	<b>0.39</b>	<b>66.97</b>	<b>32</b>
<b>Loading Capacity (WLA + LA + MOS)</b>				<b>159.53</b>	<b>0.44</b>		

Modified Table 4-13. East Hunter Lake Nutrient Total Maximum Daily Load (modifications highlighted in yellow).

East Hunter Lake Load Allocation		Allowable TP Load	
		lbs/yr	lbs/day
Margin of Safety 10%		<b>15.95</b>	<b>0.04</b>
Wasteload	Livonia MS4	<b>10.57</b>	<b>0.02</b>
	Construction Stormwater	0.40	< 0.01
	Industrial Stormwater	1.59	< 0.01
	<b>Total WLA</b>	<b>12.56</b>	<b>0.03</b>
Load	West Hunter Discharge (boundary condition)	62.21	0.17
	Lakeshed	<b>0.00</b>	<b>0.00</b>
	Internal Load	55.81	0.15
	SSTS	0.00	0.00
	Atmospheric Deposition	13.00	0.04
	<b>Total LA</b>	<b>131.02</b>	<b>0.36</b>
<b>Total Load (WLA + LA)</b>		<b>143.58</b>	<b>0.39</b>
<b>Loading Capacity (WLA + LA + MOS)</b>		<b>159.53</b>	<b>0.44</b>

Original Table 4-18. Baxter Lake Nutrient Total Maximum Daily Load (Page 78 of TMDL report).

Baxter Lake Load Allocation		Existing TP Load		Allowable TP Load		Estimated Load Reduction	
		lbs/yr	lbs/day	lbs/yr	lbs/day	lbs/yr	%
<b>Margin of Safety 5%</b>				<b>61.38</b>	<b>0.17</b>		
<b>Wasteload</b>	Baldwin MS4	227.56	0.62	170.93	0.47	56.63	25
	Construction Stormwater	1.08	<0.01	1.08	< 0.01	0.00	—
	Industrial Stormwater	4.59	0.01	4.59	0.01	0.00	—
	<b>Total WLA</b>	<b>233.23</b>	<b>0.63</b>	<b>176.60</b>	<b>0.48</b>	<b>56.63</b>	<b>24</b>
<b>Load</b>	Tributary 272	941.40	2.58	833.91	2.28	107.54	11
	Lakeshed	171.20	0.48	107.24	0.31	63.93	37
	SSTS	4.41	0.01	0.00	-	4.41	100
	Atmospheric Deposition	21.19	0.06	21.19	0.06	0.00	—
	Internal load	788.46	2.16	27.24	0.07	761.23	97
	<b>Total LA</b>	<b>1926.66</b>	<b>5.29</b>	<b>989.58</b>	<b>2.72</b>	<b>937.08</b>	<b>49</b>
<b>Total Load (WLA + LA)</b>		<b>2159.89</b>	<b>5.92</b>	<b>1166.18</b>	<b>3.20</b>	<b>993.71</b>	<b>46</b>
<b>Loading Capacity (WLA + LA + MOS)</b>				<b>1227.56</b>	<b>3.37</b>		

Modified Table 4-18. Baxter Lake Nutrient Total Maximum Daily Load (modifications highlighted in yellow).

Baxter Lake Load Allocation		Allowable TP Load	
		lbs/yr	lbs/day
<b>Margin of Safety 5%</b>		<b>61.38</b>	<b>0.17</b>
<b>Wasteload</b>	Baldwin MS4	170.93	0.47
	Livonia Township MS4	302.66	0.83
	Construction Stormwater	1.08	< 0.01
	Industrial Stormwater	4.59	0.01
	<b>Total WLA</b>	<b>479.26</b>	<b>1.32</b>
<b>Load</b>	Tributary 272	531.25	1.45
	Lakeshed	107.24	0.31
	SSTS	0.00	0.00
	Atmospheric Deposition	21.19	0.06
	Internal load	27.24	0.07
	<b>Total LA</b>	<b>686.92</b>	<b>1.89</b>
<b>Total Load (WLA + LA)</b>		<b>1166.18</b>	<b>3.20</b>
<b>Loading Capacity (WLA + LA + MOS)</b>		<b>1227.56</b>	<b>3.37</b>

\*Minor arithmetic differences are due to rounding

## 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 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 Rum River Watershed. Per the spending for water quality implementation projects website (data compiled by MPCA: [Spending for water quality implementation projects](#)), over 30 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 new applicable TP WLAs to Livonia Township MS4 and oxygen demand WLAs to Livonia Township and MnDOT Outstate MS4s. This will result in permit requirements for Livonia Township MS4 and additional requirements for MnDOT Outstate MS4. The oxygen demand WLAs have been adjusted incrementally for other permittees in Table 2, which may affect their future determinations, but does not change their permit requirements.

From [Guidance for meeting dissolved oxygen or oxygen demand TMDL MS4 permit requirements | Minnesota Stormwater Manual](#): “The MS4 permit does not require permittees to quantify pollutant loading for oxygen demand. Consequently, MPCA recommends including BMPs/activities in your MS4’s compliance schedule that reduce organic matter and carbon (e.g. leaf litter), since these BMPs/activities will also reduce oxygen-demanding substances in the streams (see table in referenced page). Most BMPs that reduce organic matter (e.g. street sweeping), will also reduce phosphorus, sediment and/or bacteria (*E. coli*, fecal coliform) loading to water bodies. Additionally, if BMPs/activities are implemented across the entire jurisdictional area of your MS4, some activities may be used to demonstrate progress towards additional applicable phosphorus, TSS, and/or bacteria (*E. coli*, fecal coliform) WLAs.

Other sources of oxygen demand in urban stormwater runoff include animal and food waste, trash, gasoline and motor oil, heavy metals, fertilizers, and pesticides. The referenced table lists some stormwater practices that may be effective in reducing oxygen demand in stormwater runoff. The list is not comprehensive and any practice that removes phosphorus or TSS will also likely reduce oxygen demand. If BMPs are targeted toward oxygen demand, practices that reduce organic matter will be most effective.”

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 4). Any wasteload reducing BMPs implemented since the baseline year (Table 1) in those areas can be counted toward WLA attainment. The permittee can measure their progress against any of the following: the percent reductions referenced in tables 4-11 of the TMDL report, the target mass loads in the modified TMDL tables (relative to the evaluated area), or the loading rate in Table 3. When modeling loads or loading rates, 30.3 inches of annual precipitation should be used. See [Making WLA determinations | Minnesota Stormwater Manual](#).

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 of the impaired waterbody 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 years noted in 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.