



**MINNESOTA POLLUTION
CONTROL AGENCY**

*2020 MS4 General Permit-
TMDL Application Form
Categorical WLA Webinar*

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Municipal Division

218-316-3929

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March 9, 2021



Where is the TMDL Application Form?

Guidance: [Guidance for completing the MS4 Permit TMDL Application Form - Minnesota Stormwater Manual \(state.mn.us\)](#)

Overview page: [2020 MS4 General Permit TMDL Application - Minnesota Stormwater Manual \(state.mn.us\)](#)



TMDL Application Forms: [ShareBase by Hyland](#)

- Application Forms were moved to a new location

MS4 Permit TMDL Application Form- Categorical wasteload allocations (WLA)

Presentation Roadmap

Quick Vocab: What is a TMDL? WLA?

Categorical WLA vs. Individual WLA?

Options for addressing categorical WLAs in the TMDL Application Form

Resources

Q & A

Rice Creek Watershed District Southwest Urban Lakes

Total Maximum Daily Load Study



Image: Island Lake



Minnesota Pollution
Control Agency

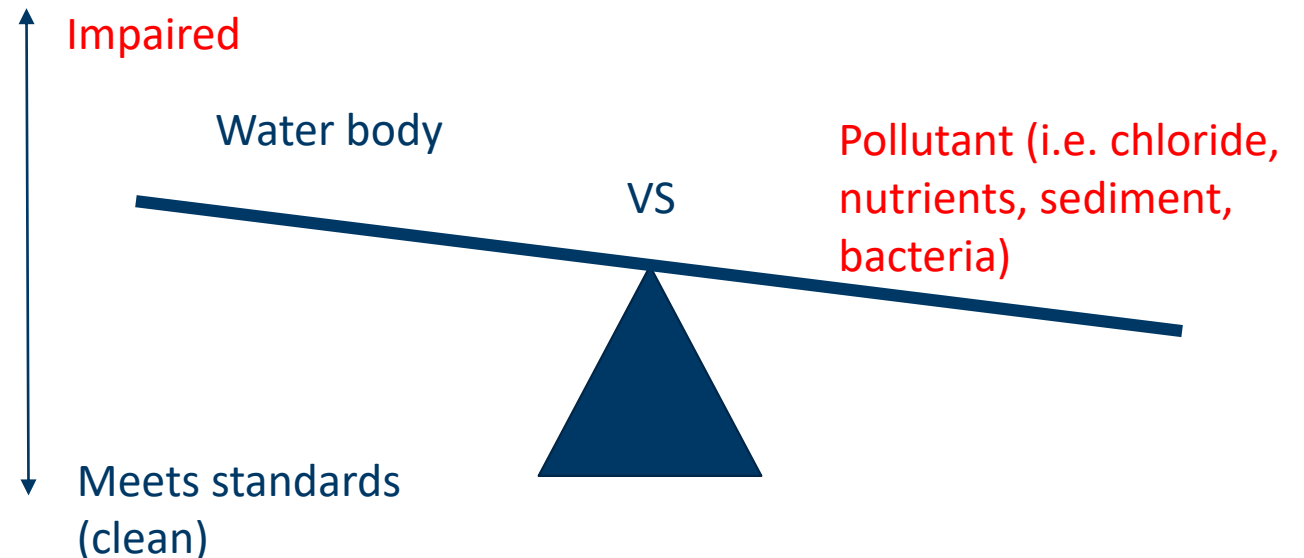


TMDL Report

What's a TMDL?

-Total Maximum Daily Load

- An equation
- A report



TMDL Equation

Table 4-17. Swan River (07010103-753) *E. coli* TMDL and allocations

Swan River 07010103-753 Load Component		Flow Regime				
		Very High	High	Mid	Low	Very Low
		<i>E. coli</i> (billion organisms per day)				
Existing Load		NA	160.8	349.9	33.7	NA
Wasteload Allocations	<i>Coleraine-Bovey WWTP (MN0053341)</i>	2.4	2.4	2.4	2.4	2.4
	<i>Keewatin WWTP (MN0022012)</i>	1.5	1.5	1.5	1.5	1.5
	<i>Marble WWTP (MN0020214)</i>	0.5	0.5	0.5	0.5	0.5
	<i>Nashwauk WWTP (MNG580184)</i>	14.8	14.8	14.8	14.8	14.8
	<i>Hibbing, MN MS4 (MS400270)</i>	93.7	34.1	16.3	9.0	3.5
	Total WLA	112.9	53.3	35.5	28.2	22.7
Load Allocations	<i>Watershed Runoff</i>	658.4	239.9	114.3	62.8	24.1
	Total LA	658.4	239.9	114.3	62.8	24.1
10% MOS		85.7	32.6	16.6	10.1	5.2
Total Loading Capacity		857.0	325.8	166.4	101.1	52

$$\text{TMDL} = \text{WLA} + \text{LA} + \text{MOS}$$

Categorical vs Individual WLA

Individual wasteload allocation example

Lake Example		lbs/day
Wasteload Allocation	Municipality A MS4	1.5
	Municipality B MS4	5
	Municipality C MS4	3.2
Load Allocation	Non point sources	6.3
Margin of Safety		4
Total Load Capacity		20

Categorical wasteload allocation example

Lake Example		lbs/day
Wasteload Allocation	Municipality A MS4	9.7
	Municipality B MS4	
	Municipality C MS4	
Load Allocation	Non point sources	6.3
Margin of Safety		4
Total Load Capacity		20

Categorical vs Individual WLA

A	B	C	D	E	F	G	H	I
Pollutant	(Multiple Items)		Permittee name	Municipality X				
Percent Reduction	(Multiple Items)		Pollutant	(Multiple Items)				
Notes	(Multiple Items)							
<div style="border: 1px solid black; padding: 5px; background-color: yellow;"> <p>Click here after completing or changing any items in Column B, and then continue to other tabs in workbook.</p> </div>								
Applicable Oxygen Demand, Nitrate, TP and/or TSS WLA TMDLs-Waterbody-Pollutant	Meeting WLA? (Yes/No)	TMDL Project - waterbody - pollutant	WLA type	Numeric WLA	Units	Flow Condition	Percent Reduction	
Coon Creek Watershed District WRAPS 2010-Coon Creek-(07010206-530)-TP		Coon Creek Watershed District WRAPS 2010-Coon Creek-(07010206-530)-TP	Categorical	0.530	lbs/day	Mid	19%	
Coon Creek Watershed District WRAPS 2010-Coon Creek-(07010206-530)-TSS				0.860	lbs/day	High	47%	
Coon Creek Watershed District WRAPS 2010-County Ditch 17-(07010206-557)-TP				1.750	lbs/day	Very High	61%	
Coon Creek Watershed District WRAPS 2010-Sand Creek-(07010206-558)-TP		Coon Creek Watershed District WRAPS 2010-Coon Creek-(07010206-530)-TSS	Categorical	0.080	tons/day	Mid	8%	
Coon Creek Watershed District WRAPS 2010-Sand Creek-(07010206-558)-TSS				0.130	tons/day	High	49%	
Coon Creek Watershed District WRAPS 2010-Unnamed ditch-(07010206-594)-TP				0.260	tons/day	Very High	49%	
Coon Creek Watershed District WRAPS 2010-Unnamed ditch-(07010206-594)-TSS		Coon Creek Watershed District WRAPS 2010-County Ditch 17-(07010206-557)-TP	Categorical	0.130	lbs/day	Low	23%	
Golden Lake TMDL-Golden-(02-0045-00)-TP				0.170	lbs/day	Mid	35%	
Hardwood Creek Impaired Biota and Dissolved Oxygen TMDL-Hardwood Creek-(07010206-596)-Total Oxygen Demand				0.230	lbs/day	High	6%	
Hardwood Creek Impaired Biota and Dissolved Oxygen TMDL-Hardwood Creek-(07010206-596)-TSS				0.340	lbs/day	Very High	Not Available	
Peltier/Centerville Lake Nutrient Impairment TMDL-Peltier-(02-0004-00)-TP		Coon Creek Watershed District WRAPS 2010-Sand Creek-(07010206-558)-TP	Categorical	1.360	lbs/day	Very High	33%	
Rice Creek Watershed District Southwest Urban Lakes - Excess Nutrients TMDL-East Moore-(02-0075-01)-TP		Coon Creek Watershed District WRAPS 2010-Sand Creek-(07010206-558)-TSS	Categorical	0.200	tons/day	Very High	10%	
Rice Creek Watershed District Southwest Urban Lakes - Excess Nutrients TMDL-Pike-(62-0069-00)-TP		Coon Creek Watershed District WRAPS 2010-Unnamed ditch-(07010206-594)-TP	Categorical	0.140	lbs/day	Very High	9%	
Silver (West) Lake (Metro)-Silver-(62-0083-00)-TP		Coon Creek Watershed District WRAPS 2010-Unnamed ditch-(07010206-594)-TSS	Categorical	0.010	tons/day	Mid	25%	
Vadnais Lake Area WMO-Wilkinson-(62-0043-00)-TP				0.020	tons/day	Very High	56%	
		Golden Lake TMDL-Golden-(02-0045-00)-TP	Categorical	0.010	lbs/day	Not Applicable	Not Available	
				3.800	lbs/yr	Not Applicable	Not Available	

Oxygen demand, nitrate, total suspended solids and total phosphorus

TMDL Permit Application Form Completion

Yes! I have WLAs that are being met



Complete 'Reductions for WLA met' tab



Complete 'BMPs for WLAs' met tab

No! I have WLAs that are not being met



Complete 'Compliance Schedule' tab



Complete 'Compliance Schedule BMPs' tab

Categorical WLA - Percent Reduction

A	B	C	D	E	F	G	H	I
Pollutant	(Multiple Items)							
Percent Reduction	(Multiple Items)		Permittee name	Municipality X				
Notes	(Multiple Items)		Pollutant	(Multiple Items)				
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				3.800	lbs/yr	Not Applicable	Not Available	

Categorical WLA – Percent Reduction

Enter BMPs installed since the baseline year

Use the percent reduction found in Column I of the Applicable WLAs determination tab as the metric to determine if a WLA is being met or not.

LOADING SUMMARY: TOTAL LOADING AND LOADING BY SUBWATERSHED														
Subwatershed	Worksheet	Acres	Initial load (lbs)		Final load (lbs)		Reduction (%)		Reduction (lbs)		Initial loading rate (lb/ac/yr)		Final loading rate (lb/ac/yr)	
			Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS
1	1	3.00	2.62	977	1.87	581	28.66	40.55	0.75	396	0.87	326	0.62	194
2	2	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
3	3	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
4	4	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
5	5	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
6	6	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
7	7	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
8	8	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
9	9	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
10	10	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
TOTALS		3.00	2.62	977	1.87	580	28.66	40.61	0.75	397	0.87	326	0.62	193

Categorical WLA- Using an Aggregator

Lake Example		lbs/day
Wasteload Allocation	Municipality A MS4	9.7
	Municipality B MS4	
	Municipality C MS4	
Load Allocation	Non point sources	6.3
Margin of Safety		4
Total Load Capacity		20

- All permittees sharing a categorical WLA agree to use an aggregator (watershed district or another permittee who agrees to track BMPS and reductions).
- Use all BMPS since the baseline year and entire MS4 regulated area as outlined in the TMDL to determine whether they are meeting the WLA as a whole or not.
- If a group of permittees agrees to address a categorical WLA together, they do not need to determine individual target loads. However, they are all equally responsible for items in the compliance schedule.
- Each permittee still needs to submit their TMDL Application Form.
- Categorical WLAs that are being addressed as a group should be noted in question 174 of the PDF portion of the application, and the partnerships should be noted in questions 6 and 7 of the PDF portion of the Application.

Categorical WLA- Using an Aggregator

A	B	C	D	E	F	G	H	I
Pollutant	(Multiple Items)							
Percent Reduction	(Multiple Items)		Permittee name	Municipality X				
Notes	(Multiple Items)		Pollutant	(Multiple Items)				
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				3.800	lbs/yr	Not Applicable	Not Available	

Categorical WLA- Using an Aggregator

Municipality X wq-strm4-62 - Excel

File Home Insert Page Layout Formulas Data Review View Developer OnBase Reporting Tell me what you want to do... Bosch, Anna (MPCA) Share

A7 Permittee name

10/30/2020

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

TMDL Master List

Municipal Separate Storm Sewer Systems (MS4) Program
Total Maximum Daily Load (TMDL), Wasteload Allocations (WLAs)

This table is for reference only and shows ALL waste load allocations assigned to an MS4 and all flow zones, whether they need to be reported on in this application or not. See 'Applicable WLAs determination' tab for oxygen demand, nitrogen, TSS and TP WLAs that need compliance schedules or documentation to demonstrate that the WLAs are being met.

Permittee name	MS4 Permit #	TMDL project name	Waterbody ID	Waterbody name	WLA type	Numeric WLA	Units	Flow Condition	Percent Reduction
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	1.750	lbs/day	Very High	61
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	0.530	lbs/day	Mid	19
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	0.330	lbs/day	Low	0
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	0.160	lbs/day	Very Low	0
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	0.260	tons/day	Very High	49
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Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	0.080	tons/day	Mid	8
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	0.030	tons/day	Low	0
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categorical	0.010	tons/day	Very Low	0
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-557	County Ditch 17	Categorical	0.340	lbs/day	Very High	Not Avail
Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-557	County Ditch 17	Categorical	0.230	lbs/day	High	6

Filter by TMDL project name

Information Bacteria Chloride Temp Applicable WLAs determination Compliance Schedule Compliance Schedule BMPs Reductions for WLA met BMPs for WLAs met TMDL Master List Source TMDL Master List_HIDE ...

Ready 60 of 7663 records found

3:19 PM 3/5/2021

Categorical WLA- Using an Aggregator

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Permittee name	MS4 Permit #	TMDL project name	Waterbody ID	Waterbody name	WLA
Municipality X	MS409999	Coon Creek W	07010206-530	Coon Creek	Categoric
Municipality X	MS409999	Coon Creek W	07010206-530	Coon Creek	Categoric
Municipality X	MS409999	Coon Creek W	07010206-530	Coon Creek	Categoric
Municipality X	MS409999	Coon Creek W	07010206-530	Coon Creek	Categoric
Municipality X	MS409999	Coon Creek W	07010206-530	Coon Creek	Categoric
Municipality X	MS409999	Coon Creek W	07010206-530	Coon Creek	Categoric
Municipality X	MS409999	Coon Creek W	07010206-530	Coon Creek	Categoric
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Municipality X	MS409999	Coon Creek Watershed District WRAPS 2010	07010206-530	Coon Creek	Categoric
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Permittee name	MS4 Permit #	TMDL project name	Waterbody ID	Waterbody name	WLA type	Num
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Once you've filtered by TMDL project name, you can see which other permittees share the categorical WLA

Ready 35 of 7663 records found

Bacteria Chloride Temp Applicable WLAs determination Compliance Schedule Compliance Schedule BMPs Reductions for WLA met BMPs for WLAs met TMDL Master List Source TMDL Ma

Categorical WLA- Using an Aggregator

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Load Allocation	Non point sources	6.3
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Total Load Capacity		20

Categorical WLA- Using an Aggregator

	A	B	C	D	E	F
1	Compliance schedule Best Management Practices (BMPs) for Wasteload Allocations not being met (permit item 12.8)					
2	Fill in the following table with your proposed best management practices (BMPs) or progress toward implementation of BMPs to be achieved during the permit term, anticipated number of practices (if you are planning to install more than one of any type of BMP), and the year each BMP is expected to be implemented ("Implementation Year(s)" column). Put an "X" in the boxes for the TMDL that corresponds with each BMP. Where possible, please select the appropriate BMP from the dropdown (click on downward arrow to see options) in the "Best Management Practice/Activity" column. Otherwise, you are free to enter text in this worksheet. For more guidance on completing this tab, see:					
3	https://stormwater.pca.state.mn.us/index.php?title=Guidance for completing the MS4 Permit TMDL Application Form#12.8 Compliance schedule BMPs tab					
4	Required	Optional	Optional	Required	TMDL-Waterbody-Pollutant	
5	Best Management Practice/Activity	BMP description (Select all that apply)	Anticipated number of practices (if applicable)	Expected Implementation Year(s)	Coon Creek Watershed District WRAPS 2010-Coon Creek-(07010206-530)-TP	Coon Creek Watershed District WRAPS 2010-Coon Creek-(0701020530)-TSS
6			See aggregated compliance schedule		X	X
7						

If using an Aggregator, it might be easier to submit a separate spreadsheet noting your BMPs. That is acceptable as long as it includes the same information found in the TMDL Application Form.

Categorical WLA- Using an Aggregator

If claiming to meet a WLA using an Aggregator, all permittees assigned to the categorical WLA will have to be included.

Documentation for Waste load Allocations being met (permit item 12.10)									
Fill in the following table for each applicable oxygen demand, nitrate, TSS and/or TP WLA you are claiming to meet using the MPCA-approved method. This should either demonstrate the cumulative estimated reductions from BMPs that serve to meet the MS4 WLA reductions included in the TMDL report OR demonstrates the MS4's existing load meets the WLA. For more guidance on completing this tab, see: https://stormwater.pca.state.mn.us/index.php?title=Guidance_for_completing_the_MS4_Permit_TMDL_Application_Form#12.10_Reductions_for_WLAs_met_tab									
Required	Cumulative Estimated Reductions - Required		Required	Required if "other" selected in column D	Required	Required	Required if WLA is categorical	Required if WLA is categorical	Optional
TMDL project name, waterbody and pollutant	Cumulative estimated reduction How are you claiming to meet the WLA?	Cumulative estimated reduction (Enter value corresponding to units specified in Column B)	Method(s) used to calculate	Name of other model	Do you have the calculations available on file?	Is this part of a categorical WLA? (See Column E on Applicable WLAs determination tab)	If part of a Categorical WLA, how did you determine your portion of the WLA?	What is your portion of the categorical WLA? (Include units)	Notes
Golden Lake TMDL-Golden-(02-0045-00)-TP	Pounds reduced		MPCA Simple Estimator		Yes	Yes	Other	Meeting categorical as a group	

Categorical WLA - use Calculated Loading Rate

MPCA staff have calculated loading rates (lbs/ac/yr) for each of the TMDL Projects below:

Burandt Lake Excess Nutrients TMDL
Coon Creek Watershed District WRAPS 2010
Elk River Watershed TMDL
Golden Lake TMDL
Lower Cannon River Turbidity TMDL
Miss. River - Saint Cloud WRAPS 2009
Twin (Upper, Middle, and Lower) and Ryan Lakes TMDLs
Zumbro River Watershed Turbidity TMDL

Loading rates can be found in the spreadsheet located here: [Guidance for categorical TMDLs - Minnesota Stormwater Manual \(state.mn.us\)](#)

Categorical WLA - Loading Rate

- [Guidance and examples for using the MPCA Estimator - Minnesota Stormwater Manual \(state.mn.us\)](https://state.mn.us)
- Put in your regulated area land use and check the 'Summary Sheet' tab to see your loading rate in lbs/ac/yr
- If you are not meeting with your base land use, then you can add **BMPs** installed since the baseline year (column M on the TMDL Master List tab) to see if that allows you to meet the loading rate.



Categorical WLA -Loading Rate

- [Default TSS and TP loads for different land use scenarios using the MPCA Simple Estimator - Minnesota Stormwater Manual \(state.mn.us\)](#)
- If your landuse matches one of the three pre-set groups, you can use that to help determine your loading rate per acre.
- If you are not meeting with your base land use, then you can add in **BMPs** installed since the baseline year (column M on the TMDL Master List tab)to see if that allows you to meet the loading rate.



Categorical WLA – Loading rate

Use the Simple Estimator to determine if you are meeting the calculated loading rate or not.

LOADING SUMMARY: TOTAL LOADING AND LOADING BY SUBWATERSHED														
Subwatershed	Worksheet	Acres	Initial load (lbs)		Final load (lbs)		Reduction (%)		Reduction (lbs)		Initial loading rate (lb/ac/yr)		Final loading rate (lb/ac/yr)	
			Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS
1	1	3.00	2.62	977	1.87	581	28.66	40.55	0.75	396	0.87	326	0.62	194
2	2	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
3	3	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
4	4	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
5	5	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
6	6	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
7	7	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
8	8	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
9	9	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
10	10	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
TOTALS		3.00	2.62	977	1.87	580	28.66	40.61	0.75	397	0.87	326	0.62	193

Categorical WLA – Loading rates

A	B	C	D	E	F	G	H	I	J
Documentation for Waste load Allocations being met (permit item 12.10)									
Fill in the following table for each applicable oxygen demand, nitrate, TSS and/or TP WLA you are claiming to meet using the MPCA-approved method. This should either demonstrate the cumulative estimated reductions from BMPs that serve to meet the MS4 WLA reductions included in the TMDL report OR demonstrates the MS4's existing load meets the WLA. For more guidance on completing this tab, see: https://stormwater.pca.state.mn.us/index.php?title=Guidance_for_completing_the_MS4_Permit_TMDL_Application_Form#12.10_Reductions_for_WLAs_met_tab									
Required	Cumulative Estimated Reductions - Required		Required	Required if "other" selected in column D	Required	Required	Required if WLA is categorical	Required if WLA is categorical	Optional
TMDL project name, waterbody and pollutant	Cumulative estimated reduction - How are you claiming to meet the WLA?	Cumulative estimated reduction (Enter value corresponding to units specified in Column B)	Method(s) used to calculate	Name of other model	Do you have the calculations available on file?	Is this part of a categorical WLA? (See Column E on Applicable WLAs determination tab)	If part of a Categorical WLA, how did you determine your portion of the WLA?	What is your portion of the categorical WLA? (Include units)	Notes
Golden Lake TMDL-Golden-(02-0045-00)-TP	Loading rate (lb/ac/yr)	Enter your calculated loading rate	MPCA Simple Estimator		Yes	Yes	Other	Used calculated loading rate	Enter MPCA calculated loading rate

If you are meeting a calculated loading rate, this is how you would note that on the TMDL Application

Categorical WLA - Calculating individual target load

- Permittee divides the categorical WLA into an individual target load for their municipality
- Requires looking at the TMDL report to reference how the categorical WLA was determined originally.
 - In the majority of instances, this would have been an area approach.
- Should also check to see if there was a completed Implementation Plan

Categorical WLA - Calculating a target load

Lake Example		lbs/day
Wasteload Allocation	Municipality A	9.7
	Municipality B	
	Municipality C	
Load Allocation	Non point sources	6.3
Margin of Safety		4
Total Load Capacity		20

TMDL Wasteload Allocation Methodology section has a table with the MS4 areas within the contributing watershed:

Municipality	MS4 Area within Contributing watershed (acres)
Municipality A	300
Municipality B	50
Municipality C	25

Calculating a target load

Lake Example		lbs/day
Wasteload Allocation	Municipality A	9.7
	Municipality B	
	Municipality C	

Municipality A = 80% of the Area, so their target load would be 7.76 lbs/ day

$300 \text{ acres} / 375 \text{ total acres} = 80\%$

$80\% * 9.7 \text{ lbs/day} = 7.76 \text{ lbs/day}$

Municipality	MS4 Area within Contributing watershed (acres)
Municipality A	300
Municipality B	50
Municipality C	25

Categorical WLA – Target Load

Use the Simple Estimator to see if you are meeting the calculated target load or not.

LOADING SUMMARY: TOTAL LOADING AND LOADING BY SUBWATERSHED														
Subwatershed	Worksheet	Acres	Initial load (lbs)		Final load (lbs)		Reduction (%)		Reduction (lbs)		Initial loading rate (lb/ac/yr)		Final loading rate (lb/ac/yr)	
			Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS	Phosphorus	TSS
1	1	3.00	2.62	977	1.87	581	28.66	40.55	0.75	396	0.87	326	0.62	194
2	2	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
3	3	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
4	4	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
5	5	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
6	6	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
7	7	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
8	8	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
9	9	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
10	10	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.46	139	0.46	139
TOTALS		3.00	2.62	977	1.87	580	28.66	40.61	0.75	397	0.87	326	0.62	193

Total Maximum Daily Loads (TMDLs) - Minnesota Stormwater Manual

TMDL MS4 permit guidance

- [Summary of TMDL requirements in stormwater permits](#)
- [Guidance for completing the MS4 Permit TMDL Application Form](#)
- [Guidance for meeting chloride TMDL MS4 permit requirements](#)
- [Guidance for meeting bacteria TMDL MS4 permit requirements](#)
- [Guidance for meeting dissolved oxygen or oxygen demand TMDL MS4 permit requirements](#)
- [Guidance for meeting temperature TMDL MS4 permit requirements](#)
- ★ [Guidance for categorical TMDLs – Updated guidance](#)
- [List of Approved TMDLs with MS4 WLAs](#)
- [Forms, guidance, and resources for completing the TMDL annual report form](#)
- [Baseline year](#)
- [Interpreting wasteload allocations based on flow/load duration curves](#)

New Resource

Shapefiles for TMDL projects

- Should include subwatershed areas used in the project
- May include MS4 areas
- Still a dozen or two files to upload, should be done by the end of the week
- <https://app.sharebase.com/#/folder/37975/share/185-OU4QvSU24mc9PBCUGuysE-jhy1o>

- [MS4 webinars and videos - Minnesota Stormwater Manual \(state.mn.us\)](#)

2020 General Permit TMDL Application Form Webinars and Presentations [\[edit\]](#)

1. MS4 Permit Application form (Excel spreadsheet) Overview - Feb. 16, 2021 Webex meeting
2. Powerpoint of February 16-includes links to helpful resources
3. South Metro Mississippi River TSS TMDL - February 23, 2021 Webex meeting
4. Powerpoint of February 23-includes links to helpful resources

Webinars [\[edit\]](#)

1. Overview of the MS4 Part 2 Permit Application (PDF) and public notice process - Feb. 10, 2021 Webex meeting
 2. Overview of the MPCA Simple Estimator - Feb. 18, 2021 Zoom meeting
 3. MS4 Audit Process
 4. Self-Audit Guidance
 5. How to use the Notice of Termination/Permit Modification Form
 6. MS4 Program Overview and minimum control measures (MCM) descriptions
- [2020 MS4 general permit | Minnesota Pollution Control Agency \(state.mn.us\)](#)



Questions?
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