

A meeting of the joint Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions is scheduled for 8:30 a.m., Thursday, May 24, 2018, at Crystal City Hall, 4141 Douglas Drive North, Crystal, MN.

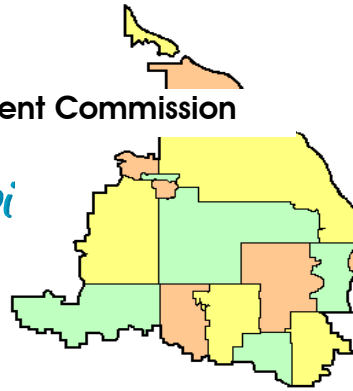
A G E N D A

Meeting docs (*) will be posted on the website at
<http://www.shinglecreek.org/tac-meetings.html>

1. Approve agenda*
2. Approve Minutes of March 29, 2018 meeting*
3. Project Review Fees Analysis.*
4. Eagle, Pike and Cedar Island 5-Year Review.*
5. Eagle Lake Channel.
6. Watershed-Based Funding Pilot Program.
7. Other business.
8. Next meeting _____

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*in meeting packet *** available at the meeting



MINUTES
March 29, 2018

A meeting of the Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions was called to order by Chairman Richard McCoy at 8:33 a.m., Thursday, March 29, 2018, at Crystal City Hall, 4141 Douglas Drive North, Crystal, MN.

Present were: Andrew Hogg, Brooklyn Center; Mark Ray, Crystal; Rick Lestina, Maple Grove; Liz Stout, Minneapolis; Shawn Markham, New Hope; Ben Scharenbroich, Plymouth; Richard McCoy, Robbinsdale; Ed Matthiesen and Diane Spector, Wenck Associates, Inc.; and Judie Anderson, JASS.

Not represented: Brooklyn Park, Champlin, and Osseo.

Also present: Stephanie Hatten, WSB & Associates.

- I. Motion by Stout, second by Scharenbroich to **approve the agenda**. *Motion carried unanimously.*
- II. Motion by Scharenbroich, second by Hogg to **approve the minutes** of the February 1, 2018 meeting.* *Motion carried unanimously.*
- III. **Minor Plan Amendment.***

The proposed Minor Plan Amendment would revise the CIP to specify that the 2018 generic Lake Internal Load Project is the Bass and Pomerleau Lakes Alum Treatment Project and updating the project cost, In addition, the Shingle Creek Commission would add the SRP Reduction Project, a Section 319 grant research project (recommended by the MPCA for funding) to the CIP. Both projects would be added in 2018.

The proposed CIP and MPA process for 2018 is the typical process with one difference. Instead of holding the public hearing on 2018 projects and certification of levies in September, Staff propose to hold the hearing in July. This will allow the Commission to order and Plymouth to bid the project so that a contract can be awarded in September for October alum application.

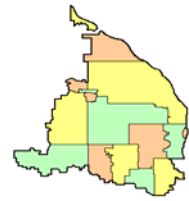
Because it is a joint Plan both Commissions must authorize proceeding with the Minor Plan Amendment. The Commissions must send a copy of the proposed MPA to the member cities, Hennepin County, Metropolitan Council, and the state review agencies for review and comment, and must hold a public meeting to explain the amendment. This meeting must be public noticed twice, at least seven and 14 days prior to the meeting. Hennepin County will be undertaking a parallel process of review and public hearing.

Motion by Scharenbroich, second by Stout to recommend to the Commissions moving forward with the public meeting and setting the date of the public meeting as May 10, 2018. *Motion carried unanimously.*

IV. Rules Check-in.*

The Third Generation plan states that the Commission will periodically review and update as necessary the development/redevelopment rules and standards and practices. Staff do not have anything specific to recommend at this time, but it is good to check in:

- A. Are there any potential revisions that should be considered?



B. How has the process been going for City review of projects under five acres?

Staff suggest that the Commission look into updating the review fees,* which have not been updated since 2014. A copy of Bassett Creek WMO’s recently updated review fee structure* is included in the meeting packet for comparison.

The Commissions’ unaudited year-end fee revenues and expenses are shown below. The expenses include more tasks than just the actual project reviews, and there are some expenses relating to project reviews that never generate a review fee (inquiries, assistance to cities). However, based on the magnitude of difference an assessment of the adequacy of the fees in capturing review expenses is in order.

Unaudited 2017 year end project review fees and project review-related expenses.*

Commission	Review Fees Received	Expenses**
Shingle Creek	\$19,700	\$44,958
West Mississippi	\$18,800	\$34,472

*Excludes Blue Line expenses.

**Both Engineering and Administrative expense

V. Pike Lake Subwatershed Assessment.*

The City of Maple Grove has requested that a subwatershed assessment (SWA) be completed in that part of Maple Grove that is tributary to Pike Lake. The Commission has previously completed an assessment for the part that is in the City of Plymouth. The SWA will identify potential BMPs to reduce nutrient loading to Pike Lake.

The Commission budgets \$20,000 annually for subwatershed assessments. Maple Grove would like to use its own consultant, WSB, to complete this work. This would require the Commission to enter into a cooperative agreement with Maple Grove wherein the Commission agrees to reimburse the City to a maximum of \$20,000.

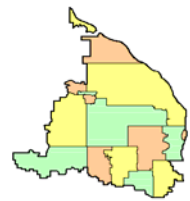
Motion by Ray, second by Scharebroich to recommend to the Commission approval of this request and directing the Commission’s attorney to draft a cooperative agreement. *Motion carried unanimously.*

VI. Submersed Aquatic Vegetation (SAV) Management Policy.*

The purpose of the policy is to set forth the conditions under which the Commission would lead and fund the treatment of aquatic invasive species. In discussions with other WMOs and cities that have undertaken internal load projects, Staff has found that post-construction treatment of invasive species is common, with management extending to a point where the AIS coverage is under control. This may take two to three years on many lakes, and five years or more on lakes that are highly infested. In the latter case, the first few years are often more extensive treatment, followed by a few years of tapering down to spot treatment. For example, Riley-Purgatory-Bluff Creek has some lakes with initial treatment costing \$20-25,000, followed by a few years of \$8-10,000 of less extensive treatment.

For the most part, WMOs and cities have limited participation in managing native species for access and recreation, which is primarily left to lake associations or individual property owners. According to the DNR there are currently nine Lake Improvement Districts in the Metro area, five of which were formed for aquatic vegetation management/AIS management purposes.

Point #6 of the draft SAV policy includes the statement, *The Commission will not participate financially in the cost of SAV management performed for recreation and access purposes.* In researching



SAV management by other WMOs, Staff learned that the Bassett Creek management plan includes the following language:

#79: The BCWMC will support and collaborate with other entities (e.g., agencies, lake association, cities, counties) to manage and prevent the spread of aquatic invasive species, BCWMC services may include point-intercept surveys of aquatic vegetation, feasibility studies, technical analysis, education, exploring funding options, and applying for grants. The BCWMC will not manage increased growths of native aquatic vegetation resulting from improved water quality.

Motion by Scharenbroich, second by Hogg to recommend approval of the draft policy with inclusion of the BCWMC language. *Motion carried unanimously.*

VII. FEMA Grant.

Matthiesen provided a verbal update on the flood mapping project. Wenck has estimated the cost to update the hydrology and hydraulic models is \$75,000. Rita Weaver at the DNR said \$50,000 is available to Shingle Creek. Spector indicated the Commission should be able to find \$25,000 by reallocating funds in the special studies account to cover the difference of the two-year period of the FEMA grant. The DNR is looking into additional funds for surveying or DNR staff availability.

Currently there is a hold on the West Mississippi scope of work. DNR will seek funding to do that work.

VIII. Watershed-based Funding Pilot Project.

Spector updated the members on this project. Invitations to the first meeting will be sent out soon – 1:30 p.m., May 16, 2018, Plymouth Library.

IX. Twin Lake Carp Project.

Matthiesen reported that the temporary barrier has been installed between Upper and Middle Twin Lakes. The barrier between Ryan and Lower Twin Lakes is being installed today.

X. Other Business.

A. Lestina inquired about the Commission's possible involvement in improving the **Eagle Lake channel**. He reported that Maple Grove has performed all of the remediation possible to prevent flooding and shoreline erosion. He would like to collaborate with the City of Brooklyn Park to conduct the necessary channel maintenance that will complete this process.

B. The **next meeting** of the Technical Advisory Committee is scheduled for May 24, 2018, at 8:30 a.m. at Crystal City Hall.

C. The meeting was adjourned at 9:48 a.m.

Respectfully submitted,

A handwritten signature in black ink, reading "Judie A. Anderson".

Judie A. Anderson
Recording Secretary

Technical Memo



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To: Shingle Creek/West Mississippi WMC TAC

From: Ed Matthiesen, P.E. Jeff Strom
Diane Spector Sarah Nalven

Date: May 18, 2018

Subject: Cedar Island-Eagle-Pike Lakes TMDL 5 Year Review

We are close to finishing the TMDL 5-year review study for Cedar Island, Pike, and Eagle Lakes. Modeling has been completed, and a draft report will be submitted to the Commission by the end of May 2018. Below is an excerpt from the draft report summarizing the modeling results and findings of the 5-year review for each lake.

Cedar Island Lake Updated Targets

The original TMDL models used 1999 as a base year for estimating the existing nutrient loading and TMDL allocations for Cedar Island Lake. The original TMDL model called for watershed and residual/internal TP load reduction goals of approximately 138 lbs/year and 208 lbs/year, respectively. Recent in-lake monitoring, lift station data, and sediment core collection and analysis have greatly improved our understanding of the current condition TP budget Cedar Island Lake. The updated lake response model suggests a residual load of 763 lbs/yr for Cedar Island Lake. This load represents additional load needed to calibrate the lake response model to in-lake monitored data. The source of the residual load is unknown at this time, however it could include inputs from one or several sources such as rough fish and/or an imbalanced fishery, CLP senescence, and wind/wave action from wind or boating/recreation. In order for Cedar Island Lake to meet State water quality standards, the source of residual load will need to be identified and removed and/or managed appropriately. Additionally, watershed loading will need to be reduced by approximately 48 lbs/year and sediment release of phosphorus by 51 lbs/year (Table 1). Figure 1 shows how our understanding of the existing and allowable TP loads in Cedar Island Lake have changed since the original TMDL study.

Table 1. Updated existing and allowable TP loads for the Cedar Island Lake.

			Existing TP Load [lbs/yr]	Allowable TP Load [lbs/yr]	Estimated Load Reduction	
					lbs/yr	Percent
Cedar Island	Wasteload	Watershed MS4	83	35	48	58%
	Load	Atmospheric	19	19	0	0%
		Sediment	77	26	51	66%
		Residual	763	0	763	100%
	TOTAL LOAD		942	80	862	74%

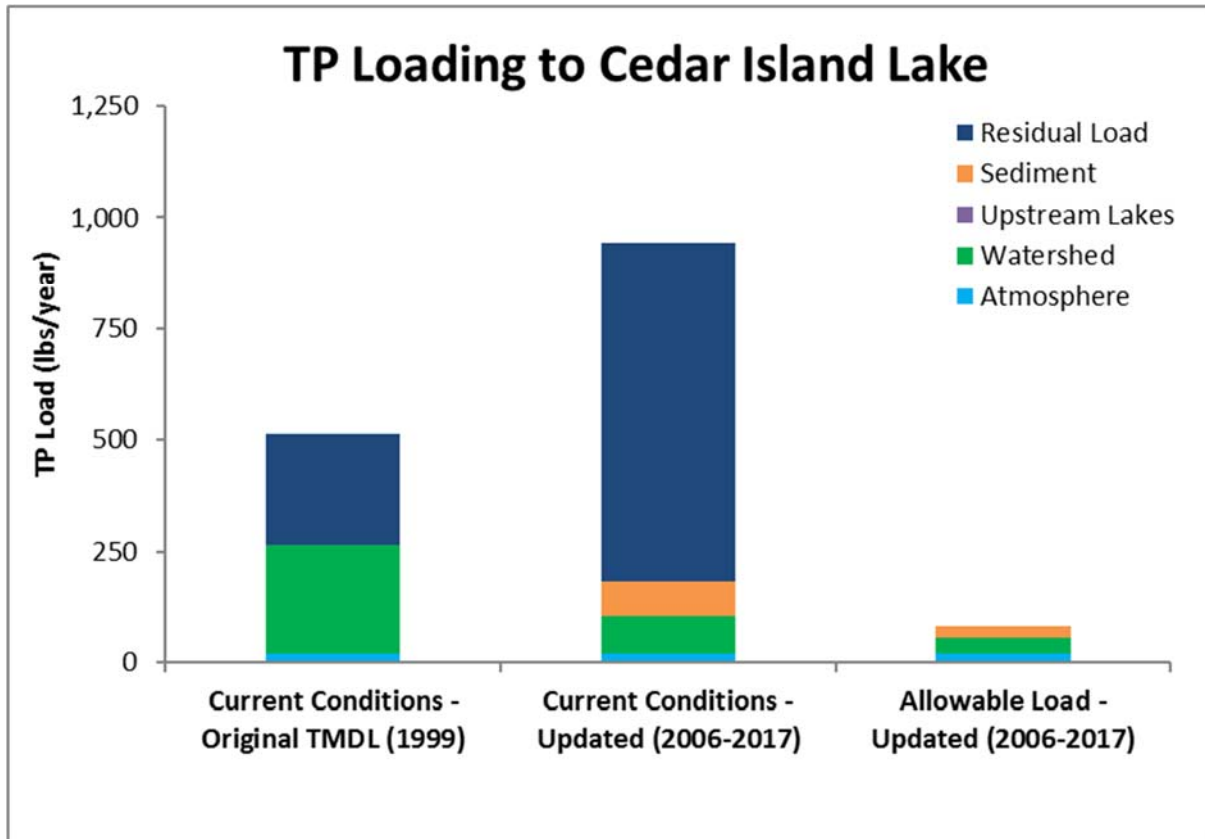


Figure 1. Current conditions and updated allowable load targets for Cedar Island Lake.

Pike Lake Updated Targets

The original TMDL model used 1999 as a base year for estimating existing nutrient loads and setting the TMDL allocations for Pike Lake. This model called for watershed and residual/internal TP load reduction goals of approximately 165 lbs/year and 142 lb/year, respectively. In order for Pike Lake to meet State water quality standards, watershed loading will need to be reduced by approximately 56 lbs/year and sediment release of phosphorus by 119 lbs/year (Table 2). Figure 2 shows how our understanding of the existing and allowable TP loads in Pike Lake have changed since the original TMDL study.

Table 2. Updated existing and allowable TP loads for the Pike Lake.

			Existing TP Load [lbs/yr]	Allowable TP Load [lbs/yr]	Estimated Load Reduction	
					lbs/yr	Percent
Pike	Wasteload	Watershed MS4	207	151	56	27%
	Load	Atmospheric	14	14	0	0%
		Sediment	191	72	119	62%
	TOTAL LOAD			412	237	175

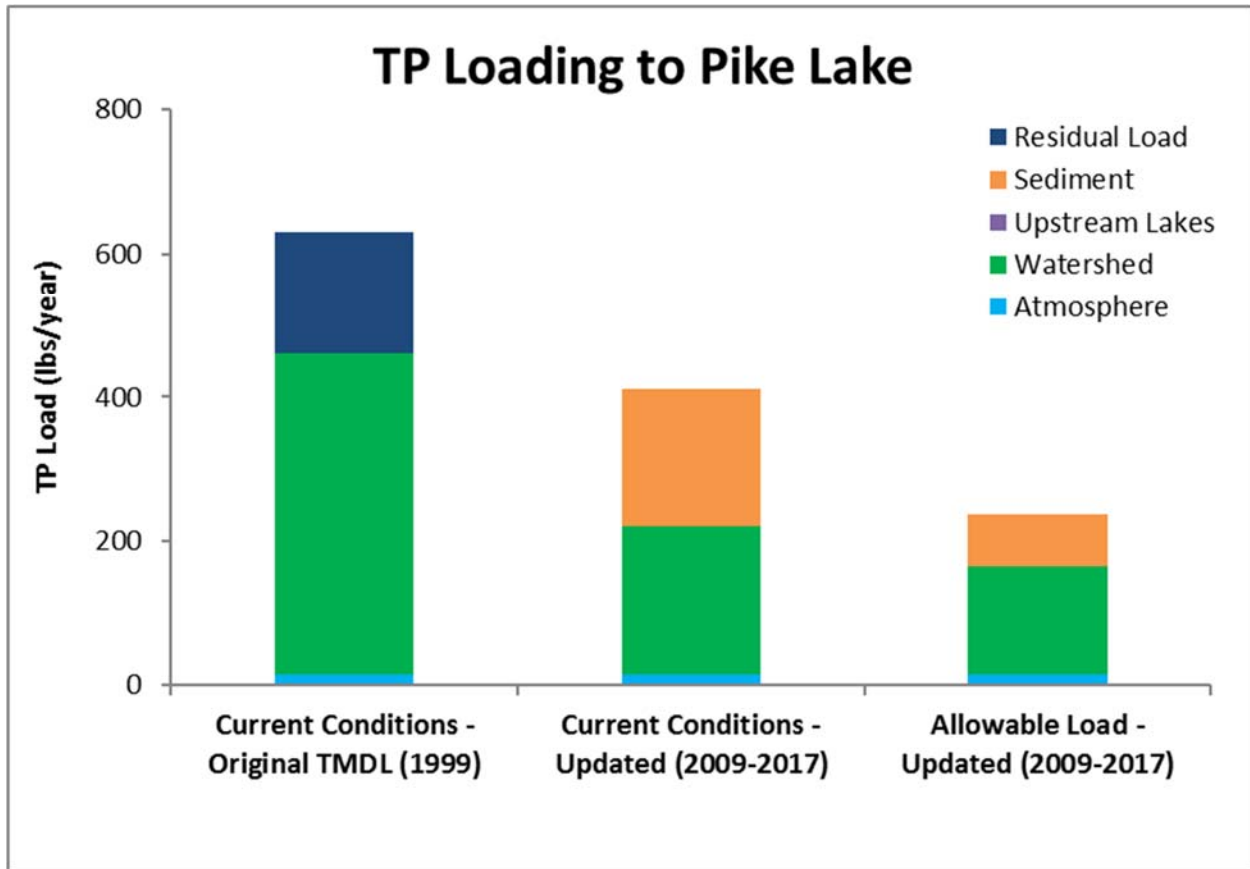


Figure 2. Current conditions and updated allowable load targets for Pike Lake.

Eagle Lake Updated Targets

The original TMDL models used 1999 as a base year for estimating the existing nutrient loading and TMDL allocations for Eagle Lake. The original TMDL model called for watershed and upstream lake TP load reduction goals of approximately 264 lbs/year and 221 lbs/year, respectively. Recent in-lake monitoring, stream monitoring, and sediment core collection and analysis have greatly improved our understanding of the current condition TP budget for Eagle Lake. The updated lake response model suggests a residual load of 176 lbs/yr for Eagle Lake. This load represents additional load needed to calibrate the lake response model to in-lake monitored data. The source of the residual load is unknown at this time, however it could include inputs from one or several sources such as rough fish and/or an imbalanced fishery, CLP senescence, and wind/wave action from wind or boating/recreation. In order for Eagle Lake to meet State water quality standards, the source of residual load will need to be identified and removed and/or managed appropriately. Additionally, upstream impaired lakes (Cedar Island and Pike Lakes) will need to achieve State water quality standards. Improvements in these lakes should result in TP load reductions to Eagle Lake of approximately 128 lbs/yr. Finally, watershed loading will need to be reduced by approximately 80 lbs/year and sediment release of phosphorus by 21 lbs/year (Table 3). Figure 3 shows how our understanding of the existing and allowable TP loads in Eagle Lake have changed since the original TMDL study.

Table 3. Updated existing and allowable TP loads for the Eagle Lake.

			Existing TP Load [lbs/yr]	Allowable TP Load [lbs/yr]	Estimated Load Reduction	
					lbs/yr	Percent
Eagle	Wasteload	Watershed MS4	190	110	80	42%
		Upstream Lakes	237	109	128	54%
	Load	Atmospheric	71	71	0	0%
		Sediment	185	164	21	11%
		Residual	176	0	176	100%
	TOTAL LOAD		859	454	405	47%

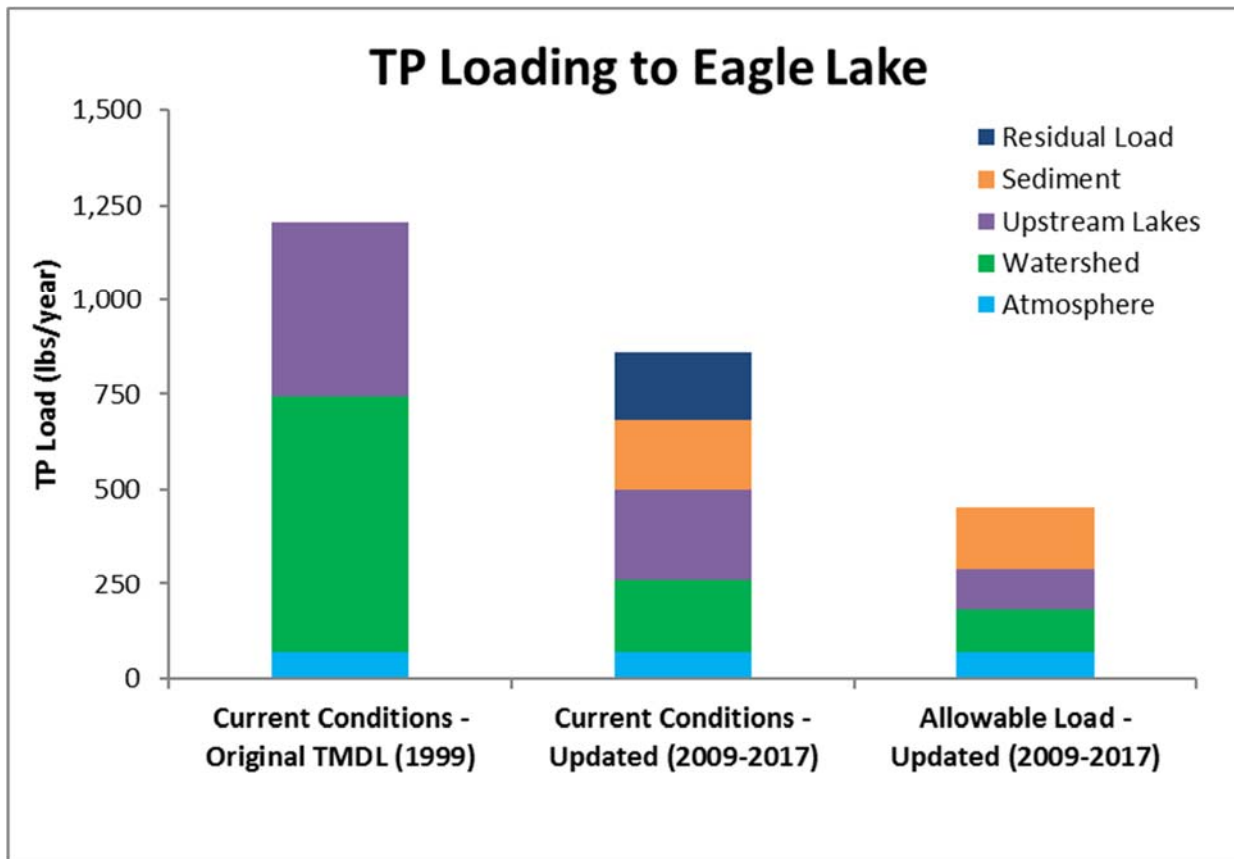
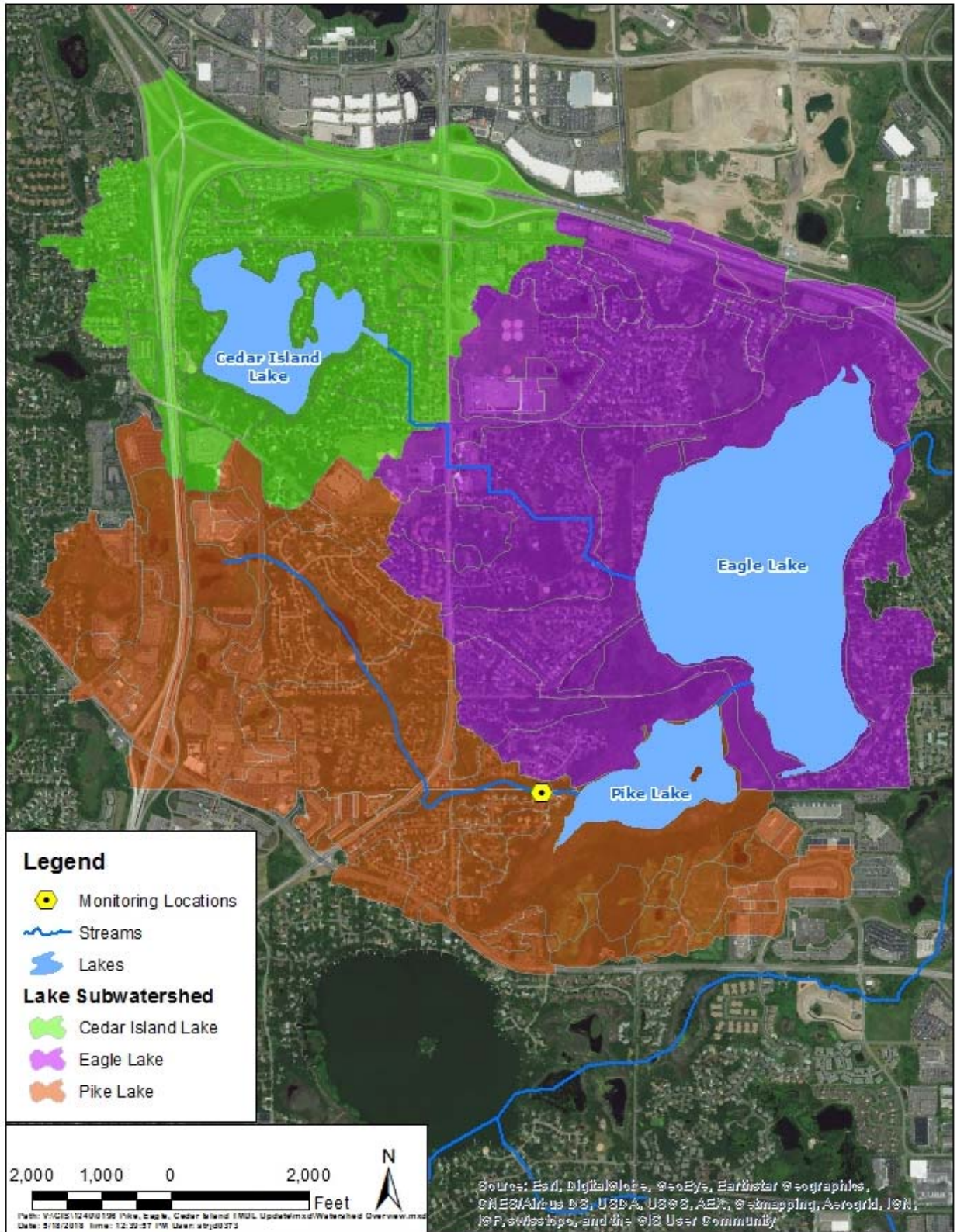
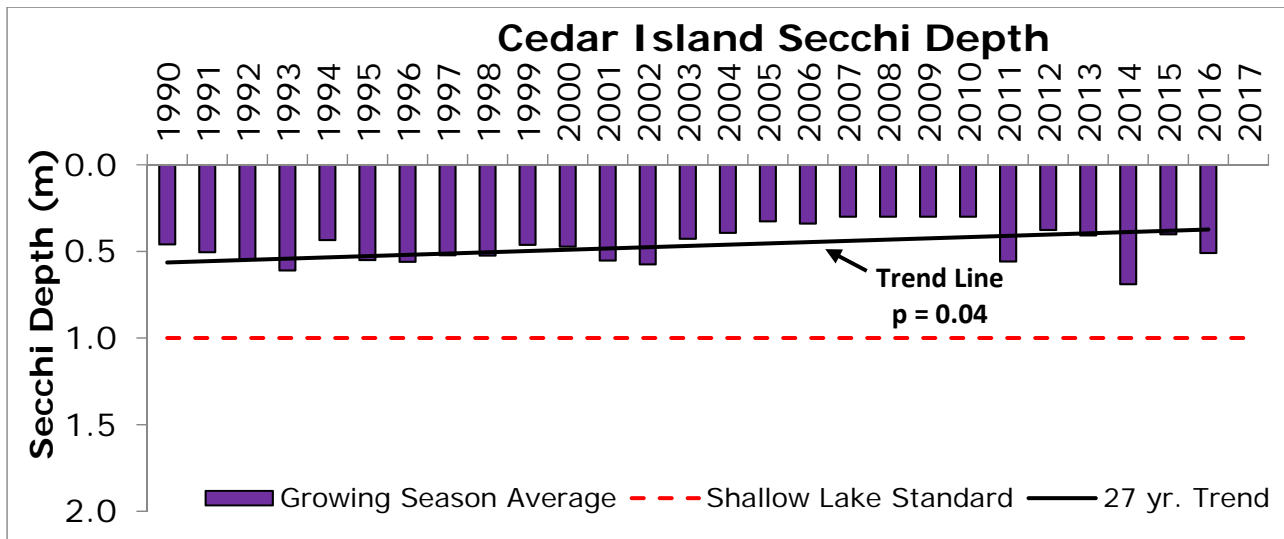
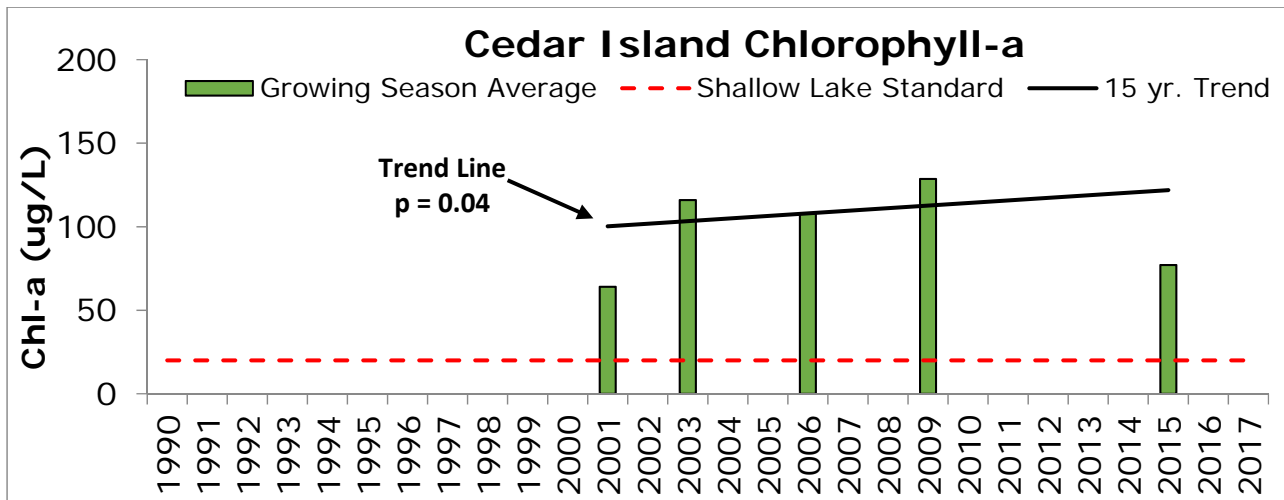
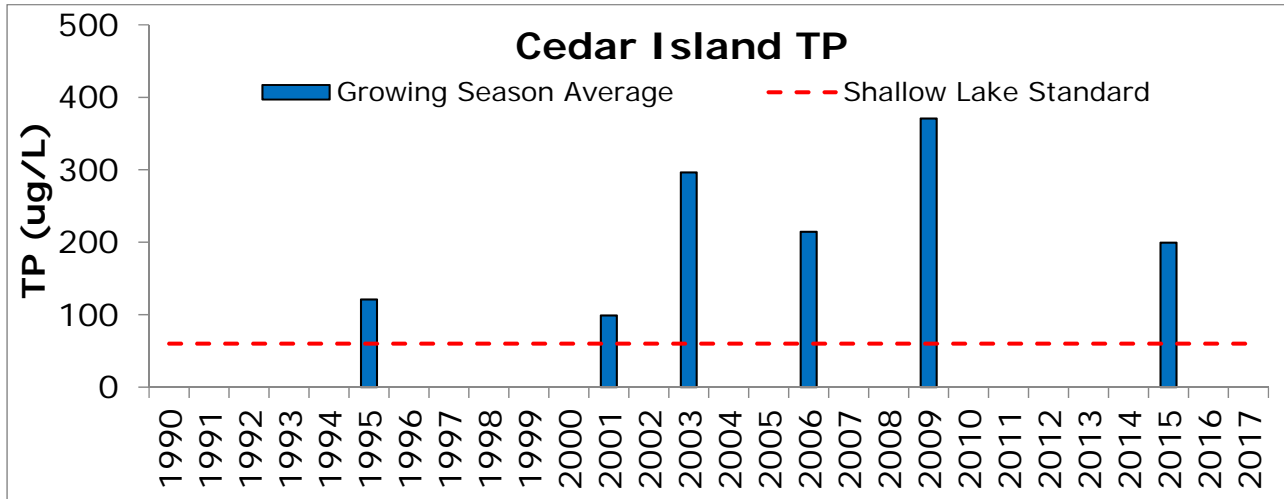


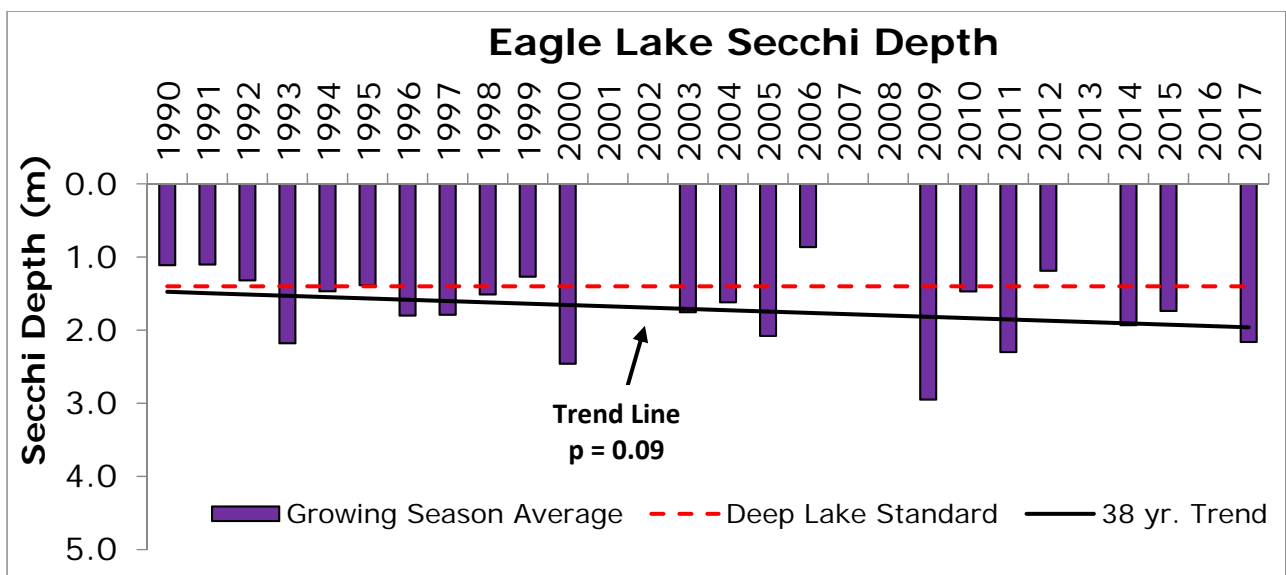
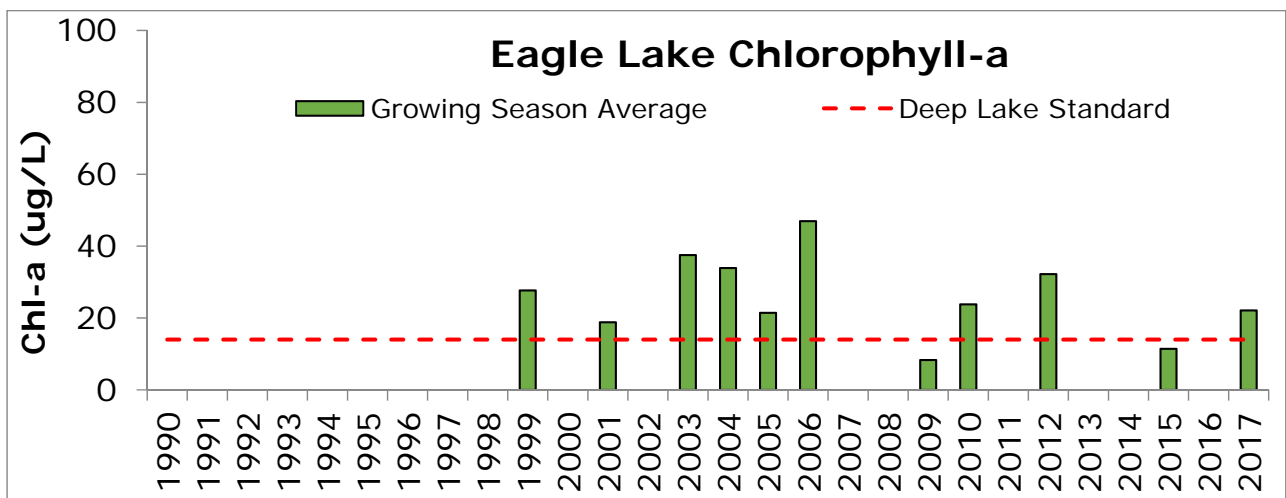
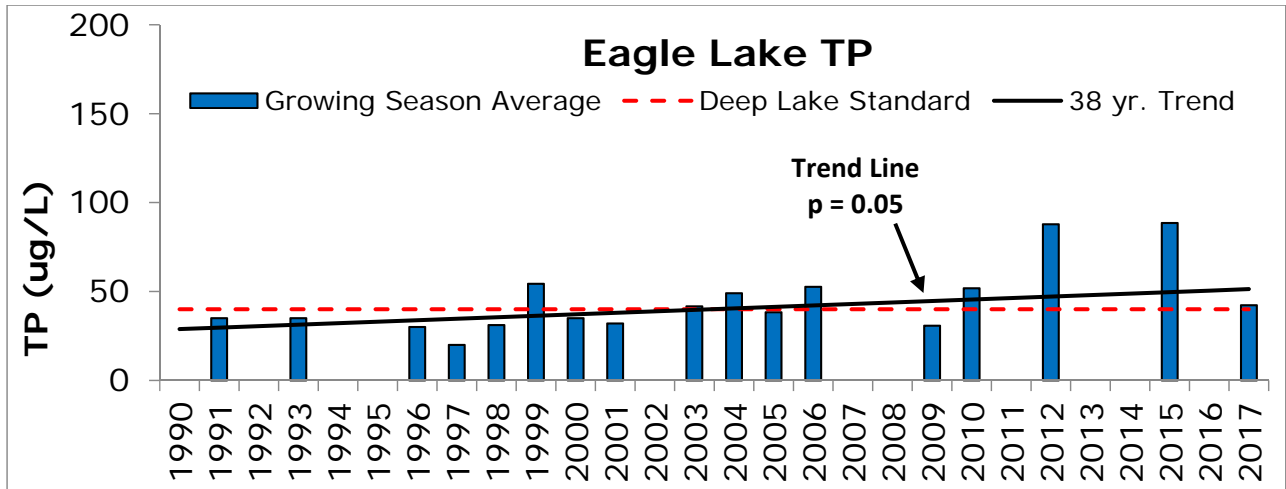
Figure 3. Current conditions and updated allowable load targets for Eagle Lake.

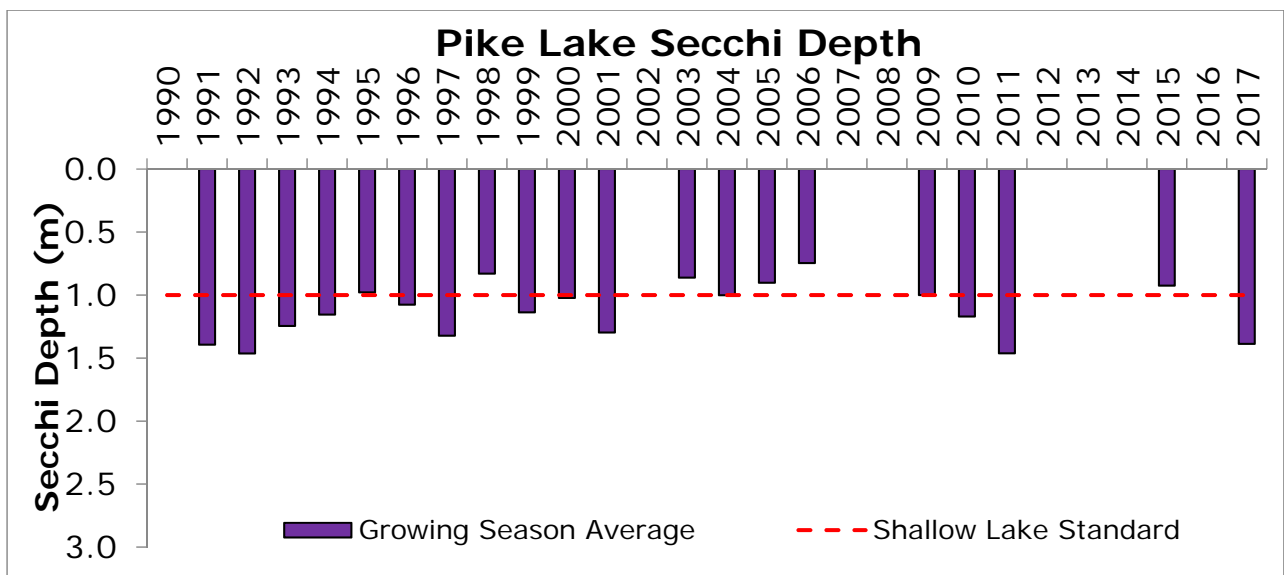
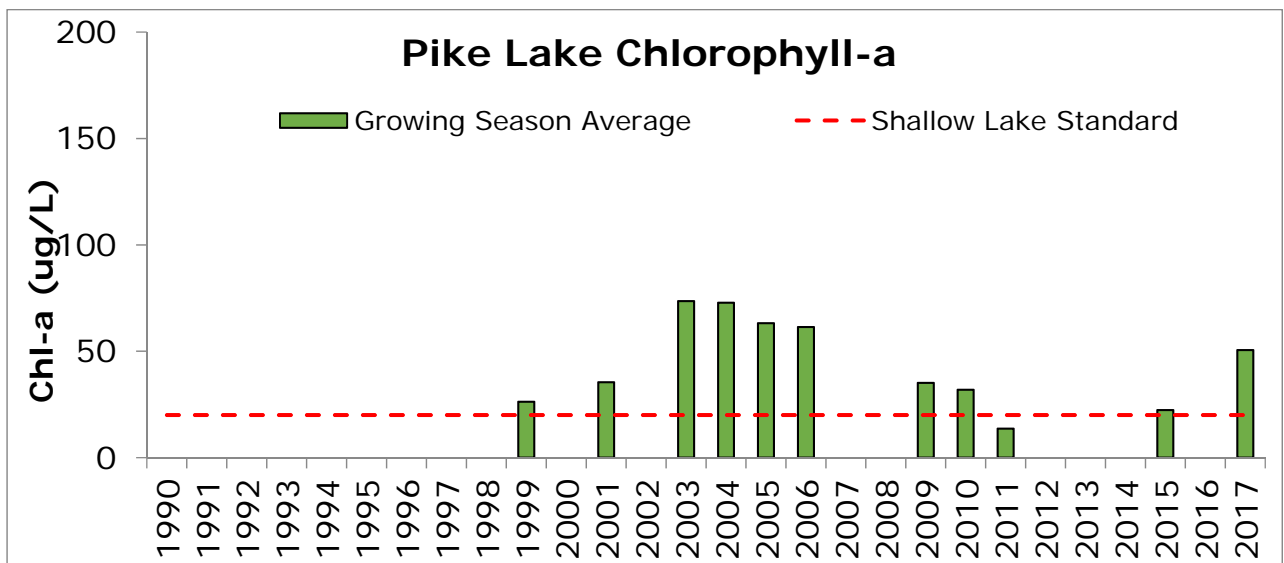
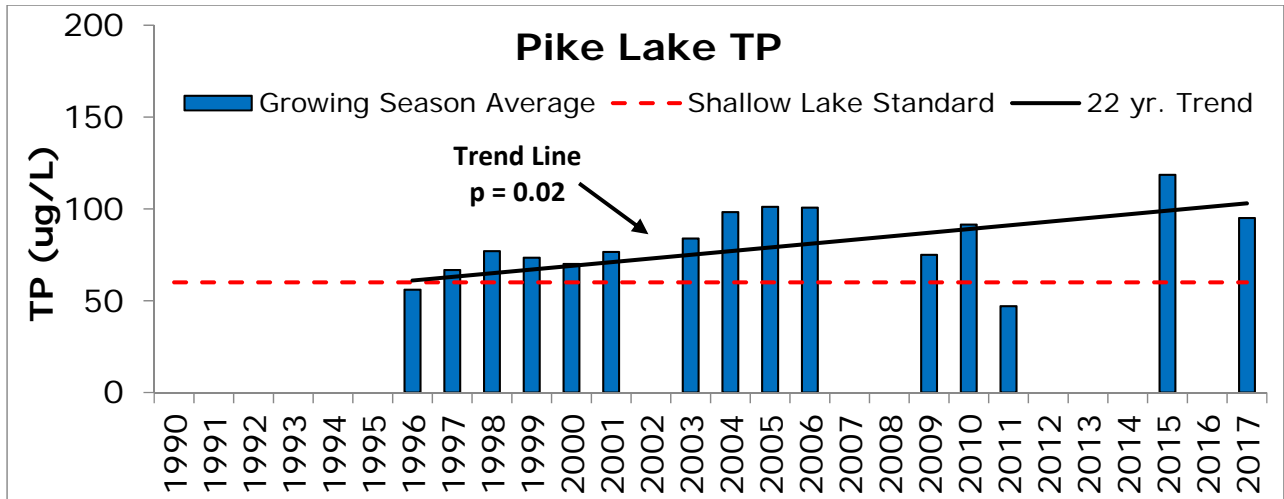
Attachment 1: Cedar Island, Pike, Eagle Lake Watershed Map



Attachment 2: Cedar Island, Pike, Eagle Lake Historic Water Quality







Technical Memo



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To: Shingle Creek/West Mississippi WMC TAC

From: Ed Matthiesen, P.E.
Diane Spector

Date: May 18, 2018

Subject: Project Review Fees Analysis

We have reviewed 2017 and 2018 to date projects review costs to assess the adequacy of the review fees. Please note that these costs are likely a bit underestimated. Wenck staff on their timesheets log comments for each entry, and entries are at times less descriptive than what we would hope. We have changed our timesheet system so that we now set up individual job numbers for each project review, so that should be better in the future. We also noted some other review-type activated that are for projects either well in advance of the project review, or where no project review fee was required. The “General or un known” were for activities that were either general inquires or assistance, or were for project reviews but it was not possible to tell which one based on the timesheet comments.

Table 1. Shingle Creek project review costs and fees.

SC Projects	Project	Billing	Fee
2016-008	Hyvee Robbinsdale	2,624.90	2,200
2017-001	Waters Edge 2nd Addn	520.20	1,700
2017-002	Donegal South	479.40	2,200
2017-003	Joslyn Remediation Site	3,268.90	3,700
2017-004	Mills Creek	1,543.80	2,200
2017-005	Edgewood Education Center	1,310.30	2,200
2017-006	HOM Furniture	3,493.20	2,200
2017-007	Arbor Lakes Business Park Bldg A	919.80	3,000
2017-008	New Hope City Hall	3,138.40	2,200
2017-xxx	C Line Bus Rapid Transit	1,228.80	-
2016-010	Lupient Collision Center	3,726.00	2,200
General or unknown		7,754.30	
None	CSAH 81	3,226.40	
None	Brooklyn Blvd	412.90	
None	Northland Inn	989.40	
None	Broadway	640.20	
None	2700 Freeway Blvd	873.00	
2018-001	Crystal Mac Nature Trail Improvements	2,151.80	1,100
2018-002	Arbor Lakes Buildings C and D	702.90	3,000
2018-003	Village at Arbor Lakes	727.50	3,000

SC Projects	Project	Billing	Fee
2018-004	Park 81	1,897.00	3,000
2018-005	Luther Mazda Mitsubishi	1,292.40	2,200
2018-006	Outdoor Storage and Impound Lot	1,684.40	1,700
2018-007	Lower Twin Lake Boat Launch	1,096.20	1,700
2018-008	Arbor Lakes Bus Park Streets and Utilities	742.40	1,100
2018-009	Public Storage Zachary Lane	168.00	
General or unknown		5,245.20	

Table 2. West Mississippi project review costs and fees.

WM Projects	Project	Billing	Fee
2017-001	TH 169, Champlin	5148.20	1100
2017-002	610 Commerce Center Phase 2	2410.00	2200
2017-003	Zachary Lane Retail	857.40	1700
2017-004	Amesbury Place	1102.20	2200
2017-005	The Cove at Northwoods	2210.50	1800
2017-006	The Cove at Brittany Park	1188.60	1500
2017-007	Top Golf	2735.60	2200
2017-008	Applewood Pointe	617.10	2200
2017-009	Capstone Quad A & B	4407.10	2200
2017-010	Rainbow Child Care	1150.50	1700
None	St Vincent de Paul	785.00	
General or unknown		3077.80	