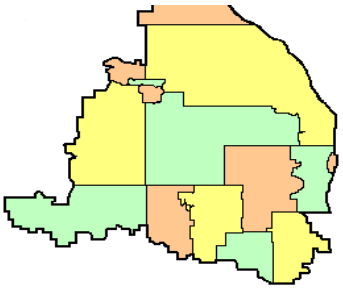
Item 01

Shingle Creek Watershed Management Commission

West Mississippi Watershed Management Commission



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January 24, 2018

Commissioners
Shingle Creek and West Mississippi
Watershed Management Commissions
Hennepin County, Minnesota

The agenda and meeting packet are available to all interested parties on the Commission's web site. The direct path is http://www.shinglecreek.org/minutes--meeting-packets.html

Dear Commissioners:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held **Thursday, February 8, 2018,** at Clubhouse at Edinburgh USA, 8700 Edinbrook Crossing, Brooklyn Park, MN. Lunch will be served at 12:00 noon and the meetings will convene concurrently at 12:45.

Please email Tiffany Kline at tiffany@jass.biz to confirm whether you or your Alternate will be attending the meeting.

Your meal choices are:

_____ **Chef Salad.** Fresh Lettuce, Julienne Ham, Turkey, Swiss and Cheddar Cheese, Plum Tomatoes, Hardboiled Egg, and Tomato Basil Vinaigrette
(All Dressing will be served on the side)

_____ **Pulled Pork Sandwich**. Slow Smoked, Memphis Style Pulled Pork Topped with Coleslaw on a Dusted Roll, with Potato Chips

_____ **Vegetable Cavatappi Pasta.** Spiral Pasta with Artichokes, Broccoli, Asparagus, Tomatoes, Red Onions and Squash in a Light Mushroom Sauce

_____ I will be attending but DO NOT want a meal.

_____ I will not be attending the regular meeting.

We must make final reservations by **noon Wednesday, January 31, 2018.** Please make a reservation, even if you are not requesting a meal, so we can arrange for sufficient seating and meeting materials. Thank you.

Regards,

Judie A. Anderson
Administrator

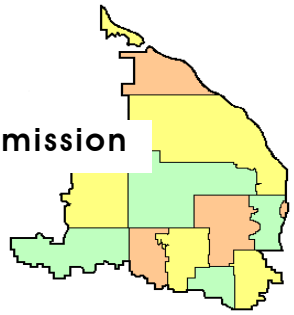
cc: Alternate Commissioners, Member Cites, Troy Gilchrist, TAC Members, Metropolitan Council, Wenck Associates

Z:\Shingle Creek\Meetings\Meetings 2018\02_Notice_Meeting.docx

Item 01b

Shingle Creek Watershed Management Commission

West Mississippi Watershed Management Commission



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A combined regular meeting of the Shingle Creek and West Mississippi Watershed Management Commissions will be convened on Thursday, February 8, 2018, at 12:45 p.m. at the Clubhouse at Edinburgh USA, 8700 Edinbrook Crossing, Brooklyn Park, MN. An agenda for the meeting follows. Agenda items are available at **http://www.shinglecreek.org/minutes--meeting-packets.html.**

		1.	Call to Order.
	SCWM	a.	Roll Call.
√	SCWM	b.	Approve agenda.*
√	SCWM	c.	Approve minutes of last meeting.*
		2.	Reports.
√	SC	a.	Treasurer's Report.*
√	SC	b.	Approve Claims* - voice vote.
√	WM	c.	Treasurer's Report.*
√	WM	d.	Approve Claims* - voice vote.
		3.	Open forum.
√	SC	a.	Cost Share Application – Autumn Ridge.*
		4.	Project Reviews.
√	SC	a.	SC2018-002 Arbor Lakes Business Buildings C and D, Maple Grove.*
		5.	Watershed Management Plan.
		6.	Water Quality.
√	SCWM	a.	Proposed Aquatic Vegetation Management Policy.*
√	SC	b.	Shingle Creek 2018 Monitoring Program.*
√	WM	c.	West Mississippi 2018 Monitoring Program.*
	SC	d.	CAMP Survey.*
		7.	Education and Public Outreach.
√	SCWM	a.	2017 NPDES Report.*
	SCWM	b.	Education and Outreach Update.
	SCWM	2)	Next WMWA meeting – 8:30 a.m., Tuesday, February 13, 2018, Plymouth City Hall.
		8.	Grant Opportunities and Updates.
√	SC	a.	FEMA Flood Mapping –update.
	SCWM	b.	Metro Watershed-Based Funding Pilot – update.*
		c.	Bass and Pomerleau Lakes Alum Application – update.
√	SC	d.	Twin Lake Carp Removal –update.
	SCWM	e.	Section 319 Grant Application.**
		9.	Communications.
	SCWM	a.	Communications Log.*

SCWM 10. Other Business.

a. Commissioner/Alternate Appointments are due from the City of Brooklyn Park.

√ SCWM b. Election of officers. Currently:

1) Chair – Andy Polzin, Gerry Butcher.
2) Vice Chair – John Roach, David Mulla.
3) Secretary / Secretary/Treasurer - Karen Jaeger, Karen Jaeger.
4) Treasurer – Karen Jaeger.

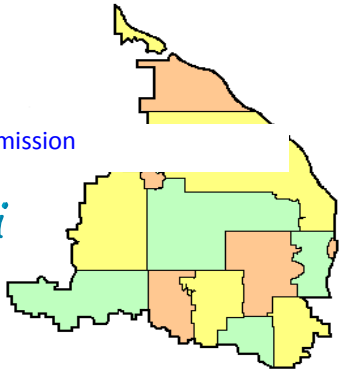
√ SCWM c. Annual Apointments.

1) Official depositories – US Bank, 4M Fund.
2) Official newspaper – *Sun Post.*
3) Deputy Treasurer – Judie Anderson, JASS.

SCWM 11. Adjournment.

Shingle Creek Watershed Management Commission

West Mississippi Watershed Management Commission



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(Action by the SCWMC appears in blue, by the WMWMC in green and shared information in black.
*indicates items included in the meeting packet.)

I. A joint meeting of the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission was called to order by Shingle Creek Chairman Andy Polzin at 12:47 p.m. on Thursday, January 11, 2018, at the Clubhouse at Edinburgh, USA, 8700 Edinbrook Crossing, Brooklyn Park, MN.

Present for Shingle Creek were: David Mulla, Brooklyn Center; John Roach, Brooklyn Park; Burton Orred, Jr., Crystal; Gary Anderson, Minneapolis; Bill Wills, New Hope; Harold E. Johnson, Osseo; Andy Polzin, Plymouth; Troy Gilchrist, Kennedy & Graven; Ed Matthiesen, Wenck Associates, Inc.; and Judie Anderson, JASS.

Not represented: Maple Grove and Robbinsdale.

Present for West Mississippi were: David Mulla, Brooklyn Center; John Roach, Brooklyn Park; Gerry Butcher, Champlin; Harold E. Johnson, Osseo; Troy Gilchrist, Kennedy & Graven; Ed Matthiesen, Wenck Associates, Inc.; and Judie Anderson, JASS.

Not represented: Maple Grove.

Also present were: David Vlasin and Andrew Hogg, Brooklyn Center; Steve Chesney, Brooklyn Park; Todd Tuominen, Champlin; Mark Ray, Crystal; Bob Grant and Megan Albert, New Hope; Ben Scharenbroich, Plymouth; and Richard McCoy and Marta Roser, Robbinsdale.

II. Agendas and Minutes.

Motion by G. Anderson, second by Wills to approve the **Shingle Creek agenda.*** *Motion carried unanimously.*

Motion by Butcher, second by Roach to approve the **West Mississippi agenda.*** *Motion carried unanimously.*

Motion by Johnson, second by Wills to approve the **minutes of the December regular meeting.*** *Motion carried unanimously.*

Motion by Roach, second by Butcher to approve the **minutes of the December regular meeting.*** *Motion carried unanimously.*

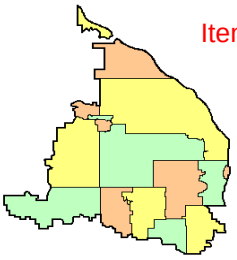
III. Finances and Reports.

A. Motion by Orred, second by G. Anderson to approve the **Shingle Creek Treasurer's Report.*** *Motion carried unanimously*.

Motion by Johnson, second by Orred to approve the **Shingle Creek January claims.*** Claims totaling $25,041.18 were *approved by roll call vote:* ayes – Mulla, Roach, Orred, G. Anderson, Wills, Johnson, and Polzin; nays – none; absent – Maple Grove and Robbinsdale.

B. Motion by Butcher, second by Roach to approve the **West Mississippi Treasurer's Report.*** *Motion carried unanimously*.

Motion by Roach, second by Johnson to approve the **West Mississippi January claims.*** Claims totaling $7,573.71 were *approved by roll call vote:* ayes – Mulla, Roach, Butcher, and Johnson; nays – none; absent – Maple Grove.



IV. Open Forum.

A. Mulla informed the Commissions that he is stepping down as the Commissioner from Brooklyn Center. Vlasin will serve as Commissioner in 2018-2021, with Mulla serving as Alternate Commissioner. Mulla was thanked for his service and the knowledge he has shared with the Commissions.

B. Matthiesen advised the Commissioners that Metro Blooms will be applying for cost share funds for the Autumn Ridge project in Brooklyn Park. (See item VII., below.)

V. Project Review.

SC2018-001 Crystal MAC Nature Area Trail Improvements, Crystal.* Improvement of trails at Crystal MAC Nature Area consisting of leveling existing boardwalks, connecting existing boardwalks with a new boardwalk connection, and reconstructing an aggregate trail connection. The project does not increase impervious surface and disturbs 0.3 acres. A complete project review application was received December 29, 2017.

The Commission's water quality treatment, volume management, and rate control requirements do not apply because the project does not increase impervious surface. Therefore, the applicant meets those requirements.

The site consists of an approximately 40-acre wetland. The City of Crystal is the LGU for Wetland Conservation Act administration. Mark Ray of Crystal confirmed that the proposed project complies with WCA.

A public watercourse runs through the site, and the project proposes no change in flow path or capacity. The project meets Commission public waters requirements.

There is floodplain on this site. The 100-year flood elevation is 856.1 ft., and is controlled by a 450 ft. sheet pile weir with an elevation of 856 ft. and by an overflow weir. Although boardwalks are being raised in several locations, impacts to floodplain will be minimal because the boardwalk will be raised on cylindrical piers.

An erosion control plan was submitted with the project review and includes rock construction entrances and perimeter silt fences. The erosion control plan meets Commission requirements.

A public hearing on the project was conducted on September 13, 2017 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

Motion by Willis, second by Orred to advise the City of Crystal that project 2018-01 is approved with no conditions. *Motion carried unanimously.*

VI. Watershed Management Plan.

Staff memos dated January 5, 2018 outline suggested activities for the 2018 Work Plans. Most are ongoing activities, although some rotate around the watershed. Additional details will be offered in the proposed Monitoring Plans that will be presented to the Commissions at the February meeting.

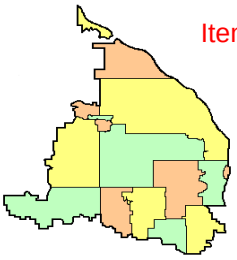
A. Continue to implement TMDLs and stay abreast of regional TMDLs.

1. Complete the 5-year performance review for the Cedar Island-Pike-Eagle TMDL review, and if budget is sufficient initiate the reviews for Magda and Meadow.

2. Identify and discuss options for aquatic vegetation management funding and implementation in lakes following internal load reduction projects, and establish policy.

3. Partner with the City of Plymouth to undertake alum treatments on Bass and Pomerleau Lakes.

4. In partnership with the cities of Crystal, Brooklyn Center, and Robbinsdale, continue to implement the Twin Lakes Management Project, including carp removal, aquatic vegetation management, and installation of fish barriers and a lake aeration system.



5. Partner with the City of Minneapolis to complete a subwatershed BMP assessment.

6. Continue to pursue grant funding for TMDL implementation projects.

7. Expand the Directly Connected Untreated Areas geodatabase to include boundaries of the untreated areas directly connected to the lakes in the watershed. (Streams were completed in 2017.)

8. Continue to identify, pursue grant funding for, and implement projects and programs addressing the bacterial impairment in the Mississippi River.

9. Stay abreast of other regional and state TMDLs.

10. Identify boundaries of the untreated areas directly connected to the Mississippi River or other conveyances.

B. Partner with other organizations to increase reach and cost effectiveness.

1. Participate in the West Metro Water Alliance joint education and outreach group.

2. Continue to partner with the USGS to operate the Queen Avenue monitoring site.

3. Partner with the USGS, DNR, and other interested parties to stay abreast of groundwater issues. Compile and review existing data and evaluate options for developing the proposed "whole watershed water budget."

4. Partner with a member city to complete a subwatershed BMP analysis.

C. Continue ongoing administration and programming.

1. Conduct routine Commission lake water quality monitoring and aquatic vegetation and fish surveys on Ryan and Crystal Lakes. This will start the second cycle through all the lakes (except Palmer and Curtis, which are considered wetlands and are not monitored). Conduct water quality monitoring and aquatic vegetation surveys on Upper, Middle, and Lower Twin Lakes through the Twin Lake Management Project grant.

2. Conduct Commission routine flow and water quality monitoring at SC_0 and SC_3 on Shingle Creek and Bass Creek Park (BCP) on Bass Creek as well as two DO longitudinal studies. Conduct fish and macroinvertebrate monitoring on all three sites in advance of the Shingle and Bass Creeks Dissolved Oxygen (DO) and Biotic Integrity TMDL 5 Year Review in 2019.

3. Sponsor volunteer stream monitoring through RiverWatch and wetland monitoring through WHEP (Hennepin County).

4. Sponsor volunteer lake monitoring through CAMP (Met Council) on Cedar Island, Meadow, Success, and Pomerleau Lakes.

5. Undertake routine flow and water quality monitoring at two outfalls into the Mississippi River.

6. Complete reviews of development and redevelopment projects as necessary.

7. Prepare an annual water quality report.

8. Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual $100,000/$50,000 levy and the Partnership Cost Share Fund and the annual $50,000 levy.

9. Review feasibility studies for 2018 proposed capital projects, undertake Plan Amendments, hold public hearings, order projects and certify levies.

10. Prepare a 2019 annual budget.

11. Invite three guest speakers to make water resources-related presentations at regular meetings.

12. Tour project sites in the watershed.

Motion by G. Anderson, second by Orred to approve the proposed Shingle Creek 2018 Work Plan with the inclusion of the FEMA Flood Mapping project if it is funded. *Motion carried unanimously*.

Motion by Butcher, second by Johnson to approve the West Mississippi 2018 Work Plan as proposed. *Motion carried unanimously*.

VII. Cost-Share Funding.

Included in the meeting packet is a Technical Memo* to the SCWM Technical Advisory Committee (TAC) dated January 5, 2018. The memo is a summary of a Partnership Cost-Share Program Application for the Autumn Ridge Apartments project in Brooklyn Park to fund the first phase of a 5-year stormwater retrofit plan for the site and will be presented to the TAC at their February 1, 2018 meeting.

The application partners include the residents of Autumn Ridge, Sherman Associates (property owners), Metro Blooms and the City of Brooklyn Park (the City). Application partners have been developing a 5-year stormwater retrofit plan for the site. The first phase of the 5-year stormwater plan includes the installation of five raingardens, two trench drains, a native planting, permeable pavement, removal and installation of trees and training of maintenance staff for installation and maintenance of stormwater practices. The application pertains to the first phase only.

The proposed project budget is $135,358. The applicants are requesting $50,000 from the Shingle Creek Commission and an additional $55,000 from Hennepin County. The property owner will contribute $30,358. The total cost of the project seems appropriate for the scope and scale of the project; however, the costs associated with Raingardens 1 and 2 are on the low side of industry standards. The low costs may be attributed to project partner in-kind services and installation assistance through volunteer labor.

Shingle Creek is impaired for chloride. The application states the proposed project addresses the chloride impairment through runoff volume reduction, the use of permeable pavement in the most heavily foot-trafficked area on site, and maintenance training for the proper application of road salt. The application mentions that on-site maintenance staff and the Autumn Ridge property manager will participate in training sessions lead by Metro Bloom's Landscape Architect both during and after installation of BMPs. Following installation, training will focus on proper maintenance of each practice, including sweeping and vacuuming permeable pavement, weed identification and management, watering, inlet/outlet clearing, plant/mulch replacement and signs of erosion. Metro Blooms will also provide this training for any landscape contracting company the property owner hires to maintain Autumn Ridge outdoor spaces. In addition, the property owner will require their maintenance staff and property manager to attend a course on proper winter salt application.

The application states that the proposed stormwater best management practices capture 14.7 lbs. of Total Phosphorus, 4,418 lbs. of solids and 2,667,374 gallons of runoff water annually as modeled in WinSLAMM. The cost per pound phosphorus removal is $9,208 based on construction costs. This is slightly under the $10,000 seen as typical for rain gardens.

Staff recommend funding the partnership cost-share program for the Autumn Ridge Participatory Landscape Project in an amount of $50,000, subject to the relevant Partnership Cost-Share Guidelines, including but not limited to:

1. Cost-share is on a reimbursable basis following completion of the project.

2. The property owner must dedicate a public easement or equivalent to install and maintain the BMPs.

3. The member city must obtain a recordable maintenance agreement from the property owner that specifies maintenance requirements and schedule; authorizes the City to inspect the BMPs and order maintenance and improvement; and authorizes the City to undertake ordered maintenance and improvement not completed by the property owner, and assess the cost of work to the property.

4. The standard Commission/Member Cooperative Agreement will be executed prior to project construction.

VIII. Education and Outreach.

A. Included in the packet was the **December WMWA (West Metro Water Alliance) update.***

1. WMWA has switched its email distribution system for the **WaterLinks** e-newsletter from Hennepin County to MailChimp. In order to continue to receive WaterLinks (or to newly subscribe), go to westmetrowateralliance.org/contact.html to sign up. The next issue of Water Links will be out in the first quarter of 2018 and will feature late winter/early spring-related content.

2. WMWA is currently discussing options for assisting property owners with **rain gardens and native plant conversions**. Two options being considered are 1) funding two hours of on-site technical assistance for owners who take the Metro Blooms Landscaping workshop; and/or 2) providing reimbursement for the cost of purchasing native plants, up to a certain amount, say $100. These ideas are still under development.

3. The website **Google Analytics** for December 2017 and January-December 2017 for the Shingle Creek/West Mississippi Commissions are included in the update, as are the Facebook insights for the last 28 days for both Shingle Creek and WMWA.

B. The next **WMWA meetings** are scheduled for 8:30 a.m., Tuesday, January 16, 2018, and Tuesday, February 13, 2018, at Plymouth City Hall. Commissioners are encouraged to attend or send staff.

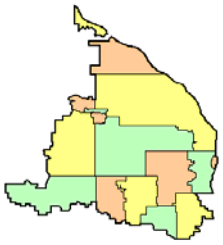
IX. Grant Opportunities.

A. In the December meeting packet was a draft of a **work plan to update the hydrologic and hydraulic modeling and special flood hazard areas** in the watershed**.** The draft work plan was submitted to the MnDNR as a proposal for funding with pass-through grants provided by FEMA. Matthiesen provided an update on the status of this project. More should be known in time for the February meeting.

B. The **Bass and Pomerleau Alum Application Project*** Clean Water Fund grant application was approved for full funding ($267,040) by the Board of Water and Soil Resources (BWSR) in December 2017. Staff are working with BWSR to submit a work plan and contract and expect those to be in place by about March 2018. The grant is 75% of the estimated project cost. The Commission's share of the project cost will be an estimated $66,760. The Commission previously approved expending up to $53,400 for preliminary design, additional sediment cores to refine dosing applications, and updated fish surveys on both lakes. That $53,400 and $66,760 will be funded from the $202,000 levy previously certified and collected for the Bass Lake Pond project, leaving an estimated $80,000 available to be transferred to the Closed Projects Account to be applied to another project.

Part of the $53,400 previously approved, approximately $23,000, was to obtain additional sediment cores to refine dosing calculations that had previously been prepared from the results of a single available core. The data from the additional cores has allowed Staff to refine the recommended dosing and reduce the application cost for Bass Lake from about $122,000 to about $81,000. We haven't yet completed the refined dosing calculations for Pomerleau, but expect that there will be additional savings for that lake as well. The savings from the reduced application cost can be used to enhance aquatic vegetation management or other actions to ensure the success of the project.

Staff met with Plymouth staff to discuss the process to implement these projects. They agreed that the target date for application is September-October 2018 for both lakes. Plymouth staff will schedule a series of meetings with the Bass Lake Association and residents on Pomerleau Lake, the Environmental Quality Commission (EQC), and the City Council. Assuming all parties desire to go forward with the project, a project hearing would be held in April-May 2018 and go out for bid in about June 2018. This revised schedule will allow the Commission to proceed with the required Minor Plan Amendment on its usual schedule rather than on an accelerated schedule as discussed at the December 2017 Commission meeting.



Motion by Mulla, second by Wills to move unexpended funds as described above to the Closed Projects Account. *Motion carried unanimously.*

C. Twin Lake Carp Project. A contractor has been identified who will remove carp from the lakes during the winter months. Carp removal is scheduled for January 18-19, 2018.

D. Section 319 Grant Application.* Staff participated in an MPCA conference call regarding the upcoming Section 319 grant solicitation, which is expected to open at the end of January, with applications due by the end of February. Their January 11, 2018 memo outlines a potential grant application that could be submitted.

In 2017 the Commission authorized submitting a grant application to the Minnesota Stormwater Research Council for the Wetland 639W Filter Media Phosphorus Removal Bench Tests research project. It was not funded. That project would have conducted bench tests of several options to reduce dissolved phosphorus in the outflow from wetland 639W. A complicating factor is that the outflow is typically low in dissolved oxygen, which limits the use of iron-enhanced sand. These conditions are fairly typical of outflow from disturbed wetlands that periodically export phosphorus.

This potential grant application would be to design and install filter media at the outlet of Wetland 639W and at the outlet of Cherokee Wetland, on Bass Creek at Cherokee Drive in Brooklyn Park. That site is just upstream of Bass Creek Park and the Bass Creek Park monitoring station. Both these wetlands export high concentrations of dissolved phosphorus, particularly soluble reactive phosphorus. Staff have gotten proficient in designing for settleable/particulate phosphorus but the soluble portion remains difficult to capture. The filters would test various combinations of iron-enhanced sand, zeolite-enhanced sand, and a product called Phoslock mixed with sand. The outflow from each of these filters would be monitored to see which medium performs the best. On conclusion of the testing phase, the lesser-performing media would be removed and replaced with the best-performing medium considering life-cycle costs. In addition to the outlet filters, the pool at the overflow outlet on Wetland 639W would be aerated with a small pond aerator to test whether that improves soluble phosphorus capture in the media. The aerator would be installed with a float switch so it turns on only when the elevation of water in the pond rises high enough to overflow the weir.

The estimated cost of literature review, design, installation of the filters at the two locations and the aeration system at the wetland 639W outlet, two years of performance monitoring, and documentation is $125,000. Section 319 grants require a 40% match, so the grant request would be about $75,000 and the Commission's share would be about $50,000. This project would need to be added to the Commission's CIP in the 2018 Minor Plan Amendment already planned to add the Bass and Pomerleau Lakes Alum Treatment.

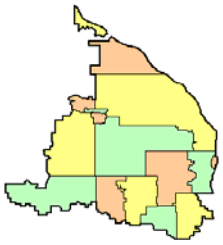
Should the Commission wish to go forward with this application, Staff will refine the cost estimate and prepare the application (once the RFP is out) and bring it back to the Commission at the February 8, 2018 meeting for review and approval to submit. The Commission has budgeted $10,000 to prepare grant applications in 2018, and it is expected that the cost of Staff time would be about $2,000.

As part of this call MPCA advised participants that it expects in the next year or so to refocus 319 grants away from competitive grants for individual projects to selecting watersheds to fund several focused projects over multiple years. This may be one of the last years that 319 grants will be available for research type projects.

Motion by Wills, second by Roach to authorize Staff to prepare the grant application for this project. *Motion carried unanimously.*

Motion by Roach, second by Johnson to authorize Staff to prepare the grant application for this project. *Motion carried unanimously.*

E. BWSR Funding.* The Board of Water and Soil Resources is potentially moving from a competitive grant funding model to a watershed-based funding model. For the metro area, the funding will be allocated by county, calculated based on the square mileage of private land within the county. County and municipal-owned



land is included as private land for the purposes of this calculation. Hennepin County's share of watershed-based funding for FY 2018-2019 is $1,018,000.

If all WMOs in Hennepin County choose to create a collaborative group for the watershed-based funding, that share of funds is available for Hennepin County projects. If the watershed organizations choose to remain in the competitive-based grant funding, that money will be pooled with other counties who also choose to remain competitive-based, meaning that Hennepin County watershed organizations may receive more or less than the $1,018,000. The decision on whether to move forward as a collaborative within the county or to remain as competitive must be made by June 30, 2018. This decision can be changed in the future, but BWSR requires that the eligible LGUs complete a documented process to make that determination by June 30.

The watershed-based funding pilot program does allow certain activities to be eligible for BWSR grant funds that are not eligible under the competitive grant program such as: programs, project support, grant management and reporting, and technical and engineering assistance necessary to implement activities.

Beginning over the next few weeks, Hennepin County will be convening a meeting of all eligible LGUs, which includes Watershed Districts, WMOs and Cities with a state-approved plan (City Local Water Management Plans are considered state-approved if approved by the governing Watershed). The first meetings are to determine eligible participants, establish voting representation, establish a direction for the collaborative, and discuss potential projects for FY2018-2019.

Staff are requesting approval to attend the Hennepin County collaboration meetings on behalf of the Commission. Commissioners and cities will also be invited to participate in these meetings.

Motion by G. Anderson, second by Willis to approve this request. *Motion carried unanimously.*

Motion by G. Butcher, second by Roach to approve this request. *Motion carried unanimously.*

X. Communications.

A. December Communications Log.* No items required action.

B. Included in the meeting packet was a copy of a letter* from the Commissions to Minnesota Senators Melisa Franzen and Scott Dibble and State Representatives Dario Anselmo and Frank Hornstein supporting the efforts of the StopOverSalting group regarding limiting liability for commercial chloride applicators.

C. Matthiesen was interviewed in a story entitled, "Shingle Creek's cautionary tale for Minnesota water," January 10, 2018, www.mprnews.org.

XI. Other Business.

A. Members were reminded that triennial **appointments** are due for the cities of Brooklyn Center, Brooklyn Park, Champlin and Crystal.

B. Election of 2018 officers will occur at the February meeting. Those individuals wishing to serve should inform J. Anderson prior to the February meeting.

C. Adjournment. There being no further business before the Commissions, the meetings were adjourned at 2:12 p.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary
JAA:tim
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Technical Memo

WENCK ASSOCIATES

Responsive partner.
Exceptional outcomes.

To: Shingle Creek/West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: February 2, 2018

Subject: Partnership Cost Share Application

Recommended Commission Action	Approve the requested $50,000 Partnership Cost Share Grant Autumn Ridge Apartments Participatory Landscape Project in Brooklyn Park.

Attached is a memo providing an overview of a Partnership Cost Share Grants application received from a consortium of partners working to improve the grounds of the Autumn Ridge Apartments at Boone and 63rd Avenues N in Brooklyn Park. Along with some other improvements to the grounds, several stormwater treatment BMPs are proposed to be added. The site currently has no runoff treatment, and the other improvements do not trigger Commission rules, so these BMPs are above and beyond Commission requirements. Most of the site discharges to the west to Bass Creek, while a small part of the site discharges east to Upper Twin Lake. As noted in the memo, the request is for $50,000, which will be matched by $55,000 from Hennepin County and $30,358 from the property owner.

If approved, this will be the first Partnership grant awarded by Shingle Creek. On behalf of the partners in the project, Metro Blooms presented a project overview to the TAC at its February 1, 2018 meeting. Metro Blooms will also be present at the February 8, 2018 Commission meeting.

The TAC recommends that the grant be awarded with the stipulation that a maintenance agreement with appropriate easements or similar protections be recorded that would ensure that 1) the BMPs are properly maintained; 2) the BMPs must remain in place until the site is improved or redeveloped and other BMPs are put in place; and 3) authorizes the City to enter upon the land to ensure the BMPs continue to function properly, and to undertake maintenance at the land owner's cost if they are not properly maintained.

Technical Memo

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To: Shingle Creek/West Mississippi WMC TAC

From: Ed Matthiesen, Wenck Associates, Inc.
Tom Berry, Wenck Associates, Inc.

Date: January 25, 2018

Subject: Shingle Creek WMC Partnership Cost-Share Application (Autumn Ridge Participatory Landscape Project)

The purpose of this technical memo is a summary of a Partnership Cost-Share Program Application for the Autumn Ridge Apartments in Brooklyn Park to fund the first phase of a 5-year stormwater retrofit plan for the site. The first phase includes the installation of 5 raingardens, 2 trench drains, a native planting, permeable pavement and removal and installation of trees.

Project Details

The Shingle Creek Watershed Management Commission from time to time makes funds available to its member cities to help fund the cost of BMPs partnership projects with private landowners. Shingle Creek recently received a completed Partnership Cost-Share Program Application for the Autumn Ridge Apartments in Brooklyn Park. (See attached application).

Application partners including the residents of Autumn Ridge, Sherman Associates (property owners), Metro Blooms and the City of Brooklyn Park. Application partners have been developing a 5-year stormwater retrofit plan for the site. The first phase of the 5-year stormwater plan includes the installation of 5 raingardens, 2 trench drains, a native planting, permeable pavement, removal and installation of trees and training of maintenance staff for installation and maintenance of stormwater practices. This application pertains to the first phase only.

Project Budget

The proposed project budget is $135,358. The applicants request $50,000 from Shingle Creek WMC. The applicants are also requesting $55,000 from Hennepin County. The property owner will contribute $30,358.

A review of the construction cost estimate items was conducted. The total cost of the project seems appropriate for the scope and scale of the project; however, the costs associated with Raingardens 1 and 2 are on the low side of industry standards. The low costs may be attributed to project partner in-kind services and installation assistance through volunteer labor.

Water Quality Benefits

Shingle Creek is impaired for chloride. The application states the proposed project addresses the chloride impairment through runoff volume reduction, the use of permeable pavement in the most heavily foot trafficked area on site, and maintenance training for the proper application of road salt.

The application mentions that on-site maintenance staff and the Autumn Ridge's property manager will participate in training sessions lead by Metro Bloom's Landscape Architect both during and after installation of BMPs. According to the application, following installation, training will focus on proper maintenance of each practice, including sweeping and vacuuming permeable pavement, weed identification and management, watering, inlet/outlet clearing, plant/mulch replacement and repairing signs of erosion. Metro Blooms will also provide this training for any landscape contracting company the property owner hires to maintain Autumn Ridge outdoor spaces. In addition, the property owner will require their maintenance and property manager to attend a course on proper winter salt application.

The application states that the proposed stormwater best management practices capture 14.7 lbs. of Total Phosphorus, 4,418 lbs. of solids and 2,667,374 gallons of runoff water annually as modeled in WinSLAMM. The cost per pound phosphorus removal is $9,208 based on construction costs. This is slightly under the $10,000 seen as typical for rain gardens.

There are no BMPs currently on site. The proposed BMPs will provide good treatment. However, as proposed they are not sized adequately to treat to the full watershed district goal of a 90% annual volume reduction. Therefore, we encourage the applicant to revisit sizing of the BMPs in footprint and depth to maximize treatment potential.

Recommendation

Recommend funding the partnership cost-share program for the Autumn Ridge Participatory Landscape Project in an amount of $50,000, subject to the relevant Partnership Cost-Share Guidelines including but not limited to:

- Cost-share is on a reimbursable basis following completion of the project.
- The property owner (Sherman Associates) must dedicate a public easement or equivalent to install and maintain the BMPs.
- The member city (Brooklyn Park) must obtain a recordable maintenance agreement from the property owner (Sherman Associates) that specifies maintenance requirements and schedule; authorizes the City (Brooklyn Park) to inspect the BMPs and order maintenance and improvement; and authorizes the City (Brooklyn Park) to undertake ordered maintenance and improvement no completed by the property owner (Sherman Associates), and assess the cost of work to the property.
- The standard Commission/Member Cooperative Agreement will be executed prior to project construction.

AUTUMN RIDGE PARTCIPATORY LANDSCAPE PROJECT

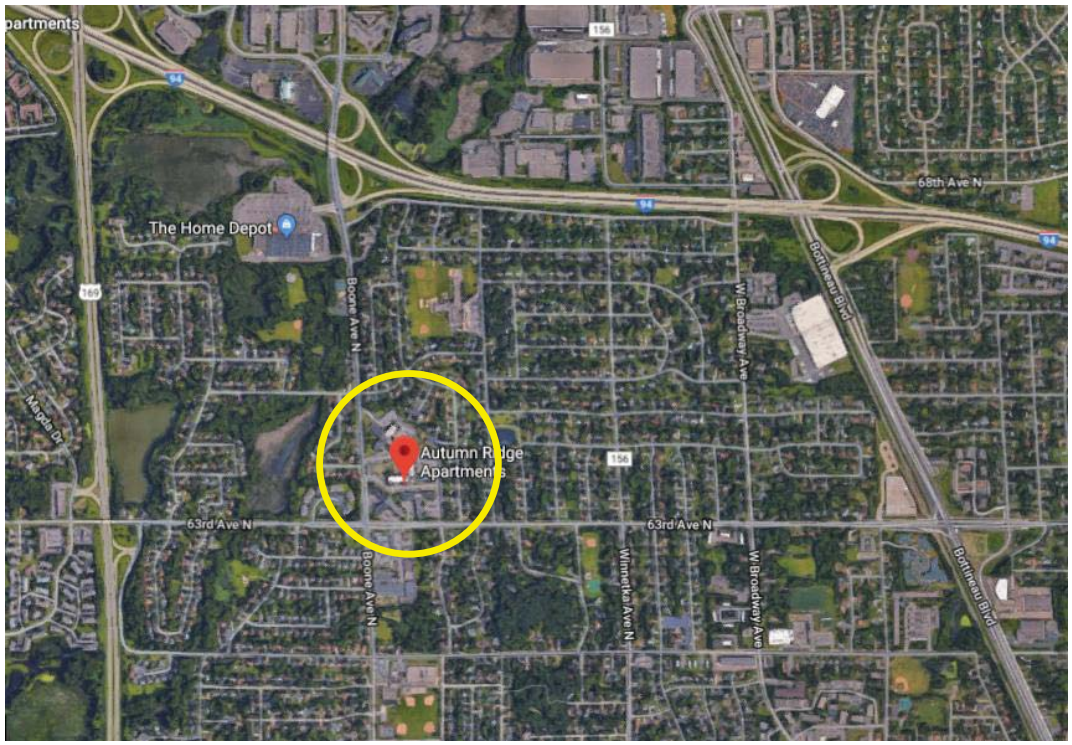
Shingle Creek/West Mississippi
Watershed Management Commissions

TAC Meeting January 25, 2018

WENCK

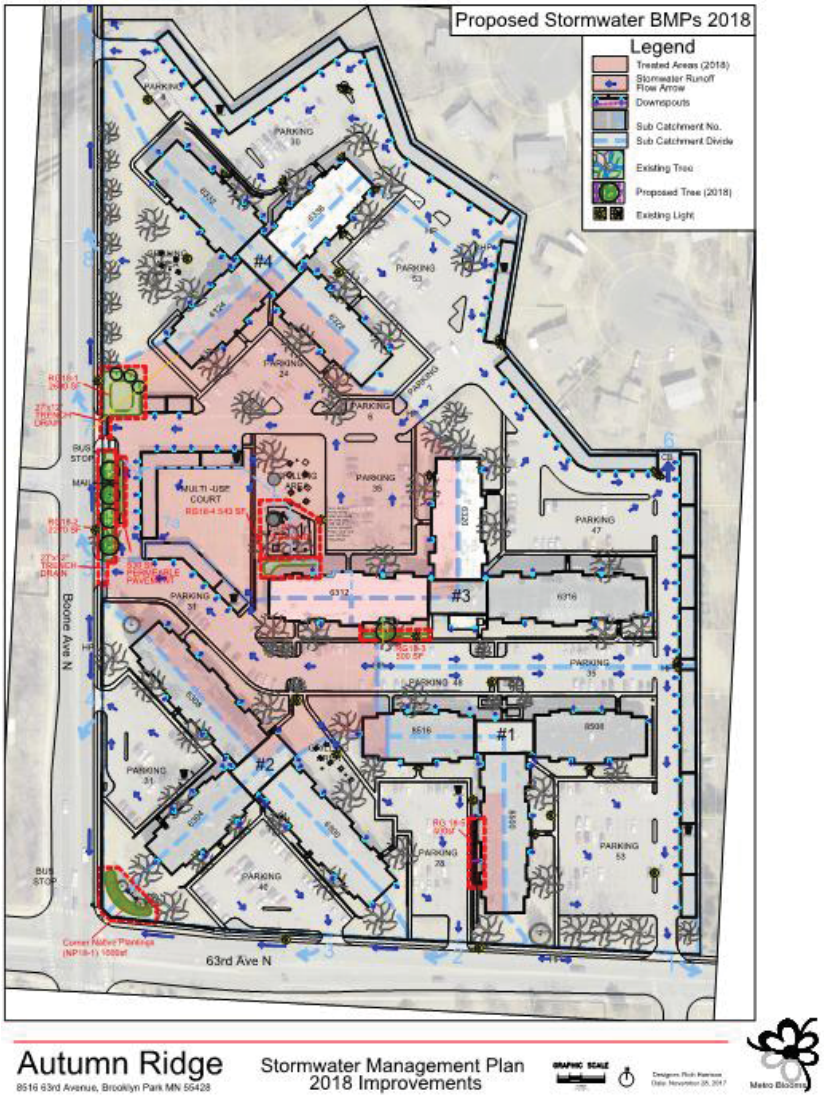
Site Location

- Brooklyn Park
- 17-acres
- 366-units
- Highly impervious (71% or 12-acres)
- No existing stormwater management practices

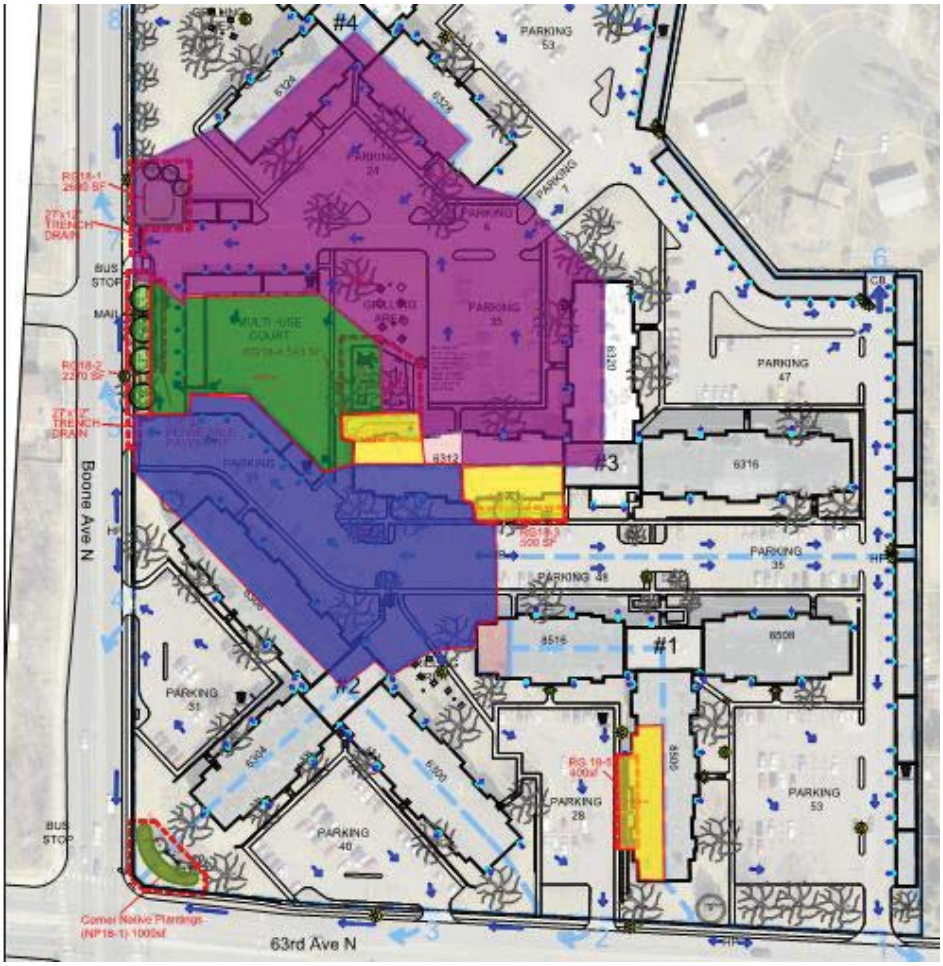


Proposed Project

- 5 Raingardens
- 2 Trench drains
- Native plantings
- Permeable pavement
- Removal and install of trees



Proposed Project- Treatment Areas



Rendering (Boone Ave N)

Cost-Share Request

- $135K Total
- $55K Hennepin Co.
- $30K Applicant
- $50K SCWMC

Autumn Ridge Budget: Phase I (2018)

STORMWATER MANGEMENT + LANDSCAPING

Item	Construction Cost Estimate	Hennepin County Request	SCWMC Request	Sherman
"Front Door Plaza" (mailbox/bus stop area)				
- Permeable Pavement (530 sq ft)	$21,200.00			
- Raingarden 1 (2600 sq ft w/ trench drain and pretreatment)	$44,150.00			
- Raingarden 2 (2270 sq ft with trench drain)	$34,695.00			
- Tree removal (3 ash trees + root grinding)	$6,000.00			
- Tree Planting (8 trees)	$6,000.00			
Playground Raingarden (RG3) (543 sq ft w/ CCM)	$5,973.00			
Erosion Problem Areas				
- 8500 building (RG4) (drain tile and plantings w/ CCM)	$3,840.00			
- Across from office building (RG5) (500 sq ft raingarden w/ CCM)	$5,500.00			
Native Planting @ Boone + 63rd (1000 sq ft w/ CCM)	$8,000.00			
Subtotal	**$135,358.00**	**$55,000.00**	**$50,000.00**	**$30,358.00**

Unit Prices

Item	Unit	$/Unit	Notes
RG - Contractor	SF	$13.50	Based on contractor bids w/ mix of 1 gallon and 4" plants
RG - Conservation Corps of MN w/ oversight from Metro Blooms	SF	$11.00	Mix of 1 gallon and 4" plants
Native Planting - Conservation Corps of MN w/ oversight from Metro Blooms	SF	$8.00	Mix of 1 gallon and 4" plants
Permeable Pavement	SF	$40.00	Based on contractor bids
Trench Drain	LF	$150.00	Estimate
Boulder wall	SFF	$55.00	Based on contractor bids
Tree Removal	ea	$2,000.00	Based on contractor bids
Tree	ea	$750.00	2.5", Based on contractor bids

Water Quality Benefits

- Provides treatment as proposed
- 14.7 lbs. TP
- 4.4K lbs. of solids
- 2.6M gals of water annually

- No current BMPs on site
- As proposed, does not meet 90% annual volume reduction goal

Recommendation

- Encourage applicant to revisit sizing of BMPs in footprint and depth to maximize treatment potential
- Fund partnership cost-share to $50,000
- Subject to relevant Partnership Cost-Share Guidelines

SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION

PROJECT REVIEW SC2018-002: Arbor Lakes Business Center Buildings C & D

Owner: Duke Realty- Bill Shank
1550 Utica Ave S
Suite 400
Minneapolis, MN 55416

Engineer: Mike Brandt
Company: Kimley-Horn
Address: 2550 University Ave W
Suite 238 N
St. Paul, MN 55441
Phone: 651-643-0428
Email: mike.brandt@kimley-horn.com

Purpose: Construction of two office/warehouse buildings and associated parking. Building C is 262,820 square-feet and Building D is 227,222 square-feet.

Location: Southeast corner of Zachary Lane and Elm Creek Boulevard, Maple Grove, MN; approximately 10900 Elm Creek Boulevard N (Figure 1).

Exhibits:

1. Project review application and project review fee of $3,000, dated 01/11/18, received 01/16/18.

2. Site plan, preliminary plat, grading, utility, erosion control, and landscaping plans dated 01/03/18, received 01/16/18 (Figure 2).

Findings:

1. The proposed project is the construction of two office/warehouse buildings (277,222 square-feet and 262,820 square-feet, respectively) and associated parking. The site is 24.7 acres. Following development, the site will be 86 percent impervious with 21.2 acres of impervious surface, an increase of 21.2 acres.

2. The complete project application was received on 01/16/18. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 03/08/17 meeting. Sixty calendar-days expires on 03/17/18.

3. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 80-85% TSS removal and 50-60% TP removal. If a sump is used, the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

   This project is located within the Gravel Mining Area at Arbor Lakes (Figure 3) and all water leaving the site has been accounted for by the regional ponds under city ownership. The applicant meets Commission water quality treatment requirements.

4. Commission rules require that site runoff be limited to predevelopment rates for the 2-, 10-, and 100-year storm events. This project is located within the Gravel Mining Area at Arbor Lakes. Runoff is proposed to be

routed to nearby regional ponds. The applicant meets the Commission's rate control requirements.

5. Commission rules require the site to infiltrate 1.0" of runoff from new impervious area within 48 hours. The new impervious area on this site is 21.2 acres. This project falls within The Gravel Mining Area at Arbor Lakes, and the applicant proposes to use the city infiltration credit that has the capacity to infiltrate the required volume within 48 hours. The applicant meets Commission infiltration requirements.

6. The National Wetlands Inventory shows several small wetlands located within the property boundaries. However, these wetlands are located in an area that was historically mined for gravel. Maple Grove is LGU for WCA administration and determined that these wetlands were incidentally created and are not regulated under WCA. The applicant meets Commission wetland requirements.

7. There are no Public Waters on this site.

8. There is no floodplain on this site. The low floor elevations of the buildings are at least two feet higher than the basin to the east.

9. An erosion control plan was submitted with the project review, and includes rock construction entrances, perimeter silt fence and inlet protection. The erosion control plan meets Commission requirements.

10. A public hearing on the project was conducted on 01/08/18 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

11. A Project Review Fee of $3,000 has been received.

Recommendation: Recommend approval with no conditions.

Wenck Associates, Inc.
Engineers for the Commission

_____ _____

Ed Matthiesen, P.E. Date

Figure 1. Site location

Figure 2. Grading Plan

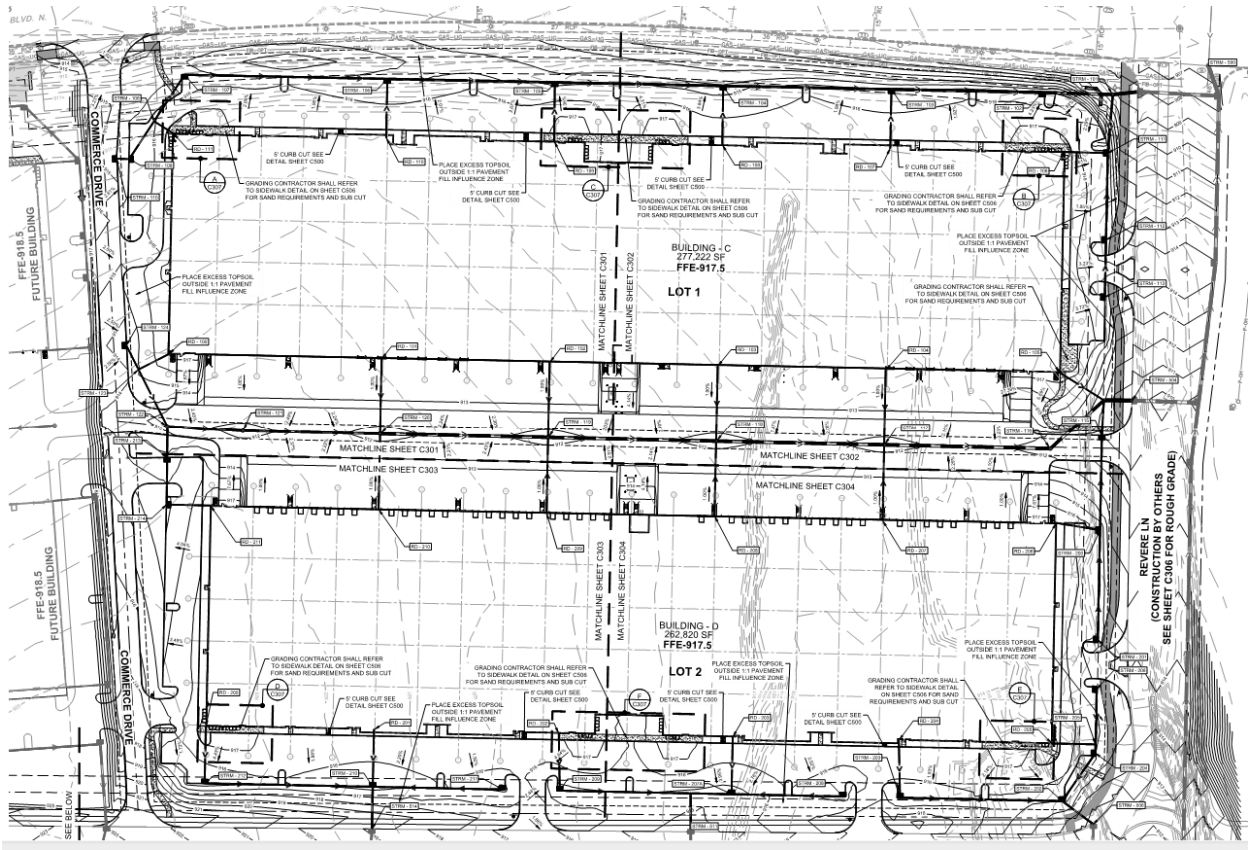
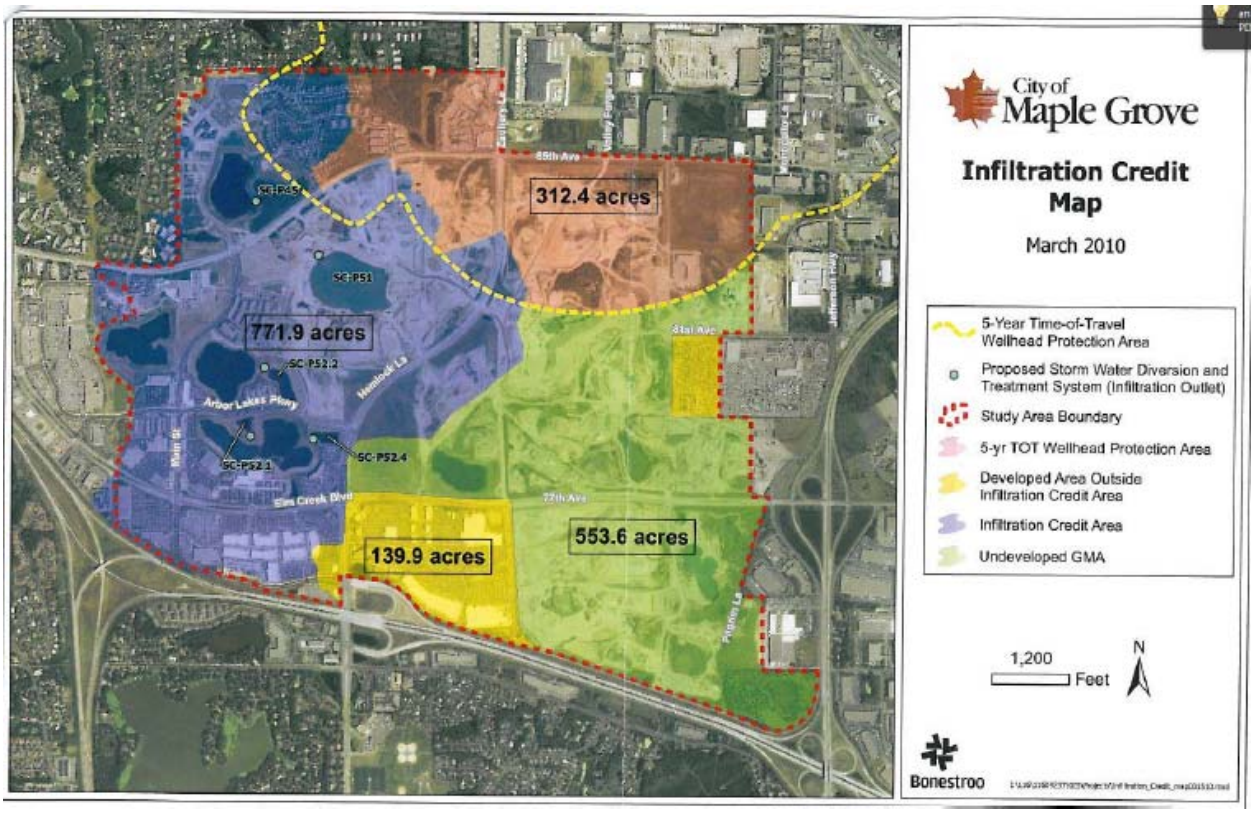


Figure 3. Gravel Mining Area Infiltration Credit Map


312.4 acres
771.9 acres
139.9 acres
553.6 acres
SC-P51
SC-P52.1
SC-P52.2
SC-P52.4
Arbor Lakes Pkwy
Hemlock Ln
Main St
Elm Creek Blvd
85th Ave
84th Ave
73rd Ave
Fernbrook Ln
City of Maple Grove
Infiltration Credit Map
March 2010
5-Year Time-of-Travel Wellhead Protection Area
Proposed Storm Water Diversion and Treatment System (Infiltration Outlet)
Study Area Boundary
5-yr TOT Wellhead Protection Area
Developed Area Outside Infiltration Credit Area
Infiltration Credit Area
Undeveloped GMA
1,200
Feet
N
Bonestroo

Technical Memo

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To: Shingle Creek/West Mississippi WMC Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: February 2, 2018

Subject: Draft Aquatic Vegetation Management Policy

In light of ongoing discussions on the Twin Lake Carp and Bass and Pomerleau Lake Alum Treatment projects, we have drafted a formal Commission policy on Aquatic Vegetation Management. This policy specifies that the Commission will participate in Submersed Aquatic Vegetation (SAV) management needed as part of an internal load reduction project, but only to control AIS such as curlyleaf pondweed and Eurasian water milfoil. Individual lakeshore property owners may undertake SAV management in accordance with DNR permit requirements at their own expense for recreation and access. The TAC had an initial discussion about this policy at its February 1, 2018 meeting.

The intent is to draft a policy that is clearly limited to AIS, and is clearly limited to protecting water quality and ecologic integrity. The draft policy sets forth both short-term and long-term management policies. In the short term, the policy would allow the Commission to undertake SAV management in association with internal load projects undertaken by the Commission that improve water quality and clarity. In the long term, the Commission would periodically update aquatic vegetation surveys, and perform treatment as necessary to minimize the negative impacts of the AIS. The intent is NOT to get into the business of doing a lot of SAV management, not to be involved with providing treatment for and at the request of individual property owners. The Commission does not currently have the budget to add this as an ongoing activity, and the JPA assessment cap limits the ability to increase the budget. Taking on longer-term SAV management would require a deeper discussion with the nine member cities.

Attached is the draft policy for your initial review and comment. It will likely take at least a few months to discuss this and come to an agreement amongst the cities. In the meantime, also attached is a short memo showing the short-term timeline for SAV management for Upper Twin/Twin chain.

Shingle Creek Watershed Management Commission

3235 Fernbrook Lane N • Plymouth, MN 55447
Phone (763) 553-1144 • Fax (763) 553-9326

www.shinglecreek.org

Submersed Aquatic Vegetation (SAV) Management Policy
xxxxxxxxxxxxxx, 2018
D R A F T

The Shingle Creek Watershed Management Commission works in partnership with its member cities, Hennepin County, MnDOT, and other parties to protect and improve lakes, wetlands, and streams in the watershed. The Commisson's goal is to meet State of Minnesota water quality standards and to promote a healthy and diverse community of native aquatic organisms and vegetation. To achieve that goal the Commission may periodically partner with one or more member cities to undertake lake internal load management projects for water quality, such as alum treatments or rough fish management. As lake water clarity improves in response to that project, native and non-native submersed aquatic vegetation (SAV), including aquatic invasive species (AIS) such as curly-leaf pondweed or Eurasian water milfoil, may become more abundant and negatively impact water quality. This policy sets forth the standards and actions the Commission will take to assist in managing AIS.

1. Prior to undertaking any internal load improvement projects, the Commission will obtain spring and late summer SAV surveys, and compile all known information about SAV and SAV management for the previous five years.
2. Commission staff will review SAV data with the DNR to determine likely SAV response to internal load reductions and SAV management options.
3. On lakes with an existing infestation of non-native invasive SAV such as curly-leaf pond weed and/or Eurasian water milfoil, the Commission will undertake chemical or mechanical treatment for three growing seasons following the internal load project or as necessary to address the non-native AIS infestation. The Commission will incur all costs of this treatment, including vegetation surveys, treatment delineations, vegetation management plans, and permits and variances.
4. On lakes with no or minimal infestation of non-native invasive SAV such as curly-leaf pond weed and/or Eurasian water milfoil, the Commission may provide spot treatment to prevent spread of the invasive species for up to three years or as necessary to minimize the ecological and water quality impacts of the infestation. The Commission will incur all costs of this treatment, including vegetation surveys, treatment delineations, and permits.
5. The Commission will continue to undertake routine SAV surveys on its regular, published schedule and may provide spot treatment of AIS as nessesary to keep the AIS in check.
6. Lakeshore property owners may at any time undertake shoreline SAV management in accordance with DNR regulations at their own expense. The Commission will not participate financially in the cost of SAV management performed for recreation and access purposes.
7. At the request of a majority of lakeshore owners, and at their expense, the Commission may act as fiscal and contracting agent to provide SAV management for recreation and access purposes. If the lakeshore owners or lake association wishes to form a Lake Improvement District, the Commission may provide technical assistance and liaison with Hennepin County and the DNR.

Technical Memo

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To: Ed Mathisen, Wenck Associates, Inc.
Diane Spector, Wenck Associates, Inc.

From: Tom Langer, Wenck Associates, Inc.

Date: January 30th 2018

Subject: Twin Lake Aquatic Vegetation Management Plan (AVMP)

The purpose of this technical memorandum is to outline the goals, objectives and timeframe for vegetation management on the Twin Lake chain of lakes following the winter removals of common carp in 2018. The phase is a proactive phase that assumes common carp densities have been reduced below critical thresholds and a significant change in water quality occurs in the summer of 2018 which stimulates an abundance of vegetation growth within the Twin Lakes, especially in Upper Twin Lake.

Vegetation Management Goal and Objectives

With the anticipated results of improved water clarity resulting from fish management in the Twin Lake system we are also expecting a significant enhancement of the submerged aquatic vegetation (SAV) community and overall biological community health (measured via Indices of Biotic Integrity; IBI). Specifically, we anticipate:

- the number of species will increase,
- the spatial coverage of vegetation will increase, and
- the biomass of vegetation will increase.
- IBI scores will improve.

These ecological responses to improved water quality are perceived as beneficial to the overall ecosystem health, therefore, the intention of the AVMP is not to prevent these items from occurring but rather facilitate them. Vegetation management activities are intended to target and limit a significant rebound in vegetative AIS within the lake and restore a diverse and healthy native SAV community. Rather than waiting to see if the native community can outcompete and displace AIS we are actively choosing to be proactive and help ensure the AIS do not gain the upper hand in becoming pervasive within the basin. Currently, curlyleaf pondweed (CLP) is the only dominant vegetative AIS species in Twin Lake system (most notable in the Upper Twin basin) and is the focus species of management activities within the AVMP.

The objectives and success of activities of the AVMP will be addressed through:

1) Evaluating the SAV community pre-improvement project.
2) Delineating current locations of AIS.
3) Implementing activities that reduce, eradicate or control current population of AIS.
4) Assessing the effectiveness of implemented activities.
5) Evaluating the SAV community post-improvement project.

Below we provide specific tasks and target completion dates. These items need to be reviewed and approved by the MnDNR.

Activity Timeline

	Task	Completion Target Date	Comment
Pre-treatment efforts	Pre-improvement SAV evaluation	Completed	The last point-intercept surveys were conducted in 2016 (Upper) and 2012 (Middle & Lower). These surveys will be used to provide context to current SAV communities within the basins.
	Develop AVMP	May 2018	Develop a vegetation management strategy and receive MnDNR approval.
	Landowner signatures	May 2018	Need approval for treating CLP within 150 feet of shoreline.
Year 1	Delineate curlyleaf pondweed (CLP)	May 2018	Determine extent and locations of CLP for treatment.
	CLP variance application	June 2018	Apply and be granted variance if treatment area exceeds permitted area.
	Treat CLP	June 2018	Treat CLP. Anticipated to be equal to or less than previous year.
	Evaluate Treatment Success	July 2018	Conduct field assessment to determine effectiveness of treatment.
Year 2	Delineate CLP	May 2019	Determine extent and locations of CLP for treatment. Anticipated to be equal to or less than previous year.
	Treat CLP	June 2019	Treat CLP. Anticipated to be equal to or less than previous year.
	Evaluate Treatment Success	July 2019	Conduct field assessment to determine effectiveness of treatment. Assess residual impact from previous year.
Year 3	Delineate CLP	May 2020	Determine extent and locations of CLP for treatment. Anticipated to be equal to or less than previous year.
	Treat CLP	June 2020	Treat CLP. Anticipated to be equal to or less than previous year.
	Evaluate Treatment Success	July 2020	Conduct field assessment to determine effectiveness of treatment. Assess residual impact from previous years.
	Post-improvement SAV evaluation	August 2020	Conduct point intercept survey across all three basins to determine the impact on the SAV community post-improvement activity.
	Summarize management activities and results	December 2020	Summarize all vegetation evaluation and monitoring results.

Technical Memo

Item 06b

WENCK ASSOCIATES

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To: Shingle Creek WMO Commissioners

From: Ed Matthiesen, PE
Diane Spector
Jeff Strom

Date: February 2, 2018

Subject: 2018 Shingle Creek Monitoring Program

Recommended Commission Action	Review and approve the 2018 monitoring program.

The Commission each year budgets and undertakes monitoring activities, including routine stream and lake monitoring and volunteer lake, stream, and wetland monitoring. Water quality and quantity monitoring on Shingle Creek and select lakes is performed by Wenck staff and the USGS and macroinvertebrate monitoring in Shingle Creek is performed by volunteers through the Hennepin County Environmental Services' (HCES) RiverWatch program. Lake monitoring is performed by volunteers through the Met Council's Citizen Assisted Lake Monitoring Program (CAMP). Wetland monitoring is conducted through HCES's Wetland Health Program (WHEP).

The purpose of this memo is to present the proposed 2018 monitoring program. This proposal is consistent with the program set forth in the Third Generation Watershed Management Plan, which includes routine monitoring tasks, specific monitoring efforts to support Commission administered grants, and monitoring to evaluate progress toward the TMDLs every five years. Table 1 below shows the TMDL review schedule for Shingle Creek. This year the Commission will complete the 5-year TMDL review report for the Eagle Lake chain, and will perform monitoring on Crystal and Ryan Lakes.

Table 1. Shingle Creek watershed TMDL approvals and review dates.

TMDL	TMDL EPA Approval	Implementation Plan Approval	5-Year Progress Review
Shingle Creek Chloride	February 14, 2007	March 5, 2007	2013-2014
Twin and Ryan Nutrients	November 9, 2007	November 13, 2007	2014
Crystal Nutrients	March 25, 2009	July 7, 2009	2015-2016
Pomerleau, Bass, and Schmidt Nutrients	September 25, 2009	December 3, 2009	2016-2017
Meadow Nutrients	March 23, 2010	June 14, 2010	2018-2019
Cedar Island, Pike, and Eagle Nutrients	April 14, 2010	May 18, 2010	2017-2018
Magda Nutrients	September 30, 2010	October 1, 2010	2018-2019
Shingle and Bass Creeks Biotic and DO	November 4, 2011	January 30, 2012	2019-2020

2018 Proposed Monitoring Program

The information set forth below explains the various monitoring programs, their purpose, and the proposed costs and funding.

Table 2. 2018 proposed monitoring program budget and cost.

Activity	2018 Budget	2018 Proposed
Routine Stream Monitoring		
Routine Streamflow and Water Quality	$37,220	$28,151
Stream Biotic Monitoring		$5,306
Wetland 639W and Cherokee Wetland sampling		$1,920
Monitoring Equipment		$200
Unallocated		$1,643
Volunteer Monitoring (River Watch)	$3,000	$3,000
USGS Partnership	$3,990	$3,990
TMDL 5-year Review Lake Monitoring		
Intensive Lake WQ Monitoring	$22,000	$10,655
Aquatic Vegetation Surveys		$6,660
Fish Surveys		$4,685
Volunteer Monitoring (CAMP)	$3,800	$3,800
Wetland Monitoring		
Volunteer Monitoring (WHEP)	$0	$0
Monitoring to Support Grant Projects (funded by grants, not budget)		
Twin Lake Intensive WQ Monitoring		

		$10,400
Twin Lake Aquatic Vegetation Surveys		$5,940
Bass Lake Vegetation Surveys		$4,720

ROUTINE STREAM MONITORING

Routine Stream Flow and Water Quality Monitoring. The Commission has routinely monitored stream flow and water quality in Shingle Creek since 1996. Two locations, one downstream of Humboldt Avenue in Minneapolis ("SC-0," see attached Figure 1 for all monitoring locations) and one upstream of Zane Avenue in Brooklyn Park ("SC-2") have been monitored for water quantity and various water quality chemical parameters. In 2007, the monitoring location upstream of Zane Avenue was moved upstream to just downstream of Brooklyn Boulevard in order to obtain a better stage-discharge relationship. This site is identified as SC-3 and SC-2 is no longer monitored. In 2015 Bass Creek ("BC-1" on Figure 1) was added as a third site to be routinely monitored for water quality and conductivity. The Bass Creek monitoring station has helped provide better information about water quality in Bass Creek, which is impaired for chloride and biota.

A fourth site at Queen Avenue in Minneapolis ("SC-1") is monitored for flow by the US Geological Survey (USGS) as a part of its ongoing National Assessment of Water Quality (NAWQA). Chemical parameters are no longer routinely measured at the USGS site, except for continuous conductivity and temperature. That data are available on-line real-time at waterdata.usgs.gov/mn/nwis/uv?05288705. The Commission also partners financially with the USGS in the operation of the Queen Avenue monitoring station.

A more detailed discussion and breakdown of the routine stream flow and water quality monitoring activities and costs is shown in Table 1 of Attachment 1.

Stream Biotic Monitoring

As shown in Table 1, The Shingle and Bass Creek Biotic and DO 5-Year TMDL Reviews are planned for 2018-2019. To support these reviews, fish and macroinvertebrate monitoring and Index of Biotic Integrity (IBI) assessments are proposed for 2018 at the three long-term stream water quality monitoring stations: SC-0, SC-3, and BC-1. These assessments will include field collection of macroinvertebrates according to MPCA methodology as well as fish surveys using backpack shocking equipment. The USGS does regularly collect fish and macroinvertebrate data at SC-1 and has forwarded the data to us. Results of these assessments will be analyzed and incorporated into the Stream Biotic and DO 5-year TMDL Review report which will be developed in 2019. A more detailed breakdown of the stream biotic monitoring and costs are shown in Table 1 of Attachment 1.

Monitoring Equipment. Last year (2017), two field boxes that house monitoring equipment were purchased to replace aging field boxes. The field boxes hold and secure the automatic water samplers and water level logging equipment. At this time, no new field boxes are needed and all of the major monitoring equipment owned by the Commission is in working order. Thus, there are no major equipment purchases proposed for 2018. This year's budget does include $200 for the purchase of two new marine-cycle batteries to replace aging batteries previously purchased by the Commission. The

marine-cycle batteries are used to power the monitoring equipment (transducers and pumps) at the routine stream monitoring stations.

Unallocated Budget. There is currently about $1,600 difference between this year's estimated monitoring program cost (right column in Table 2) and the budget for 2018 (left column in Table 2). This difference is primarily the result of cost savings from switching analytical laboratories from Instrumental Research, Inc. to RMB Environmental Laboratories, Inc.. Wenck reviewed potential laboratory analysis costs for Instrumental, RMB, and other labs in the metro area and determined that RMB will be the most cost effective option to Commission for analytical costs, sample shipping/delivery costs, and staff time. At this time we recommend that the Commission hold this in reserve for any monitoring or equipment needs that may come up this season.

Volunteer Stream Monitoring. High school student volunteers provide stream macroinvertebrate monitoring through Hennepin County's RiverWatch at various locations on Shingle Creek shown on Figure 1. The site at the Connections project location has been monitored by students from Park Center High School for over 20 years. The other sites and volunteer groups have varied year to year. In 2017 the other site monitored was in Lions Park in Brooklyn Center just upstream of the USGS site. The Commission contracts with Hennepin County for this service. Hennepin County maintains an interactive online map showing locations throughout the county and stream grades going back to 1996: hennepin.us/riverwatch. For 2018 the Commission will continue participating in the Hennepin County Environmental Services' RiverWatch program at up to three sites at $1,000 each in Shingle Creek. The funds are contracted to Hennepin County, which runs the program and manages the volunteers.

TMDL 5-YEAR REVIEW LAKE MONITORING

Intensive Lake TMDL Monitoring. To track the effectiveness of BMP implementation in improving lake water quality, the Commission has started periodically performing intensive lake monitoring to supplement the volunteer surface monitoring. Because the Commission's goals include achieving delisting of lakes that meet their TMDLs and water quality, the Third Generation monitoring plan includes more rigorous lake monitoring sufficient to demonstrate to the MPCA and EPA that conditions have improved. Attachment 2 shows the lake monitoring schedule from the Third Generation Plan, updated to reflect the actual monitoring completed.

For 2018, Crystal and Ryan Lakes will be monitored twice monthly. The water quality data collected for Crystal and Ryan will include surface water samples, water column temperature and DO profiles, surface water samples, and deep water phosphorus samples. A more detailed discussion and breakdown of these routine monitoring activities and costs is shown in Table 1 of Attachment 2. Note that last year (2017) marked the point where we completed a full round of sampling for all lakes and the Commission is now on to round two of Intensive Lake monitoring to support the 5-Year TMDL Reviews.

Aquatic Vegetation Surveys. A component of the intensive monitoring is to obtain or update surveys of lake aquatic vegetation. As we have discussed with the Commission in the past, aquatic vegetation plays an important role in water quality and biotic integrity, and that vegetation community can change as water quality changes. For 2018 it is proposed that surveys for Crystal and Ryan Lakes be updated in tandem with the intensive monitoring. A breakdown of this monitoring activity and costs is shown in Table 2 of Attachment 2.

Fish Surveys. DNR records show the most recent fish surveys for Crystal and Ryan Lakes were conducted in 2004 and 2003, respectively. As we have discussed with the Commission in the past, fish communities play a key role in lake water quality and promoting a healthy and balanced ecosystem. Wenck contacted the local DNR fisheries office to inquire about their next planned fish surveys for Crystal and Ryan Lakes. DNR staff indicated that they plan to perform fish surveys on Ryan Lake in 2018 and on Crystal Lake in 2019 or 2020. Based on this schedule, it is not recommended that the Commission perform fish surveys on Ryan and Crystal Lakes at this time. Instead, it is proposed that monitoring efforts for 2018 focus on performing a fish survey on Palmer Lake and a carp survey/population assessment on Pike and Eagle Lakes in 2018.

DNR has never performed fish surveys on Palmer Lake. Collecting fish data on Palmer Lake will be beneficial to several current and future watershed projects. For example, assessing the presence of juvenile common carp in Palmer Lake would provide valuable information on the potential for the lake to act as a carp nursery to the Twin Lake Chain and/or other connected lakes throughout the Shingle Creek watershed. Also, since Palmer Lake acts as a flow-through lake for main-stem Shingle Creek, assessing the lake's fish community and its potential impacts to water quality will be valuable information for the upcoming Shingle Creek dissolved oxygen and biotic 5-year TMDL Reviews that will be conducted in 2018/2019.

DNR records indicate that the most recent trap/gill net surveys for Eagle and Pike Lakes were done in 2016 and 1993, respectively. The City of Plymouth contracted Blue Water Science to conduct trap net surveys on Pike Lake in 2015. Results of those surveys indicate common carp are present in Eagle and Pike Lake, however relatively few were caught in the nets. Based on our experience, standard trap/gill net survey can help determine presence/absence of common carp in a lake, however they do not provide a reliable means to estimate population size and potential impacts to vegetation and water quality. Therefore, it is recommended that the Commission conduct a common carp population assessment of Pike and Eagle Lakes in 2018, similar to the population assessments performed on the Twin Lake chain for the Twin Lake Carp Study. Collecting this information will be helpful in identifying potential sources of internal load and associated management recommendations for the Eagle/Pike/Cedar Island 5-year TMDL Review Report which will be completed in 2018.

Volunteer Lake Monitoring. The Shingle Creek Commission has participated in the Met Council's "Citizen Assisted Lake Monitoring Program" (CAMP) since 1993. This program trains volunteers to take surface water samples and make water quality observations from late spring to early fall, using standardized reporting techniques and forms. The CAMP program has been the Commission's primary means of obtaining ongoing lake water quality data. This program is also an NPDES Education and Outreach BMP.

CAMP was initiated by the Met Council to supplement the water quality monitoring performed by Met Council staff and to increase our knowledge of water quality of area lakes. Volunteers in the program monitor the lakes every other week from mid April to mid October. They measure surface water temperature and Secchi depth, and collect surface water samples that are analyzed by the Met Council for total phosphorous, total Kjeldahl nitrogen, and chlorophyll-a. The volunteers also judged the appearance of the lake, its odor, and its suitability for recreation.

The Met Council charges $550 per lake to cover the cost of supplies for volunteers, analysis of samples, and the Regional Reports. The Commission owns seven equipment kits purchased in past years and will not have to purchase any more kits unless key equipment needs to be replaced.

Lakes are monitored on a rotating schedule. The larger lakes are monitored every other year while the smaller lakes are monitored every three years. It is assumed that when a lake undergoes the intensive sampling program, no CAMP monitoring will be performed that year. Lakes scheduled for 2018 volunteer lake monitoring are Cedar Island, Meadow, and Schmidt. A breakdown of this monitoring activity and costs is shown in Table 4 of Attachment 2.

Wetland Monitoring

Wetland 639W and Cherokee Wetland monitoring In 2018 we will continue to monitor water level and stage in Wetland 639W at both the outlet weir and the overflow weir. Additionally, we propose collecting approximately 4 upstream and downstream water quality samples to estimate phosphorus loading from the Cherokee Wetland. The Cherokee wetland is located along Bass Creek upstream of monitoring station BC-1 in Brooklyn Park between 63rd Ave N. and Cherokee Dr. N. It is believed that this wetland is exporting soluble phosphorus to Bass Creek based on monitoring results from the BC-1 station. The Commission is currently preparing a grant application to install filter media at the outlet of the Cherokee Wetland to reduce soluble phosphorus loads from the wetland to Bass Creek. Thus, collecting this data in 2018 will help support this project. This task is included as part of the stream monitoring task in Table 1 and Attachment 1.

Volunteer Wetland Monitoring. In 2007 the Commission began participating in Hennepin County Environmental Services' Wetland Health Evaluation Program (WHEP), a volunteer monitoring program. Through this program, adult volunteers monitor vegetative diversity and macroinvertebrate communities. In 2017 the Shingle Creek wetlands monitored were in Brookdale Park in Brooklyn Park and Three Ponds Park in Plymouth. Hennepin County also has an interactive online map showing WHEP locations throughout the county: hennepin.us/your-government/get-involved/wetland-health-evaluation-program. The 2018 budget did not include any budget for this program. Staff recommends that if only two sites are monitored through RiverWatch, the extra $1,000 budgeted for that program be reallocated to WHEP.

MONITORING TO SUPPORT GRANT PROJECTS

The following monitoring tasks are built into ongoing grant projects. While not funded from the Commission's general fund budget, they are presented here for completeness.

Twin Lake Intensive Lake Water Quality Monitoring. To track the effectiveness of the Twin Lake Carp project, intensive lake water quality monitoring will be conducted on Upper, Middle, and Lower Twin Lakes in 2018. All three basins of Twin Lake will be monitored twice monthly. The water quality data collected for each basin will include surface water samples for various parameters, water column temperature and DO profiles, and deep water phosphorus samples (Middle Twin only). A more detailed discussion and breakdown of these routine monitoring activities and costs is shown in Table 1 of Attachment 3.

Twin Lake Aquatic Vegetation Surveys. As part of the Twin Lake Carp project, vegetation surveys will be conducted on Upper, Middle, and Lower Twin Lakes in 2018. The vegetation surveys for each lake will be conducted in May/June and August and will be used as baseline data for the development of vegetation

management plans for each basin. A breakdown of this monitoring activity and costs is shown in Table 2 of Attachment 3.

Bass Lake Aquatic Vegetation Surveys. Early (May/June) and late season (August) surveys will be performed on Bass Lake in 2018 to support the Bass Lake Alum Treatment Project. The Commission last performed vegetation surveys on Bass Lake in 2014, and therefore more recent survey data will be critical to evaluate the pre-treatment vegetation community in Bass Lake, and to collect baseline data for the Bass Lake Vegetation Management Plan. A breakdown of this monitoring activity and costs is shown in Table 3 of Attachment 3.

Biochar Project. Monitoring will continue in 2018 measuring the effectiveness of the three pond benches, the utility box filter, and the catch basin inserts.

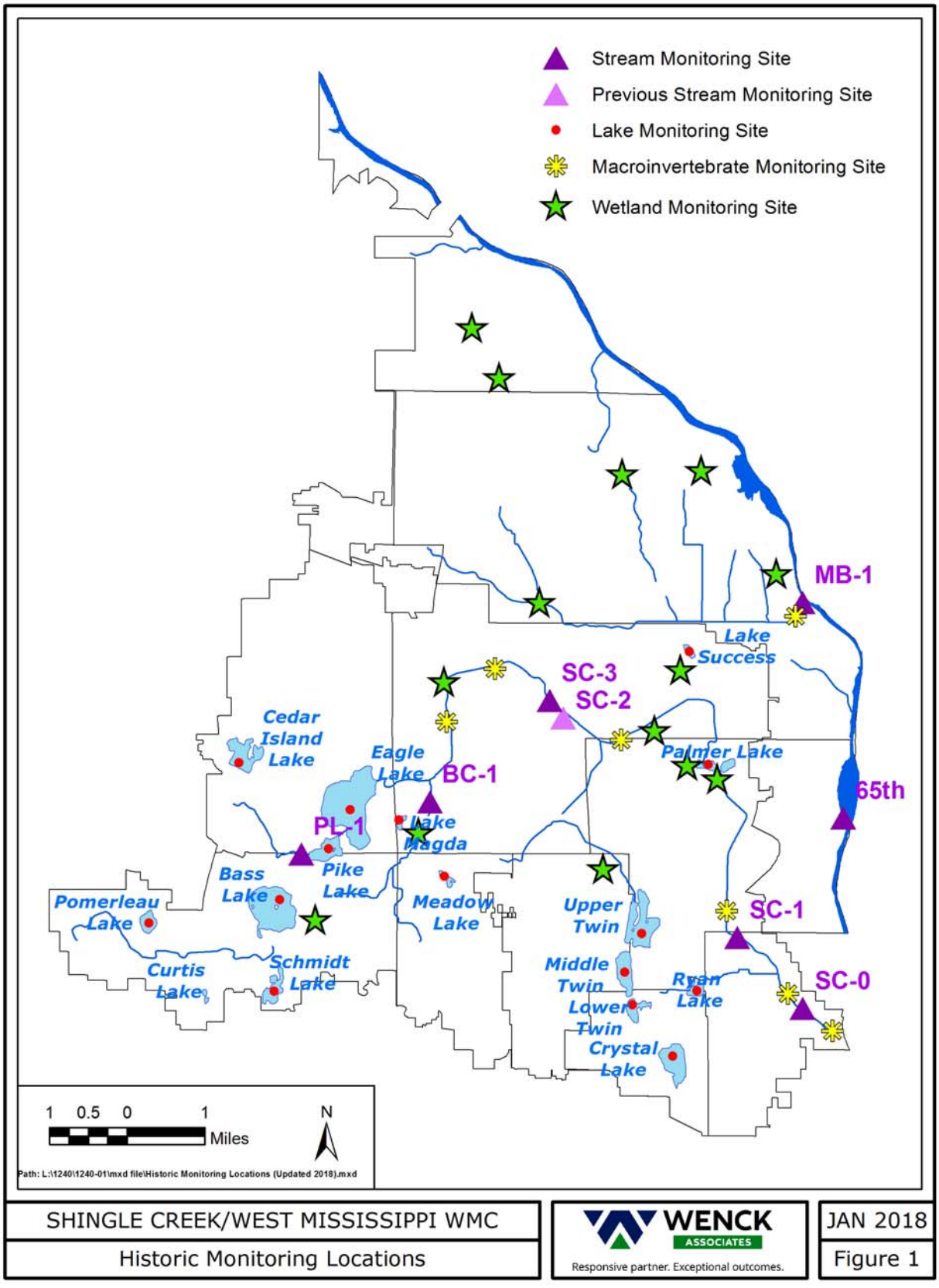

Figure 1. Shingle Creek watershed monitoring locations.

Attachment 1
Stream Monitoring Detail
January 2018

Sites:
Routine (bi-monthly) and storm event monitoring of flow and water quality at the outlet (SC-0), Brooklyn Boulevard (SC-3), Bass Creek (BC-1) sites. Depending on flow conditions, approximately 4 phosphorus grab samples will be collected in 2018 upstream and downstream of the Cherokee Wetland along Bass Creek. Stream macroinvertebrate and fish assessments/surveys performed during late summer at sites SC-0, SC-3, and BC-1.

Constituents:
Lab analyses for the stream monitoring sites include total phosphorus, total dissolved phosphorus, soluble reactive phosphorus, total suspended solids, nitrate+nitrite, total Kjeldahl nitrogen and chloride. Lab analyses for the Cherokee Wetland will include total phosphorus, total dissolved phosphorus, soluble reactive phosphorus, and total suspended solids. Field measurements at all sites will include pH, dissolved oxygen, temperature, transparency tube, and conductivity.

Stream macroinvertebrate samples will be collected, preserved and shipped to Rithron Laboratories in Colorado for analysis. Stream fish assessments will be conducted using backpack shocking equipment and all collected fish will be counted, weighed, and measured. Both the macroinvertebrate and fish data will be used to calculate IBI scores for each monitored site.

Frequency:
Stream Routine: SC-0, SC-3 and the Bass Creek Outlet will be monitored once every two weeks from April 1 to October 31, 2018.
Cherokee Wetland outlet: Approximately 4 upstream and downstream grab samples will be targeted during various seasons and flow conditions between April 1 and October 31, 2018.
Storms: Target 6 storm composite samples throughout the monitoring season (April through October) at SC-0, SC-3, and BCP-1.
Stream Biotic: One survey/assessment during late summer in 2018.

Table 1-1. Activity and cost breakdown for Shingle Creek 2018 routine stream monitoring.

ACTIVITY	Detail	HOURS	COST
Routine Stream Monitoring			
Install/remove equipment	$3,712	32	
Collect samples and maintain equipment	$14,175	135	
Develop database and rating curves	$2,330	21	
Analytical services (RMB Laboratories)	$5,134		
Misc. supplies, mileage and equipment	$1,700		
Project Management	$1,300	10	
Unallocated Budget	$1,643		
SUBTOTAL			$29,994
Cherokee Wetland monitoring			
Labor	$1,334	12	
Analytical services	$336		
Misc. supplies, mileage and equipment	$250		
SUBTOTAL			$1,920

ACTIVITY	Detail	HOURS	COST
Stream Biotic Monitoring			
Labor	$3,841	32	
Analytical services	$765		
Misc. supplies, mileage and equipment rental	$700		
SUBTOTAL			$5,306
TOTAL		203	$37,220

Attachment 2
Lake Monitoring Detail
January 2018

Sites:
Crystal and Ryan Lakes (intensive water quality monitoring, vegetation surveys), Palmer Lake (fish survey), and Pike/Eagle Lakes (common carp population assessment)

Intensive Monitoring Constituents:
Lab analyses include total phosphorus, soluble reactive phosphorus, total suspended solids, and chlorophyll-a. Deep lake samples for both lakes will include total phosphorus and soluble reactive phosphorus. Field measurements include dissolved oxygen, temperature, pH and conductivity water column profiles

Intensive Monitoring Frequency:
Both lakes will be sampled for water quality twice monthly from late May to September 30, 2018. Vegetation surveys will be conducted on both lakes in May/June and August. The fish surveys for Palmer Lake will be performed in mid-late summer and will use a combination of gill net(s) and mini-fyke nets. The common carp survey for Eagle and Pike Lakes will also be performed mid-late summer and will use electroshocking methods similar to those used for the Twin Lake Carp Study.

Table 2-1. Activity and cost breakdown for Crystal and Ryan intensive water quality monitoring.

ACTIVITY	HOURS	COST
Collect bi-monthly samples	60	$6,300
Data analysis and reporting	12	$1,260
Supplies, boat, equipment and mileage		$1,435
Analytical (Instrumental Research)		$1,660
TOTAL	72	$10,655

Table 2-2. Activity and cost breakdown for aquatic vegetation surveys on Crystal and Ryan Lakes.

ACTIVITY	HOURS	COST
May/June and August surveys on 2 lakes	36	$3,780
Data entry and analysis	16	$1,680
Equipment, mileage, mapping service		$1,200
TOTAL	52	$6,660

Table 2-3. Activity and cost breakdown for fish survey on Palmer Lake and carp assessment on Pike/Eagle Lakes.

ACTIVITY	HOURS	COST
DNR permit application	3	$315
Perform fish surveys	26	$3,210
Data entry and analysis	4	$420
Boats, nets, misc. equipment and mileage		$740
TOTAL	33	$4,685

Table 2-4. Activity and cost breakdown for volunteer lake monitoring.

ACTIVITY	HOURS	COST
Volunteer training and sample pickup	5	$900
Analytical and supplies (Met Council)		$2,200
Data analysis and reporting	5	$700
TOTAL	10	$3,800

Attachment 3
Monitoring to Support Grant Projects
January 2018

Sites:
Upper, Middle and Lower Twin Lake (intensive water quality monitoring and vegetation surveys); Bass Lake (vegetation surveys)

Intensive Monitoring Constituents:
Lab analyses for the Twin Lake monitoring will include surface samples of total phosphorus, soluble reactive phosphorus, total suspended solids, and chlorophyll-a. Deep lake samples for Middle Twin will include total phosphorus and soluble reactive phosphorus. Field measurements for each basin will include dissolved oxygen, temperature, pH and conductivity water column profiles

Intensive Monitoring Frequency:
Upper, Middle and Lower Twin Lakes will be sampled for water quality twice monthly from late May to September 30, 2018. Vegetation surveys for Upper, Middle, and Lower Twin Lakes and Bass Lake will be performed in May/June and August.

Table 3-1. Activity and cost breakdown for Upper, Middle, and Lower Twin Lake water quality monitoring.

ACTIVITY	HOURS	COST
Collect bi-monthly samples	60	$6,300
Data analysis and reporting	8	$840
Supplies, boat, equipment and mileage		$1,600
Analytical (Instrumental Research)		$1,660
TOTAL	68	$10,400

Table 3-2. Activity and cost breakdown for aquatic vegetation surveys on Upper, Middle, and Lower Twin Lake.

ACTIVITY	HOURS	COST
May/June and August surveys on 3 basins	40	$4,200
Data entry and analysis	8	$840
Equipment, mileage, mapping service		$900
TOTAL	48	$5,940

Table 3-3. Activity and cost breakdown for aquatic vegetation surveys on Bass Lake.

ACTIVITY	HOURS	COST
May and August surveys on 2 lakes	32	$3,360
Data entry and analysis	8	$840
Equipment, mileage, mapping service		$525
TOTAL	40	$4,725

Table 5. Third Generation Plan updated lake monitoring schedule.

Lake	Water Quality Monitoring											Aquatic Vegetation Survey											Sediment Core Assessment*								
	Actual						Planned					Actual						Planned					Actual								
	12	13	14	15	16	17	18	19	20	21	22	12	13	14	15	16	17	18	19	20	21	22	08	09	10	11	12	13	14	15	16
Bass			c	x		x		c		x				c					c						c					
Eagle				c				x	c	x					c					c										c
Pike				c				x	c	x					c					c				c						
Twin Middle	c		x		x		g		x		x	c						g												
Ryan	x	c					c		x		x		c				c									c				
Schmidt			c					c		x				c					c						c					
Twin Lower	c		x				g		x		x	c						g				c				c				
Cedar Island				c			x		c	x										c						c				
Crystal		c	x		x		c		x		x		c										c							
Pomerleau			x			c		x											c								c			
Twin Upper	c		x				g		x		c	c				c		g				c		c						
Magda	x			x		c				x	c						c					c						c		
Meadow			x		c		x		x	c						c					c			c						
Success			x		c		x		x	c						c					c									

*No additional sediment coring is anticipated after 2016.

g Grant monitored
x Volunteer monitored (CAMP)
c Commission monitored

-

Technical Memo

WENCK ASSOCIATES

Responsive partner.
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To: West Mississippi WMO Commissioners

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

Date: February 2, 2018

Subject: 2018 West Mississippi Monitoring Plan

Recommended Commission Action	Review and approve the 2018 monitoring plan.

The West Mississippi Watershed Management Commission for many years did not routinely monitor water quality in the few streams that are present in the watershed. The Commission undertook stream and outfall monitoring in 1990-1992 and found that the water quality of runoff from the watershed was generally within ecoregion norms. Since much of the watershed was poised to develop under Commission rules regulating the quality and rate of runoff, the Commission elected to discontinue further monitoring. In 2010 and 2011 the Commission authorized a repeat of the 1990-1992 monitoring, to determine current conditions and evaluate whether the development rules were protective of downstream water quality.

The Third Generation Plan and subsequent budgets incorporated ongoing, routine monitoring for West Mississippi that includes monitoring flow and water quality at two sites per year on a rotating basis. In 2017 the Commission monitored the 65th Avenue Outfall and the outlet of Mattson Brook in Brooklyn Park (Figure 1). Results of 2017 monitoring will be presented in the Annual Water Quality Report in April 2018.

Routine Monitoring. Figure 1 shows the West Mississippi outfall sites sampled in 2010-2011, and 2013-2017 (no monitoring was conducted in 2012). The Oxbow Creek and Environmental Preserve Outfall sites will be monitored in 2018 for flow and water quality using automatic samplers. Continuous flow will be monitored using pressure transducers, and water quality will be analyzed through field parameter measurements, periodic grab samples and storm composite sampling using ISCO automated samplers purchased by the Commission in 2010.

The 2018 budget for this activity is $17,000. A more detailed discussion and breakdown of these routine monitoring activities and costs is shown in Table 1 of Attachment 1.

Volunteer Stream Monitoring. In previous years high school student volunteers conduct macroinvertebrate monitoring through Hennepin County Environmental Services' RiverWatch Program at one location in West Mississippi – Mattson Brook. The Commission contracts with Hennepin County for this service at a cost of $1,000 per site (see Figure 1 for location). Hennepin County maintains an interactive online map showing locations throughout the county and stream grades going back to 1996: hennepin.us/riverwatch.

In the past few years Hennepin County has been finding it difficult to recruit a high school to monitor this site. Staff recommends that this budget be held in reserve in the event a team is found for 2018. We will consult with Hennepin county to see if the commission should drop this site in future budgets.

Volunteer Wetland Monitoring. In 2007 the Commission began participating in Hennepin County Environmental Services' Wetland Health Evaluation Program (WHEP), a volunteer monitoring program. Through this program, adult volunteers monitor vegetative diversity and macroinvertebrate communities. In 2017 the West Mississippi wetlands monitored were in Bartusch Park in Champlin and Oxbow Ponds north of Oxbow Lake in Brooklyn Park. Hennepin County also has an interactive online map showing WHEP locations throughout the county: hennepin.us/your-government/get-involved/wetland-health-evaluation-program. The 2018 budget includes $2,000 to monitor two wetlands. Staff recommends that staff work with the cities to identify sites for 2017.

Monitored wetland in Bartusch Park in the NW quadrant of 109th and Maryland Av N in Champlin.

Monitored wetlands along 101st Avenue N, west of Regent Avenue and north of Oxnow Lake in Brooklyn Park.

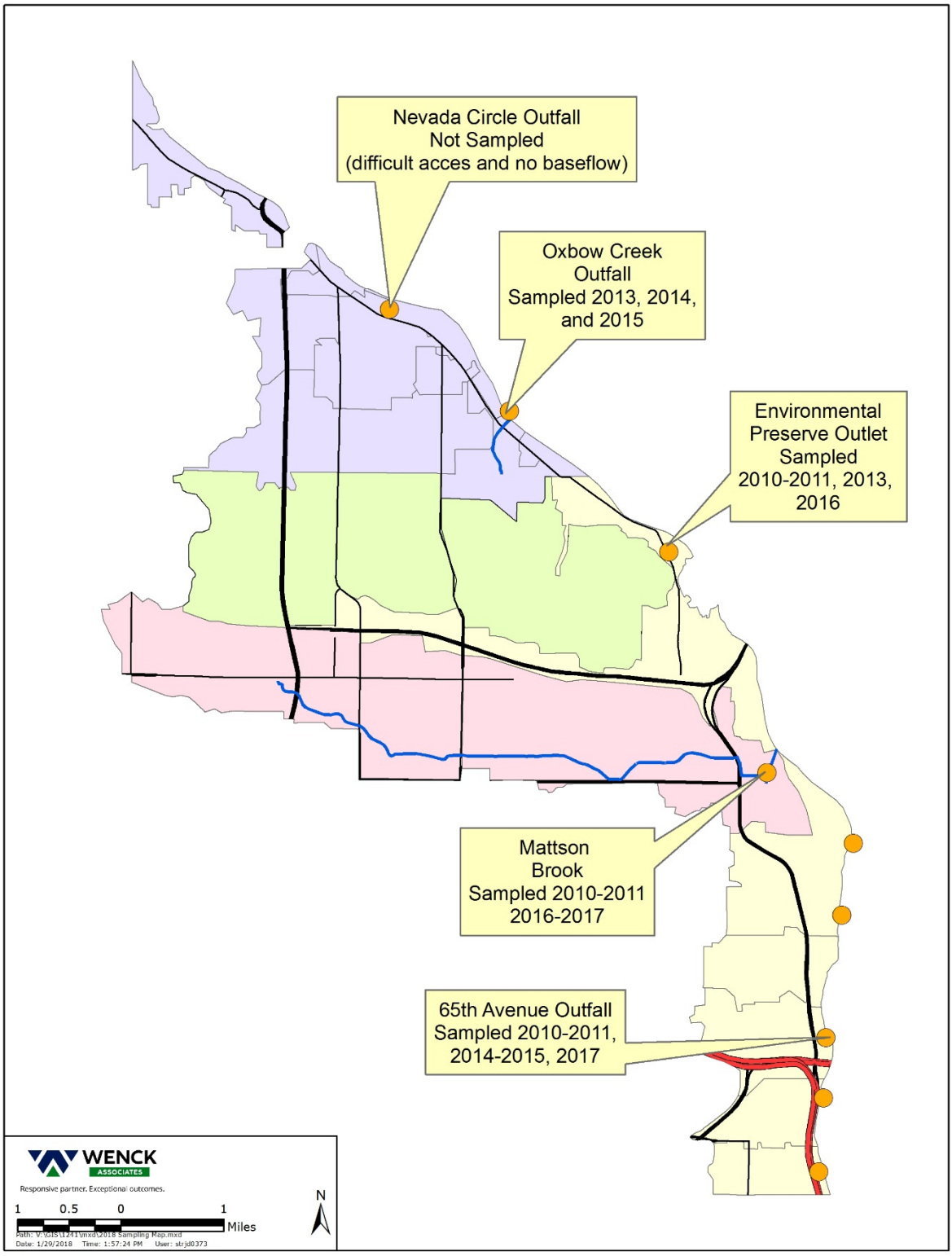

Figure 1. West Mississippi watershed monitoring locations.

Attachment 1
Routine Monitoring Program
February 2018

Sites:
Oxbow Creek and Environmental Preserve Outfall Sampling Locations

Constituents:
Lab analyses include total phosphorus, ortho-phosphorus, total suspended solids, and chloride. Field measurements include flow, pH, dissolved oxygen, temperature, and conductivity.

Frequency:
Routine: Target one field grab sample per month from April-October.
Storms: Target approximately one storm composite sample per month from April-October using ISCO automated samplers.

Table 1. Activity and cost breakdown for West Mississippi 2018 monitoring.

ACTIVITY	HOURS	COST
Install/remove equipment	32	$3,712
Collect samples and maintain equipment	84	$8,820
Develop database and rating curves	22	$2,442
Analytical lab cost (Instrumental Research)		$783
Mileage and equipment		$1,243
TOTAL		$17,000

January 26, 2018

Dear CAMP Sponsors:

This is an update on the work we have been doing to improve the value and sustainability of the Citizen-Assisted Monitoring Program (CAMP). Last summer I asked the CAMP sponsors and volunteers to participate in a survey of the CAMP to help gather information and feedback, so we could address areas that need improving and enhance areas that are going well. We sent out the survey to 30 sponsor representatives, and we received 21 responses. We sent the survey to 121 volunteers, and we received 45 responses.

An encouraging result from the survey is that most sponsors who responded to the survey are satisfied or highly satisfied with the program (18 out of 21). Similarly, most volunteers are satisfied or very satisfied with the program (37 out of 45 respondents).

A common comment in the sponsor and volunteer surveys was that the timeliness of the reports and availability of the finalized data need to be greatly improved. Our goal then is to improve the timeliness of the availability of the finalized data and the reports, where:

- The finalized monitoring data for a particular year will be available the following January 31st. For example, finalized monitoring data for samples collected in 2018 will be available by January 31, 2019.
- The annual Lake Water Quality Summary Report, including the lake grade map, will be published by mid-February of the year following the monitoring.
- The annual lake report will be published by April 1 of the year following the monitoring.

Changes will be implemented in the CAMP to help us achieve this timeline. Many of these changes focus on improving the efficiency of 3 important processes:

- Kit restocking, delivery, and pickup.
- Picking up the samples and lake monitoring forms and delivering them to the lab.
- Volunteer training.

Some of these changes also are geared towards:

- Improving the rate of volunteer participation.
- Improving the maintenance of the monitoring kits.
- Updating the CAMP price structure.

The changes are as follows. Some of you already have been doing some of these tasks, so those won't be a much of a change for you.

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METROPOLITAN COUNCIL

1. The Sponsor will be responsible for maintaining, storing, and restocking their monitoring kits. For monitoring kits that are currently stored at a Council facility, Council staff will restock and deliver these kits to their respective Sponsor-owner in the spring of 2018. After this spring, monitoring kits will no longer be stored at Council facilities. As a friendly reminder, the kits are owned by the Sponsor once purchased.

2. The Council will provide and deliver to the Sponsor the expendable monitoring items (e.g. sample containers, labels, filters, aluminum sheets, zip-style plastic bags, and lake monitoring forms). The expendable monitoring items will be delivered in the weeks preceding the start of the monitoring season. The cost of the expendable monitoring items is included in the annual CAMP participation fee.

3. For durable items in the monitoring kit (e.g. thermometers, Secchi disks, filter holders, hand pumps, etc.), the Council will provide and deliver these items upon request from the Sponsor. The Sponsor will be billed for replacing durable equipment, which will be in addition to the participation fee. The purpose of this change is to improve the maintenance practices of the durable items.

4. The CAMP program manager will send out an annual request to the Sponsors asking if they plan to participate in the CAMP for that year (as usual). The request will also ask for a list of lake site(s) and the quantity of items (expendable and durable) needed for restocking the monitoring kits.

5. The Sponsor will be responsible for delivering and picking up the monitoring kits to and from their volunteers.

6. The Sponsor will be responsible for providing a central storage location for their volunteers' samples and lake monitoring forms until pick up by Council staff. Sponsors will be responsible for picking up the samples and the lake monitoring forms from their volunteers and delivering those items to Sponsor's central storage location. The samples are required always to be frozen, which is the same requirement as before. The central storage location can be a Council facility.

7. The Council will be responsible for picking up the samples and lake monitoring forms from the Sponsor's central storage location and delivering them to the laboratory.

8. The CAMP has not raised its participation fee for over 16 years ($550 for 14 monitoring events per lake site). As with most everything else, the costs of operating the program have increased since then. To bring the pricing structure of the CAMP in line with current costs, the annual CAMP participation fee will increase to $760 for 14 monitoring events per lake site. This increase generally reflects the inflation rate (Consumer Price Index) over the same time period. The participation fee will be raised to $380 for 7 monitoring events per lake site.

9. The Council will no longer offer the monitoring frequency option of 1 to 5 monitoring events per monitoring season.

10. The CAMP participation fee will be billed for the contracted amount regardless whether the volunteer samples a lake site fewer times than the contracted quantity.

11. The cost to purchase a monitoring kit will increase to $225.

12. Payment of the total amount owed to the Council will be due by October 30 each year. An invoice will be sent in September of each year.

13. The Council plans to develop an on-line web-based training program to train new volunteers and to be a source of information for veteran volunteers. Written content, videos, and knowledge exams are planned for the web-based program to provide thorough training and document that volunteers understand CAMP methods and procedures.

If you have any questions about these changes or the survey, please contact me.

Sincerely,

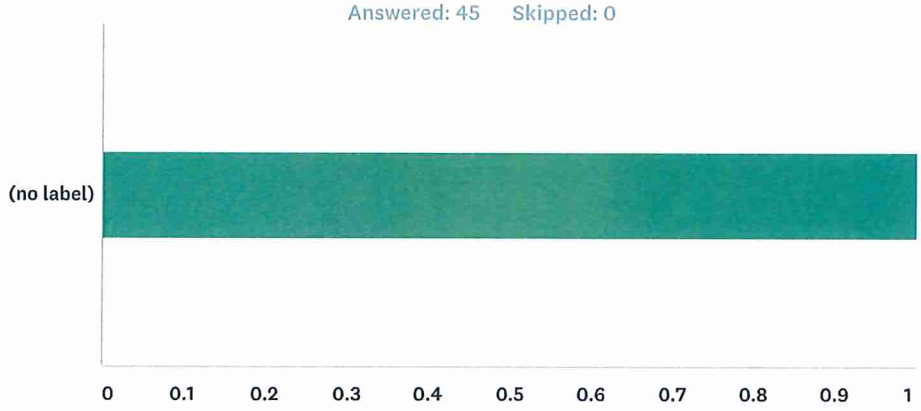
Brian Johnson
Senior Environmental Scientist | Water Resources

brian.johnson@metc.state.mn.us
P. 651.602.8743

Citizen-Assisted Monitoring Program (Volunteers)

Q1 How satisfied are you with the Citizen-Assisted Monitoring Program (Program)?

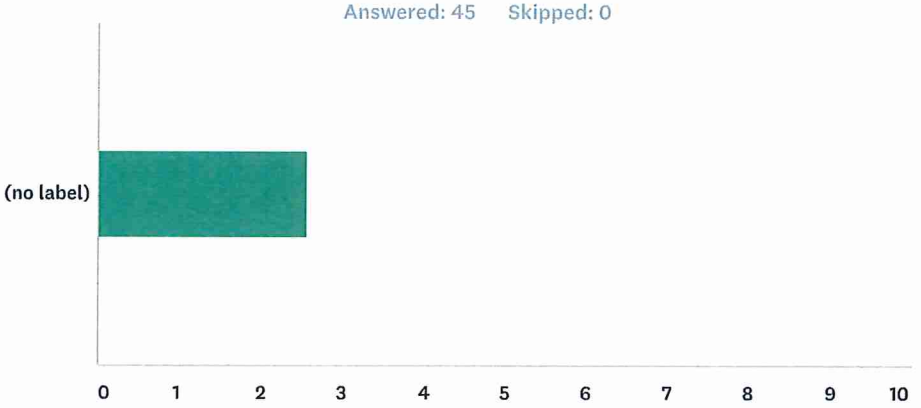
Answered: 45 Skipped: 0



	Very Unsatisfied	Unsatisfied	Somewhat Unsatisfied	Somewhat Satisfied	Satisfied	Very Satisfied	Total	Weighted Average
(no label)	2.22% 1	0.00% 0	4.44% 2	11.11% 5	62.22% 28	20.00% 9	45	1.00

Q2 How helpful do you find the annual lake reports?

Answered: 45 Skipped: 0



	Unhelpful	Somewhat Helpful	Very Helpful	Not Applicable	Total	Weighted Average
(no label)	4.44% 2	24.44% 11	51.11% 23	20.00% 9	45	2.58

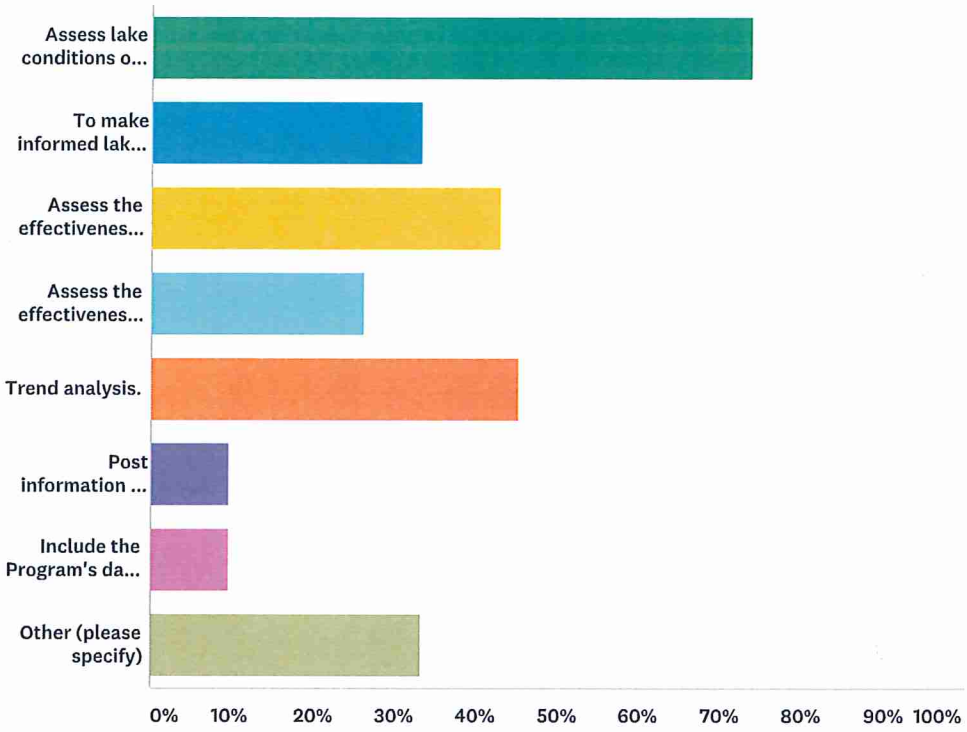
#	Please tell us why you find the reports to be Unhelpful, Helpful, or Not Applicable.	Date
1	I'm not sure of how the data is used from our lake.	7/7/2017 12:00 PM
2	It's nice to see the results, and to reflect on the conditions that I observed.	7/6/2017 3:22 PM
3	Provides info on whether (a few) BMOs are making any difference in the lake. Also provides feedback on my collections -- just seeing results.	7/5/2017 7:59 AM
4	I haven't received one for my lake	7/4/2017 3:13 PM
5	haven't seen them	7/3/2017 9:50 AM
6	This is my first year and I have not seen them	7/2/2017 2:24 PM
7	I am new to this work and program, need to see more reports.	6/30/2017 6:27 PM

8	It's nice to know that Sunset Lake is clean.	6/28/2017 3:29 PM
9	I have only collected information up to this point and passed it along.	6/27/2017 1:59 PM
10	Too long of a delay between collecting data a getting reports. Are we sent the reports? I just searched on your website for specific reports on our waterbody, and wasn't able to find anything.	6/27/2017 12:45 PM
11	It is important to understand the quality of the water in our lake. My family has lived on the lake since 1899. Water quality is important.	6/26/2017 12:08 PM
12	It helps to know where the lake stands as far as being safe to swim in. It is a recreational lake, so fishing and swimming in safe water is essential.	6/26/2017 11:57 AM
13	We occasional use the result in educational programs	6/26/2017 11:19 AM
14	never seen one	6/26/2017 9:18 AM
15	I don't receive this report, how could I get it?	6/26/2017 9:07 AM
16	I have'nt seen any results yet on Parkers Lake	6/26/2017 8:47 AM
17	I like to see the data but as a volunteer I'm not doing anything with it.	6/25/2017 8:40 PM
18	We don't get reports without requesting them. Annual automatic reports would be nice.	6/24/2017 5:06 PM
19	Explaining water quality to follow it lake members	6/24/2017 4:26 PM
20	I am new to the program and have not dug into reports very much so far.	6/24/2017 9:05 AM
21	The reports do not indicate what the causes are for the lakes deteriorating conditions. Haas lake has only one family living on it, but the runoff into the 2 holding ponds built by the Wilds golf course appear to be the cause of the lakes deteriorating conditions . Also, runoff from the road (mainly salt) goes into the lake. During the construction of the Wilds Course, 200 to 300 feet of silt was dumped into Haas Lake because of the lack of silt fence and dams on the gulley that drained into the lake. The DNR and Prior Lake were advised of this situation but nothing was done to undo this contamination. My Family has lived on Haas Lake since 1972 (45 yrs) and The lake has not been this bad with excess vegetation.	6/24/2017 8:59 AM
22	Shows how work we are doing to clean up Burnsville's waters is having an affect	6/24/2017 7:44 AM
23	THE REPORTS I SEE ARE STRICTLY CARVER WEBSITE DATA. AM I SUPPOSED TO RECEIVE SUPPLEMENTAL REPORTS? IF SO I HAVE NOT RECEIVED.. THE WEBSITE DATA IS EXCELLENT. - WRITTEN FOR THE LAY PERSON	6/24/2017 6:42 AM
24	It's not that they're unhelpful; they're not published in a timely fashion. MN Wetlands Health Evaluation Program produces a detailed annual report within about 6 months after season's end. Why can't CAMP?	6/24/2017 6:38 AM
25	I find it very helpful as it is the only way the City has of monitoring its stewardship of this environmental asset. I bring the results to the City Administration and Council annually.	6/23/2017 11:28 PM
26	They help monitor the water quality trends/problems/issues	6/23/2017 10:24 PM
27	They are interesting. It's nice to see our efforts in a larger picture.	6/23/2017 9:36 PM
28	I like to see how the lake has changed over the years.	6/23/2017 9:22 PM
29	Helpful, but I have not seen a copy in several years. Maybe you send it to the city (of Mendota Heights)? I am the volunteer for Rogers Lake in the city, and I would like to see the annual report and share it with the property owners association for the lake.	6/23/2017 9:17 PM
30	I've never viewed this report or know where to find it	6/23/2017 8:58 PM
31	Provides a base line for analyzing changes	6/23/2017 8:53 PM
32	Didn't get one	6/23/2017 8:52 PM

Q3 Indicate how you use the Program's Lakes reports. (Check all that apply)

Answered: 42 Skipped: 3

Citizen-Assisted Monitoring Program (Volunteers)



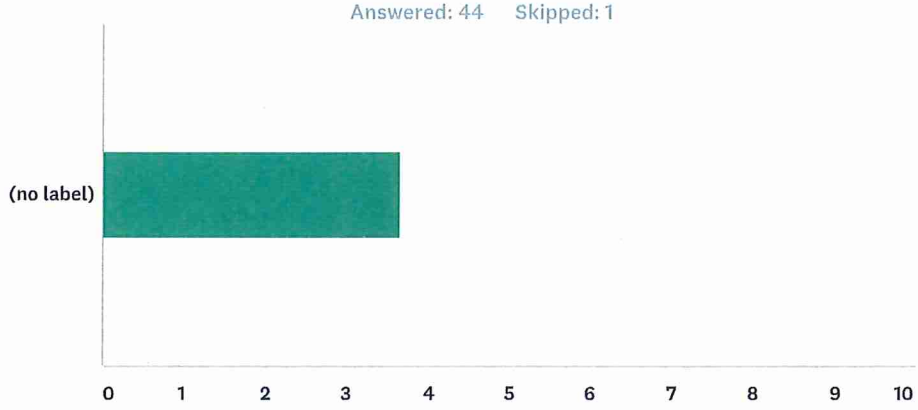
Answer Choices	Responses	
Assess lake conditions or water quality.	73.81%	31
To make informed lake management decisions.	33.33%	14
Assess the effectiveness of lake or watershed improvement efforts/activities.	42.86%	18
Assess the effectiveness of storm water best management practices.	26.19%	11
Trend analysis.	45.24%	19
Post information on a public website.	9.52%	4
Include the Program's data and information in publicity available published documents.	9.52%	4
Other (please specify)	33.33%	14
Total Respondents: 42		

#	Other (please specify)	Date
1	Provide info to other lake shore homeowners who care about the lake.	7/5/2017 7:59 AM
2	Do not recall receiving these reports; if we have, perhaps I have confused them with other reports received from other sources. Check points are hat we hope to do	7/3/2017 9:50 AM
3	personal interest	6/30/2017 10:22 PM
4	Lake association updates	6/26/2017 11:51 AM
5	education primarily for elementary students	6/26/2017 11:19 AM
6	have not seen a report	6/26/2017 9:18 AM
7	I have to see reports first.	6/26/2017 8:47 AM
8	As a resident, just use it for general comparative analysis. How would a citizen be able to analyze anything?	6/24/2017 5:06 PM

9	I TAKE THE INFORMATION AND PUBLISH IN A SPREADSHEET COMPARING CARVER LAKES AND PRESENT THEM TO OUR ASSOCIATION. VERY INFORMATIVE. LAKE RESIDENTS APPRECIATE THE DATA - LAKE KNOWLEDGE IS ALWAYS USEFUL IN PRESERVING AND IMPROVING WHAT WE HAVE.	6/24/2017 6:42 AM
10	See comment above.	6/24/2017 6:38 AM
11	See above comment.	6/23/2017 11:28 PM
12	Again, I could do more with the information if I received an annual copy of the report.	6/23/2017 9:17 PM
13	I've never seen the report	6/23/2017 8:58 PM
14	Didn't get one	6/23/2017 8:52 PM

Q4 How helpful do you find the data produced by the Program?

Answered: 44 Skipped: 1



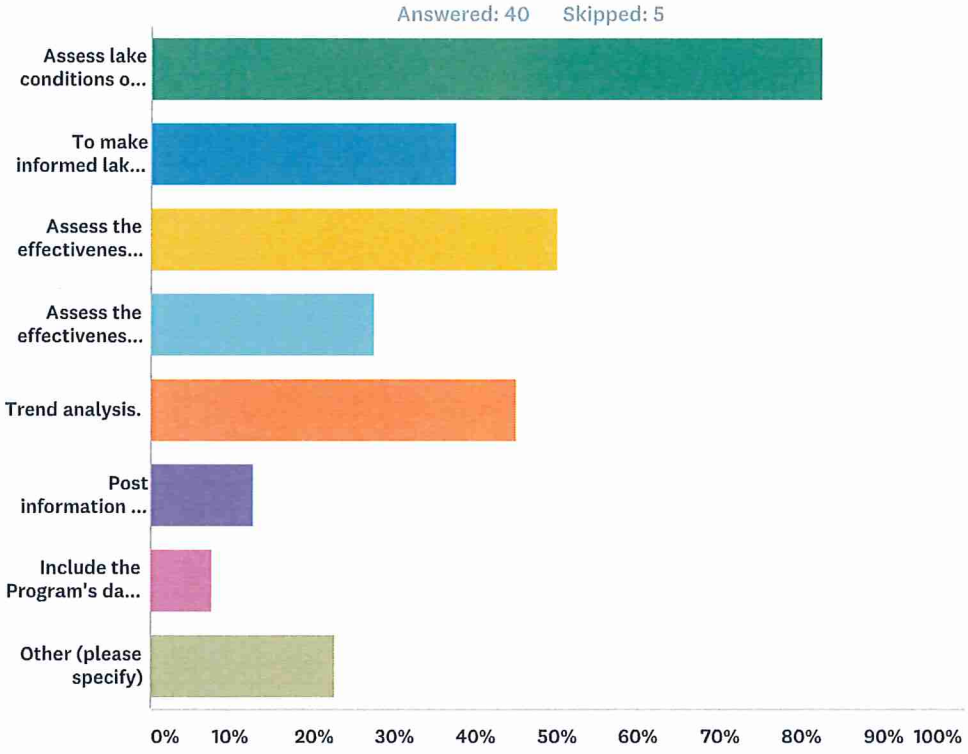
	Unhelpful	Somewhat Helpful	Very helpful	Not Applicable	Total	Weighted Average
(no label)	2.27% 1	20.45% 9	52.27% 23	25.00% 11	44	3.67

#	Please tell us why you find the data to be Unhelpful, Helpful, or Not Applicable.	Date
1	Not sure how the data is used	7/7/2017 12:00 PM
2	See above.	7/5/2017 7:59 AM
3	I haven't used the data	7/4/2017 3:13 PM
4	See abovel	7/3/2017 9:50 AM
5	I don't use the data, I collect it. I hope someone else uses it.	6/30/2017 10:22 PM
6	Data is important to track lake status/health over time.	6/30/2017 6:27 PM
7	The watershed does the same monitoring. Don't see a need/cost for CAMP.	6/29/2017 10:14 AM
8	Again, I have only collected data and passed it along.	6/27/2017 1:59 PM
9	As a homeowner on this lake, it gives me confidence that the programs that we have in place are working.	6/26/2017 12:08 PM
10	Gives us a general impression of the lakes water quality and how it compares to other area lakes	6/26/2017 11:19 AM
11	I don't receive any of the data that I help produce. It would be very motivating if I did.	6/26/2017 9:07 AM
12	No data	6/26/2017 8:47 AM
13	I like to see the data but as a volunteer I'm not doing anything with it.	6/25/2017 8:40 PM
14	Explain like quality and compared to other lakes	6/24/2017 4:26 PM
15	Not enough specific chemical and biological data.	6/24/2017 8:59 AM

16	Facts are good!	6/24/2017 7:44 AM
17	IN ORDER TO EFFECT CHANGE WE NEED CONSISTENT DATA. THIS PROGRAM ALLOWS CONSISTENT DATA GATHERING ALLOWING THE WATERSHED DISTRICT TO MONITOR, OBSERVE AND RECOMMEND CHANGE.	6/24/2017 6:42 AM
18	It's not timely enough to be particularly useful.	6/24/2017 6:38 AM
19	It is the only current data we have. Its value as an historical record is extremely valuable to measure our own stewardship and check general climate change impacts.	6/23/2017 11:28 PM
20	helps to focus management efforts/reveal trends	6/23/2017 10:24 PM
21	It doesn't affect what I do, but shows in from a different perspective.	6/23/2017 9:36 PM
22	See references above.	6/23/2017 9:17 PM
23	I've never seen the report	6/23/2017 8:58 PM
24	It provides a baseline analysis. However , it is disturbing to see the volunteer reportings to be consistently different than the DNR readings. This is true for not only first lake , fores lake but the other 2 lake basins also.I ama graduate Chem Eng and have extensive experience in Lab /sampling techniques. If the Std deviation is that high between the readindgs , one has to doubt the validity of the overall program.	6/23/2017 8:53 PM

Q5 Indicate how you use the Program's data. (Check all that apply)

Answered: 40 Skipped: 5



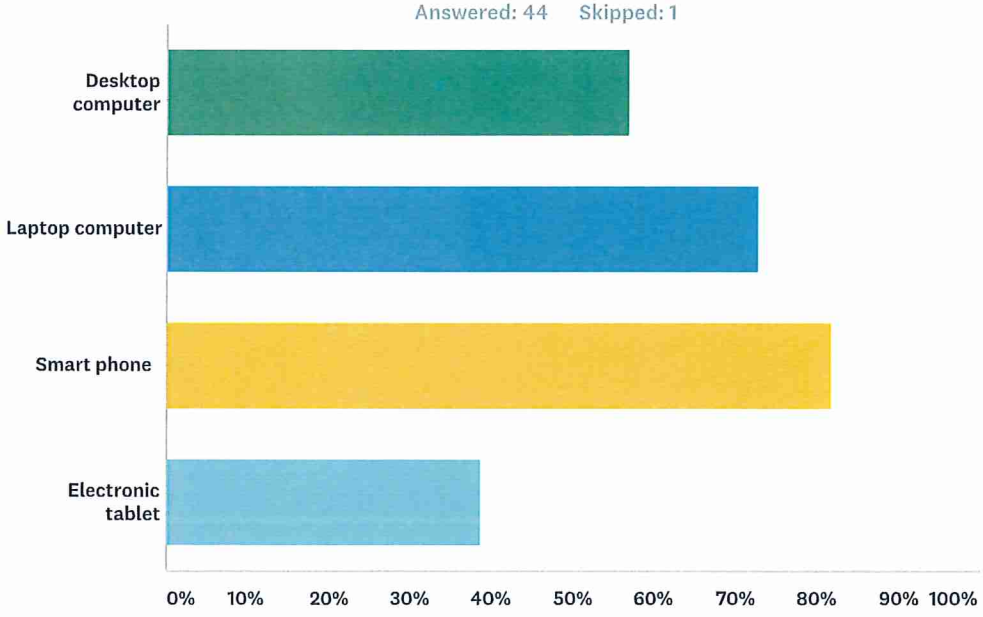
Answer Choices	Responses	
Assess lake conditions or water quality.	82.50%	33
To make informed lake management decisions.	37.50%	15
Assess the effectiveness of lake or watershed improvement efforts/activities.	50.00%	20
Assess the effectiveness of storm water best management practices.	27.50%	11

Trend analysis.	45.00%	18
Post information on a public website.	12.50%	5
Include the Program's data and information in publicity available published documents.	7.50%	3
Other (please specify)	22.50%	9
Total Respondents: 40		

#	Other (please specify)	Date
1	Provide info to other lake shore homeowners who care about the lake.	7/5/2017 7:59 AM
2	see above comments	7/3/2017 9:50 AM
3	same as above	6/30/2017 10:22 PM
4	I would like to view the reports	6/26/2017 9:18 AM
5	The information I generate (Clarity/Temp/Observations) I share with our lake association via e-mail.	6/26/2017 9:07 AM
6	If there were data	6/26/2017 8:47 AM
7	Personal interest. The city has not indicated that the information means anything to them. Continued development and access around what used to be a natural environment lake.	6/24/2017 5:06 PM
8	Explain the lakes Water quality to fellow residents	6/24/2017 4:26 PM
9	I've never seen it	6/23/2017 8:58 PM

Q6 Indicate if you have internet access using one or more of the following devices. (Check all that apply)

Answered: 44 Skipped: 1

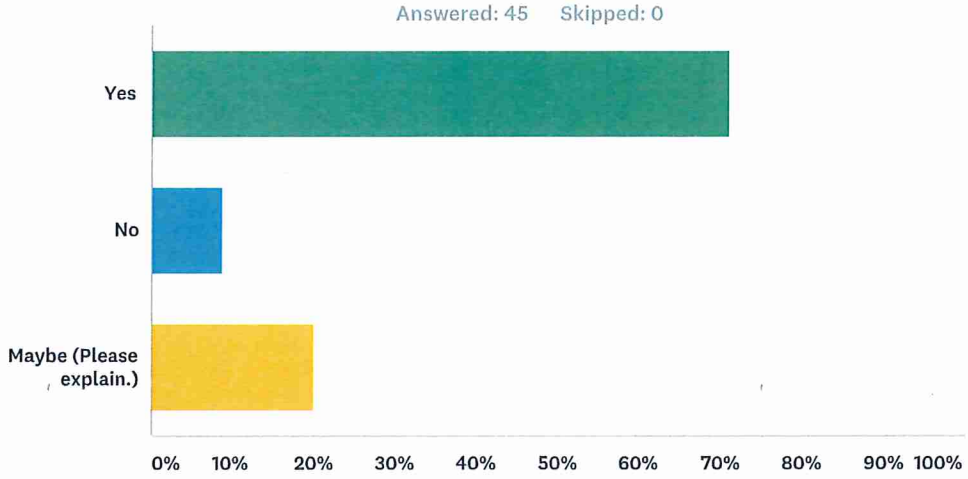


Answer Choices	Responses	
Desktop computer	56.82%	25
Laptop computer	72.73%	32
Smart phone	81.82%	36

Electronic tablet	38.64%	17
Total Respondents: 44		

Q7 If you checked at least one device in the question above, would you be willing to enter field data electronically instead of using paper field data sheets?

Answered: 45 Skipped: 0



Answer Choices	Responses	
Yes	71.11%	32
No	8.89%	4
Maybe (Please explain.)	20.00%	9
Total		45

#	Maybe (Please explain.)	Date
1	Want to hear more details. I don't want to take electronics out on the lake so I'm still filling out the paper data sheets. Another step.	7/5/2017 8:14 AM
2	The sunshine can be cumbersome with the screen, may be hard to see.	6/26/2017 12:01 PM
3	It would probably have to be a personal device	6/26/2017 11:21 AM
4	yes- how about the petrie sample?	6/26/2017 8:49 AM
5	Depends on how user-friendly you make it.	6/24/2017 5:08 PM
6	too easy to make mistakes. Time it takes	6/24/2017 7:32 AM
7	I could do that if it was important to the program. The sheet is easy as I take it to the lake and then simply include it in the bag with the samples. However, if you continue to provide the sheets, I would be willing to enter the data into a simple form provided by the program.	6/23/2017 11:40 PM
8	I do not want to being my laptop onto the lake.	6/23/2017 9:37 PM
9	Using a device supplied to me	6/23/2017 9:01 PM

Q8 Please share what motivates you to be a lake monitoring volunteer.

Answered: 40 Skipped: 5

Citizen-Assisted Monitoring Program (Volunteers)

#	Responses	Date
1	Mostly for tracking ongoing water quality.	7/7/2017 12:03 PM
2	I feel like the lake needs to have an advocate, and someone willing to obtain the data so that if there is an issue it can be identified and addressed.	7/6/2017 3:24 PM
3	It's like changing the oil on your car: forces me to interact and pay attention to the lake ... to look at it. Also it's something I can contribute to the neighborhood.	7/5/2017 8:14 AM
4	To learn more about the lake, assist research, and see nature	7/4/2017 3:14 PM
5	Live on the lake and have concern over its future	7/3/2017 9:52 AM
6	I am concerned about the effect new construction will have on the lake I live on	7/2/2017 2:29 PM
7	I have interest in the lake water quality. Regularly monitoring the lake keeps me well in tuned with the lake.	6/30/2017 10:24 PM
8	Need for close management of the lake relative to water quality, and especially weed control needed to keep the lake healthy for fishing, boating, and swimming.	6/30/2017 6:29 PM
9	It's one of the ways to feel like I'm a steward of the environment.	6/30/2017 6:27 PM
10	I believe in volunteerism	6/30/2017 6:25 PM
11	Concerned about water quality	6/30/2017 6:16 PM
12	To ensure the water quality of Sunset Lake remains excellant	6/28/2017 3:30 PM
13	I live on the lake and it's my home.	6/27/2017 2:02 PM
14	Keeping our lake clean.	6/27/2017 12:45 PM
15	Love our lake, and want to help keep it great	6/26/2017 2:17 PM
16	I no longer monitor after having monitored for about 10 years. I could see trends such as the effects of invasive plants and heat upon the entire lake ecosystem.	6/26/2017 12:50 PM
17	I am very interested in understanding the quality of the water in the lake that I live on and sustaining that water quality.	6/26/2017 12:12 PM
18	I use the lake a lot and want to see a clean lake. Being on the lake is my passion.	6/26/2017 12:01 PM
19	it is an important function that needs to be done	6/26/2017 9:21 AM
20	The opportunity to better manage our lake and contribute to public understanding of what is happening with our watersheds.	6/26/2017 9:08 AM
21	try to help gain knowledge for the area	6/26/2017 8:49 AM
22	Not very many people have easy access to the lake so it is the right thing for me to do.	6/25/2017 8:42 PM
23	Personal interest and concern for the environment.	6/24/2017 5:08 PM
24	We use the lake quite a bit and want the best water quality possible.	6/24/2017 4:29 PM
25	Care for the lake and in general water quality.	6/24/2017 9:11 AM
26	We live here.	6/24/2017 9:01 AM
27	Helping the community, and getting out on the water.	6/24/2017 7:45 AM
28	care about the lakes and understand the value of long term data.	6/24/2017 7:32 AM
29	I feel I'm contributing important information that leads to better understanding of the condition of our Metro area lakes and thereby to planning for improving a vital resource.	6/24/2017 6:49 AM
30	LAKE RESIDENTS NEED TO BE INVOLVED WITH THE BODY OF WATER THEY ENJOY. MONITORING THE LAKE ON A BIWEEKLY BASIS CONNECTS ME TO MY SURROUNDS. I REALLY ENJOY TAKING PART IN THE PROGRAM.	6/24/2017 6:44 AM
31	I am a long-time environmental activist and have been involved in the protection of this particular lake for many years. It is a natural resource and natural habitat for songbirds, waterfowl, muskrats, turtles,....	6/23/2017 11:40 PM
32	I live on the lake and hope to maintain/improve the water quality for multiple uses; swimming, fishing, kayaking, etc	6/23/2017 10:29 PM

33	Trying to help preserve our lakes and rivers.	6/23/2017 9:56 PM
34	Assist in the lake health	6/23/2017 9:37 PM
35	It's easy to do and, if it is helpful, I can contribute my time to this effort.	6/23/2017 9:37 PM
36	Interested in lake quality.	6/23/2017 9:19 PM
37	I want to see our lake healthy.	6/23/2017 9:18 PM
38	To be knowledgeable and active in the improvement of my lake's water quality	6/23/2017 9:01 PM
39	Dedication to improvement in Water quality	6/23/2017 8:56 PM
40	Interest in the lake health	6/23/2017 8:52 PM

Q9 Please share any additional comments regarding the Program (what you like, dislike, and improvement ideas).

Answered: 24 Skipped: 21

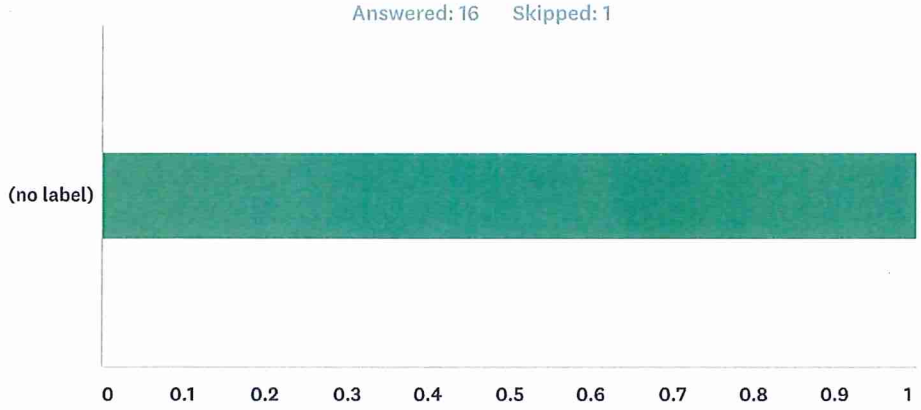
#	Responses	Date
1	My lake (Lac Lavon) is small (55 acres) and shared by two cities: Apple Valley and Burnsville. All the residents on the lake live in Apple Valley. I'd like to know if the cities are using the data collected, the trends noticed and how they are informing the residents about water conditions.	7/7/2017 12:03 PM
2	I would like to take part in discussions about the watershed for Pickerel Lake, and see if there are options for implementing water quality devices upstream to intercept excess nutrients, and improve the lake quality.	7/6/2017 3:24 PM
3	I'd like to see faster turn around of the test results. The wait is now over a year. More government management/improvement efforts. "All water matters." More programs are available to the bigger recreational lakes than to Little Johanna, yet our water flows into Johanna and beyond.	7/5/2017 8:14 AM
4	1-Collection of data questions could be clearer-eg-how to interpret perception of water color, conditions, etc at site versus on the shore. 2-shoreline information impact seems discounted-is there any use for that information? 3--very friendly program with sense of gratitude to volunteers-welcome the reminders from Gael. 4-readable reports annually would be helpful-still not sure I do or do not get reports-but since I'm not sure, I can comment that something more apparent should be sent.	7/3/2017 9:52 AM
5	I am wondering if a syringe would be easier to measure water more accurately with than the cylandar provided	7/2/2017 2:29 PM
6	Could save some costs associated with testing and administrating the CAMP program on lakes where the watershed is doing the same monitoring.	6/29/2017 10:14 AM
7	Everything so far has been good.	6/27/2017 2:02 PM
8	Emailed responses from the coordinator would be helpful "thanks" "got it" "thank you for providing this information"	6/27/2017 12:45 PM
9	n/a	6/26/2017 2:17 PM
10	Ultimately, I was put off by Diane Spector, staff for the Shingle Creek Watershed who delivered monitoring equipment late and seemed to disrespect volunteer data.	6/26/2017 12:50 PM
11	I really like the idea of electronic submittal of data, it seems much more efficient. The only suggestion I might have would be to use a container larger enough to siphon water through the paper filter with one fill, that way the filter is not subject to damage or contamination emptying the reservoir 3 times. The other option would be to be able to empty the reservoir without having to remove the paper filter.	6/26/2017 12:12 PM
12	The volunteer time is long. April to Oct. sometimes it is hard getting out every 2 weeks...not sure why this needs to be done so much, sometimes the data does not change from week to week.	6/26/2017 12:01 PM

13	If we are to test a 1000ml of water we should have a container that holds 1000ml. Most people have electronic "Smart" devices. a calendar invitation with sample dates would be nice.	6/26/2017 9:21 AM
14	The people who manage this program do a GREAT job. They are easy to reach, are timely and provide me all the resources I need to do this.	6/26/2017 9:08 AM
15	getting the right labels would help.	6/26/2017 8:49 AM
16	Our point of contact person could communicate more with us	6/24/2017 4:29 PM
17	One was electronic recording data, I am a secchi disc volunteer also and I do all of that recording electronic also. Would be nice if you and DNR were in synch, they record in inches. Metric is OK for me, would be nice if they were the same. It would be nice and more efficient if the filter device could handle 1000 ml in one shot rather than 4 times.	6/24/2017 9:11 AM
18	The data is collected too early in the season. The Secci data doesn't match the MPCA CLMP data period.	6/24/2017 7:32 AM
19	As indicated previously, I would like to see more timely reporting and analysis of the data. I enjoy being part of this team and think the work is important. Getting this out to the general public would help.	6/24/2017 6:49 AM
20	I WOULD LIKE TO GET REGULAR UPDATES ON LAKE QUALITY. I RECEIVED THE WEBSITE DATA ONLY BECAUSE I REQUESTED. IF I HAD NOT REQUESTED I WOULD NOT RECEIVE. ARE WE SUPPOSED TO GET UPDATES - YEARLY - QUARTERLY OR WHAT. LOVE THE PROGRAM.	6/24/2017 6:44 AM
21	It runs pretty smoothly, but it would be nice if others that are closer to the lake and who receive more benefit would also participate. I do not live on or near this lake, but have collected samples there for 12 years. I would also like to have a bit more feeling that the watershed cares about the lake as much as I do. I would like to be informed of any city/metro wide trends that the program sees. This spring I wrote about the condition of this lake in the early spring. I hope that at the end of the summer or whenever the data is all fully analyzed, we volunteers could receive a report on any larger changes. I believe I am seeing the effects of climate change on shallow, urban lakes. I would like that confirmed or denied. I would also appreciate a report from the Camp Program and the watershed of an assessment of our City's stewardship of our lakes and ponds. I have tried to talk to individuals about the excessive number of water lilies in this lake, but have not received any discussion regarding this issue. Are there too many? Should we remove some? Are they actually a problem? And so on. Thanks, and I really do believe in the program and would be very appreciative of any addition information that is gleaned by the program in general.	6/23/2017 11:40 PM
22	As noted above, I would appreciate receiving the annual reports for Rogers Lake. Could you mail me copies going back as early as 2010? My names Doug Hennes, 2351 Swan Drive, Mendota Heights, MN 55120. Thanks!	6/23/2017 9:18 PM
23	When I found out met council was involved I list interest in the program. I don't trust met council's decision making.	6/23/2017 9:01 PM
24	Big concern on the differences between my readings and the assigned DNR/Met council rep... after 8 yrs of reporting . Why havew volunteers if you don't use their data???	6/23/2017 8:56 PM

Citizen-Assisted Monitoring Program Survey (Sponsor A)

Q1 How satisfied are you with the current Citizen-Assisted Monitoring Program (Program)?

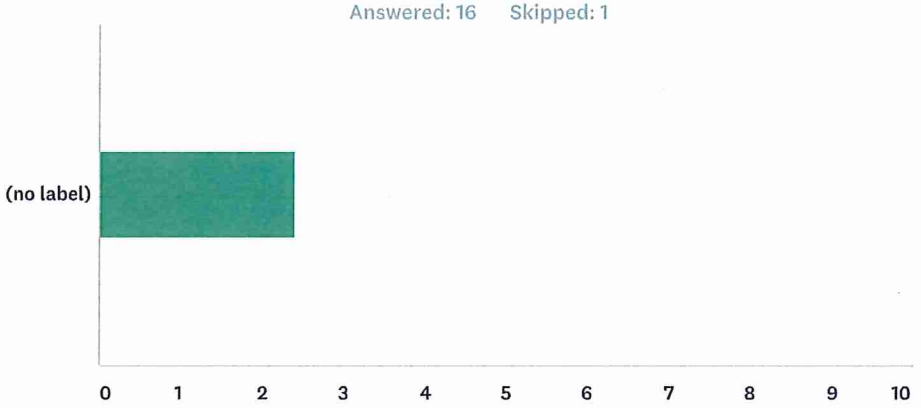
Answered: 16 Skipped: 1



	Very Unsatisfied	Unsatisfied	Somewhat Unsatisfied	Somewhat Satisfied	Satisfied	Very Satisfied	Total	Weighted Average
(no label)	0.00% 0	0.00% 0	12.50% 2	6.25% 1	68.75% 11	12.50% 2	16	1.00

Q2 How helpful do you find the Program's annual lake reports?

Answered: 16 Skipped: 1



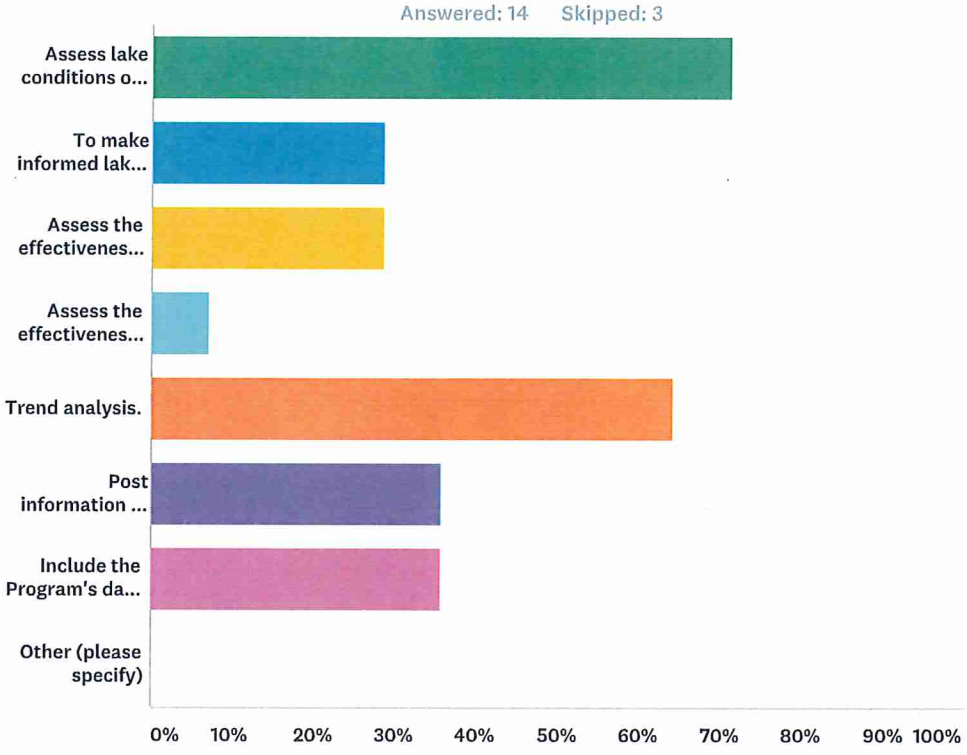
	Unhelpful	Somewhat Helpful	Very Helpful	Not Applicable	Total	Weighted Average
(no label)	6.25% 1	43.75% 7	43.75% 7	6.25% 1	16	2.40

#	Please tell us why you find the reports to be Unhelpful, Helpful, or Not Applicable.	Date
1	Way too late to get the data from the previous year.	6/28/2017 1:37 PM
2	I am unaware of the annual lake reports.	6/28/2017 12:07 PM
3	I dont believe we have received a report every year.	6/27/2017 9:06 AM
4	It is not prepared in a timely enough manner to be useful during the decision making process by LGUs and WMOs	6/26/2017 8:33 AM
5	I wish the reports were published sooner. In fact right now I can only find 2014 reports on your website!	6/21/2017 3:44 PM

6	It would be nice if you could find a way to get the report out earlier than the current timeframe so we can make decisions the same year as the sampling.	6/21/2017 2:31 PM
7	The electronic data is more useful than the actual written report for our purposes.	6/21/2017 2:26 PM
8	Have not used CAMP reports yet	6/21/2017 1:38 PM
9	Would like to receive reports in time for me to incorporate results into our Annual Reports which are due to BWSR by April 30.	6/21/2017 9:11 AM
10	It would be nice if they came out sooner	6/21/2017 8:28 AM
11	Simple to understand	6/21/2017 7:21 AM
12	it's a good overview of the lake health	6/21/2017 7:21 AM

Q3 Indicate how you use the Program's annual lake reports. (Check all that apply.)

Answered: 14 Skipped: 3

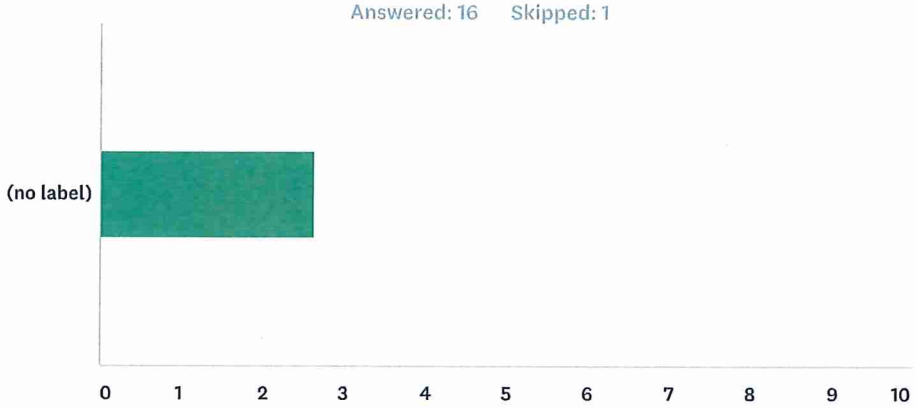


Answer Choices	Responses	
Assess lake conditions or water quality.	71.43%	10
To make informed lake management decisions.	28.57%	4
Assess the effectiveness of lake or watershed improvement efforts/activities.	28.57%	4
Assess the effectiveness of storm water best management practices.	7.14%	1
Trend analysis.	64.29%	9
Post information on a public website.	35.71%	5
Include the Program's data and information in publicity available published documents.	35.71%	5
Other (please specify)	0.00%	0
Total Respondents: 14		

#	Other (please specify)	Date
	There are no responses.	

Q4 How helpful do you find the data produced by the Program?

Answered: 16 Skipped: 1



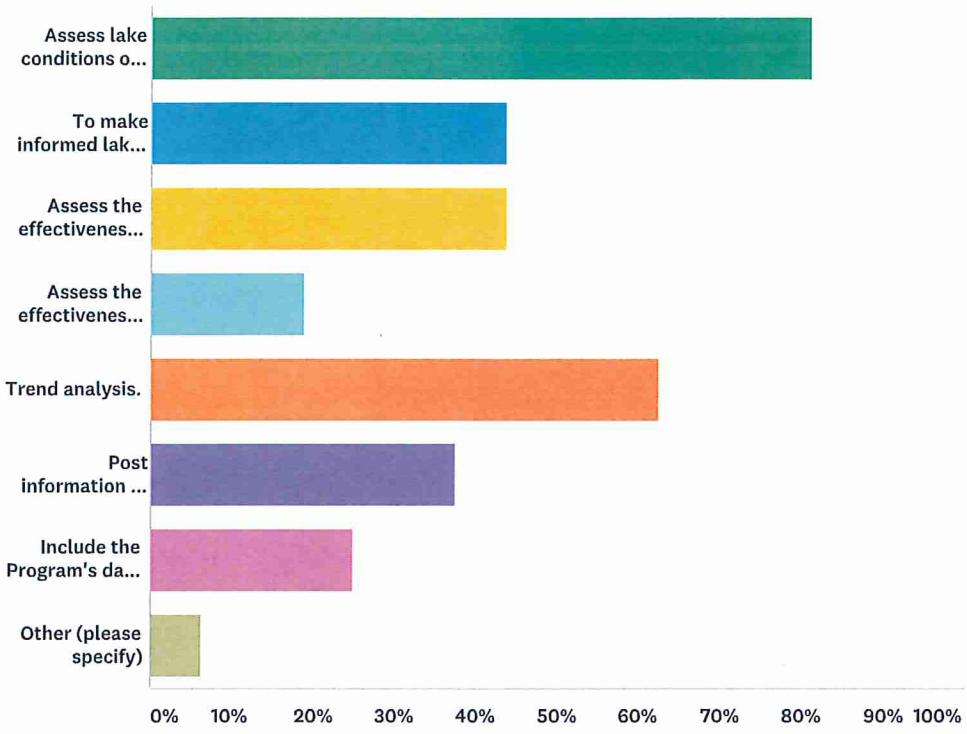
	Unhelpful	Somewhat Helpful	Very Helpful	Not Applicable	Total	Weighted Average
(no label)	0.00% 0	37.50% 6	62.50% 10	0.00% 0	16	2.63

#	Please tell us why you find the data to be Unhelpful, Helpful, or Not Applicable.	Date
1	Very helpful is an over statement but 'helpful' wasn't an option.	6/28/2017 1:37 PM
2	If these were the only data we collected the data would be very helpful. However, we're fortunate to have a robust monitoring program so the CAMP data are used only as supplemental data.	6/21/2017 3:44 PM

Q5 Indicate how you use the Program's data. (Check all that apply.)

Answered: 16 Skipped: 1

Citizen-Assisted Monitoring Program Survey (Sponsor A)

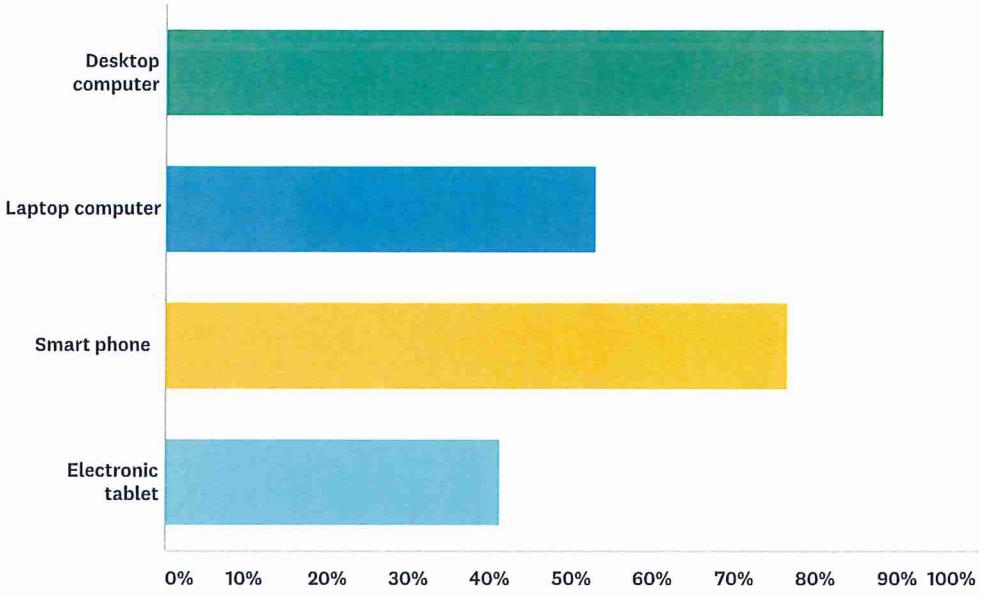


Answer Choices	Responses	
Assess lake conditions or water quality.	81.25%	13
To make informed lake management decisions.	43.75%	7
Assess the effectiveness of lake or watershed improvement efforts/activities.	43.75%	7
Assess the effectiveness of storm water best management practices.	18.75%	3
Trend analysis.	62.50%	10
Post information on a public website.	37.50%	6
Include the Program's data and information in publicity available published documents.	25.00%	4
Other (please specify)	6.25%	1
Total Respondents: 16		

#	Other (please specify)	Date
1	include the data in our annual report	6/21/2017 2:31 PM

Q6 Indicate if you have internet access using one or more of the following devices. (Check all that apply.)

Answered: 17 Skipped: 0

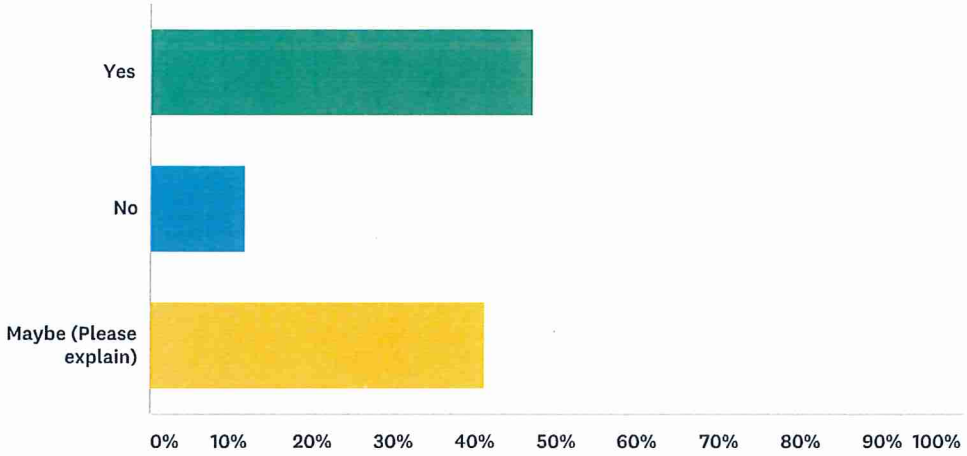


Answer Choices	Responses	
Desktop computer	88.24%	15
Laptop computer	52.94%	9
Smart phone	76.47%	13
Electronic tablet	41.18%	7
Total Respondents: 17		

Q7 We are considering having volunteers enter field data electronically using a remote technology application rather than submitting paper field data sheets. However, if one or more of your volunteers cannot do this, would you be willing to enter their field data (as recorded on their paper field data sheets) by using at least one of the devices you checked in question 6?

Answered: 17 Skipped: 0

Citizen-Assisted Monitoring Program Survey (Sponsor A)

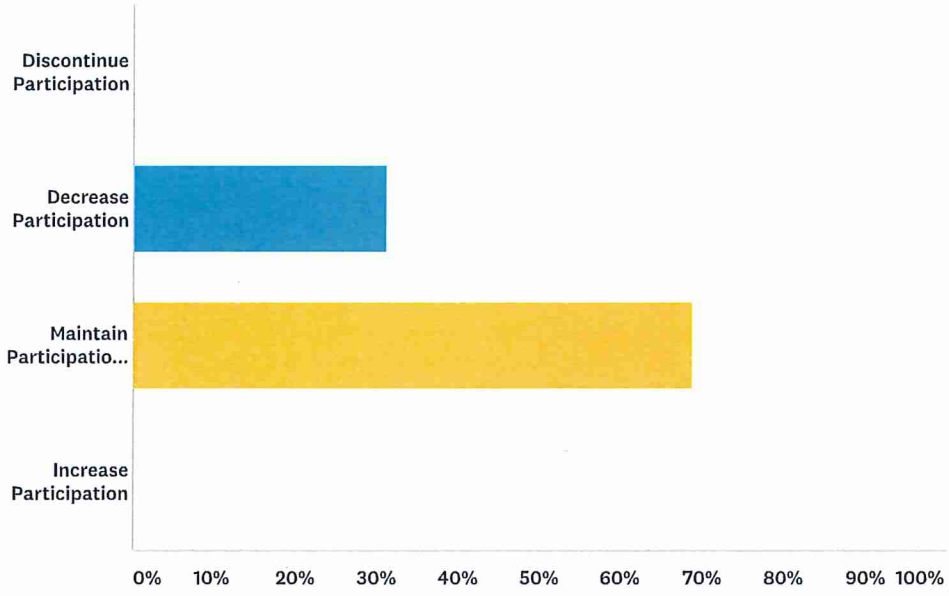


Answer Choices	Responses	
Yes	47.06%	8
No	11.76%	2
Maybe (Please explain)	41.18%	7
Total		17

#	Maybe (Please explain)	Date
1	It would depend on the workload.	6/28/2017 1:45 PM
2	depends on time it takes	6/28/2017 1:37 PM
3	Depending on how many man hours it takes yes.	6/27/2017 9:06 AM
4	Depends on the funding from the WMO for time to do data entry	6/26/2017 8:33 AM
5	Depends on how they record field data (neat, concise, typed or written?) How much data?	6/21/2017 1:38 PM
6	depending on complexity / time requirement	6/21/2017 9:01 AM
7	depends on time constrants	6/21/2017 7:21 AM

Q8 Require sponsors to manage the storage and restocking of their monitoring kits. Sponsors may choose to have their kits stored by their volunteers. Kits will not be stored at Council facilities. The Council will provide and deliver restocking materials to the sponsor.

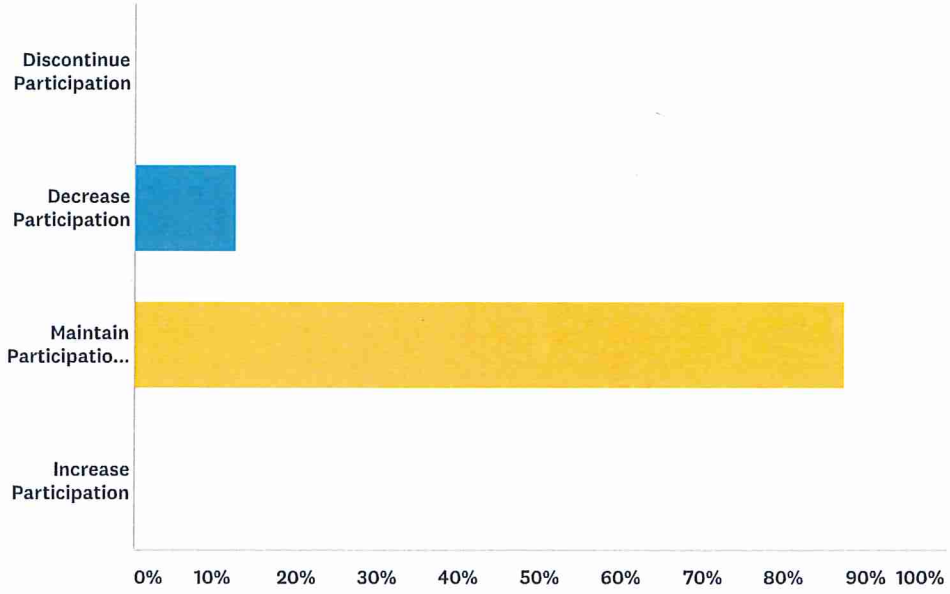
Answered: 16 Skipped: 1



Answer Choices	Responses	
Discontinue Participation	0.00%	0
Decrease Participation	31.25%	5
Maintain Participation Level	68.75%	11
Increase Participation	0.00%	0
Total		16

Q9 Reduce the number of in-person volunteer training sessions from 15 to 4 per year, and add an online training option. Require new volunteers to either attend one of the four training sessions or take the online training.

Answered: 16 Skipped: 1

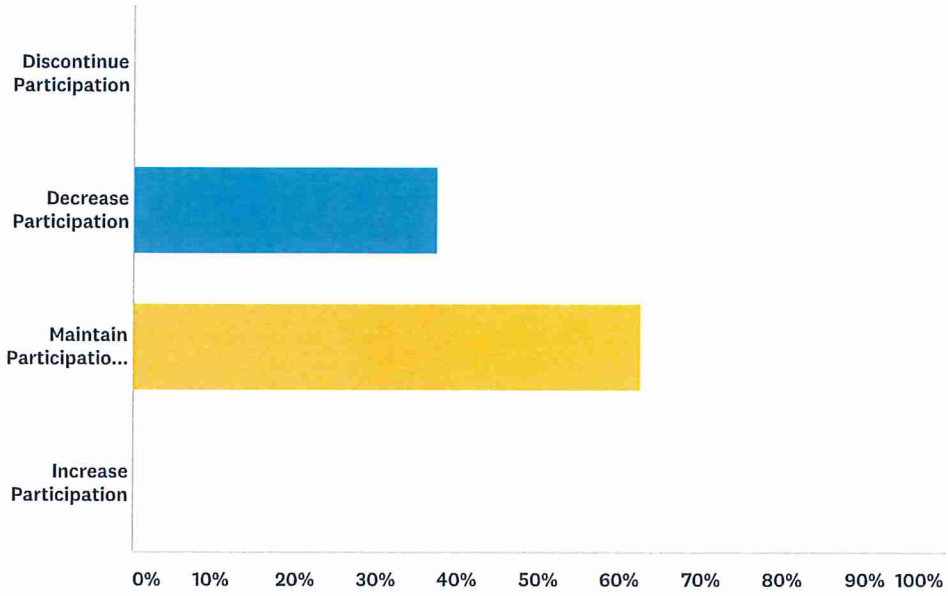


Answer Choices	Responses	
Discontinue Participation	0.00%	0
Decrease Participation	12.50%	2
Maintain Participation Level	87.50%	14
Increase Participation	0.00%	0
Total		16

Q10 Charge a sponsor the participation fee based on the contracted quantity of sampling dates regardless of whether a volunteer monitors their lake site fewer times than the contracted quantity.

Answered: 16 Skipped: 1

Citizen-Assisted Monitoring Program Survey (Sponsor A)



Answer Choices	Responses	
Discontinue Participation	0.00%	0
Decrease Participation	37.50%	6
Maintain Participation Level	62.50%	10
Increase Participation	0.00%	0
Total		16

Q11 Please share any additional comments regarding the Program and proposed changes (what you like, dislike, and improvement ideas).

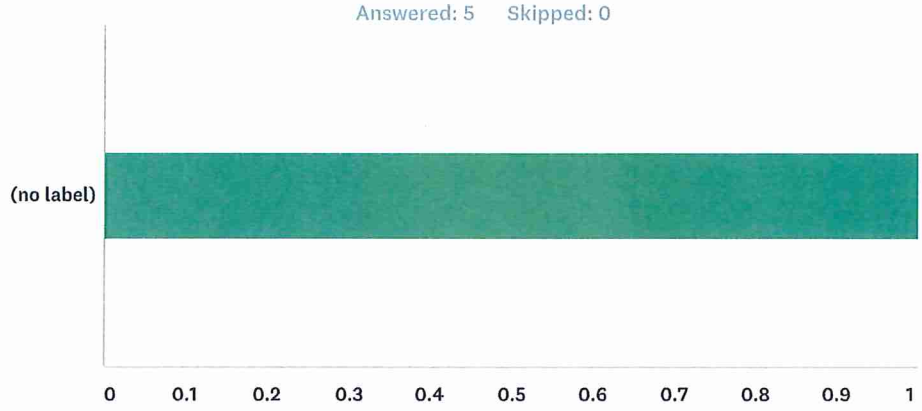
Answered: 3 Skipped: 14

#	Responses	Date
1	Data needs to get out by end of year collected. The length of getting data at current timing is beyond ridiculous.	6/28/2017 1:44 PM
2	Update the training manual to include a bulleted protocol that is easy to follow (many volunteers have issues with the current format). List training dates online so that local sponsors know what is happening in their area (and can attend or send interested volunteers to learn more). Online refresher training for repeat volunteers. Improve accessibility to and timeliness of monitoring data and annual reports.	6/26/2017 8:38 AM
3	The program actually works very smoothly for me	6/21/2017 8:30 AM

Citizen-Assisted Monitoring Program Survey (Sponsor B)

Q1 How satisfied are you with the current Citizen-Assisted Monitoring Program (Program)?

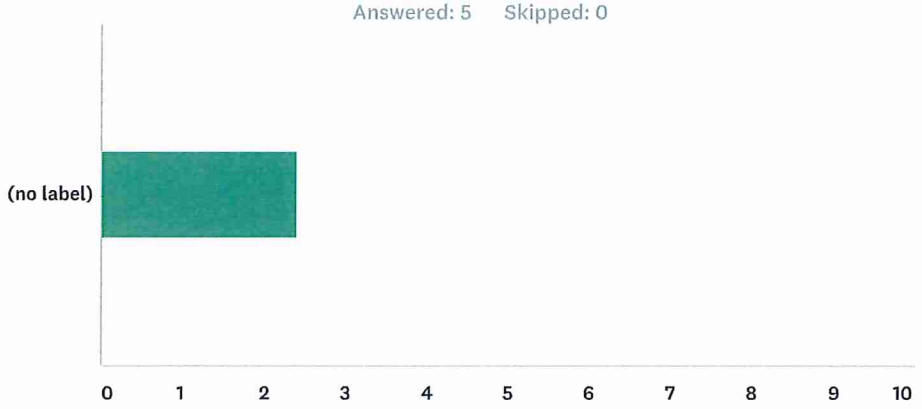
Answered: 5 Skipped: 0



	Very Unsatisfied	Unsatisfied	Somewhat Unsatisfied	Somewhat Satisfied	Satisfied	Very Satisfied	Total	Weighted Average
(no label)	0.00% 0	0.00% 0	0.00% 0	0.00% 0	60.00% 3	40.00% 2	5	1.00

Q2 How helpful do you find the Program's annual lake reports?

Answered: 5 Skipped: 0



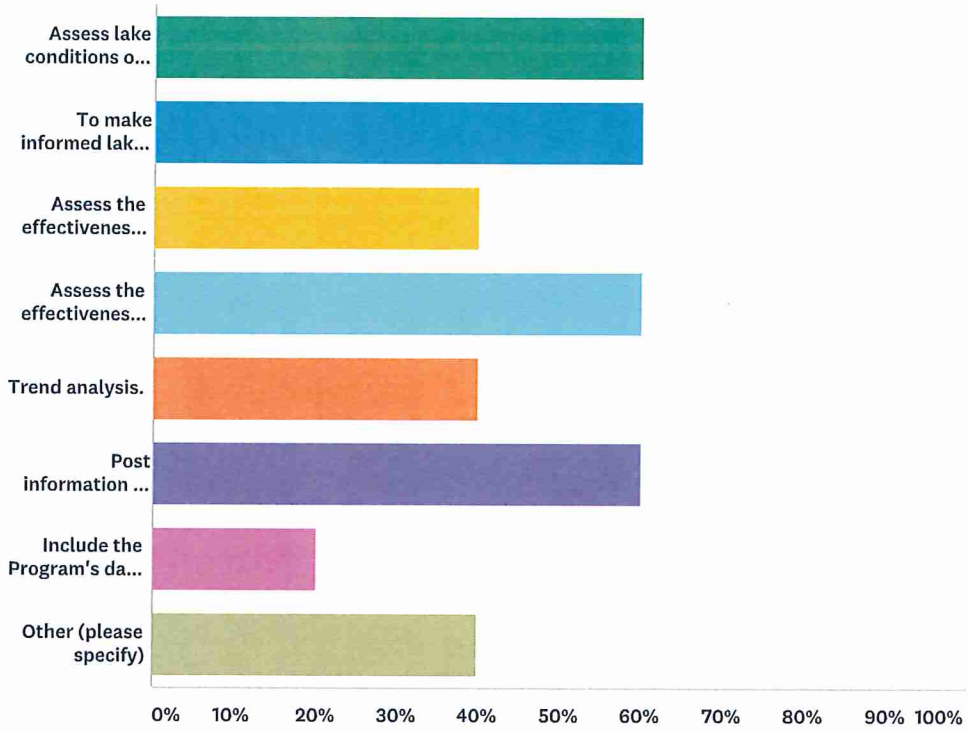
	Unhelpful	Somewhat Helpful	Very Helpful	Not Applicable	Total	Weighted Average
(no label)	20.00% 1	20.00% 1	60.00% 3	0.00% 0	5	2.40

#	Please tell us why you find the reports to be Unhelpful, Helpful, or Not Applicable.	Date
1	Historic data on the lakes is valuable	6/26/2017 11:50 AM
2	The reports come out way to late to adjust the upcoming monitoring year program.	6/21/2017 11:22 AM
3	They provide basic information on the health of the lake	6/21/2017 10:46 AM
4	We generate our own reports, but the CAMP report is beneficial for guidance	6/21/2017 8:18 AM

Q3 Indicate how you use the Program's annual lake reports. (Check all that apply.)

Answered: 5 Skipped: 0

Citizen-Assisted Monitoring Program Survey (Sponsor B)

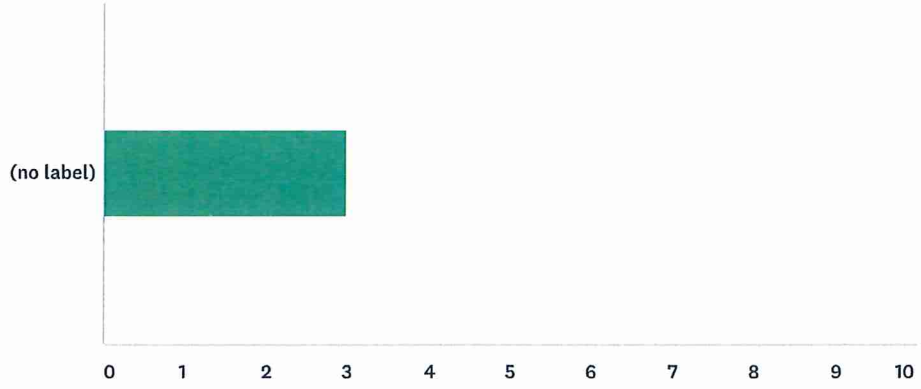


Answer Choices	Responses	
Assess lake conditions or water quality.	60.00%	3
To make informed lake management decisions.	60.00%	3
Assess the effectiveness of lake or watershed improvement efforts/activities.	40.00%	2
Assess the effectiveness of storm water best management practices.	60.00%	3
Trend analysis.	40.00%	2
Post information on a public website.	60.00%	3
Include the Program's data and information in publicity available published documents.	20.00%	1
Other (please specify)	40.00%	2
Total Respondents: 5		

#	Other (please specify)	Date
1	We don't use them at all because they come out way to late. We get the data and do our own analyses and reporting.	6/21/2017 11:22 AM
2	Information provided in an annual lake report for City Council	6/21/2017 10:46 AM

Q4 How helpful do you find the data produced by the Program?

Answered: 5 Skipped: 0

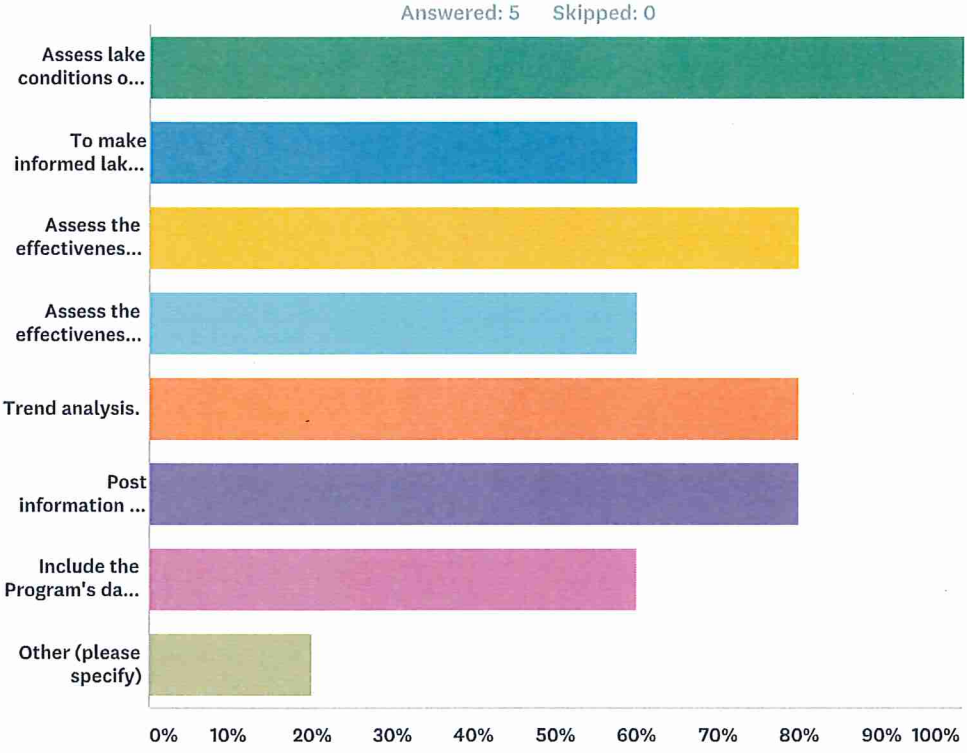


	Unhelpful	Somewhat Helpful	Very Helpful	Not Applicable	Total	Weighted Average
(no label)	0.00% 0	0.00% 0	100.00% 5	0.00% 0	5	3.00

#	Please tell us why you find the data to be Unhelpful, Helpful, or Not Applicable.	Date
1	Useful to inform residents living adjacent tothe lake	6/26/2017 11:50 AM
2	Local watershed districts use the data as an intricate part in their planning and management processes	6/21/2017 8:18 AM

Q5 Indicate how you use the Program's data. (Check all that apply.)

Answered: 5 Skipped: 0



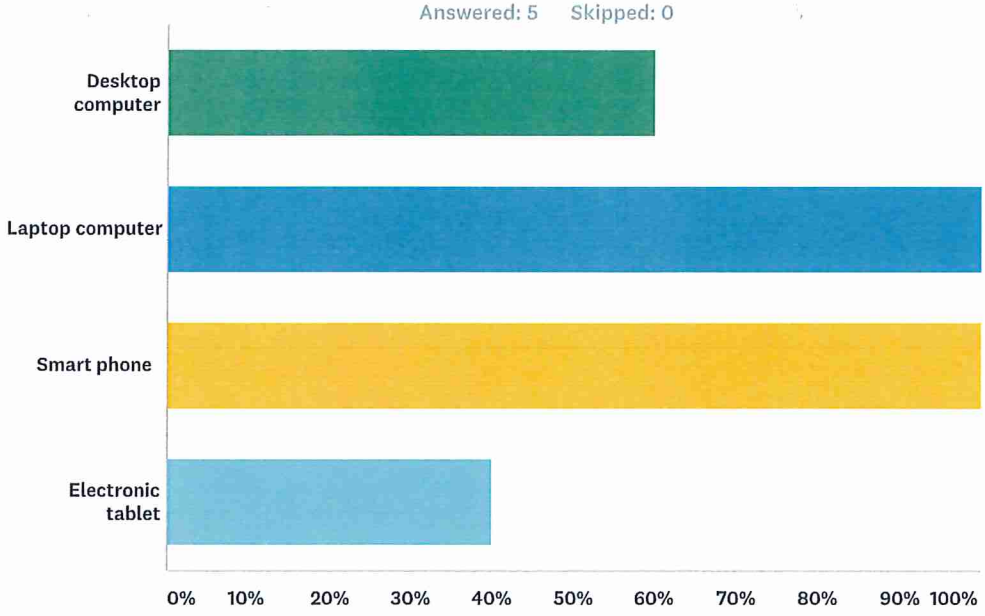
Answer Choices	Responses	
Assess lake conditions or water quality.	100.00%	5

To make informed lake management decisions.	60.00%	3
Assess the effectiveness of lake or watershed improvement efforts/activities.	80.00%	4
Assess the effectiveness of storm water best management practices.	60.00%	3
Trend analysis.	80.00%	4
Post information on a public website.	80.00%	4
Include the Program's data and information in publicity available published documents.	60.00%	3
Other (please specify)	20.00%	1
Total Respondents: 5		

#	Other (please specify)	Date
1	Summarized in an annual spreadsheet for local lakes	6/21/2017 10:46 AM

Q6 Indicate if you have internet access using one or more of the following devices. (Check all that apply.)

Answered: 5 Skipped: 0

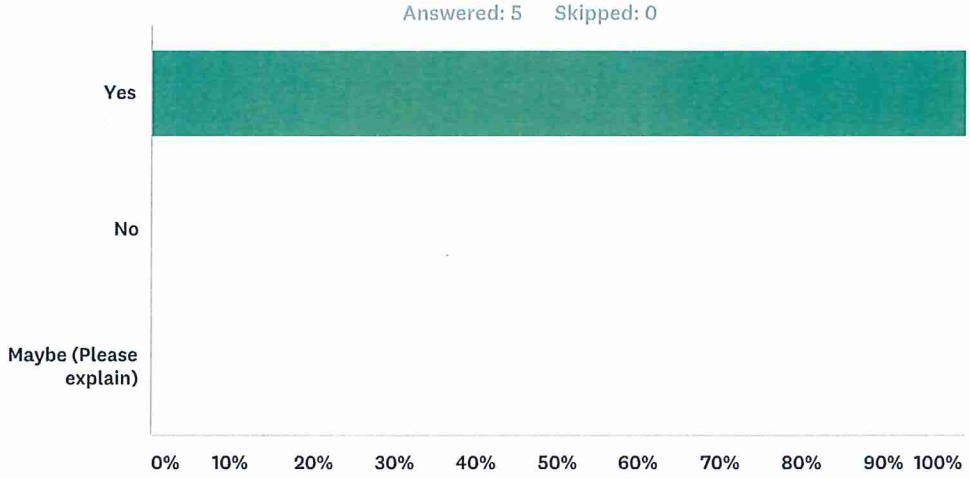


Answer Choices	Responses	
Desktop computer	60.00%	3
Laptop computer	100.00%	5
Smart phone	100.00%	5
Electronic tablet	40.00%	2
Total Respondents: 5		

Q7 We are considering having volunteers enter field data electronically using a remote technology application rather than submitting paper field data sheets. However, if one or more of

your volunteers cannot do this, would you be willing to enter their field data (as recorded on their paper field data sheets) by using at least one of the devices you checked in question 6?

Answered: 5 Skipped: 0

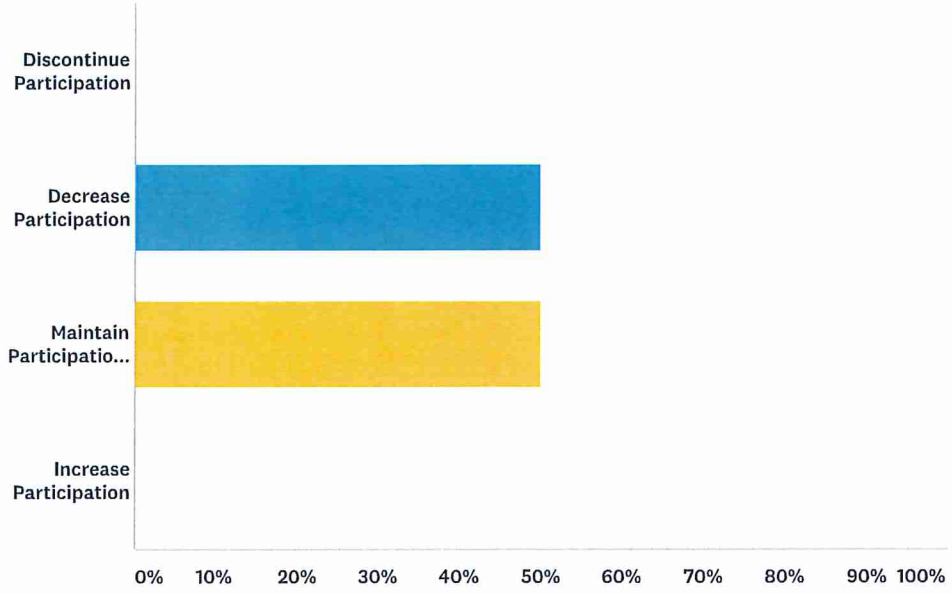


Answer Choices	Responses	
Yes	100.00%	5
No	0.00%	0
Maybe (Please explain)	0.00%	0
Total		5

#	Maybe (Please explain)	Date
	There are no responses.	

Q8 Require sponsors to select and use one central storage and pick up location, of their choosing, for their volunteers' samples and field data sheets. This location could be a Council location. Samples must remain frozen while in delivery and storage.

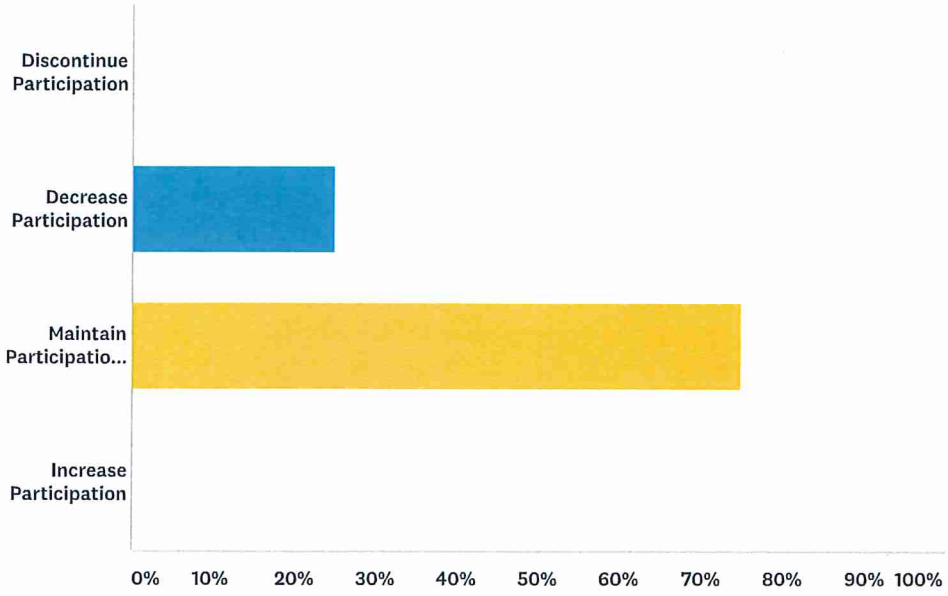
Answered: 4 Skipped: 1



Answer Choices	Responses	
Discontinue Participation	0.00%	0
Decrease Participation	50.00%	2
Maintain Participation Level	50.00%	2
Increase Participation	0.00%	0
Total		4

Q9 Require sponsors to manage the storage and restocking of their monitoring kits. Sponsors may choose to have their kits stored by their volunteers. Kits will not be stored at Council facilities. The Council will provide and deliver restocking materials to the sponsor.

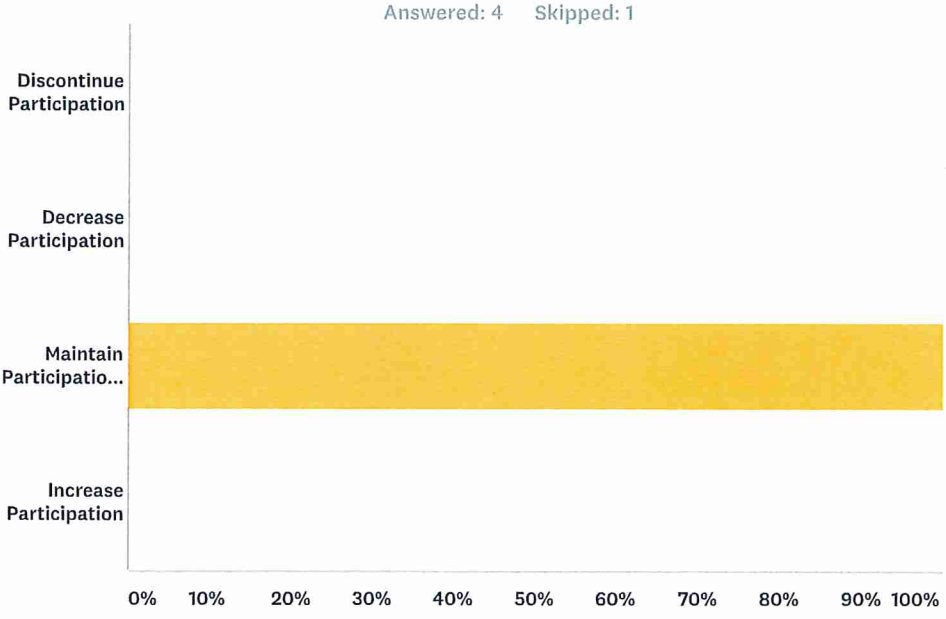
Answered: 4 Skipped: 1



Answer Choices	Responses	
Discontinue Participation	0.00%	0
Decrease Participation	25.00%	1
Maintain Participation Level	75.00%	3
Increase Participation	0.00%	0
Total		4

Q10 Require sponsors to deliver the monitoring kits to their volunteers.

Answered: 4 Skipped: 1

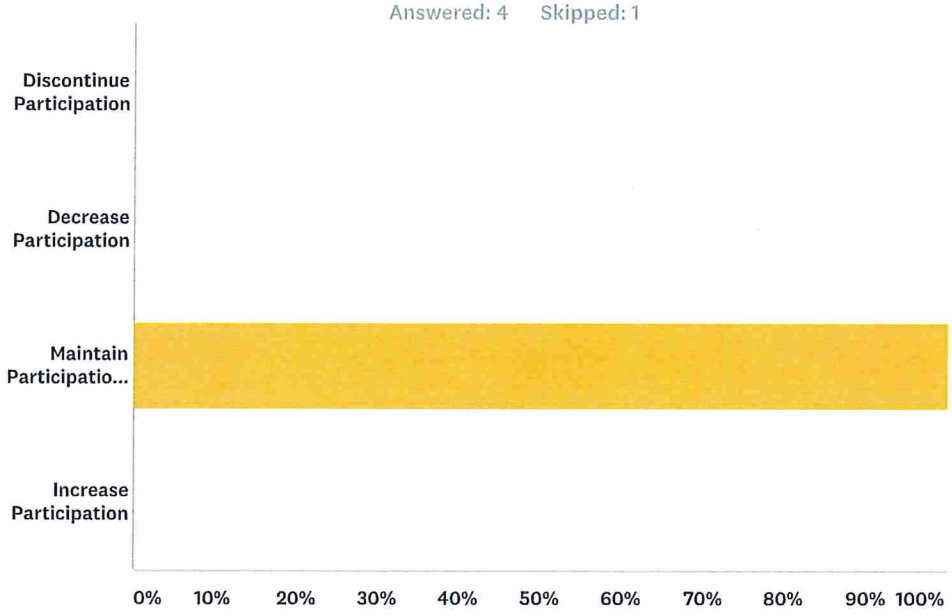


Answer Choices	Responses

Discontinue Participation	0.00%	0
Decrease Participation	0.00%	0
Maintain Participation Level	100.00%	4
Increase Participation	0.00%	0
Total		4

Q11 Reduce the number of in-person volunteer training sessions from 15 to 4 per year, and add an online training option. Require new volunteers to either attend one of the four training sessions or take the online training.

Answered: 4 Skipped: 1

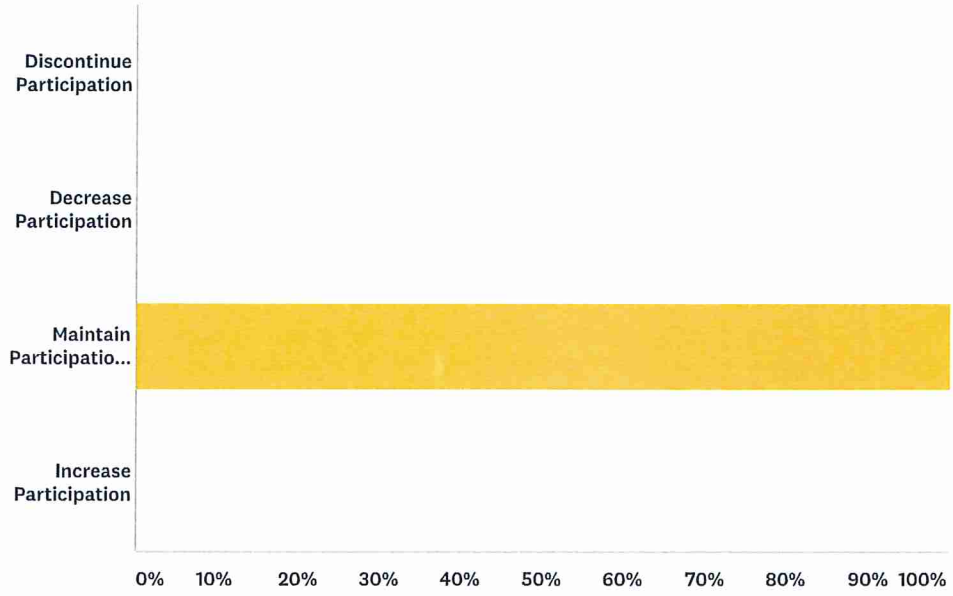


Answer Choices	Responses	
Discontinue Participation	0.00%	0
Decrease Participation	0.00%	0
Maintain Participation Level	100.00%	4
Increase Participation	0.00%	0
Total		4

Q12 Charge a sponsor the participation fee based on the contracted quantity of sampling dates regardless of whether a volunteer monitors their lake site fewer times than the contracted quantity.

Answered: 4 Skipped: 1

Citizen-Assisted Monitoring Program Survey (Sponsor B)



Answer Choices	Responses	
Discontinue Participation	0.00%	0
Decrease Participation	0.00%	0
Maintain Participation Level	100.00%	4
Increase Participation	0.00%	0
Total		4

Q13 Please share any additional comments regarding the Program and proposed changes (what you like, dislike, and improvement ideas).

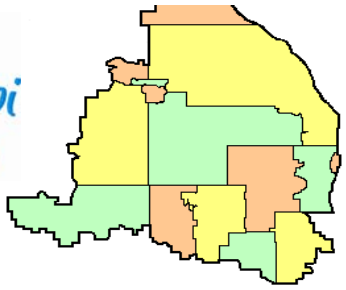
Answered: 3 Skipped: 2

#	Responses	Date
1	The City of Sunfish Lake would continue the program with any changes but has some concern if the participation fees are increased substantially.	6/26/2017 11:55 AM
2	If #12 is implemented we would want the option for the city to pick up a sampling date. I would prefer a lump sum cost for the summer regardless of number of samples. The Council should determine the best amount to make sure the costs are covered adequately and go from there.	6/21/2017 10:48 AM
3	The program runs pretty smoothly for us and we have the means to handle additional workload that might come with the changes	6/21/2017 8:23 AM

Shingle Creek Watershed Management Commission

West Mississippi Watershed Management Commission

3235 Fernbrook Lane N • Plymouth, MN 55447
Tel: 763.553.1144 • Fax: 763.553.9326
Email: judie@jass.biz • Website: www.shinglecreek.org



NPDES Phase II Education and Public Outreach Program

DRAFT 2017 Annual Report DRAFT

The Shingle Creek and West Mississippi Watershed Management Commissions conducted education and public outreach activities in 2017 in fulfillment of their Third Generation Watershed Management Plan Watershed Education and Public Outreach Program goals.

EDUCATION AND PUBLIC OUTREACH PROGRAM GOALS

1. All members of the community become knowledgeable about the water resources in the watersheds and take positive action to protect and improve them.
2. All members of the community have a general understanding of watersheds and water resources and the organizations that manage them.
3. All members of the community have a general understanding of the Impaired Waters in the watersheds and take positive actions to implement TMDL requirements.

The Commissions identified the following general education and outreach strategies in the Third Generation Watershed Management Plan. More detailed educational goals by stakeholder groups may be found in Appendix E of that Plan.

- Maintain an active Education and Outreach Committee with representatives from all member cities to advise the Commissions and to assist in program development and implementation
- Participate in the West Metro Water Alliance (WMWA) to promote interagency cooperation and collaboration, pool resources to undertake activities in a cost-effective manner, and promote consistency of messages
- Use the Commissions', member cities', and educational partners' websites and newsletters, and local newspapers and cable TV to share useful information to stakeholders on ways to improve water quality
- Prominently display the Commissions' logos on information and outreach items, project and interpretive signs, and other locations to increase visibility
- Provide opportunities for the public to learn about and participate in water quality activities
- Provide cost-share funding to assist in the installation of small BMPs and demonstration projects
- Educate elected and appointed officials and other decision makers
- Enhance education opportunities for youth
- Each year review and modify or develop and prioritize education and outreach activities and strategies for the coming two years

Program: Watershed PREP (Protection, Restoration, Education, and Prevention)

Audience: Fourth grade students, educators, and families; the general public

Program Goals:

a. Engage elementary students in hands-on learning about the water cycle and how the built environment influences stormwater runoff and downstream water quality.
b. Provide general watershed and water quality education to citizens, lake associations, other civic organizations, youth groups, etc.

Educational Goals:

a. Have a general understanding of watersheds, water resources and the organizations that manage them.
b. Understand the connection between actions and water quality and water quantity.

Specific Activities to Reach Goals:

Watershed PREP is a program of the West Metro Water Alliance (WMWA), a consortium of four WMOs including the Shingle Creek and West Mississippi WMOs, and stands for Protection, Restoration, Education, and Prevention. 2017 was the fifth year of the program. Two persons with science education backgrounds serve as contract educators to be shared between the member WMOs. The focus of the program is two-fold - to present water resource-based classes to fourth grade students and to provide education and outreach to citizens, lake associations, civic organizations, youth groups, etc.

Fourth Grade Program. Three individual classes meeting State of Minnesota education standards have been developed. **Lesson 1*, What is a Watershed and Why do we care?,*** provides an overview of the watershed concept and is specific to each school's watershed. It describes threats to the watershed. **Lesson 2, *The Incredible Journey,*** describes the movement and status of water as it travels through the water cycle. **Lesson 3,** *Stormwater Walk,* investigates movement of surface water on schools grounds. The ultimate goal is to make this program available to all fourth graders in the four WMWA watersheds (Shingle Creek, West Mississippi, Bassett Creek, and Elm Creek), and to other schools as contracted. The program is offered to public, private, parochial, and charter schools.

Table 1. Watershed PREP Program participation growth.

Year	# Classrooms	# Students	# and Type of Schools
Lesson 1			
2013	63	1,679	13 in six districts; one charter school; one parochial school
2014	116	3,469	30 in seven districts; one magnet school; one parochial school
2015	122	3,183	36 in nine districts; two charter schools; five parochial schools
2016	107	2,850	29 in seven districts, one charter school, 5 parochial schools
2017	121*	3,249	12 in seven districts, one charter school, one parochial school
Lesson 2			
2013	14	390	Three in three districts; one charter school; one parochial school
2014	22	645	Five in three districts
2015	27	859	Six in five districts
2016	20	524	Five in three districts, one parochial school
2017	38	1,072	Seven in three districts, one parochial school

*Includes four classrooms in the Minnehaha Creek Watershed District paid for by others.

Table 2. 2017 schools and students participating in Lesson 1: What is a Watershed?

	Date	School	School District	City	Watershed	Classes	Students
1	1/10	Hassan	Elk River	Rogers	Elm	8	220
2	1/12	Jackson MS (8th gr.) Expert day	Anoka-Hennepin	Champlin	W. Miss	2	51
3	1/31	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	65
4	2/17	Forest Elementary	Robbinsdale	Crystal	Shingle	4	102
5	2/21	Noble Academy	Charter	Brooklyn Park	W. Miss	2	48
6	3/7	Kimberly Lane	Wayzata	Plymouth	Bassett	4	112
7	3/8	Sunset Hill	Wayzata	Plymouth	Bassett	4	111
8	3/23	Oakwood	Wayzata	Plymouth	Minnehaha		
9	3/27	Gleason Lake	Wayzata	Plymouth	Minnehaha	4	100
10	3/28	Plymouth Creek	Wayzata	Plymouth	Bassett	5	125
11	4/19	Palmer Lake	Osseo	Brooklyn Park	Shingle	4	88
12	4/18	Good Shepherd	Parochial	St. Louis Park	Bassett	2	48
13	5/1	Zachary Lane Elementary	Robbinsdale	Plymouth	Bassett	4	110
14	5/25	Rush Creek	Osseo	Maple Grove	Elm	5	140
15	5/22	Birchview	Wayzata	Plymouth	Bassett	4	90
16	5/18	Meadow Ridge Elementary**	Wayzata	Plymouth	Elm	5	137
17	4/10	Greenwood Elementary	Wayzata	Plymouth	Bassett	5	127
18	5/16	Northport Elementary	Robbinsdale	Brooklyn Ctr	Shingle	5	107
19	5/31	Meadowbrook Elementary	Hopkins	Golden Valley	Bassett	4	112
20	10/7	Sacred Heart	Parochial	Robbinsdale	Shingle	1	24
21	4/25	Mary Queen Of Peace	Parochial	Rogers	Elm	1	8
22	10/12	Basswood Elementary	Osseo	Maple Grove	Elm	3	89
23	10/17	Palmer Lake	Osseo	Brooklyn Park	Shingle	3	88
24	10/16	Champlin Brooklyn Park Academy	Anoka-Hennepin	Champlin	W. Miss	6	163
25	11/17	Rogers Elementary School	Elk River	Rogers	Elm	4	132
26	10/26	Oxbow Creek Elementary	Anoka-Hennepin	Champlin	W. Miss	7	208
27	10/6	School of Engineering and Arts (SEA)	Robbinsdale	Golden Valley	Bassett	3	129
28	10/12	Monroe Elementary	Anoka-Hennepin	Brooklyn Park	W. Miss	4	130
29	10/4	Sonnesyn Elementary	Robbinsdale	New Hope	Shingle	3	71
30	12/20	Robbinsdale Spanish Imm.	Robbinsdale	Plymouth	Bassett	5	119
31	11/21	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	75
32	9/11	Weaver Lake Science Math & Tech	Osseo	Maple Grove	Elm	4	120
					Total:	**121**	**3249**

Table 3. 2017 schools and students participating in Lesson 2: The Incredible Journey

	Date	School	School District		Watershed	Classes	Students
1	1/26	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	66
2	4/13	Palmer Lake	Osseo	Brooklyn Park	Shingle	4	88
3	5/11	Rush Creek	Osseo	Maple Grove	Elm	5	140
4	5/17	Meadowbrook Elementary	Hopkins	Golden Valley	Bassett	4	112
5	10/6	School of Engrg & Arts (SEA) 1st grade	Robbinsdale	Golden Valley	Bassett	1	42
6	10/16	Palmer Lake	Osseo	Brooklyn Park	Shingle	3	87
7	10/18	Basswood Elementary	Osseo	Maple Grove	Elm	3	90
8	10/30	Rogers Elementary	Elk River	Rogers	Elm	7	212
9	11/2	Sacred Heart	Parochial	Robbinsdale	Shingle	1	24
10	10/3	Sonnesyn Elementary	Robbinsdale	New Hope	Shingle	3	72
11	11/14	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	75
12	10/5	Jackson MS-Water Day (6th gr)	Anoka-Hennepin	Champlin	W. Miss	4	130
	11/21	Sonnesyn Elementary	Robbinsdale		Shingle	2	75
					Total	**38**	**1072**

Community Education and Outreach. The PREP educators provided outreach at nine community and school events. Because of the nature of these events, it is difficult to keep a tally of the number of contacts made and citizens engaged. One of the largest of these events is the Plymouth Home Expo. WMWA and its four WMOs staff adjoining booths to do combined outreach to the 1,000+ visitors to the Expo. Events are detailed in Table 4.

Table 4. 2017 Watershed PREP community education and outreach participation

Date	Event	City	Participants
3/4	Basswood Science Night	Maple Grove	Elm Creek
4/8	Plymouth Expo	Plymouth	BC, SC, EC
10/5	Sonnesyn Field Trip-Raingardens	Robbinsdale	Shingle
8/8	Plymouth Kids Fest	Plymouth	BC, SC, EC
10/17	New Hope City Days	New Hope	Shingle
3/4	Basswood Science Night	Maple Grove	Elm Creek
4/8	Plymouth Expo	Plymouth	BC, SC, EC
10/5	Sonnesyn Field Trip-Raingardens	Robbinsdale	Shingle
8/8	Plymouth Kids Fest	Plymouth	BC, SC, EC
10/17	New Hope City Days	New Hope	Shingle

Evaluation:
The educators evaluate the success of the Fourth Grade Program by surveying students and teachers about the quality of the program, the learning that was observed, and the performance of the educators. Much of the feedback occurs during and right after the presentations in spontaneous comments.

Program: Distribute Educational Materials

Audience: Multiple

Program Goals:

a. Inform various stakeholders about the watershed organizations and their programs.
b. Provide useful information to a variety of stakeholders on priority topics.
c. Engage stakeholders and encourage positive, water-friendly behaviors.

Educational Goals:

a. Property owners maintain properties and best management practices (BMPs) to protect water resources.
b. Property owners adopt practices that protect water resources.
c. Stakeholders support and engage in protection and restoration efforts.

Specific Activities to Reach Goals:

Maintain Your Property the Watershed Friendly Way

This handbook is targeted to small businesses, multi-family housing properties, and common ownership communities such as homeowners' associations. It contains tips for specifying and hiring turf and snow maintenance contractors, and includes checklists for BMP inspections. Electronic copies have been provided to Shingle Creek and West Mississippi cities for their use and to be displayed on their websites. The handbook also appears on the WMWA website. Print copies are available for distribution.

Press Releases and Newspaper Articles

- The Commissions contribute to the WMWA eNewsletter *Water Links*, which has about 2,200 subscribers and has been published and distributed by Hennepin County. At year-end the County advised WMWA that it could no longer provide this service. As a result, WMWA has switched its email distribution system MailChimp and returning and new subscribers have been advised to go to westmetrowateralliance.org/contact.html to sign up for future eNewsletters.
- Aside from general interest pieces and announcements, *Water Links* articles specific to SCWM included:
    - Testing a promising new method for removing pollutants – Iron and Bio-char Enhanced Sand Filters Research Project.
    - WaterShed Prep
    - Smart Salting
    - TwinLake Carp Monitoring and Movement
    - Pledge to Plant
    - 16th annual Shingle Creek Clean-Up.
- *Camden Community News* articles on the bio-char project
- *Camden Community News* on the Ryan Lake Park, **"**Behind the Victory Flagpole**,"** including pictures from the 1920's and 30's.
- *Sun Post* articles about Wetland 639W and the adjoining wildlife area
- Staff interviewed by Minnesota Public Radio regarding the use of chloride. "Salt is polluting our water. Here's how we can fix it," *MPR News*.

Web Site

The Commissions maintained a joint web site, shinglecreek.org, which includes information about the watersheds, the Commissions, and the water resources in the watersheds. In 2015 the website was refreshed and significantly updated. Commission staff worked to develop a new site using the free web building tool Weebly. This allows staff complete control over the website and its content and the ability to add things such as interactive mapping, blogging, and a calendar. These web building sites use templates that are easy to use and which also can automatically generate mobile-friendly versions of the

site. They are also search engine optimized and there are additional analytics that Staff can access to better track how often the site is being accessed. In 2017 the site received over 9522 pageviews.

Social Media. The Commission established a Facebook page in May 2016. During 2017 there were 106 "likes" and 9,225 "reaches." A reach is logged when a timeline post is seen by a viewer. Viewers were "engaged" 815 times. An engagement is a click to open a post, view a photo or video, make a comment, or click on a reaction emoji.

Seed Packets
One of the priority messages in 2017 was the pledge to plant for pollinators and clean water. To help promote this message, the Commissions handed out 400 packets of native seeds. A short educational message was printed on the seed packets.

Evaluation:
Evaluation measures are as noted above: number of brochures and handbooks distributed; number of website hits; number of link-throughs on the eNewsletter; social media engagement. The new website uses Google Analytics to better track page views and unique visitors. The 2017 website activity is shown on the following page:

Program: Public Outreach

Audience: Residents, youth

Program Goals:
a. Provide opportunities for people of all ages to participate in hands-on activities to protect and improve waters.
b. Provide opportunities for people to learn about ways they can protect and improve waters.

Educational Goals:
a. Maintain their properties and best management practices (BMPs) to protect water resources.
b. Adopt practices that protect water resources.
c. Support and engage in protection and restoration efforts.
d. Participate in volunteer activities.

Specific Activities to Reach Goals:

Pledge to Plant Campaign. At WMWA's request, Metro Blooms/Blue Thumb submitted a proposal for a project that would encourage residents to replace impervious surface and turf grass with native plantings to benefit clean water by reducing stormwater runoff. The project includes the additional benefit of creating habitat for pollinators. An agreement between Metro Blooms and the Shingle Creek Commission, as fiscal agent, to move the project forward was approved.

Phase one of the project began with creation of a name, tag line and logo. The project was promoted in the Blue Thumb space at the State Fair where the public voted to name the campaign, *Pledge to Plant for Clean Water and Pollinators.* New picture will be inserted

Item 07a

SCWM

Jan 1, 2017 - Dec 31, 2017

All Users
100.00% Sessions

Pageviews

9,522
% of Total: **97.11% (9,805)**

Unique Pageviews

7,736
% of Total: **96.70% (8,000)**

Pageviews by Landing Page

Landing Page	Pageviews
/	6,813
/minutes--meeting-packets.html	501
/maps.html	260
/carp-tracking.html	224
/twin-lake-carp-management.html	219
/staff.html	123
/standard-details.html	115
/meetings.html	105
/biochar-filters.html	104
/rules-and-standards.html	103

Pageviews and Unique Pageviews by Page

Page	Pageviews	Unique Pageviews
/	3,213	2,519
/minutes--meeting-packets.html	842	733
/rules-and-standards.html	682	605
/maps.html	399	347
/carp-tracking.html	348	189
/staff.html	291	267
/contact-us.html	283	232
/twin-lake-carp-management.html	246	187
/shingle-creek-commissioners.html	229	182
/standard-details.html	199	165

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Phase two included a roll out of the Pledge campaign on the Metro Blooms and WMWA websites where citizens can enter the square footage of their new plantings, creation of a Pledge to Plant banner for events, and a social media campaign that began in May 2016. The Campaign was promoted at the State Fair and other area events.

As of December 31, 2017, over 571 people had submitted the Pledge online covering over 401 acres, though several submissions did not specify area to be planted, so it may be more. The total includes a handful of larger prairie restoration projects but the median pledge covers 200 square feet. Most of the Pledges come from the metro area, but Pledges have been received from 17 other states: Arkansas, California, Illinois, Indiana, Kansas, Michigan, Missouri, Montana, New Jersey, New York, North Dakota, Ohio, Oklahoma, Tennessee, Virginia, Wisconsin, and Wyoming.

Another focus of the 2017 campaign was native plant sales at events such as local garden expos and farmers markets.. The July 13 Camden Farmers Market had over 230 visitors. Many visited the WMWA table and purchased plants from Minnesota Native Landscapes. The vendor from MNL said he sold about 200 units, over half of which were 6-packs, for $10 each.

Rain Garden Workshops

The Commissions partnered with WMWA to sponsor four Rain Garden workshops through Metro Blooms in 2017. Metro Blooms is a non-profit organization whose mission is to promote and celebrate gardening, to beautify our communities and help heal and protect our environment. The three-hour workshop *Learn How to Create a Weather-Resilient Yard* provided an overview of Minnesota's changing weather patterns and ways to mitigate the impact in your own yard. The presenters offered recommendations for individual properties and options for establishing mowable, native alternatives to "grass" turf, raingarden basics, and other resilient yard practices. Attendees also received one-on-one design assistance from landscape professionals and Master Gardeners. The locations and number of participants are shown in Table 5.

Table 5. 2017 Rain garden workshop locations and participation.

Location	Date	# Participants
Brooklyn Park – Autumn Ridge Apartments	Sept 26	150
Champlin – Champlin City Hall	April 6	14
Crystal in partnership w/Golden Valley, New Hope, Robbinsdale – Crystal Community Center	May 4	47
Plymouth – St Barnabas Church	April 11	50

Shingle Creek Cleanup

The 16th Annual Great Shingle Creek Cleanup was held the week of April 17-24, 2017. Each city sponsored its own cleanup, which could be a special event or simply a request that the existing Adopt-a-Park volunteers schedule their spring cleanup during that week.

Volunteer Monitoring

The Commissions provide opportunities for high school students and adults to gain hands-on experience monitoring lakes, streams, and wetlands.

Lakes. Volunteer lake monitoring is performed through the Met Council's Citizen Assisted Lake Monitoring Program (CAMP). The Met Council provides the monitoring equipment and the laboratory work and data analysis while the Shingle Creek Commission staff recruit and train volunteers to perform sampling, collect the volunteers' water quality samples, and get them to the Met Council. In 2017, volunteer monitoring was completed on Bass Lake.

Streams. Routine stream macroinvertebrate monitoring in both watersheds is conducted by volunteers through Hennepin County's River Watch program. This program was initiated in 1995 to provide hands-on environmental education for high school and college students, promote river stewardship, and obtain water quality information on the streams in Hennepin County. Hennepin County coordinates student and adult volunteers who use the River Watch protocols to collect physical, chemical, and biological data to help determine the health of streams in the watershed. Two sites on Shingle Creek were monitored in 2017 – the long-term (22 years) site next to Park Center High School in Brooklyn Park, monitored by students from Park Center High School; and a site in Lions Park in Brooklyn Center, monitored by students from Calvin Christian Academy of Fridley.

Wetlands. Two sites in the Shingle Creek watershed and two sites in the West Mississippi watershed were monitored through the Hennepin County Environmental Services' Wetland Health Evaluation Program (WHEP). The WHEP program uses trained adult volunteers to monitor and assess wetland plant and animal communities in order to score monitored wetlands on an Index of Biological Integrity for macroinvertebrates and vegetation. In 2017 the monitored sites in Shingle Creek were in Brookdale Park in Brooklyn Park and Three Ponds Park in Plymouth. The sites in West Mississippi were in Bartusch Park in Champlin and Oxbow Ponds north of Oxbow Lake in Brooklyn Park.

Evaluation:
Evaluation of these programs is based on participation.

Program: Collaborative Efforts

Audience: Multiple

Program Goals:

a. Promote interagency cooperation and collaboration, pool resources to undertake activities in a cost-effective manner, and promote consistency of messages.
b. Share information and ideas with other partners.

Educational Goals:

a. All people have a general understanding of watersheds, water resources and the organizations that manage them.
b. All people understand the connection between actions and water quality and water quantity.

Specific Activities to Reach Goals:

<u>WMWA</u>
The Commissions partner with the Bassett Creek WMO and the Elm Creek WMO and other interested parties as the West Metro Water Alliance (WMWA). Other participating parties include the Freshwater Society, Hennepin County Environment and Energy, and Three Rivers Park District. The Mississippi WMO also participates but is not a formal member. Each member watershed organization contributes funds to WMWA, which sponsors programs such as Watershed PREP, the eNewsletter *Water Links*, standardized brochures and booklets, and the Planting for Clean Water Program. WMWA publishes an annual report on its activities.

<u>Other Partnerships</u>
The Commissions are also members of:

- WaterShed Partners, a coalition of agencies, educational institutions, WMOs, Watershed Districts, and Soil and Water Conservation Districts that coordinate water resources education and public outreach planning in the Metro area;
- BlueThumb, a consortium of agencies and vendors partnering to increase outreach and awareness; and
- NEMO (Nonpoint Education for Municipal Officials), a program that provides educational and skill-building programming to elected and appointed officials and community leaders to increase their knowledge of the connection of land use and management decisions to water quality and natural resources.

Evaluation:
No specific evaluation of this programing has been completed.

Program: Continuing Education

Audience: Commissioners, Technical Advisory Committee (TAC)

Program Goals:

a. Effectively and efficiently manage the water resources in the watershed.
b. Increase awareness and knowledge of broader water resources issues and trends.

Educational Goals:

a. Commissioners and TAC understand watershed management, water quality and quantity conditions and issues in the watershed, regulatory requirements and the current standards and practices.
b. Commissioners and TAC aware of broader water management issues and trends in Minnesota and elsewhere.

Specific Activities to Reach Goals:

<u>Staff Presentations</u>

- 2016 Annual Water Quality Monitoring report findings.
- Results of fish surveys on Lake Magda in Brooklyn Park and Meadow Lake in New Hope
- Twin Lake Carp Management Project update
- The Importance of TMDL Adaptive Management: Lessons from Shingle Creek.

<u>Guest Speakers</u>

Artist **Cecelia Schiller** displayed a mock-up of her alternative design for the art aeration structure at the Brooklyn Center City Hall site and described how the structure will work. (Due to prohibitive anticipated costs, this project did not move forward to the art structure phase.)

Steve Woods, Executive Director of The Freshwater Society. Woods recapped ***35 years of metro watersheds.*** He discussed how the numerous failures of the Metropolitan Surface Water Management Act have added up to success. This unique-to-Minnesota law has brought funding and focus to urban water management that have helped municipalities and watershed organizations prove that an ounce of prevention beats a pound of cure (or taxes).

Ranjan Muthukrishnan, PhD, Dept. of Fisheries, Wildlife and Conservation Biology at the University of Minnesota, presented, "Where is starry stonewort going: prediction of invasion risks using lake level ecological niche models." Muthukrishnan has been working on biological invasions, focusing on the

properties that make communities susceptible to invasive species and the community consequences of the displacement of native foundation species.

Other

- The Commissions made a contribution toward the Clean Water Minnesota Campaign sponsored by Watershed Partners.
- The Commission made contributions to funding the annual Road Salt Symposium, the MOOS Lecture Series, and the State of Water Conference sponsored by the Freshwater Society.

Evaluation:

No specific evaluation of this programming has been completed

Technical Memo

WENCK ASSOCIATES

Responsive partner.
Exceptional outcomes.

To: Shingle Creek/West Mississippi WMC Commissioners

From: Diane Spector

Date: January 26, 2018

Subject: Watershed-Based Funding Pilot

BWSR is in the process of transitioning Clean Water Funds from a statewide competitive model to a geographically-focused model. As consortia of watersheds, counties, and other groups prepare their One Water One Plan (1W1P) plans, BWSR will provide each with a pot of money so the groups can immediately start implementing high-priority projects and programs. Over time the amount of funds available for the annual competitive grants will be significantly reduced and reallocated to this new strategy. The Metro area is not part of the 1W1P program at BWSR because planning for Metro watersheds is governed under a different statute and rule. However, BWSR recognizes that Metro WMOs have undergone significant planning and prioritization efforts in developing their management plans, and has been weighing how to make 1W1P implementation funding available to Metro WMOs.

After holding a number of listening sessions, the BWSR Board developed the Watershed-Based Funding Pilot Program. The organizing unit in planning for this Pilot Program is the county. Each of the counties in the Metro will be allocated a share of the $5.59 million available for the Metro. Hennepin County's share is $1.018 million. In each county, eligible entities must identify a Convener, and the Conveners will work with the eligible local governments to develop a "Collaborative PTM Implementation Plan" by June 30, 2018. (PTM is the latest acronym and stands for Prioritize, Target, and Measure.) This Plan must describe the process used to select projects and programs, how success will be evaluated, *and lay out the specific projects and programs recommended for funding*. By June 30. An option offered by BWSR is that rather than develop a PTM Implementation plan, counties may opt into a Metro Competitive Grant program implemented by BWSR.

On January 23, 2018 I attended a "pre-meeting" convened by Hennepin County to take the pulse of the 11 WMOs in the county. Representatives from all 11 WMOs plus BWSR staff and Karen Galles (HCEE) discussed possible directions. It was the consensus that the group would prefer that the funds set aside for Hennepin County should stay in Hennepin County instead of in a Metro Competitive Grant program and that. There was also an interest in aligning the funding to the three basins in the county – the area to the west draining to the Crow River, the area to the south draining to the Minnesota River, and the area draining to the Mississippi River.

Complicating the issue is that the BWSR Board policy states that the local governments eligible to receive these funds are WMOs, cities, counties, and SWCDs with approved and adopted management plans. Hennepin County as both the county and SWCD is not eligible because the county groundwater

plan was never adopted by the County Board, leaving cities and WMOs as the only eligible applicants. The Pilot Project policy requires that eligible local governments within the county be part of the PTM Implementation Plan planning. If that is the case, then not only would the 11 WMOs be part of the planning process, but also the 45 cities in the county, a committee of 56. The 11 WMOs asked BWSR staff to determine if cities can delegate their planning responsibilities (and their grant eligibility) to the WMO(s) in their city, and if that can be done administratively through a letter or if a resolution from the City Council would be required. This question must be resolved before the local governments in Hennepin County convene formally to do the PTM Plan. It was the consensus of the group that if that must be done by resolution, or if some cities do not agree to delegate their eligibility it will not be possible to complete the Plan before June 30 and for the first year the group would default to a competitive grant process.

The informal planning group will meet again tentatively on February 27.

Metro Area Meeting for Watershed-Based Funding Pilot Program

January 2018

CLEAN WATER LAND & LEGACY AMENDMENT

BOARD OF WATER AND SOIL RESOURCES

Local Government Water Roundtable History

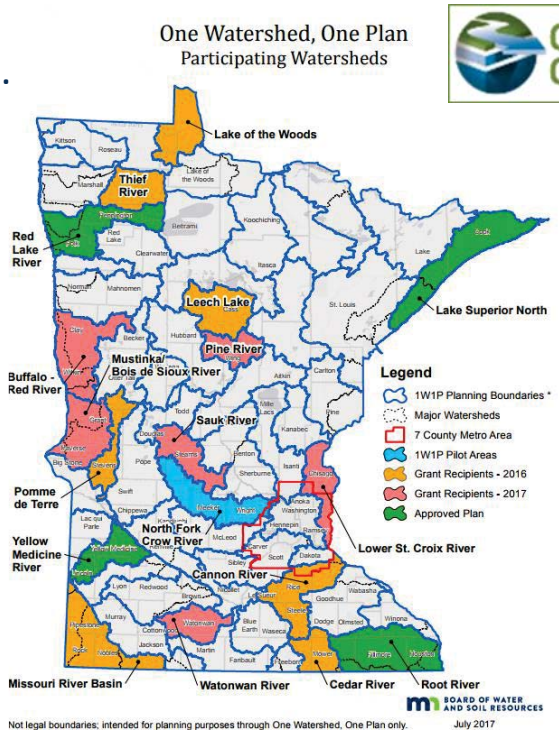
- 2011 Water Summit
  - Response to legislative pressures
- 2013 Planning Policy Paper
  - Initial framework for One Watershed, One Plan
- 2016 Funding Policy Paper
  - Recommendation for watershed-based funding
- LGWRT Board and staff workgroup

Local Government Water Roundtable Workgroup Members

Local Government Water Roundtable Workgroup members	
John Biren Lyon County	**Dan Shutte** Lake County Soil and Water Conservation District
Mark Gamm Dodge County	**Brian Watson** Dakota Soil and Water Conservation District
Josh Stromlund Lake of the Woods County	**Myron Jesme** Red Lake Watershed District
Teresa Wickeham Kanabec County	**Diane Lynch** Prior Lake Spring Lake Watershed District
Kay Gross Cottonwood Soil and Water Conservation District	**Matt Moore** South Washington Watershed District
Susan Shaw Mille Lacs Soil and Water Conservation District	**Diane Radermacher** Upper Minnesota Watershed District
Laura Jester Basset Creek Watershed Management Commission	**Paul Moline** Carver County Watershed Management Organization

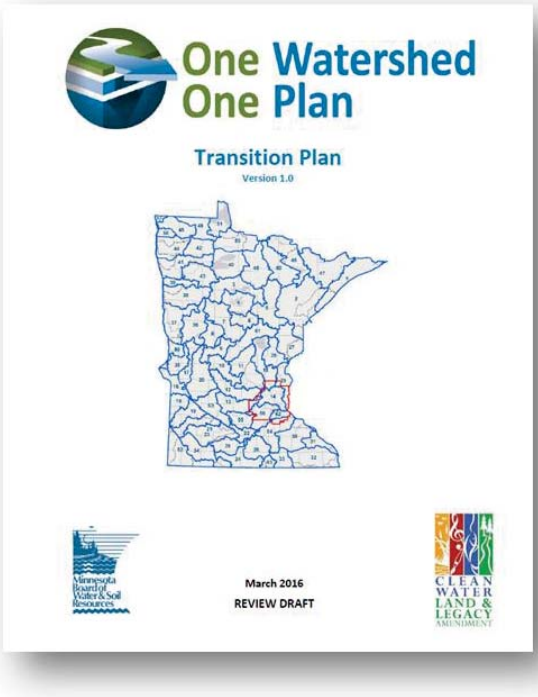
One Watershed, One Plan Program

- 2012 M.S. 103B.101 Local water mgmt. coordination
- 2014 Pilot Watersheds
- 2015 M.S. 103B.801 Comprehensive watershed mgmt. plans
- 2016 1W1P Program adoption
- 2016 Transition Plan



One Watershed, One Plan Transition Plan

- Legislative goal to transition statewide by 2025
- Identifies incentives for transition
- Metro –
  - Recognizes existing 8410 plans
  - Does not address future funding



FY18-19 Appropriation Language

- **$4,875,000** the first year and **$4,875,000** the second year are for a **pilot program** to **provide performance-based grants** to local government units. The grants may be used to implement projects that protect, enhance, and restore surface water quality in lakes, rivers, and streams; protect groundwater from degradation; and protect drinking water sources. Projects must be identified in a comprehensive watershed plan developed under the **One Watershed, One Plan or metropolitan surface water management frameworks or groundwater plans**. Grant recipients must identify **a non-state match** and **may use other legacy funds to supplement projects** funded under this paragraph.

Draft Assurance Measures

Pilot will be used to test and refine

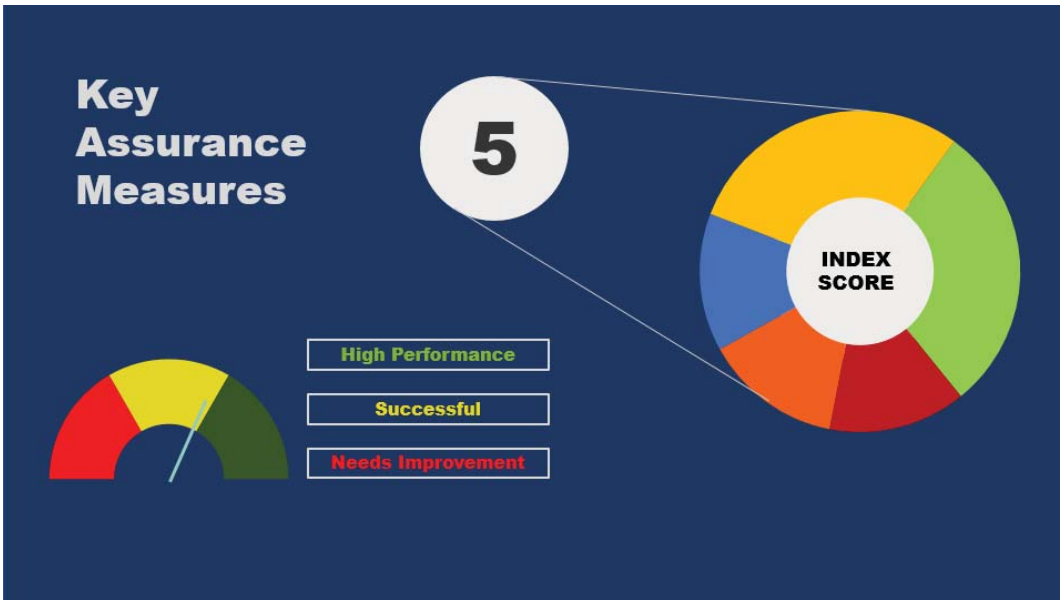
1. Funding leveraged beyond match requirement

2. Percentage of state funding used in high priority areas or on high priority projects and programs.

3. Percentage of action items identified in grant work plan that are completed.

4. Progress towards measurable goals identified in grant work plan

5. Effective engagement and collaboration



Guiding Principles

Watershed-Based Pilot Program funding…

- will be used to implement management plans developed under the One Watershed, One Plan program or the Metropolitan Surface Water and Groundwater Management Acts.
- must be based upon accountability and measureable progress being made on elements of the management plan.
- associated with Clean Water Funds will be consistent with the Nonpoint Priority Funding Plan (NPFP).
- envisions a holistic and flexible approach that includes both protection and restoration.
- envisions funding requests through a single work plan
- will require a non-state contribution

Watershed Based Funding Pilot Program Allocations

Seven County Metro Area ($5.59M)

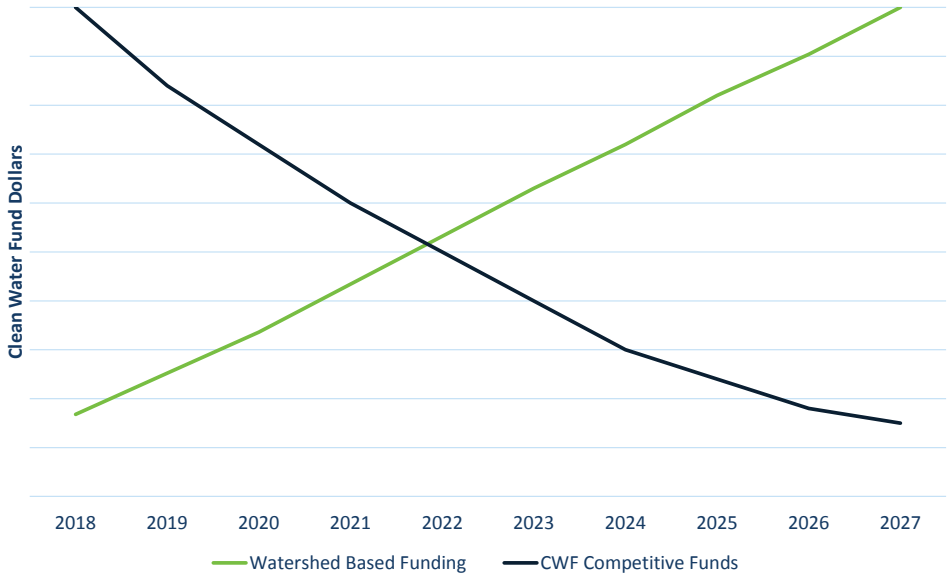
Non-Metro Area ($3.11M)

Watershed Based Funding Pilot Program Allocations

Seven-County Metro Area	% of area (based on of sq. miles of Metro)	Allocation (up to $250K each plus distribution based on % area)
Anoka	15%	$826,000
Carver	13%	$749,200
Dakota	20%	$1,018,000
Hennepin	20%	$1,018,000
Ramsey	5%	$442,000
Scott	13%	$749,200
Washington	14%	$787,600
Total Metro	100%	**$5,590,000**

One Watershed, One Plan Pilots	% (based on sq. miles of private land)
Root	32%
Yellow Medicine	16%
Lake Superior	7%
Red Lake	23%
North Fork Crow	21%
Total 1W1P	100%

Vision of funding transition - BWSR Clean Water Funds Only

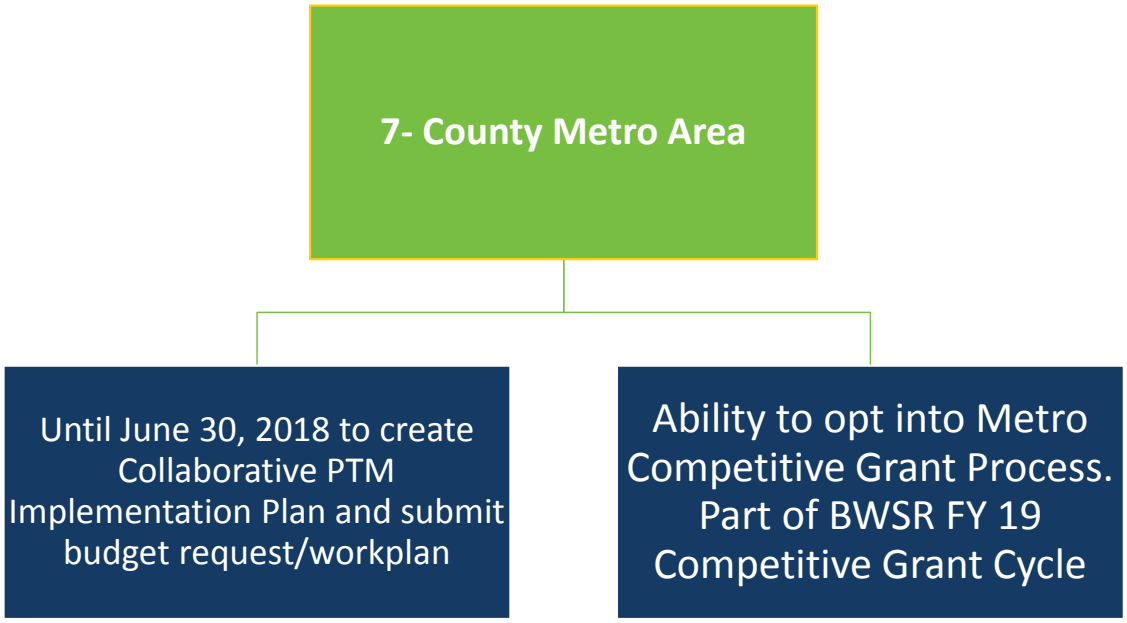


Process

Watershed-Based Funding Pilot Program

(Guiding Principles, Policy and Allocations)

7-County Metro Area



Each county geographic area has until June 30, 2018 to:

Conduct Collaborative PTM Implementation Planning

- Convene initial meeting
- Have local governments within county area identify a voting representative (and alternate) to attend meetings
- Let BWSR know who is serving as the convening organization and the decision making process that will be used
- Describe the process used to select projects and programs for the "Collaborative PTM Implementation Plan" and how success will be evaluated
- Identify projects and programs in a eLINK **budget request and work plan**.

Convene Initial Meeting

- BWSR field staff will attend this meeting and be available to help facilitate if needed. Field staff will contact Soil and Water Conservation Districts to set up first meeting unless they hear otherwise.
- Identify partners and what individual entity will serve the role of convener
- Set future meeting dates
- Each organization will need to decide

1) Will they participate in a collaborative process?

2) Who is their voting representative and alternate?

“Collaborative PTM Implementation Plan”

A written document that needs BWSR Field Staff Approval and must contain the following:

1. Description of partnership and decision making process
2. Time frame of the Collaborative PTM Implementation Plan
3. Implementation Actions, responsible party, budget that also includes watershed or groundwater plan reference.

Watershed-Based Funding Policy

Similar to Clean Water Fund Competitive Grants policy

Changes to note:

1. 10% non-state match for grant funds received. Requested that all funds above match also be reported
2. In-lake or in-channel treatment. Feasibility study needs to be conducted. BWSR staff need to review feasibility study and approve project prior to expenditure of grant funds.
3. Easements must be reviewed and approved by BWSR staff prior to expenditure of grants funds.
4. Incentives are for 3 years. Incentives over 3 years need Executive Director approval.
5. Ineligible activities added: Trails and Roads, Bridges, Ditching, Tiling, contribution to a contingency or reserve fund that extends beyond the grant agreement period, equipment replacement fund.

BOARD OF WATER AND SOIL RESOURCES

Questions!

BOARD OF WATER AND SOIL RESOURCES

Thank you!

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.

SHINGLE CREEK / WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION
MONTHLY COMMUNICATION LOG
January 2018

te	From	To	SC	WM	scription
1-2-18	Mike Braham @ KH	Ed Matthiesen.	X	X	BMP duration for proposed redevelopment in Maple Grove
1-5-18	Jamie Powers @ CenturyLink	Ed Matthiesen.	X		Project review requirements re: cable under Shingle Creek at Bass Lake Road in Brooklyn Center
1-8-18	Tony Kaster @ Alliant	Ed Matthiesen.	X		Record of flooding at Unity Place in Brooklyn Center
1-9-18	Ken Powell @ BWSR	Ed Matthiesen.	X	X	Annual wetland reporting
1-9-18	Mary Karius, HCEE	Diane Spector	x	X	Transmitted copy of 2017 RiverWatch report
1-9-18	Aaron Woods, Maple Grove resident	Website question	X		Wanted to know when the Eagle Lake TMDL would be updated. Diane emailed a response that the 5-year review was being completed in 2018.
1-10-18	Kimberly Carpenter @ Metro Blooms	Ed Matthiesen.	X		Cost participation grant request for a project in Brooklyn Park
1-10-18	Brent Johnson @ Bolton and Menk	Ed Matthiesen.	X	X	Data and information to assist in Brooklyn Park Water Resource Plan update
1-12-18	Mary Matze @ Landform	Ed Matthiesen.	X	X	Timing of project review in Brooklyn Center
1-16-18	Michelle Maurer @ Blue Line Project Office	Ed Matthiesen.	X	X	Project review amendments and mistaken mailing
1-24-18	Brian Miller @ Larson Engineering	Ed Matthiesen.	X	X	Rules regarding a proposed paving project at an XCEL Energy site in Maple Grove
1-24-18	David Knaeble @ Civil Site Group	Ed Matthiesen.	X		Review rules regarding a project at the southeast corner of Bass Lake Rd and Shingle Creek Parkway in Brooklyn Center
1-26-18	Liz Stout, City of Minneapolis	Ed Matthiesen. and Diane Spector	X		Email asking the Commission to participate in a planning meeting for Minneapolis' upcoming Local Water Management Plan update.
1-30-18	Zach Moen, Loucks	Diane Spector	X		Question ab out rules applicability to project in Osseo
1-31-18	SC WMC	MPCA	X		Semiannual reports and invoices for Twin Lake Carp and Biochar grant projects
1-31-18	SC WMC	BWSR	X		E-link semiannual reporting on grant projects
2-1-18	Steve Sobraski, Landform	Diane Spector	X		Call with question regarding how to handle groundwater conditions on upcoming Brooklyn Center project review