



Shingle Creek Watershed Management Commission

2015 Annual Activity Report

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This report was prepared for the
Shingle Creek Watershed Management Commission
by JASS

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We gratefully acknowledge the assistance of
Diane Spector, Wenck Associates

Cover photograph:
Outlet of Lower Twin Lake into Ryan Creek
Diane Spector

ANNUAL ACTIVITY REPORT

This annual report has been prepared by the Shingle Creek Watershed Management Commission in accordance with the annual reporting requirements of Minnesota Rules Chapter 8410.0150, Subps. 2 and 3. It summarizes the activities undertaken by the Commission during calendar year 2015.

THE COMMISSION

The Shingle Creek Watershed Management Commission is governed by a nine member board comprised of representatives from each member city who are appointed for terms of three years. The nine member cities are Brooklyn Center, Brooklyn Park, Crystal, Maple Grove, Minneapolis, New Hope, Osseo, Plymouth and Robbinsdale. Commissioners who served in 2015 are shown in *Appendix 1*.

CONSULTANTS

The Commission has no employees. The names of the consultants currently retained by the Commission are also listed in *Appendix 1*.

Meetings

The Commission meets monthly at 12:45 p.m. on the second Thursday at the Clubhouse at Edinburgh, USA, 8700 Edinbrook Crossing, Brooklyn Park. The meetings are open to the public. Meeting notices, agendas and approved minutes are posted on the Commission's website, www.shinglecreek.org.

WATERSHED MANAGEMENT PLAN

In 2013 the Shingle Creek and West Mississippi Watershed Management Commissions adopted their joint 2013-2022 Third Generation Watershed Management Plan. The Plan, approved by the Board of Water and Soil Resources on March 27, 2013, is the culmination of a two-year planning effort by the two Commissions, the cities that are members of these Joint Powers Organizations, state agencies, and the public. The Plan sets forth goals and strategies that will guide water resources management activities in the two watersheds over the coming decade.

In 2013 the Commissions adopted a minor amendment to the Plan which revised the Commissions' Rules and Standards to adopt the new National Oceanic and Atmospheric Administration (NOAA) Atlas 14 precipitation frequency standards, replacing the outdated Weather Bureau Technical Paper 40 (TP-40) standards.

In 2014 the Commissions adopted a second minor amendment to the Plan. It revises the estimated cost and provides more description and detail about one proposed project, the Plymouth Bass Lake Pond project, on the Commissions' Capital Improvement Program (CIP).

In December 2014 the Commissions adopted a major amendment to the Plan which added four projects to the Commissions' CIP (the 45th Avenue Pond Retrofit, Kilmer Pond Retrofit, Lions Park Pond Retrofit, and Priority BMP Retrofits).

On May 14, 2015, the Commissions adopted a minor Plan amendment to 1) increase the annual levy for city cost-share projects from \$50,000 to \$100,000, 2) increase the Commission cost-share for lake internal load projects from 25% to 100%; and 3) specify that the potential 2015 lake internal load project would be the proposed Twin Lake Carp Tracking and Removal project.

On November 12, 2015, the Commissions amended their joint *Third Generation Watershed Management Plan* to adopt a revision to the plan amendment process to conform to 2015 revisions to Minnesota Rules 8410. In part, the revisions will allow the Commission to modify the CIP with only minimal need for plan amendments.

LOCAL PLANS

Revisions to Minnesota Rules 8410 adopted in 2015 include significant changes in the timing of local water plan revisions. Per 8410.0105 sub-paragraph 9 and 8410.0160 subparagraph 6:

- Local water plans must be prepared by metropolitan cities and towns (municipalities) and a local water plan must become part of the local comprehensive plan for a municipality.
- Under the amended rule, local water plans must be revised essentially once every ten years in alignment with the local comprehensive plan schedule.
- A municipality has two years before their local comprehensive plan is due to adopt their local water plan.
- Prior to adoption, a municipality must prepare their local water plan, distribute it for comment, and have it approved by the organization with jurisdiction in the municipality.
- The next local comprehensive plans are due December 31, 2018. All cities and towns in the seven-county metropolitan area must complete and adopt their local water plans between January 1, 2017 and December 31, 2018. Thereafter, add ten years to each of the previous dates.
- Local water plans may be updated more frequently by a municipality at its discretion.

STATUS OF 2015 WORK PLAN

The Shingle Creek Watershed Management Commission established its 2015 Work Plan at its January 8, 2015 meeting. The following is a status report on those action items.

1. CONTINUE TO IMPLEMENT TMDLS.
 - a. Undertake a 5-year performance review for the Bass-Pomerleau-Schmidt Lake Nutrient TMDL. *Data have been collected for this 5-Year review. It and the Crystal Lake TMDL Five Year Reviews are underway, delayed by the extended review process for Twin and Ryan Lake.*
 - b. Partner with one or more member cities to complete a subwatershed BMP assessment in the Twin Lake drainage area, possibly in the Crystal Shopping Center area. *The Commission partnered with the City of Crystal to complete a BMP assessment in the Crystal Shopping Center area. The results were used to successfully apply for a \$725,000 Clean Water Fund grant to implement the Becker Park Infiltration Gallery project.*
 - c. Continue to pursue grant funding for projects and programs, including chloride TMDL research projects and implementation projects in the Twin and Ryan Lakes drainage

area. **Submitted an application for and received Section 319 funding for the Biochar-Enhanced Sand Filters and the Twin Lakes Carp Management projects. The Connections at Shingle Creek stream restoration project started construction in 2015.**

d. Keep informed of Upper Mississippi River bacterial TMDL implementation planning. **The Commission reviewed the draft Bacteria TMDL Implementation Plan allocations and recommended implementation actions. The MPCA presented those findings to the TAC.**

e. Stay abreast of other regional and state TMDLs. **Reviewed the South Metro Mississippi Turbidity TMDL and the Twin Cities Metro Chloride Project, which includes a TMDL for Bass Creek.**

2. PARTNER WITH OTHER ORGANIZATIONS TO INCREASE REACH AND COST EFFECTIVENESS.

a. Participate in the West Metro Water Alliance (WMWA) joint education and outreach group. **The Commission continues to participate in WMWA, with the primary activity being the 4th Grade education program called Watershed PREP. (Appendix 2)**

b. Continue to partner with the USGS to operate the Queen Avenue monitoring site. **That partnership continued in 2015. Results are reviewed in the Commission's 2015 Annual Water Quality Report (AWQR).**

c. Partner with the Minneapolis Park Board to consider options for Shingle Creek in Webber Park. **Commission and MPRB staff continue to keep in touch. The delay in completion of the Webber Park pool has delayed any consideration of improvements to Shingle Creek. The Commissioners toured the new Webber Park Pool and natural treatment system prior to their September meeting.**

d. Partner with the USGS, DNR, and other interested parties to stay abreast of groundwater issues. **Staff continues to monitor groundwater issues with the USGS, DNR, and others.**

3. CONTINUE ONGOING ADMINISTRATION AND PROGRAMMING.

a. Conduct Commission stream monitoring on Shingle Creek and Bass Creek and lake water quality monitoring and aquatic vegetation surveys on Cedar Island, Pike, and Eagle Lakes. **The results of the annual stream and lake monitoring are included in the Commission's 2015 AWQR.**

b. Sponsor volunteer macroinvertebrate stream monitoring through River Watch and volunteer wetland monitoring through WHEP (Hennepin County). **The results of these programs are included in Appendices 4 and 5 of this report.**



Students from Calvin Christian High School participated in 2015 River Watch.

c. Sponsor volunteer lake monitoring through CAMP (Met Council). *Bass and Magda Lakes were monitored by volunteers in 2015. The results are included in the 2015 AWQR.*

d. Complete reviews of development and redevelopment projects as necessary. *The Commission reviewed ten development and redevelopment projects, and one EAW (for reconstruction of West Broadway in Brooklyn Park). In addition, the Commission's Engineer periodically met with the staff designing the Blue Line Light Rail Extension. (Appendix 3)*

The Commission currently serves as the Wetland Conservation Act (WCA) Local Government Unit (LGU) for the cities of Brooklyn Center, Brooklyn Park, Osseo and Robbinsdale. Three wetland delineations and one mitigation plan were submitted. One delineation review is in process; one Mitigation Plan was approved; and two boundary determination decisions were issued.

e. Prepare an annual water quality report. *The Commission's 2014 Annual Water Quality Report was reviewed and approved at the April 2015 meeting.*

f. Solicit cost-share projects from member cities funded from the Cost-Share Fund and the annual \$50,000 levy. *Projects were solicited and, after review and recommendation by the TAC, the Commission awarded two. The first was to Brooklyn Center to install underground treatment on the Municipal Garage site next to Shingle Creek; the second was to New Hope to add a regional rain garden into a street reconstruction project.*

g. Review feasibility studies for 2015 proposed capital projects, hold public hearings, order projects and certify levies. *In May 2015 the Commission approved a Minor Plan Amendment to revise two projects on the CIP. The total amount to be levied for Cost Share Projects was increased from \$50,000 to \$100,000, and the Commission's share of the Twin Lake Carp Management project was revised from 25% to 100%. Also in May the Commission approved a Major Plan Amendment to add four projects to the CIP. A public hearing was held at the September 2015 meeting and four projects were ordered: Shingle Creek Reaeration, Twin Lakes Carp Management, City-Cost Share Fund, and Private Cost-Share Fund. A total levy request of \$317,500 was certified to Hennepin County for collection in 2016.*

h. Prepare a 2016 annual budget. *The 2016 budget was approved at the Commission's June 11, 2015 meeting. The budget included no increase in member assessments.*

i. Invite three guest speakers to make lunchtime water resources presentations. *Four guest speakers appeared before the Commission. Randy Anhorn, Hennepin County Environmental Services appeared to present the proposed Hennepin County Natural Resources Plan. John Barten, Director of Natural Resources Management, Three Rivers Park District, spoke on the topic of aquatic invasive species control. Dr. Lawrence Baker, Research Professor in the University of Minnesota's Dept. of Bioproducts and Biosystems Engineering spoke on "Street sweeping as an efficient method for preventing nutrients from entering storm drains." Susan Nelson, Environmental Scientist/Botanist at Wenck Associates, presented "Planting for Pollinators with a Water Quality Benefit."*



j. Tour project sites in the watershed. *Two riders participated in the annual watershed bike tour. The Commissioners also toured the Webber Park pool (left) prior to their September 10, 2015 meeting.*

4. OTHER BUSINESS

- a. **The Joint Powers Agreement was renewed for an additional ten years, effective July 17, 2015.**
- b. **The Brooklyn Center and Osseo Local Water Management Plan Updates were approved in 2015.**
- c. **The Commission's website was updated using a tool that simplifies keeping it updated and adding or modifying pages.**

WATER MONITORING

Minnesota Administrative Rule 8410.0100 Subp.5 requires watershed management organizations to conduct monitoring programs “capable of producing accurate data to the extent necessary to determine whether the water quality and quantity goals of the organization are being achieved.”

Together the Shingle Creek and West Mississippi Watershed Management Commissions have established monitoring objectives to guide their monitoring programs. The following objectives have been established for stream, outfall and lake monitoring in both watersheds:

- To quantify the current status of streams/outfalls and lakes (Shingle Creek only) throughout the watershed in comparison to state water quality standards established for nutrients, turbidity, chloride, bacteria, and other parameters currently regulated by the State.
- To quantify changes over time, or trends, in stream and lake water quality in the Shingle Creek and West Mississippi watersheds.
- To quantify the effectiveness of implemented BMPs throughout the watershed for the protection of water quality.

Water quality in a given year is influenced by the amount of precipitation and the type of precipitation events. Overall, 2015 was an above average precipitation year. Rainfall in late summer and fall were above average, while spring precipitation was below average. This annual variability is why ongoing, long-term monitoring is necessary to determine potential trends in the data and what may be considered natural variability.

Water quality in Shingle Creek and Bass Creek is typical of an urban stream in the Twin Cities metropolitan area and is dominated by watershed runoff. Continued monitoring of stream water quality will allow the Commission to evaluate the effectiveness of BMPs, assess progress toward TMDLs, and provide a baseline for reasonable water quality goals.

The lakes in Shingle Creek are typical of urban lakes. Thirteen of the 16 lakes are listed as Impaired Waters due to excess nutrients. TMDLs and Implementation Plans have been approved for all 13 lakes. Three of the lakes are proposed for delisting on the pending 303(d) list of Impaired Waters – Lower Twin Lake, Ryan Lake, and Schmidt Lake.

Thirteen lakes in the watershed are periodically monitored for water quality by volunteers through Metropolitan Council's Citizen Assisted Monitoring program (CAMP). Two lakes, Bass and Magda, were monitored through CAMP in 2015. Additionally, Wenck staff conducted intensive monitoring on Cedar Island, Eagle, and Pike Lakes as part of the 5-year TMDL review for those lakes.

High school volunteers coordinated by the Hennepin County Department of Environment and Energy (HCEE) performed macroinvertebrate monitoring through their River Watch program at two locations in 2015 - Park Center High School in Brooklyn Park and Lions Park in Brooklyn Center. (*Appendix 4*)



Two sites, in Plymouth (Timber Shores) and Brooklyn Park (Brookdale Park), were monitored as a part of HCEE's Wetland Health Evaluation Program (WHEP) in 2015. (*Appendix 5*) (*setting plots, right*)

In 2015 continuous flow monitoring and water quality data was collected at two long-term stations (SC-0 and SC-3) and one newer station in Bass Creek (BCP) for the Commission-funded stream monitoring program.

Additionally, there is a long-term USGS monitoring station on Shingle Creek at Queen Avenue near the border of Minneapolis and Brooklyn Center. This site, located upstream of SC-0, drains approximately 31 square miles (70% of the watershed). The Commission and USGS collected continuous flow and storm event samples at this location from 1996 through 1999. The USGS has monitored continuous flow at this site since 2001 and continuous conductivity since 2004. Real-time data is available through the USGS website

<http://waterdata.usgs.gov/mn/nwis/uv?05288705>

The Commission's 2015 *Water Quality Monitoring Report* provides more detail on the Commission's stream and lake monitoring activities. Following acceptance by the Commission in spring 2016, the report will be forwarded to the Board of Water and Soil Resources as an appendix to this report. It will also be available on the Commission's website.

CONSULTANT SERVICES SELECTION

A solicitation of interest proposals for technical, legal and administrative services was published in the January 26, 2015 issue of the *State Register*. Five responses were received - three technical, one legal and one administrative. At their March 12, 2015 meeting the Commission voted to retain the current consultants. (*Appendix 1*) This process will be repeated in 2017.

Finances

The Commission’s Joint Powers Agreement provides that each member city contributes toward the annual operating budget based 50% on the area located within the watershed boundary and 50% on the tax capacity of all property within the watershed. The 2015 cost allocations to the members are shown as part of the 2015 Operating Budget found in *Appendix 6*.

Of the \$399,820 operating budget approved by the Commission for 2015, revenue consisting of \$21,000 in application fees, \$40,750 in program reimbursement, and \$100 in interest income resulted in assessments to members totaling \$337,970. No income was projected from grant funding and partner contributions.

The Shingle Creek Watershed Management Commission maintains a checking account at US Bank for current expenses and rolls uncommitted monies to its account in the 4M Fund, the Minnesota Municipal Money Market Fund. Amounts paid by the Commission per the preliminary 2015 Audit are:

General engineering	\$124,731
General administration	101,213
Education	65,154
Programs	78,795
Management Plans	44,695
Projects	25,808
Capital Projects	<u>5,349</u>
Total	\$445,745

General engineering work includes review of local plans, review of development/redevelopment projects, tracking grant opportunities, attendance at meetings and other technical services. General administration includes support to technical staff, attendance at meetings, insurance premiums, bookkeeping and annual audit, legal counsel, and other non-engineering services.

2016 WORK PLAN

The Shingle Creek Watershed Management Commission established its 2016 Work Plan at its January 14, 2016 meeting. Most of the activities of the Commission are ongoing, although some rotate around the watershed.

1. CONTINUE TO IMPLEMENT TMDLS.
 - a. Complete the 5-year performance review for the Crystal Lake and Bass, Pomerleau, and Schmidt Lakes Nutrient TMDLs and initiate the Cedar Island-Pike-Eagle TMDL Review.
 - b. Partner with one or more member cities to complete a subwatershed BMP assessment.
 - c. Continue to pursue grant funding for TMDL implementation projects.
 - d. Keep abreast of Upper Mississippi River bacterial TMDL implementation planning.

e. Identify boundaries of the areas directly connected to Shingle and Bass Creeks and other conveyances.

2. PARTNER WITH OTHER ORGANIZATIONS TO INCREASE REACH AND COST EFFECTIVENESS.

a. Participate in the West Metro Water Alliance (WMWA) joint education and outreach group.

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

c. Partner with the Minneapolis Park Board to consider options for Shingle Creek in Webber Park.

d. Partner with the USGS, DNR, and other interested parties to stay abreast of groundwater issues.

3. CONTINUE ONGOING ADMINISTRATION AND PROGRAMMING.

a. Conduct Commission stream monitoring on Shingle Creek and Bass Creek, lake water quality monitoring and aquatic vegetation surveys on Meadow and Success Lakes, and sediment coring on Eagle Lake.

b. Sponsor volunteer stream monitoring through River Watch and wetland monitoring through WHEP (Hennepin County).

c. Sponsor Volunteer lake monitoring through CAMP (Met Council) on Upper, Middle, and Lower Twin Lakes and Crystal Lake.

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

e. Prepare an annual water quality report.

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

g. Review feasibility studies for 2016 proposed capital projects, hold public hearings, order projects and certify levies.

h. Prepare a 2017 annual budget.

i. Invite three guest speakers to make lunchtime water resources presentations.

j. Tour project sites in the watershed.



Appendix