



West Mississippi Watershed Management Commission

2015 Annual Activity Report

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This report was prepared for the
West Mississippi Watershed Management Commission
by JASS

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We gratefully acknowledge the assistance of
Diane Spector, Wenck Associates

*Cover photograph: Mattson Brook
courtesy of Diane Spector*

ANNUAL ACTIVITY REPORT

This annual report has been prepared by the West Mississippi 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 during calendar year 2015.

THE COMMISSION

The West Mississippi Watershed Management Commission is governed by a five-member board comprised of representatives from each member city who are appointed for terms of three years. The five member cities are Brooklyn Center, Brooklyn Park, Champlin, Maple Grove, and Osseo. 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 an almost 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new National Oceanic and Atmospheric Administration (NOAA) Atlas 14 precipitation frequency standards, replacing the outdated Weather Bureau Technical Paper 40 (TP-40) standards.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 in the Shingle Creek watershed, 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 in the Shingle Creek watershed, and Priority BMP Retrofits in both watersheds.

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 [Shingle Creek] Commission cost share for lake internal load projects from 25% to 100%; and 3) specify that the potential 2015 lake internal load project [in the Shingle Creek watershed] 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 revisions.

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 West Mississippi 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 STAY ABREAST OF REGIONAL TMDLS.
 - a. Continue to pursue grant funding for projects and programs addressing the bacterial impairment in the Mississippi River. *Submitted an application for and received Section 319 funding for the Biochar-Enhanced Sand Filters.*
 - b. Keep abreast 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.*
 - c. Stay abreast of other regional and state TMDLS. *Reviewed the South Metro Mississippi Turbidity TMDL and the Twin Cities Metro Chloride Project.*
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. Partner with the USGS, DNR, and other interested parties to stay abreast of groundwater issues.
 - c. Partner with a member city to complete a subwatershed BMP analysis. *No requests for subwatershed assessments were received in 2015.*
3. CONTINUE ONGOING ADMINISTRATION AND PROGRAMMING.
 - a. Undertake routine flow and water quality monitoring at two outfalls into the Mississippi River. *The results of the annual stream and outfall monitoring are included in the 2015 Annual Water Quality Report.*
 - b. Sponsor volunteer stream monitoring through River Watch and wetland monitoring through WHEP (Hennepin County). *The results of the volunteer stream and wetland monitoring program are also detailed in the 2015 Annual Water Quality Report.*
 - c. Complete reviews of development and redevelopment projects as necessary. *The Commission reviewed seven 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, Champlin and Osseo. Three wetland delineations were submitted and boundary and wetland type determination decisions were issued.
 - d. Prepare an annual water quality report. *The 2014 Annual Water Quality Report was reviewed and accepted at the Commission's April 9, 2015 meeting.*

- e. Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$50,000 levy. *No applications were received in 2015.*
- f. Review feasibility studies for 2015 proposed capital projects, hold public hearings, order projects and certify levies. *A public hearing was held at the September 10, 2015 meeting and one project was ordered: City Cost Share Fund. A total levy request of \$50,000 was certified to Hennepin County for collection in 2016.*
- g. Prepare a 2016 annual budget. *A 2016 operating budget totaling \$177,500 was approved at the June 11, 2015 meeting. The budget included no increase in member assessments.*
- h. 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."*
- i. Tour project sites in the watershed. *Two riders participated in the watershed bike tour. The Commissioners also toured the Webber Park pool in Minneapolis prior to their September 10, 2015 meeting.*

4. OTHER BUSINESS

- a. *The Joint Powers Agreement was renewed for an additional ten years, effective June 2, 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 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 throughout the watersheds 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 watersheds for the protection of water quality.

The West Mississippi Commission monitored water quality and streamflow from 1990-1992 at two outfall sites in the Oxbow Creek and Mattson Brook watersheds. Results indicated very little flow in these tributaries and no water quality or quantity problems or concerns. Thus, the Commission chose to discontinue monitoring after the 1992 monitoring season. In 2010, the Commission elected to again monitor water quality and flow at 2-3 outfall monitoring sites per year in the West Mississippi watershed.

High school volunteers coordinated by Hennepin County Environmental and Energy (HCEE) perform macroinvertebrate monitoring at one site on Mattson Brook through the River Watch program. However, due to a lack of volunteers, no monitoring was performed at this site in 2015. HCEE also coordinates wetland monitoring by adult volunteers through WHEP. In 2015, wetland monitoring was performed at three locations in the West Mississippi watershed. (*Appendix 4*)

Water quality and continuous flow samples were collected at two outfall locations (Oxbow and 65th Avenue) in the West Mississippi watershed in 2015. Located in the City of Champlin, the Oxbow outfall site was first sampled during the 1990-1992 monitoring program. When monitoring resumed in 2010, this site was not sampled the first few years because the storm sewer's outfall to the Mississippi River was completely submerged and inaccessible.

In 2013, an alternative Oxbow site upstream of where the outfall discharges to the Mississippi at 112th Avenue was selected for monitoring. Flow at this site is contained below ground in a 48" pipe accessible through a 2-foot manhole. Most of the Oxbow Creek outfall watershed consists of a series of storm sewer pipes that drain approximately 1,167 acres of land in Champlin.

The 65th Avenue outfall is located in the City of Brooklyn Center at the northeast corner of the Highway 252 and I-694 interchange. This outfall drains approximately 590 acres of land in Brooklyn Center, including runoff from the Regal Cinema and other commercial and industrial land west of Highway 252.

Water level (stage) was continually recorded from mid-April through early September at both outfalls. Both sites typically have consistent base-flow and exhibit extremely flashy hydrographs during storm events. During storm events, the hydrograph rises quickly and typically peaks within 30 minutes of the initial rainfall, then subsides to base-flow conditions within a few hours. This type of flow response is common in smaller urban catchments.

Routine water quality sampling for each outfall station consisted of bi-weekly grab samples from May through early October. Six composite storm samples were collected at the Oxbow site and four at the 65th Avenue site using automated sampling equipment. Routine and storm samples were analyzed for total phosphorus (TP), ortho phosphorus (ORP), total suspended solids (TSS), nitrate, and chloride. *E. coli* (bacteria) samples were also collected during bi-weekly grab sampling events. Field parameters including dissolved oxygen (DO), temperature, pH, and conductivity were also recorded during each monthly base-flow sample.

The *Shingle Creek/West Mississippi 2015 Annual Water Quality Report* includes one-page summaries of the two major water quality parameters of concern for the West Mississippi outfalls: TSS and TP. Both outfalls outlet to the Mississippi River which is impaired for TSS, and potentially TP, based on the newly adopted state river eutrophication standards.

Results of the 2015 flow and water monitoring for the Oxbow and 65th Avenue outfalls support the following conclusions and recommendations:

- *Overall 2015 was an above-average year for precipitation and runoff throughout the West Mississippi watershed. The above average precipitation and rainfall in 2015 was driven by an unusually wet late summer and fall. Rainfall was at or below average during the spring and early summer.*
- *Flow data collected at both sites in 2015 indicate this outfall is extremely flashy and responds quickly to rainfall events. Both the Oxbow and 65th Avenue outfalls have continuous, year-round baseflow and never go dry or stop flowing.*
- *Due to the flashiness of these sites, high TSS concentrations at the outfalls have only been observed during “first flush” events using automated sampling equipment. TSS levels fall quickly to below detection limit within a few hours of a storm event. TSS does not seem to be a major concern at these outfalls.*
- *High TP concentrations at both outfalls sites are typically associated with higher flow events and, therefore, follow a similar pattern to TSS. Dissolved phosphorus (ortho-P) at both station is relatively low, suggesting most of the phosphorus is in particulate form and likely attached to TSS particles.*

The *Shingle Creek/West Mississippi 2015 Annual Water Quality Report*, which contains detailed information on the water monitoring programs undertaken by the Commissions in 2015, is available on the Commissions’ website.

CONSULTANT SERVICES SELECTION

A solicitation of interest proposals for technical, legal and administrative services was published in the March 2, 2015 issue of the *State Register*. A total of six responses were received - four 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.

FINANCIALS

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 Operating Budget found in *Appendix 5*.

Of the \$163,550 operating budget approved by the Commission for 2015, income of \$6,000 was projected as proceeds from application fees and \$50 as interest income, resulting in assessments to members totaling \$135,700. \$21,800 was taken from reserves to continue to spend down the Commission's surplus and minimize increases in member assessments.

The West Mississippi 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 2015 Audit (*Appendix 5*) are as follows:

General engineering	\$ 59,408
General administration	\$ 47,672
Education	\$ 28,679
Programs	\$ 21,789
Projects and Management Plans	<u>\$ 4,371</u>
Total	\$161,919

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, annual audit, legal counsel, and other non-engineering services.

2016 WORK PLAN

At their January 14, 2016 meeting the West Mississippi Watershed Management Commission identified the following activities for inclusion in their 2016 Work Plan. Most are ongoing activities, although some rotate around the watershed.

1. CONTINUE TO STAY ABREAST OF REGIONAL TMDLS.
 - a. Continue to pursue grant funding for projects and programs addressing the bacterial impairment in the Mississippi River.
 - b. Keep abreast of Upper Mississippi River bacterial TMDL implementation planning.
 - c. Stay abreast of other regional and state TMDLS.
 - d. Identify boundaries of the areas directly connected to the Mississippi River or 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. Partner with the USGS, DNR, and other interested parties to stay abreast of groundwater issues.
- c. Partner with a member city to complete a subwatershed BMP analysis.

3. CONTINUE ONGOING ADMINISTRATION AND PROGRAMMING.

- a. Undertake routine flow and water quality monitoring at two outfalls into the Mississippi River.
 - b. Sponsor volunteer stream monitoring through River Watch and wetland monitoring through WHEP (Hennepin County).
 - c. Complete reviews of development and redevelopment projects as necessary.
 - d. Prepare an annual water quality report.
 - e. Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$50,000 levy.
 - f. Review feasibility studies for 2016 proposed capital projects, hold public hearings, order projects and certify levies.
 - g. Prepare a 2017 annual budget.
 - h. Invite three guest speakers to make lunchtime water resources presentations.
 - i. Tour project sites in the watershed.
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Appendix