

# Technical Memo



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**To:** Shingle Creek/West Mississippi WMO Commissioners

**From:** Ed Matthiesen, P.E.  
Diane Spector

**Date:** December 2, 2016

**Subject:** Third Generation Watershed Management Plan Assessment of Progress

## Recommended Commission Action

Review, discuss, and adopt.

The Third Generation Watershed Management Plan states that the Commissions will annually review progress toward their Third Generation goals, and that this evaluation will become part of the Annual Report. There is no specific format for such an annual review. Since the Third Generation Plan was adopted, BWSR adopted revised Minnesota Rules 8410 that requires WMOs to review progress every two years.

The purpose of the annual review is first to determine progress towards the goals, and second to be sure the Commissions stay on track to reach them. The annual review is also an opportunity to discuss whether the goals and actions in the Plan still make sense or if they should be considered for modification or enhancement, perhaps to add in new priorities. Ideally, this annual review is also an opportunity to start thinking about your next year's work plan.

The attached tables show each goal, noting progress to date and expected completion. Each of the strategic actions identified for the goal areas are also shown, noting work completed in 2016 and to date, as well as expected completion as general status. For the most part the Commissions are on track to meet goals, with the following exceptions:

- Work has not yet begun on the "sustainable water budget" project. We have had some discussions with USGS staff about this, but have not yet identified a funding source for this project.
- While Lower Twin, Ryan, and Schmidt Lakes have been delisted from the draft Impaired Waters list, you have a stretch goal of achieving delisting for Bass, Eagle, Crystal, and Middle Twin Lakes. As Upper Twin improves, Middle Twin is likely to reach the state standard. Some BMPs have been or will be implemented for Bass and Crystal, but it is not clear yet whether that will be sufficient for delisting or more needs to be done.
- P8 models for the lakesheds are being reviewed as we go through the TMDL review process, so that is an ongoing task.
- You have a goal to have completed subwatershed assessments for at least 25% of that part of the watersheds that developed prior to Commission rules in 1984. You are on track to complete this for West Mississippi, but have completed only 5% of pre-1984 development Shingle Creek. A more achievable goal would be 10%.
- You have a goal of maintaining the functions and values of priority wetlands, but have not established a process by which that would be evaluated.

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**Water Quantity**

<b>Third Generation Goals</b>	<b>Progress Toward Goals</b>	<b>Expected Completion</b>	<b>Status</b>
A.1 Maintain the existing 100-year flood profile throughout the watersheds.	Ongoing.	Ongoing.	On track
A.2 Determine ecological low flows for Shingle and Bass Creeks	Not yet completed.	Will be completed in the 2018-2020 time period	Needs work

*Water Quantity Actions:*

<b>Third Generation Actions</b>	<b>Completed in 2016</b>	<b>Completed to Date</b>	<b>Expected Completion</b>	<b>Status</b>
a. Maintain and update as necessary a calibrated hydraulic model of Shingle Creek and its tributaries	At the request and expense of Brooklyn Park incorporated revisions to the Creek segment Bottineau Blvd to Candlewood into the XPSWMM model so they can obtain a LOMR	Update as necessary.	Will continue to maintain and update as necessary and requested.	On track
b. Maintain rules and standards requiring new development and redevelopment to control the rate and volume of runoff discharged from their sites, and update those standards as necessary.	None.	Keep abreast of requirements of other WMOs and agencies.	Will continue to monitor industry developments and regulations and revise rules and standards as necessary.	On track
c. Develop a sustainable water budget for each watershed and an action plan for management activities necessary for its achievement	None.	None.	Will be completed in the 2018-2020 time period.	Needs work

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**Water Quality**

<b>Third Generation Goals</b>	<b>Progress Toward Goals</b>	<b>Expected Completion</b>	<b>Status</b>
B.1 As lake water quality improves and lakes are removed from the State's Impaired Waters list, implement management strategies to protect lake water quality. It is anticipated that Schmidt, Lower Twin, and Ryan Lakes will be removed in 2014.	Schmidt, Lower Twin, and Ryan are removed on the draft 2014 303(d) list awaiting approval from the EPA.  The TMDL 5 Year review for Twin and Ryan includes protection strategies.	Will continue to implement protection strategies as funding and opportunities are available.	On track
B.2 Implement phosphorus and sediment load reduction actions sufficient to achieve delisting from the Impaired Waters list for Bass, Eagle, Crystal, and Middle Twin Lakes.	BMPs have been completed for Crystal and Middle Twin Lakes, with BMPs expected for Bass Lake.  TMDL 5 Year reviews will include additional actions. Need additional data to evaluate progress.	Improving Upper Twin is expected to improve Middle Twin to state standards. Projects have been completed or are scheduled for Crystal and Bass, not clear at this time whether additional actions will be necessary to meet the state standards goal.	On track  Work needed
B.3 Improve water clarity in the balance of the lakes by 10% over the average of the previous ten years.	Need more data to evaluate progress.	Will continue to implement load-reduction projects as funding and opportunities are available.	On track
B.4 Improve at least 30% of the length of Shingle Creek to meet Corridor Study and TMDL design standards.	As of 2016, 3.09 miles, or 27% of the 11.15 miles have been restored.	On track to meet this goal prior to 2022. Will continue to pursue grant funds and implement projects as funding is available.	On track
B.5 Maintain nondegradation of all waterbodies compared to 1985 conditions.	Need more data to evaluate progress.	Will continue to implement load-reduction projects as funding and opportunities are available.	On track

*Water Quality Actions:*

<b>Third Generation Actions</b>	<b>Completed in 2016</b>	<b>Completed to Date</b>	<b>Expected Completion</b>	<b>Status</b>
a. Maintain and update as necessary calibrated P8 models for each lakeshed in Shingle Creek and the major drainage areas of West Mississippi.	Updating the Bass Lake P8 model as part of the TMDL 5 Year Review.	P8 models for each lakeshed, calibrated to XPSWMM.	Will make updates to lakeshed models as necessary as part of the TMDL 5 Year Review.	On track  Work needed

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Third Generation Actions	Completed in 2016	Completed to Date	Expected Completion	Status
b. Maintain rules and standards requiring new development and redevelopment to control the total phosphorus and total suspended solids discharged from their sites, and update those standards as necessary.	Ongoing monitoring.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
c. Conduct an intensive BMP assessment for at least 25% of that part of the watershed that developed prior to Commission rules in 1984, and achieve 25% of the recommended load reduction within 10 years of the analysis.	<i>Shingle:</i> Completing an assessment of that part of Plymouth that drains to Pike Lake  <i>West Miss:</i> None.	<i>Shingle:</i> Completed assessments on 1,125 acres of 23,497 acres developed prior to 1984, or 5%.  <i>West Miss:</i> Completed assessments on 1,495 acres of 7,023 acres developed prior to 1984, or 21%.	<i>Shingle:</i> Goal of evaluating 5,874 acres by 2022 difficult; most interest is in doing compact 100-200 acre areas. More achievable goal is 10%, or 2,350 acres.  <i>West Miss:</i> The 25% goal will be met by 2022.	<i>Shingle:</i> Work needed  <i>West Miss:</i> On track
d. Contribute 25% of the cost of TMDL capital implementation projects (up to \$250,000).	<i>Shingle:</i> Contributing \$363,600 to three 2016 projects.  <i>West Miss:</i> Contributing \$131,300 to two 2016 projects.	<i>Shingle:</i> Contributed \$937,500 to nine projects since 2013.  <i>West Miss:</i> Contributed \$230,000 to four projects since 2013.	Will continue to contribute to projects submitted to the Commissions' CIP.	On track
e. Pursue grant and other funding to implement improvement projects and feasibility studies.	CWF application submitted for \$38,000 for a subwatershed assessment in Minneapolis	Received five grants totaling \$1,318,125.	Will continue to seek grant funding for projects and special studies.	On track
f. Prepare and implement an Annual Monitoring Plan and conduct monitoring necessary to evaluate water quality conditions and trends in the lakes and streams in the two watersheds.	Completed and approved by the Commissions in April 2016.	Completed annually.	Will continue to complete annually.	On track
g. Evaluate progress toward achieving TMDL goals every five years following adoption of the respective Implementation Plans.	Finishing review of Bass-Pomerleau-Schmidt.	Have completed review of Chloride, Twin and Ryan Lakes, and Crystal Lakes.	5 Year Reviews of all TMDLs are expected to be completed by 2022.	On track Work needed

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**Groundwater**

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
C.1 Infiltrate stormwater runoff from new impervious surface.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to enforce and to urge voluntary compliance where infiltration is not required.	On track
C.2 Identify opportunities for and implement projects to infiltrate runoff from existing impervious surface.	Have completed four subwatershed assessments that have identified infiltration BMPs. Working with Crystal on Becker Park Infiltration Project.	Will continue to implement volume reduction projects as funding and opportunities are available.	On track
C.3 Work with the appropriate state agencies to incorporate groundwater assessment into the sustainable water budget analysis for each watershed	Not yet completed.	Will be completed in the 2018-2020 time period.	Work needed

*Groundwater Actions:*

Third Generation Actions	Completed in 2016	Completed to Date	Expected Completion	Status
a. Maintain rules and standards requiring new development and redevelopment to abstract or infiltrate stormwater runoff from new impervious surface, and update those standards as necessary.	Reviewed Local Plans and ordinances for Osseo and Brooklyn Center.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
b. Conduct an intensive BMP assessment for at least 25% of that part of the watershed that developed prior to Commission rules in 1984, and achieve 25% of the recommended volume reduction within 10 years of the analysis.	<i>Shingle:</i> Completed assessment in Crystal Commercial Area, and added in additional residential area draining to proposed Becker Park Infiltration Project.  <i>West Miss:</i> None.	<i>Shingle:</i> Completed assessments on 1,008 acres of 23,497 acres developed prior to 1984, or 4%.  <i>West Miss:</i> Completed assessments on 1,495 acres of 7,023 acres developed prior to 1984, or 21%.	<i>Shingle:</i> Goal of evaluating 5,874 acres by 2022 difficult; most interest is in doing compact 100-200 acre areas. More achievable goal is 10%, or 2,350 acres.  <i>West Miss:</i> It is likely that the 25% goal will be exceeded by 2022.	<i>Shingle:</i> Work needed  <i>West Miss:</i> On track

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Third Generation Actions	Completed in 2016	Completed to Date	Expected Completion	Status
c. Coordinate with the Minnesota DNR and other agencies to develop an action plan addressing surficial groundwater elevation issues in northern Brooklyn Park and the associated impacts on wetlands and Lake Success	None.	Preliminary conversations.	Will be completed in the 2017-2020 time period.	Work needed

### Wetlands

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
D.1 Maintain the existing functions and values of wetlands identified in the Commissions' Water Quality Plan as high-priority.	For WCA projects where the Commissions are the LGU, are noting where the wetland is a priority wetland. Have not yet set up a process for evaluating this.	Not clear.	Work needed
D.2 Informed by the sustainable water budget study, improve functions and values of wetlands.	Not yet completed.	Will be completed in the 2018-2020 time period.	Work needed

#### Wetland Actions:

Third Generation Actions	Completed in 2016	Completed to Date	Expected Completion	Status
a. Adopt a wetland replacement sequencing policy.	No mitigation plans were reviewed in 2016.	Rules and Standards include a sequencing policy.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
b. Identify wetland restoration opportunities and implement projects to restore wetland functions and values or to create new wetland acreage.	None.	Minor vegetation enhancement on Wetland 639W project.	Will continue to pursue grant funds and implement projects as funding is available.	On track

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**Drainage Systems**

<b>Third Generation Goals</b>	<b>Progress Toward Goals</b>	<b>Expected Completion</b>	<b>Status</b>
E.1 Continue current Hennepin County jurisdiction over County Ditch #13	Continue current jurisdiction.	Will continue current jurisdiction unless otherwise agreed to.	On track

*Drainage System Actions:*

<b>Third Generation Actions</b>	<b>Completed in 2015</b>	<b>Completed to Date</b>	<b>Expected Completion</b>	<b>Status</b>
a. Periodically reconsider the appropriate jurisdiction over County Ditch #13.	None.	Considered during development of the Third Gen Plan, no change.	Will reconsider as requested.	On track

**Commission Operations and Programming**

<b>Third Generation Goals</b>	<b>Progress Toward Goals</b>	<b>Expected Completion</b>	<b>Status</b>
F.1 Identify and operate within a sustainable funding level that is affordable to member cities.	Commissions continue to operate within the Assessment Cap specified in the JPA.	Ongoing.	On track
F.2 Foster implementation of TMDL and other implementation projects by sharing in their cost and proactively seeking grant funds.	Contributed \$937,500 to nine Shingle projects and \$230,000 toward four West Miss projects since 2013. Established a Small BMP Cost Share program and contributed to two BMP retrofits. Received five grants totaling \$1,318,125.	Will continue to cost-share through the county levy and to pursue grant funds and implement projects as funding is available.	On track
F.3 Operate a public education and outreach program that meets the NPDES Phase II education requirements for the member cities.	Shingle Creek and West Mississippi partner with Bassett Creek and Elm Creek and other agencies and nonprofits to provide education and outreach through the West Metro Water Alliance (WMWA). An annual report is provided to the member cities for the NPDES annual report.	Ongoing, in partnership with WMWA and other organizations.	On track
F.4 Operate a monitoring program sufficient to characterize water quantity, water quality, and biotic integrity in the watersheds and to evaluate progress toward meeting TMDL goals.	The commissions operate ongoing lake, stream, and wetland monitoring programs using both commission technical staff and volunteers.	Ongoing annually.	On track

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<b>Third Generation Goals</b>	<b>Progress Toward Goals</b>	<b>Expected Completion</b>	<b>Status</b>
F.5 Maintain rules and standards for development and redevelopment that are consistent with local and regional TMDLs, federal guidelines, source water and well head protection requirements, sustainable water yields, nondegradation, and ecosystem management goals.	New requirements consistent with the NPDES General Stormwater Permit and MIDS were incorporated into Third Gen Plan and enforced for ongoing development.	Will complete review in 2018 or as necessary.	On track
F.6 Serve as a technical resource for member cities.	The Commissions maintain an ongoing Technical Advisory Committee.	Ongoing.	On track

*Commission Operations and Programming Actions:*

<b>Third Generation Actions</b>	<b>Completed in 2016</b>	<b>Completed to Date</b>	<b>Expected Completion</b>	<b>Status</b>
a. Annually review the budget and Capital Improvement Program.	Reviewed the budget and CIP, prepared a plan amendment to revise the CIP.	Established a process and schedule for annual review and modification of the CIP.	Ongoing annually.	On track
b. Maintain an Education and Public Outreach Committee (EPOC) that is charged with developing and implementing an annual education and outreach plan.	Most of the EPOC business is done in conjunction with WMWA. Have reviewed one Education Grant application.	Most of the EPOC business is done in conjunction with WMWA.	Ongoing.	On track
c. Prepare and implement an annual monitoring plan and summarize the results in an annual water quality report.	Completed and approved by the Commissions in April 2016.	Completed annually.	Ongoing annually.	On track
d. According to the schedules set forth in TMDL Implementation Plans, every five years evaluate progress toward meeting TMDL water quality goals, and adjust the Implementation Plans as necessary to achieve progress.	Finishing review of Bass-Pomerleau-Schmidt.	Have completed review of chloride, Twin and Ryan, and Crystal Lakes TMDLs.	Will complete reviews of every TMDL and Implementation Plan by 2022.	On track Work needed



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Third Generation Actions	Completed in 2016	Completed to Date	Expected Completion	Status
e. Every five years or as necessary review the development rules and standards for adequacy and make revisions as necessary.	No action taken.	Minor amendment to incorporate Atlas 14.	Will complete review in 2018 or as necessary.	On track
f. Continue research projects on innovative and cost-effective stormwater management practices and technologies.	Implementing a Section 319 grant to undertake the Iron-and Biochar-Enhanced Filters Research Project.	Received Section 319 grant funding for and completed the Modular Green roof study and the Paired Intersection Study.	Will continue to seek grant resources and partnerships to conduct BMP research.	On track
g. Coordinate water resources management between the Commissions and the member cities.	Maintained an ongoing Technical Advisory Committee.	Maintained an ongoing Technical Advisory Committee.	Ongoing.	On track