



UPPER MISSISSIPPI RIVER **SOURCE WATER PROTECTION PROJECT**

Protecting Drinking Water through Partnerships

Summary of UMRSWPP Activities Include:

- Members of and participation in:
 - EPA Source Water Protection Team - Source Water Collaborative;
 - Minnesota Headwaters Advisory Committee;
 - Clean Water Action Steering Committee;
 - Upper Mississippi River Basin Association – River Defense Network (spill response).
- Work with the Minnesota Department of Health on creating new criteria for source water protection plans.
- Updated the web mapping application for priority areas.
- Active participants and provide feedback for “North Fork Crow River and Sauk River Watershed District One Watershed, One Plans” and the Upper Mississippi River, Sartell and Coon Creek WRAP studies.
- Provided feedback to the Minnesota Pollution Control Agency on the Upper Mississippi River TMDL project.
- Participated in the Minnesota Association of Watershed Districts (MAWD) and Minnesota Rural Water Association (MRWA) conference tradeshows.
- Applied for pass-through funding for Watershed Districts, WMOs and Soil and Water Conservation Districts through Minnesota Department of Health (MDH) Implementation Grants.
- **Grant Opportunities:** The City of St. Cloud received Clean Water Partnership grants for stormwater management.
- **American Water Works Association** has produced a video educating landowners about the land use effects on the drinking water supply. It can be found at the following link:
 - [Land Use Effects on Drinking Water](#)
- **Conferences:** UMRSWPP staffed a tradeshow booth at the 2017 (MAWD) Conference in December. The purpose was networking and education with the other Watershed Districts, Watershed Management Organizations, state and local government agencies, and other private consulting firms. Understanding what the UMRSWPP is about and inclusion of drinking water protection in plan updates is an important step in protecting the drinking water resource.
- **2017 Financial Expenditures:** \$10,324 was spent on meetings, grant writing and educational display items. Dedicated funding is committed to this project by all three utilities.
- **UMRSWPP Plan Update:** The UMRSWPP team is working with the Minnesota Department of Health to update the source water protection plan criteria to better reflect the current needs of the drinking water supply and the protection of the resource. UMRSWPP is looking at focusing on stormwater runoff and other threats to the drinking water supply – the Mississippi River. We will also be focusing on maintaining close relationships with the Watershed Districts and the Water Management Organizations and participation in the “One Watershed, One Plan” advisory group. Please contact us if you are interested in participating on our advisory team.

UMRSWPP Dedicated Fund Expenditure 2017	
Beginning Balance (2017)	\$18,648
2017 Expenses (non-grant)	-\$10,324
2017 Utility Contributions	\$30,000
Ending Balance	\$38,324



Individual Utility Updates:



Providing Drinking Water vs Maintaining a Healthy Ecosystem: Data Analysis and Modeling to Improve Anthropogenic Lake Level Fluctuations Caused by Metropolitan Drinking Water Demands

The source water supply for SPRWS is a truly unique system where water is pumped from the Mississippi River at Fridley through a large conduit and transported by gravity through a chain of lakes connected by conduits and canals to the drinking water treatment plant in Maplewood. At any given time, the Mississippi River provides 50-80% (22-32 MGD) of St Paul's drinking water. This large inflow of water in combination with precipitation has historically resulted in significant lake level changes in the chain of lakes. While some fluctuation in lake level is both normal and healthy for lake systems, large fluctuations can result in bank instability, erosion, and consequently reduced water quality. SPRWS is partnering with VLAWMO, the North Oaks Home Owners Association, Barr Engineering, and the University of MN Civil Engineering Capstone program to better understand what the natural lake level fluctuations for Pleasant Lake would be without inputs from the Mississippi River. The Capstone program provides undergraduate engineering students the opportunity to tackle real world issues using what they have learned in school. The conclusions from the students' hydrologic modeling project could help us better manage inputs from the Mississippi to mimic natural fluctuations of the chain of lakes.

Sucker Lake Channel Restoration

The Sucker Lake channel, located in the Vadnais-Sucker Regional Park, is part of the source water supply for Saint Paul Regional Water Services. The channel connects Pleasant Lake to Vadnais Lake, the primary drinking water reservoir. The 80 year old channel, originally comprised of cement, asphalt and rock was failing and required rehabilitation. This rehabilitation project is a joint venture between Vadnais Lakes Area Water Management Organization, Ramsey County Parks and SPRWS. The project will reconstruct the channel wall, create areas conducive to fishing, and introduce a native planting section to make the transition to a natural, stabilized bank.

Work to date includes, removal of all the old asphalt, which was breaking-up and falling into the channel, stabilization with rip-rap, coir logs (natural logs made of rope, burlap, bark, and coconut husks), and installation of erosion control fabric.



During the spring of 2018, fishing nodes, educational signage and native plantings will be installed. These native plants not only provide food and shelter for many insects such as dragonflies, damselflies, stoneflies, water boatmen, and riffle beetles, but they slow runoff and catch sediment, bacteria and nutrients before they reach the water, improving water quality.



Established in 1867, the **City of Minneapolis Water Works** became the first public water works in Minnesota. They are celebrating their sesquicentennial this year. They have grown from a single pump station to a strong water utility that provides water to over 500,000 people, including six wholesale customers and the Minneapolis Airport Commission.

Partnering with the Freshwater Society and MDH Grant funding to promote Master Water Stewardship

The city of Minneapolis obtained a pass-through grant from the Minnesota Department of Health for the Freshwater Society. The Society is planning to train four Master Water Steward volunteers to complete stormwater best management practices and educate residents and others on non-point source pollution and stormwater management.

These trained volunteers will install stormwater best management practices to improve water quality and commit 25 volunteer hours per year in their communities to educate on the benefits of non-point source reductions and management of runoff to protect drinking water resources.

USGS Accurately Projects Impacts of Transforming Agricultural Landscapes

When a forest gives way to a potato field, when landscapes once teeming with wheat and barley disappear into seas of switchgrass, there are always implications.

Environmental implications. Economic ones. Land use change can affect local climate. It can alter biodiversity, even the quality of groundwater. Any number of new realities emerge when land—especially that used for agriculture—undergoes significant change.

Which prompts the question: Can we predict with any certainty how such transformations will ripple through Mother Nature or Main Street in the future? “Yes,” says scientist Terry Sohl at the Earth Resources Observation and Science (EROS) Center.

Sohl and fellow USGS scientists have modified the Forecasting Scenarios of Land-Use Change (FORE-SCE) model developed at EROS to create a crystal ball that projects the impacts of agricultural change across large regions of the U.S. Great Plains. Unlike traditional modeling that examines land use change pixel by pixel, Sohl and his group project the impact of change on entire fields—parcels called Common Land Units that the U.S. Department of Agriculture has identified based on land ownership or management boundaries. Click [link](#) to read article in its entirety.

Mississippi River Restoration Project

In June Minneapolis Water Works employees participated in the Cottonwood Restoration Project on the banks of the Mississippi River just north of the City. Sponsored by the Mississippi Park Connection and the National Park Service, the project restores the effectiveness of the floodplain by planting cottonwoods to slow erosion, mitigate flooding, and provide key habitat for bald eagles and other birds. This is part of a larger initiative to help the species regenerate along the river.



The City of St. Cloud has completed the following projects in NE St. Cloud to improve water quality of rainwater runoff from the 367-acre drainage area. The City received two Clean Water Grants. The grants are being used for projects like the two showcased below that will capture pollutants (sediment) so they do not enter the Mississippi River.

MINNESOTA EROSION CONTROL ASSOCIATION
PRESENTS THE
2017 Environmental Leadership Award
to the City of St. Cloud
Northeast Water Quality Projects



1 UNDERGROUND REGIONAL TREATMENT 2 EAST GERMAIN PARKING BIORETENTION 3 GREEN RIGHT-OF-WAY 4 4 SUMP CATCH BASINS 5 STREET SWEEPING

Project Manager – Lisa Vollbrecht
Project Supervisor – Noah Czech

Governor Mark Dayton – 25by25 Town Hall St. Cloud September 6, 2017

In February 2017 Governor Mark Dayton announced a new “25 by ‘25” Water Quality Goal, which would spur collaboration and action to improve Minnesota’s water quality 25 percent by 2025. Governor Dayton hosted a series of Town Halls over the summer and fall of last year. During Governor Dayton’s visit to St. Cloud on September 6th, he praised the efforts of the growing community.

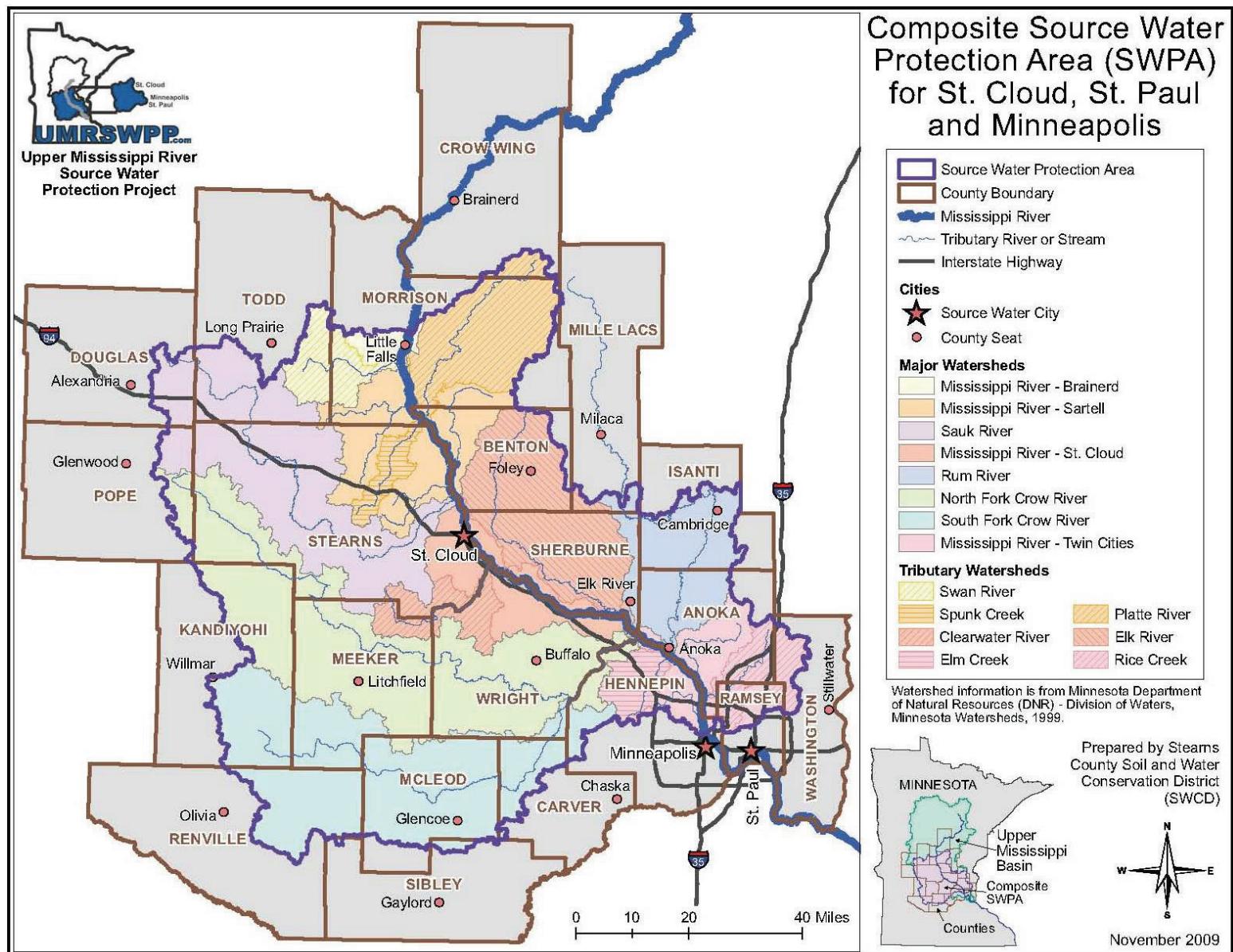
“I was very impressed with what I learned here (St. Cloud), and of course you have an urban area of 120, 000 people here and growing. So, the scale of what St. Cloud has to do to accommodate the growth here really takes a lot and they’re doing a lot, so I give them a lot of credit.”

If you or anyone you know wish to be added to our email list, please send a request to

umrsbpp@gmail.com

For additional information, contact the following project staff:

Lisa Vollbrecht	St. Cloud Public Utilities	320-255-7225	Lisa.Vollbrecht@ci.stcloud.mn.us
Justine Roe	St. Paul Regional Water Services	651-266-1628	Justine.Roe@ci.stpaul.mn.us
George Kraynick	Minneapolis Water Works	612-661-4923	George.Kraynick@minneapolismn.gov
Marilyn Bayerl	Bayerl Water Resources	320-766-6126	Marilyn@BayerlWaterResources.com



Bayerl Water Resources
Marilyn@BayerlWaterResources.com



320-766-6126
9083 State Hwy 114 SW
Alexandria, MN 56308
Marilyn Bayerl