

Watershed approach boosts metro-area water quality



Local governments in Minnesota are beginning to see conservation outcomes supported by the first round of watershed-based implementation funding.

The Minnesota Board of Water and Soil Resources (BWSR) has made approximately \$30 million available for local water quality priorities since 2018. Since then, local government partnerships established through BWSR's One Watershed, One Plan (1W1P) program or the Metro Surface Water Framework have combined implementation dollars with other funding sources to embark on high-priority conservation projects.

The funding is part of a broader state strategy to transition away from the competitive grant funding model toward an approach that

dedicates funding to priority resource concerns within individual watersheds. The 1W1P program aims to align local water planning on watershed boundaries to create prioritized, targeted and measurable implementation plans. This collaborative approach enables comprehensive water management work on issues such as flooding, habitat, water quality and recreation.

Under the Metro Surface Water Management Act, local governments in the seven-county Twin Cities Metro area have been doing comprehensive watershed management planning since 1982. The watersheds in these counties can choose to go through the 1W1P process but are not required to do so to be eligible for watershed-based implementation funding.

A biochar/iron-enhanced sand filter and pump system at the city of Blaine's Pleasure Creek Pond went online July 24. The filter is designed to remove hard-to-target pollutants like dissolved phosphorus and E. coli bacteria. The recently completed project aims to reduce E. coli levels by 80%; early analysis shows an 84% reduction.
Photo Credit: Coon Creek Watershed District

Planning partnerships in the Twin Cities metro area were eligible to receive \$5.59 million in fiscal year 18-19 and an additional \$6 million dedicated to watershed-based implementation funding in 2019.

“The purpose of watershed-based implementation funding is to supplement existing funding to ensure the most critical clean water activities are being implemented,” said BWSR Clean Water and Grants Coordinator Marcey Westrick. “The intent is that water resource managers within the metro and statewide will be able to predict funding availability more accurately, and as a result be able to implement water quality projects efficiently and systematically.”

Here’s a look at three metro-area projects supported by FY18-19 watershed-based implementation funding.

Pleasure Creek biochar/iron-enhanced filter

A biochar/iron-enhanced sand filter and pump system designed to remove dissolved phosphorus and E. coli bacteria at the city of Blaine’s Pleasure Creek Pond went online July 24.

The new filter is designed to remove hard-to-target pollutants. Biochar is a charcoal-like substance created by burning wood chips or other organic material at a high temperature in the absence of oxygen. Coon Creek Watershed District Water Quality Coordinator Justine Dauphinais said the district decided to incorporate biochar into the filter because lab tests show it’s highly effective at removing



An expansive project to integrate water quality and habitat improvements into an overhaul of Edina’s Arden Park includes a remeandered portion of Minnehaha Creek (above) and a new regional stormwater management system that involves an underground pre-treatment structure and six biofiltration swales planted with native plants (below).

Photo Credits: Minnehaha Creek Watershed District



E. coli bacteria. The project’s goal is to reduce E. coli levels by 80%. Initial analysis shows an 84% reduction in bacterial removal since the system became operational.

According to Dauphinais, the filter treats roughly 195 gallons of water per minute and 1.97 million gallons per week. The system results in cleaner water entering Pleasure Creek, which is impaired for having excess nutrients and bacteria. Pleasure Creek needs a

reduction of 29 pounds of phosphorus per year to meet state standards; the new system is anticipated to remove 25 pounds annually.

“This one project goes a really long way in getting us closer to meeting state standards,” Dauphinais said.

The project received \$191,973 in watershed-based implementation funding. The city of Blaine contributed \$200,000 toward project costs, with Coon Creek Watershed

District covering the balance.

Dauphinais said that while the competitive grant process is still an important component in water quality improvement projects, watershed-based funding offers more predictable funding for high-priority projects.

“Having the dedicated watershed-based funding pot of money allowed our cities to be more active participants,” Dauphinais said. “It was a way to make a larger project affordable for all parties.”

Arden Park improvements

Watershed-based implementation funding contributed to stormwater improvements that are one component of an expansive project to integrate water quality and habitat improvements into an overhaul of a popular neighborhood park in Edina. The project at Arden Park — a partnership between the Minnehaha Creek Watershed District (MCWD) and the city of Edina with support from multiple grants — involves managing regional stormwater, re-meandering the previously ditched and straightened creek, creating new trail and boardwalk connections, and installing new park features such as a shelter and playground.

BWSR contributed \$124,151 to help build a new regional stormwater management system in Arden Park. Drainage within the park was improved by moving localized stormwater to a two-stage system that treats a 90-acre residential area. The stormwater system includes an underground pre-treatment structure

and six biofiltration swales planted with native species to provide pollinator habitat in addition to filtration. The new on-site drainage system moves stormwater away from open park spaces, meeting community priorities for year-round usability.

MCWD Policy Planning Manager Becky Christopher said the transition to a watershed-based funding approach has come with some challenges, but she's optimistic about the direction of the new approach going forward.

"We have more influence in decision making at a local level to say what we should be targeting and how we want to prioritize the projects," Christopher said. "It's been interesting to work through this process with other local government units and hear their perspectives."

Anoka County outreach

Anoka Conservation District in 2018 launched the Anoka County Water Resource Outreach Collaborative (ACWROC) to offer training and create outreach materials and programs that focus on protecting local water resources. Partners include Anoka County, six watershed management organizations, and more than 20 cities and townships.



An August 2019 rain garden maintenance workshop in Fridley was one of more than 50 events hosted last year by the Anoka County Water Resource Outreach Collaborative. The collaborative offers trainings and creates outreach materials to raise awareness about protecting local water resources.

Photo Credit: Anoka Conservation District

ACWROC received \$125,000 in watershed-based implementation funding, supplemented by a \$12,500 local match provided by Anoka Conservation District.

"The purpose of this outreach program is to inform communities about the issues that are affecting local water bodies, including groundwater, and engage people in activities and behavior changes that really

help protect and improve those water resources," said Emily Johnson, outreach and engagement coordinator for Anoka Conservation District.

In 2019, ACWROC held over 50 events engaging thousands of residents and providing training to more than 420 residents. Events and trainings offered by the collaborative touched on subjects such

as planting and maintaining rain gardens, buckthorn removal and well and septic system maintenance. In the past year, WROC has also produced three animated videos about water stewardship topics, including groundwater ("[Our Groundwater Connection](#)," "[Our Groundwater Connection: Contamination](#)") and lakeshore restoration ("[Our Lakeshore Connection](#)").