

Training focuses on using PTMApp tool to measure practices' outcomes



Brassicas, oats and rye were among the cover crops planted in a Rock County field, one of the sites that Rock County SWCD staff working with the PTMApp tool identified as a priority within the Missouri River watershed. The soil health practice is supported by Watershed-Based Implementation Funding that BWSR awarded to the watershed partnership, which includes six counties, six SWCDs and two watershed districts in the southwest corner of the state. All of Rock County lies within the watershed. Photo Credits: Lee Tapper, Rock County SWCD



The Minnesota Board of Water and Soil Resources (BWSR) is offering additional advanced training to local government staff who use the Prioritize, Target, and Measure Application (PTMApp) modeling tool.

Over several years, BWSR invested substantial resources into developing [PTMApp](#). The [online tool](#) helps to plan projects with precision, explore cost-effective implementation options, and measure water-quality improvements.

PTMApp uses data about soil types and land use, plus high-resolution elevation imaging and terrain data based on light detection and ranging (LiDAR) to estimate sediment- and nutrient-loading in downstream waters.

By helping conservation professionals pinpoint where best management practices (BMPs) would have the biggest impact, PTMApp allows them to more efficiently and accurately implement Comprehensive Watershed



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and how they're applicable to the goals in your One Watershed, One Plan.”

— Arlyn Gehrke, Rock County SWCD engineering technician

Management Plans developed through [One Watershed, One Plan](#) (1W1P) partnerships.

It estimates those practices' annual load reductions, and calculates their cost-effectiveness.

Currently, PTMApp data are available for about 75% of the state's agricultural lands, where most Comprehensive

Watershed Management Plans rank sediment- and nutrient-loading from upland sources as a priority concern. Planning partnerships can use PTMApp data to set specific sediment and nutrient reduction goals. Local governments also can use the data to support Clean Water Fund grant applications.

In the southwestern corner of the state, Rock County is one of six counties within the Missouri River watershed.

As Missouri River 1W1P planning partners complete a midpoint assessment, Rock County Soil & Water Conservation District (SWCD) engineering technician Arlyn Gehrke said the SWCD is recalculating previous pollution reduction estimates using PTMApp. Technology has advanced since initial estimates were calculated. PTMApp is more precise and specific to 1W1P goals.

“We’re looking at our goals and comparing them to what we’ve done in the first five years of the plan, and it’s eye-opening. Our goals were way loftier than we could get to,” Gehrke said.

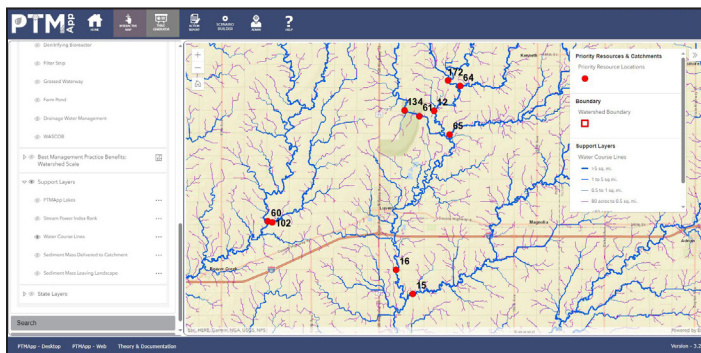
The realignment will result in more realistic goals.

“If we really want to see what effect all of these BPMs are having on the downstream resources — (such as) lakes and streams — we should be monitoring. But monitoring is expensive. We can’t monitor all the fields,” said Udai Singh, BWSR modeling and outcomes coordinator. “These scientific tools give us an estimate.”

With [nearly 100% participation](#) in the 1W1P process and a corresponding shift to measuring outcomes, the need arose to train and offer ongoing PTMApp



Cattle grazed on cover crops in a Rock County field within the Missouri River watershed. Rock County SWCD staff used the PTMApp tool to identify the site as a high priority within the watershed. Watershed-Based Implementation Funding supported the soil health practice. WBIF is funded by the Clean Water Fund.



A PTMApp screenshot depicts a segment of the Missouri River watershed.

support to local government staff.

In spring 2024, BWSR staff provided two hourlong

webinars focused on an overview and recent PTMApp updates. BWSR staff followed with one four-hour virtual training and one hybrid training centered on using PTMApp-web and related tools to report outcomes.

“These trainings that we do really do help (us) understand how we get to our goals. When you go through PTMApp training, it shows you how these estimates are being made and how they’re applicable to the goals in your One Watershed, One Plan,” Gehrke said.



Singh

BWSR staff is planning more advanced-level, in-person trainings in 2025 centered on generating input for running PTMApp modeling as well as using the PTMApp-web data viewer and associated tools to summarize the data and report outcomes.

“We are being accountable to taxpayers,” Singh said of the outcomes reporting.

Additional video trainings and in-person, small-group trainings are being planned through March. A standing two-hour, monthly question-and-answer call could follow.

Singh said the trainings will provide a solid understanding of the science behind the tools.

“The benefit is that they will have a better understanding of the science, and more confidence in the numbers that they’re putting in. And

if that happens, they’re going to be more likely to share that story with the people in their watershed,” said Dave Copeland, Rochester-based BWSR board conservationist.

Gehrke said having more precise pollution reduction estimates and outcomes makes it easier to work with landowners, too.

“We gain trust with landowners. We have real data. We’re not pulling (generalized regional) numbers. They’re field-specific. We gain credibility with landowners,” Gehrke said. “(The estimates are) specific to your geographic region, to your soils on your fields, to where the water is actually flowing. Landowners appreciate that — to know that what they’re doing is making a difference.”

Non-competitive Clean Water Fund dollars — in the form of [Watershed-Based Implementation Funding](#) — support priorities outlined in watersheds’ Comprehensive Watershed Management Plans.

PTMApp is accessible in two forms: PTMApp-desktop and PTMApp-web. PTMApp-desktop operates as an Esri ArcGIS Pro add-on application that is used to process geospatial data input and generate all the output data. PTMApp-web is a data viewer that allows users to access and review the PTMApp-desktop data in a web-based format, which is helpful in reporting outcomes from implementing conservation projects.

BWSR staff members write and produce Snapshots, a monthly newsletter highlighting the work of the agency and its partners.