MINNEHAHA CREEK
WATERSHED DISTRICT
QUALITY OF WATER, QUALITY OF LIFE

Meeting: Board of Managers
Meeting date: 8/28/2025
Agenda Item #: 7.1
Board Consent Item

Title:	2025 Soil and Water Assessment Tool Workshop Attendance
Resolution number:	25-044
Prepared by:	Name: Eva Bacmeister Phone: 952-471-0590 ebacmeister@minnehahacreek.org
Reviewed by:	Brian Beck, Research and Monitoring Manager
Recommended action:	Approval of funding to send three (3) staff members— Brian Beck, Eva Bacmeister, and Jill Sweet— to the 2025 Soil and Water Assessment Tool workshop in Fort Collins, CO.
Schedule:	The workshop series will be held from October 20-21, 2025.
Budget considerations:	Fund name and code: 5001-4060/4065 Fund budget: $5000/$8000 Expenditures to date: $175/$247 Requested amount of funding: $3300.00
Past Board action:	Not Applicable

Summary:

The Soil and Water Assessment Tool (SWAT) is a free, open-source watershed modeling tool developed by the U.S. Department of Agriculture and Texas A&M University. Used by researchers, government agencies, and consultants worldwide, SWAT predicts how land use and management practices influence water quality and quantity over time. By integrating climate, topography, soils, and land use data, SWAT supports applications such as watershed planning, BMP evaluation, and climate change impact assessment. Users are supported by an active global community with regular meetups, workshops, and forums, facilitating knowledge sharing, collaboration, and ongoing model improvement.

The MCWD Board of Managers' adoption of the draft Climate Action Framework in 2022 affirmed the District's commitment to addressing climate change. To meet this challenge, the District is building tools and capabilities that close knowledge gaps and improve our ability to anticipate future impacts. The Soil and Water Assessment Tool is a key part of this effort, helping the District evaluate how land use, management practices, and climate scenarios affect water quality and quantity. SWAT's broad adoption, ongoing development, and open-source accessibility make it likely to remain a foundational tool for the District. By combining SWAT outputs with policy solutions, GIS, and the District's ongoing 2D model development, the District can strengthen its capacity to guide adaptive management and advance long-term climate resilience.

The 2025 SWAT workshop series provides an introductory course for learning about SWAT+ (the most recent iteration of software released in 2019) as well as additional workshops geared toward experienced users and specific applications of SWAT.

- **SWAT+ Beginner** – Introductory course on SWAT+ setup and inputs, with hands-on practice in QSWAT+ and the SWAT+ Editor.
- **SWAT+ Toolbox** – Focused training on model sensitivity, calibration, evaluation, and validation using the Windows-based SWAT+ Toolbox.
- **SWAT+ gwflow** – Workshop on implementing and analyzing the SWAT+ groundwater flow module for simulating subsurface hydrology and nutrient transport.
- **APEX** – Introduction to the APEX model and ArcAPEX interface with exercises in farm and watershed-scale management simulation.

Staff are requesting funding of an amount not-to-exceed $3,300.00 for three (3) staff members— Brian Beck, Eva Bacmeister, and Jill Sweet— to attend the workshop series in October. This amount will cover workshop registration, travel, and accommodations based on projected costs of approximately $1100.00 per person.

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RESOLUTION

Resolution number: 25-044

Title: 2025 Soil and Water Assessment Tool Workshop Attendance

WHEREAS, climate change is measurably changing the distribution, frequency, and intensity of rainfall in Minnesota;

WHEREAS, these shifting precipitation patterns are stressing our natural and built environments, impacting pollutant loading, stream channel erosion, wetland functions, surface and surficial groundwater interactions, habitat, and homes, businesses, and public infrastructure;

WHEREAS, on April 28, 2022 the Board of Managers approved the District's Draft Climate Action Framework to create a clear strategy to guide how we will respond to climate challenges within the watershed in coordination with the State of Minnesota, regional partners, and local communities' climate action work.

WHEREAS, the Research and Monitoring Department support the District's mission by diagnosing water resource issues, informing project location and design, and communicating results;

WHEREAS, implementation of the Research and Monitoring strategic priorities requires continued professional development in areas of data analysis, data visualization, and watershed management;

WHEREAS, SWAT hosts ongoing professional development workshops providing training in watershed modeling for hydrology, ecology, and water resource professionals; and

NOW, THEREFORE, BE IT RESOLVED that the Minnehaha Creek Watershed District Board of Managers authorizes three (3) staff to attend the Soil and Water Assessment Tool Workshop for a cost not to exceed $3,300 for registration, travel, and accommodations.

Resolution Number 25-044 was moved by Manager_____, seconded by Manager_____. Motion to adopt the resolution____ayes,____nays,____abstentions. Date: 08/28/2025

_____ Date:_____Secretary