Metro Model Data Update

METROPOLITAN COUNCIL

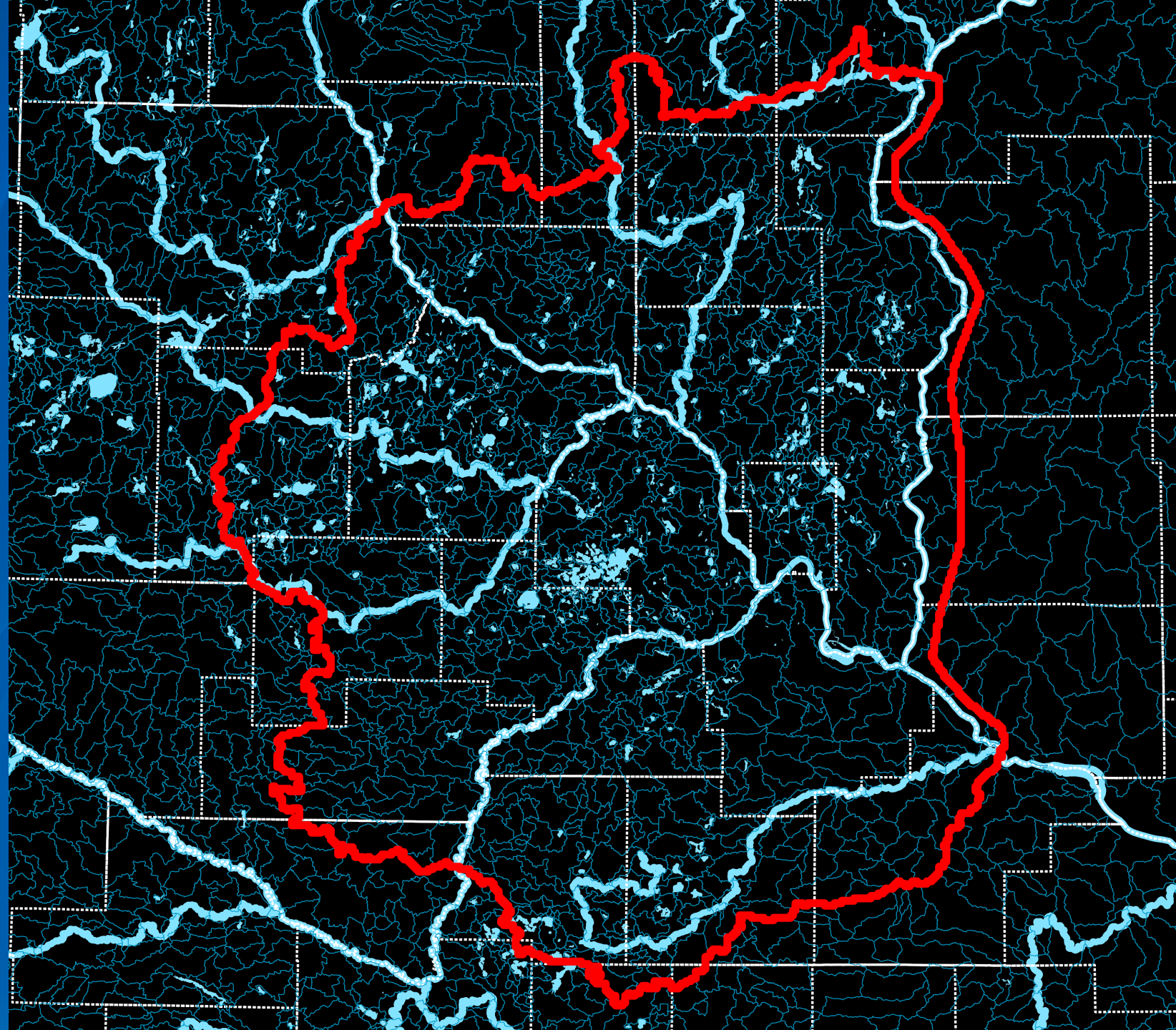
Metropolitan Area Water Supply Technical Advisory Committee May 14, 2026 Lanya Ross

11+ Counties:
Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, Wright and parts of their neighbors

8,350 Square Miles

Aquifer layers:
Quaternary, St. Peter, Prairie du Chien Group, Jordan, St. Lawrence, Tunnel City, Wonewoc, Mt. Simon-Hinckley

Adjustable Parameters: Pumping rates, climate, land use, recharge



Purpose

To help people understand how changes in development, population, water use, and climate affect groundwater

Supports long-term water planning by allowing users to:

- Test different scenarios
- Spot areas at risk
- Make more informed, coordinated decisions

Designed to support broad-scale assessments of groundwater withdrawals, availability, and long-term sustainability across the region

Not intended for detailed local analysis without further refinement, but can be used as a starting point or a source of regional context

Learn more at https://metrocouncil.org/Wastewater-Water/Planning/Water-Supply-Planning/Planners/Metro-Model.aspx

Update in process

Why update the model?

The current model is over 10 years old. As data improves and the region changes, an updated model offers:

- More accurate results
- Better tools to explore future changes—like new development, higher water use, or a changing climate

What's changing

Metro Model 3 was converted from the USGS's MODFLOW-NWT to MODFLOW-6. New data is being incorporated and the model will be recalibrated, setting the stage for future planning and scenario applications.

Timeline

- [x] **Phase 1** – Q4 2025: Conversion to MODFLOW 6
- [ ] **Phase 2** – 2026/2027: Recalibration, scenario analysis, tool development
- [ ] **Phase 3** – Ongoing: Continued updates and stakeholder support

Thank you!

Agency interviews and Technical Advisory Group participants

- Minnesota Department of Natural Resources
- U.S. Geological Survey
- Minnesota Department of Agriculture
- Minnesota Geological Survey
- St. Paul Regional Water Services
- Minnesota Pollution Control Agency
- Minnesota Department of Health
- University of Wisconsin – River Falls
- Browns Creek Watershed District
- City of Bloomington
- Dakota County
- Kelton Barr Consulting
- EOR
- Minnehaha Creek Watershed District
- South Washington Watershed District
- Valley Branch Watershed District
- Washington County
- Metropolitan Council

Key resources

Proposed tasks for SOW

- Reconvene technical advisory group
- Develop potential scenarios
- Work with partners to update calibration and scenario input data
  - Groundwater levels
  - Aquifer tests
  - Surface water stage and baseflow
  - Pumping
  - Water balance
- Work with partners to update hydrostratigraphic data
- Update recharge input
- Define boundary conditions
- Recalibrate

SURVEY:

What changes are you interested in evaluating?

Let us know if you have data to contribute!

Thank you

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