
























North & East Metro Groundwater Management Area Timing of Implementation Activities

		 Duration (Years)  Ongoing Work  Completed Annually  Completed Semi-Annually					
Action ID	Action	Status	Year 1	Year 2	Year 3	Year 4	Year 5
Objective I. Groundwater use in the GWMA does not harm aquifers and ecosystems and does not negatively impact surface waters							
I.1	The DNR will improve monitoring of groundwater levels, basin water levels, stream flows, climate, groundwater-associated biological communities, and water use within the GWMA to inform the DNR permit decisions						
I.1.a	Hydrological and climate monitoring system. The DNR will coordinate with federal, state, and local agencies in these efforts						
I.1.a.i	Evaluate opportunities for stream flow monitoring collaboration or data collection						
I.1.a.ii	Add lake gauges as needed	Complete					
I.1.a.iii	Install DNR observation wells and work with permit holders on reporting groundwater data and adding observation wells	In Progress					
I.1.a.iv	Weather stations: Identify climate monitoring requirements and add weather stations as needed to provide precipitation, temperature, solar radiation, dew point, and wind speed for improved evapotranspiration estimates						
I.1.a.iv.i	Establish up to two weather stations to provide real time data from the GWMA	In Progress					
I.1.a.iv.ii	Participate with cooperators in the monitoring of White Bear Lake evaporation	Complete					
I.1.a.iv.iii	Evaluate the benefits of evaporation monitoring networks on lakes in the GWMA	In Progress					
I.1.a.iv.iv	Summarize available climatological data related to groundwater management for the new GWMA reporting system	Complete					
I.1.b	The DNR will continue to improve information on water use within the GWMA						
I.1.b.i	Refine estimates of groundwater use that does not require a permit (<10,000 GPD or 1MM GPY)	In Progress					
I.1.b.ii	Develop guidance for consistent water use reporting categories						
I.1.c	The DNR will develop and use groundwater models for use in the permit decision process						
I.1.c.i	Develop and use standard groundwater models and methods to predict impacts from groundwater appropriations	In Progress					
I.1.c.ii	Support Met Council/USGS refinements of the Metro Model 3 and use to understand groundwater-lake interaction where feasible.	Complete					
I.1.d	Develop additional information on groundwater associated biological communities						
I.1.d.i	Develop GIS model of wet prairie complexes	Complete					

 Duration (Years) Ongoing Work Completed Annually Completed Semi-Annually							
Action ID	Action	Status	Year 1	Year 2	Year 3	Year 4	Year 5
IV.4	Increase education and awareness about resolving well interferences and conflicts	Ongoing	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Objective V. All groundwater users in the GWMA have the necessary permits to use groundwater							
V.1	The DNR will improve its capacity to detect unpermitted groundwater use						
V.1.a	Complete periodic analysis to identify potential unpermitted groundwater use in the GWMA and take appropriate action	In Progress	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
V.1.b	Complete follow-up review of applications made for preliminary well approvals	Ongoing	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
V.1.c	Provide updated information to well drillers and consultants on existing laws and the water appropriation permit application process as it is available	Ongoing		■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
V.1.d	Facilitate the public's ability to report unpermitted use			■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
V.2	The DNR will ensure that permitted volumes reflect actual use and use does not exceed permitted volumes						
V.2.a	Evaluate water use reports and contact permit holders whose reports indicate inaccuracies	Ongoing	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
V.2.b	Bring permittees into compliance when reported use is higher than established in permit	Ongoing	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
V.2.c	Work with permit holders to adjust permitted volume to better match actual use and need	Ongoing		■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
V.3	The DNR will ensure that water users comply with conditions on appropriation permits						
V.3.a	Work with permit holders to bring them into compliance with their permit conditions	Ongoing	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■