

Working toward Sustainability of our Water Supplies

A sustainable water supply is vital for future economic growth while ensuring quality of life for the citizens of the region. A sustainable water supply means managing our resources in a way that ensures its availability for current and future generations, including sufficient high-quality groundwater and surface water resources to support the region's growing needs and unique, intricate ecosystems.

With over half of the state's population, the region's water sources support a wide range of demands. While State statute defines the highest priority use for water as domestic (household) water supply, other uses are also critical for the region's economical growth and development. Sustainable water supply management must consider water demand for agricultural irrigation, industrial processes, power production and other uses along with domestic needs.

Public water supply is the largest consumptive use of water in the region, and it is the fastest growing. About 30% of public water supply demand is met by surface water; 70% by groundwater. This represents a shift from when most development occurred in and near the central cities and residents relied mostly on surface water. Reliance on wells increased as development began to occur further from the urban core. By the 1980s, groundwater use surpassed surface water use. This has put a strain on the aquifers, water-bearing porous soil or rock strata that yield significant amounts of water to wells, most notably the Prairie du Chien aquifer.

After public water supply, industrial and agricultural water demands are the biggest. The top industrial uses are petroleum processing, agricultural processing and industrial process cooling water. Although annual agricultural water use is not as high as industrial water use, summer seasonal use is very large, particularly in areas with sandy soils such as Dakota County.

Managing water sustainably requires thinking and action that is broader than community or even watershed boundaries; aquifers extend many miles across the metro area and are shared by thousands of individual users. For example, the Prairie du Chien Jordan aquifer is shared by 83 communities in the metro area to supply municipal water demand (Figure 2). Other communities also rely on that aquifer to supply private water demand.