



## Water Conservation: Wise Use and Efficiency Is Everyone's Responsibility

Increased water conservation will be important in the future, no matter which management options are employed. Total water use in Minnesota has increased 55 percent between 1985 and 2003, which is about twice the percentage increase in population during the same period. This increase in water use carries with it increased environmental effects, costs, and conflicts.

In the face of population and water use increases, there is the large, untapped potential for greater conservation and efficiency that could help mitigate future ground-water use increases and the accompanying environmental, social, and economic impacts. Whether they are large or small water users, individuals, communities, businesses, and government all have a role in this effort. Voluntary actions to reduce wasted water and adopt more efficient water-use practices are important, as are mandated actions for resource protection.

**Individual and Household.** Many opportunities occur each day for each of us to save water in and around the home, including fixing leaks, installing water-saving fixtures, and using appliances efficiently. Outside the home, landscape watering causes summer usage peaks. Reduced and more efficient use of water inside and outside the home is needed. Homeowners should adopt practices that result in more efficient household water use.

**Community.** Communities should implement practices to minimize summer peak demand. In the Twin Cities metropolitan area, summer peak demand averages 2.6 times winter demand, although it is as much as four times greater in some communities. Most of the summer peak demand is for landscape use. Reducing summer peak demand may include several approaches, such as more effective watering habits, use of landscaping that requires less water, adoption of watering schedules that spread out demand or other watering restrictions, and use of rain or soil-moisture sensors for sprinkler systems. Community water utilities can reduce waste from unaccounted water use, such as from system leaks. Additionally, water utilities should consider water pricing that encourages conservation.

**Business and Agriculture.** Given the natural limitations of ground-water resources, Minnesota businesses or potential businesses should evaluate water supply needs much earlier in any expansion or development planning than might have been the practice in the past. This is especially true in parts of southern and western Minnesota where the desired quantity or quality of water may *not* be available. Businesses, by becoming better water stewards and also more knowledgeable about the sources of their water supply, reduce their risk and uncertainty and simultaneously save water, energy, and money.

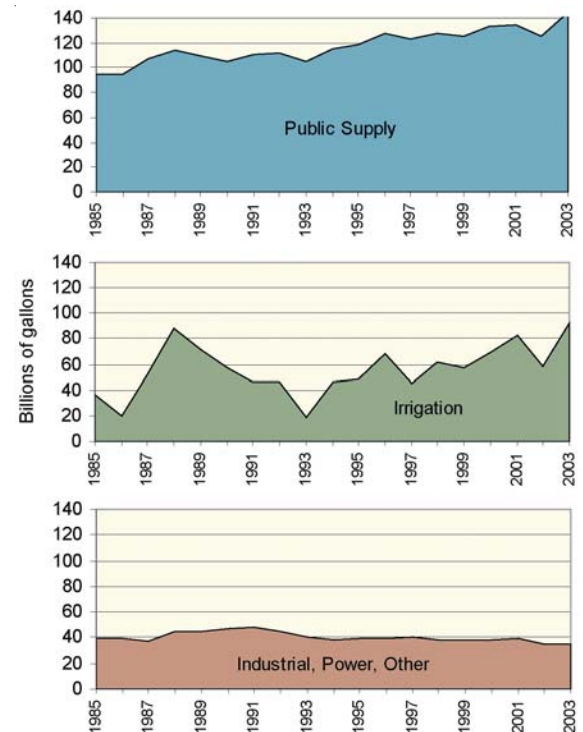


FIGURE 1. Minnesota ground-water use, 1985-2003.

The University of Minnesota offers a free service to Minnesota businesses and industry called MnTAP (Minnesota Technical Assistance Program). The MnTAP team of specialists helps businesses by identifying ways to use water more efficiently. With the help of MnTAP, one company saved \$400,000 and 13 million gallons of water a year; another company saved more than \$27,400 and 2.5 million gallons a year. The program is funded by a grant from the Minnesota Office of Environmental Assistance and is part of the university’s School of Public Health.

**State.** In the most recent update to the state’s water plan, *Watermarks: Gauging the Flow of Progress 2000-2010*, one of the four main goals highlighted water conservation as important to future ecosystem and economic health. A key conservation objective recognized the need to maintain ground-water levels in relation to precipitation in order to sustain surface waters and provide for human needs. In support of that objective, the state collects and disseminates climatic and resource data, regulates water use and collects usage data, and requires appropriation permit holders to adopt and implement conservation plans. If a critical water deficiency occurs, DNR Waters has the authority to suspend surface-water appropriation permits, and public water supply authorities are mandated to adopt and enforce emergency water conservation restrictions for nonessential uses.

The state and agencies should consider changes to the state’s response to water deficiency based on its experience of the last 20 years. Those changes might include multilevel restrictions that more equitably distribute the impact. The state could also adopt a caution level that would implement a conservation mode or alert much earlier than currently practiced. The state should also adopt or consider additional conservation measures. All-season statewide outdoor watering restrictions, such as those adopted by Georgia could be evaluated. Although recent Minnesota legislation requires rainfall sensors on landscape irrigation systems, the state could also expand programs that encourage resource-use efficiency by establishing stronger standards and goals, such as goals for lower peak demands and unaccounted-for water. In addition, watershed-based practices that keep water on the land should be encouraged and expanded. Decreasing runoff and increasing infiltration restores ground-water reserves, decreases runoff impacts on streams, and better supports low flows when precipitation is limited.

**National.** Water is generally managed at the state level through that state’s water law. The federal government has instituted water efficiency standards for manufacturers of plumbing fixtures and appliances. In the older neighborhoods of St. Paul, the decline in water use is being attributed to greater use of more efficient plumbing fixtures. Nationally, water conservation is implemented by several agencies (Environmental Protection Agency, U.S. Department of Agriculture, and others) by setting policy and requiring conservation measures as a condition of grants and loans to states and communities. Organizations such as the American Water Works Association, National Ground Water Association, and others work through their members and provide information to the public.

**Waste Not, Want Not.** The natural and development limits to sustainable water in the future will require a stronger commitment to water conservation. More effective and efficient use of available resources will require actions by individuals, local communities and water utilities, businesses, and government. What we currently throw away may be one source of our water sustainability in the future.

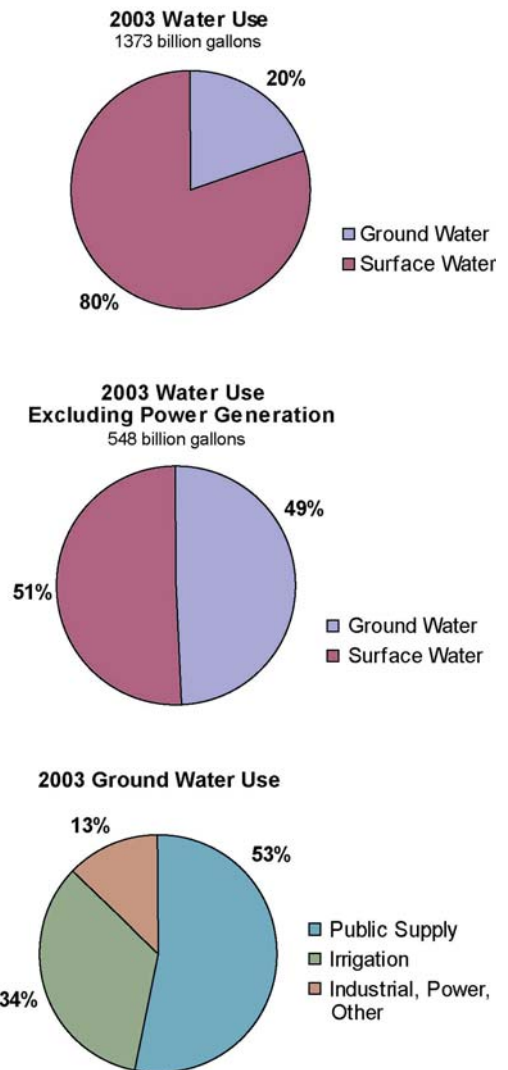


FIGURE 2. Minnesota water use in 2003.