

VI. WATER: KEY FINDINGS AND TRENDS

A. About the Data and How it Should be Used

Care was taken during the survey and follow-up period to obtain the most accurate data possible. It is worth noting that no two-water treatment systems are designed the same nor are they managed the same. Energy information such as costs and kilowatt-hours (kWh) for some utilities had to be estimated and not all systems separate plant and distribution system costs.

Data in charts and tables can be used as a benchmark for comparative purposes. Those systems that have energy and cost values that deviate from mean values, on the high side, may want to reevaluate the management of their systems if the treatment technology used does not have excess associated energy consumption and management costs for a particular process. Likewise for itemized budget data, if values are much higher than means then an evaluation may want to be made to determine if costs can be managed more sustainably.

B. Water Treatment Systems in Iowa and Survey Responses

Iowa Drinking Water Sources

Figure W1 shows all IDNR-permitted water treatment systems in Iowa. Shown on this output are the locations of groundwater sources for shallow and deep wells and surface water systems that are municipally owned or purchased. Watershed boundaries are also provided in the view. The majority of Iowa municipalities use

groundwater with a few systems, located mostly in the central and south-central part of the state using groundwater under the influence of surface water. Surface water systems are located in the south-central part of the state and a small area in the northwest part of the state. Surface water sources are used in Iowa where poor groundwater quality and quantity exist in bedrock aquifers.

The IDNR Geological Survey maintains a database that provides information on groundwater quality in Iowa. Additional information for select municipalities can be found in the U. S. Geological Survey Report 98-3 (U.S. Geological Survey, 1997)

One of the biggest concerns facing suppliers of municipal drinking water in Iowa is the impact of agricultural and urban chemicals and contaminants on groundwater and surface water quality. Energy and treatment costs will continue to rise as water quality deteriorates.

The majority of municipal water treatment systems in Iowa are municipally owned and operated (**figure W1**). Purchased systems are municipalities that purchase their water from another utility or entity and have their own distribution system. Municipally owned water treatment systems represent 78% of the permitted systems in Iowa and purchased systems represent only 22%. There are 41 suppliers of purchased water in Iowa that supply water to 141 municipalities.