

Groundwater Use in Michigan

Overview¹

Total

Groundwater (mgd — fresh, not saline)..... 766
Percentage of total freshwater* supply for state..... 7.58%

Public Supply

Groundwater (mgd) 209
Percentage of total groundwater..... 27.28%
Percentage of total public supply 20.29%

Individual Household

Groundwater (mgd) 187
Percentage of total groundwater..... 24.41%
Percentage of total individual household supply 100%

Irrigation

Groundwater (mgd) 261
Percentage of total groundwater..... 34.07%
Percentage of total irrigation..... 78.61%

Livestock/Aquaculture

Groundwater (mgd) 22.5
Percentage of total groundwater..... 2.94%
Percentage of total livestock/aquaculture..... 23.08%

Industrial, Self-Supplied

Groundwater (mgd) 64.6
Percentage of total groundwater..... 8.43%
Percentage of total industrial, self-supplied 12.47%

Mining

Groundwater (mgd) 16.0
Percentage of total groundwater..... 2.09%
Percentage of total mining..... 18.67%

Thermoelectric

Groundwater (mgd) 5.61
Percentage of total groundwater..... 0.73%
Percentage of total thermoelectric..... 0.07%

(mgd = million gallons per day)

*All totals and ratios are measures of freshwater only.

¹ US Geological Survey, Estimated Use of Water in the United States in 2015, released 2018.

² US Census Bureau 2013 American Housing Survey.

³ US Census Bureau 2013 American Community Survey.

⁴ US Geological Survey, Estimated Use of Water in the United States in 2015, released 2018.

⁵ US EPA Federal Safe Drinking Water Information System Data for 2019.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ Census of Agriculture 2013 Farm and Ranch Irrigation Survey.

Groundwater's Role in Michigan's Economic Vitality

- Few states can accurately or confidentially determine how many residential wells are in place. For each region, the American Housing Survey by the U.S. Census provides regional data. Michigan is found in the Midwest, along with these other states: Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Iowa, Nebraska, Kansas, and Missouri. The last American Housing Survey Census indicates this region had 3,990,000² households served by residential wells, with an average of 2.52³ persons per household. The USGS estimates the population of self-supplied water supply users in Michigan to be 2,600,000, with 100% of their supply from groundwater.⁴
- 1,075 community water systems use groundwater for 1,683,200 people⁵
- 1,302 non-community, non-transient water systems use groundwater for 306,500 people⁶
- 7,921 non-community, transient water systems use groundwater for 1,117,600 people⁷
- 7,550 irrigation wells used serving 2,820 farms and 467,000 acres⁸



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Michigan's Groundwater Industry Employment

Men and women working to provide and protect Michigan's groundwater resources for the benefit of people, business, and our environment.

Michigan's Contracting Employment

Drill and service water wells, install and service pumps, install and service point of use water treatment devices. This portion of the industry is characterized by small firms, many of which are multi-generation family-owned and operated.⁹

- 294 firms employ an estimated 1,211 people
- Annual estimated sales of \$306.5 million

Michigan's Scientists and Engineers Employment

Geologists, hydrogeologists, engineers, geochemists, geophysicists, microbiologists, regulators.

Environmental Consulting¹⁰

NAICS 54162: Establishments primarily engaged in providing advice and assistance on environmental issues, such as the control of environmental contamination from pollutants, toxic substances, and hazardous materials.

- 575 firms employ an estimated 2,170 people
- Annual estimated sales of \$431.1 million

Remediation¹¹

NAICS 56291: Establishments include those engaged in remediation and cleanup of contaminated buildings, mine sites, soil, or groundwater.

- 149 firms employ an estimated 1,831 people
- Annual estimated sales of \$519.1 million

Public Service and Universities, Colleges, and Research Centers

- Many more dedicated individuals



⁹ InfoUSA, SIC 1781, June 2019.

¹⁰ Barnes Reports: Environmental Consulting Services Industry (NAICS 54162); C. Barnes & Co., 2019.

¹¹ Barnes Reports: Remediation Services Industry (NAICS 56291); C. Barnes & Co., 2019.