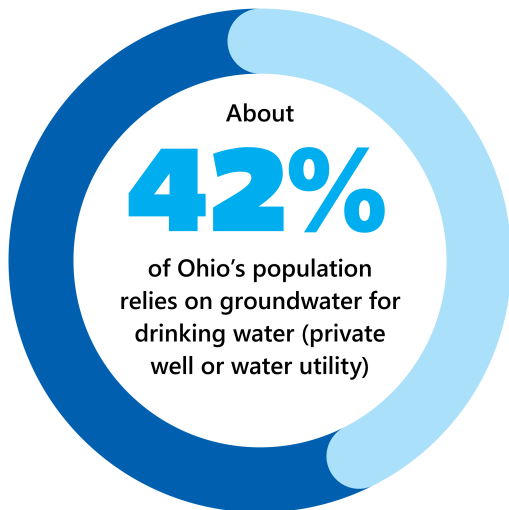


Background

The Great Lakes Commission (GLC) passed a policy resolution in March 2024 which called upon partners and agencies to engage with the GLC toward a better understanding of the current state of groundwater management in the Great Lakes basin.¹ Then, in December 2024, the GLC received funding from the Joyce Foundation to develop groundwater management summaries for each Great Lakes jurisdiction, building upon previous reports supported by the Joyce Foundation.² This report summarizes groundwater management in Ohio, both statewide and within the Great Lakes basin.

State Agency Authority

The Ohio Department of Natural Resources (ODNR) Division of Water Resources oversees water withdrawals across the state. The Division's Water Inventory and Planning Program is responsible for enforcing laws, rules, and permits related to water supply and water-resource development including water withdrawal and consumptive use permitting; assisting in the resolution of groundwater conflicts; registering large-capacity water users and collecting; compiling and disseminating water use data for water resources development; and water supply planning.³



The Ohio Environmental Protection Agency (EPA) manages public water supply. The Ohio Department of Health Public oversees interference complaints and private wells.

Table 1 highlights the state agencies in Ohio which play a role in managing groundwater in the state.

¹ Great Lakes Commission. March 6, 2024. [Understanding Impacts to Great Lakes Agriculture and Water Use Under Changing Climate Conditions.](#)

² The Joyce Foundation. [Groundwater Governance in EPA Region 5.](#)

³ Ohio Department of Natural Resources. [Division of Water Resources.](#)

Table 1. Ohio state agency authorities on groundwater management priority areas.

Agency	Ohio Dept. of Natural Resources	Ohio Environmental Protection Agency	Ohio Dept. of Health	Ohio Dept. of Agriculture
Groundwater Priority Area	Groundwater withdrawal registration and permitting Groundwater availability and dispute resolution assistance	Drinking water infrastructure Industrial contamination	Well interference	Agricultural pesticide and fertilizer contamination

Groundwater Science and Knowledge Production

The Ohio Department of Natural Resources Division of Geological Survey (ODNR-DGS) creates groundwater maps and publications including statewide maps of bedrock and glacial aquifers, aquifer yield, hydraulic conductivity, and some county maps of potentiometric surfaces.⁴ The ODNR-DGS also maintains a statewide Groundwater Vulnerability Map to assist in determining aquifer sensitivity.⁵

The ODNR-DGS’s groundwater observation well network program is a cooperative effort between the ODNR and the U.S. Geological Survey (USGS). At present, the Observation Well Network has 151 wells situated in 63 of Ohio’s 88 counties.⁶ The ODNR-DGS collects and analyzes the network’s groundwater-level data quarterly and makes it publicly accessible on its website. Some sites are equipped with satellite telemetry to transmit real-time measurements. ODNR-DGS also compiles Monthly Water Inventory Reports, which include information on current precipitation data, stream flow data, and water levels for reservoirs, groundwater, and Lake Erie.⁷

The ODNR-DGS recently completed a hydrogeologic assessment of the Michindoh aquifer of northwest Ohio. The report of investigation is scheduled for release in early 2026. Additionally, the Ohio EPA conducted a Central Ohio Regional Water Study to assess current and future water resource availability and demands in 15 central Ohio counties.⁸

Legislation and Regulations

The Ohio Supreme Court adopted the Restatement (Second) of Torts rule in *Cline v. American Aggregates Corp.* (1984). Section 1521.17 of the Ohio code codifies the Restatement Rule, listing out a multitude of factors that shall be considered when determining whether a particular use of water is reasonable. In a 2005 case, the Ohio Supreme Court held that landowners have a property interest in the groundwater underlying their land, granting constitutional protection for landowners’ groundwater rights.^{9, 10}

Ohio requires registration for all facilities with the capacity to withdraw at least 100,000 gallons per day.¹¹ A permit is required for any facility in Ohio that withdraws waters of the state in an amount that would result in a

⁴ Ohio Department of Natural Resources Division of Geological Survey. [Groundwater Resources](#).

⁵ Ohio Department of Natural Resources Division of Geological Survey. [Groundwater Vulnerability Map of Ohio](#).

⁶ Ohio Department of Natural Resources Division of Geological Survey. [Ohio Groundwater Observation Well Network](#).

⁷ Ohio Department of Natural Resources Division of Geological Survey. [Monthly Water Inventory Report for Ohio](#).

⁸ Ohio Environmental Protection Agency. [Central Ohio Regional Water Study](#).

⁹ *McNamara v. City of Rittman*, 838 N.E.2d 640, 107 Ohio St.3d 243, 2005 Ohio 6433 (2005).

¹⁰ Water Systems Council. (2016). [Who Owns the Water?](#)

¹¹ ORC § 1521.16.

new or increased consumptive use of more than an average of 2 million gallons per day in any 30-day period.¹² Annual reporting is required for both registered users and permit holders.

Article I, Section 19b of the Ohio Constitution states that “ground water underlying privately owned land and nonnavigable waters located on or flowing through privately owned land shall not be held in trust by any governmental body.” As a result, the public trust doctrine does not apply to groundwater in the state.¹³

Great Lakes Basin Groundwater Management

The state of Ohio codified the Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact) in 2008 in the Ohio Revised Code (ORC) § 1522.01, enacting the terms of the Compact verbatim. The 2008 bill tasked ODNR in with adopting rules to effectuate the purpose of the Compact and gave the ODNR the authority to implement a voluntary conservation and efficiency program.

Ohio has implemented the water conservation and efficiency provisions of the Compact. The State of Ohio’s program is consistent with, and fully supports, the goals and objectives of the Compact, including promoting the efficiency of use and reducing losses and waste of water in the basin and retaining the quantity of surface water and groundwater in the Basin.

Per the Compact, its party states commit to the development of a collaborative strategy to guide the collection and application of scientific information to support the “improved understanding of the role of groundwater in basin water resources management.”

Under ORC § 1522.12, facilities in Ohio’s Lake Erie Watershed with a new or increased capacity for a withdrawal or consumptive use that averages at least 1 million gallons per day in any 90-day period, or a direct withdrawal from Lake Erie that averages at least 2.5 million gallons per day over any 90-day period, must obtain a Withdrawal and Consumptive Use Permit.

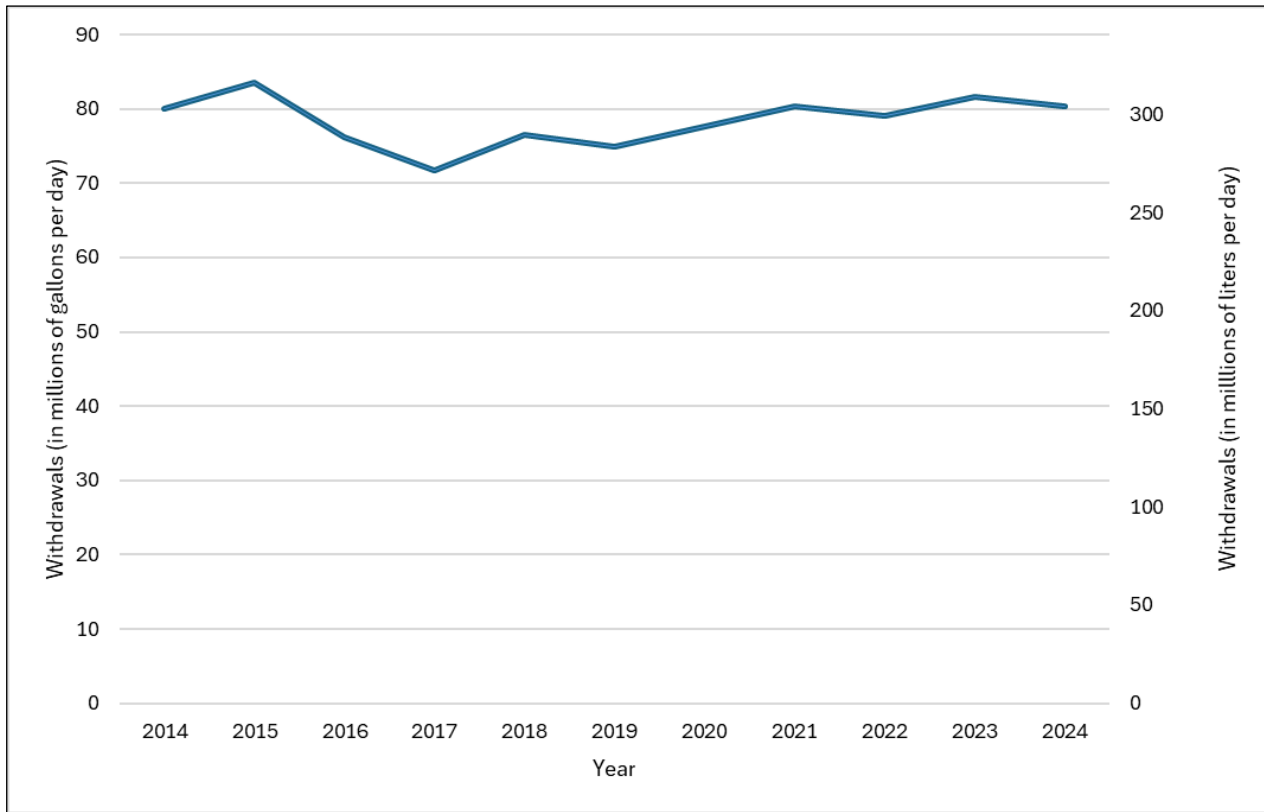
Great Lakes Basin Groundwater Usage

Ohio’s groundwater withdrawals from the Great Lakes basin have varied in volume between 71 million and 84 million gallons per day over the last decade. This interannual variation is primarily due to changes in water use for the public supply and self-supply industrial sectors. See **Figure 1** below to view trends in Ohio’s reported groundwater withdrawals within the Great Lakes basin from each facility withdrawing at least 100,000 gallons per day from 2014 to 2024.

¹² ORC § 1521.23.

¹³ National Sea Grant Law Center. [Overview of the Public Trust Doctrine.](#)

Figure 1. Ohio Great Lakes Basin Groundwater Withdrawals from 2014-2024.¹⁴



Statewide Definitions

Groundwater: Ground water is water saturating the void spaces, pores, and fractures in the soil and rock at some depth below the earth's surface.¹⁵

High-capacity well: a well with the capacity to withdraw at least 100,000 gallons per day.

¹⁴ As reported to the [Great Lakes Regional Water Use Database](#).

¹⁵ Ohio Department of Natural Resources. [What's Ground Water?](#)