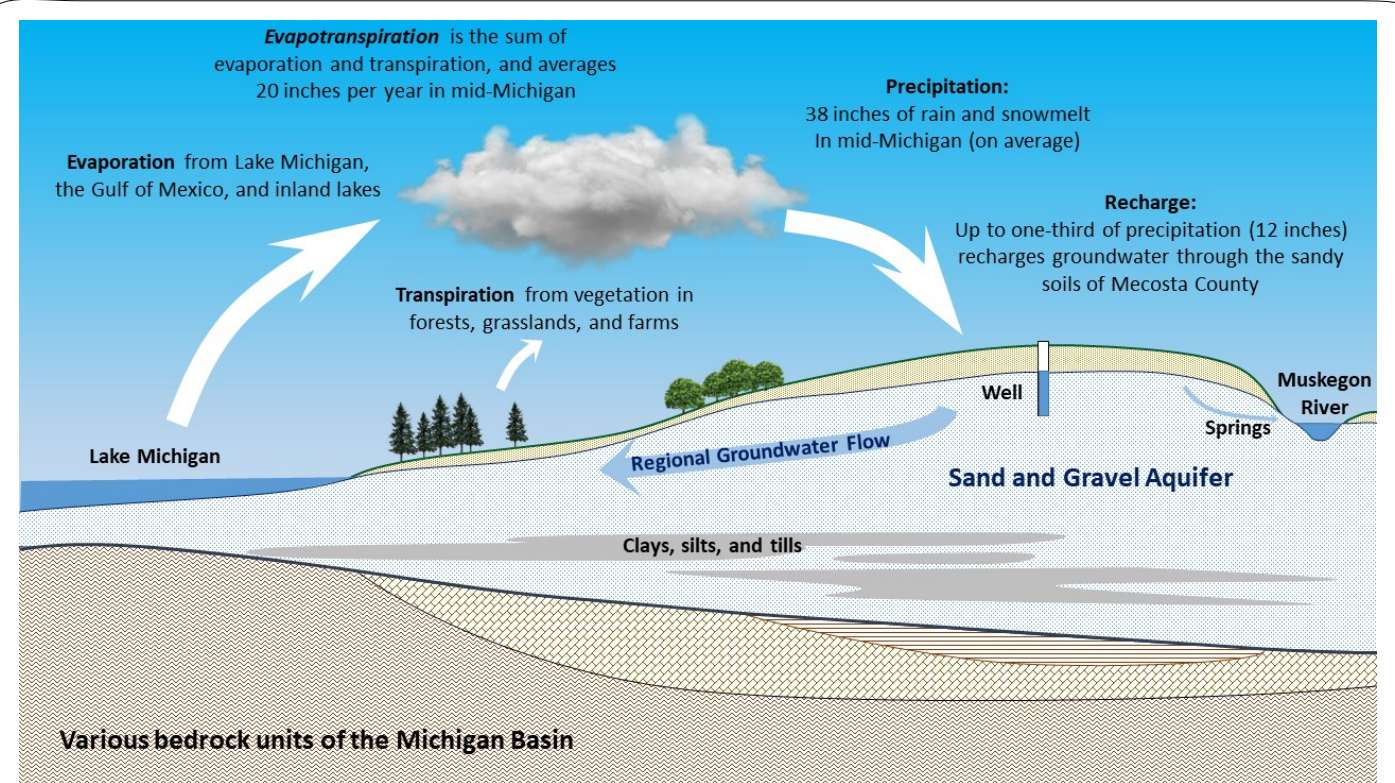


MICHIGAN GROUNDWATER ●●●

When the glaciers receded from Michigan, they left behind not only the Great Lakes, but massive quantities of gravel, sand, silt and clay that form the rolling hills of northern Michigan. In Mecosta County, where Ice Mountain's Sanctuary Springs source is located, these glacial deposits are 400 to 600 feet thick (United States Geologic Survey [USGS] HA 730-J). Water filling the voids between grains of sand and gravel creates prolific groundwater aquifers that supply water for many municipalities, farms, businesses, and homes. Groundwater has been called the "sixth Great Lake" as the volume of groundwater stored in Michigan's glacial aquifers (approximately 1.1 trillion gallons) is roughly the same as the volume of water contained in Lake Michigan (USGS WRI Report 00-4008, 2000). Groundwater is continually renewed by precipitation.

Figure 1: West Michigan's Water Cycle



In Mecosta County, an average 38 inches of precipitation each year equates to about 360 billion gallons of water. County-wide, nearly one-third of this water (112 billion gallons) infiltrates through the sandy soils to become groundwater (Michigan Department of Environment, Great Lakes, and Energy [EGLE]). Groundwater flows slowly at the rate of a few feet each day, emerging at springs, lakes, streams, and rivers. About 2.7 billion gallons of groundwater are used to irrigate Mecosta County crops each year; another 0.8 billion gallons is withdrawn for use by cities and industries, including Ice Mountain (2021 EGLE data).

MICHIGAN WATER WITHDRAWALS ●●●

To protect both public health and the environment, the State of Michigan governs the withdrawal of water in the State. The permitting standards for bottled water are as rigorous as the standards for municipal water supplies. The State specifies which materials and equipment are used in the construction and operation of a water supply, and certifies site contractors and system operators. State approval for use of the source follows only after an on-site inspection and thorough review of testing data. Water quality must meet or exceed standards set by the US Food and Drug Administration (U.S. FDA), the State of Michigan, and the U.S. Environmental Protection Agency (U.S. EPA).

SANCTUARY SPRINGS ●●●

Ice Mountain's Sanctuary Springs source consists of four wells that range between 120 and 135 feet deep. Ice Mountain is permitted through the State of Michigan to withdraw groundwater at a maximum rate of 400 gallons per minute (GPM).

In 2023, Ice Mountain withdrew water from the Sanctuary Springs source at an average of 221 GPM, slightly over one-half of the rate permitted by the State of Michigan.

Springs are located about 700 feet south of the wells, along the northern shore of the Osprey Lake Impoundment, a man-made lake. The outflow from the Osprey Lake Impoundment forms the Deadstream, which flows into Gilbert Creek in the Tri-Lakes region of Mecosta County. To meet U.S. FDA requirements for spring water, it has been demonstrated that all four wells draw water from the same aquifer from which the springs flow; that well water quality is the same as the water flowing from the springs; and that the springs continue to flow. Our business depends on it.

ENVIRONMENTAL MONITORING ●●●

Professionally trained, independent scientists contracted by Ice Mountain monitor water levels in streams, ponds, wetlands, and the aquifer. Flow in the three closest streams, Gilbert Creek, Cole Creek, and Deadstream, are measured weekly from May 15 through August 31 each year. Flow in the Little Muskegon River and the Muskegon River are continuously monitored by the USGS since 1995.

In keeping with Michigan Water Use regulations, Ice Mountain continuously monitors the withdrawal rate from the Sanctuary Springs wellfield, and annually reports withdrawal volumes to the State. The environmental monitoring program begun in 2000 documents that Ice Mountain's operations do not adversely affect natural resources, local water users, or the environment. The monitoring data are provided to stakeholders.

The aquatic habitats of the Deadstream and Gilbert Creek are also monitored by independent scientists. Both creeks are designated by the Michigan Department of Natural Resources as coldwater trout streams, characterized by stable flows, stable temperatures, and stable channels, which are typical of spring-fed streams. Wetlands near the Sanctuary Springs have been mapped and are routinely monitored. The water withdrawal has not affected the functional ecology of the wetlands or the aquatic communities after almost 22 years of operations.

This scientific data is available to the public through the United States Geologic Survey website (<https://dashboard.waterdata.usgs.gov/app/nwd/en/?region=lower48&aoi=default>) and shared by Ice Mountain with local officials and stakeholders.

RECENT MONITORING RESULTS ●●●

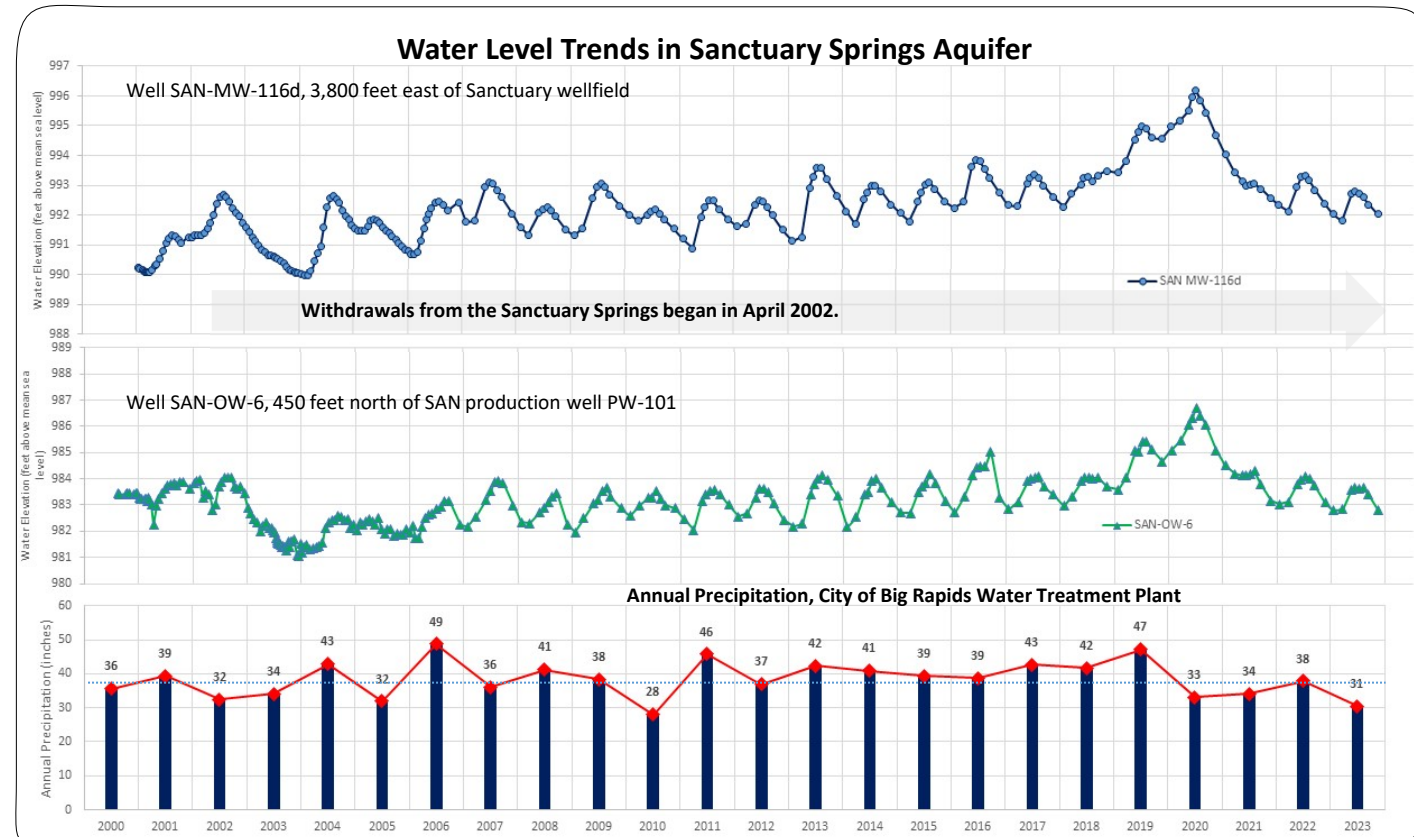
Groundwater levels in aquifers fluctuate several feet over the course of a year. This variation is a function of geology, as well as the amount, intensity, and timing of precipitation. Since Ice Mountain began bottling water from the Sanctuary Springs in 2002, water levels have not measurably declined in the spring aquifer, but instead remain within historic ranges.

Independent scientists and Ice Mountain Natural Resource Managers monitor groundwater levels for unexpected changes. Figure 2 depicts groundwater elevations in two observation wells in the Sanctuary Springs aquifer.

FUTURE MONITORING ●●●

Ice Mountain is committed to sustainable management and stewardship of natural resources. Aquifer groundwater levels, stream and lake surface levels, stream flows, and the ecological health of wetland and fish communities will continue to be monitored for the duration of Ice Mountain's operations at the Sanctuary Springs site.

Figure 2: Groundwater Monitoring Data and Annual Precipitation (2000-2023)



Average annual precipitation, 1990-2020: 38 inches (NOAA)

Aquifer water levels naturally range 1 to 2 feet from year to year, and as much as 6 feet in nearly 22 years of use. Since Ice Mountain began bottling water in 2002, water levels have not measurably declined.

SUMMARY ●●●

Ice Mountain manages water sources sustainably through proactive monitoring and responsible use. Water withdrawals by Ice Mountain at the Sanctuary Springs in Morton Township are overseen by independent scientists, and these data are shared with stakeholders. Water withdrawals from the Sanctuary Springs have not resulted in adverse effects to groundwater, surface water, wetlands, and other natural features in the area.

Questions about Sanctuary Springs or the monitoring program may be directed to:

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 Arlene.Anderson-Vincent@bluetriton.com • (231) 823-8451

Monitoring Summary

2023

SANCTUARY SPRINGS, MORTON TOWNSHIP, MICHIGAN



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