Water Withdrawal Permits: Why Michigan's Assessment Framework Is Insufficient for Data Centers

EGLE's WWAT screens for streamflow depletion. It does not assess cumulative water stress, drought vulnerability, or indirect water footprint.

The Oracle/OpenAI Saline Township facility claims 10,000–20,000 gallons per day with closed-loop cooling, below the 100,000 GPD threshold that triggers EGLE's Water Withdrawal Assessment Tool. No water stress review of any kind was required.

Washtenaw County experienced drought conditions in fall 2025. Great Lakes levels are trending below long-term averages through mid-2026.

What EGLE Currently Requires

Michigan's water withdrawal regime is built on the Water Withdrawal Assessment Tool (WWAT), which screens proposed large-quantity withdrawals (≥100,000 GPD) for Adverse Resource Impact (ARI) on nearby streams and rivers.[1] Withdrawals above 2,000,000 GPD require a full permit.[2] The WWAT is a hydrogeological model that estimates whether pumping will reduce streamflow below ecologically safe thresholds. It was designed under the Great Lakes Compact to prevent diversions and protect basin water resources.[3]

For Saline Township, the data center's claimed 10,000–20,000 GPD for its closed-loop cooling system falls well below the WWAT registration threshold.[4] As a result, no water withdrawal review of any kind was triggered. EGLE's involvement was limited to wetland and stormwater permits, the destruction of 9.12 acres of wetlands, three stormwater outfalls into the Saline River, and a wastewater treatment discharge into the river's floodplain.[5]

What Current Review Covers vs. What Data Centers Require

Assessment Dimension	EGLE WWAT	Data-Center-Specific Review
Streamflow depletion (ARI)	Yes	Yes
Cumulative watershed demand (multiple facilities)	No	Required
Drought / climate vulnerability projection	No	Required
WUE disclosure and benchmarking	No	Required
Thermal discharge impact on receiving waters	No	Required
Indirect water footprint (grid electricity generation)	No	Required
Community water supply impact	No	Required
Seasonal / peak-demand stress analysis	No	Required
Public WUE reporting requirement	No	Required

Why the Closed-Loop Claim Understates Water Impact

Related Digital and Oracle state the Saline facility will use closed-loop, non-evaporative cooling, reducing on-site water use to office-building levels.[6] This framing omits three material water dimensions. First, closed-loop systems trade water efficiency for higher electricity consumption, the 1,383 MW Saline facility will draw power from DTE's grid, and thermal power generation consumes approximately 0.5 gallons per kWh.[7] **At full capacity, the facility's indirect water footprint through grid electricity could exceed 5 billion gallons per year depending on the generation mix.** Second, the wastewater treatment outfall discharges into the Saline River's 100-year floodplain, with no public assessment of thermal or chemical effects on the receiving water body. Third, the destruction of 9.12 acres of wetlands eliminates natural water filtration and flood control capacity in a watershed that experienced drought conditions in 2025.[8]

Recommendations

- Lower the WWAT trigger for data centers. The 100,000 GPD threshold was designed for agricultural and industrial wells, not facilities whose indirect water footprint dwarfs their direct withdrawal. Require WWAT screening for any data center above 50 MW, regardless of direct water withdrawal volume.
- Require cumulative watershed impact assessment. EGLE should evaluate proposed data centers against existing and planned withdrawals in the same watershed. Michigan has no mechanism to assess what happens when multiple data centers cluster in one basin.
- Mandate WUE disclosure and thermal monitoring. Require annual Water Usage Effectiveness reporting benchmarked against the Sadberry Singer framework (calibrated against Google, Microsoft, and Meta data). Require continuous thermal monitoring of receiving waters pre- and post-construction.
- Incorporate drought and climate projections. Require water stress reviews to model withdrawal impacts under drought scenarios (Palmer Drought Index, NOAA climate projections) and declining Great Lakes levels, not just current baseline conditions.[9]
- Account for indirect water consumption. Require developers to disclose the full water footprint of grid electricity powering the facility, using eGRID water intensity factors, so regulators and communities can evaluate the true water cost.
- Align with HIA requirements. Integrate water stress analysis into the Health Impact Assessment framework proposed in Sadberry Singer's companion brief, ensuring that cumulative water, air, and health burdens are evaluated together, not in isolation.

Sources

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