



## WATER RESOURCES DIVISION POLICY AND PROCEDURE

### WRD-053 Applicability of Public Water Supply Designated Use

Effective Date: July 16, 2020

Last Reviewed Date:

Last Revision Date:

Distribution: Public

#### ISSUE

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The Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), is responsible for implementing the Part 4 Rules, Water Quality Standards (Part 4 Rules), promulgated under Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The Water Quality Standards contain narrative and numeric standards, including designated uses of surface waters of the state. Rule 323.1100 (8) specifies:

“All surface waters of the state that are identified in the publication, “Public Water Supply Intakes in Michigan,” dated December 9, 1999, are designated and protected as public water supply sources at the point of water intake and in such contiguous areas as the department may determine necessary for assured protection. In addition, all Michigan waters of the Great Lakes and connecting waters shall meet the human cancer and human noncancer values for drinking water established pursuant to R 323.1057(4). The requirement to meet the human cancer and human noncancer values for drinking water shall not apply to pollutant loadings from a tributary in an area where a tributary mixes with the Great Lakes, connecting water, or a water body that has been designated for use as a public water supply source, unless a water intake was located in this area on April 2, 1999.”

The point at which surface waters are designated for public water supply use is important because the application of criteria designed to be protective of human health related to drinking water can be more stringent than other non-drinking water criteria. This may affect limits for discharges from point sources under the National Pollutant Discharge Elimination System (NPDES) Program and from contaminated venting groundwater regulated under Part 201, Environmental Remediation, of the NREPA. It is also important for the assessment of whether surface waters of the state are supporting their designated uses and identifying waters for which Total Maximum Daily Loads are required to restore uses.

This policy provides information about the area contiguous to a public water supply point of intake that EGLE determines necessary for assured protection of the public water supply.

#### DEFINITIONS

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**Critical Assessment Zone (CAZ):** a geographic area of potential susceptibility around a surface water intake defined as the area from the intake structure to the shoreline and inland. There are three intake sensitivities (high, medium, and low) based on the perpendicular distance from shore or length of the intake pipeline and the water depth of the intake structure, which correlate to three CAZ sizes: 3,000 feet, 2,000 feet, and 1,000 feet, respectively. The concept and protocol for establishing the CAZ

was agreed to by EGLE's Drinking Water and Environmental Health Division (DWEHD); other Great Lakes states; water utilities with intakes on the Great Lakes; United States Environmental Protection Agency, Region V; and other interested parties and is summarized in the Source Water Assessment Program Final Report (Appendix I; MDEQ, 2004); the DWEHD also applies the CAZ delineation process to inland surface water intakes.

- For Great Lakes intakes, the CAZ includes a triangular water surface and a land area encompassed by an arc from the endpoint of the shoreline distance on either side of the onshore intake pipe location.
- For inland intakes, all of which are categorized as highly sensitive, the CAZ encompasses a 3,000-foot radius (Appendix I, MDEQ, 2004).

The protection and preservation of appropriate water quality within these zones, immediately upstream and adjacent to surface water intakes, is important and consistent with the need to provide assured protection for those intakes.

## **POLICY**

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The WRD will protect surface waters of the state identified in the December 9, 1999, "Public Water Supply Intakes in Michigan," document and surface waters of the state where public water supply intakes have been established subsequent to 1999 for the public water supply designated use at the point of intake and the associated CAZs defined by the DWEHD. That is, surface waters within the CAZ are designated for public water supply and must meet numeric water quality standards established pursuant to the Part 4 Rules, including the human cancer and human noncancer values for drinking water. In addition, the entirety of the Great Lakes and connecting waters must meet the human cancer and human noncancer values for drinking water.

To ensure that point source discharges regulated under NPDES permits and contaminated venting groundwater plumes do not cause or contribute to an exceedance of the human cancer or noncancer value (as appropriate) in the CAZ, limits will be established using models with conservative estimates of flows (see Figure 1 and Table 1, for example). A wasteload allocation for specific pollutants will be developed if it is determined that the existing watershed loads exceed the available allocation. In order to provide a factor of safety and account for the discovery of unknown sources, only 80 percent of the calculated available assimilation capacity will be assigned. The remaining 20 percent will be held in reserve.

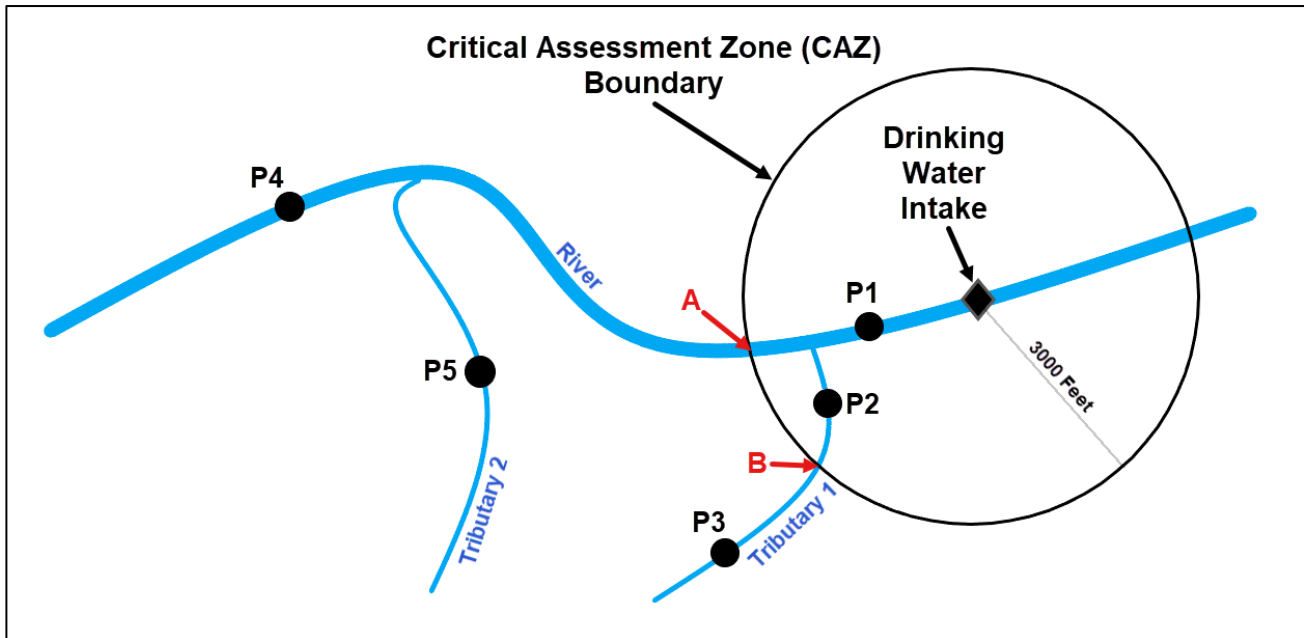


Figure 1. Schematic of a Hypothetical Drinking Water Intake Location, the CAZ Boundary, and Hypothetical Point Sources.

Table 1. Flow Used to Calculate Water Quality-Based Effluent Limits (WQBEL) for Drinking Water for Hypothetical Point Sources in Figure 1.

Location	Flow Used to Calculate WQBEL
P1	Flow for River at Outfall
P2	Flow for Tributary 1 at Outfall
P3	Flow for Tributary 1 at CAZ Boundary (Point B)
P4	Flow for River at CAZ Boundary (Point A)
P5	Flow for River at CAZ Boundary (Point A)

The WRD will notify the DWEHD when it establishes limits for NPDES permits and venting groundwater to meet drinking water values in a CAZ.

## PROCEDURE

The WRD, Permits Section, will establish an operating procedure to implement this policy when establishing limits for NPDES permits and venting groundwater.

## LINKS TO ADDITIONAL INFORMATION

MDEQ. 2004. State of Michigan Source Water Assessment Program Report for Submittal to the United States Environmental Protection Agency. December 2004. 84pp.  
[https://www.michigan.gov/documents/deq/deq-wb-dwehs-wpu-swapfinalreport\\_328136\\_7.pdf](https://www.michigan.gov/documents/deq/deq-wb-dwehs-wpu-swapfinalreport_328136_7.pdf)

Part 4 Rules; [https://www.michigan.gov/documents/deq/wrd-rules-part4\\_521508\\_7.pdf](https://www.michigan.gov/documents/deq/wrd-rules-part4_521508_7.pdf)

## APPROVING AUTHORITY

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Teresa Seidel, Director  
Water Resources Division

## HISTORY

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Policy No.	Action	Date	Title
WRD-053	Original	July 16, 2020	Applicability of Public Water Supply Designated Use

## CONTACT/UPDATE RESPONSIBILITY *Required*

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Any questions or concerns regarding this policy and procedure should be directed to the Surface Water Assessment Section Manager, WRD.

*An EGLE policy and procedure cannot establish regulatory requirements for parties outside of EGLE. This document provides direction to EGLE staff regarding the implementation of rules and laws administered by EGLE. It is merely explanatory, does not affect the rights of or procedures and practices available to the public, and does not have the force and effect of law. EGLE staff shall follow the directions contained in this document.*