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Ohio Administrative Code

Rule 3745-2-02 Definitions.

Effective: November 12, 2026

(A) Acronyms and abbreviations used in this chapter are defined as listed in this paragraph.

AIM	Area of initial mixing
BEF	Bioaccumulation equivalency factor
BCC	Bioaccumulative chemical of concern
C.F.R.	Code of federal regulations
D.O.	Dissolved oxygen
DMT	Dissolved metal translator
FAV	Final acute value
HMQ	Harmonic mean flow
IC	Inhibition concentration
IMZM	Inside mixing zone maximum
LOEC	Lowest observed effect concentration
LA	Load allocation
LC	Lethal concentration
NOEC	No observed effect concentration
NPDES	National pollutant discharge elimination system
PQL	Practical quantification level
PEL	Preliminary effluent limit
PEQ	Projected effluent quality
POTW	Publicly owned treatment works
Q	Flow, example: 7Q10
SDR	Stream-to-discharge ratio
SNAP	Stream nutrient assessment procedure

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TCDD	Tetrachloro-dibenzo dioxin
TMDL	Total maximum daily load
TU_a	Acute toxic unit
TU_c	Chronic toxic unit
U.S.C.	United States Code
U.S. EPA	United States environmental protection agency
WLA	Wasteload allocation
WQBEL	Water quality based effluent limit
WET	Whole effluent toxicity

(B) Technical words used in this chapter are defined as follows:

(1) "24-hour dissolved oxygen range" means the difference between the maximum dissolved oxygen concentration recorded from hourly, or equal-interval sub-hourly, observations, and the minimum dissolved oxygen concentration measured from the same set of observations that span twenty-four hours.

(2) "Act" means the federal Water Pollution Control Act (commonly referred to as the "Clean Water Act"), 33 U.S.C. 1251 to 1274 as amended through July 1, 2025.

[Comment: The Water Pollution Control Act can generally be found in public libraries, and can be viewed electronically online at https://www.govinfo.gov/app/details/COMPS-2989 and purchased through: "U.S. Government Publishing Office Bookstore, 732 North Capital Street N.W., Washington, DC 20401."]

(3) "Ambient screening values" are numbers protective of non-carcinogenic health effects for humans and aquatic life from acute and chronic effects. These numbers are used to determine the necessity of developing a tier II value for a pollutant.

(4) "Analytical detection limit" means the detection limit applied during the laboratory analysis for a specific measurement or set of measurements.

[Comment: Ohio EPA prefers reporting of any concentrations above the method detection limit, even if the concentrations are considered estimated.

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Federal regulations at 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv) stipulate that NPDES applicants and permittees use sufficiently sensitive test methods when quantifying the presence of pollutants in a discharge as part of an application and for the analysis of pollutants under the permit. Applicants and permittees are to use analytical methods that are capable of detecting and measuring the pollutants at, or below, the respective water quality criteria or permit limits. The regulations address when a method is sufficiently sensitive.]

(5) "Associated biological criteria" means the biological criteria [index of biotic integrity (IBI), modified index of well-being (MIwb) where applicable, and invertebrate community index (ICI) or narrative equivalent] for the aquatic life uses defined in rule 3745-1-07 of the Administrative Code.

(6) "Average criteria" means all numeric criteria and tier II values expressed on an average basis contained in Chapter 3745-1 of the Administrative Code.

(7) "Background" means all pollutants that flow from waters into the water body segment for which a TMDL, or a PEL determined in the absence of a TMDL, is being developed unless a load allocation is established for that source.

(8) "Base flow" means the portion of stream flow that is not precipitation related runoff and results from deep subsurface flow and delayed shallow subsurface flow into the channel occurring over a sustained period of time. Base flow includes flow from wastewater treatment facilities if point sources are present.

(9) "Benthic algae" means algae that lives on the submerged substrates in the photic zone of a river or stream. Benthic chlorophyll a samples are a measurement of productivity from benthic algae.

(10) "Bioaccumulation" means the net accumulation of a substance by an organism as a result of uptake from all environmental sources.

(11) "Bioaccumulative chemical of concern" or "BCC" has the same meaning as in rule 3745-1-02 of the Administrative Code.

(12) "Carcinogen" means a substance, for the purpose of calculating additivity, for which a cancer criterion exists as identified in or calculated pursuant to, Chapter 3745-1 of the Administrative Code.

(13) "Conservative pollutant" means a persistent pollutant for which a TMDL, or a PEL determined in the absence of a TMDL, is being developed that is assumed to not decay or transform within the water body segment.

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(14) "Criteria" means numeric criteria and tier II values established pursuant to Chapter 3745-1 of the Administrative Code.

(15) "Design conditions" means the receiving water and effluent conditions applied in the determination of a TMDL, or a WLA in the absence of a TMDL, that represent the conditions most critical to protection of the applicable use designations. These conditions include, but are not limited to, stream design flow, effluent design flow, temperature, hardness, and pH.

(16) "Dilution ratio" means the ratio of receiving water to effluent for a given volume of water.

(17) "Director" means the director of Ohio environmental protection agency.

(18) "Discharge port" means the final outlet for effluent in a discharge pipe. This terminology is usually associated with outfall structures with multiple outlets designed to mix effluent rapidly with the receiving water.

(19) "Discharge" means the addition of any pollutant to waters of the state from a point source.

(20) "Dissolved metal translator" or "DMT" means the ratio between the total recoverable and dissolved concentrations of a metal in a receiving water, discharge, or a mixture of both that is expected to occur under the design conditions applicable to that metal.

(21) "Endangered or threatened species", see threatened or endangered species.

(22) "Endangered Species Act" means Endangered Species Act, 16 U.S.C. sections 1531 to 1544, as amended through July 1, 2025.

[Comment: The Endangered Species Act can generally be found in public libraries, and can be viewed electronically online at https://www.govinfo.gov/app/details/COMPS-2989 and purchased through: "U.S. Government Publishing Office Bookstore, 732 North Capital Street N.W., Washington, DC 20401."]

(23) "Eutrophication" means increased productivity of the biological communities in water bodies induced by nutrient loadings. Eutrophication is characterized by increased growth and abundance of algae and other aquatic plants, reduced water transparency, rapid changes of dissolved oxygen driven by solar radiation or lack thereof, and other chemical and biological changes.

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(24) "Flowing receiving water" means a body of water that exhibits a primarily unidirectional flow at the point of discharge.

(25) "Free-flowing streams" are streams, rivers, or segments thereof that are not impounded by dams appreciably altering water current. Free-flowing streams may include segments with low-head dams where accumulation of bed material behind the dam has elevated the stream bed to the height of the dam or to an elevation where current is not appreciably altered relative to upstream locations.

(26) "Group X", where "X" is a number between one and five, see reasonable potential.

(27) "IC25" means the inhibition concentration twenty-five; the toxicant concentration that would cause a twenty-five per cent reduction in a non-quantal biological measurement such as reproduction or growth in the test population (as opposed to lethality which is a quantal or "all-or-none" response).

(28) "Impaired", as used in rule 3745-2-04 of the Administrative Code, means the condition where a water body does not attain its designated aquatic life use as determined using the biological criteria in rule 3745-1-07 of the Administrative Code and the data evaluation protocols described in the appendix to rule 3745-2-04 of the Administrative Code.

(29) "Inside mixing zone maximum criteria" means the criteria that cannot be exceeded within the mixing zone. It is identical to final acute value (FAV), as defined in Chapter 3745-1 of the Administrative Code.

(30) "Lake Erie drainage basin" means all the streams, rivers, lakes, and other bodies of water within the drainage basin of lake Erie and within the United States.

(31) "LC50", for whole effluent toxicity tests, means the median lethal concentration; the per cent by volume effluent concentration that kills fifty per cent of exposed organisms during a specified exposure period.

(32) "Lowest observed effect concentration" or "LOEC" means the lowest measured concentration (expressed as a per cent by volume) of an effluent or a toxicant that causes a statistically significant effect on a test organism during a specified exposure period.

(33) "Load allocation" or "LA" is the portion of a receiving water's loading capacity that is attributed to one of its existing or future nonpoint sources.

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(34) "Loading capacity" is the greatest loading of a pollutant that a water body can receive without violating water quality standards under specific flow conditions; also referred to as assimilative capacity.

(35) "Maximum criteria" means all numeric criteria and tier II values expressed as maximum pursuant to Chapter 3745-1 of the Administrative Code.

(36) "Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels" means "Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, U.S. EPA 821R96011, 1996." This document is available on the internet at https://www.epa.gov/sites/default/files/2015-10/documents/method_1669_1996.pdf.

(37) "Method detection limit" means the minimum measured concentration of a substance that can be reported with ninety-nine per cent confidence that the measured concentration is distinguishable from method blank results.

(38) "Mixing zone" means an area of a water body contiguous to a discharge. This discharge is in transit and progressively diluted from the source concentration to the receiving system concentration. The mixing zone is considered a place where wastewater and receiving water mix and not as a place where wastes are treated.

(39) "Natural conditions" mean those conditions that are measured outside the influence of human activities.

(40) "New discharge", for the purposes of implementing the bioaccumulative chemical of concern provisions in this chapter, means any of the following:

(a) A discharge of pollutants to a water body from a building, structure, facility or installation, the construction of which commences after December 30, 2002.

(b) A new discharge from an existing discharger that commences after December 30, 2002.

(c) An expanded discharge from an existing discharger that commences after December 30, 2002, except for those expanded discharges resulting from changes in loadings of any BCC within the existing capacity and processes (e.g., normal operational variability, changes in intake water pollutants, increasing the production hours of the facility or adding additional shifts, or increasing the rate of production), and that are covered by the existing Ohio NPDES permit.

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Not included within the definition of "new discharge" are new or expanded discharges of BCCs from a publicly owned treatment works when such discharges are necessary to prevent a public health threat to the community (e.g., a situation where a community with failing septic systems is connected to a POTW to avert a potential public health threat from these failing systems), unless there is increased loadings of BCCs due to the collection of wastewater from a significant industrial user and, based on the industry's raw materials and processes, the wastewater is expected to have quantifiable concentrations of the BCC significantly above levels typically associated with domestic wastewater and non-industrial storm water. These and all other discharges of BCCs are defined as existing discharges.

(41) "No observed effect concentration" or "NOEC" means the highest tested concentration (expressed as a per cent by volume) of an effluent or a toxicant that causes no statistically significant observed effects on a test organism during a specified exposure period.

(42) "Non-flowing waters" means water bodies that do not exhibit a natural unidirectional flow at the point of discharge.

(43) "Nonpoint source" means any source of pollutants other than those defined or designated as point sources.

(44) "Nutrients" are minerals that are essential to cellular growth and biological function. In the context of this rule, phosphorus and nitrogen are the nutrients involved in the eutrophication of waters.

(45) "Ohio river drainage basin" means all the streams, rivers, lakes, and other bodies of water within the drainage basin of the Ohio river.

(46) "Point source" means any discernible, confined or discrete conveyance from which a pollutant is or may be discharged to the surface waters of the state.

(47) "Pollutant" means sewage, industrial waste, or other waste as defined by divisions (B) to (D) of section 6111.01 of the Revised Code.

(48) "Pollution prevention alternatives assessment" means an analysis that identifies any cost-effective pollution prevention alternatives and techniques that are available to the discharger, and that would reduce the extent to which the increased loading results in a lowering of water quality. A pollution prevention alternatives analysis demonstrates a good faith effort by the discharger to review equipment or technology modifications, process or

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procedure modifications, reformulation or redesign of products, substitution of raw materials and improvements to housekeeping. The discharger does not need to implement a pollution prevention alternative if it is not technically or economically feasible.

(49) "Practical quantification level" or "PQL" means a concentration of a pollutant that is five times the method detection limit for the most sensitive available analytical procedure currently approved under 40 C.F.R. 136 for a pollutant, unless the director, by rules adopted in accordance with Chapter 119. of the Revised Code, establishes a different practical quantification level for the pollutant that is consistent with, and no more stringent than, the appropriate national consensus standard or other generally accepted standard.

(50) "Preliminary effluent limit" or "PEL" means the most stringent applicable WLA expressed as both an average and a maximum. The average PEL is the lowest WLA to maintain chronic criteria and the maximum PEL is the lowest WLA to maintain acute criteria.

(51) "Projected effluent quality" or "PEQ" means the estimated level of a pollutant in an effluent.

(52) "Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of domestic sewage or industrial waste of a liquid nature that is owned by a municipality, county, or state entity or any public body created under state law that has authority over disposal of sewage.

(53) "Ranked ninety-fifth percentile" means the data value in a set of data that is greater than ninety-five per cent of the other data values as determined by ranking the data values from lowest to highest.

(54) "Reasonable potential" means the likelihood of a pollutant to cause or contribute to an excursion of a water quality standard. For chemical-specific determinations, a grouping system for assessing whether to establish WQBELs as limits in NPDES permits consists of five categories that rank the reasonable potential.

(a) "Group one" pollutants have no applicable criteria and the director has determined that data are insufficient to calculate criteria or values. The reasonable potential for pollutants in this group cannot be determined.

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(b) "Group two" pollutants have little potential based on water quality data to cause or contribute to a water quality excursion; permit requirements are generally not warranted based solely on water quality considerations.

(c) "Group three" pollutants have some potential based on water quality data to cause or contribute to a water quality excursion; permit requirements are generally not warranted based solely on water quality considerations.

(d) "Group four" pollutants have significant potential based on water quality data to cause or contribute to a water quality excursion; permit monitoring requirements are generally warranted based solely on water quality considerations.

(e) "Group five" pollutants have the highest potential based on water quality data to cause or contribute to a water quality excursion; permit limitations are generally warranted based solely on water quality considerations.

(55) "Receiving water" means the water body into which point and nonpoint sources flow.

(56) "Representative aquatic species" mean those organisms, either natural or introduced, which presently exist or have existed in the surface waters of the state prior to July 1, 1977, with the exception of those banned species outlined in rule 1501:31-19-01 of the Administrative Code. In addition, it may include any species that are introduced into the surface waters of the state. Aquatic species designated as representative satisfy one or more of the following:

(a) Species that are particularly vulnerable to the existing or proposed environmental impact in question.

(b) Species that are commercially or recreationally valuable.

(c) Species that are threatened, rare, or endangered.

(d) Species that are critical to the structure and function of the aquatic community.

(e) Species whose presence is causally related to the existing or proposed environmental impact under examination.

(f) Species that are potentially capable of becoming localized nuisance species.

(g) Species that are representative of the ecological, behavioral, and physiological requirements and characteristics of species determined in

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paragraphs (B)(56)(a) to (B)(56)(f) of this rule, but which themselves might not be representative.

(57) "Seasonal index period" means the time period from April first to October thirty-first when the variables of sunlight, temperature, nutrient concentrations, and stream flows may accelerate eutrophication in flowing waters.

(58) "Sestonic algae" means algae that are suspended in the water column of a river or stream. Sestonic chlorophyll a samples are a measurement of productivity from sestonic algae.

(59) "Stream design flow" means the flow in a receiving water upstream from a discharge or nonpoint source that represents the flow conditions that are critical for protection of an aquatic life, human health, wildlife, or agricultural water supply use. Stream design flows may be calculated using annual or seasonal data; where seasonal data are appropriate, the applicable months are specified. The following statistical quantities based on stream flow data are used as stream design flows for various use designations in accordance with the rules of this chapter:

(a) "1Q10" or "one-day, ten-year low flow" means the lowest one-day average flow expected to occur an average of once every ten years.

(b) "7Q10" or "seven-day, ten-year low flow" means the lowest seven-consecutive-day average flow expected to occur an average of once every ten years.

(c) "30Q10" or "thirty-day, ten-year low flow" means the lowest thirty-consecutive-day average flow expected to occur an average of once every ten years.

(d) "90Q10" or "ninety-day, ten-year low flow" means the lowest ninety-consecutive-day average flow expected to occur an average of once every ten years.

(e) "HMQ" or "harmonic mean flow" is calculated as the reciprocal of the arithmetic mean of the reciprocals of the individual daily flows. The HMQ is determined from a continuous record of daily average flow measurements.

(60) "Stressors" are chemical, physical, and hydrological agents that materially alter the biological composition of a water body.

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(61) "Suggested minimum data requirements" are the guidelines provided in table 4-2 of rule 3745-2-04 of the Administrative Code for the number of samples collected at one of multiple sites located within an identified stream or river segment along with the most appropriate timeframes for collecting data at the location.

(62) "Technical Support Document for Water Quality-based Toxics Control" means "Technical Support Document for Water Quality-based Toxics Control, U.S. EPA 505/2-90-001, 1991." This document is available on the internet at https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=100002CU.TXT.

(63) "The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion" means "The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion, U.S. EPA 823-B-96-007, 1996." This document is available on the internet at https://www.epa.gov/system/files/documents/2021-07/metals_translator.pdf.

(64) "Threatened or endangered species" or "endangered or threatened species" mean those species of the state's biota that are threatened with statewide extirpation or national extinction, as listed in rule 1501:31-23-01 of the Administrative Code or 50 C.F.R. 17 or that are listed as endangered or threatened under section 4 of the Endangered Species Act.

(65) "Total maximum daily load" or "TMDL" means the sum of the existing or projected point source, nonpoint source, and background loads for a pollutant to a specified watershed, water body, or water body segment. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into the water and still ensures attainment and maintenance of water quality standards.

(66) "Trophic continuum" is the range in productivity induced by nutrient loadings or concentrations. The continuum runs from ultra-oligotrophic (i.e., very low productivity) to hypertrophic (i.e., highly productive, typically at nuisance levels).

(67) "Trophic status" is the position of a stream or river on the trophic continuum.

(68) "Waste heat discharge" means a point source discharge through which excess heat is discharged into the surface waters of the state.

(69) "Wasteload allocation" or "WLA" means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. In the absence of a TMDL or TMDL assessment and remediation plan, a WLA is the allocation for an individual point source that ensures that the

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level of water quality to be achieved by the point source is derived from and complies with all applicable water quality standards.

(70) "Water bodies" or "waters of the state" have the same meaning as "waters of the state" in section 6111.01 of the Revised Code.

(71) "Water quality based effluent limit" or "WQBEL" means an effluent limitation determined on the basis of water quality standards set forth in Chapter 3745-1 of the Administrative Code or wasteload allocation procedures contained in this chapter.

(72) "Water quality standards" means the standards set forth in Chapter 3745-1 of the Administrative Code.

(73) "Wet weather point source" means any discernible, confined and discrete conveyance from which pollutants are, or may be, discharged as the result of a wet weather event. Discharges from wet weather point sources include only: discharges of storm water from a municipal separate storm sewer as defined in 40 C.F.R. 122.26 (b)(8); storm water discharges associated with industrial activity as defined in 40 C.F.R. 122.26 (b)(14); discharges of storm water and sanitary wastewaters (domestic, commercial, and industrial) from a combined sewer overflow; or any other storm water discharge for which a permit is necessary under section 402 (p) of the act or section 6111 of the Revised Code. All storm water discharges associated with industrial activity that are mixed with process wastewater shall not be considered a wet weather point source.

(74) "Whole effluent toxicity" or "WET" means the aggregate toxic effect of an effluent measured directly by a toxicity test where the test results are based on acute (lethal) or chronic (lethal and sublethal) endpoints.

(C) Incorporation by reference. The text of the incorporated materials is not included in the rules contained in this chapter. The materials are hereby made a part of this chapter. For materials subject to change, only the version specified in this rule is incorporated. Any amendment or revision to a referenced document is not incorporated unless and until this rule has been amended to specify the new version.

(1) Availability. The Code of Federal Regulations can generally be found in public libraries, and can be viewed electronically online at https://www.ecfr.gov and purchased through: "U.S. Government Publishing Office Bookstore, 732 North Capital Street N.W., Washington, DC 20401."]

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(2) Incorporated materials. As used in this chapter "40 C.F.R." means Title 40 of the Code of Federal Regulations effective July 1, 2025 and "50 C.F.R." means Title 50 of the Code of Federal Regulations effective October 1, 2025.