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Ohio Administrative Code

Rule 3745-2-04 Determinations preliminary to development of water quality-based effluent limitations.

Effective: November 12, 2026

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules and federal statutory provisions referenced in this rule, see rule 3745-2-02 of the Administrative Code.]

(A) For each discharge that may require the development of water quality-based effluent limitations (WQBELs), Ohio EPA shall develop wasteload allocations (WLAs) for pollutants if any of the following apply:

(1) The maximum projected effluent quality (PEQ) determined for that discharge and pollutant is greater than or equal to twenty-five per cent of the smallest of the applicable maximum criteria, where the maximum PEQ is determined in accordance with paragraph (D) of this rule and the criteria are determined in accordance with paragraph (E) of this rule.

(2) The average PEQ determined for that discharge and pollutant is greater than or equal to twenty-five per cent of the smallest of the applicable average criteria, where the average PEQ is determined in accordance with paragraph (D) of this rule and the criteria are determined in accordance with paragraph (E) of this rule.

(3) The discharge is considered by Ohio EPA to be interactive with one or more other discharges to the receiving water for this pollutant and one or more of the discharges will require WLAs for this pollutant based on conditions other than this condition.

(4) The pollutant has the potential to threaten or impair the designated used of the receiving waters and is known or expected to occur in the discharge during the applicable permit period.

(5) A WQBEL is required to meet other federal, state, or local regulations or as may be necessary to implement surface water or NPDES permit programs.

(B) The following exceptions apply to paragraph (A) of this rule:

(1) If all available effluent data for a pollutant are below the analytical detection levels applied to that data, then a maximum PEQ and an average PEQ cannot be calculated for that pollutant and a determination of WLAs will not be required unless one or more of the conditions in paragraphs (A)(3) to (A)(5) of this rule apply.

(2) If Ohio EPA determines that a WLA is required for a pollutant based on any one of the conditions listed in paragraph (A) of this rule, Ohio EPA is not required to evaluate the applicability of the other conditions.

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(3) For pollutants that include both dissolved and total recoverable numeric aquatic life criteria in Chapter 3745-1 of the Administrative Code, Ohio EPA may use the total recoverable criteria alone to determine the applicability of conditions in paragraphs (A)(1) and (A)(2) of this rule.

(C) For discharges in the lake Erie basin: For pollutants that require WLA determination based on paragraph (A)(4) or (A)(5) of this rule, but do not have established numeric criteria in Chapter 3745-1 of the Administrative Code, Ohio EPA shall evaluate available data to determine applicable numeric criteria. Ohio EPA shall also take the following actions:

(1) If available data are insufficient to determine numeric criteria and the pollutant is included in table 6 of the "Final Water Quality Guidance for the Great Lakes System" (40 C.F.R. 132), Ohio EPA will use all available and relevant information to estimate ambient screening values that will protect humans from health effects other than cancer, and aquatic life from acute and chronic effects.

(2) If the maximum PEQ is greater than or equal to twenty-five per cent of the ambient screening value for protection of aquatic life from acute effects, or the average PEQ is greater than or equal to twenty-five per cent of the lowest of the ambient screening values for protection of human health or aquatic life from chronic effects, Ohio EPA develops WLAs based upon the ambient screening values that are consistent with rule 3745-2-05 of the Administrative Code.

(3) In accordance with paragraph (B)(6) of rule 3745-2-06 of the Administrative Code, Ohio EPA uses the WLAs based on ambient screening values to determine if data shall be generated to develop numeric criteria for that pollutant.

(4) Ohio EPA will not use the WLAs based on ambient screening values to develop WQBELs.

(D) For each pollutant for which discharge-specific effluent data is available and one or more data values equal or exceed the analytical detection levels applied to that data, Ohio EPA shall determine the maximum PEQ and the average PEQ to meet the following requirements, unless otherwise exempt from determination by paragraph (B) of this rule.

(1) The discharge-specific effluent monitoring data shall be selected to best represent the magnitude and variability of that pollutant in the discharge as projected for the applicable period of the permit.

(a) The most recent five years of data is used unless an alternate period of record better represents the projected effluent quality. Such alternative

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periods of record may include, but are not limited to, shorter time periods that reflect changes in discharge characteristics that result from changes in manufacturing processes or wastewater treatment systems or their operation.

(b) Extreme outliers and other data anomalies that result from collection, analysis, or recording errors or non-repeatable plant operation or discharge conditions may be eliminated from the data.

(c) The data is based on independent grab or twenty-four hour composite effluent samples. If such data are unavailable, other discharge-specific effluent data may be used if the discharger demonstrates that the data properly represent the long-term daily variability of the pollutant in the effluent, or Ohio EPA can adjust the data by a scientifically defensible procedure to represent independent daily values.

(d) If available data do not adequately represent the projected magnitude and variability of the pollutant, Ohio EPA may adjust the available data or the PEQ calculation procedures to approximate the projected changes in effluent quality provided these adjustments are scientifically defensible.

(2) The maximum PEQ is determined as the ninety-fifth percentile of the projected population of daily values of the discharge-specific effluent monitoring data using a scientifically defensible statistical method that accounts for and captures the long-term daily variability of the effluent quality, accounts for limitations associated with sparse data sets, and assumes a log-normal distribution of the discharge-specific effluent data (unless another distribution can be demonstrated to be more appropriate).

(3) The average PEQ is determined as the ninety-fifth percentile of the projected population of monthly averages of the discharge-specific effluent monitoring data using a scientifically defensible statistical method that accounts for and captures the long-term variability of the monthly average effluent quality, accounts for limitations associated with sparse data sets, and assumes a log-normal distribution of the discharge-specific effluent data (unless another distribution can be demonstrated to be more appropriate).

(4) For pollutants with numeric criteria representing the sum of two or more isomers or metabolites (such as but not limited to halomethanes, polyaromatic hydrocarbons, and DDT), the PEQ may be estimated as the sum of the PEQs determined for the individual isomers or metabolites.

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(5) In the absence of reliable effluent data for a new or expanded discharge, the requested discharge level will be used as the PEQ for use in reasonable potential determinations.

(E) The numeric water quality criteria applicable to the receiving waters are determined in Chapter 3745-1 of the Administrative Code.

(1) For numeric criteria that vary with water hardness, Ohio EPA shall calculate the applicable numeric criteria based on a water hardness concentration that meets the following:

(a) If water hardness data are available that represent the concentration in the receiving water downstream of the mixing zone under the applicable design conditions, as follows:

(i) The median of the water hardness values is used if ten or more values are available.

(ii) The arithmetic mean of the water hardness values is used if less than ten values are available.

(b) If water hardness data are not available that represent the concentration in the receiving water downstream of the mixing zone under the applicable design conditions, the annual twenty-fifth percentile of water hardness data considered by Ohio EPA to be representative of the natural background conditions for that receiving water shall be used.

(c) If discharge-specific data are available that adequately represent the projected water hardness of the effluent over the applicable permit period, a water hardness concentration based on the effluent data and determined in accordance with paragraph (E)(1)(a) of this rule may be used to determine the inside mixing zone maximum (IMZM) numeric criterion applicable to that discharge provided that an area of initial mixing (AIM) is not applied to this discharge.

(d) If an AIM is applied to the discharge, a concentration representing the water hardness at the edge of the AIM may be used to determine IMZM numeric criteria applicable to that discharge if the discharge meets all of the following conditions:

(i) The concentration is based on receiving water and discharge water hardness data that meet the conditions specified in paragraphs (E)(1)(a) and (E)(1)(c) of this rule, respectively.

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(ii) The concentration is calculated based on the dilution applicable at the edge of the AIM.

(iii) Other factors that may affect water hardness are accounted for, such as, but not limited to, effluent and receiving water variability and chemical interactions.

(2) For numeric criteria that vary with pH (other than for ammonia), Ohio EPA shall calculate the applicable numeric criteria based on a pH that meets the following:

(a) If pH data are available that represent the long term daily variation in the receiving water downstream of the mixing zone under the applicable design conditions, the median of the pH values is used.

(b) If pH data are not available that represent the long term daily variation in the receiving water downstream of the mixing zone under the applicable design conditions, the annual twenty-fifth percentile or seventy-fifth percentile (whichever value results in the more stringent numeric criterion) of pH data considered by Ohio EPA to be representative of the natural background conditions for that receiving water is used.

(c) If discharge-specific data is available that adequately represents the projected pH of the effluent over the applicable permit period, the median pH based on the effluent data may be used to determine the IMZM numeric criterion applicable to that discharge provided that an AIM is not applied to this discharge.

(d) If an AIM is applied to the discharge, a value representing the pH in the receiving water at the edge of the AIM may be used to determine IMZM numeric criteria applicable to that discharge if it meets the following conditions:

(i) The pH is based on receiving water and discharge water pH data that meet the conditions specified in paragraphs (E)(2)(a) and (E)(2)(c) of this rule, respectively.

(ii) The pH is calculated based on the dilution applicable at the edge of the AIM.

(iii) Other factors that may affect pH are accounted for, such as, but not limited to, effluent and receiving water variability and chemical interactions.

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(3) For ammonia, unless alternative periods are found to be necessary or appropriate in order to maintain water quality criteria, Ohio EPA shall determine numeric criteria for two seasonal periods, summer and winter, and calculate numeric criteria for ammonia based on temperature and pH values that meet the following:

(a) Temperature and pH are based on data collected during the following periods:

(i) June through September for the summer season.

(ii) December through February for the winter season.

(iii) The period of data that best represents the season for alternative seasonal periods.

(b) For each applicable season, temperature and pH statistics are determined based on the available ambient data that best represents the long-term daily variation in the receiving water downstream of the mixing zone. The following statistics are used to determine the applicable ammonia criteria:

(i) Seventy-fifth percentile for temperature.

(ii) Seventy-fifth percentile for pH.

(c) If data are not available for the receiving water, data from another water body may be used if it can be demonstrated that the other water body has similar temperature and pH related characteristics. If data are not available for a similar water body, data considered by Ohio EPA to be representative of the natural background conditions for that receiving water may be used.

(4) Other methods for determining the applicable water hardness, pH, and temperature may be allowed by Ohio EPA provided the methods are scientifically defensible and can be demonstrated to maintain all applicable water quality criteria.

(5) For WLA determinations based on probabilistic analysis, as allowed by rule 3745-2-05 of the Administrative Code, Ohio EPA shall consider the numeric water quality criteria applicable to the receiving water to be maintained if the allowable duration and frequency of exceedance recommended in the U.S. EPA "Technical Support Document for Water Quality-based Toxics Control" are met. Ohio EPA may allow an alternative duration and frequency of exceedance if the duration and frequency are scientifically defensible and can

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be demonstrated to provide sufficient protection of the designated water quality uses of the receiving water.

(F) For metals that have both dissolved and total recoverable aquatic life criteria in Chapter 3745-1 of the Administrative Code and for which paragraph (A) of this rule applies, Ohio EPA shall determine the appropriate criteria applicable to determining WLAs using the following conditions:

(1) Except for hexavalent chromium, Ohio EPA converts the dissolved aquatic life criteria to effective total recoverable criteria by multiplying the applicable dissolved criteria by the dissolved metal translator (DMT) applicable to that metal, receiving water, and discharge, as defined in paragraphs (F)(4) to (F)(8) of this rule.

(2) In the absence of an applicable DMT, Ohio EPA applies the total recoverable aquatic life criteria to determine WLAs for that metal as provided in Chapter 3745-1 of the Administrative Code and determined in accordance with paragraph (E) of this rule.

(3) For hexavalent chromium, Ohio EPA applies the dissolved aquatic life criteria to develop and express WLAs in dissolved form.

(4) For acute and chronic aquatic life criteria, an applicable DMT represents the receiving waters downstream of the chronic mixing zone under design conditions.

(5) For the IMZM criterion, the DMT applicable to the acute aquatic life criterion is applied, with the following exceptions:

(a) When the effluent is known or suspected to have a DMT significantly lower than that applied to the acute aquatic life criterion, either of the following apply:

(i) An effluent DMT may be determined and applied if it meets the protocol provided in paragraph (G) of this rule.

(ii) If an applicable effluent DMT is not determined, the total recoverable IMZM criteria is applied in accordance with paragraph (F)(2) of this rule.

(b) When the effluent is known to have a DMT higher than that applied to the acute aquatic life criterion, an alternative DMT of up to the effluent DMT may be applied if the discharger can demonstrate that it maintains all

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applicable dissolved aquatic life criteria in the receiving water and the effluent DMT is determined in accordance with paragraph (G) of this rule.

(6) A discharge-specific DMT for a metal may be determined by the discharger or Ohio EPA in accordance with paragraph (G) of this rule. The discharge-specific DMT is applied by Ohio EPA to determine the effective total recoverable criteria applicable to that metal.

(7) Ohio EPA may determine a DMT for a specific water body segment. If a water-body-segment-specific DMT is available and applicable to the discharge and receiving water and an acceptable discharge-specific DMT is not available, Ohio EPA applies that water-body-segment-specific DMT to determine the effective total recoverable criteria applicable to that metal.

(8) Ohio EPA may determine a DMT applicable to water bodies in a specific region of the state of Ohio. If a region-specific DMT is available and applicable to the discharge and receiving water and an acceptable discharge-specific or water-body-segment-specific DMT is not available, Ohio EPA applies the region-specific DMT in determining effective total recoverable criteria applicable to that metal.

(G) A discharge-specific DMT shall be determined in accordance with the U.S. EPA document, "The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion" (translator document) except as follows:

(1) Only those procedures in the translator document which are intended for determination of site-specific translators and are based on direct measurement of dissolved and total recoverable metal concentrations may be applied in the determination of discharge-specific DMTs.

(2) The discharge-specific DMT shall be determined to represent the receiving water downstream of the applicable mixing zone under the more restrictive of the following conditions:

(a) The stream design flow and other receiving water and effluent conditions applicable to the determination of WLAs for aquatic life criteria pursuant to rule 3745-2-05 of the Administrative Code and paragraph (E) of this rule.

(b) Other receiving water or effluent conditions that are determined by Ohio EPA to be more critical in regard to the impact of dissolved metals on aquatic life.

(3) The discharge-specific DMT shall represent the ratio of the total recoverable concentration of a metal to the dissolved concentration. An individual DMT

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measurement shall be determined as the ratio of the total recoverable concentration of a metal in a water sample to the dissolved concentration of that metal in the same water sample or a separate sample collected at the same time and location.

(4) Clean sampling and analytical procedures in accordance with the U.S. EPA document "Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels" shall be applied in the collection and analysis of the metals concentrations used to determine a DMT measurement. Alternative sampling and analytical procedures may be applied if the procedures can be shown to provide sufficient protection from contamination, such that any contamination of the samples that may occur will not be significant relative to the DMT measurement.

(5) At a minimum, the following measurements shall also be made at the same time and location as each of the DMT measurements:

(a) Total suspended solids concentration.

(b) Water hardness.

(c) Water pH.

(d) Water temperature.

(e) Receiving water flow and effluent flow.

(6) If either or both of the total recoverable and dissolved concentrations on which a DMT measurement is based are less than the applicable practical quantification level (PQL), then the DMT measurement shall not be used in determining the discharge-specific DMT unless the inaccuracies associated with concentrations less than PQL can be demonstrated to be insignificant or are accounted for through application of scientifically defensible conservative measures. Additionally, if either or both of the total recoverable and dissolved concentrations on which a DMT measurement is based are less than the applicable analytical detection level, the following requirements apply:

(a) If the total recoverable concentration, or both the total recoverable and dissolved concentrations, are below the applicable detection level, then the DMT measurement shall not be used in determining the discharge-specific DMT.

(b) If only the dissolved concentration is below the applicable detection level, then the DMT measurement may be used in determining the discharge-

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specific DMT if the dissolved concentration is assumed to equal a concentration no less than the applicable analytical detection level.

(7) All DMT measurements applicable to the discharge and receiving water shall be used in determining the discharge-specific DMT, unless the DMT measurements are eliminated in accordance with paragraph (G)(6) of this rule or the DMT measurements can be demonstrated to be inaccurate or unrepresentative of the conditions applicable under paragraph (G)(2) of this rule. A DMT measurement less than one, where the observed dissolved metal concentration exceeds the total recoverable concentration, shall not be eliminated unless the individual concentration measurements can otherwise be demonstrated to be inaccurate.

(8) If the DMT measurements were collected during receiving water and effluent conditions approximating the conditions applicable under paragraph (G)(2) of this rule, the following requirements apply to the determination of a discharge-specific DMT.

(a) The discharge-specific DMT shall be calculated as the geometric mean of the measured translators if all of the following conditions are met:

(i) At least ten DMT measurements are available and used in that calculation.

(ii) All DMT measurements used in the calculation adequately represent the conditions applicable under paragraph (G)(2) of this rule.

(iii) The observed variation of the DMT measurements about the geometric mean will not result in significant exceedances of the applicable aquatic life criteria if the geometric mean is applied as the discharge-specific DMT.

(b) If the conditions in paragraph (G)(8)(a) of this rule are not met, but sufficient data are available to accurately estimate the variability of DMT measurements, the discharge-specific DMT shall be calculated by a scientifically defensible method that accounts for the inaccuracies associated with small data sets or data that may not represent the conditions applicable under paragraph (G)(2) of this rule. Such methods may include, but are not limited to, selection of a statistic that produces a DMT sufficiently lower than the geometric mean in order to provide reasonable assurance that possible inaccuracies in the discharge-specific DMT will not result in exceedance of applicable aquatic life criteria.

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(9) If DMT measurements were collected over a range of receiving water and effluent conditions, including conditions outside those applicable under paragraph (G)(2) of this rule, a scientifically defensible method shall be applied to determine the mathematical relationships between the DMT measurements and the other measured factors, separately and in combination, including but not limited to stream flow and total suspended solids concentrations. Scientifically defensible methods shall also be used to determine the values for each measured factor that will occur during the receiving water and effluent conditions applicable under paragraph (G)(2) of this rule. The discharge-specific DMT shall be determined based on the most significant of these relationships and values to represent the conditions applicable under paragraph (G)(2) of this rule. These methods shall account for any inaccuracies or uncertainties associated with the data or the derived relationships so as to provide reasonable assurance that possible inaccuracies in the discharge-specific DMT will not result in exceedance of applicable aquatic life criteria.

(10) Before conducting a discharge-specific DMT study, the discharger may complete a plan of study in accordance with Chapter 5 of the translator document, as referenced in paragraph (G) of this rule, and submit the study to Ohio EPA for review and comment.

(11) After completion of the discharge-specific DMT study, the discharger shall submit a final report to Ohio EPA, including at a minimum the following information:

(a) A description of the field activities and, as applicable, any variations from the plan of study.

(b) All data collected during the study.

(c) A discharge-specific DMT for each metal evaluated, calculated based on the study and in accordance with paragraph (G) of this rule.

(d) Descriptions and justifications for all analyses, calculations, and assumptions made in the determination of the discharge-specific DMT.

(12) Each discharge-specific DMT calculated pursuant to the requirements of paragraph (G) of this rule shall be used in determination of WLAs for that discharge in accordance with paragraph (F) of this rule. If a discharge-specific DMT for a metal was not calculated in accordance with the requirements of paragraph (G) of this rule, Ohio EPA shall not apply that DMT in determination of WLAs, but may take one of the following actions:

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(a) Based on the discharge-specific DMT study and other available information, Ohio EPA may determine and apply a discharge-specific DMT for that metal, in accordance with this rule.

(b) Ohio EPA may allow the discharger to revise the study and discharge-specific DMT for that metal to meet the requirements of this rule and resubmit the final report.

(13) All studies and reports required under paragraph (G) of this rule shall be in compliance with a schedule agreed upon between Ohio EPA and the discharger such that the discharge-based DMTs will be completed prior to the scheduled determination of WLAs for that discharge.

(14) If sampling is required as a condition of an NPDES permit to verify the continued validity of an applied discharge-specific DMT for a metal (in accordance with paragraph (C) of rule 3745-33-05 of the Administrative Code), the following requirements shall apply:

(a) At least one DMT measurement shall be made during the permit period that, in Ohio EPA's determination, adequately represents the receiving water downstream of the mixing zone for the discharge under the applicable design conditions and meets the requirements of paragraph (G) of this rule.

(b) The DMT measurements shall be collected in accordance with a schedule in the NPDES permit such that the results of the measurement will be available prior to the next scheduled determination of WLAs for that discharge.

(15) If Ohio EPA determines, based on DMT measurements collected in accordance with paragraph (G)(14) of this rule, that a discharge-specific DMT is still valid, Ohio EPA may apply that discharge-specific DMT in determination of WLAs required for NPDES permit renewal for that discharge.

(16) If Ohio EPA determines, based on DMT measurements collected in accordance with paragraph (G)(14) of this rule, that the applied discharge-specific DMT may no longer be valid for that discharge, Ohio EPA may take one of the following actions:

(a) Ohio EPA may require the discharger to collect additional DMT measurements and redetermine an applicable discharge-specific DMT, in accordance with this rule. Data from the original discharge-specific DMT

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study may be included if the discharger demonstrates that the data are applicable.

(b) Based on the new DMT measurements, the original DMT study, and other available information, Ohio EPA may determine an appropriate discharge-specific DMT in accordance with this rule.

(c) Ohio EPA may apply a discharge-specific DMT determined under paragraph (G)(16)(a) or (G)(16)(b) of this rule to determine WLAs for that discharge as required for renewal or a modification of an NPDES permit.

(H) Stream nutrient assessment procedure.

(1) Ohio EPA uses a weight of evidence approach to determine the trophic status of Ohio's streams and rivers. The objective of a trophic status evaluation is to position a stream or river along the trophic continuum and identify those that are impaired or at risk of becoming impaired because of eutrophication.

The stream nutrient assessment procedure (SNAP) is a tool used by Ohio EPA to characterize the range and degree of nutrient enrichment, seasonal average condition, and magnitude of disturbance associated with eutrophication in Ohio's waters. Additional nutrient enrichment indicators and assessment tools may be considered by Ohio EPA on a case-by-case basis to address extenuating circumstances not covered by the SNAP. Documentation of such case-by-case determinations will be included within any report presenting such alternative methods.

(2) Assessing free-flowing streams and rivers for eutrophication with the SNAP. The SNAP is performed to determine whether and to what degree a stream or river segment has been adversely affected by nutrient enrichment. The outcome of the SNAP may lead to development of water quality-based effluent limitations, total maximum daily loads (TMDLs), or other implementation plans to address the eutrophication.

(a) Applicability. The SNAP applies to free-flowing streams and rivers having aquatic life use designations with associated biological criteria. Ohio EPA will define the water body segments included in each SNAP assessment and make this information readily available to the public.

(b) The SNAP is comprised of two steps: preliminary assessment of trophic status and nutrient causal status verification.

(i) Preliminary assessment. Ohio EPA will complete a preliminary assessment of the water body segment by evaluating the

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attainment status of associated biological criteria, the twenty-four-hour dissolved oxygen range, and the concentrations of benthic or sestonic chlorophyll a, using the SNAP matrix in table 4-1 to determine the segment's trophic status. The assessment will result in one of the following preliminary findings:

(a) Attaining aquatic life use and not at risk.

(b) Attaining aquatic life use, but aquatic life use may be at risk by nutrient enrichment.

(c) Impaired aquatic life use, but from causes other than nutrient enrichment.

(d) Impaired aquatic life use, nutrient enrichment is a likely cause.

(e) Impaired aquatic life use, nutrient enrichment is a material cause.

Table 4-1. Indicators and benchmarks used in the stream nutrient assessment procedure.

<table>
<tr><td colspan="3">Biological eutrophication indicators</td><td colspan="2" rowspan="2">Preliminary assessment</td></tr>
<tr><td>Biological criteria</td><td>24-hour dissolved oxygen range[1]</td><td>Chlorophyll[2]</td></tr>
<tr><td rowspan="4">All indices attaining or non-significant departure[3]</td><td rowspan="2">≤6.5 mg/l</td><td>Benthic ≤320 mg/m^2 or sestonic ≤100 µg/l</td><td colspan="2">Attaining use/not at risk</td></tr>
<tr><td>Benthic >320 mg/m^2 or sestonic >100 µg/l</td><td rowspan="3">Attaining uses but may be at risk by nutrient enrichment</td><td rowspan="3">See flow chart A</td></tr>
<tr><td rowspan="2">>6.5 mg/l</td><td>Benthic ≤182 mg/m^2 or sestonic ≤30 µg/l</td></tr>
<tr><td>Benthic >182 mg/m^2 or sestonic >30 µg/l</td></tr>
<tr><td>Non-attaining (one or more indices below non-significant departure)</td><td>≤6.5 mg/l</td><td>Benthic ≤320 mg/m^2 or sestonic ≤100 µg/l</td><td>Impaired but causes other than nutrient enrichment</td><td>See flow chart B</td></tr>
</table>

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		Benthic >320 mg/m^2 or sestonic >100 µg/l	Impaired/likely nutrient enriched	See flow chart C
	>6.5 mg/l	Benthic ≤182 mg/m^2 or sestonic ≤30 µg/l		
		Benthic >182 mg/m^2 or sestonic >30 µg/l	Impaired/nutrient enriched	

[1]Threshold value for twenty-four-hour dissolved oxygen swing based upon a change point of 6.5 mg/l between dissolved oxygen swing and minimum dissolved oxygen concentration.

[2]Collection of both benthic and sestonic chlorophyll is recommended for assessments.

[3]Non-significant departure from biological criteria values accounts for background variability in measurements for biological indices. In accordance with "Biocriteria for the Protection of Aquatic Life: Volume II: Users Manual for Biological Field Assessment of Ohio Surface Waters," as referenced in rule 3745-1-03 of the Administrative Code, non-significant departure is four points for the index of biotic integrity and invertebrate community index and half a point for the modified index of well-being.

(ii) Status verification. The pertinent SNAP flowchart in the appendix to this rule will be applied to the preliminary assessment results as described in table 4-1, which will result in one of four findings for a stream segment:

(a) Attaining aquatic life use; not at risk.

(b) Attaining aquatic life use; but aquatic life use attainment is at risk by nutrient enrichment.

(c) Impaired aquatic life use; nutrient enrichment is not a material cause of the impairment.

(d) Impaired aquatic life use; nutrient enrichment is a material cause.

(3) Data requirements for SNAP.

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(a) Data needed to complete a preliminary assessment and the additional support data needed for status verification will be collected in accordance with methods listed in rule 3745-1-03 of the Administrative Code.

(b) Data will be collected under a project assessment study plan, or quality assurance project plan, with notice of and opportunity for input provided in accordance with rule 3745-2-12 of the Administrative Code.

(c) Third party data will be collected by a level 3 qualified data collector in accordance with level 3 methods under an approved "Level 3 Project Study Plan" described in rule 3745-4-06 of the Administrative Code.

(d) Table 4-2 describes the types of data needed to complete a preliminary assessment and the additional supporting data needed for status verification of:

(i) Streams and rivers at risk or impaired by a cause other than nutrient enrichment.

(ii) Streams and rivers at risk or impaired by nutrient enrichment.

(iii) Other potential stressors affecting the stream or river.

(e) Data quantity. Minimum data requirements for performing SNAP determinations will be consistent with the requirements in table 4-2, unless otherwise approved by Ohio EPA. When paragraphs (C)(3)(b) and (C)(3)(c) of rule 3745-33-06 of the Administrative Code may apply, the minimum data requirements in table 4-2 and any other data determined to be appropriate in the study plan referenced in paragraph (H)(3)(b) of this rule shall be collected to support the SNAP determination.

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Table 4-2. Minimum data requirements for performing SNAP.

SNAP assessment steps	Data type	Minimum data requirements for SNAP	
		Number of samples per site	Temporal considerations[1]
Preliminary assessment	Biological	At least one IBI, MIwb, and macroinvertebrate community sample (MIwb not calculated for streams with watersheds less than 20 square miles)	Collected during periods with comparable baseflows to those measured during benthic chlorophyll sampling, provided the communities have not been affected by extreme flow events (flooding, desiccation, etc.) in the interim
	Dissolved oxygen	A minimum of 24 hours of continuous data collected during a multi-day deployment	Collected during or within two weeks of chlorophyll sampling during comparable baseflow conditions provided the stream has not been affected by extreme flow events in the interim. Data will be collected on days with average or above average air temperatures and without overcast, stormy, or other conditions that inhibit photosynthesis
	Benthic chlorophyll	At least one sample composited from representative benthic substrates, where possible[2]	Collected during baseflow conditions and not within two weeks of a discharge event that resulted in scouring. These samples should be collected during each dissolved oxygen sonde survey
	Seston-ic chlorophyll	Minimum of three field filtered samples	Collected during baseflow conditions and not within two weeks of a discharge event that could have reasonably been expected to flush accu-

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			mulated algal growth. These samples should be collected during each dissolved oxygen sonde survey
Flow charts	Nutrients, TKN, BOD5	At least five samples, reported as a geometric mean	Collected during stable, base-flow conditions
	Qualitative habitat evaluation index (QHEI)	One new evaluation	Collected during or no later than three weeks of biological sampling
	Other stressors	One evaluation	Collected during or no later than three weeks of biological sampling

[1]With the exception of multi-year trend data needed to complete flow chart A or unless sufficient justification is presented, all data will be collected during the same calendar year. With the exception of QHEI data and information needed to complete flow chart C, all data will be collected between June fifteenth and October fifteenth.

[2]Benthic chlorophyll need not be sampled at sites where infeasible due to inadequate substrate or the absence of wadable reaches under baseflow conditions. Samples to be collected in accordance with "G5 Benthic Chlorophyll-a, Collection of Sample" of "Surface Water Field Sampling Manual Appendix II - Detailed Field Sampling Protocols 2025" available online at epa.ohio.gov/divisions-and-offices/surface-water/reports-data/technical-bulletins.