Ohio Administrative Code

Rule 3745-4-06 Level 3 data requirements and reporting.

Effective: July 10, 2025

(A) Except as provided by paragraph (D) of rule 3745-4-01 of the Administrative Code, all data submitted to the director for consideration as level 3 credible data shall be collected and submitted by level 3 qualified data collectors (QDCs) approved by the director pursuant to rule 3745-4-03 of the Administrative Code. Other persons trained and supervised by the QDC may assist with the collection of data. The director will accept the data as level 3 credible data provided the requirements of this rule are met. The director has sole authority in determining whether data meet these requirements.

(B) Data submitted by a QDC shall meet the following minimum requirements to be accepted as level 3 credible data:

(1) Adherence to a study plan. Persons submitting data to Ohio EPA as a QDC under section 6111.53 of the Revised Code shall prepare and adhere to a project study plan.

(a) The QDC shall prepare and submit to the director for approval a project study plan using the guidelines presented in appendix A to this rule. For ongoing projects, the QDC may submit a project addendum, in lieu of a project study plan, for each additional sampling year. The director may approve an alternative to the guidelines in appendix A to this rule upon a reasonable and scientifically supported demonstration by a QDC.

(b) For ongoing projects, submitting a project addendum for each additional sampling year meets the requirement in paragraph (B)(1)(a) of this rule if the project addendum describes the project objectives, makes note of any changes from the previously approved plan, and includes all certifying statements found in appendix A to this rule.

(c) Upon completion of the plan review, the director will send written notification of deficiencies in the plan or project addendum, if any are found, to the QDC and provide the QDC a reasonable opportunity to address such deficiencies. If the deficiencies are not addressed, the director may

disapprove the study plan or project addendum.

(d) A plan or project addendum submitted by a level 3 QDC not disapproved within sixty days of the initial submittal or, where a notification of deficiency has been issued, within sixty days of any revised submittal, will be considered to have been approved.

(e) The director will disapprove a site-specific plan that does not include the certification statement in paragraph (B)(4)(f) of this rule.

(2) Use of appropriate test methods. In preparing the project study plan, the QDC shall be responsible for selecting the appropriate field and laboratory methods, including quality assurance and quality control steps, that fit the objectives and purpose of the project. All methods should be commensurate with the purposes of level 3 and the need for sufficient rigor and sensitivity to detect relatively small differences in water quality over time or from sampling site to sampling site. The expectation and ability to utilize level 3 credible data in certain regulatory functions of Ohio EPA give rise to the requirement that all test methods for level 3 credible data be from one of the publications listed in paragraph (C) of this rule. Test methods published in updates to the publications listed in paragraph (C) of this rule may be used if approved by the director as part of a project study plan approval. Explicit approval of the specific methods employed in the study will occur when Ohio EPA reviews project study plans.

(3) All laboratories that perform chemical analysis under a level 3 study plan shall be accredited, successfully participate in annual proficiency testing, and implement a quality assurance program as described in this paragraph.

(a) The QDC is responsible for ensuring that the laboratories used in generating level 3 credible data have current accreditations from one or more of the following organizations: national environmental laboratory accreditation program; American industrial hygiene association; international organization for standardization; or other governmental or private accrediting authorities that apply accreditation standards consistent with and equivalent to the organizations listed in this paragraph.

(b) Laboratories analyzing level 3 data are required to successfully participate in annual proficiency testing (PT) studies administered by providers that are accredited by the national institute of standards

and technology (NIST) national voluntary laboratory accreditation program (NVLAP). The analyte list should encompass all parameters for which the laboratory analyzes level 3 data. Laboratories may limit the scope of PT studies to those analytes that are readily available from the NIST NVLAP accredited providers.

(c) Laboratories analyzing level 3 data are required to implement a quality assurance program and document all elements of the program in a quality assurance manual (QAM) or quality assurance plan (QAP). Guidelines for these elements are presented in appendix B to this rule.

(d) The director retains the discretion to approve laboratories analyzing parameters not regulated under the national pollutant discharge elimination system (NPDES) permit program on an as-needed basis. The director may request that an Ohio EPA laboratory audit be done to substitute for the requirements in paragraphs (B)(2)(a) and (B)(3)(b) of this rule.

(4) Data reporting. QDCs choosing to submit data to Ohio EPA shall submit all data collected under the approved study plan. Submission of data may be done at any time, but is recommended to be done no later than one year after completion of the study identified in the project study plan. The following shall be submitted in hard copy or electronic format:

(a) Habitat and chemistry sample data in an acceptable format approved by the director.

(b) Biological sample data on forms made available by the director, or on forms developed for the project if part of the approved project study plan.

(c) Documentation demonstrating adherence to an approved project study plan.

(d) Copies of the results from all quality assurance and quality control samples collected during implementation of the approved project study plan in the same manner as the data submitted in accordance with paragraph (B)(4)(a) or (B)(4)(b) of this rule.

(e) A certification that, to the best of the QDC's knowledge and belief, the data were collected in accordance with the procedures included in the approved project study plan.

(f) A signed statement from each QDC working on the project certifying that the QDC has not been convicted of or pleaded guilty to a violation of section 2911.21 of the Revised Code (criminal trespass) or a substantially similar municipal ordinance within the previous five years.

(5) Reporting laboratory quality assurance and quality control plans. In addition to the information required by paragraph (B)(4) of this rule, the QDC, upon request of the director, shall provide quality assurance and quality control documentation for all laboratories which were used to analyze any data collected pursuant to the approved project study plan. The QDC is responsible for providing this documentation in the form of a laboratory quality assurance plan which meets the content guidelines presented in appendix B to this rule.

(6) Data approval process. The director will review data submissions to verify that the data submissions were submitted by a QDC, that appropriate test methods and quality control and quality assurance practices were used, and that the data reporting requirements in paragraph (B)(4) of this rule are complete. The review will ensure that all components of the plan for the collection of data were followed. The director will provide written notification to the person submitting the data as to whether the data have been approved, and at what level the data qualify as credible data. The director shall approve or disapprove the data no later than one year from the submittal of such data to Ohio EPA. If substantial discrepancies are found, the director retains the right to revoke approval of the data, unless the QDC demonstrates to the satisfaction of the director that the discrepancy is valid and defensible for the purpose for which the data were collected.

(7) Adherence to methods prescribed in Ohio's water quality standards. Analytical methods and procedures for matters relating to Ohio's water quality standards are listed in rule 3745-1-03 of the Administrative Code. Level 3 QDCs conducting studies designed to interpret, apply, or adopt standards shall use the methods, data collection, and data analysis requirements cited in rule 3745-1-03 of the Administrative Code.

(C) Publications that provide acceptable level 3 test methods for the collection, analysis and interpretation of surface water quality monitoring data submitted under the credible data water quality monitoring program established pursuant to section 6111.53 of the Revised Code are presented in this paragraph. These references are available on the web at https://epa.ohio.gov/divisions-and-offices/surface-water/reports-data/credible-data-references or

through public libraries. The director may approve other level 3 methods as part of a project study plan approval. Any level 3 methods shall have a degree of accuracy commensurate with the purpose for which the data will be used.

The person submitting data as a level 3 QDC is responsible for the selection and proper execution of the test methods as described in paragraph (B)(2) of this rule. Test methods published in updates to the publications listed in paragraphs (C)(1) to (C)(5) of this rule may be used if approved by the director. Where the published methods allow for alternative test procedures for chemical or physical parameters and the appropriate review authority has approved the alternative test method, the director may approve use of the alternative test procedure through the study plan approval. Where Ohio EPA has developed, applied and published new chemical, biological or habitat assessment methods, the director may approve the use of such methods through the study plan approval.

(1) References for water quality sampling procedures.

(a) Ohio EPA. 2025. "Surface Water Field Sampling Manual. Ohio Environmental Protection Agency, Division of Surface Water. Columbus, Ohio. 58p." https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/guidance/1_Field_Manual_2025_Main_Doc_FINAL.pdf

(b) Ohio EPA. 2025. "Surface Water Field Sampling Manual - Appendix II. Ohio Environmental Protection Agency, Division of Surface Water. Columbus, Ohio. 34 p." https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/guidance/2_Field_Manual_2025_App_II_-_Procedures_FINAL.pdf

(c) Ohio EPA. 2025. "Surface Water Field Sampling Manual - Appendix III Sediment Sampling. Ohio Environmental Protection Agency, Division of Surface Water. Columbus, Ohio. 28 p." https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/guidance/3_Field_Manual_2025_App_III_-_Sediment_FINAL.pdf

(d) Ohio EPA. 2025. Surface Water Field Sampling Manual - Appendix IV Inland Lakes Manual, Ohio Environmental Protection Agency, Division of Surface Water. Columbus, Ohio. 39 p." https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/guidance/4_Field_Manual_2025_

App_IV_-_Inland_Lakes_FINAL.pdf

(e) U.S. EPA. 1982. "Handbook for Sampling and Sample Preservation of Water and Wastewater. EPA 600/4-82-029. United States Environmental Protection Agency. Environmental Monitoring and Support Laboratory. Cincinnati, Ohio. 418 p."

(f) Ohio EPA. 1998. "Sampling Methods for Documentation of a Public Health Nuisance under paragraphs (F) and (G) of rule 3745-1-04 of the Administrative Code. August 20, 1998. Ohio Environmental Protection Agency, Division of Surface Water. Columbus, Ohio. 7 p." https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/guidance/wqs3.pdf

(g) For the measurement of visibility using secchi disk depth when accompanied by measurements of total phosphorus and chlorophyll a, Lind, O. T. 1985. Handbook of common methods in limnology. Second edition. Kendal / Hunt Publishing Co., Dubuque, IA. 199 p.

(h) U.S. EPA. 1997. Method 445.0. "In vitro Determination of Chlorophyll a and Pheophytin a in Marine and Freshwater Algae by Fluorescence. Revision 1.2. September 1997. United States Environmental Protection Agency. National Exposure Research Laboratory Office of Research and Development. 22 p."

(i) U.S. geological survey, variously dated, "National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations," Book 9, chapters A1-A10, available online at: http://pubs.water.usgs.gov/twri9A.

(2) References for chemical and microbiological laboratory methods.

(a) Ohio EPA. 1998. "Permit Guidance #5 - Reporting and Testing Guidance for Biomonitoring Required by the Ohio Environmental Protection Agency. Ohio Environmental Protection Agency, Division of Surface Water. Columbus, Ohio. 31 p." (plus six attachments).

(b) U.S. EPA. 40 C.F.R. 136. July 1, 2024 edition.

(c) U.S. EPA. 1997. Method 445.0. "In vitro Determination of Chlorophyll a and Pheophytin a in

Marine and Freshwater Algae by Fluorescence. Revision 1.2. September 1997. United States Environmental Protection Agency. National Exposure Research Laboratory Office of Research and Development. 22 p."

(d) Ohio EPA. 2024. "Ohio EPA Total (Extracellular and Intracellular) Microcystins - ADDA by ELISA Analytical Methodology. Ohio EPA DES 701.0. Version 2.4. March 2024. Ohio EPA Division of Environmental Services. Columbus, OH. 9 p."

(e) Ohio EPA. 2024. "Ohio EPA Extracellular Microcystins - ADDA by ELISA Analytical Methodology. Ohio EPA DES 701.2. Version 2.0. March 2024. Ohio EPA Division of Environmental Services. Columbus, OH. 8 p."

(f) Ohio EPA. 2024. "Ohio EPA Total (Extracellular and Intracellular) Saxitoxin by ELISA Analytical Methodology. Ohio EPA DES 702.0. Version 2.3. March 2024. Ohio EPA Division of Environmental Services. Columbus, OH. 9 p."

(g) Ohio EPA. 2024. "Ohio EPA Extracellular Saxitoxin by ELISA Analytical Methodology. Ohio EPA DES 702.1. Version 2.2. March 2024. Ohio EPA Division of Environmental Services. Columbus, OH. 8 p."

(h) Ohio EPA. 2024. "Ohio EPA Total (Extracellular and Intracellular) Cylindrospermopsin by ELISA Analytical Methodology. Ohio EPA DES 703.0. Version 2.1. March 2024. Ohio EPA Division of Environmental Services. Columbus, OH. 9 p."

(i) Ohio EPA. 2024. "Ohio EPA Extracellular Cylindrospermopsin by ELISA Analytical Methodology. Ohio EPA DES 703.1. Version 2.1. March 2024. Ohio EPA Division of Environmental Services. Columbus, OH. 8p."

(j) Ohio EPA. 2024. "Ohio EPA Quantitative Polymerase Chain Reaction (qPCR) Multi-Plex Molecular Assay for Determination of Cyanobacteria and Cyanotoxin-Producing Genes Analytical Methodology. Ohio EPA DES 705.0. Version 1.0. July 2024. Ohio EPA Division of Environmental Services. Columbus, OH. 15 p."
https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/28/documents/labcert/qPCR-SOP.pdf

(3) References for stream flow measurement methods.

(a) Rantz, S.E. et al. 1982. "Measurement and computation of streamflow -- v. 1, Measurement of stage, and v. 2, Computation of discharge. U.S. Geological Survey Water-Supply Paper 2175. United States Department of Interior, U.S. Geological Survey. Washington D.C. 631 p."

(b) Turnipseed, D.P., and Sauer, V.B. 2010. "Discharge measurements at gaging stations: U.S. Geological Survey Techniques and Methods book 3, chap. A8, 87 p." https://pubs.usgs.gov/tm/tm3-a8/

(c) "U.S. Geological Survey. 2005. Techniques of Water Resources Investigations Reports. Book 3: Applications of hydraulics, Section A: Surface-water techniques. (21 chapters). United States Department of Interior, U.S. Geological Survey." Washington D.C.

(d) "Bureau of Reclamation. 1997 and 2001. Water Measurement Manual, Third Edition. United States Department of Interior, Bureau of Reclamation, Water Resources Research Laboratory. Denver, Colorado."

(e) "International Organization for Standardization (ISO)." 2010. Published standards found at 17.120.20. Flow in open channels.

(f) ASTM. 2005. "Annual Book of ASTM Standards, Water and Environmental Technology, Volume 11.01: Sampling and Flow Measurement. American Society for Testing and Materials International." West Conshohocken, PA.

(4) References for stream habitat measurement methods.

(a) Rankin, E.T. 1989. The qualitative habitat evaluation index (QHEI): rationale, methods, and application. "Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio."

(b) Ohio environmental protection agency (Ohio EPA). 2006. Methods for assessing habitat in flowing waters: using qualitative habitat evaluation index (QHEI). Prepared by the "Midwest

Biodiversity Institute for the Division of Surface Water, Ecological Assessment Section," Columbus, OH. 23 pp.

(c) Rankin, E. T. 1995. The use of habitat assessments in water resource management programs. pp. 181-208. In: W. Davis and T. Simon (eds.). "Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers. Boca Raton, FL."

(d) Ohio EPA. 2015. Biological criteria for the protection of aquatic life: volume III: standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Div. of Surface Water, Eco. Assess. Secti. Columbus, Ohio.

(e) Ohio EPA. 2020. "Field Methods for Evaluating Primary Headwater Streams in Ohio. Version 4.1. Ohio EPA Division of Surface Water, Columbus, Ohio. 130 pp."

(f) Ohio EPA. 2010. "Methods of Assessing Habitat in Lake Erie Shoreline Waters Using the Qualitative Habitat Evaluation Index (QHEI) Approach (Version 2.1). 35 p."

(g) Thoma, R. F. 2006. "Development and Assessment of a Qualitative Habitat Evaluation Index For Application In Coastal Wetlands of the Great Lakes. pp. 171-194. In: T. P. Simon and P. M. Stewart (eds.). Coastal Wetlands of the Laurentian Great Lakes. Health Habitat and Indicators. AuthorHouse. Bloomington, IN."

(5) References for fish tissue collection and contaminant testing.

(a) Ohio EPA. 2021. "Fish Tissue Field Collection Manual 2021. Ohio Environmental Protection Agency, Division of Surface Water. Columbus Ohio. 32 p." https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/tmdl/Study%20Plan/2021-FishFieldCollectionManual.pdf

(b) USEPA. 2000. "Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories. Volume 1, Fish Sampling and Analysis. Third edition. EPA 823/B-00-007. Office of Science and Technology, Office of Water, United States Environmental Protection Agency. Washington, D.C." This document is available on the web at https://www.epa.gov/sites/production/files/2015-

06/documents/volume1.pdf.

(6) References for fish and macroinvertebrate community measurement methods.

(a) "Ohio Environmental Protection Agency. 1987a. Biological criteria for the protection of aquatic life: Volume I. The role of biological data in water quality assessment. Div. Water Qual. Monit. & Assess., Surface Water Section. Columbus, Ohio."

(b) "Ohio Environmental Protection Agency. 1988b. Biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Div. Water Qual. Monit. & Assess., Surface Water Section. Columbus, Ohio."

(c) "Ohio Environmental Protection Agency. 1989a. Addendum to Biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Div. Water Qual. Plan. & Assess., Ecological Assessment Section. Columbus, Ohio."

(d) "Ohio Environmental Protection Agency. 2015. Biological criteria for the protection of aquatic life: Volume III. Standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Div. of Surface Water, Ecol. Assess. Sect. Columbus, Ohio."

(e) "Ohio Environmental Protection Agency. 2006. 2006 Updates to Biological Criteria for the Protection of Aquatic Life: Volume II and Volume II Addendum. Users Manual for Biological Field Assessment of Ohio Surface Waters. Division of Surface Water. Columbus, Ohio. 14 p."

(f) DeShon, J.D. 1995. Development and application of the invertebrate community index (ICI). pp. 217-243. In: W.S. Davis and T. Simon (eds.). "Biological Assessment and Criteria: Tools for Risk-based Planning and Decision Making. Lewis Publishers. Boca Raton, FL."

(g) Thoma, Roger. 1999. "Biological Monitoring and an Index of Biotic Integrity for Lake Erie's Nearshore Waters. Chapter 16 in Assessing the Sustainability and Biological Integrity of Water Resources Using Fish Communites. Edited by Thomas P. Simon. 672 p. CRC Press. Boca Raton, FL."

(h) Yoder, C.O. 1995. Policy issues and management applications for biological criteria. pp. 327-344.

In: W. Davis and T. Simon (eds.). "Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers. Boca Raton, FL."