

Proposed Revisions to the Use Support Assessments Protocols (785:46-15)
(October 10, 2018)

Proposed revisions include:

- Changes in bold that are related to the proposed selenium aquatic life criteria revision. (785:46-15-3 & 4 & 5)
- Changes to minimum number of samples required for use support decisions. (785:46-15-3(d))
- Changes to the protocol for determining nutrient threatened status in streams and rivers. (785:46-15-10(b))

785:46-15-3. Data Requirements

(a) General.

(b) Spatial Coverage

(c) Temporal coverage

(1) General

(2) Streams

(3) Lakes

(4) Fish tissue samples collected for bioaccumulative pollutants shall follow requirements established in OAC 785:46-14.

(d) Minimum number of samples

~~(1) Streams. Except when (f) of this Section or any of subsections (e), (h), (i), (j), (k), (l), or (m) of 785:46-15-5 applies, a minimum of 10 samples shall be required to assess beneficial use support due to field parameters including but not limited to DO, pH and temperature, and due to routine water quality constituents including but not limited to coliform bacteria, dissolved solids and salts. Analyses may be aggregated to meet the 10 sample minimum requirements in non-wadable stream reaches that are 25 miles or less in length, and in wadable stream reaches that are 10 miles or less in length, if water quality conditions are similar at all sites. Provided, a minimum of 10 samples shall not be necessary if the existing samples already assure exceedance of the applicable percentage of a prescribed screening level.~~

~~(2) Lakes. Except when (f) of this Section applies, a minimum of 20 samples shall be required on lakes of more than 250 surface acres to assess beneficial use support due to water quality parameters including but not limited to DO, pH and temperature. A minimum of 20 samples shall likewise be required on such lakes for other routine water quality constituents including but not limited to coliform bacteria, chlorophyll a, and dissolved solids. A minimum of 10 samples shall be required on lakes or arms of 250 surface acres or less. Samples may be aggregated to meet the minimum requirements of this paragraph.~~

~~(3) Toxicants. Notwithstanding any other provision of this Subchapter, a minimum of five samples shall be required to determine that a beneficial use is supported with respect to all toxicants in water. A determination that a beneficial use is partially supported or not supported with respect to toxicants may be made upon less than five samples. Samples may be aggregated consistent with the spatial and temporal requirements prescribed in (b) and (c) of this Section in order to satisfy the minimum sample requirement of this paragraph. Additional samples for the calculation of pH and hardness dependent acute and chronic criteria shall be collected as required by OAC 785:46-5-8.~~

- (1) Except when (f) of this Section applies or unless otherwise noted in subchapter 785:46-15 for a particular parameter, a minimum number of samples shall be required to assess beneficial use support.
 - a. For streams and rivers, a minimum of 10 samples shall be required.
 - b. For lakes greater than 250 surface acres, a minimum of 20 samples shall be required.
 - c. For lakes 250 surface acres or smaller, a minimum of 10 samples shall be required.
 - d. For toxicants for the protection of the Fish and Wildlife Propagation and Public and Private Water beneficial uses, a minimum of 5 samples shall be required.
- (2) In order to satisfy the minimum sample requirements of this sub-section, samples may be aggregated consistent with the spatial and temporal requirements prescribed in (b), (c), and (d) of this Section.
- (3) The prescribed minimum samples shall not be necessary if the available samples already assure exceedance of the applicable percentage for beneficial use assessment.
- (4) If a mathematical calculation, including but not limited to a mean, median, or quartile, is required for assessment, a minimum of ten samples shall be required, regardless of the parameter type.
- (5) Additional samples for the calculation of temperature, pH and hardness dependent acute and chronic criteria shall be collected as required by OAC 785:46-5-8.
- (6) Fish tissue samples collected for bioaccumulative pollutants shall follow requirements established in OAC 785:46-14.**

785:46-15-4. Default Protocols

- (a) General
- (b) Short-Term Average Numerical Parameters (may change)
- (c) Long-Term Average Numerical Parameters (may change)
- (d) Fish tissue assessment protocols shall follow the minimum requirements set forth in OAC 785:46-14(d)(3).**

785:46-15-5. Assessment of Fish and Wildlife Propagation Support

- (a) Scope
- (b) Dissolved Oxygen
- (c) Toxicants
 - (1) Test for Full Support.
 - (A) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to any individual toxicant parameter if no more than one of the sample concentrations from the waterbody exceeds the acute criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 785:45-5-12(f)(6)(D) and (E) and 785:45 Appendix G, Table 2.
 - (B) (B) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to any individual toxicant parameter if not more than 1 sample concentration or not more than 10% of the sample concentrations from the waterbody exceeds the chronic criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 785:45-5-12(f)(6)(D), (E) and 785:45 Appendix G, Table 2.
 - (C) **The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to bioaccumulative pollutants if no fish tissue composite sample exceeds the fish tissue criterion for that toxicant prescribed in the numerical criteria for toxic substances in 785:45 Appendix G, Table 2. Fish tissue support**

status for a toxicant supersedes support status derived from the analysis of water chemistry.

(2) Test for Non-Support

- (A) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to any individual toxicant parameter if more than one of the sample concentrations from the waterbody exceed the acute criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 785:45-5-12(f)(6)(D) and (E) and 785:45 Appendix G, Table 2.
- (B) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to any individual toxicant parameter if more than 10 % of the sample concentrations from the waterbody exceed chronic criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 785:45-5-12(f)(6)(D) and (E) and 785:45 Appendix G, Table 2.
- (C) **The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to bioaccumulative pollutants if one fish tissue composite sample exceeds the fish tissue criterion for that toxicant prescribed in the numerical criteria for toxic substances in 785:45 Appendix G, Table 2. Fish tissue support status for a toxicant supersedes support status derived from the analysis of water chemistry.**

785:46-15-10. Nutrients

(a) General. OAC 785:45-3-2(c) prohibits water quality degradation by nutrients which will interfere with the attainment or maintenance of any existing or designated beneficial use. OAC 785:46-13-3(a)(1) requires maintenance of any existing or designated beneficial use. This Section provides a framework which shall be used in assessing threats or impairments to beneficial uses and waterbodies and watersheds caused by nutrients, and the consequences of such assessments.

(b) Determining whether a stream is nutrient-threatened. The dichotomous process stated in this subsection shall be used in the determination of whether a stream is nutrient-threatened.

- (1) The stream order shall be identified. If the stream order is 1, 2 or 3, then proceed to paragraph (2).
- (2) If the stream order is not 1, 2 or 3, then proceed to paragraph (9).
- (2) The stream slope shall be identified. If the stream slope is greater than or equal to 17 feet per mile, then proceed to paragraph (3). If the stream slope is less than 17 feet per mile, then proceed to paragraph (4).
- (3) Subject to the application of the foregoing paragraphs of this subsection, if the mean phosphorus concentration in the stream is greater than 0.24 mg/L or if the mean nitrite plus nitrate concentration in the stream is greater than 4.95 mg/L, then proceed to paragraph (5). If such nutrient mean concentrations are less than the levels specified in this paragraph, then the stream is not threatened by nutrients.
- (4) Subject to the application of the foregoing paragraphs of this subsection, if the mean phosphorus concentration in the stream is greater than 0.15 mg/L or if the mean nitrite plus nitrate concentration in the stream is greater than 2.4 mg/L, then proceed to paragraph (5). If such nutrient mean concentrations are less than the levels specified in this paragraph, then the stream is not threatened by nutrients.
- (5) Subject to the application of the foregoing paragraphs of this subsection, if the percentage of canopy shading is greater than or equal to 80%, then the stream is not threatened by nutrients. If the percentage of canopy shading is less than 80%, then proceed to paragraph (6).

(6) Subject to the application of the foregoing paragraphs of this subsection, if the stream's turbidity is organic, then proceed to paragraph (7). If the stream's turbidity is inorganic, then proceed to paragraph (8).

(7) Subject to the application of the foregoing paragraphs of this subsection, if the mean turbidity measured at seasonal base flow conditions is less than 20 NTU, then the stream is not threatened by nutrients. If the mean turbidity measured at seasonal base flow conditions is 20 or more NTU, then the stream is threatened by nutrients.

(8) Subject to the application of the foregoing paragraphs of this subsection, if the mean turbidity measured at seasonal base flow conditions is less than 20 NTU, then the stream is threatened by nutrients. If the mean turbidity measured at seasonal base flow conditions is 20 or more NTU, then the stream is not threatened by nutrients.

(9) Subject to the application of the foregoing paragraphs of this subsection, if the stream slope is greater than or equal to 17 feet per mile, then proceed to paragraph (10). If the stream slope is less than 17 feet per mile, then proceed to paragraph (11).

(10) Subject to the application of the foregoing paragraphs of this subsection, if the mean phosphorus concentration in the stream is greater than 1.00 mg/L, or if the mean nitrite plus nitrate concentration in the stream is greater than 4.65 mg/L, then proceed to paragraph (12). If such nutrient mean concentrations are less than the levels specified in this paragraph, then the stream is not threatened by nutrients.

(11) Subject to the application of the foregoing paragraphs of this subsection, if the mean phosphorus concentration in the stream is greater than 0.36 mg/L, or if the mean nitrite plus nitrate concentration in the stream is greater than 5.0 mg/L, then proceed to paragraph (12). If such nutrient mean concentrations are less than the levels specified in this paragraph, then the stream is not threatened by nutrients.

(12) Subject to the application of the foregoing paragraphs of this subsection, if the stream's mean inorganic turbidity measured at seasonal base flow conditions is greater than or equal to 20 NTU, then the stream is not threatened by nutrients. If the stream's mean inorganic turbidity measured at seasonal base flow conditions is less than 20 NTU, then the stream is threatened.