

# CHAPTER 740. IMPLEMENTATION OF OKLAHOMA'S WATER QUALITY STANDARDS

## SUBCHAPTER 1. GENERAL PROVISIONS

### 252:740-1-2. Definitions

In addition to definitions of terms found in OAC 252:730-1-2, which are incorporated herein by reference, the following words, terms and notations, when used in this Chapter, shall have the following meanings unless the context clearly indicates otherwise:

~~"7T2" means the seven-day maximum temperature likely to occur with a 50% probability each year. The 7T2 is calculated using a moving average of seven consecutive days for each year in a given record. These seven-day receiving stream temperature values are ranked in descending order. An order number, m, is calculated based on the number of years of record, n, with a recurrence interval of 2 years, as  $m = (n+1)/2$ . The mth highest average temperature is the 7T2.~~

"7Q2" means the seven-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 7Q2 is described at OAC 252:740-1-6.

"7T2" means the seven-day maximum temperature likely to occur with a 50% probability each year. The 7T2 is calculated using a moving average of seven consecutive days for each year in a given record. These seven-day receiving stream temperature values are ranked in descending order. An order number, m, is calculated based on the number of years of record, n, with a recurrence interval of 2 years, as  $m = (n+1)/2$ . The mth highest average temperature is the 7T2.

"30Q2" means the 30-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 30Q2 is described at OAC 252:740-1-6.

"A" means mean annual average flow.

"ACR" means acute to chronic ratio.

"Acute to chronic ratio" means LC50/NOEC. The NOEC is the highest concentration at which no effect on test organisms is observed over a relatively long period. Quarterly biomonitoring over the life of the permit is sufficient to determine the ACR if the NOEC and LC50 may be determined. If the ACR is unknown, a default value of 10 may be used for implementation purposes.

"Background" means the ambient condition upstream or upgradient from a facility, practice or activity which has not been affected by that facility, practice or activity.

"Beneficial use limitation" means a more stringent restriction than that required to protect the beneficial use. A prohibition on new point sources is an example of a beneficial use limitation.

"Bioaccumulation Factor" or "BAF" is the ratio of the concentration of a chemical in the tissue of an aquatic organism to the concentration of the chemical dissolved in ambient water at the site of sampling.

"Board" means the Environmental Quality Board.

"BOD" means biochemical oxygen demand.

"C" means maximum concentration on the mixing zone boundary.

"C<sub>95</sub>" means the 95th percentile maximum likelihood concentration.

"C<sub>B</sub>" means background concentration.

"C<sub>e</sub>" means effluent concentration.

"cfs" means cubic feet per second.

"C<sub>mean</sub>" means the geometric mean of all effluent concentrations analyzed for the toxicant.

"C<sub>t</sub>" means the appropriate criterion listed in OAC 252:730.

"CBOD" means carbonaceous biochemical oxygen demand.

"Coefficient of variation" means standard deviation divided by the mean.

"Coliform group organisms" means all of the aerobic and facultative anaerobic gram-negative, non-spore-forming rod-shaped bacteria that ferment lactose broth with gas formation within 48 hours at 35°C. Measurements of bacteria can be expressed as either colony forming units (cfu) or most probable number (MPN).

"Continuing Planning Process" or "CPP" means the most recent edition of the document produced annually by the Oklahoma Department of Environmental Quality which describes water quality programs implemented within the State.

"Continuing toxicity" means a tendency to be toxic.

"Continuous discharge" means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

"Control" means test organisms exposed to 0% effluent as part of the whole effluent toxicity testing procedure.

"Cooling water reservoir" means a privately owned reservoir used in the process of cooling water for industrial purposes.

"CV" means coefficient of variation.

"D" means diameter of the discharge pipe in feet.

"Dilution capacity" means a measure of the ability of the receiving stream to dilute effluent, defined as the ratio of the regulatory effluent flow to the regulatory receiving stream flow.

"Dilution factor" or "df" means a measure of the minimum dilution that occurs on the mixing zone boundary.

"DO" means dissolved oxygen.

"Drainage area" means the area above the discharge drained by the receiving stream.

"EPA" means the United States Environmental Protection Agency.

"Event mean concentration" means the flow-weighted average for a given storm event. The flow-weighted average is represented as the sum of the loads calculated for a series of storm samples divided by the sum of the discharges calculated for each of the storm samples.

~~"EPA" means the United States Environmental Protection Agency.~~

"HQW" means high quality waters as defined in OAC 252:730-3-2(b).

"Implementation Plan" means a Water Quality Standards Implementation Plan developed and promulgated by a state environmental agency as required by 27A O.S. § 1-1-202.

"Increased load" means the mass of pollutant discharged which is greater than the permitted mass loadings and concentrations, as appropriate, in the discharge permit effective when the SWS, SWS-R, HQW, or ORW beneficial use limitation was assigned.

**"Lake mixing zone"** means a volume extending one hundred feet from the source for implementation purposes, unless otherwise specified in OAC 252:730.

**"LC50"** means the lethal concentration as defined in OAC 252:730-1-2.

**"LMFO"** means licensed managed feeding operation as defined in 2 O.S. § 9-202.

**"Mean annual average flow"** means the annual mean flow found in "Statistical Summaries", USGS publication no. 87-4205, or most recent version thereof, or other annual mean flow as approved by the Oklahoma Water Resources Board or the permitting authority.

**"Monthly average level"** means the concentration of a toxicant in the permit which may not be exceeded by the observed effluent concentration averaged over a calendar month.

**"Naturally occurring condition"** means any condition affecting water quality which is not caused by human influence, including, but not limited to, soils, geology, hydrology, climate, wildlife, and water flow with specific consideration given to seasonal and other natural variations.

**"NLW"** means nutrient-limited watershed as defined in OAC 252:730-1-2.

**"NOEC"** means no observed effect concentration.

**"Normal pool elevation"** means the elevations listed in the "Oklahoma Water Atlas", Oklahoma Water Resources Board publication no. 135, or most recent version thereof.

**"NPDES"** means National Pollutant Discharge Elimination System.

~~**"Normal pool elevation"** means the elevations listed in the "Oklahoma Water Atlas", Oklahoma Water Resources Board publication no. 135, or most recent version thereof.~~

**"ORW"** means Outstanding Resource Waters as defined in OAC 252:730-3-2(a).

**"Outfall"** means a point source which contains all the effluent being discharged to the receiving water.

**"Permitting authority"** means state environmental agency as defined or provided in Title 27A of the Oklahoma Statutes having jurisdiction as provided by law.

**"Persistent toxicity"** means toxicity due to effluent constituents which are not subject to decay, degradation, transformation, volatilization, hydrolysis, or photolysis.

**"Q\*" means dilution capacity.**

**"Q<sub>e</sub>" means the regulatory effluent flow.**

**"Q<sub>el</sub>" means long-term average effluent flow.**

**"Q<sub>es</sub>" means short-term average effluent flow.**

**"Q<sub>u</sub>" means the regulatory receiving stream flow.**

~~**"Regulatory mixing zone"** means the volume of receiving water described in OAC 252:730-5-26.~~

**"Reasonable potential factor"** means the 95th percentile maximum likelihood estimator for a lognormal distribution.

**"Regulatory low flow"** means a condition where the flow of water in a stream is significantly reduced, often during prolonged dry weather. This phenomenon is characterized by decrease in stream flow, which can be defined by specific statistics such as the 7Q2 or 30Q2. Regulatory low flow is important for setting permit discharge limits and ensuring ecological protection, as it can lead to water quality issues and affect water resources.

**"Regulatory mixing zone"** means the volume of receiving water described in OAC 252:730-5-26.

**"Selenium fish tissue study"** means a study designed to assess selenium concentrations in fish tissue to determine if fish tissue concentrations are in compliance with state tissue criteria,

determine reasonable potential, and/or to derive a site-specific water column criterion element using a translator. Prior to conducting a fish tissue study, a workplan and quality assurance project plan shall be submitted to and approved by DEQ.

"SS" means sample standard as defined in OAC 252:730-1-2.

"**Storm event**" means precipitation, after a minimum of 72 hours has elapsed since cessation of previous precipitation, in the watershed of a stream segment that produces a 30 percent rise in stream flow over the average flow of the preceding 72 hours resulting from surface run-off.

"SWS" means Sensitive Public and Private Water Supplies.

"SWS-R" means waterbodies classified as sensitive public and private water supplies that may be augmented with reclaimed municipal water for the purpose of indirect potable reuse.

"T" means maximum temperature difference at the edge of the mixing zone boundary.

"T<sub>a</sub>" means regulatory ambient temperature.

"T<sub>c</sub>" means the temperature criterion.

"T<sub>f</sub>" means the 95th percentile maximum observed effluent temperature.

"TDS" means total dissolved solids at 180C.

"**Total maximum daily load**" or "**TMDL**" means the sum of individual wasteload allocations for point sources, safety reserves, and loads from nonpoint source and natural backgrounds.

"**Trophic State Index**" or "**TSI**" means a numerical quantification of lake productivity. The Trophic State Index shall be determined by  $TSI = 9.81 \times \ln(\text{chlorophyll-a}) + 30.6$ .

"TSS" means total suspended solids.

"USGS" means United States Geological Survey.

"W" means canal width in feet.

"YMS" means yearly mean standard as defined in OAC 252:730-1-2.

## **252:740-1-6. Determination of regulatory low flow**

### **(a) General.**

(1) **7Q2.** The 7Q2 is calculated as a moving average of seven consecutive days for each year in a given record. These seven-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of years of record (n), with a recurrence interval (R) of two years, as  $m = (n+1)/R$ , where R = two years. A value of flow corresponding to the mth order is taken as the seven-day, two-year low flow for those historical data.

(2) **Seasonal 7Q2.** The seasonal 7Q2 is calculated as a moving average of seven consecutive days for the applicable dates specified in Table 1 of Appendix G of OAC 252:730 in a given period of record. These seven-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of seasons (n) specified in Table 1 of OAC 252:730 Appendix G during the period of record, with a recurrence interval (R) of two years, as  $m = (n+1)/R$ , where R = two years. A value of flow corresponding to the mth order is taken as the seasonal seven-day, two-year low flow for those historical data.

(3) **30Q2.** The 30Q2 is only used in calculations for selenium. The 30Q2 is calculated as a moving average of thirty consecutive days for each year in a given record. These

thirty-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of years of record (n), with a recurrence interval (R) of two years, as  $m = (n+1)/R$ , where  $R = \text{two years}$ . A value of flow corresponding to the mth order is taken as the thirty-day, two-year low flow for those historical data.

(b) **Primary method for determination.** If the 7Q2regulatory low flow or seasonal 7Q2 for a given stream or stream segment is determinable from the United States Geological Survey publication entitled "Statistical Summaries of Streamflow in and near Oklahoma Through 2007" or the latest version of the Water Quality Management Plan published by the Department of Environmental Quality, then that 7Q2regulatory low flow and seasonal 7Q2 shall be conclusive except as provided otherwise in this section.

(c) **Alternative methods for determination of 7Q2regulatory low flow or seasonal 7Q2.**

(1) In lieu of determining the 7Q2regulatory low flow or seasonal 7Q2 as provided in (b) of this Section, the 7Q2regulatory low flow for a given stream or stream segment may be determined by an affected person or the permitting authority if all of the following conditions are satisfied:

(A) A hydrological modification affecting the flow in the stream is documented to the satisfaction of DEQ and the permitting authority;

(B) At least 10 years of daily flow data comporting with the requirements of this section are available; and

(C) Data from the entire period of record for the stream, unless a different time frame of record is approved by the Board and the permitting authority, are used in the calculation.

(2) If the 7Q2regulatory low flow or seasonal 7Q2 for a given stream or stream segment is not determinable as provided in (b) or (c)(1) of this Section or if additional daily flow data have been collected, then the 7Q2regulatory low flow or seasonal 7Q2 for that stream or stream segment may be determined by an affected person or the permitting authority using the calculations provided in (a) of this Section, provided at least 10 years of daily flow data are available for that stream.

(3) If the flow is affected by contributions from gaged tributaries or other permitted discharges, then the 7Q2regulatory low flow or seasonal 7Q2 for a given stream or stream segment may be determined taking those contributions at 7Q2regulatory low flow or seasonal 7Q2, or both, into account on a case-by-case basis if approved by either DEQ or the permitting authority.

(4) If the 7Q2regulatory low flow or seasonal 7Q2 for a given stream or stream segment is not determinable as provided in (b), (c)(1), (c)(2) or (c)(3) of this Section, then the 7Q2regulatory low flow or seasonal 7Q2 for that stream or stream segment may be determined by an affected person or the permitting authority using an estimate based upon limited data only if both the method for estimating, and the estimate itself, are approved by both the Board and permitting authority.

(d) **Additional rules for 7Q2regulatory low flow and seasonal 7Q2 determinations.**

(1) Any 7Q2regulatory low flow or seasonal 7Q2 determined with a period of record less than 20 years shall be invalid for any purpose except the issuance of the permit or establishment of the site-specific criteria based upon and developed contemporaneously with such 7Q2regulatory low flow or seasonal 7Q2. Any subsequent renewal of such permit must be based upon a fresh determination of the

~~7Q2~~regulatory low flow or seasonal 7Q2 until the pertinent period of record equals or exceeds 20 years.

(2) Any subsequent renewal of a permit based upon a ~~7Q2~~regulatory low flow or seasonal 7Q2 determined pursuant to (c)(3) or (c)(4) of this Section must be based upon a fresh determination of the ~~7Q2~~regulatory low flow or seasonal 7Q2 that takes into account all discharge and flow data from the time the ~~7Q2~~regulatory low flow or seasonal 7Q2 was previously determined.

(3) Any subsequent renewal of a permit based upon a ~~7Q2~~regulatory low flow or seasonal 7Q2 determined pursuant to (c)(1) of this Section must be based upon a fresh determination of the ~~7Q2~~regulatory low flow or seasonal 7Q2 that takes into account whether the hydrological modification continues to exist.

(e) **Alternative method for determination of regulatory low flow.** In stream segments where dams or other structures have substantially affected the historic flow regime of the stream segment, including but not limited to the portions of the Verdigris and Arkansas Rivers constituting the McClellan-Kerr Arkansas River Navigation System, on a site-specific basis a properly designed and implemented hydrologic study approved by the permitting authority and OWRB may be used to determine the appropriate regulatory low flow.

### **SUBCHAPTER 3. IMPLEMENTATION OF NARRATIVE TOXICS CRITERIA TO PROTECT AQUATIC LIFE USING WHOLE EFFLUENT TOXICITY (WET) TESTING**

#### **252:740-3-2. Dilutions for whole effluent toxicity testing**

(a) **General.** Generally, two whole effluent toxicity tests shall be used to implement the narrative criteria to protect fish and wildlife propagation. The 48-hour acute test will be used to protect against acute toxicity in receiving water, and the 7-day or 21-day chronic test will be used to protect against chronic toxicity outside the chronic regulatory mixing zone.

(b) **Differing requirements for WET tests.**

(1) Three different toxicity testing requirements exist. Each is based upon dilution capacity, represented by  $Q^*$ .

(2) When  $Q^*$  is less than 0.054, acute testing only shall be required.

(3) When  $Q^*$  is greater than 0.33, chronic testing only shall be required.

(4) When  $Q^*$  is greater than or equal to 0.054 and less than or equal to 0.33, both acute and chronic testing shall be required.

(5) For a discharge directly to a lake, acute testing only shall be required.

(c) **Dilutions for chronic WET tests for streams.** Whole effluent chronic toxicity testing requires that test organisms be subjected to various effluent dilutions. The dilution series for chronic toxicity testing is based on the critical dilution (CD). The chronic critical dilution equations are as follows:  $CD = (1.94Q^*) / (1 + Q^*)$  when  $Q^*$  is less than or equal to 0.1823, or  $CD = 1 / (6.17 - 15.51Q^*)$  when  $Q^*$  is greater than 0.1823 and less than 0.3333, or  $CD = 1$  when  $Q^*$  is greater than or equal to 0.3333.  $Q^* = Q_e / Q_u$ .  $Q_e$  is the largest thirty-day average flow for an industrial discharge, if known, and the design flow otherwise.  $Q_u$  is 1 cfs or the ~~7Q2~~regulatory low flow receiving stream flow, if known to be larger.

(d) **Dilutions for acute WET tests.** The acute critical dilution is 100%.

## SUBCHAPTER 5. IMPLEMENTATION OF NUMERICAL CRITERIA TO PROTECT FISH AND WILDLIFE FROM TOXICITY DUE TO CONSERVATIVE SUBSTANCES

### 252:740-5-2. Regulatory flow determination

(a) **Regulatory receiving stream flow.** Section 252:730-5-12(f)(6)(G) of the OAC defines the regulatory receiving stream flow upstream of the discharge,  $Q_u$ , to be used in implementing fish and wildlife propagation criteria. The  $Q_u$  is the greater of the ~~7Q2~~regulatory low flow or 1 cfs. ~~7Q2~~ Regulatory low flow shall be determined according to OAC 252:740-1-6.  $Q_u$  is assumed to be 1 cfs if the ~~7Q2~~regulatory low flow is unknown or the permittee chooses not to develop an actual ~~7Q2~~ regulatory low flow.

(b) **Regulatory flow for lakes.** No regulatory flow determination is required for lakes.

(c) **Regulatory effluent flows.** The regulatory effluent flow,  $Q_e$ , is the highest monthly averaged flow over the previous two years for industrial discharges if the permitting authority determines that sufficient data are available. For other dischargers (e.g. municipalities),  $Q_e$  is the design flow. If a significant daily or seasonal variability in effluent flow is present, a regulatory effluent flow should take this variability into account.

### 252:740-5-3. Reasonable potential

(a) **General.** The need for a permit limit will be determined, on a pollutant-by-pollutant basis, after determination of reasonable potential, which considers assimilation capacity of the receiving water and effluent variability.

(b) **Use of reasonable potential factor; relationship with wasteload allocation process.**

(1) The technical report produced by the Oklahoma Water Resources Board entitled "The Incorporation ~~Of~~ of Ambient Concentration With That Due ~~To~~ to Effluent ~~For~~ for Wasteload Allocation" shall be used to determine if there is a reasonable potential for a criterion exceedance outside the mixing zone.  ~~$C_{95} = 2.13C_{mean}$~~   $C_{95} = 2.13C_{mean}$  is used for effluent concentration in the reasonable potential calculation.  ~~$C_{mean}$~~   $C_{mean}$  is the geometric mean of all effluent concentrations analyzed for the toxicant. If the geometric mean cannot be determined, an arithmetic mean may be substituted. If a large dataset of effluent concentrations is available, the permitting authority may not need to estimate  ~~$C_{95}$~~   $C_{95}$ ; the 95th percentile value can be calculated from the data.

(2) The wasteload allocation process is used to determine reasonable potential. C is the reasonable potential concentration on the chronic regulatory mixing zone boundary. C is calculated for chronic criteria in streams as:  $C = \frac{C_B C_B + (1.94Q^*(C_{95} - C_B))}{(1 + Q^*)}$  when  $Q^*$  is less than or equal to 0.1823, or  $C = \frac{C_B C_B + (C_{95} - C_B)}{(6.17 - 15.51Q^*)}$  when  $Q^*$  is greater than 0.1823 and less than 0.3333, or  $C = C_{95}$  when  $Q^*$  is greater than or equal to 0.3333.  $Q^* = \frac{Q_e}{Q_u}$ .  $Q^*$  is the dilution capacity. C is calculated for lakes as: pipe:  $C = \frac{C_B C_B + (D(C_{95} - C_B))}{20.15}$  when D is greater than or equal to 3 feet, or canal:  $C = \frac{C_B C_B + (W/2(C_{95} - C_B))}{4.2}$  when W is greater than or equal to 3 feet. D is the diameter of the discharge pipe in feet and W is the width of the canal in feet. D and W shall not be less than three feet for implementation purposes. When C is the concentration on the acute

regulatory mixing zone boundary it is calculated as  $C = \frac{C_B C_B}{C_B + (Q_e (C_{95} - C_B) / 100)}$ . If  $Q_e$  is greater than 100 cfs, then 100 cfs shall be substituted for  $Q_e$ .  
 (3) For regulatory purposes, there is a reasonable potential for chronic toxicity if concentrations of ammonia outside the chronic regulatory mixing zone exceed 6 mg/L.

**(c) Selenium**

(1) If the permitting authority has site-specific, steady-state fish tissue data that were collected under and met appropriate quality-assurance procedures, those data shall be used to determine reasonable potential. If there is no excursion of the selenium fish tissue criterion element, it shall be determined that there is no reasonable potential. If fish tissue data exceed the selenium fish tissue criterion element, a WQBEL shall be established based on a site-specific water column criterion element developed using a translator.

(2) Unless and until a selenium fish tissue study has been completed, the permitting authority shall use the water column criterion element to determine reasonable potential.

(3) Where the permitting authority has information that there are substantial new, known inputs or releases that would affect selenium concentrations in fish relative to environmental concentrations, the fish tissue will not be considered as being in steady-state with respect to selenium, and fish tissue criterion elements shall not be used to assess permit compliance or as permit limits. In these cases, the water column criterion element shall be used to assess reasonable potential and develop selenium WQBELs.

(4) For a continuous discharge, when using a water column criterion element to evaluate reasonable potential, the permitting authority shall use the 30-day chronic criterion element set forth in OAC 252:730 Appendix G, Table 4.

## **SUBCHAPTER 11. IMPLEMENTATION OF TEMPERATURE CRITERIA TO PROTECT FISH AND WILDLIFE PROPAGATION BENEFICIAL USE**

**252:740-11-3. Regulatory flows**

(a) Regulatory receiving stream flow to protect the Fish and Wildlife Propagation beneficial use,  $Q_u$ , is the greater of the ~~702~~regulatory low flow or 1 cfs.  $Q_u$  is assumed to be 1 cfs if the ~~702~~regulatory low flow is unknown.

(b) The regulatory effluent flow,  $Q_e$ , is defined as the highest monthly averaged flow in cfs over the past two years for industrial discharges with adequate data.  $Q_e$  is the design flow in cfs for other dischargers.

## **SUBCHAPTER 13. IMPLEMENTATION OF ANTIDEGRADATION POLICY**

**252:740-13-4. Tier 2 protection; maintenance and protection of sensitive water supply-reuse and other tier 2 waterbodies**

**(a) General rules for Sensitive Water Supply - Reuse (SWS-R) Waters.**



(1) Classification of SWS-R Waters. DEQ may consider classification of a waterbody as an SWS-R waterbody based upon required documentation submitted by any interested party. The interested party shall submit documentation presenting background information and justification to support the classification of a waterbody as SWS-R including, but not limited to, the following:

(A) Determination of the waterbody's assimilative capacity pursuant to OAC 252:740-13-8, including all supporting information and calculations.

(B) Documentation demonstrating that municipal wastewater discharge for the purpose of water supply augmentation has been considered as part of a local water supply plan or other local planning document.

(C) Any additional information or documentation necessary for DEQ's consideration of a request for the classification of a waterbody as SWS-R.

(D) Prior to consideration by DEQ, any interested party seeking the classification of a waterbody as SWS-R shall submit documentation to DEQ staff demonstrating that local stakeholders, including those that use the waterbody for any designated or existing beneficial uses, have been afforded notice and an opportunity for an informal public meeting, if requested, regarding the proposed classification of the waterbody as SWS-R at least one hundred eighty (180) days prior to DEQ consideration. In addition, all information or documentation submitted pursuant to this subsection shall be available for public review.

(2) The drought of record waterbody level shall be considered the receiving water critical condition for SWS-R waterbodies.

(A) All beneficial uses shall be maintained and protected during drought of record conditions.

(B) Drought of record shall be determined with the permitting authority approved monthly time step model using hydrologic data with a minimum period of record from 1950 to the present. If empirical data are not available over the minimum period of record, modeled data shall be included in the analysis, if available.

(3) In accordance with OAC 252:730-5-25(c)(8)(D), SWS-R waterbodies with a permitted discharge shall be monitored and water quality technically evaluated to ensure that beneficial uses are protected and maintained and use of assimilative capacity does not exceed that prescribed by permit. Prior to any monitoring and/or technical analysis, the permittee shall submit a Receiving Water Monitoring and Evaluation Plan to the permitting authority for review and approval.

(A) The Receiving Water Monitoring and Evaluation Plan shall include, at a minimum, the following sections:

(i) Monitoring section that meets the required spatial, temporal, and parametric coverage of this subchapter, OAC 252:740-15, and OAC 252:628-11.

(ii) Analysis and reporting section that meets the requirements of this subchapter, OAC 252:740-15, and OAC 252:628-11.

(iii) Quality Assurance Project Plan that meets the most recent requirements for United States Environmental Protection Agency

Quality Assurance Project Plans.

(B) The monitoring section of the Receiving Water Monitoring and Evaluation Plan, at a minimum shall:

- (i) Include parametric, temporal (including frequency of sampling events), and spatial sampling design adequate to characterize water quality related to limnological, hydrologic, seasonal, and diurnal influences and variation.
- (ii) Include nutrient monitoring adequate to characterize both external and internal loading and nutrient cycling.
- (iii) Include algal biomass monitoring consistent with this subparagraph (B) and phytoplankton monitoring sufficient to evaluate general shifts and/or trends in phytoplankton community dynamics over time.
- (iv) Include in-situ monitoring of dissolved oxygen, temperature, and pH adequate to characterize diurnal changes and fluctuations during periods of thermal stratification and complete mix.
- (v) Include monitoring of pollutants with a permit effluent limit and/or permit monitoring requirements.

(C) The Receiving Water Monitoring and Evaluation Plan may include special studies, as necessary.

(D) At least biennially and prior to permit renewal, the permittee shall submit a Receiving Water Monitoring and Evaluation Report to the permitting authority that includes, at a minimum:

- (i) Summarized review of monitoring objectives and approach.
- (ii) Presentation and evaluation of monitoring results, including an analysis of both short-term and long-term trends.
- (iii) An assessment of beneficial use attainment that is at a minimum in accordance with OAC 252:740-15.
- (iv) Summarized assessment of data quality objectives, including an explanation of any data quality issues.
- (v) All monitoring data shall be submitted electronically.

(E) If the report documents nonattainment of a beneficial use(s) resulting from the discharge, the permitting authority shall consider actions including, but not limited to, additional permit requirements, cessation of the discharge, and/or a recommendation to DEQ to revoke the SWS-R waterbody classification.

(b) **General rules for other Tier 2 ~~Waterbodies~~waterbodies.** General rules for other Tier 2 waterbodies shall be developed as waters are identified.

**252:740-13-5. Tier 2.5 protection; maintenance and protection of ~~high quality waters, sensitive water supplies, and other tier~~High Quality Waters, Sensitive Water Supplies, and other Tier 2.5 waterbodies**

(a) **General rules for High Quality Waters.** New point source discharges of any pollutant after June 11, 1989, and increased load or concentration of any specified pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed

designated in Appendix A of OAC 252:730 with the limitation "HQP". Any discharge of any pollutant to a waterbody designated "HQP" which would, if it occurred, lower existing water quality shall be prohibited. Provided however, new point source discharges or increased load or concentration of any specified pollutant from a discharge existing as of June 11, 1989, may be approved by the permitting authority in circumstances where the discharger demonstrates to the satisfaction of the permitting authority that such new discharge or increased load or concentration would result in maintaining or improving the level of water quality which exceeds that necessary to support recreation and propagation of fishes, shellfishes, and wildlife in the receiving water.

(b) **General rules for sensitive ~~public and private water supplies~~ Public and Private Water Supplies.** New point source discharges of any pollutant after June 11, 1989, and increased load of any specified pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed designated in Appendix A of OAC 252:730 with the limitation "SWS". Any discharge of any pollutant to a waterbody designated "SWS" which would, if it occurred, lower existing water quality shall be prohibited. Provided however, new point source discharges or increased load of any specified pollutant from a discharge existing as of June 11, 1989, may be approved by the permitting authority in circumstances where the discharger demonstrates to the satisfaction of the permitting authority that such new discharge or increased load will result in maintaining or improving the water quality in both the direct receiving water, if designated SWS, and any downstream waterbodies designated SWS.

(c) **Stormwater discharges.** Regardless of subsections (a) and (b) of this Section, point source discharges of stormwater to waterbodies and watersheds designated "HQP", "SWS" may be approved by the permitting authority.

(d) **Nonpoint source discharges or runoff.** Best management practices for control of nonpoint source discharges or runoff should be implemented in watersheds of waterbodies designated "HQP", or "SWS" in Appendix A of OAC 252:730.

**252:740-13-6. Tier 3 protection; prohibition against degradation of water quality in ~~outstanding resource waters~~ Outstanding Resource Waters**

(a) **General.** New point source discharges of any pollutant after June 11, 1989, and increased load of any pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed designated in Appendix A of OAC 252:730 with the limitation "ORW" and/or "Scenic River", and in any waterbody located within the watershed of any waterbody designated with the limitation "Scenic River". Any discharge of any pollutant to a waterbody designated "ORW" or "Scenic River" which would, if it occurred, lower existing water quality shall be prohibited.

(b) **Stormwater discharges.** Regardless of OAC 252:740-13-6(a), point source discharges of stormwater from temporary construction activities to waterbodies and watersheds designated "ORW" and/or "Scenic River" may be permitted by the permitting authority. Regardless of OAC 252:740-13-6(a), discharges of stormwater to waterbodies and watersheds designated "ORW" and/or "Scenic River" from point sources existing as of June 25, 1992, whether or not such stormwater discharges were permitted as point sources prior to June 25, 1992, may be permitted by the permitting authority; provided, however, increased load of any pollutant from such stormwater discharge shall be prohibited.

(c) **Nonpoint source discharges or runoff.** Best management practices for control of nonpoint source discharges or runoff should be implemented in watersheds of waterbodies designated "ORW" in Appendix A of OAC 252:730, provided, however, that development of conservation plans shall be required in sub-watersheds where discharges or runoff from nonpoint sources are identified as causing or significantly contributing to degradation in a waterbody designated "ORW".

(d) ~~LMFO's~~ **LMFOs.** *No licensed managed feeding operation (LMFO) established after June 10, 1998 which applies for a new or expanding license from the State Department of Agriculture after March 9, 1998 shall be located...[w]ithin three (3) miles of any designated scenic river area as specified by the Scenic Rivers Act in 82 O.S. Section 1451 and following, or [w]ithin one (1) mile of a waterbody [2:9-210.3(D)] designated in Appendix A of OAC 252:730 as "ORW".*

### **252:740-13-8. Antidegradation review in surface waters**

(a) **General.** The antidegradation review process below presents the framework to be used when making decisions regarding the intentional lowering of water quality, where water quality is better than the minimum necessary to protect beneficial uses. ~~OWRB technical guidance TRWQ2017-01 provides additional information.~~

#### **(b) Determination of Assimilative Capacity in Tier 2, Tier 2.5, and Tier 3 Waters.**

(1) All water quality monitoring and technical analyses necessary to determine receiving waterbody assimilative capacity for all applicable numeric and narrative criteria and associated parameters protective of waterbody beneficial uses shall be conducted by the interested party.

(2) Prior to initiating any monitoring or technical analysis to support determination of waterbody assimilative capacity, the interested party shall submit a workplan for review and approval by DEQ staff.

(3) As part of an approved workplan, the interested party shall characterize existing water quality of the receiving waterbody for each applicable criteria and associated parameters and evaluate if there is available assimilative capacity. Characterization of existing water quality shall address, at a minimum:

(A) Measurement of load and or concentration for all applicable criteria and associated parameter(s) in the receiving water; and

(B) The measurement of both existing and proposed point and nonpoint source discharge concentrations and/or loadings; and

(C) The critical low flow or critical lake level of the receiving waterbody, including drought of record in waterbodies receiving IPR discharges; and

(D) The limnological, hydrologic, seasonal, spatial and temporal variability and critical conditions of the waterbody; and

(E) Volumetric determination of anoxic dissolved oxygen condition consistent with OAC 252:730 and OAC 252:740; and

(F) The bioaccumulative nature of a pollutant shall be considered when determining assimilative capacity; and

(G) The 303(d) List as contained in the most recently approved Integrated Water Quality Assessment Report shall be reviewed and any difference

between the water quality assessment information and the characterization of existing water quality shall be reconciled.

(4) Assimilative capacity shall be determined by comparing existing water quality, as determined consistent with subsection (a)(3) above to the applicable narrative and numeric criteria. In Tier 2 waters, assimilative capacity shall be determined and used with a margin(s) of safety (OAC 252:740-13-8(d)(1)(D)), which takes into account any uncertainty between existing or proposed discharges and impacts on receiving water quality.

(5) When existing water quality does not meet the criterion or associated parameter necessary to support beneficial use(s) or is identified as impaired on Oklahoma's 303(d) List as contained in the most recently approved Integrated Water Quality Assessment Report, no assimilative capacity shall exist for the given criterion.

**(c) Use of Assimilative Capacity in Tier 1 Waters.** Available assimilative capacity may be used in Tier 1 waters such that water quality is maintained to fully protect all designated and existing beneficial uses.

**(d) Use of Assimilative Capacity in Tier 2 Waters.**

(1) If it is determined that assimilative capacity is available, the consumption of assimilative capacity may be allowed in a manner consistent with the requirements in 40 CFR 131.12(a)(2) and this subchapter. In allowing the use of assimilative capacity, the state shall assure that:

(A) Water quality shall be maintained to fully protect designated and existing beneficial uses.

(B) Assimilative capacity shall be reserved such that all applicable narrative criteria in OAC 252:730 are attained and beneficial uses are protected.

(C) Fifty percent (50%) of assimilative capacity shall be reserved for all applicable water quality criteria listed in OAC 252:730, Appendix G, Table 2.

(D) In order to preserve a margin of safety, in no case shall any activity be authorized without the application of margin(s) of safety specified below:

(i) A twenty percent (20%) margin of safety shall be applied to an applicable numeric criterion for chlorophyll-a, total phosphorus, and total nitrogen. If numeric criteria are not available, the narrative nutrient criterion (OAC 252:730-5-9(d)) shall be applied and a twenty percent (20%) margin of safety shall be applied to the parameters listed in the criterion.

(ii) No more than forty-five percent (45%) of the lake volume shall be less than the dissolved oxygen criterion magnitude in OAC 252:730-5-12(f)(1)(C)(ii).

(iii) If the existing value of a criterion is within the margin of safety, no assimilative capacity is available and existing water quality shall be maintained or improved.

(E) When existing water quality does not satisfy the applicable criterion and support beneficial use(s) or has been designated as impaired in Oklahoma's 303(d) List as contained in the most recently approved Integrated Water Quality Assessment Report, the applicable criterion shall be met at the point of discharge. If a TMDL has been approved for the impairment, loading

capacity for the parameter may be available if TMDL load allocations include the proposed load from the discharge.

(2) An analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the water quality degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.

(3) After an analysis of alternatives and an option that utilizes any or all of the assimilative capacity is selected, the discharger must demonstrate that the lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(e) **Use of Assimilative Capacity in Tier 2.5 or ~~3.0~~ 3 Waters.** Consistent with OAC 252:730-3-2(a) - (c), 252:730-5-25(a), 252:730-5-25(b), and 252:730-5-25(c)(1) - (c)(6) all available assimilative capacity shall be reserved in waterbodies classified as Tier 2.5 or ~~3.0~~ 3 waters.

(f) **Public Participation.** Agencies implementing subsection 8(d) shall conduct all activities with intergovernmental coordination and according to each agency's public participation procedures, including those specified in Oklahoma's continuing planning process.

## SUBCHAPTER 15. USE SUPPORT ASSESSMENT PROTOCOLS

### 252:740-15-2. Definitions

The following words and terms, when used in this Subchapter, shall have the following meaning, unless the context clearly indicates otherwise:

**"303(d) List"** means the list of waterbodies with uses that are either threatened or impaired, developed for the State of Oklahoma in accordance with Section 303(d) of the federal Clean Water Act.

**"305(b) Report"** means the report of water quality in the State of Oklahoma developed in accordance with Section 305(b) of the federal Clean Water Act.

**"Ecoregion"** means a geographical area within which ecosystems and the type, quality, and quantity of environmental resources are generally similar, as more specifically described in EPA's 1997 revision of Omernick, "Ecoregions of the Conterminous United States", Annals of the Association of American Geographers.

**"Impaired"** means one or more designated beneficial uses are not being attained.

**"MQL"** means minimum quantification level.

**"Non-wadable"** means a stream which is not wadable.

**"Rolling average"** means the mathematical average of data values across a fixed length of time that incrementally changes its starting point but retains a fixed length of time by also incrementally changing its end point for each recalculation of the average. This term is also known as "moving average".

**"Screening level"** means an evaluation threshold based upon criteria prescribed in OAC 252:730 to protect a designated beneficial use.

**"Seasonal base flow"** means the sustained or fair-weather runoff, which includes but is not limited to groundwater runoff and delayed subsurface runoff.

**"Trophic State Index"** means the results of the calculation for chlorophyll-a concentration using both Carlson, R.E. 1977, A Trophic State Index For Lakes, Limnology and Oceanography, 22:361-369 and the methods outlined in the Board guidance document "Guidance For Determining Lake Trophic State For Determination Of Nutrient Limited Waters Status".

**"Wadable"** means a stream or segment thereof, at least 10 percent of which under seasonal base flow conditions is:

- (A) less than 1.25 meters deep at its thalweg, and
- (B) has an instantaneous discharge of less than 10 cubic feet per second, or has a velocity of less than 10 centimeters per second.

**"Waterbody"** means a body of waters of the state.

## **252:740-15-5. Assessment of Fish and Wildlife Propagation support**

(a) **Scope.** The provisions of this Section shall be used to determine whether the beneficial use of Fish and Wildlife Propagation or any subcategory thereof designated in OAC 252:730 for a waterbody is supported.

(b) **Dissolved oxygen.** For purposes of assessment, listing and reporting under sections 303(d) and 305(b) of the federal Clean Water Act as amended, the procedure for determining use support of the Fish and Wildlife Propagation beneficial use or any subcategory thereof with respect to dissolved oxygen shall be as follows:

### **(1) Support tests for HLAC streams.**

(A) The HLAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the samples across all life stages and seasons exhibit DO concentration below the following season-specific thresholds:

- (i) April 1 through June 15: 4.0 mg/L
- (ii) June 16 through March 31: 3.0 mg/L

(B) The HLAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be not supported with respect to the DO criterion if more than 10% of the samples across all seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

- (i) April 1 through June 15: 4.0 mg/L
- (ii) June 16 through March 31: 3.0 mg/L

### **(2) Support tests for WWAC streams.**

(A) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the samples across all life stages and seasons exhibit DO concentration below the following season-specific thresholds:

- (i) April 1 through June 15: 6.0 mg/L
- (ii) June 16 through March 31: 5.0 mg/L

(B) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be undetermined with respect

to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the upper DO threshold and 10% or less of the samples across all seasons exhibit DO concentrations below the lower DO threshold considering the following season-specific ranges:

(i) April 1 through June 15: 5.0 mg/L to 6.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L to 5.0 mg/L

(C) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be not supported with respect to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

(i) April 1 through June 15: 5.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L

(iii) October 16 through March 31: 5.0 mg/L

**(3) Support tests for CWAC and Trout streams.**

(A) The CWAC or Trout subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds:

(i) March 1 through May 31: 7.0 mg/L

(ii) June 1 through last day of February: 6.0 mg/L

(B) The CWAC or Trout subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be undetermined with respect to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the upper DO threshold and 10% or less of the samples across all seasons exhibit DO concentrations below the lower DO threshold considering the following season-specific ranges:

(i) March 1 through May 31: 7.0 mg/L to 6.0 mg/L

(ii) June 1 through October 15: 6.0 mg/L to 5.0 mg/L

(C) The CWAC or Trout subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be not supported with respect to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

(i) March 1 through May 31: 6.0 mg/L

(ii) June 1 through October 15: 5.0 mg/L

(iii) October 16 through the last day of February: 6.0 mg/L

**(4) Support tests for WWAC lakes.** The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be fully supported with respect to the DO criterion if both the Surface and Water Column criteria prescribed in (5)(A) and (6)(A) of this subsection (b) are satisfied. If either of the Surface or Water Column criteria prescribed in (5)(B) or (6)(B) produce a result of undetermined, then the WWAC subcategory of the Fish and Wildlife Propagation



beneficial use designated for a lake shall be deemed to be undetermined with respect to the DO criterion; provided, if either of the Surface or Water Column criteria prescribed in (5)(C) or (6)(C) produce a result of not supported, then the WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be not supported with respect to the DO criterion.

**(5) Surface criteria for WWAC lakes.**

(A) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the surface samples across life stages and all seasons exhibit DO concentrations below the following season-specific thresholds:

(i) April 1 through June 15: 6.0 mg/L

(ii) June 16 through March 31: 5.0 mg/L

(B) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be undetermined with respect to the DO criterion if more than 10% of the surface samples across all life stages and seasons exhibit DO concentrations below the upper DO threshold and 10% or less of the surface samples across all seasons exhibit DO concentrations below the lower DO threshold considering the following season-specific ranges:

(i) April 1 through June 15: 5.0 mg/L to 6.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L to 5.0 mg/L

(C) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be not supported with respect to the DO criterion if more than 10% of the surface samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

(i) April 1 through June 15: 5.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L

(iii) October 16 through March 31: 5.0 mg/L

(D) "Surface", when used in this Section, means surface waters or the mixed surface layer, typically represented by a sample taken at least 0.5 m below the surface.

**(6) Water column criteria for WWAC lakes.**

(A) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be fully supported with respect to the DO criterion if less than 50% of the volume (if volumetric data is available) or 50% or less of the water column (if no volumetric data is available) of all sample sites in the lake are less than 2.0 mg/L.

(B) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be undetermined with respect to the DO criterion (if no volumetric data is available) if 50% or more, but not greater than 70%, of the water column at any given sample site in the lake is less than 2.0 mg/L due to other than naturally occurring conditions.

(C) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be not supported with respect to the DO criterion if 50% or more of the water volume (if volumetric data is available) or more than 70% of the water column (if no volumetric data is available) at any given sample site is less than 2.0 mg/L.

(D) If a lake specific study including historical analysis produces a support status which is contrary to an assessment obtained from the application of (A), (B) or (C) of (b)(6) of this section, then that lake specific result will control.

**(7) Additional application/exercise when support undetermined.** In instances where application of the tests in this subsection (b) initially produce a result that the pertinent subcategory is undetermined with respect to the DO criterion, such shall be subject to additional investigation that considers diurnal data for further application of such tests in order to resolve the determination of use support.

**(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 252:730-5-12(f)(6)(D) and (E) and OAC 252:730 Appendix G, Table 2.

(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 252:730-5-12(f)(6)(D), (E) and OAC 252:730 Appendix G, Table 2.

**(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 252:730-5-12(f)(6)(D) and (E) and OAC 252:730 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 252:730-5-12(f)(6)(D) and (E) and OAC 252:730 Appendix G, Table 2

**(d) pH.**

(1) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to pH occurring other than by naturally

occurring conditions if no more than 10% of the sample concentrations from that waterbody fall outside the criteria range prescribed in OAC 252:730-5-12(f)(3).

(2) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to pH occurring other than by naturally occurring conditions if greater than 10% of the sample concentrations from that waterbody fall outside the criteria range prescribed in OAC 252:730-5-12(f)(3).

(e) **Turbidity.** The criteria for turbidity stated in OAC 252:730-5-12(f)(7) shall constitute the screening levels for turbidity. The tests for use support shall follow the default protocol in OAC 252:740-15-4(b).

(f) **Oil and grease.**

(1) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in 10% or less of the observations.

(2) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in more than 10% of the observations.

(g) **Suspended and bedded sediments.**

(1) If a stream is supporting the biological criteria assigned to that stream as provided in (e) and (i) through (n) of this section, then that stream will be deemed to be supporting its assigned Fish and Wildlife Propagation beneficial use with respect to suspended and bedded sediments.

(2) If a stream is not supporting the biological criteria assigned to that stream as provided in (e) and (i) through (n) of this section, then a habitat assessment must be conducted using the habitat assessment protocols found in OWRB Technical Report TRWQ2001-1, "Unified Protocols for Beneficial Use Assignment for Oklahoma Wadable Streams." The results of the habitat assessment shall then be compared to either historical conditions or regional reference conditions in order to determine attainment with respect to suspended and bedded sediments in that stream.

(3) The method for establishing reference conditions shall meet the following requirements:

- (A) a minimum of five (5) reference streams or reaches shall be assessed;
- (B) all of the reference streams or reaches must be within the same ecoregion as the test stream;
- (C) all of the reference streams or reaches must be streams with similar flow regimes no more than two (2) stream orders removed from the test stream; and
- (D) the reference streams shall be selected from the least impacted streams in the ecoregion whose watersheds contain soils, vegetation, land uses, and topography typical of the watershed of the test stream(s).

(4) The Fish and Wildlife Propagation beneficial use will be considered to be not supported with respect to suspended and bedded sediments if any of the following habitat parameters deviate from the reference conditions by the specified amount:

- (A) The total percent of clay, silt, and loose sand in the pool bottom substrate of the test stream is increased by more than 30% over the reference condition;
- (B) Cobble embeddedness in the test stream is increased by 15% or more over the reference condition;
- (C) The percentage of the length of the reach containing fresh (non-vegetated) point bars and/or islands in the test stream is 20 or more percentage points above that of the reference condition; or
- (D) The percentage of the length of the reach dominated by pools of a depth of 0.5 meters or more in the test stream is less than 70% of that of the reference condition.

(5) If all of the habitat parameters identified in (h)(4) of this section deviate from the reference conditions by less than the amounts specified in (h)(4) of this section, then the Fish and Wildlife Propagation beneficial use is not impaired due to suspended and bedded sediments.

**(h) Metals.**

(1) For all metals unless otherwise specified in this subsection, the Fish and Wildlife Propagation beneficial use designated for a waterbody may be assessed using either total recoverable or dissolved metals. When available, the concentrations of dissolved metals shall be compared following the provisions of (c) of this subsection to the criteria in OAC 252:730 Appendix G converted to dissolved criteria by multiplying the total metal criterion listed in ~~table~~ Table 2 by the appropriate conversion factor listed in Table 3. Preference shall be given to the beneficial use determinations based upon dissolved metals. For those metals criteria requiring a hardness component, individual assessment results may be calculated using the average of all hardness data meeting the requirements of OAC 252:740-15-3. The segment-averaged hardness in Appendix B of this Chapter shall be used in the determination of the criterion if there is insufficient site-specific data to determine stream hardness.

(2) For selenium, the Fish and Wildlife Propagation beneficial use designated for a waterbody shall use fish tissue data (either whole-body or muscle) as the preferred method for assessment and listing purposes if such data are adequate and available. There is no preference between fish whole-body and muscle tissue. The criteria are established in OAC 252:730 Appendix G, Table 4. In the absence of fish tissue data, either monthly average exposure or intermittent exposure criteria may be used. The intermittent exposure criterion element can only be exceeded under the same conditions that would have caused the monthly average exposure criterion element to be exceeded. Thus, evaluating data against the intermittent exposure criterion element and the monthly average exposure criterion element will always result in the same assessment decision. OAC 252:740-15-5(h)(2) provides for the implementation of fish tissue criterion elements and fish tissue studies for the protection of the Fish and Wildlife Propagation beneficial use as an alternative to water column-based criterion. All selenium fish tissue studies shall be approved by DEQ.

**(i) Biological criteria.**

(1) If data demonstrate that an assemblage of fish or macro invertebrates from a waterbody is significantly degraded, according to OAC 252:730-5-12(f)(5), from that expected for the subcategory of Fish and Wildlife Propagation designated in OAC

252:730 for that waterbody, then that subcategory may be deemed by the appropriate state environmental agency to be not supported.

(2) All physical assessments and biological collections shall be performed in accordance with the requirements set forth in OWRB Technical Report No. 99-3 entitled "Standard Operating Procedures for Stream Assessments and Biological Collections Related to Biological Criteria in Oklahoma".

(3) Evaluation of the biological collections shall include identification of fish samples to species level. Determinations of tolerance level shall be made according to Jester et al. 1992, "The Fishes of Oklahoma, Their Gross Habitats, and Their Tolerance of Degradation in Water Quality and Habitat", Proceedings of Oklahoma Academy of Sciences, 72:7-19.

(4) The determination of whether the use of Fish and Wildlife Propagation is supported in wadable streams in Oklahoma ecoregions shall be made according to all of the requirements of this subsection (e), the application of Appendix C of this Chapter, and the special provisions in subsections (i) through (o), where applicable, of this Section. Streams with undetermined use support status shall be subject to additional investigation that considers stream order, habitat factors and local reference streams before the use support determination is made. A finding of impairment for biocriteria due to any one of the parameters listed in this section shall trigger an evaluation of all likely causes, not precluding monitoring, assessment, and subsequent support determination of the Fish and Wildlife beneficial use for any of the other parameters in this section

**(j) Special provisions for Ouachita Mountains wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable streams located in the Ouachita Mountains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 24 or less. If a score is 25 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Habitat Limited Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 27 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 18 or less. If a score is 19 to 26 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

**(k) Special provisions for Arkansas Valley wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable ~~streams~~ streams located in the Arkansas Valley ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 24 or less. If a score is 25 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Habitat Limited Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 27 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 18 or less. If a score is 19 to 26 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

**(l) Special provisions for Boston Mountains and Ozark Highlands wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable streams located in the Boston Mountains and Ozark Highlands ecoregions shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Cool Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 37 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 29 or less. If a score is 30 to 36 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 31 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 22 or less. If a score is 23 to 30 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

**(m) Special provisions for Central Irregular Plains wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable streams located in the Central Irregular Plains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Cool Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 28 or less. If a score is 29 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 30 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 22 or less. If a score is 23 to 29 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(3) Where designated, the subcategory of Habitat Limited Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 25 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 16 or less. If a score is 17 to 24 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

**(n) Special provisions for Central Oklahoma - Texas Plains wadable streams.** The determination of whether the Warm Water Aquatic Community subcategory of the Fish and Wildlife Propagation beneficial use is supported for wadable streams located in the Central Oklahoma - Texas Plains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

- (1) Such subcategory shall be deemed fully supported if the application of Appendix C produces a score of 26 or more.
- (2) Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 19 or less.
- (3) If the application of Appendix C produces a score of 20 to 25 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(o) **Special provisions for Central Great Plains wadable streams.** The subcategory of Warm Water Aquatic Community of the beneficial use of Fish and Wildlife Propagation in the wadable streams located in the Central Great Plains ecoregion shall be deemed fully supported if the application of Appendix C of this Chapter produces a score of 22 or more. Such subcategory shall be deemed not supported for the streams in the ecoregion of the application of Appendix C produces a score of 18 or less. If the application of Appendix C produces a score of 19 to 21 inclusive, the issue of whether this subcategory is supported for the streams in this ecoregion shall be deemed undermined. Provided, however, this subsection does not apply to the area bounded by State Highway 54 on the west, U.S. Highway 62 on the south, U.S. Highway 281 on the east and State Highway 19 on the north.

#### **252:740-15-6. Assessment of Primary Body Contact Recreation support**

(a) **Scope.** The provisions of this Section shall be used to determine whether the subcategory of Primary Body Contact of the beneficial use of Recreation designated in OAC 252:730 for a waterbody is supported during the recreation season from May 1 through September 30 each year. Where data exist for multiple bacterial indicators on the same waterbody or waterbody segment, the determination of use support shall be based upon the use and application of all applicable tests and data.

(b) ~~**Escherichia coli (E. coli).**~~ **Escherichia coli (E. coli).**

(1) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to *E. coli* if the geometric mean of 126 ~~colonies~~ per 100 ~~ml~~ mL is met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

(2) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to *E. coli* if the geometric mean of 126 ~~colonies~~ per 100 ~~ml~~ mL is not met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

(c) **Enterococci.**

(1) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to enterococci if the geometric mean of 33 ~~colonies~~ per 100 ~~ml~~ mL is met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

(2) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to enterococci if the geometric mean of 33 ~~colonies~~ per 100 ~~ml~~ mL is not met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

#### **252:740-15-7. Assessment of Public and Private Water Supply support**

(a) **Scope.** The provisions of this Section shall be used to determine whether the beneficial use of Public and Private Water Supply or any subcategory thereof designated in OAC 252:730 for a waterbody is supported.

(b) **Toxicants.**

(1) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be fully supported with respect to any substance with criteria for such use listed in OAC 252:730 Appendix G if the sample concentrations from that waterbody do not exceed the criterion for that substance prescribed in OAC 252:730 Appendix G in more than 10% of the measurements, or if drinking water use restrictions are not in effect.

(2) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be not supported with respect to any substance with criteria for such use listed in OAC 252:730 Appendix G if the sample concentrations from that waterbody exceed the criterion for that substance prescribed in OAC 252:730 Appendix G in more than 10% of the measurements, or if drinking water use restrictions are put in effect by an agency with jurisdiction that require closure of the water supply.

(c) **Bacteria.** The screening level for total coliform bacteria shall be 5000 colonies per 100 ~~ml~~ml. The tests for use support shall follow the default protocol in OAC 252:740-15-4.

(d) **Threatened water supplies.** Waters of the state designated in OAC 252:730 as Public and Private Water Supply shall be presumed to be threatened when toxicants are detected but do not exceed the applicable criteria prescribed in OAC 252:730 Appendix G, or some drinking water use restrictions have been put into effect by an agency with jurisdiction, or the potential for adverse impacts to water quality exists, or more than one such conditions exist.

(e) **Oil and grease.**

(1) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be fully supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in 10% or less of the observations, and drinking water use restrictions that require more than conventional treatment related to oil and grease have not been put into effect by an agency with jurisdiction.

(2) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be not supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in more than 10% of the observations, or drinking water use restrictions that require more than conventional treatment related to oil and grease have been put into effect by an agency with jurisdiction.

**252:740-15-13. Assessment of Secondary Body Contact Recreation support**

(a) **Scope.** The provisions of this Section shall be used to determine whether the subcategory of Secondary Body Contact of the beneficial use of Recreation designated in OAC 252:730 for a waterbody is supported. Where data exist for multiple bacterial indicators on the same waterbody or waterbody segment, the determination of use support shall be based upon the use and application of all applicable tests and data.

(b) **Escherichia coli (E. coli).**



(1) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to *E. coli* if the geometric mean of 242 per 100 mL is met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

(2) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to *E. coli* if the geometric mean of 242 per 100 mL is not met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

**(c) Enterococci.**

(1) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to enterococci if the geometric mean of 63 per 100 mL is met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

(2) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to enterococci if the geometric mean of 63 per 100 mL is not met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

## **SUBCHAPTER 17. IMPLEMENTATION OF DISSOLVED OXYGEN CRITERIA TO PROTECT FISH AND WILDLIFE PROPAGATION**

### **252:740-17-2. Regulatory flows**

(a) The flow in the receiving stream,  $Q_u$ , shall be deemed to be the greater of the ~~7Q2~~regulatory low flow or 1 cfs. If the ~~7Q2~~regulatory low flow is unknown, then  $Q_u$  shall be deemed to be 1 cfs.

(b) For industrial dischargers with adequate data as determined by the permitting authority, the effluent flow,  $Q_e$ , shall be deemed to be the highest monthly averaged flow over the previous two years. For all other discharges, the effluent flow shall be deemed to be the design flow.

(c) Provided, in stream segments where dams or other structures have substantially affected the historic flow regime of the stream segment, including but not limited to the portions of the Verdigris and Arkansas Rivers constituting the McClellan-Kerr Arkansas River Navigation System, the appropriate regulatory low flow in the receiving stream,  $Q_u$ , shall be as determined on a site-specific basis pursuant to properly designed and implemented hydrologic study approved by the permitting authority and DEQ.