

**TITLE 785. OKLAHOMA WATER RESOURCES BOARD
CHAPTER 46. IMPLEMENTATION OF OKLAHOMA'S WATER QUALITY STANDARDS**

SUBCHAPTER 1. GENERAL PROVISIONS

785:46-1-2. Definitions

In addition to definitions of terms found in OAC 785:45-1-2, 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.

"**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 concentration**" means the ambient concentration of a given parameter 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.

"**Board**" means Oklahoma Water Resources Board.

"**BOD**" means biochemical oxygen demand.

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

"**C₉₅**" means the 95th percentile maximum likelihood concentration.

"**C_b**" means background concentration.

"**C_e**" means effluent concentration.

"**cfs**" means cubic feet per second.

"**C_{mean}**" means the geometric mean of all effluent concentrations analyzed for the toxicant.

"**Ct**" means the appropriate criterion listed in OAC 785:45.

"**CBOD**" means carbonaceous biochemical oxygen demand.

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

"**Continuing Planning Process (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.

"**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.

"**CPP**" means the Continuing Planning Process document.

"**CV**" means coefficient of variation.

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

"**df**" means dilution factor.

"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" means a measure of the minimum dilution that occurs on the mixing zone boundary.

"Discharge to a lake" means a discharge within the lake's normal pool elevation as listed in the Oklahoma Water Atlas, Oklahoma Water Resources Board Publication 135, May 1990, excluding discharges to lock and dam reservoirs.

"Discharge to a stream" means (1) any discharge outside the normal pool elevation of a lake as such elevation is listed in the Oklahoma Water Atlas, Oklahoma Water Resources Board Publication 135, May 1990, and (2) any discharge to a lock and dam reservoir, such as Webbers Falls Reservoir and Robert S. Kerr Reservoir.

"DO" means dissolved oxygen.

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

"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 785:45-3-2(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, 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 785:45.

"LC₅₀" means the lethal concentration as defined in OAC 785:45-1-2.

"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 785:45-1-2.

"NOEC" means no observed effect concentration.

"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 785:45-3-2(a).

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

"OWQS" means Oklahoma Water Quality Standards.

"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_e" means the regulatory effluent flow.

"**Q_{el}**" means long term average effluent flow.

"**Q_{es}**" means short term average effluent flow.

"**Q_n**" means the regulatory receiving stream flow.

"**Reach**" means a continuous stretch or expanse of a stream or river.

"**Regulatory mixing zone**" means the volume of receiving water described in 785:45-5-26.

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

"**SS**" means sample standard as defined in OAC 785:45-1-2.

"**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.

"**Stream order**" means the numerical order of a stream as classified by using Strahler's stream order system as described in Strahler, 1952, "Dynamic basis of geomorphology", Geological Society of America bulletin, 63:923-938.

"**SWS**" means Sensitive Public and Private Water Supplies.

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

"**T_a**" means regulatory ambient temperature.

"**T_c**" means the temperature criterion.

"**T_f**" means the 95th percentile maximum observed effluent temperature.

"**TDS**" means total dissolved solids at 180°C.

"**TMDL**" means total maximum daily load.

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

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

"**TSI**" means Trophic State Index.

"**TSS**" means total suspended solids.

"**USGS**" means United States Geological Survey.

"**W**" means canal width in feet.

"**WET**" means whole effluent toxicity.

"**YMS**" means yearly mean standard as defined in OAC 785:45-1-2.

SUBCHAPTER 11. IMPLEMENTATION OF TEMPERATURE CRITERIA TO PROTECT FISH AND WILDLIFE PROPAGATION

785:46-11-3. Regulatory flows

(a) Regulatory receiving stream flow to protect the Fish and Wildlife Propagation beneficial use, Q_u , is the greater of the 7Q2 or 1 cfs. Q_u is assumed to be 1 cfs if the 7Q2 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 15. USE SUPPORT ASSESSMENT PROTOCOLS

785:46-15-1. Scope and applicability

(a) **General.** The rules in this Subchapter provide protocols which shall be used on and after October 1, 2000 to determine whether certain beneficial uses of waters of the state designated in OAC 785:45 are being supported. Such determinations shall be made only to the extent that pertinent provisions of OAC 785:45 apply to a waterbody or its designated uses. The rules in this Subchapter are not intended and should not be construed to limit any actions by federal or

state agencies or citizens to prevent pollution or to limit remedies to abate pollution from a single incident or activity or series of incidents or activities.

(b) **Significance of assessment that a use is other than fully supported.** A determination based upon application of the rules in this Subchapter that a waterbody's beneficial use is not supported or is partially supported creates a presumption that the use is impaired or not attained for that waterbody and that the waterbody segment is a water quality limited segment.

(c) **Agency discretion to consider additional data.** An agency with jurisdiction may consider other relevant data in addition to that required by the rules in this Subchapter for any particular parameter to determine full support or non-support.

785:46-15-2. Definitions

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

"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 785:45 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.

"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.

"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:

- (1) less than 1.25 meters deep at its thalweg, and
- (2) 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.

785:46-15-4. Default protocols

(a) **General.** The protocols prescribed in this Section shall apply whenever the more specific protocols prescribed elsewhere in this Subchapter do not apply.

(b) **Short term average numerical parameters.**

(1) Short term average numerical parameters are based upon exposure periods of less than seven days. Short term average parameters to which this Section applies include, but are not limited to, sample standards and turbidity.

(2) A beneficial use shall be deemed to be fully supported for a given parameter whose criterion is based upon a short term average if 10% or less of the samples for that parameter exceed the applicable screening level prescribed in this Subchapter.

(3) A beneficial use shall be deemed to be fully supported but threatened if the use is supported currently but the appropriate state environmental agency determines that available data indicate that during the next five years the use may become not supported due to anticipated sources or adverse trends of pollution not prevented or controlled. If data from the preceding two year period indicate a trend away from impairment, the appropriate agency shall remove the threatened status.

~~(4) A beneficial use shall be deemed to be partially supported for a given parameter whose criterion is based upon a short term average if greater than 10% but less than 25% of the samples for that parameter exceed the applicable screening level prescribed in this Subchapter.~~

~~(5)~~ A beneficial use shall be deemed to be not supported for a given parameter whose criterion is based upon a short term average if at least ~~25~~ 10% of the samples for that parameter exceed the applicable screening level prescribed in this Subchapter.

(c) Long term average numerical parameters.

(1) Long term average numerical parameters are based upon exposure periods of seven days or longer. ~~Long term average parameters to which this Section applies include, but are not limited to, fish consumption water column numerical criteria and yearly mean standards. For purposes of assessing use support, calculations of means shall be limited to a two-year rolling average for those beneficial use applications requiring long term averages.~~ Assessment decisions shall be based upon the mean of all data meeting the temporal and spatial data requirements described elsewhere in this Subchapter.

(2) A beneficial use shall be deemed to be fully supported for a given parameter whose criterion is based upon a long term average if the mean of the sample results does not exceed the long term average.

(3) A beneficial use shall be deemed to be fully supported but threatened if the use is supported currently but the appropriate state environmental agency determines that available data indicate that during the next five years the use may become not supported due to anticipated sources or adverse trends of pollution not prevented or controlled. If data from the preceding two year period indicate a trend away from impairment, the appropriate agency shall remove the threatened status.

~~(4) Because means are compared with screening levels when addressing long term average numerical parameters, such parameters are not susceptible to an assessment that a use is partially supported.~~

~~(5)~~ A beneficial use shall be deemed to be not supported for a given parameter whose criterion is based upon a long term average if the mean of the sample results exceeds the criterion or screening level.

785:46-15-5. 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 785:45 for a waterbody is supported.

(b) **Dissolved oxygen.**

(1) **Screening levels for DO in streams.**

(A) Screening levels for DO in habitat limited aquatic communities shall be 4.0 mg/L from April 1 through June 15 each year and 3.0 mg/L for the remainder of the year.

(B) Screening levels for DO in warm water aquatic communities shall be 4.0 mg/L from June 16 through October 15 each year and 5.0 mg/L for the remainder of the year.

(C) Screening levels for DO in cool water aquatic communities and trout fisheries shall be 5.0 mg/L from June 1 through October 15 each year and 6.0 mg/L for the remainder of the year.

(2) **Screening levels for DO in lakes.**

~~(A) If greater than 70% of the water column at any given sample site in a lake or an arm of a lake is less than 2 mg/L due to other than naturally occurring conditions, the Fish and Wildlife Propagation beneficial use shall be deemed to be not supported. The screening level for D.O. for the water column of a lake shall be 2 mg/L.~~

~~(B) If 50% or more, but not greater than 70%, of the water column at any given sample site in a lake or arm of a lake is less than 2 mg/L due to other than naturally occurring conditions, the Fish and Wildlife Propagation beneficial use shall be deemed to be partially supported.~~

~~(C) If 50% or more, but not greater than 70%, of the water column at any given sample site in a lake or arm of a lake is less than 2 mg/L due to other than naturally occurring conditions, the Fish and Wildlife Propagation beneficial use shall be deemed to be partially supported. The screening level for surface DO in a lake or arm of a lake shall be 4 mg/L from June 16 through October 15 each year and 5.0 mg/L for the remainder of the year.~~

(3) **Support tests.**

(A) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to the DO criterion if no more than 10% of the samples from a waterbody are less than the screening level for DO prescribed in (b)(1) or ~~(b)(2)(C)~~ (b)(2)(B) of this Section and such result is due to other than naturally occurring conditions.

(B) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be ~~partially~~ not supported with respect to the DO criterion if greater than 10% ~~but less than 25%~~ of the samples from a waterbody are less than the screening level for DO prescribed in (b)(1) or ~~(b)(2)(C)~~ (b)(2)(B) of this Section due to other than naturally occurring conditions.

(C) The Fish and Wildlife Propagation beneficial use designated for a ~~waterbody~~ lake or reservoir or portion thereof shall be deemed to be not supported with respect to the DO criterion if ~~at least 25% of the samples from a waterbody are less than the screening level for DO prescribed in (b)(1) or (b)(2)(C) of this Section~~ more than 50% of the water column at any given sample site has D.O. concentrations less than the screening level prescribed in (b)(2)(A) of this section due to other than naturally occurring conditions.

(c) **Toxicants.**

(1) ~~Test for Full Support~~ **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) 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.
- (2) ~~Test for Non-Support~~ **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
- (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 ~~natural causes~~ naturally occurring conditions if no more than 10% of the sample concentrations from that waterbody fall outside the ~~screening interval~~ criteria range prescribed in 785:45-5-12(f)(3).
- (2) ~~The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be partially supported with respect to pH occurring other than by natural causes if greater than 10% but less than 25% of the sample concentrations from that waterbody fall outside the screening interval prescribed in 785:45-5-12(f)(3).~~
- (3) 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 ~~natural causes~~ naturally occurring conditions if at least ~~25~~10% of the sample concentrations from that waterbody fall outside the ~~screening interval~~ criteria range prescribed in 785:45-5-12(f)(3).
- (e) **Turbidity.** The criteria for turbidity stated in 785:45-5-12(f)(7) shall constitute the screening levels for turbidity. The tests for use support shall follow the default protocol in 785:46-15-4(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.** 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 785:45 Appendix G converted to dissolved criteria by multiplying the total metal criterion listed in 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 785:46-15-3. 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.

(i) **Biological criteria.**

(1) If data demonstrate that an assemblage of fish or macro invertebrates from a waterbody is significantly degraded, according to 785:45-5-12(f)(5), from that expected for the subcategory of Fish and Wildlife Propagation designated in OAC 785:45 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 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 this ecoregion if 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 undetermined. 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.

785:46-15-6. 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 785:45 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) **Screening levels.**

- (1) The screening level for fecal coliform shall be a density of 400 colonies per 100ml.
- (2) The screening level for *Escherichia coli* shall be a density of 235 colonies per 100 ml in streams designated in OAC 785:45 as Scenic Rivers and in lakes, and 406 colonies per 100 ml in all other waters of the state designated as Primary Body Contact Recreation.
- (3) The screening level for enterococci shall be a density of 61 colonies per 100 ml in streams designated in OAC 785:45 as Scenic Rivers and in lakes, and 406 colonies per 100 ml in all other waters of the state designated as Primary Body Contact Recreation.

(c) **Fecal coliform.**

- (1) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to fecal coliform if the geometric mean of 400 colonies per 100 ml is met and no greater than 25% of the sample concentrations from that waterbody exceed the screening level prescribed in (b) of this Section.
- ~~(2) The parameter of fecal coliform is not susceptible to an assessment that Primary Body Contact Recreation is partially supported.~~
- ~~(3)~~ The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to fecal coliform if the geometric mean of 400 colonies per 100 ml is not met, or greater than 25% of the sample concentrations from that waterbody exceed the screening level prescribed in (b) of this Section, or both such conditions exist.

(d) ***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 is met, or the sample concentrations from that waterbody taken during the recreation season do not exceed the screening level prescribed in (b) of this Section, or both such conditions exist.
- ~~(2) The parameter of *E. coli* is not susceptible to an assessment that Primary Body Contact Recreation is partially supported.~~
- ~~(3)~~ 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 is not met and any of the sample concentrations from that waterbody taken during the recreation season exceed a screening level prescribed in (b) of this Section.

(e) **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 is met, or the sample concentrations from that waterbody taken during the recreation season do not exceed the screening level prescribed in (b) of this Section, or both such conditions exist.
- ~~(2) The parameter of enterococci is not susceptible to an assessment that Primary Body Contact Recreation is partially supported.~~
- ~~(3)~~ 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 is not met and any of the sample concentrations from that waterbody taken during the recreation season exceed a screening level prescribed in (b) of this Section.

785:46-15-7. 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 785:45 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 785:45 Appendix G if the sample concentrations from that waterbody do not exceed the criterion for that substance prescribed in OAC 785:45 Appendix G more than 10% of the time, ~~or~~ and drinking water use restrictions are not in effect, ~~or both such conditions exist.~~

~~(2) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be partially supported with respect to any substance with criteria for such use listed in OAC 785:45 Appendix G if the sample concentrations from that waterbody exceed the criterion for that substance prescribed in OAC 785:45 Appendix G more than 10% but less than 25% of the time, or drinking water use restrictions imposed by an agency with jurisdiction in effect require more than conventional treatment, or both such conditions exist.~~

~~(3) 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 785:45 Appendix G if the sample concentrations from that waterbody exceed the criterion for that substance prescribed in OAC 785:45 Appendix G more than 25 10% of the time, or drinking water use restrictions imposed by an agency with jurisdiction in effect require closure of the water supply, or both such conditions exist.~~

(c) **Bacteria.** The screening level for fecal coliform bacteria shall be 5000 colonies per 100 ml. The tests for use support shall follow the default protocol in 785:46-15-4.

(d) **Threatened water supplies.** Waters of the state designated in OAC 785:45 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 785:45 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.

785:46-15-8. Assessment of Agriculture support

(a) **Scope.** The provisions of this Section shall be used to determine whether the beneficial use of Agriculture designated in OAC 785:45 for a waterbody is supported.

(b) **General support tests for chlorides, sulfates and TDS.**

(1) The Agriculture beneficial use designated for a waterbody shall be deemed to be fully supported with respect to ~~chlorides, sulfates and TDS~~ chloride if the mean of all ~~chlorides,~~

~~sulfates and TDS chloride~~ sample concentrations from that waterbody do not exceed the yearly mean standard prescribed in Appendix F of OAC 785:45 and no more than 10% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F of OAC 785:45. Provided, if the TDS sample concentrations are less than 700 mg/L and the chlorides and sulfates chloride sample concentrations are each less than 250 mg/L, then the Agriculture beneficial use shall be deemed to be fully supported with respect to those substances chloride.

~~(2) The Agriculture beneficial use designated for a waterbody shall be deemed to be partially supported with respect to chlorides, sulfates and TDS if the mean of all chlorides, sulfates and TDS sample concentrations from that waterbody does not exceed the yearly mean standard prescribed in Appendix F of OAC 785:45 and more than 10% but less than 25% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F of OAC 785:45.~~

~~(3) The Agriculture beneficial use designated for a waterbody shall be deemed to be not supported with respect to chlorides, sulfates and TDS chloride if the mean of all chlorides, sulfates and TDS chloride sample concentrations from that waterbody exceeds the yearly mean standard prescribed in Appendix F of OAC 785:45, or at least 2510% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F of OAC 785:45, or both such conditions exist.~~

(3) The Agriculture beneficial use designated for a waterbody shall be deemed to be fully supported with respect to sulfate if the mean of all sulfate sample concentrations from that waterbody do not exceed the yearly mean standard prescribed in Appendix F of OAC 785:45 and no more than 10% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F of OAC 785:45. Provided, if the sulfate sample concentrations are each less than 250 mg/L, then the Agriculture beneficial use shall be deemed to be fully supported with respect to sulfate.

(4) The Agriculture beneficial use designated for a waterbody shall be deemed to be not supported with respect to sulfate if the mean of all sulfate sample concentrations from that waterbody exceeds the yearly mean standard prescribed in Appendix F of OAC 785:45, or at least 10% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F of OAC 785:45.

(5) The Agriculture beneficial use designated for a waterbody shall be deemed to be fully supported with respect to TDS if the mean of all TDS sample concentrations from that waterbody do not exceed the yearly mean standard prescribed in Appendix F of OAC 785:45 and no more than 10% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F of OAC 785:45. Provided, if the TDS sample concentrations are each less than 700 mg/L, then the Agriculture beneficial use shall be deemed to be fully supported with respect to TDS.

(6) The Agriculture beneficial use designated for a waterbody shall be deemed to be not supported with respect to TDS if the mean of all TDS sample concentrations from that waterbody exceeds the yearly mean standard prescribed in Appendix F of OAC 785:45, or at least 10% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F of OAC 785:45.

(c) **Use of site specific data.** If the appropriate state environmental agency determines that the stream segment averages prescribed in Appendix F of OAC 785:45 are not appropriate for the entirety of a given stream segment or there is no value listed in Appendix F for the stream segment average for the parameter of concern, then yearly mean standards and sample standards developed from site specific data may be used to assess whether the use of Agriculture is supported for that waterbody.

(d) **Use of data for lakes.**

- (1) Lakes with one WBID segment. For support assessment in lakes with a single WBID segment, the segment averaged value prescribed in Appendix F to that same WQM segment shall be used.
- (2) Lakes with multiple WBID segments. For support assessment in lakes with multiple WBID segments, each segment shall use the segment averaged value prescribed in Appendix F to that same WQM segment when available. If a WBID segment in a lake has no corresponding WQM segment data available in Appendix F, the segment averaged value prescribed in Appendix F to the WQM segment immediately downstream of the lake shall be used.

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). 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 phosphorus concentrations in the stream are greater than 0.24 mg/L or if nitrite plus nitrate concentrations in the stream are greater than 4.95 mg/L, then proceed to paragraph (5). If such nutrient 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 phosphorus concentrations in the stream are greater than 0.15 mg/L or if nitrite plus nitrate concentrations in the stream are greater than 2.4 mg/L, then proceed to paragraph (5). If such nutrient 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 turbidity measured at seasonal base flow conditions is less than 20 NTU, then the stream is not threatened by nutrients. If 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 turbidity measured at seasonal base flow conditions is less than 20 NTU, then the stream is threatened by nutrients. If 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 phosphorus concentrations in the stream are greater than 1.00 mg/L, or if nitrite plus nitrate concentrations in the stream are greater than 4.65 mg/L, then proceed to paragraph (12). If such nutrient 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 phosphorus concentrations in the stream are greater than 0.36 mg/L, or if nitrite plus nitrate concentrations in the stream are greater than 5.0 mg/L, then proceed to paragraph (12). If such nutrient 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 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 inorganic turbidity measured at seasonal base flow conditions is less than 20 NTU, then the stream is threatened.

(c) **Alternative to dichotomous process for streams.**

(1) A wadable stream shall be deemed threatened by nutrients if the arithmetic mean of benthic chlorophyll-a data exceeds 100 mg per square meter under seasonal base flow conditions, or if two or more benthic chlorophyll-a measurements exceed 200 mg per square meter under seasonal base flow conditions. A non-wadable stream shall be deemed threatened by nutrients if planktonic chlorophyll-a values in the water column indicate it has a Carlson's Trophic State Index of 62 or greater.

(2) If clear and convincing evidence indicates a result for a stream different from that obtained from application of the dichotomous process in (b) of this Section, then the appropriate state environmental agency may, after completing the public participation process developed by the Secretary of Environment pursuant to 27A O.S. 1-2-101, accordingly identify the stream as threatened or not threatened by nutrients.

(d) **Demonstration that nutrients may be adversely impacting a beneficial use in a lake.** If it is demonstrated by the Trophic State Index or by other relevant data as provided in 785:46-15-1(c) that nutrient loading in a lake waterbody may be adversely impacting a beneficial use designated for that waterbody, then the Board may determine that the ~~lake~~ waterbody and its watershed is an NLW, and shall identify the ~~lake~~ waterbody and watershed as NLW in Appendix A of OAC 785:45.

(e) **Consequence of identification as NLW; ~~results of study.~~** If a lake waterbody or its watershed is identified as NLW in Appendix A of OAC 785:45, then the Board or other appropriate state environmental agency may cause an NLW Impairment Study impairment study to be performed. ~~The beneficial uses designated for lakes identified in OAC 785:45 Appendix A as NLW shall be presumed to be fully supported but threatened, unless an NLW Impairment Study demonstrates that the uses are partially supported or not supported; provided~~ Provided, if an NLW Impairment Study impairment study demonstrates that the uses are not threatened, then the Board shall consider deleting the NLW identification.

(f) **Consequence of assessment that use is threatened by nutrients.** If it is determined that one or more beneficial uses designated for a waterbody are threatened by nutrients, then that waterbody shall be presumed to be nutrient-threatened. If it is determined or presumed, in accordance with this Section, that a waterbody is nutrient-threatened, then before the waterbody is determined to be nutrient-impaired, an NLW Impairment Study ~~if a lake or an~~ impairment study ~~if a stream~~ must be completed by the appropriate state environmental agency.

(g) **Result of impairment study.**

(1) **Impaired or threatened.** If, independent of or in addition to the process set forth in ~~(b)~~ of this Section, an impairment study of a waterbody demonstrates that any beneficial use designated for a waterbody is impaired or threatened by nutrients, then the appropriate state environmental agency shall initiate the appropriate listing procedure developed by the Secretary of Environment pursuant to 27A O.S. 1-2-101 for each such beneficial use.

(2) **Not threatened nor impaired.** If, independent of or in addition to the process set forth in ~~(b)~~ of this Section, an impairment study of a waterbody demonstrates that a all beneficial uses designated for that waterbody is neither threatened nor are not impaired by nutrients, then the appropriate state environmental agency shall initiate the appropriate de-listing procedure developed by the Secretary of Environment pursuant to 27A O.S. 1-2-101.

~~(h) **Special provisions for Scenic Rivers.**~~

~~(1) **Scope and applicability.** This subsection (h) shall be used to determine whether the beneficial use of Aesthetics designated for a segment of a Scenic River is supported with respect to the criterion of total phosphorus.~~

~~(2) **Data and procedure.**~~

~~(A) The data used shall satisfy all of the requirements of 785:46-15-3 except subsection (f) thereof. Notwithstanding such requirements, the data shall include samples collected from stream flow of at least six (6) storm events per calendar year or, if fewer than nine (9) storm events occurred in that year, then the majority of the storm events that occurred that year.~~

~~(B) Whenever multiple samples are taken from a single storm event, the event mean concentration shall be determined and used as representative of that storm event.~~

~~(C) A three-calendar-month geometric mean concentration shall be determined each month using the total phosphorus data from that month together with such data from the preceding two calendar months.~~

~~(3) **Support tests.**~~

~~(A) The Aesthetics beneficial use designated for a segment of a Scenic River shall be deemed to be supported with respect to total phosphorus if less than 25% of the monthly determinations made in accordance with (h)(2)(C) of this Section exceed 0.037 mg/L total phosphorus.~~

~~(B) The Aesthetics beneficial use designated for a segment of a Scenic River shall be deemed to be not supported with respect to total phosphorus if 25% or greater of the monthly determinations made in accordance with (h)(2)(C) of this Section exceed 0.037 mg/L total phosphorus.~~

785:46-15-14. Assessment of Aesthetics support

(a) General provisions for all waterbodies other than Scenic Rivers. The various tests prescribed in this Subchapter for other beneficial uses may also be used to determine whether the beneficial use of Aesthetics designated in OAC 785:45 for a waterbody other than the Scenic Rivers is supported.

(b) Special provisions for Scenic Rivers.

(1) Scope and applicability. This subsection shall be used to determine whether the beneficial use of Aesthetics designated in OAC 785:45 for a segment of a Scenic River is supported with respect to the criterion of total phosphorus.

(2) Data and procedure.

(A) The data used shall satisfy all of the requirements of 785:46-15-3 except subsection (f) thereof. Notwithstanding such requirements, the data shall include samples collected from stream flow of at least six (6) storm events per calendar year

or, if fewer than nine (9) storm events occurred in that year, then the majority of the storm events that occurred that year.

(B) Whenever multiple samples are taken from a single storm event, the event mean concentration shall be determined and used as representative of that storm event.

(C) A three-calendar-month geometric mean concentration shall be determined each month using the total phosphorus data from that month together with such data from the preceding two calendar months.

(3) Support tests.

(A) The Aesthetics beneficial use designated for a segment of a Scenic River shall be deemed to be supported with respect to total phosphorus if less than 25% of the monthly determinations made in accordance with (b)(2)(C) of this Section exceed 0.037 mg/L total phosphorus.

(B) The Aesthetics beneficial use designated for a segment of a Scenic River shall be deemed to be not supported with respect to total phosphorus if 25% or greater of the monthly determinations made in accordance with (b)(2)(C) of this Section exceed 0.037 mg/L total phosphorus.

SUBCHAPTER 17. OWRB WATER QUALITY STANDARDS IMPLEMENTATION PLAN

785:46-17-2. Definitions

In addition to terms defined in Title 27A O.S. § 1-1-201 and Title 82 O.S. § 1084.2, the following words or terms, when used in this Subchapter, shall have the following meanings unless the context clearly indicates otherwise:

"CWA" means Clean Water Act.

"DEQ" means the Department of Environmental Quality.

"NPDES" means National Pollutant Discharge Elimination System.

"NPS" means nonpoint source.

"OWRB" means the Oklahoma Water Resources Board.

"Plan" means the Water Quality Standards Implementation Plan, or portion thereof, promulgated by the Board in this Subchapter for the programs that affect water quality within the Board's jurisdictional areas of environmental responsibility.

"SRF" means a fund or program used for loans to eligible entities for qualified projects in accordance with Federal law, rules and guidelines administered by the U.S. Environmental Protection Agency and state law and rules administered by the Board. "SRF" is a Federal term referring to a state revolving fund. There are two separate SRF programs administered in Oklahoma: one is for the purpose of controlling water pollution (the Clean Water SRF) and the other is for the purpose of providing safe drinking water (the Drinking Water SRF).

"USAP" means use support assessment protocols promulgated by the Board and codified at OAC 785:46 Subchapter 15.

"WQS" means the water quality standards promulgated by the Board in OAC 785:45.

"WQSIP" means Water Quality Standards Implementation Plan.

785:46-17-3. Processes to ensure compliance with antidegradation standards and leading to maintenance of, removal of threats to, and restoration of beneficial uses

(a) In the course of determining applications for stream water permits, the Board evaluates or calculates runoff data, available stream gauge data, lake storage volumes and dependable yield data for reservoirs, and the watershed above the proposed diversion point. The Board protects against degradation by appropriating no more than the mean annual flow of a stream. After July 1, 2000, the Board will also evaluate whether an application will cause a potential impact on beneficial uses.

(b) In the course of determining maximum annual yields of groundwater basins, the Board assumes 100 percent development within the basin; this ensures a longer basin life because current basin development is typically less than 20 percent of the entire basin. The maximum annual yield procedure also identifies potential sources of contamination within the basin. The basin studies will further determine the level of decline in storage in the basin which could impact historic low base flow discharge such that flow in that stream could potentially begin to be reduced due to groundwater withdrawals. In the course of determining applications for groundwater permits where the maximum annual yield has been determined, the Board protects against degradation by limiting the permitted withdrawal to the maximum annual yield allocated to the land covered by the permit, and avoiding withdrawal that would cause contaminated groundwater or surface water to be moved into groundwater that is not already contaminated.

(c) The Board's Clean Water SRF loans for ~~construction~~ of projects comply with antidegradation standards and lead to maintaining water quality where beneficial uses are supported, removal of threats to water quality where beneficial uses are in danger of not being supported, and restoration of water quality where beneficial uses are not being supported, based upon the following procedures:

(1) In the course of determining eligibility of applications, the Board reviews the proposed project's consistency with water quality management plans developed under sections 205(j), 208, 303(e), 319 and 320 of the Clean Water Act. The Clean Water SRF Integrated Priority Ranking System ranks projects for funding based on human health protection, the "fishable/swimmable" goals of the Clean Water Act, the WQS, and Oklahoma's Nonpoint Source Management Program led by the Oklahoma Conservation Commission. All projects are placed on a five-year Clean Water SRF Project Priority List and funded in priority order. Proposed projects receive points based on the four major factors of project type, water quality restoration, water quality protection, and readiness to proceed, all as provided in 785:50-9-23.

(2) The project is evaluated for its ability to meet discharge permit limits in satisfaction of water quality standards, and any mitigative measures necessary to Wastewater projects under Section 212 of the Clean Water Act are reviewed by Board staff engineers for compliance with applicable DEQ rules, including but not limited to the Public Water Supply Construction Standards in OAC 252:626 and the Water Pollution Control Facility Construction rules in OAC 252:656; and consistency with the system owner's 208 water quality management plan, NPDES permit, and sludge management plans, if required by DEQ, all designed to protect the beneficial uses of the receiving waters. Approval of preliminary engineering design is made by the Board following approval by DEQ. Additional preventative measures may include, but are not limited to, design measures to prevent erosion during construction and to prevent wastewater bypasses during construction.

(3) The funding recipients Recipients of loans for Section 212 wastewater projects are required to construct the projects in accordance with plans and specifications approved by DEQ and the Board. The recipients are required to employ a full time resident inspector. The projects are periodically inspected by the Board staff during construction, and upon completion are subjected to a final Board inspection for compliance with construction and discharge standards . Upon completion, the project is placed into operation, at which time it is evaluated by the consulting engineer and DEQ for compliance with construction and discharge standards.

(4) Recipients of loans for Section 319 NPS pollution control projects are required to implement the projects in accordance with State-approved BMP to control pollution for various NPS categories in accordance with TMDLs or other plans established to control NPS runoff.

(d) The Board's loans from revenue bond proceeds for construction of projects comply with antidegradation standards and lead to maintaining water quality where beneficial uses are supported, removal of threats to water quality where beneficial uses are in danger of not being supported, and restoration of water quality where beneficial uses are not being supported, based upon the following procedures:

(1) **Pre-approval procedures.** Sections 785:50-7-1 and 785:50-7-2 of the OAC provide general rules and criteria for review and approval of proposed bond loan projects. Among other requirements, the project is reviewed for feasibility and identification of water quality mitigative measures necessary to protect the beneficial uses of receiving waters. These measures may include, but are not limited to, design measures to prevent erosion during construction and to prevent wastewater bypasses during construction. Additionally, all projects are reviewed by Board staff engineers for compliance with applicable rules of the DEQ, including but not limited to the Public Water Supply Construction Standards in OAC 252:626, and the Water Pollution Control Facility Construction rules in OAC 252:656; and for consistency with the system owner's 208 water quality management plan, NPDES permit, and sludge management plans issued by DEQ, all designed to protect the beneficial uses of receiving waters. Approval of preliminary engineering design is made by the Board following approval by DEQ.

(2) **Procedures following approval.** After a revenue bond loan project is approved by the Board, it is monitored to assure it is constructed in accordance with planning documents and plans and specifications approved by the Board and DEQ. Loan recipients are required to employ a full time resident inspector to ~~monitor and record~~ oversee construction progress. In addition, construction projects receive periodic oversight from a consulting engineer and the Board staff engineer. Upon completion, the project is placed into operation, at which time it is evaluated by the consulting engineer and DEQ for compliance with construction and discharge standards.

(e) The Board's emergency grants for construction of projects comply with antidegradation standards and lead to maintaining water quality where beneficial uses are supported, removal of threats to water quality where beneficial uses are in danger of not being supported, and restoration of water quality where beneficial uses are not being supported, based upon the following procedures:

(1) **Pre-approval procedures.** Section 785:50-7-5 of the OAC provides a priority system which ranks proposed emergency grant projects for review and approval according to certain factors and criteria. Among other requirements, the project is reviewed for feasibility and identification of water quality mitigative measures necessary to protect the beneficial uses of receiving waters. These measures may include, but are not limited to, design measures to prevent erosion during construction and to prevent wastewater bypasses during construction. Additionally, all projects are reviewed by Board staff engineers for compliance with applicable rules of the DEQ, including but not limited to the Public Water Supply Construction Standards in OAC 252:626 and the Water Pollution Control Facility Construction rules in OAC 252:656; and for consistency with the system owner's 208 water quality management plan, NPDES permit, and sludge management plans issued by DEQ, all designed to protect the beneficial uses of receiving waters. Approval of preliminary engineering design is made by the Board following approval by DEQ.

(2) **Procedures following approval.** After an emergency grant project is approved by the Board, it is monitored to assure it is constructed in accordance with plans and specifications approved by the Board and DEQ. Emergency grant recipients are required to employ a full time resident inspector to ~~monitor and record~~ oversee construction progress. In addition, construction projects receive periodic oversight from a consulting engineer and the Board staff engineer. Upon completion, the project is placed into

operation, at which time it is evaluated by the consulting engineer and DEQ for compliance with construction and discharge standards.

(f) The Board's Rural Economic Action Plan (REAP) Grant Program for construction of projects complies with antidegradation standards and leads to maintaining water quality where beneficial uses are supported, removal of threats to water quality where beneficial uses are in danger of not being supported, and restoration of water quality where beneficial uses are not being supported, based upon the following procedures:

(1) **Pre-approval procedures.** Sections 785:50-8-3 and 785:50-8-4 of the OAC provide general rules and criteria for review and approval of proposed REAP projects, while Section 785:50-8-5 provides a priority system which ranks proposed REAP grant projects according to certain factors and criteria. Among other requirements, the project is reviewed for feasibility and identification of water quality mitigative measures necessary to protect the beneficial uses of receiving waters. These measures may include, but are not limited to, design measures to prevent erosion during construction and to prevent wastewater bypasses during construction. Additionally, all projects are reviewed by Board staff engineers for compliance with applicable rules of the DEQ, including but not limited to the Public Water Supply Construction Standards in OAC 252:626 and the Water Pollution Control Facility Construction rules in OAC 252:656; and for consistency with the system owner's 208 water quality management plan, NPDES permit, and sludge management plans issued by DEQ, all designed to protect the beneficial uses of receiving waters. Approval of preliminary engineering design is made by the Board following approval by DEQ.

(2) **Procedures following approval.** After a REAP grant project is approved by the Board, it is monitored to assure it is constructed in accordance with plans and specifications approved by the Board and DEQ. REAP grant recipients are required to employ a full time resident inspector to ~~monitor and record~~ oversee construction progress. In addition, construction projects receive periodic oversight from a consulting engineer and the Board staff engineer. Upon completion, the project is placed into operation, at which time it is evaluated by the consulting engineer and DEQ for compliance with construction and discharge standards.

(g) In carrying out its various clean lakes programs, the Board complies with antidegradation standards, and leads to maintenance of water quality where beneficial uses are supported, removal of threats to water quality where beneficial uses are in danger of not being supported, and restoration of water quality where beneficial uses are not being supported, in the following ways:

(1) The Board participates with municipalities and federal agencies in conducting lake water quality assessments and studying the problems causing impairment or pollution.

(2) The Board makes recommendations for removal of pollutants, watershed restoration and management activities, and controlling nonpoint source pollution through implementation of best management practices.

(3) In some instances the Board enters into contracts for implementation of pollution control measures on threatened or impaired waterbodies.

785:46-17-10. Evaluation of effectiveness

The Board ~~will~~ may utilize discharge monitoring reports submitted to DEQ, and may compare previous effluent limits with effluent produced after project completion and operation, to evaluate the effectiveness of wastewater projects constructed with funding from the Board. The Board may also utilize pertinent data from its Beneficial Use Monitoring Program to evaluate the effectiveness of these projects.

APPENDIX D - SUMMARY OF COMMENTS ON OWRB'S WATER QUALITY STANDARDS IMPLEMENTATION PLAN [REVOKED]

APPENDIX D - SUMMARY OF COMMENTS ON OWRB'S WATER QUALITY STANDARDS IMPLEMENTATION PLAN [NEW]

Title 27A O.S. § 1-1-202(B)(3)(g) provides that *each Water Quality Standards Implementation Plan shall...include a brief summary of the written comments and testimony received pursuant to all public meetings held or sponsored by the...agency for the purpose of providing the public and other state environmental agencies an opportunity to comment on the plan.*

I. Summary of Comments Received During 2000-2001 Rulemaking

The OWRB proposed new rules prescribing its Water Quality Standards Implementation Plan as described in a notice of rulemaking intent published at 18 Ok Reg 333 on January 2, 2001. During the January 2 through February 5, 2001 comment period on those new rules, the OWRB received written comments which are summarized or quoted below.

Ron Suttles, Oklahoma Department of Wildlife Conservation, submitted written comments which stated:

"Our last comment deals with language in Chapter 46 Subchapter 17-3. There is new wording specifying that, 'The Board protects against degradation by appropriating no more than the mean annual flow of a stream.' We believe that this will not provide sufficient protection for 'waters of the state' and barring [sic] clarification to the contrary must object to what appears to be an appropriation provision that will cause WQS to be violated."

Kelly Burch, Assistant Attorney General in the Oklahoma Attorney General's Office, submitted written comments which stated:

"Senate Bill 549 requires the OWRB to promulgate an implementation plan which includes the 'processes, procedures and methodologies' that will be utilized to ensure that the surface water permitting program will comply with anti-degradation standards and lead to maintenance of water quality, removal of threats to water quality and restoration of water quality. Stream water appropriations can degrade water quality and impair beneficial uses if not managed properly. The OWRB is required to develop an implementation plan demonstrates [sic] how the standards will be used in the program to prevent these impacts.

"The current proposal does not meet the requirements of Senate Bill 549. The proposal simply states that compliance with anti-degradation standards is already assured because the OWRB only appropriates the mean annual flow of a stream. As your recent study of the Baron Fork Creek demonstrates, the current system of appropriating the mean annual flow of a stream does not necessarily protect against degradation of water quality. There are several methods available to evaluating flow necessary to prevent degradation which you may want to consider using for permitting decisions.

"It is also insufficient to say that the OWRB will begin looking at impacts on beneficial uses without any clarification of which 'processes, procedures and methodologies' will be used to assess these impacts. It is already clear that the OWRB is required to ensure that beneficial uses are protected when issuing permits. The question is how is the agency going to comply with that requirement. The current proposal needs to be amended in order to meet the mandates of Senate Bill 549."

Margaret Ruff, Oklahoma Wildlife Federation, submitted written comments which stated:

"785-46-17. Overall, the OWF does not see that this language assures in any way that OWRB's implementation plans will uphold water quality standards. In (a), stating the Board 'protects against degradation by appropriating no more than the mean annual flow of a stream' is not necessarily protective of Oklahoma's water quality standards. Further, if a potential impact on beneficial uses is found, there is no language mandating any action taken to rectify the situation; this needs to be added. In (b), there needs to be language mandating that actual affects [sic] to water quality from groundwater allocation is assessed and specifying action is taken if such an assessment finds withdrawals are negatively affecting water quality. In (c), language states that the program complies with antidegradation standards but does not say how - this needs to be included.

"For does this section overall address antidegradation in High Quality Waters of Oklahoma. This is a higher standard than beneficial use attainment, and antidegradation should mean no backsliding is allowed in those waters.

"785-46-17-5. The list is missing language spelling out how these programs meet Water Quality Standards.

"785-46-17-7. Should spell out what links are there to assure the plan is integrated into management activities.

"785-46-17-8.(a) Such permits from other agencies have not assured compliance with water quality standards and OWF does not believe that OWRB should assume this. In fact, the Oklahoma Supreme Court has suggested that in at least some areas, the OWRB should not assume another agency's permit means compliance.

"785-46-17-10. OWF recommends changing the 'mays' to 'shalls'. Also, OWF recommends adding all the other sources as cited in 785-46-17-6." (Emphasis in original.)

Upon consideration of these comments, the OWRB staff concurred that the appropriate implementation of water quality standards into the process of stream water permitting is in its infancy. The staff expects to be working over the next several years to evolve all agency programs to assure that the Oklahoma Water Quality Standards are protected.

II. Summary of Comments Received During 2007-2008 Rulemaking

[Note: Because these comments and testimony cannot be summarized in advance of their receipt, the wording of this portion of this Appendix cannot be completed until after the close of the comment period on this rulemaking.]