15A NCAC 02B .0202 is proposed for amendment as follows:

15A NCAC 02B .0202 DEFINITIONS

The definition of any word or phrase used in this Section shall be the same as given in G.S. 143, Article 21. The following words and phrases, which are not defined in this article, shall be interpreted as follows:

(1) "Acute toxicity to aquatic life" means lethality or other harmful effects sustained by either resident aquatic populations or indicator species used as test organisms in a controlled toxicity test due to a short-term exposure (relative to the life cycle of the organism) of 96 hours or less to a specific chemical or mixture of chemicals (as in an effluent). Acute toxicity shall be determined using the following procedures:

(a) for specific chemical constituents or compounds, acceptable levels shall be equivalent to a concentration of one-half or less of the Final Acute Value (FAV) as determined according to "Guidelines for Deriving Numerical Water Quality Criteria for the Protection of Aquatic Life and its Uses" published by the Environmental Protection Agency and referenced in the Federal Register (50 FR 30784, July 29, 1985) which is incorporated by reference including subsequent amendments and editions.

(b) for specific chemical constituents or compounds for which values described under Sub-Item (a) of this Item cannot be determined, acceptable levels shall be equivalent to a concentration of one-third or less of the lowest available LC50 value.

(c) for effluents, acceptable levels shall be defined as no statistically measurable lethality (99 percent confidence level using Student's t-test) during a specified exposure period. Concentrations of exposure shall be based on permit requirements and procedures in accordance with 15A NCAC 02H .1110.

(d) in instances where detailed dose response data indicate that levels of acute toxicity are different from those defined in this Rule, the Director may determine on a case-by-case basis an alternate acceptable level through statistical analyses of the dose response in accordance with 15A NCAC 02H .1110.

(2) "Acute to Chronic Ratio" or "ACR" means the ratio of acute toxicity expressed as an LC50 for a specific toxicant or an effluent to the chronic value for the same toxicant or effluent.

(3) "Agricultural uses" means the use of waters for stock watering, irrigation, and other farm purposes.

(4) "Applicator" means any person, firm, corporation, wholesaler, retailer, or distributor; any local, State, or federal governmental agency; or any other person who applies fertilizer to the land of a consumer or client or to land that they own, lease, or otherwise hold rights.

(5) "Approved treatment," as applied to water supplies, means treatment approved by the Division in accordance with 15A NCAC 18C .0301 through .0309, as authorized by G.S. 130A-315 and G.S. 130A-317.

(6) "Attainable water uses" means uses that can be achieved by the imposition of effluent limits and cost effective and reasonable best management practices (BMP) for nonpoint source control.

(7) "Average" means the arithmetical average of the analytical results of all representative samples taken under prevailing environmental conditions during a specified period (for example: daily, weekly, or monthly).

(8) "Best Management Practice" or "BMP" means a structural or nonstructural management-based practice used singularly or in combination to reduce point source or nonpoint source inputs to receiving waters in order to achieve water quality protection goals.

(9) "Best usage" or "Best use" of waters, as specified for each class, means those uses as determined by the Environmental Management Commission in accordance with the provisions of G.S. 143-214.1.

(10) "Bioaccumulation factor" or "BAF" means a unitless value that describes the degree to which substances are taken up or accumulated into tissues of aquatic organisms from water directly and from food or other ingested materials containing the accumulated substances, and is measured as a ratio of a substance's concentration in tissue versus its concentration in water in situations where exposure to the substance occurs from both water and the food chain.

(11) "Bioconcentration factor" or "BCF" means a unitless value that describes the degree to which substances are absorbed or concentrated into tissues of aquatic organisms from water directly and is measured as a ratio of substance's concentration in tissue versus its concentration in water in situations where exposure to the substance occurs from water only.

(12) "Biological integrity" means the ability of an aquatic ecosystem to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities, and functional organization similar to that of reference conditions.

(13) "Buffer" means a natural or vegetated area through which stormwater runoff flows in a diffuse manner so that the runoff does not become channelized and which provides for infiltration of the runoff and filtering of pollutants.

(14) "Chronic toxicity to aquatic life" means any harmful effect sustained by either resident aquatic populations or indicator species used as test organisms in a controlled toxicity test due to long-term exposure (relative to the life cycle of the organism) or exposure during a substantial portion of the duration of a sensitive period of the life cycle to a specific chemical substance or mixture of chemicals (as in an effluent). In absence of extended periods of exposure, early life stage or reproductive toxicity tests may be used to define chronic impacts.

(15) "Chronic value for aquatic life" means the geometric mean of two concentrations identified in a controlled toxicity test as the No Observable Effect Concentration (NOEC) and the Lowest Observable Effect Concentration (LOEC).

(16) "Commercial applicator" means any person, firm, corporation, wholesaler, retailer, distributor, or any other person who for hire or compensation applies fertilizer to the land of a consumer or client.

(17) "Concentration" means the mass of a substance per volume of water and, for the purposes of this Section, shall be expressed as milligrams per liter (mg/l), micrograms per liter (ug/l), or nanograms per liter (ng/l).

(18) "Contiguous" means those wetlands landward of the mean high water line or normal water level and within 575 feet of classified surface waters that appear as solid blue lines on the most recently published versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps, which are available at no cost at http://www.usgs.gov/pubprod/.

(19) "Critical area" means the area adjacent to a water supply intake or reservoir where risk associated with pollution is greater than risk associated with pollution from the remaining portions of the watershed. The boundary of a critical area is defined as:

(a) extending either 1/2 mile in a straight line fashion upstream from and draining to the normal pool elevation of the reservoir in which the intake is located or to the ridge line of the watershed, whichever is nearest the normal pool elevation of the reservoir;

(b) extending either 1/2 mile in a straight line fashion upstream from and draining to the intake (or other appropriate downstream location associated with the water supply) located directly in the stream or river (run-of-the-river) or to the ridge line of the watershed, whichever is nearest the intake; or

(c) extending a different distance from the reservoir or intake as adopted by the Commission during the reclassification process pursuant to Rule .0104 of this Subchapter.

Since WS-I watersheds are essentially undeveloped, establishment of a critical area is not required.

(20) "Cropland" means agricultural land that is not covered by a certified animal waste management plan and is used for growing corn, grains, oilseed crops, cotton, forages, tobacco, beans, or other vegetables or fruits.

(21) "Designated Nonpoint Source Agency" means an agency specified by the Governor in the North Carolina Nonpoint Source Management Program, as approved by the Environmental Protection Agency pursuant to the 1987 amendments to the federal Clean Water Act 33 U.S.C. 1329 that established Section 319 Nonpoint source management programs.

(22) "Director" means the Director of the Division.

(23) "Discharge" means the addition of any man-induced waste effluent either directly or indirectly to State surface waters.

(24) "Division" means the Division of Water Resources or its successors.

(25) "Domestic wastewater discharge" means the discharge of sewage, non-process industrial wastewater, other domestic wastewater, or any combination of these items. Domestic wastewater

includes, but is not limited to, liquid waste generated by domestic water using fixtures and appliances from any residence, place of business, or place of public assembly, even if it contains no sewage. Examples of domestic wastewater include once-through non-contact cooling water, seafood packing facility discharges, and wastewater from restaurants.

(26) "Effluent channel" means a discernable confined and discrete conveyance that is used for transporting treated wastewater to a receiving stream or other body of water, as provided in Rule .0228 of this Section.

(27) "Existing uses" mean uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

(28) "Fertilizer" means any substance containing nitrogen or phosphorus that is used primarily as plant food.

(29) "Fishing" means the taking of fish by recreational or commercial methods, the consumption of fish or shellfish, the propagation of fish, or the propagation of other aquatic life as is necessary to protect the biological integrity of the environment for fish.

(30) "Forest vegetation" means the plants of an area that grow in disturbed or undisturbed conditions in wooded plant communities in any combination of trees, saplings, shrubs, vines, and herbaceous plants, including mature and successional forests and cutover stands.

(31) "Freshwater" means all waters that under natural conditions have a chloride ion content of 500 mg/l or less.

(32) "Industrial discharge" means the discharge of industrial process treated wastewater or wastewater other than sewage. Stormwater shall not be considered to be an industrial wastewater unless it is contaminated with industrial wastewater. Industrial discharge includes:

(a) wastewater resulting from any process of industry or manufacture or from the development of any natural resource;

(b) wastewater resulting from processes of trade or business, including wastewater from laundromats and car washes, but not wastewater from restaurants; and

(c)[A1] for the purpose of prohibiting discharges to waters classified as Water Supply (WS) in accordance with Rules .0212, .0214, .0215, .0216, and .0218 of this Section, wastewater discharged from a municipal wastewater treatment plant ~~requiring~~ required to administer a pretreatment ~~program.~~ program pursuant to 15A NCAC 02H .0904.

(33) "Land-disturbing activity" means any use of the land that results in a change in the natural cover or topography that may cause or contribute to sedimentation.

(34) "LC50" means that concentration of a toxic substance that is lethal or immobilizing to 50 percent of the sensitive aquatic toxicity testing species tested during a specified exposure period, as required by NPDES permit, under aquatic conditions characteristic of the receiving waters. Sensitive species for aquatic toxicity testing is defined by Subparagraph (50) of this Rule.

(35) "Lentic[A2]" means an aquatic ecosystem with standing or slow flowing water such as a lake, pond, or reservoir.

~~(35)~~(36) "Local government" means a city or county in singular or plural as defined in G.S. 160A-1(2) and G.S. 158A-10.

(37) "Lotic[A3]" means an aquatic ecosystem with rapidly flowing water such as a stream or river.

~~(36)~~(38) "Lower piedmont and coastal plain waters" means those waters of the Catawba River Basin below Lookout Shoals Dam; the Yadkin River Basin below the junction of the Forsyth, Yadkin, and Davie County lines; and all of the waters of Cape Fear, Lumber, Roanoke, Neuse, Tar-Pamlico, Chowan, Pasquotank, and White Oak River Basins; except tidal salt waters which are assigned S classifications.

~~(37)~~(39) "MF" means the membrane filter procedure for bacteriological analysis.

~~(38)~~(40) "Mixing zone" means a region of the receiving water in the vicinity of a discharge within which dispersion and dilution of constituents in the discharge occurs. Zones shall be subject to conditions established in accordance with Rule .0204(b) of this Section.

~~(39)~~(41) "Mountain and upper piedmont waters" means all of the waters of the Hiwassee; Little Tennessee, including the Savannah River drainage area; French Broad; Broad; New; and Watauga River Basins; and those portions of the Catawba River Basin above Lookout Shoals Dam and the Yadkin River Basin above the junction of the Forsyth, Yadkin, and Davie County lines.

~~(40)~~(42) "Nonpoint source pollution" means pollution that enters waters mainly as a result of precipitation and subsequent runoff from lands that have been disturbed by man's activities and includes all sources of water pollution that are not required to have a permit in accordance with G.S. 143-215.1(c).

~~(41)~~(43) "Non-process discharge" means industrial effluent not directly resulting from the manufacturing process. An example is non-contact cooling water from a compressor.

~~(42)~~(44) "Offensive condition" means any condition or conditions resulting from the presence of sewage, industrial wastes, or other wastes within the waters of the State or along the shorelines thereof that shall either directly or indirectly cause foul or noxious odors, unsightly conditions, or breeding of abnormally large quantities of mosquitoes or other insect pests; damage private or public water supplies or other structures; result in the development of gases which destroy or damage surrounding property, herbage or grasses; cause the impairment of taste such as from fish flesh tainting; or affect the health of any person residing or working in the area.

~~(43)~~(45) "Primary contact recreation" means swimming, diving, skiing, and similar uses involving human body contact with water where such activities take place in an organized or on a frequent basis.

~~(44)~~(46) "Primary nursery area" or "PNA" means tidal saltwaters that provide essential habitat for the early development of commercially important fish and shellfish and are so designated by the Marine Fisheries Commission.

~~(45)~~(47) "Protected area" means the area adjoining and upstream of the critical area in a WS-IV water supply in which protection measures are required. The boundary of a protected area is defined as:

(a) extending either five miles in an as-the-river-runs manner upstream from and draining to the normal pool elevation of the reservoir in which the intake is located or to the ridge line of the watershed, whichever is nearest the normal pool elevation of the reservoir;

(b) extending either 10 miles in an as-the-river-runs manner upstream from and draining to the intake located directly in the stream or river run-of-the-river or to the ridge line of the watershed, whichever is nearest the intake. In some cases the protected area shall encompass the entire watershed; or

(c) extending a different distance from the reservoir or intake as adopted by the Commission during the reclassification process pursuant to Rule .0104 of this Subchapter.

~~(46)~~(48) "Residential development" means buildings for residence such as attached and detached single family dwellings, apartment complexes, condominiums, townhouses, cottages, and their associated outbuildings such as garages, storage buildings, and gazebos.

~~(47)~~(49) "Residuals" has the same meaning as in 15A NCAC 02T .0103.

~~(48)~~(50) "Riparian area" means an area that is adjacent to a body of water.

~~(49)~~(51) "Secondary contact recreation" means wading, boating, other uses not involving human body contact with water, and activities involving human body contact with water where such activities take place on an infrequent, unorganized, or incidental basis.

~~(50)~~(52) "Sensitive species for aquatic toxicity testing" means any species utilized in procedures accepted by the Commission or its designee in accordance with Rule .0103 of this Subchapter, and the following genera:

(a) Daphnia;

(b) Ceriodaphnia;

(c) Salmo;

(d) Pimephales;

(e) Mysidopsis;

(f) Champia;

(g) Cyprinodon;

(h) Arbacia;

(i) Penaeus;

(j) Menidia;

(k) Notropis;

(l) Salvelinus;

(m) Oncorhynchus;

(n) Selenastrum;

(o) Chironomus;

(p) Hyalella;

(q) Lumbriculus.

~~(51)~~(53) "Shellfish culture" means the use of waters for the propagation, storage, and gathering of oysters, clams, and other shellfish for market purposes.

~~(52)~~(54) "Swamp waters" means those waters that are classified as such by the Environmental Management Commission, pursuant to Rule .0101 of this Subchapter, and that have natural characteristics due to topography, such as low velocity, dissolved oxygen, or pH, that are different from streams draining steeper topography.

~~(53)~~(55) "Tidal salt waters" means all waters that have a natural chloride ion content in excess of 500 parts per million.

~~(54)~~(56) "Toxic substance" or "Toxicant" means any substance or combination of substances (including disease-causing agents) that, after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, has the potential to cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions or suppression in reproduction or growth), or physical deformities in such organisms or their offspring.

~~(55)~~(57) "Trout waters" means those waters that are classified as such by the Environmental Management Commission, pursuant to Rule .0101 of this Subchapter, and have conditions that sustain and allow for natural trout propagation and survival and for year-round maintenance of stocked trout.

~~(56)~~(58) "Water dependent structures" means those structures that require access or proximity to or siting within surface waters to fulfill its purpose, such as boat ramps, boat houses, docks, and bulkheads. Ancillary facilities such as restaurants, outlets for boat supplies, parking lots, and commercial boat storage areas are not water dependent structures.

~~(57)~~(59) "Water quality based effluent limits (or limitations) and management practices" mean limits and practices developed by the Division to protect water quality standards and best uses of surface waters, consistent with the requirements of G.S. 143-214.1 and the federal Water Pollution Control Act, as amended.

~~(58)~~(60) "Waters with quality higher than the standards" means waters that the Director determines (pursuant to Rule .0206 of this Section) have the capacity to receive additional pollutant loading and continue to meet applicable water quality standards.

~~(59)~~(61) "Watershed" means a natural area of drainage, including all tributaries contributing to the supply of at least one major waterway within the State, the specific limits of each separate watershed to be designated by the Commission as defined by G.S. 143-213(21).

~~(60)~~(62) "WER" or "Water effect ratio" expresses the difference between the measures of the toxicity of a substance in laboratory waters and the toxicity in site water.

~~(61)~~(63) "Wetlands" are "waters" as defined by G.S. 143-212(6) that are inundated or saturated by an accumulation of surface or ground water at a frequency and duration sufficient to support, and that

under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands do not include prior converted cropland as defined in the National Food Security Act Manual, Fifth Edition, which is hereby incorporated by reference, not including subsequent amendments and editions, and is available free of charge at https://directives.sc.egov.usda.gov/RollupViewer.aspx?hid=29340.

History Note: *Authority G.S. 143-213; 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. August 1, 1995; February 1, 1993; August 3, 1992; August 1, 1990;
RRC Objection Eff. July 18, 1996 due to lack of authority and ambiguity;
Amended Eff. August 1, 1998; October 1, 1996;
Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;
Amended Eff. Xxxxx.

15A NCAC 02B .0208 is proposed for amendment as follows:

15A NCAC 02B .0208 STANDARDS FOR TOXIC SUBSTANCES AND TEMPERATURE

(a) Toxic Substances: the concentration of toxic substances, either alone or in combination with other wastes, in surface waters shall not render waters injurious to aquatic life or wildlife, recreational activities, or public health, nor shall it impair the waters for any designated uses. Specific standards for toxic substances to protect freshwater and tidal saltwater uses are listed in Rules .0211 and .0220 of this Section, respectively. The narrative standard for toxic substances and numerical standards applicable to all waters shall be interpreted as follows:

(1) The concentration of toxic substances shall not result in chronic toxicity to aquatic life. Any levels in excess of the chronic value for aquatic life shall be considered to result in chronic toxicity. In the absence of direct measurements of chronic toxicity, the concentration of toxic substances shall not exceed the concentration specified by the fraction of the lowest LC50 value that predicts a no effect chronic level as determined by the use of an acceptable Acute to Chronic Ratio (ACR) in accordance with U.S. Environmental Protection Agency (EPA) "Guidelines for Deriving Numerical Water Quality Criteria for the Protection of Aquatic Life and its Uses." In the absence of an ACR, that toxic substance shall not exceed one-one hundredth (0.01) of the lowest LC50 or, if it is demonstrated that a toxic substance has a half-life of less than 96 hours, the maximum concentration shall not exceed one-twentieth (0.05) of the lowest LC50.

(2) The concentration of toxic substances shall not exceed the level necessary to protect human health through exposure routes of fish tissue consumption, water consumption, recreation, or other route identified for the water body. Fish tissue consumption shall include the consumption of shellfish. These concentrations of toxic substances shall be determined as follows:

(A) For non-carcinogens, these concentrations shall be determined using a Reference Dose (RfD) as published by the EPA pursuant to Section 304(a) of the Federal Water Pollution Control Act as amended, a RfD issued by the EPA as listed in the Integrated Risk Information System (IRIS) file, or a RfD approved by the Director after consultation with the State Health director. Water quality standards or criteria used to calculate water quality based effluent limitations to protect human health through the different exposure routes shall be determined as follows:

(i) Fish tissue consumption:

WQS = (RfD x RSC) x Body Weight / (FCR x BCF)

where:

WQS = water quality standard or criteria;

RfD = reference dose;

RSC = Relative Source Contribution;

FCR = fish consumption rate (based upon 17.5 gm/person-day);

BCF = bioconcentration factor or bioaccumulation factor (BAF), as appropriate.

Pursuant to Section 304(a) of the Federal Water Pollution Control Act as amended, BCF or BAF values, literature values, or site specific bioconcentration data shall be based on EPA publications; FCR values shall be average consumption rates for a 70 Kg adult for the lifetime of the population; alternative FCR values may be used when it is considered necessary to protect localized populations that may be consuming fish at a higher rate; RSC values, when made available through EPA publications pursuant to Section 304(a) of the Federal Clean Water Pollution Control Act to account for non-water sources of exposure may be either a percentage (multiplied) or amount subtracted, depending on whether multiple criteria are relevant to the chemical;

(ii) Water consumption (including a correction for fish consumption):

WQS = (RfD x RSC) x Body Weight / [WCR + (FCR x BCF)]

where:

WQS = water quality standard or criteria;

RfD = reference dose;

RSC = Relative Source Contribution;

FCR = fish consumption rate (based upon 17.5 gm/person-day);

BCF = bioconcentration factor or bioaccumulation factor (BAF), as appropriate;

WCR = water consumption rate (assumed to be two liters per day for adults).

To protect sensitive groups, exposure shall be based on a 10 Kg child drinking one liter of water per day. Standards may also be based on drinking water standards based on the requirements of the Federal Safe Drinking Water Act, 42 U.S.C. 300(f)(g)-1. For non-carcinogens, specific numerical water quality standards have not been included in this Rule because water quality standards to protect aquatic life for all toxic substances for which standards have been considered are more stringent than numerical standards to protect human health from non-carcinogens through consumption of fish. Standards to protect human health from non-carcinogens through water consumption are listed under the water supply classification standards in Rule .0211 of this Section. The equations listed in this Subparagraph shall be used to develop water quality based effluent limitations on a case-by-case basis for toxic substances that are not presently included in the water quality standards. Alternative FCR values may be used when it is necessary to protect localized populations that may be consuming fish at a higher rate;

(B) For carcinogens, the concentrations of toxic substances shall not result in unacceptable health risks and shall be based on a Carcinogenic Potency Factor (CPF). An unacceptable

health risk for cancer shall be more than one case of cancer per one million people exposed (10^{-6} risk level). The CPF is a measure of the cancer-causing potency of a substance estimated by the upper 95 percent confidence limit of the slope of a straight line calculated by the Linearized Multistage Model or other appropriate model according to U.S. Environmental Protection Agency Guidelines, FR 51 (185): 33992-34003; and FR 45 (231 Part V): 79318-79379. Water quality standards or criteria for water quality based effluent limitations shall be calculated using the procedures given in this Part and in Part (A) of this Subparagraph. Standards to protect human health from carcinogens through water consumption are listed under the water supply classification standards in Rules .0212, .0214, .0215, .0216, and .0218 of this Section. Standards to protect human health from carcinogens through the consumption of fish (and shellfish) only shall be applicable to all waters as follows:

(i) Aldrin: 0.05 ng/l;

(ii) Arsenic: 10 ug/l;

(iii) Benzene: 51 ug/l;

(iv) Carbon tetrachloride: 1.6 ug/l;

(v) Chlordane: 0.8 ng/l;

(vi) DDT: 0.2 ng/l;

(vii) Dieldrin: 0.05 ng/l;

(viii) Dioxin: 0.000005 ng/l;

(ix) Heptachlor: 0.08 ng/l;

(x) Hexachlorobutadiene: 18 ug/l;

(xi) Polychlorinated biphenyls (total of all identified PCBs and congeners): 0.064 ng/l;

(xii) Polynuclear aromatic hydrocarbons (total of all PAHs): 31.1 ng/l;

(xiii) Tetrachloroethane (1,1,2,2): 4 ug/l;

(xiv) Tetrachloroethylene: 3.3 ~~ug/L;~~ ug/l;

(xvi) Trichloroethylene: 30 ug/l;

(xvii) Vinyl chloride: 2.4 ~~ug/l.~~ ug/l;

(xviii) 1,4-Dioxane: 80 ug/l.

The values listed in Subparts (i) through ~~(xvii)~~ (xviii) of this Part may be adjusted by the Commission or its designee on a case-by-case basis to account for site-specific or chemical-specific information pertaining to the assumed BCF, FCR, or CPF values or other data.

(b) Temperature: the Commission may establish a water quality standard for temperature for specific water bodies other than the standards specified in Rules .0211 and .0220 of this Section upon a case-by-case determination that thermal discharges to these waters that serve or may serve as a source or receptor of industrial cooling water provide

for the maintenance of the designated best use throughout a portion of the water body. Such revisions of the temperature standard shall be consistent with the provisions of Section 316(a) of the Federal Water Pollution Control Act, as amended. A list of such revisions shall be maintained and made available to the public by the Division.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. May 1, 2007; April 1, 2003; February 1, 1993; October 1, 1989; January 1, 1985; September 9, 1979;
Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;
Amended Eff. x.

15A NCAC 02B .0211 is proposed for amendment as follows:

15A NCAC 02B .0211 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS C WATERS

In addition to the standards set forth in Rule .0208 of this Section, the following water quality standards shall apply to all Class C waters. Additional standards applicable to other freshwater classifications are specified in Rules .0212, .0214, .0215, .0216, .0218, .0219, .0223, .0224, .0225, and .0231 of this Section.

(1) The best usage of waters shall be aquatic life propagation, survival, and maintenance of biological integrity (including fishing and fish); wildlife; secondary contact recreation as defined in Rule .0202 of this Section; agriculture; and any other usage except for primary contact recreation or as a source of water supply for drinking, culinary, and food processing purposes. All freshwaters shall be classified to protect these uses at a minimum.

(2) The conditions of waters shall be such that waters are suitable for all best uses specified in this Rule. Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be deemed to violate a water quality standard;

(3) Chlorine, total residual: 17 ug/l;

(4) Chlorophyll a (corrected): not greater than 40 ug/l for lakes, reservoirs, and other waters subject to growths of macroscopic or microscopic vegetation not designated as trout waters, and not greater than 15 ug/l for lakes, reservoirs, and other waters subject to growths of macroscopic or microscopic vegetation designated as trout waters (not applicable to lakes or reservoirs less than 10 acres in surface area). The Commission or its designee may prohibit or limit any discharge of waste into surface waters if the surface waters experience or the discharge would result in growths of microscopic or macroscopic vegetation such that the standards established pursuant to this Rule would be violated or the intended best usage of the waters would be impaired;

(5) Cyanide, free or total: 5.0 ug/l;

(6) Dissolved oxygen: not less than 6.0 mg/l for trout waters; for non-trout waters, not less than a daily average of 5.0 mg/l with an instantaneous value of not less than 4.0 mg/l; swamp waters, lake coves, or backwaters, and lake bottom waters may have lower values if caused by natural conditions;

(7) Fecal coliform: shall not exceed a geometric mean of 200/100ml (MF count) based upon at least five samples taken over a 30-day period, nor exceed 400/100ml in more than 20 percent of the samples examined during such period. Violations of this Item are expected during rainfall events and may be caused by uncontrollable nonpoint source pollution. All coliform concentrations shall be analyzed using the membrane filter technique. If high turbidity or other conditions would cause the membrane filter technique to produce inaccurate data, the most probable number (MPN) 5-tube multiple dilution method shall be used.

(8) Floating solids, settleable solids, or sludge deposits: only such amounts attributable to sewage, industrial wastes, or other wastes as shall not make the water unsafe or unsuitable for aquatic life and wildlife or impair the waters for any designated uses;

(9) Fluoride: 1.8 mg/l;

(10) Gases, total dissolved: not greater than 110 percent of saturation;

(11) Metals:

(a) With the exception of ~~mercury and selenium,~~ mercury, acute and chronic freshwater aquatic life standards for metals shall be based upon measurement of the dissolved fraction of the metal. Mercury ~~and selenium~~ water quality standards shall be based upon measurement of the total recoverable metal;

(b) With the exception of ~~mercury and selenium,~~ mercury, aquatic life standards for metals listed in this Sub-Item shall apply as a function of the pollutant's water effect ratio (WER). The WER shall be assigned a value equal to one unless any person demonstrates to the Division's satisfaction in a permit proceeding that another value is developed in accordance with the "Water Quality Standards Handbook: Second Edition" published by the US Environmental Protection Agency (EPA-823-B-12-002), which is hereby incorporated by reference, including subsequent amendments and editions, and can be obtained free of charge at http://water.epa.gov/scitech/swguidance/standards/handbook/. Alternative site-specific standards may also be developed when any person submits values that demonstrate to the Commission that they were derived in accordance with the "Water Quality Standards Handbook: Second Edition, Recalculation Procedure or the Resident Species Procedure", which is hereby incorporated by reference including subsequent amendments and can be obtained free of charge at http://water.epa.gov/scitech/swguidance/standards/handbook/.

(c) Freshwater metals standards that are not hardness-dependent shall be as follows:

(i) Arsenic, dissolved, acute: WER· 340 ug/l;

(ii) Arsenic, dissolved, chronic: WER· 150 ug/l;

(iii) Beryllium, dissolved, acute: WER· 65 ug/l;

(iv) Beryllium, dissolved, chronic: WER· 6.5 ug/l;

(v) Chromium VI, dissolved, acute: WER· 16 ug/l;

(vi) Chromium VI, dissolved, chronic: WER· 11 ug/l;

(vii) Mercury, total recoverable, chronic: 0.012 ug/l;

~~(viii) Selenium, total recoverable, chronic: 5 ug/l;~~

~~(ix)~~(viii) Silver, dissolved, chronic: WER· 0.06 ug/l;

(d) Selenium, chronic: The standard for chronic selenium has the following components: fish egg/ovary tissue, fish whole body or muscle tissue, and water column (lentic and lotic).

These components shall be used in the following order of preference provided data is available:

(i) Fish egg/ovary tissue;

(ii) Fish whole body or muscle tissue;

(iii) Water column.

Fish tissue concentrations are determined as dry weight and water column concentrations are based on the dissolved fraction of selenium. The chronic selenium standards are as follows:

Component		Magnitude	Duration
Fish tissue	Fish egg/ovary tissue	15.1 mg/kg	Instantaneous
	Fish whole body or muscle tissue	8.5 mg/kg whole body	Instantaneous
		11.3 mg/kg muscle	Instantaneous
Water column	Lentic or Lotic	1.5 ug/l lentic	30-day average
		3.1 ug/l lotic	30-day average

~~(d)~~(e) Hardness-dependent freshwater metals standards shall be derived using the equations specified in Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals. If the actual instream hardness (expressed as $CaCO_3$ or Ca+Mg) is less than 400 mg/l, standards shall be calculated based upon the actual instream hardness. If the instream hardness is greater than 400 mg/l, the maximum applicable hardness shall be 400 mg/l.

Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals

Numeric standards calculated at 25 mg/l hardness are listed below for illustrative purposes. The Water Effects Ratio (WER) is equal to one unless determined otherwise under Sub-Item (11)(b) of this Rule.

Metal	Equations for Hardness-Dependent Freshwater Metals (ug/l)	Standard at 25 mg/l hardness (ug/l)
Cadmium, Acute	~~WER· [{1.136672-[ln hardness](0.041838)} · e^{0.9151 [ln hardness] 3.1485}]~~ WER·[{1.136672-[ln hardness](0.041838)} · e^{0.9789 [ln hardness]-3.345}]	~~0.82~~ 0.83
Cadmium,	~~WER· [{1.136672-[ln hardness](0.041838)} · e^{0.9151[ln~~	~~0.51~~ 0.49

Acute, Trout waters	~~hardness] 3.6236}]~~ WER·[{1.136672-[ln hardness](0.041838)} · e^{0.9789 [ln hardness]-3.866}]	
Cadmium, Chronic	~~WER· [{1.101672 [ln hardness](0.041838)} · e^{0.7998[ln hardness] 4.4451}]~~ WER·[{1.101672-[ln hardness](0.041838)} · e^{0.7977[ln hardness]-3.909}]	~~0.15~~ 0.25
Chromium III, Acute	WER· [0.316 · e^{0.8190[ln hardness]+3.7256}]	180
Chromium III, Chronic	WER· [0.860 · e^{0.8190[ln hardness]+0.6848}]	24
Copper, Acute	WER· [0.960 · e^{0.9422[ln hardness]-1.700}] Or, Aquatic Life Ambient Freshwater Quality Criteria-Copper 2007 Revision (EPA-822-R-07-001)	3.6 NA
Copper, Chronic	WER· [0.960 · e^{0.8545[ln hardness]-1.702}] Or, Aquatic Life Ambient Freshwater Quality Criteria-Copper 2007 Revision (EPA-822-R-07-001)	2.7 NA
Lead, Acute	WER· [{1.46203-[ln hardness](0.145712)} · e^{1.273[ln hardness]-1.460}]	14
Lead, Chronic	WER· [{1.46203-[ln hardness](0.145712)} · e^{1.273[ln hardness]-4.705}]	0.54
Nickel, Acute	WER· [0.998 · e^{0.8460[ln hardness]+2.255}]	140
Nickel, Chronic	WER· [0.997 · e^{0.8460[ln hardness]+0.0584}]	16
Silver, Acute	WER· [0.85 · e^{1.72[ln hardness]-6.59}]	0.30
Zinc, Acute	WER· [0.978 · e^{0.8473[ln hardness]+0.884}]	36
Zinc, Chronic	WER· [0.986 · e^{0.8473[ln hardness]+0.884}]	36

~~(e)~~(f) Compliance with acute instream metals standards shall only be evaluated using an average of two or more samples collected within one hour. Compliance with chronic

instream metals standards, except for selenium shall only be evaluated using an average of a minimum of four samples taken on consecutive days or as a 96-hour average;

(12) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses. For the purpose of implementing this Rule, oils, deleterious substances, or colored or other wastes shall include substances that cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines, as described in 40 CFR 110.3(a)-(b), incorporated by reference including subsequent amendments and editions. This material is available, free of charge, at: http://www.ecfr.gov/;

(13) Pesticides:

(a) Aldrin: 0.002 ug/l;

(b) Chlordane: 0.004 ug/l;

(c) DDT: 0.001 ug/l;

(d) Demeton: 0.1 ug/l;

(e) Dieldrin: 0.002 ug/l;

(f) Endosulfan: 0.05 ug/l;

(g) Endrin: 0.002 ug/l;

(h) Guthion: 0.01 ug/l;

(i) Heptachlor: 0.004 ug/l;

(j) Lindane: 0.01 ug/l;

(k) Methoxychlor: 0.03 ug/l;

(l) Mirex: 0.001 ug/l;

(m) Parathion: 0.013 ug/l; and

(n) Toxaphene: 0.0002 ug/l;

(14) pH: shall be between 6.0 and 9.0 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions;

(15) Phenolic compounds: only such levels as shall not result in fish-flesh tainting or impairment of other best usage;

(16) Polychlorinated biphenyls (total of all PCBs and congeners identified): 0.001 ug/l;

(17) Radioactive substances, based on at least one sample collected per quarter:

(a) Combined radium-226 and radium-228: the average annual activity level for combined radium-226 and radium-228 shall not exceed five picoCuries per liter;

(b) Alpha Emitters: the average annual gross alpha particle activity (including radium-226, but excluding radon and uranium) shall not exceed 15 picoCuries per liter;

(c) Beta Emitters: the average annual activity level for strontium-90 shall not exceed eight picoCuries per liter, nor shall the average annual gross beta particle activity (excluding

potassium-40 and other naturally occurring radionuclides) exceed 50 picoCuries per liter, nor shall the average annual activity level for tritium exceed 20,000 picoCuries per liter;

(18) Temperature: not to exceed 2.8 degrees C (5.04 degrees F) above the natural water temperature, and in no case to exceed 29 degrees C (84.2 degrees F) for mountain and upper piedmont waters and 32 degrees C (89.6 degrees F) for lower piedmont and coastal plain Waters; the temperature for trout waters shall not be increased by more than 0.5 degrees C (0.9 degrees F) due to the discharge of heated liquids, but in no case to exceed 20 degrees C (68 degrees F);

(19) Toluene: 0.36 ug/l in trout classified waters or 11 ug/l in all other waters;

(20) Trialkyltin compounds: 0.07 ug/l expressed as tributyltin;

(21) Turbidity: the turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. Compliance with this turbidity standard shall be deemed met when land management activities employ Best Management Practices (BMPs), as defined by Rule .0202 of this Section, recommended by the Designated Nonpoint Source Agency, as defined by Rule .0202 of this Section.

(22) Toxic Substance Level Applicable to NPDES Permits: Chloride: 230 mg/l. If chloride is determined by the waste load allocation to be exceeded in a receiving water by a discharge under the specified 7Q10 criterion for toxic substances, the discharger shall monitor the chemical or biological effects of the discharge. Efforts shall be made by all dischargers to reduce or eliminate chloride from their effluents. Chloride shall be limited as appropriate in the NPDES permit if sufficient information exists to indicate that it may be a causative factor resulting in toxicity of the effluent.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; August 1, 2000; October 1, 1995; August 1, 1995; April 1, 1994; February 1, 1993;
Readopted Eff. ~~*November 1, 2019.*~~ *November 1, 2019;*
Amended Eff. xx

15A NCAC 02B .0212 is proposed for amendment as follows:

15A NCAC 02B .0212 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-I WATERS

The following water quality standards shall apply to surface waters within water supply watersheds classified as WS-I. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section shall also apply to Class WS-I waters.

(1) The best usage of waters classified as WS-I shall be as a source of water supply for drinking, culinary, or food processing purposes for those users desiring maximum protection of their water supplies in the form of the most stringent WS classification, and any best usage specified for Class C waters. Class WS-I waters are waters located on land in public ownership and waters located in undeveloped watersheds.

(2) The best usage of waters classified as WS-I shall be maintained as follows:

(a) Water quality standards in a WS-I watershed shall meet the requirements as specified in Item (3) of this Rule.

(b) Wastewater and stormwater point source discharges in a WS-I watershed shall meet the requirements as specified in Item (4) of this Rule.

(c) Nonpoint source pollution in a WS-I watershed shall meet the requirements as specified in Item (5) of this Rule.

(d) Following approved treatment, as defined in Rule .0202 of this Section, the waters shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, and food-processing purposes that are specified in 40 CFR Part 141 National Primary Drinking Water Regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500, incorporated by reference including subsequent amendments and editions.

(e) Sources of water pollution that preclude any of the best uses on either a short-term or long-term basis shall be deemed to violate a water quality standard.

(f) The Class WS-I classification may be used to protect portions of Class WS-II, WS-III, and WS-IV water supplies. For reclassifications occurring after the July 1, 1992 statewide reclassification, a WS-I classification that is requested by local governments shall be considered by the Commission if all local governments having jurisdiction in the affected areas have adopted a resolution and the appropriate ordinances as required by G.S. 143-214.5(d) to protect the watershed or if the Commission acts to protect a watershed when one or more local governments has failed to adopt protective measures as required by this Sub-Item.

(3) Water quality standards applicable to Class WS-I Waters shall be as follows:

(a) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;

(b) Total coliforms shall not exceed 50/100 ml (MF count) as a monthly geometric mean value in watersheds serving as unfiltered water supplies;

(c) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems from chlorinated phenols;

(d) Solids, total dissolved: not greater than exceed 500 mg/l;

(e) Total hardness: not greater than 100 mg/l as calcium carbonate ($CaCO_3$ or Ca + Mg);

(f) Toxic and other deleterious substances that are non-carcinogens:

(i) Barium: 1.0 mg/l;

(ii) Chloride: 250 mg/l;

(iii) Nickel: 25 ug/l;

(iv) Nitrate nitrogen: 10.0 mg/l;

(v) 2,4-D: 70 ug/l;

(vi) 2,4,5-TP (Silvex): 10 ug/l; and

(vii) Sulfates: 250 mg/l;

(g) Toxic and other deleterious substances that are carcinogens:

(i) Aldrin: 0.05 ng/1;

(ii) Arsenic: 10 ug/l;

(iii) Benzene: 1.19 ug/1;

(iv) Carbon tetrachloride: 0.254 ug/l;

(v) Chlordane: 0.8 ng/1;

(vi) Chlorinated benzenes: 488 ug/l;

(vii) DDT: 0.2 ng/1;

(viii) Dieldrin: 0.05 ng/1;

(ix) Dioxin: 0.000005 ng/l;

(x) Heptachlor: 0.08 ng/1;

(xi) Hexachlorobutadiene: 0.44 ug/l;

(xii) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;

(xiii) Tetrachloroethane (1,1,2,2): 0.17 ug/l;

(xiv) Tetrachloroethylene: 0.7 ug/l;

(xv) Trichloroethylene: 2.5 ug/l; ~~and~~

(xvi) Vinyl Chloride: 0.025 ~~ug/l.~~ ug/l; and

(xvii) 1,4-Dioxane: 0.35 ug/l.

(4) Wastewater and stormwater point source discharges in a WS-I watershed shall be permitted pursuant to 15A NCAC 02B .0104.

(5) Nonpoint source pollution in a WS-I watershed shall not have an adverse impact, as defined in 15A NCAC 02H .1002, on use as a water supply or any other designated use.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; October 1, 1995; February 1, 1993; March 1, 1991; October 1, 1989;
Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;
Amended Eff. Xx

15A NCAC 02B .0214 is proposed for amendment as follows:

15A NCAC 02B .0214 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-II WATERS

The following water quality standards shall apply to surface waters within water supply watersheds classified as WS-II. Water quality standards applicable to Class C waters as described in Rule .0211of this Section shall also apply to Class WS-II waters.

(1) The best usage of waters classified as WS-II shall be as a source of water supply for drinking, culinary, or food-processing purposes for those users desiring maximum protection for their water supplies where a WS-I classification is not feasible as determined by the Commission in accordance with Rule .0212 of this Section and any best usage specified for Class C waters.

(2) The best usage of waters classified as WS-II shall be maintained as follows:

(a) Water quality standards in a WS-II watershed shall meet the requirements as specified in Item (3) of this Rule.

(b) Wastewater and stormwater point source discharges in a WS-II watershed shall meet the requirements as specified in Item (4) of this Rule.

(c) Nonpoint source pollution in a WS-II watershed shall meet the requirements as specified in Item (5) of this Rule.

(d) Following approved treatment, as defined in Rule .0202 of this Section, the waters shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, and food-processing purposes that are specified in 40 CFR Part 141 National Primary Drinking Water Regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500.

(e) Sources of water pollution that preclude any of the best uses on either a short-term or long-term basis shall be deemed to violate a water quality standard.

(f) The Class WS-II classification may be used to protect portions of Class WS-III and WS-IV water supplies. For reclassifications of these portions of Class WS-III and WS-IV water supplies occurring after the July 1, 1992 statewide reclassification, a WS-II classification that is requested by local governments shall be considered by the Commission if all local governments having jurisdiction in the affected areas have adopted a resolution and the appropriate ordinances as required by G.S. 143-214.5(d) to protect the watershed or if the Commission acts to protect a watershed when one or more local governments has failed to adopt protective measures as required by this Sub-Item.

(3) Water quality standards applicable to Class WS-II Waters shall be as follows:

(a) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;

(b) Odor producing substances contained in sewage or other wastes: only such amounts, whether alone or in combination with other substances or wastes, as shall not cause organoleptic effects in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have an adverse impact, as defined in 15A NCAC 02H .1002, on any best usage established for waters of this class;

(c) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems from chlorinated phenols;

(d) Total hardness: not greater than 100 mg/l as calcium carbonate ($CaCO_3$ or Ca + Mg);

(e) Solids, total dissolved: not greater than 500 mg/l;

(f) Toxic and other deleterious substances that are non-carcinogens:

(i) Barium: 1.0 mg/l;

(ii) Chloride: 250 mg/l;

(iii) Nickel: 25 ug/l;

(iv) Nitrate nitrogen: 10.0 mg/l;

(v) 2,4-D: 70 ug/l;

(vi) 2,4,5-TP (Silvex): 10 ug/l; and

(vii) Sulfates: 250 mg/l;

(g) Toxic and other deleterious substances that are carcinogens:

(i) Aldrin: 0.05 ng/1;

(ii) Arsenic: 10 ug/l;

(iii) Benzene: 1.19 ug/1;

(iv) Carbon tetrachloride: 0.254 ug/l;

(v) Chlordane: 0.8 ng/1;

(vi) Chlorinated benzenes: 488 ug/l;

(vii) DDT: 0.2 ng/1;

(viii) Dieldrin: 0.05 ng/1;

(ix) Dioxin: 0.000005 ng/l;

(x) Heptachlor: 0.08 ng/1;

(xi) Hexachlorobutadiene: 0.44 ug/l;

(xii) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;

(xiii) Tetrachloroethane (1,1,2,2): 0.17 ug/l;

(xiv) Tetrachloroethylene: 0.7 ug/l;

(xv) Trichloroethylene: 2.5 ug/l; ~~and~~

(xvi) Vinyl Chloride: 0.025 ~~ug/l.~~ ug/l; and

(xvii) 1,4-Dioxane: 0.35 ug/l.

(4) Wastewater and stormwater point source discharges in a WS-II watershed shall meet the following requirements:

(a) Discharges that qualify for a General NPDES Permit pursuant to 15A NCAC 02H .0127 shall be allowed in the entire watershed.

(b) Discharges from trout farms that are subject to Individual NPDES Permits shall be allowed in the entire watershed.

(c) Stormwater discharges that qualify for an Individual NPDES Permit pursuant to 15A NCAC 02H .0126 shall be allowed in the entire watershed.

(d) No discharge of sewage, industrial, or other wastes shall be allowed in the entire watershed except for those allowed by Sub-Items (a) through (c) of this Item or Rule .0104 of this Subchapter, and none shall be allowed that have an adverse effect on human health or that are not treated in accordance with the permit or other requirements established by the Division pursuant to G.S. 143-215.1. Upon request by the Commission, a discharger shall disclose all chemical constituents present or potentially present in their wastes and chemicals that could be spilled or be present in runoff from their facility that may have an adverse impact on downstream water quality. These facilities may be required to have spill and treatment failure control plans as well as perform special monitoring for toxic substances.

(e) New domestic and industrial discharges of treated wastewater that are subject to Individual NPDES Permits shall not be allowed in the entire watershed.

(f) No new landfills shall be allowed in the Critical Area, and no NPDES permits shall be issued for landfills that discharge treated leachate in the remainder of the watershed.

(g) No new permitted sites for land application of residuals or petroleum contaminated soils shall be allowed in the Critical Area.

(5) Nonpoint source pollution in a WS-II watershed shall meet the following requirements:

(a) Nonpoint source pollution shall not have an adverse impact on waters for use as a water supply or any other designated use.

(b) Class WS-II waters shall be protected as water supplies that are located in watersheds that meet average watershed development density levels specified for Class WS-II waters in Rule .0624 of this Subchapter.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. May 10, 1979;
Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; January 1, 1996; October 1, 1995;
Readopted Eff. November 1, ~~2019.~~ November 1, 2019;
Amended Eff. Xx.

15A NCAC 02B .0215 is proposed for amendment as follows:

15A NCAC 02B .0215 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-III WATERS

The following water quality standards shall apply to surface waters within water supply watersheds classified as WS-III. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section shall also apply to Class WS-III waters.

(1) The best usage of waters classified as WS-III shall be as a source of water supply for drinking, culinary, or food-processing purposes for those users where a more protective WS-I or WS-II classification is not feasible as determined by the Commission in accordance with Rules .0212 and .0214 of this Section and any other best usage specified for Class C waters.

(2) The best usage of waters classified as WS-III shall be maintained as follows:

(a) Water quality standards in a WS-III watershed shall meet the requirements as specified in Item (3) of this Rule.

(b) Wastewater and stormwater point source discharges in a WS-III watershed shall meet the requirements as specified in Item (4) of this Rule.

(c) Nonpoint source pollution in a WS-III watershed shall meet the requirements as specified in Item (5) of this Rule.

(d) Following approved treatment, as defined in Rule .0202 of this Section, the waters shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes that are specified in 40 CFR Part 141 National Primary Drinking Water Regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500.

(e) Sources of water pollution that preclude any of the best uses on either a short-term or long-term basis shall be deemed to violate a water quality standard.

(f) The Class WS-III classification may be used to protect portions of Class WS-IV water supplies. For reclassifications of these portions of WS-IV water supplies occurring after the July 1, 1992 statewide reclassification, a ~~WS~~[VJ1] ~~II classification~~ more protective classification, such as WS-III, that is requested by local governments shall be considered by the Commission if all local governments having jurisdiction in the affected areas have adopted a resolution and the appropriate ordinances as required by G.S. 143-214.5(d) to protect the watershed or if the Commission acts to protect a watershed when one or more local governments has failed to adopt protective measures as required by this Sub-Item.

(3) Water quality standards applicable to Class WS-III Waters shall be as follows:

(a) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;

(b) Odor producing substances contained in sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or wastes, as shall not cause organoleptic effects in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have an adverse impact, as defined in 15A NCAC 02H .1002, on any best usage established for waters of this class;

(c) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems from chlorinated phenols;

(d) Total hardness: not greater than 100 mg/l as calcium carbonate ($CaCO_3$ or Ca + Mg);

(e) Solids, total dissolved: not greater than 500 mg/l;

(f) Toxic and other deleterious substances that are non-carcinogens:

(i) Barium: 1.0 mg/l;

(ii) Chloride: 250 mg/l;

(iii) Nickel: 25 ug/l;

(iv) Nitrate nitrogen: 10.0 mg/l;

(v) 2,4-D: 70 ug/l;

(vi) 2,4,5-TP (Silvex): 10 ug/l; and

(vii) Sulfates: 250 mg/l;

(g) Toxic and other deleterious substances that are carcinogens:

(i) Aldrin: 0.05 ng/1;

(ii) Arsenic: 10 ug/l;

(iii) Benzene: 1.19 ug/1;

(iv) Carbon tetrachloride: 0.254 ug/l;

(v) Chlordane: 0.8 ng/1;

(vi) Chlorinated benzenes: 488 ug/l;

(vii) DDT: 0.2 ng/1;

(viii) Dieldrin: 0.05 ng/1;

(ix) Dioxin: 0.000005 ng/l;

(x) Heptachlor: 0.08 ng/1;

(xi) Hexachlorobutadiene: 0.44 ug/l;

(xii) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;

(xiii) Tetrachloroethane (1,1,2,2): 0.17 ug/l;

(xiv) Tetrachloroethylene: 0.7 ug/l;

(xv) Trichloroethylene: 2.5 ug/l; ~~and~~

(xvi) Vinyl Chloride: 0.025 ~~ug/l.~~ ug/l; and

(xvii) 1,4-Dioxane; 0.35 ug/l.

(4) Wastewater and stormwater point source discharges in a WS-III watershed shall meet the following requirements:

(a) Discharges that qualify for a General NPDES Permit pursuant to 15A NCAC 02H .0127 shall be allowed in the entire watershed.

(b) Discharges from trout farms that are subject to Individual NPDES Permits shall be allowed in the entire watershed.

(c) Stormwater discharges that qualify for an Individual NPDES Permit pursuant to 15A NCAC 02H .0126 shall be allowed in the entire watershed.

(d) New domestic wastewater discharges that are subject to Individual NPDES Permits shall not be allowed in the Critical Area and are allowed in the remainder of the watershed.

(e) New industrial wastewater discharges that are subject to Individual NPDES Permits except non-process industrial discharges shall not be allowed in the entire watershed.

(f) No discharge of sewage, industrial, or other wastes shall be allowed in the entire watershed except for those allowed by Sub-Items (a) through (e) of this Item or Rule .0104 of this Subchapter, and none shall be allowed that have an adverse effect on human health or that are not treated in accordance with the permit or other requirements established by the Division pursuant to G.S. 143-215.1. Upon request by the Commission, a discharger shall disclose all chemical constituents present or potentially present in their wastes and chemicals that could be spilled or be present in runoff from their facility that may have an adverse impact on downstream water quality. These facilities may be required to have spill and treatment failure control plans as well as perform special monitoring for toxic substances.

(g) No new landfills shall be allowed in the Critical Area, and no NPDES permits shall be issued for landfills to discharge treated leachate in the remainder of the watershed.

(h) No new permitted sites for land application of residuals or petroleum contaminated soils shall be allowed in the Critical Area.

(5) Nonpoint source pollution in a WS-III watershed shall meet the following requirements:

(a) Nonpoint source pollution shall not have an adverse impact on waters for use as a water supply or any other designated use.

(b) Class WS-III waters shall be protected as water supplies that are located in watersheds that meet average watershed development density levels specified Class WS-III waters in Rule .0624 of this Subchapter.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. September 9, 1979;
Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; January 1, 1996; October 1, 1995; October 1, 1989;
Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;
Amended Eff. Xxxxx.

15A NCAC 02B .0216 is proposed for amendment as follows:

15A NCAC 02B .0216 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-IV WATERS

The following water quality standards shall apply to surface waters within water supply watersheds classified as WS-IV. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section shall also apply to Class WS-IV waters.

(1) The best usage of waters classified as WS-IV shall be as a source of water supply for drinking, culinary, or food-processing purposes for those users where a more protective WS-I, WS-II or WS-III classification is not feasible as determined by the Commission in accordance with Rules .0212 through .0215 of this Section and any other best usage specified for Class C waters.

(2) The best usage of waters classified as WS-IV shall be maintained as follows:

(a) Water quality standards in a WS-IV watershed shall meet the requirements as specified in Item (3) of this Rule.

(b) Wastewater and stormwater point source discharges in a WS-IV watershed shall meet the requirements as specified in Item (4) of this Rule.

(c) Nonpoint source pollution in a WS-IV watershed shall meet the requirements as specified in Item (5) of this Rule.

(d) Following approved treatment, as defined in Rule .0202 of this Section, the waters shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes that are specified in 40 CFR Part 141 National Primary Drinking Water Regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500.

(e) Sources of water pollution that preclude any of the best uses on either a short-term or long-term basis shall be deemed to violate a water quality standard.

(f) The Class WS-II or WS-III classifications may be used to protect portions of Class WS-IV water supplies. For reclassifications of these portions of WS-IV water supplies occurring after the July 1, 1992 statewide reclassification, a ~~WS~~[VJ1] ~~-IV classification~~ more protective classification, such as a WS-II or WS-III, that is requested by local governments shall be considered by the Commission if all local governments having jurisdiction in the affected areas have adopted a resolution and the appropriate ordinances as required by G.S. 143-214.5(d) to protect the watershed or if the Commission acts to protect a watershed when one or more local governments has failed to adopt protective measures as required by this Sub-Item.

(3) Water quality standards applicable to Class WS-IV Waters shall be as follows:

(a) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;

(b) Odor producing substances contained in sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or waste, as will not cause organoleptic effects in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have an adverse impact, as defined in 15A NCAC 02H .1002, on any best usage established for waters of this class;

(c) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems due to chlorinated phenols shall be allowed. Specific phenolic compounds may be given a different limit if it is demonstrated not to cause taste and odor problems and not to be detrimental to other best usage;

(d) Total hardness: not greater than 100 mg/l as calcium carbonate ($CaCO_3$ or Ca + Mg);

(e) Solids, total dissolved: not greater than 500 mg/l;

(f) Toxic and other deleterious substances that are non-carcinogens:

(i) Barium: 1.0 mg/l;

(ii) Chloride: 250 mg/l;

(iii) Nickel: 25 ug/l;

(iv) Nitrate nitrogen: 10.0 mg/l;

(v) 2,4-D: 70 ug/l;

(vi) 2,4,5-TP (Silvex): 10 ug/l; and

(vii) Sulfates: 250 mg/l;

(g) Toxic and other deleterious substances that are carcinogens:

(i) Aldrin: 0.05 ng/1;

(ii) Arsenic: 10 ug/l;

(iii) Benzene: 1.19 ug/1;

(iv) Carbon tetrachloride: 0.254 ug/l;

(v) Chlordane: 0.8 ng/1;

(vi) Chlorinated benzenes: 488 ug/l;

(vii) DDT: 0.2 ng/1;

(viii) Dieldrin: 0.05 ng/1;

(ix) Dioxin: 0.000005 ng/l;

(x) Heptachlor: 0.08 ng/1;

(xi) Hexachlorobutadiene: 0.44 ug/l;

(xii) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;

(xiii) Tetrachloroethane (1,1,2,2): 0.17 ug/l;

(xiv) Tetrachloroethylene: 0.7 ug/l;

(xv) Trichloroethylene: 2.5 ug/l; ~~and~~

(xvi) Vinyl Chloride: 0.025 ~~ug/l.~~ ug/l; and

(xvii) 1,4-Dioxane: 0.35 ug/l.

(4) Wastewater and stormwater point source discharges in a WS-IV watershed shall meet the following requirements:

(a) Discharges that qualify for a General NPDES Permit pursuant to 15A NCAC 02H .0127 shall be allowed in the entire watershed.

(b) Discharges from domestic facilities, industrial facilities and trout farms that are subject to Individual NPDES Permits shall be allowed in the entire watershed.

(c) Stormwater discharges that qualify for an Individual NPDES Permit pursuant to 15A NCAC 02H .0126 shall be allowed in the entire watershed.

(d) No discharge of sewage, industrial wastes, or other wastes shall be allowed in the entire watershed except for those allowed by Sub-Items (a) through (c) of this Item or Rule .0104 of this Subchapter, and none shall be allowed that have an adverse effect on human health or that are not treated in accordance with the permit or other requirements established by the Division pursuant to G.S. 143-215.1. Upon request by the Commission, dischargers or industrial users subject to pretreatment standards shall disclose all chemical constituents present or potentially present in their wastes and chemicals that could be spilled or be present in runoff from their facility which may have an adverse impact on downstream water supplies. These facilities may be required to have spill and treatment failure control plans as well as perform special monitoring for toxic substances.

(e) New industrial discharges of treated wastewater in the critical area shall meet the provisions of Rule .0224(c)(2)(D), (E), and (G) of this Section and Rule .0203 of this Section.

(f) New industrial connections and expansions to existing municipal discharges with a pretreatment program pursuant to 15A NCAC 02H .0904 shall be allowed in the entire watershed.

(g) No new landfills shall be allowed in the Critical Area.

(h) No new permitted sites for land application residuals or petroleum contaminated soils shall be allowed in the Critical Area.

(5) Nonpoint source pollution in a WS-IV watershed shall meet the following requirements:

(a) Nonpoint source pollution shall not have an adverse impact on waters for use as a water supply or any other designated use.

(b) Class WS-IV waters shall be protected as water supplies that are located in watersheds that meet average watershed development density levels specified for Class WS-IV waters in Rule .0624 of this Subchapter.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1986;

Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; June 1, 1996; October 1, 1995; August 1, 1995; June 1, 1994;

Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;

Amended Eff. Xxxxxx.

15A NCAC 02B .0218 is proposed for amendment as follows:

15A NCAC 02B .0218 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-V WATERS

The following water quality standards shall apply to surface waters within water supply watersheds classified as WS-V. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section shall also apply to Class WS-V waters.

(1) The best usage of waters classified as WS-V shall be as waters that are protected as water supplies which are generally upstream and draining to Class WS-IV waters; waters previously used for drinking water supply purposes; or waters used by industry to supply their employees, but not municipalities or counties, with a raw drinking water supply source, although this type of use is not restricted to WS-V classification; and all Class C uses.

(2) The best usage of waters classified as WS-V shall be maintained as follows:

(a) Water quality standards in a WS-V water shall meet the requirements as specified in Item (3) of this Rule.

(b) Wastewater and stormwater point source discharges in a WS-V water shall meet the requirements as specified in Item (4) of this Rule.

(c) Nonpoint source pollution in a WS-V water shall meet the requirements as specified in Item (5) of this Rule.

(d) Following approved treatment, as defined in Rule .0202 of this Section, the waters shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes that are specified in 40 CFR Part 141 National Primary Drinking Water Regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500.

(e) The Commission or its designee may apply management requirements for the protection of waters downstream of receiving waters provided in Rule .0203 of this Section.

(f) The Commission shall consider a more protective classification for the water supply if a resolution requesting a more protective classification is submitted from all local governments having land use jurisdiction within the affected watershed.

(g) Sources of water pollution that preclude any of the best uses on either a short-term or long-term basis shall be deemed to violate a water quality standard;

(3) Water quality standards applicable to Class WS-V Waters shall be as follows:

(a) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;

(b) Odor producing substances contained in sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or waste, as will not cause organoleptic effects in water supplies that can not be corrected by treatment, impair

the palatability of fish, or have an adverse impact, as defined in 15A NCAC 02H .1002, on any best usage established for waters of this class;

(c) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems due to chlorinated phenols. Specific phenolic compounds may be given a different limit if it is demonstrated not to cause taste and odor problems and not to be detrimental to other best usage;

(d) Total hardness: not greater than 100 mg/l as calcium carbonate ($CaCO_3$ or Ca + Mg);

(e) Solids, total dissolved: not greater than 500 mg/l;

(f) Toxic and other deleterious substances that are non-carcinogens:

(i) Barium: 1.0 mg/l;

(ii) Chloride: 250 mg/l;

(iii) Nickel: 25 ug/l;

(iv) Nitrate nitrogen: 10.0 mg/l;

(v) 2,4-D: 70 ug/l;

(vi) 2,4,5-TP (Silvex): 10 ug/l; and

(vii) Sulfates: 250 mg/l;

(g) Toxic and other deleterious substances that are carcinogens:

(i) Aldrin: 0.05 ng/1;

(ii) Arsenic: 10 ug/l;

(iii) Benzene: 1.19 ug/1;

(iv) Carbon tetrachloride: 0.254 ug/l;

(v) Chlordane: 0.8 ng/1;

(vi) Chlorinated benzenes: 488 ug/l;

(vii) DDT: 0.2 ng/1;

(viii) Dieldrin: 0.05 ng/1;

(ix) Dioxin: 0.000005 ng/l;

(x) Heptachlor: 0.08 ng/1;

(xi) Hexachlorobutadiene: 0.44 ug/l;

(xii) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;

(xiii) Tetrachloroethane (1,1,2,2): 0.17 ug/l;

(xiv) Tetrachloroethylene: 0.7 ug/l;

(xv) Trichloroethylene: 2.5 ug/l; ~~and~~

(xvi) Vinyl Chloride: 0.025 ~~ug/l.~~ ug/l; and

(xvii) 1,4-Dioxane: 0.35 ug/l.

(4) No discharge of sewage, industrial wastes, or other wastes shall be allowed that have an adverse effect on human health or that are not treated in accordance with the permit or other requirements established by the Division pursuant to G.S. 143-215.1. Upon request by the Commission,

dischargers or industrial users subject to pretreatment standards shall disclose all chemical constituents present or potentially present in their wastes and chemicals that could be spilled or be present in runoff from their facility which may have an adverse impact on downstream water quality. These facilities may be required to have spill and treatment failure control plans as well as perform special monitoring for toxic substances.

(5) Nonpoint Source pollution in a WS-V water shall not have an adverse impact on waters for use as water supply or any other designated use.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. October 1, 1989;
Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; October 1, 1995;
Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;
Amended Eff. Xxx.

15A NCAC 02B .0219 is proposed for amendment as follows:

15A NCAC 02B .0219 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS B WATERS

The following water quality standards shall apply to surface waters that are for primary contact recreation as defined in Rule .0202 of this Section, and are classified as Class B waters. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section also apply to Class B waters.

(1) The best usage of Class B waters shall be primary contact recreation and any other best usage specified for Class C waters.

(2) Class B waters shall meet the standards of water quality for outdoor bathing places as specified in Item (3) of this Rule and shall be of sufficient size and depth for primary contact recreation. In assigning the B classification to waters intended for primary contact recreation, the Commission shall consider the relative proximity of sources of water pollution and the potential hazards involved in locating swimming areas close to sources of water pollution and shall not assign this classification to waters in which such water pollution could result in a hazard to public health. Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be deemed to violate a water quality standard.

(3) Quality standards applicable to Class B waters:

(a) Sewage, industrial wastes, or other wastes: none shall be allowed that are not treated to the satisfaction of the Commission. In determining the degree of treatment required for such waste when discharged into waters to be used for bathing, the Commission shall consider the quality and quantity of the sewage and wastes involved and the proximity of such discharges to waters in this class. Discharges in the immediate vicinity of bathing areas shall not be allowed if the Director determines that the waste cannot be treated to ensure the protection of primary contact recreation;

(b) Fecal coliforms shall not exceed a geometric mean of 200/100 ml (MF count) based on at least five samples taken over a 30 day period, nor exceed 400/100 ml in more than 20 percent of the samples examined during such ~~period.~~ period;

(c) For the counties listed in this Sub-Item, Escherichia coli (E. coli) shall be used as the bacterial indicator in lieu of Sub-Item (b) of this Item. E. coli shall not exceed a geometric mean of 100 colony forming units (cfu) per 100 ml (MF count) or a most probable number value (MPN) of 100 per 100 ml based upon a minimum of five samples taken over a 30 day period, and E. coli shall not exceed 320 cfu/100 ml or 320 MPN/100 ml in more than 20 percent of the samples examined during the same 30-day period. The counties subject to this site-specific standard are:

(i) Avery;

(ii) Buncombe;

(iii) Burke;

(iv) Caldwell;
(v) Cherokee;
(vi) Clay;
(vii) Graham;
(viii) Haywood;
(ix) Henderson;
(x) Jackson;
(xi) Macon;
(xii) Madison;
(xiii) McDowell;
(xiv) Mitchell;
(xv) Polk;
(xvi) Rutherford;
(xvii) Swain;
(xviii) Transylvania; and
(xix) Yancey.

(4) Wastewater discharges to waters classified as B shall meet the reliability requirements specified in 15A NCAC 02H .0124. Discharges to waters where a primary contact recreational use is determined by the Director to be attainable shall be required to meet water quality standards and reliability requirements to protect this use concurrently with reclassification efforts.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. January 1, 1990;
Amended Eff. October 1, 1995;
Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;
Amended Eff. Xx.

15A NCAC 02B .0220 is proposed for amendment as follows:

15A NCAC 02B .0220 TIDAL SALT WATER QUALITY STANDARDS FOR CLASS SC WATERS

In addition to the standards set forth in Rule .0208 of this Section, the following water quality standards shall apply to all Class SC waters. Additional standards applicable to other tidal salt water classifications are specified in Rules .0221 and .0222 of this Section.

(1) The best usage of waters classified as SC shall be aquatic life propagation, survival, and maintenance of biological integrity (including fishing, fish, and Primary Nursery Areas (PNAs)); wildlife; secondary contact recreation as defined in Rule .0202 in this Section; and any usage except primary contact recreation or shellfishing for market purposes. All saltwaters shall be classified to protect these uses at a minimum.

(2) The best usage of waters classified as SC shall be maintained as specified in this Rule. Any source of water pollution that precludes any of these uses on either a short-term or a long-term basis shall be deemed to violate a water quality standard;

(3) Chlorophyll a (corrected): not greater than 40 ug/l in sounds, estuaries, and other waters subject to growths of macroscopic or microscopic vegetation. The Commission or its designee may prohibit or limit any discharge of waste into surface waters if the Director determines that the surface waters experience or the discharge would result in growths of microscopic or macroscopic vegetation such that the standards established pursuant to this Rule would be violated or the intended best usage of the waters would be impaired;

(4) Cyanide: 1 ug/l;

(5) Dissolved oxygen: not less than 5.0 mg/l, except that swamp waters, poorly flushed tidally influenced streams or embayments, or estuarine bottom waters may have lower values if caused by natural conditions;

(6) Enterococcus, including Enterococcus faecalis, Enterococcus faecium, Enterococcus avium and Enterococcus gallinarium: not exceed a geometric mean of 35 enterococci per 100 ml based upon a minimum of five samples taken over a 30-day period. For the purposes of beach monitoring and notification, "Coastal Recreational Waters Monitoring, Evaluation and Notification" regulations (15A NCAC 18A .3400), available free of charge at: http://www.ncoah.com/, are incorporated by reference including subsequent amendments and editions;

(7) Floating solids, settleable solids, or sludge deposits: only such amounts attributable to sewage, industrial wastes, or other wastes as shall not make the waters unsafe or unsuitable for aquatic life and wildlife, or impair the waters for any designated uses;

(8) Gases, total dissolved: not greater than 110 percent of saturation;

(9) Metals:

(a) With the exception of mercury and selenium, acute and chronic tidal salt water quality standards for metals shall be based upon measurement of the dissolved fraction of the

metals. Mercury and selenium shall be based upon measurement of the total recoverable metal;

(b) With the exception of mercury and selenium, acute and chronic tidal saltwater quality aquatic life standards for metals listed in this Sub-Item shall apply as a function of the pollutant's water effect ratio (WER). The WER shall be assigned a value equal to one unless any person demonstrates to the Division in a permit proceeding that another value is developed in accordance with the "Water Quality Standards Handbook: Second Edition" published by the US Environmental Protection Agency (EPA-823-B-12-002). Alternative site-specific standards may also be developed when any person submits values that demonstrate to the Commission that they were derived in accordance with the "Water Quality Standards Handbook: Second Edition, Recalculation Procedure or the Resident Species Procedure."

(c) Acute and chronic tidal salt water quality metals standards shall be as follows:

(i) Arsenic, acute: WER· 69 ug/l;

(ii) Arsenic, chronic: WER· 36 ug/l;

(iii) Cadmium, acute: WER· ~~40~~ 33 ug/l;

(iv) Cadmium, chronic: WER· ~~8.8~~ 7.9 ug/l;

(v) Chromium VI, acute: WER· 1100 ug/l;

(vi) Chromium VI, chronic: WER· 50 ug/l;

(vii) Copper, acute: WER· 4.8 ug/l;

(viii) Copper, chronic: WER· 3.1 ug/l;

(ix) Lead, acute: WER· 210 ug/l;

(x) Lead, chronic: WER· 8.1 ug/l;

(xi) Mercury, total recoverable, chronic: 0.025 ug/l;

(xii) Nickel, acute: WER· 74 ug/l;

(xiii) Nickel, chronic: WER· 8.2 ug/l;

(xiv) Selenium, total recoverable, chronic: 71 ug/l;

(xv) Silver, acute: WER· 1.9 ug/l;

(xvi) Silver, chronic: WER· 0.1 ug/l;

(xvii) Zinc, acute: WER· 90 ug/l; and

(xviii) Zinc, chronic: WER· 81 ug/l;

(d) Compliance with acute instream metals standards shall only be evaluated using an average of two or more samples collected within one hour. Compliance with chronic instream metals standards shall only be evaluated using averages of a minimum of four samples taken on consecutive days, or as a 96-hour average;

(10) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, aquatic life, and wildlife or adversely affect

the palatability of fish, aesthetic quality, or impair the waters for any designated uses. For the purpose of implementing this Rule, oils, deleterious substances, or colored or other wastes shall include substances that cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines, as described in 40 CFR 110.3, incorporated by reference including any subsequent amendments and editions. This material is available free of charge at https://www.govinfo.gov.

(11) Pesticides:

(a) Aldrin: 0.003 ug/l;

(b) Chlordane: 0.004 ug/l;

(c) DDT: 0.001 ug/l;

(d) Demeton: 0.1 ug/l;

(e) Dieldrin: 0.002 ug/l;

(f) Endosulfan: 0.009 ug/l;

(g) Endrin: 0.002 ug/l;

(h) Guthion: 0.01 ug/l;

(i) Heptachlor: 0.004 ug/l;

(j) Lindane: 0.004 ug/l;

(k) Methoxychlor: 0.03 ug/l;

(l) Mirex: 0.001 ug/l;

(m) Parathion: 0.178 ug/l; and

(n) Toxaphene: 0.0002 ug/l;

(12) pH: shall be between 6.8 and 8.5, except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions;

(13) Phenolic compounds: only such levels as shall not result in fish-flesh tainting or impairment of other best usage;

(14) Polychlorinated biphenyls: (total of all PCBs and congeners identified) 0.001 ug/l;

(15) Radioactive substances, based on at least one sample collected per quarter:

(a) Combined radium-226 and radium-228: the average annual activity level for combined radium-226, and radium-228 shall not exceed five picoCuries per liter;

(b) Alpha Emitters: the average annual gross alpha particle activity (including radium-226, but excluding radon and uranium) shall not exceed 15 picoCuries per liter;

(c) Beta Emitters: the average annual activity level for strontium-90 shall not exceed eight picoCuries per liter, nor shall the average annual gross beta particle activity (excluding potassium-40 and other naturally occurring radionuclides exceed 50 picoCuries per liter, nor shall the average annual activity level for tritium exceed 20,000 picoCuries per liter;

(16) Salinity: changes in salinity due to hydrological modifications shall not result in removal of the functions of a PNA. Projects that are determined by the Director to result in modifications of salinity

such that functions of a PNA are impaired shall employ water management practices to mitigate salinity impacts;

(17) Temperature: shall not be increased above the natural water temperature by more than 0.8 degrees C (1.44 degrees F) during the months of June, July, and August, shall not be increased by more than 2.2 degrees C (3.96 degrees F) during other months, and shall in no case exceed 32 degrees C (89.6 degrees F) due to the discharge of heated liquids;

(18) Trialkyltin compounds: 0.007 ug/l expressed as tributyltin;

(19) Turbidity: the turbidity in the receiving water shall not exceed 25 Nephelometric Turbidity Units (NTU); if turbidity exceeds this level due to natural background conditions, the existing turbidity level shall not be increased. Compliance with this turbidity standard shall be deemed met when land management activities employ Best Management Practices (BMPs), defined by Rule .0202 of this Section, recommended by the Designated Nonpoint Source Agency, as defined by Rule .0202 of this Section.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. October 1, 1995;
Amended Eff. January 1, 2015; May 1, 2007; August 1, 2000;
Readopted Eff. ~~November 1, 2019.~~ November 1, 2019;
Amended Eff. Xx.