

Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

SUBCHAPTER 2B - SURFACE WATER AND WETLAND STANDARDS
SECTION .0100 – PROCEDURES FOR ASSIGNMENT OF WATER QUALITY STANDARDS
SECTION .0200 - CLASSIFICATIONS AND WATER QUALITY STANDARDS APPLICABLE TO SURFACE WATERS AND WETLANDS OF NORTH CAROLINA

Effective July 24, 2018

The attached WQS document is in effect for Clean Water Act (CWA) purposes with the exceptions below:

- On July 24, 2018, EPA **disapproved** the following phrase of the provision at 15A NCAC 02B .0227(b)(2), which states “A part of the Cape Fear River (Cape Fear River Basin) comprised of a section of Index No. 18-(71) from upstream mouth of Toomers Creek to a line across the river between Lilliput Creek and Snows Cut shall be protected by the Class SC Sw standards as well as the follow site-specific action.”
 - The default Class SC designation remains in effect for CWA purposes.
- On July 24, 2018, EPA **disapproved** the following sentence of the provision at 15A NCAC 02B .0227(b)(2)(C), which states “Any new or expanded permitted pollutant discharge of oxygen consuming waste shall not cause the dissolved oxygen of the receiving water to drop more than 0.1 mg/l below the modeled in-stream dissolved oxygen at total permitted capacity for all discharges.”
 - The criteria associated with the Class SC designation remains in effect for CWA purposes.
- On April 6, 2016, EPA **disapproved** portions of 15 NCAC 02B.0211 Fresh Surface Water Quality Standards for class C Waters, Subparagraphs (11) and (22). These provisions relate to biological confirmation for toxics in assessment and three revisions relating to the implementation of the hardness based equations for metals under the National Pollutant Discharge Elimination System (NPDES) permits, including the use of action levels, the use of a low end hardness cap, and the use of the median of the 8-digit hydrologic unit for determining hardness when developing NPDES permits. As a result of this action, the provisions for determining hardness to use in the hardness based equations for fresh water shall be conducted using the approved provisions under 15 NCAC 02B.0211(11)(c)(i). On the same date, EPA also disapproved portions of subparagraphs (9) and (20) within 15 NCAC 02B .0220, which addressed provisions relating to biological confirmation for toxics in assessment and the use of the action levels in marine waters.

SUBCHAPTER 2B - SURFACE WATER AND WETLAND STANDARDS

SECTION .0100 - PROCEDURES FOR ASSIGNMENT OF WATER QUALITY STANDARDS

15A NCAC 02B .0101 GENERAL PROCEDURES

(a) The rules contained in Sections .0100, .0200 and .0300 of this Subchapter which pertain to the series of classifications and water quality standards shall be known as the "Classifications and Water Quality Standards Applicable to the Surface Waters and Wetlands of North Carolina."

(b) The Environmental Management Commission, prior to classifying and assigning standards of water quality to any waters of the state, shall proceed as follows:

- (1) The Commission, or its designee, shall determine waters to be studied for the purpose of classification and assignment of water quality standards on the basis of user requests, petitions, or the identification of existing or attainable water uses, as defined by 15A NCAC 2B .0202, not presently included in the water classification.
 - (2) After appropriate studies of the identified waters to obtain the data and information required for determining the proper classification of the waters or segments of water are completed, the Commission, or its designee, shall make a decision on whether to initiate proceedings to modify the classifications and water quality standards of identified waters. In the case of the Commission's designee deciding to initiate said proceedings, the designee shall inform the Commission of the decision prior to scheduling a public hearing.
 - (3) In the case of a petition for classification and assignment of water quality standards according to the requirements of General Statute 150B-20, the Director shall make a preliminary recommendation on the appropriate classifications and water quality standards of the identified waters on the basis of the study findings or information included in the petition supporting the classification and standards changes.
 - (4) The Commission shall make a decision on whether to grant or deny a petition in accordance with the provisions of General Statute 150B-20 based on the information included in the petition and the recommendation of the Director. The Commission may deny the petition and request that the Division study the appropriate classifications and water quality standards for the petitioned waters in accordance with Subparagraph (b)(2) of this Rule.
 - (5) The Director shall give due notice of such hearing or hearings in accordance with the requirements of General Statute 143-214.1 and G.S. 150B, and shall appoint a hearing officer(s) in consultation with the chairman of the Commission.
 - (6) The hearing officer(s) shall, as soon as practicable after the completion of the hearing, submit a complete report of the proceedings of the hearing to the Commission. The hearing officer(s) shall include in the report a transcript or summary of testimony presented at such public hearing, relevant exhibits, a summary of relevant information from the stream studies conducted by the technical staff of the Commission, and final recommendations as to classification of the designated waters and the standards of water quality and best management practices which should be applied to the classifications recommended.
 - (7) The Commission, after due consideration of the hearing records and the final recommendations of the hearing officer(s), shall adopt its final action with respect to the assignment of classifications, and any applicable standards or best management practices applicable to the waters under consideration. The Commission shall publish such action, together with the effective date for the application of the provisions of General Statute 143-215.1 and 143-215.2, as amended, as a part of the Commission's official rules.
 - (8) The final action of the Commission with respect to the assignment of classification with its accompanying standards and best management practices shall contain the Commission's conclusions relative to the various factors given in General Statute 143-214.1(d), and shall specifically include the class or classes to which such specifically designated waters in the watershed or watersheds shall be assigned on the basis of best usage in the interest of the public.
- (c) Freshwater shall be assigned to one of the following classification:
- (1) Class C: freshwaters protected for secondary recreation, fishing, aquatic life including propagation and survival, and wildlife. All freshwaters shall be classified to protect these uses at a minimum.
 - (2) Class B: freshwaters protected for primary recreation which includes swimming on a frequent or organized basis and all Class C uses.

- (3) Class WS-I: waters protected as water supplies which are essentially in natural and undeveloped watersheds. Point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter. Local programs to control nonpoint sources and stormwater discharges of pollution are required. Suitable for all Class C uses.
 - (4) Class WS-II: waters protected as water supplies which are generally in predominantly undeveloped watersheds. Point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter. Local programs to control nonpoint sources and stormwater discharges of pollution shall be required. Suitable for all Class C uses.
 - (5) Class WS-III: waters protected as water supplies which are generally in low to moderately developed watersheds. Point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter. Local programs to control nonpoint sources and stormwater discharges of pollution shall be required. Suitable for all Class C uses.
 - (6) Class WS-IV: waters protected as water supplies which are generally in moderately to highly developed watersheds. Point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211 of this Subchapter. Local programs to control nonpoint sources and stormwater discharges of pollution shall be required; suitable for all Class C uses.
 - (7) Class WS-V: waters protected as water supplies which are generally upstream of and draining to Class WS-IV waters. No categorical restrictions on watershed development or treated wastewater discharges shall be required. However, the Commission or its designee may apply appropriate management requirements as deemed necessary for the protection of downstream receiving waters (15A NCAC 2B .0203); suitable for all Class C uses.
 - (8) Class WL: waters that meet the definition of wetlands found in 15A NCAC 2B .0202 except those designated as Class SWL.
- (d) Tidal Salt Waters shall be assigned to one of the following:
- (1) Class SC: saltwaters protected for secondary recreation, fishing, aquatic life including propagation and survival, and wildlife. All saltwaters shall be classified to protect these uses at a minimum.
 - (2) Class SB: saltwaters protected for primary recreation which includes swimming on a frequent or organized basis and all Class SC uses.
 - (3) Class SA: suitable for commercial shellfishing and all other tidal saltwater uses.
 - (4) Class SWL: waters that meet the definition of coastal wetlands as defined by 15A NCAC 2H .0205, and which are landward of the mean high water line, and wetlands contiguous to estuarine waters as defined by 15A NCAC 2H .0206.
- (e) The following are supplemental classifications:
- (1) Trout waters (Tr): freshwaters protected for natural trout propagation and survival of stocked trout.
 - (2) Swamp waters (Sw): waters which have low velocities and other natural characteristics which are different from adjacent streams.
 - (3) Nutrient Sensitive Waters (NSW): waters subject to growths of microscopic or macroscopic vegetation requiring limitations on nutrient inputs.
 - (4) Outstanding Resource Waters (ORW): unique and special waters of exceptional state or national recreational or ecological significance which require special protection to maintain existing uses.
 - (5) High Quality Waters (HQW): waters which are rated as excellent based on biological and physical/chemical characteristics through Division monitoring or special studies, native and special native trout waters (and their tributaries) designated by the Wildlife Resources Commission, primary nursery areas (PNA) designated by the Marine Fisheries Commission and other functional nursery areas designated by the Marine Fisheries Commission, all water supply watersheds which are either classified as WS-I or WS-II or those for which a formal petition for reclassification as WS-I or WS-II has been received from the appropriate local government and accepted by the Division of Water Quality and all Class SA waters.
 - (6) Future Water Supply (FWS): waters that have been requested by a local government and adopted by the Commission as a future source for drinking, culinary, or food-processing purposes. Local government(s) requesting this reclassification shall provide to the Division evidence of intent which may include one or a combination of the following: capitol improvement plans, a Water Supply Plan as described in G.S. 143-355(1), bond issuance for the water treatment plant or land acquisition records. Local governments shall provide a 1:24,000 scale USGS topographical map delineating the location of the intended water supply intake. Requirements for activities administered by the State of North Carolina, such as the issuance of permits for landfills, NPDES wastewater discharges, land application of residuals and road construction

activities shall be effective upon reclassification for future water supply use. The requirements shall apply to the critical area and balance of the watershed or protected area as appropriate. Upon receipt of the final approval letter from the Division of Environmental Health for construction of the water treatment plant and water supply intake, the Commission shall initiate rule-making to modify the Future Water Supply supplemental classification. Local government implementation is not required until 270 days after the Commission has modified the Future Water Supply (FWS) supplemental classification through the rule-making process and notified the affected local government(s) that the appropriate local government land use requirements applicable for the water supply classifications are to be adopted, implemented and submitted to the Commission for approval. Local governments may also adopt land use ordinances that meet or exceed the state's minimum requirements for water supply watershed protection prior to the end of the 270 day deadline. The requirements for FWS may also be applied to waters formerly used for drinking water supply use, and currently classified for water supply use, at the request of local government(s) desiring protection of the watershed for future water supply use.

- (7) Unique wetland (UWL): wetlands of exceptional state or national ecological significance which require special protection to maintain existing uses. These wetlands may include wetlands that have been documented to the satisfaction of the Commission as habitat essential for the conservation of state or federally listed threatened or endangered species.

(f) In determining the best usage of waters and assigning classifications of such waters, the Commission shall consider the criteria specified in General Statute 143-214.1(d) and all existing uses as defined by 15A NCAC 2B .0202. In determining whether to revise a designated best usage for waters through a revision to the classifications, the Commission shall follow the requirements of 40 CFR 131.10(b),(c),(d) and (g) which are hereby incorporated by reference including any subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Water Quality, Water Quality Section, 512 North Salisbury Street, Raleigh, North Carolina. Copies may be obtained from the U.S. Government Printing Office, Superintendent of Documents, Washington, DC 20402-9325 at a cost of thirteen dollars (\$13.00).

(g) When revising the classification of waters, the Division shall collect water quality data within the watershed for those substances which require more stringent control than required by the existing classification. However, such sampling may be limited to only those parameters which are of concern. If the revision to classifications involves the removal of a designated use, the Division shall conduct a use attainability study as required by the provisions of 40 CFR 131.10(j) which are hereby incorporated by reference including any subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Water Quality, Water Quality Section, 512 North Salisbury Street, Raleigh, North Carolina. Copies may be obtained from the U.S. Government Printing Office, Superintendent of Documents, Washington, DC 20402-9325 at a cost of thirteen dollars (\$13.00).

History Note: Authority G.S. 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 statutory authority and ambiguity;
Amended Eff. October 1, 1996.

15A NCAC 02B .0102 USE OF CLASSIFICATIONS AND WATER QUALITY STANDARDS

History Note: Authority G.S. 143-214.1;
Eff. February 1, 1976;
Repealed Eff. January 1, 1985.

15A NCAC 02B .0103 ANALYTICAL PROCEDURES

(a) Chemical/Physical Procedures. Tests or analytical procedures to determine conformity or non-conformity with standards shall, insofar as practicable and applicable, conform to the guidelines by the Environmental Protection Agency codified as 40 CFR, Part 136, which are hereby incorporated by reference including any subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Water Quality, Water Quality Section, 512 North Salisbury Street, Raleigh, North Carolina. Copies may be obtained from the U.S. Government Printing Office, Superintendent of Documents, Washington, DC 20402-9325 at a cost of thirteen dollars (\$13.00). Methods not codified by 40 CFR, Part 136 will, insofar as practicable and applicable, conform to the guidelines by the American Public Health Association, American Water Works Association, Water Environment Federation publication

A Standard Methods for the Examination of Water and Wastewater, 19th edition (1996) or subsequent editions which are hereby incorporated by reference. Copies may be obtained from the Water Environment Federation, 601 Wythe St., Alexandria, VA, 22314 at a cost of one hundred and eighty dollars (\$180.00).

(b) Biological Procedures. Biological tests to determine conformity or non-conformity with standards shall be based on methods published by the U.S. Environmental Protection Agency as codified as 40 CFR, Part 136, which are hereby incorporated by reference including any subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health and Natural Resources, Division of Water Quality, Water Quality Planning Branch, 512 North Salisbury Street, Raleigh, North Carolina. Copies may be obtained from the U.S. Government Printing Office, Superintendent of Documents, Washington, DC 20402-9325 at a cost of thirteen dollars (\$13.00).

(c) Wetland Evaluation Procedures. Evaluations of wetlands for the presence of existing uses shall be based on procedures approved by the Director. The Director shall approve wetland evaluation procedures that have been demonstrated to produce verifiable and repeatable results and that have widespread acceptance in the scientific community. Copies of approved methods or guidance may be obtained by submitting a written request to NCDWQ, Ecological Assessment Group, P.O. Box 29535, Raleigh, NC 27626-0535.

*History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. February 1, 1993; October 1, 1989; January 1, 1985; September 9, 1979;
RRC Objection Eff. July 18, 1996 due to lack of statutory authority and ambiguity;
Amended Eff. October 1, 1996.*

15A NCAC 02B .0104 CONSIDERATIONS/ASSIGNING/IMPLEMENTING WATER SUPPLY CLASSIFICATIONS

(a) In determining the suitability of waters for use as a source of water supply for drinking, culinary or food processing purposes after approved treatment, the Commission will be guided by the physical, chemical, and bacteriological maximum contaminant levels specified by Environmental Protection Agency regulations adopted pursuant to the Public Health Service Act, 42 U.S.C. 201 et seq., as amended by the Safe Drinking Water Act, 42 U.S.C. 300(f) et seq. In addition, the Commission shall be guided by the requirements for unfiltered and filtered water supplies and the maximum contaminant levels specified in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1100, .1200 and .1500 and comments provided by the Division of Environmental Health.

(b) All local governments that have land use authority within designated water supply watersheds shall adopt and enforce ordinances that at a minimum meet the requirements of G.S. 143-214.5 and this Subchapter. The Commission shall approve local water supply protection programs if it determines that the requirements of the local program equal or exceed the minimum statewide water supply watershed management requirements adopted pursuant to this Section. Local governments may adopt and enforce more stringent controls. Local management programs and modifications to these programs must be approved by the Commission and shall be kept on file by the Division of Environmental Management, Division of Environmental Health and the Division of Community Assistance.

(c) All waters used for water supply purposes or intended for future water supply use shall be classified to the most appropriate water supply classification as determined by the Commission. Water supplies may be reclassified to a more or less protective water supply classification on a case-by-case basis through the rule-making process. A more protective water supply classification may be applied to existing water supply watersheds after receipt of a resolution from all local governments having land use jurisdiction within the designated water supply watershed requesting a more protective water supply classification. Local government(s) requesting the Future Water Supply classification must provide to the Division evidence of intent which may include one or a combination of the following: capital improvement plans, a Water Supply Plan as described in G.S. 143-355(1), bond issuance for the water treatment plant or land acquisition records. A 1:24,000 scale USGS topographical map delineating the location of the intended water supply intake is also required. Requirements for activities administered by the State of North Carolina, such as the issuance of permits for landfills, NPDES wastewater discharges, land application of residuals and road construction activities shall be effective upon reclassification for future water supply use. The requirements shall apply to the critical area and balance of the watershed or protected area as appropriate. Upon receipt of the final approval letter from the Division of Environmental Health for construction of the water treatment plant and water supply intake, the Commission shall initiate rule-making to modify the Future Water Supply supplemental classification. Local government implementation is not required until 270 days after the Commission has modified the Future Water Supply (FWS) supplemental classification through the rule-making process and notified the affected local government(s) that the appropriate local government land use requirements applicable for the water supply classifications are to be adopted, implemented and submitted to the Commission for approval. Local governments may also

adopt land use ordinances that meet or exceed the state's minimum requirements for water supply watershed protection prior to the end of the 270 day deadline. The requirements for FWS may also be applied to waters formerly used for drinking water supply purposes, and currently classified for water supply use, at the request of local government(s) desiring protection of the watershed for future water supply use.

(d) In considering the reclassification of waters for water supply purposes, the Commission shall take into consideration the relative proximity, quantity, composition, natural dilution and diminution of potential sources of pollution to determine that risks posed by all significant pollutants are adequately considered.

(e) For the purposes of implementing the water supply watershed protection rules (15A NCAC 2B .0100, .0200 and .0300) and the requirements of G.S. 143-214.5, the following schedule of implementation shall be applicable:

August 3, 1992 - Activities administered by the State of North Carolina, such as the issuance of permits for landfills, NPDES wastewater discharges, and land application of sludge/residuals, and road construction activities, shall become effective regardless of the deadlines for municipal and county water supply watershed protection ordinance adoptions;

By July 1, 1993 - Affected municipalities with a population greater than 5,000 shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules;

By October 1, 1993 - Affected municipalities with a population less than 5,000 shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules;

By January 1, 1994 - Affected county governments shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules.

Affected local government drinking water supply protection ordinances shall become effective on or before these dates. Local governments may choose to adopt, implement and enforce these provisions prior to this date. Three copies of the adopted and effective relevant ordinances shall be sent to the Division along with a cover letter from the municipal or county attorney, or its designated legal counsel, stating that the local government drinking water supply protection ordinances shall meet or exceed the rules in 15A NCAC 2B .0100, .0200 and .0300. If the rules in 15A NCAC 2B .0100, .0200 and .0300 are revised, the Division shall modify and distribute to local governments, as appropriate, a revised model ordinance. The Division shall approve the amended local maps and ordinances, or request the Commission to take appropriate action under G.S. 143-214.5.

(f) Wherever in this Subchapter it is provided that local governments assume responsibility for operation and maintenance of engineered stormwater control(s), this shall be construed to require responsible local governments to inspect such controls at least once per year, to determine whether the controls are performing as designed and intended. Records of inspections shall be maintained on forms supplied by the Division. Local governments may require payment of reasonable inspection fees by entities which own the controls, as authorized by law. In the event inspection shows that a control is not performing adequately, the local government shall order the owning entity to take corrective actions. If the entity fails to take sufficient corrective actions, the local government may impose civil penalties and pursue other available remedies in accordance with the law. The availability of new engineered stormwater controls as an alternative to lower development density and other measures under the provisions of this Subchapter and local ordinances approved by the Commission shall be conditioned on the posting of adequate financial assurance, in the form of a cash deposit or bond made payable to the responsible local government, or other acceptable security. The establishment of a stormwater utility by the responsible local government shall be deemed adequate financial assurance. The purpose of the required financial assurance is to assure that maintenance, repairs or reconstruction necessary for adequate performance of the controls may be made by the owning entity or the local government which may choose to assume ownership and maintenance responsibility.

(g) Where higher density developments are allowed, stormwater control systems must use wet detention ponds as described in 15A NCAC 2H .1003(g)(2), (g)(3), (i), (j), (k), and (l). Alternative stormwater management systems consisting of other treatment options, or a combination of treatment options, may be approved by the Director. The design criteria for approval shall be 85 percent average annual removal of Total Suspended Solids. Also the discharge rate shall meet one of the following criteria:

- (1) the discharge rate following the 1-inch design storm shall be such that the runoff draws down to the pre-storm design stage within five days, but not less than two days; or
- (2) the post development peak discharge rate shall equal the predevelopment rate for the 1-year, 24 hour storm.

(h) Where no practicable alternative exists, discharge from groundwater remediation projects addressing water quality problems shall be allowed in accordance with other applicable requirements in all water supply classifications.

(i) To further the cooperative nature of the water supply watershed management and protection program provided for herein, local governments with jurisdiction over portions of classified watersheds and local governments which derive their water

supply from within such watersheds are encouraged to establish joint water quality monitoring and information sharing programs, by interlocal agreement or otherwise. Such cooperative programs shall be established in consultation with the Division.

(j) Where no practicable alternative exists other than surface water discharge, previously unknown existing unpermitted wastewater discharges shall incorporate the best possible technology treatment as deemed appropriate by the Division.

(k) The Commission may designate water supply watersheds or portions thereof as critical water supply watersheds pursuant to G.S. 143-214.5(b).

(l) A more protective classification may be allowed by the Commission although minor occurrences of nonconforming activities are present prior to reclassification. When the Commission allows a more protective classification, expansions of existing wastewater discharges that otherwise would have been prohibited may be allowed if there is no increase in permitted pollutant loading; other discharges of treated wastewater existing at the time of reclassification may be required to meet more stringent effluent limitations as determined by the Division. Consideration of all practicable alternatives to surface water discharge must be documented.

(m) The construction of new roads and bridges and non-residential development shall minimize built-upon area, divert stormwater away from surface water supply waters as much as possible, and employ best management practices (BMPs) to minimize water quality impacts. To the extent practicable, the construction of new roads in the critical area shall be avoided. The Department of Transportation shall use BMPs as outlined in their document entitled "Best Management Practices for the Protection of Surface Waters" which is hereby incorporated by reference including all subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Environmental Management, Water Quality Planning Branch, 512 North Salisbury Street, Raleigh, North Carolina.

(n) Activities within water supply watersheds are also governed by the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1100, .1200 and .1500. Proposed expansions of treated wastewater discharges to water supply waters must be approved by the Division of Environmental Health.

(o) Local governments shall correctly delineate the approximate normal pool elevation for backwaters of water supply reservoirs for the purposes of determining the critical and protected area boundaries as appropriate. Local governments must submit to the Division a 1:24,000 scale U.S.G.S. topographic map which shows the local government's corporate and extraterritorial jurisdiction boundaries, the Commission's adopted critical and protected area boundaries, as well as the local government's interpreted critical and protected area boundaries. All revisions (expansions or deletions) to these areas must be submitted to the Division and approved by the Commission prior to local government revision.

(p) Local governments shall encourage participation in the Agricultural Cost Share Program. The Soil and Water Conservation Commission is the designated management agency responsible for implementing the provisions of the rules in 15A NCAC 2H .0200 pertaining to agricultural activities. Agricultural activities are subject to the provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation and Trade Act of 1990 (Public Law 101-624) and 15A NCAC 2H .0217). The following shall be required within WS-I watersheds and the critical areas of WS-II, WS-III and WS-IV watersheds:

- (1) Agricultural activities conducted after January 1, 1993 shall maintain a minimum 10 foot vegetated buffer, or equivalent control as determined by the Soil and Water Conservation Commission, along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies; and
- (2) Animal operation deemed permitted and permitted under 15A NCAC 2H .0217 are allowed in all classified water supply watersheds.

(q) Existing development is not subject to the requirements of these Rules. Redevelopment is allowed if the rebuilding activity does not have a net increase in built-upon area or provides equal or greater stormwater control than the previous development, except that there are no restrictions on single family residential redevelopment. Expansions to structures classified as existing development must meet the requirements of the rules in 15A NCAC 2B .0100, .0200 and .0300; however, the built-upon area of the existing development is not required to be included in the density calculations. Expansions to structures other than existing development must meet the density requirements of these Rules for the entire project site. If a nonconforming lot of record is not contiguous to any other lot owned by the same party, then that lot of record shall not be subject to the development restrictions of these Rules if it is developed for single-family residential purposes. Local governments may, however, require the combination of contiguous nonconforming lots of record owned by the same party in order to establish a lot or lots that meet or nearly meet the development restrictions of the rules under 15A NCAC 2B. Any lot or parcel created as part of a family subdivision after the effective date of these Rules shall be exempt from these Rules if it is developed for one single-family detached residence and if it is exempt from local subdivision regulation. Any lot or parcel created as part of any other type of subdivision that is exempt from a local subdivision ordinance shall be subject to the land use requirements (including impervious surface requirements) of these Rules, except that such a lot

or parcel must meet the minimum buffer requirements to the maximum extent practicable. Local governments may also apply more stringent controls relating to determining existing development, redevelopment or expansions.

(r) Development activities may be granted minor variances by local governments utilizing the procedures of G.S. 153A Article 18, or G.S. 160A, Article 19. A description of each project receiving a variance and the reason for granting the variance shall be submitted to the Commission on an annual basis by January 1. For all proposed major and minor variances from the minimum statewide watershed protection rules, the local Watershed Review Board shall make findings of fact showing that:

- (1) there are practical difficulties or unnecessary hardships that prevent compliance with the strict letter of the ordinance;
- (2) the variance is in harmony with the general purpose and intent of the local watershed protection ordinance and preserves its spirit; and
- (3) in granting the variance, the public safety and welfare have been assured and substantial justice has been done.

The local Watershed Review Board may attach conditions to the major or minor variance approval that support the purpose of the local watershed protection ordinance. If the variance request qualifies as a major variance, and the local Watershed Review Board decides in favor of granting the major variance, the Board shall then prepare a preliminary record of the hearing and submit it to the Commission for review and approval. If the Commission approves the major variance or approves with conditions or stipulations added, then the Commission shall prepare a Commission decision which authorizes the local Watershed Review Board to issue a final decision which would include any conditions or stipulations added by the Commission. If the Commission denies the major variance, then the Commission shall prepare a Commission decision to be sent to the local Watershed Review Board. The local Watershed Review Board shall prepare a final decision denying the major variance. For all proposed major and minor variances the local government considering or requesting the variance shall notify and allow a reasonable comment period for all other local governments having jurisdiction within the watershed area governed by these Rules and the entity using the water supply for consumption. Appeals from the local government decision on a major or minor variance request are made on certiorari to the local Superior Court. Appeals from the Commission decision on a major variance request are made on judicial review to Superior Court. When local ordinances are more stringent than the state's minimum water supply protection rules a variance to the local government's ordinance is not considered a major variance as long as the result of the variance is not less stringent than the state's minimum requirements.

(s) Cluster development is allowed on a project-by-project basis as follows:

- (1) Overall density of the project meets associated density or stormwater control requirements under 15A NCAC 2B .0200;
- (2) Buffers meet the minimum statewide water supply watershed protection requirements;
- (3) Built-upon areas are designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;
- (4) Areas of concentrated density development are located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways;
- (5) Remainder of tract to remain in vegetated or natural state;
- (6) The area in the vegetated or natural state may be conveyed to a property owners association; a local government for preservation as a park or greenway; a conservation organization; or placed in a permanent conservation or farmland preservation easement. A maintenance agreement shall be filed with the property deeds; and
- (7) Cluster developments that meet the applicable low density requirements shall transport stormwater runoff by vegetated conveyances to the maximum extent practicable.

(t) Local governments may administer oversight of future development activities in single family residential developments that exceed the applicable low density requirements by tracking dwelling units rather than percentage built-upon area, as long as the wet detention pond or other approved stormwater control system is sized to capture and treat runoff from all pervious and built-upon surfaces shown on the development plan and any off-site drainage from pervious and built-upon surfaces, and when an additional safety factor of 15 percent of built-upon area of the project site is figured in.

(u) All new development shall meet the development requirements on a project-by-project basis except local governments may submit ordinances and ordinance revisions which use density or built-upon area criteria averaged throughout the local government's watershed jurisdiction instead of on a project-by-project basis within the watershed. Prior to approval of the ordinance or amendment, the local government must demonstrate to the Commission that the provisions as averaged meet or exceed the statewide minimum requirements, and that a mechanism exists to ensure the orderly and planned distribution of development potential throughout the watershed jurisdiction.

(v) Silviculture activities are subject to the provisions of the Forest Practices Guidelines Related to Water Quality (15A NCAC II .0101 - .0209). The Division of Forest Resources is the designated management agency responsible for implementing the provisions of the rules in 15A NCAC 2B .0200 pertaining to silviculture activities.

(w) Local governments shall, as the existing laws allow, develop, implement, and enforce comprehensive nonpoint source and stormwater discharge control programs to reduce water pollution from activities within water supply watersheds such as development, forestry, landfills, mining, on-site sanitary sewage systems which utilize ground adsorption, toxic and hazardous materials, transportation, and water based recreation.

(x) When the Commission assumes a local water supply protection program as specified under G.S. 143-214.5(e) all local permits authorizing construction and development activities as regulated by the statewide minimum water supply watershed protection rules of this Subchapter must be approved by the Commission prior to local government issuance.

(y) In the event that stormwater management systems or facilities may impact existing waters or wetlands of the United States, the Clean Water Act requires that these systems or facilities be consistent with all federal and state requirements.

(z) A model local water supply watershed management and protection ordinance, as approved by the Commission in accordance with G.S. 143-214.5, is on file with the Office of Administrative Hearings and may be obtained by writing to: Water Quality Planning Branch, Division of Environmental Management, Post Office Box 29535, Raleigh, North Carolina 27626-0535.

(aa) The Commission may delegate such matters as variance approval, extension of deadlines for submission of corrected ordinances and assessment of civil penalties to the Director.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. August 1, 1995; August 3, 1992; March 1, 1991; October 1, 1989.

15A NCAC 02B .0105 DETERMINATION OF SAFETY OR SUITABILITY: CLASS A-II WATERS

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. January 1, 1985; September 9, 1979;
Repealed Eff. February 1, 1986.

15A NCAC 02B .0106 CONSIDERATIONS/ASSIGNING CLASSIFICATIONS FOR PRIMARY RECREATION

In assigning the B or SB classification to waters intended for primary recreation, the Commission will take into consideration the relative proximity of sources of water pollution and will recognize the potential hazards involved in locating swimming areas close to sources of water pollution and will not assign this classification to waters in which such water pollution could result in a hazard to public health. Discharges to waters classified as B or SB will meet the reliability requirements specified in 15A NCAC 2H .0124. Discharges to waters where a primary recreational use is determined by the Director to be attainable will 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. February 1, 1976;
Amended Eff. October 1, 1989; January 1, 1985; September 9, 1979.

15A NCAC 02B .0107 DEFINITION OF REGULATIONS: CLASSIFICATIONS: AND STANDARDS

History Note: Authority G.S. 143-214.1;
Eff. February 1, 1976;
Repealed Eff. January 1, 1985.

15A NCAC 02B .0108 CONSIDERATIONS IN ASSIGNING THE SHELLFISHING AREA CLASSIFICATION

In determining the safety or suitability of Class SA waters to be used for shellfishing for market purposes, the Commission will be guided by the existing water quality of the area in relation to the standards to protect shellfishing uses, the potential contamination of the area from both point and nonpoint sources of pollution, and the presence of harvestable quantities of shellfish or the potential for the area to have harvestable quantities through management efforts of the Division of Marine

Fisheries. Waters will not be classified SA without the written concurrence of the Division of Health Services, North Carolina Department of Human Resources.

History Note: Authority G.S. 143-214.1;
Eff. January 1, 1985;
Amended Eff. October 1, 1989.

15A NCAC 02B .0109 WATERS AFFECTED BY DREDGE AND FILL ACTIVITIES

History Note: Authority G.S. 143-214.1;
Eff. October 1, 1989;
Repealed Eff. October 1, 1996.

15A NCAC 02B .0110 CONSIDERATIONS FOR FEDERALLY-LISTED THREATENED OR ENDANGERED AQUATIC SPECIES

Certain waters provide habitat for federally-listed aquatic animal species that are listed as threatened or endangered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the provisions of the Endangered Species Act, 16 U.S.C. 1531-1544 and subsequent modifications. Maintenance and recovery of the water quality conditions required to sustain and recover federally-listed threatened and endangered aquatic animal species contributes to the support and maintenance of a balanced and indigenous community of aquatic organisms and thereby protects the biological integrity of the waters. The Division shall develop site-specific management strategies under the provisions of 15A NCAC 2B .0225 or 15A NCAC 2B .0227 for those waters. These plans shall be developed within the basinwide planning schedule with all plans completed at the end of each watershed's first complete five year cycle following adoption of this Rule. Nothing in this Rule shall prevent the Division from taking other actions within its authority to maintain and restore the quality of these waters.

History Note: Authority G. S. 143-214.1; 143-215.3(a)(1); 143-215.8A;
Eff. August 1, 2000.

SECTION .0200 - CLASSIFICATIONS AND WATER QUALITY STANDARDS APPLICABLE TO SURFACE WATERS AND WETLANDS OF NORTH CAROLINA

15A NCAC 02B .0201 ANTIDegradation Policy

(a) It is the policy of the Environmental Management Commission to maintain, protect, and enhance water quality within the State of North Carolina. Pursuant to this policy, the requirements of 40 CFR 131.12 are hereby incorporated by reference including any subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Water Quality, Water Quality Section, 512 North Salisbury Street, Raleigh, North Carolina. Copies may be obtained from the U.S. Government Printing Office, Superintendent of Documents, Washington, DC 20402-9325 at a cost of thirteen dollars (\$13.00). These requirements shall be implemented in North Carolina as set forth in Paragraphs (b), (c), (d), (e) and (f) of this Rule.

(b) Existing uses, as defined by Rule .0202 of this Section, and the water quality to protect such uses shall be protected by properly classifying surface waters and having standards sufficient to protect these uses. In cases where the Commission or its designee determines that an existing use is not included in the classification of waters, a project which shall affect these waters shall not be permitted unless the existing uses are protected.

(c) The Commission shall consider the present and anticipated usage of waters with quality higher than the standards, including any uses not specified by the assigned classification (such as outstanding national resource waters or waters of exceptional water quality) and shall not allow degradation of the quality of waters with quality higher than the standards below the water quality necessary to maintain existing and anticipated uses of those waters. Waters with quality higher than the standards are defined by Rule .0202 of this Section. The following procedures shall be implemented in order to meet these requirements:

- (1) Each applicant for an NPDES permit or NPDES permit expansion to discharge treated waste shall document an effort to consider non-discharge alternatives pursuant to 15A NCAC 2H .0105(c)(2).
- (2) Public Notices for NPDES permits shall list parameters that would be water quality limited and state whether or not the discharge shall use the entire available load capacity of the receiving waters and may cause more stringent water quality based effluent limitations to be established for dischargers downstream.

- (3) The Division may require supplemental documentation from the affected local government that a proposed project or parts of the project are necessary for important economic and social development.
- (4) The Commission and Division shall work with local governments on a voluntary basis to identify and develop appropriate management strategies or classifications for waters with unused pollutant loading capacity to accommodate future economic growth.

Waters with quality higher than the standards shall be identified by the Division on a case-by-case basis through the NPDES permitting and waste load allocation processes (pursuant to the provisions of 15A NCAC 2H .0100). Dischargers affected by the requirements of Paragraphs (c)(1) through (c)(4) of this Rule and the public at large shall be notified according to the provisions described herein, and all other appropriate provisions pursuant to 15A NCAC 2H .0109. If an applicant objects to the requirements to protect waters with quality higher than the standards and believes degradation is necessary to accommodate important social and economic development, the applicant may contest these requirements according to the provisions of General Statute 143-215.1(e) and 150B-23.

(d) The Commission shall consider the present and anticipated usage of High Quality Waters (HQW), including any uses not specified by the assigned classification (such as outstanding national resource waters or waters of exceptional water quality) and shall not allow degradation of the quality of High Quality Waters below the water quality necessary to maintain existing and anticipated uses of those waters. High Quality Waters are a subset of waters with quality higher than the standards and are as described by 15A NCAC 2B .0101(e)(5). The procedures described in Rule .0224 of this Section shall be implemented in order to meet the requirements of this part.

(e) Outstanding Resource Waters (ORW) are a special subset of High Quality Waters with unique and special characteristics as described in Rule .0225 of this Section. The water quality of waters classified as ORW shall be maintained such that existing uses, including the outstanding resource values of said Outstanding Resource Waters, shall be maintained and protected.

(f) Activities regulated under Section 404 of the Clean Water Act (33 U.S.C. 1344) which require a water quality certification as described in Section 401 of the Clean Water Act (33 U.S.C. 1341) shall be evaluated according to the procedures outlined in 15A NCAC 2H .0500. Activities which receive a water quality certification pursuant to these procedures shall not be considered to remove existing uses. The evaluation of permits issued pursuant to G.S. 143-215.1 that involve the assimilation of wastewater or stormwater by wetlands shall incorporate the criteria found in 15A NCAC 2H .0506(c) (1)-(5) in determining the potential impact of the proposed activity on the existing uses of the wetland per 15A NCAC 2H .0231.

*History Note: Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. October 1, 1995; August 1, 1995; February 1, 1993; April 1, 1991; August 1, 1990;
RRC Objection Eff. July 18, 1996 due to lack of statutory authority and ambiguity;
Amended Eff. October 1, 1996.*

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) to a specific chemical or mixture of chemicals (as in an effluent). Short-term exposure for acute tests is generally 96 hours or less. 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 hereby incorporated by reference including any subsequent amendments.
 - (b) for specific chemical constituents or compounds for which values described under Subparagraph (1)(a) of this Rule can not 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 are defined as no statistically measurable lethality (99 percent confidence level using Students t test) during a specified exposure period. Concentrations of exposure shall be determined on a case-by-case basis.

- (d) in instances where detailed dose response data indicate that levels of acute toxicity are significantly 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 curve.
- (2) Acute to Chronic Ratio (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 include the use of waters for stock watering, irrigation, and other farm purposes.
- (4) Applicator means any person, firm, corporation, wholesaler, retailer, 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 they own or to land which they lease or otherwise hold rights.
- (5) Approved treatment, as applied to water supplies, means treatment accepted as satisfactory by the Division of Environmental Health or Division of Water Quality.
- (6) Average (except bacterial) means arithmetical average and includes the analytical results of all samples taken during the specified period; all sampling shall be done as to obtain the most representative sample under prevailing conditions:
 - (a) Daily Average for dissolved oxygen, shall be of at least four samples;
 - (b) Weekly Average means the average of all daily composite samples obtained during the calendar week. If only one grab sample is taken each day, the weekly average is the average of all daily grab samples. A minimum of three daily grab samples is needed to calculate a weekly average.
 - (c) Monthly Average means the average of all daily composites (or grab samples if only one per day) obtained during the calendar month.

The definitions in this Paragraph do not affect the monitoring requirements for NPDES permits but rather shall be used by the Division along with other methodologies in determining violations of water quality standards. Arithmetical averages as defined by this Section, and not confidence limits nor other statistical descriptions, shall be used in all calculations of limitations which require the use of averages pursuant to this Section and 40 CFR 122.41(l)(4)(iii).

- (7) Best Management Practice (BMP) means a structural or nonstructural management-based practice used singularly or in combination to reduce nonpoint source inputs to receiving waters in order to achieve water quality protection goals.
- (8) Best usage 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.
- (9) Bioaccumulation factor (BAF) is 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 usually measured as a ratio of a substance's concentration in tissue versus its concentration in water in situations where exposure to the substance is occurring from both water and the food chain.
- (10) Bioconcentration factor (BCF) is a unitless value that describes the degree to which substances are absorbed or concentrated into tissues of aquatic organisms from water directly and is usually measured as a ratio of substance's concentration in tissue versus its concentration in water in situations where exposure to the substance is occurring from water only.
- (11) 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.
- (12) 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. The buffer shall be measured landward from the normal pool elevation of impounded structures and from the bank of each side of streams or rivers.
- (13) Built-upon area means that portion of a development project that is covered by impervious or partially impervious cover including buildings, pavement, gravel areas (e.g. roads, parking lots, paths), recreation facilities (e.g. tennis courts), etc. (Note: Wooden slatted decks and the water area of a swimming pool are considered pervious.)
- (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) Cluster development means the grouping of buildings in order to conserve land resources and provide for innovation in the design of the project including minimizing stormwater runoff impacts. This term includes nonresidential development as well as single-family residential and multi-family developments. For the purpose of Sections .0100, .0200 and .0300 of this Subchapter, planned unit developments and mixed use development shall be considered as cluster development.
- (17) 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.
- (18) Concentrations are 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).
- (19) Contiguous refers to those wetlands landward of the mean high water line or normal water level and within 575 feet of classified surface waters which 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.
- (20) Critical area means the area adjacent to a water supply intake or reservoir where risk associated with pollution is greater than from the remaining portions of the watershed. The critical area is defined as extending either 1/2 mile from the normal pool elevation of the reservoir in which the intake is located or to the ridge line of the watershed (whichever comes first); or 1/2 mile 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 comes first). Since WS-I watersheds are essentially undeveloped, establishment of a critical area is not required. Local governments may extend the critical area as needed. Major landmarks such as highways or property lines may be used to delineate the outer boundary of the critical area if these landmarks are immediately adjacent to the appropriate outer boundary of 1/2 mile. The Commission may adopt a different critical area size during the reclassification process.
- (21) 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.
- (22) Designated Nonpoint Source Agency means those agencies specified by the Governor in the North Carolina Nonpoint Source Management Program, as approved by the Environmental Protection Agency.
- (23) Development means any land disturbing activity which adds to or changes the amount of impervious or partially impervious cover on a land area or which otherwise decreases the infiltration of precipitation into the soil.
- (24) Director means the Director of the Division of Water Quality.
- (25) Discharge is the addition of any man-induced waste effluent either directly or indirectly to state surface waters.
- (26) Division means the Division of Water Quality or its successors.
- (27) 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.
- (28) Effluent channel means a discernable confined and discrete conveyance which is used for transporting treated wastewater to a receiving stream or other body of water as provided in Rule .0215 of this Section.
- (29) Existing development, for projects that do not require a state permit, shall be defined as those projects that are built or those projects that at a minimum have established a vested right under North Carolina zoning law as of the effective date of the local government water supply ordinance, or such earlier time that an affected local government's ordinances shall specify, based on at least one of the following criteria:
 - (a) substantial expenditures of resources (time, labor, money) based on a good faith reliance upon having received a valid local government approval to proceed with the project, or
 - (b) having an outstanding valid building permit in compliance with G.S. 153A-344.1 or G.S. 160A-385.1, or

- (c) having an approved site specific or phased development plan in compliance with G.S. 153A-344.1 or G.S. 160A-385.1.

For projects that require a state permit, such as landfills, NPDES wastewater discharges, land application of residuals and road construction activities, existing development shall be defined as those projects that are built or those projects for which a state permit was issued prior to August 3, 1992.

- (30) Existing uses mean uses actually attained in the water body, in a significant and not incidental manner, on or after November 28, 1975, whether or not they are included in the water quality standards, which either have been actually available to the public or are uses deemed attainable by the Environmental Management Commission. At a minimum, uses shall be deemed attainable if they can be achieved by the imposition of effluent limits and cost-effective and reasonable best management practices (BMPs) for nonpoint source control.
- (31) Family subdivision means a division of a tract of land:
 - (a) to convey the resulting parcels, with the exception of parcels retained by the grantor, to a relative or relatives as a gift or for nominal consideration, but only if no more than one parcel is conveyed by the grantor from the tract to any one relative; or
 - (b) to divide land from a common ancestor among tenants in common, all of whom inherited by intestacy or by will.
- (32) Fertilizer means any substance containing nitrogen or phosphorus which is used primarily for its plant food content.
- (33) Fishing means the taking of fish by sport or commercial methods as well as the consumption of fish or shellfish or the propagation of fish and such other aquatic life as is necessary to provide a suitable environment for fish.
- (34) Forest vegetation means the plants of an area which grow together in disturbed or undisturbed conditions in various wooded plant communities in any combination of trees, saplings, shrubs, vines and herbaceous plants. This includes mature and successional forests as well as cutover stands.
- (35) Freshwater means all waters that under natural conditions would have a chloride ion content of 500 mg/l or less.
- (36) 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; or
 - (c) wastewater discharged from a municipal wastewater treatment plant requiring a pretreatment program.
- (37) 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.
- (38) LC50 means that concentration of a toxic substance which is lethal (or immobilizing, if appropriate) to 50 percent of the organisms tested during a specified exposure period. The LC50 concentration for toxic materials shall be determined for sensitive species as defined by Subparagraph (43) of this Rule under aquatic conditions characteristic of the receiving waters.
- (39) Local government means a city or county in singular or plural as defined in G.S. 160A-1(2) and G.S. 158A-10.
- (40) Lower piedmont and coastal plain waters mean 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.
- (41) MF is an abbreviation for the membrane filter procedure for bacteriological analysis.
- (42) Major variance means a variance from the minimum statewide watershed protection rules that results in the relaxation, by a factor greater than five percent of any buffer, density or built-upon area requirement under the high density option; any variation in the design, maintenance or operation requirements of a wet detention pond or other approved stormwater management system; or relaxation by a factor greater than 10 percent, of any management requirement under the low density option.

- (43) Minor variance means a variance from the minimum statewide watershed protection rules that results in a relaxation, by a factor of up to five percent of any buffer, density or built-upon area requirement under the high density option; or that results in a relaxation by a factor up to 10 percent, of any management requirement under the low density option.
- (44) 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 and such zones shall be subject to conditions established in accordance with 15A NCAC 2B .0204(b).
- (45) Mountain and upper piedmont waters mean 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.
- (46) Nonconforming lot of record means a lot described by a plat or a deed that was recorded prior to the effective date of local watershed regulations (or their amendments) that does not meet the minimum lot-size or other development requirements of Rule .0211 of this Subchapter.
- (47) Nonpoint source pollution means pollution which enters waters mainly as a result of precipitation and subsequent runoff from lands which have been disturbed by man's activities and includes all sources of water pollution which are not required to have a permit in accordance with G.S. 143-215.1(c).
- (48) Non-process discharge means industrial effluent not directly resulting from the manufacturing process. An example would be non-contact cooling water from a compressor.
- (49) Nutrient sensitive waters mean those waters which are so designated in the classification schedule in order to limit the discharge of nutrients (usually nitrogen and phosphorus). They are designated by "NSW" following the water classification.
- (50) 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 which shall either directly or indirectly cause foul or noxious odors, unsightly conditions, or breeding of abnormally large quantities of mosquitoes or other insect pests, or shall damage private or public water supplies or other structures, result in the development of gases which destroy or damage surrounding property, herbage or grasses, or which may cause the impairment of taste, such as from fish flesh tainting, or affect the health of any person residing or working in the area.
- (51) Primary Nursery Areas (PNAs) are tidal saltwaters which provide essential habitat for the early development of commercially important fish and shellfish and are so designated by the Marine Fisheries Commission.
- (52) Primary recreation includes swimming, skin diving, skiing, and similar uses involving human body contact with water where such activities take place in an organized or on a frequent basis.
- (53) 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 boundaries of the protected areas are defined as within five miles of the normal pool elevation of the reservoir and draining to water supply reservoirs (measured from the normal pool elevation) or to the ridge line of the watershed (whichever comes first); or 10 miles upstream 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 comes first). Local governments may extend the protected area. Major landmarks such as highways or property lines may be used to delineate the outer boundary of the protected area if these landmarks are immediately adjacent to the appropriate outer boundary of five or 10 miles. In some cases the protected area shall encompass the entire watershed. The Commission may adopt a different protected area size during the reclassification process.
- (54) 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.
- (55) Residuals means any solid or demisolid waste generated from a wastewater treatment plant, water treatment plant or air pollution control facility permitted under the authority of the Environmental Management Commission.
- (56) Riparian area means an area that is adjacent to a body of water.
- (57) Secondary recreation includes 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.

- (58) Sensitive species for aquatic toxicity testing is any species utilized in procedures accepted by the Commission or its designee in accordance with Rule .0103 of this Subchapter, or 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.
- (59) Shellfish culture includes the use of waters for the propagation, storage and gathering of oysters, clams, and other shellfish for market purposes.
- (60) Stormwater collection system means any conduit, pipe, channel, curb or gutter for the primary purpose of transporting (not treating) runoff. A stormwater collection system does not include vegetated swales, swales stabilized with armoring or alternative methods where natural topography prevents the use of vegetated swales (subject to case-by-case review), curb outlet systems or pipes used to carry drainage underneath built-upon surfaces that are associated with development controlled by the provisions of 15A NCAC 2H .1003(c)(1).
- (61) Source of water supply for drinking, culinary or food-processing purposes means any source, either public or private, the waters from which are used for human consumption, or used in connection with the processing of milk, beverages, food, or other purpose which requires water suitable for human consumption.
- (62) Swamp waters mean those waters which are classified by the Environmental Management Commission and which are topographically located so as to generally have very low velocities and other characteristics which are different from adjacent streams draining steeper topography. They are designated by "Sw" following the water classification.
- (63) Tidal salt waters mean all tidal waters which are classified by the Environmental Management Commission which generally have a natural chloride ion content in excess of 500 parts per million and include all waters assigned S classifications.
- (64) Toxic substance or toxicant means any substance or combination of substances (including disease-causing agents), which 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.
- (65) Trout waters are those waters which have conditions which shall sustain and allow for trout propagation and survival of stocked trout on a year-round basis. These waters shall be classified by the Commission after considering the requirements of Rule .0101(b) and (c) of this Subchapter and include all waters designated by "Tr" in the water classification.
- (66) Waste disposal includes the use of waters for disposal of sewage, industrial waste or other waste after approved treatment.
- (67) Water dependent structures are those structures for which the use requires access or proximity to or siting within surface waters to fulfill its basic 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.

- (68) Water quality based effluent limits and best management practices are limitations or best management practices developed by the Division for the purpose of protecting water quality standards and best usage of surface waters consistent with the requirements of G.S. 143-214.1 and the Federal Water Pollution Control Act as amended.
- (69) Waters with quality higher than the standards means all waters for which the determination of waste load allocations (pursuant to Rule .0206 of this Section) indicates that water quality is sufficiently greater than that defined by the standards such that significant pollutant loading capacity still exists in those waters.
- (70) Watershed means the entire land area contributing surface drainage to a specific point. For the purpose of the water supply protection rules in 15A NCAC 2B .0104 and .0211 local governments may use major landmarks such as highways or property lines to delineate the outer boundary of the drainage area if these landmarks are immediately adjacent to the ridgeline.
- (71) Wetlands are "waters" as defined by G.S. 143-212(6) and are areas 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 generally include swamps, marshes, bogs and similar areas. Wetlands classified as waters of the state are restricted to waters of the United States as defined by 33 CFR 328.3 and 40 CFR 230.3.

History Note: Authority G.S. 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.

15A NCAC 02B .0203 PROTECTION OF WATERS DOWNSTREAM OF RECEIVING WATERS

Water quality based effluent limitations or management practices for direct or indirect discharges of waste or for other sources of water pollution will be developed by the Division such that the water quality standards and best usage of receiving waters and all downstream waters will not be impaired.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
 Eff. February 1, 1976;
 Amended Eff. October 1, 1989; January 1, 1985; September 9, 1979.

15A NCAC 02B .0204 LOCATION OF SAMPLING SITES AND MIXING ZONES

(a) Location of Sampling Sites: in conducting tests or making analytical determinations of classified waters to determine conformity or nonconformity with the established standards, samples shall be collected outside the limits of prescribed mixing zones. However, where appropriate, samples shall be collected within the mixing zone in order to ensure compliance with in-zone water quality requirements as outlined in Paragraph (b) of this Rule.

(b) Mixing Zones: a mixing zone may be established in the area of a discharge in order to provide reasonable opportunity for the mixture of the wastewater with the receiving waters. Water quality standards shall not apply within regions defined as mixing zones, except that such zones shall be subject to the conditions established in accordance with this Rule. The limits of such mixing zones shall be defined by the division on a case-by-case basis after consideration of the magnitude and character of the waste discharge and the size and character of the receiving waters. Mixing zones shall be determined such that discharges shall not:

- (1) result in acute toxicity to aquatic life [as defined by Rule .0202(1) of this Section] or prevent free passage of aquatic organisms around the mixing zone;
- (2) result in offensive conditions;
- (3) produce undesirable aquatic life or result in a dominance of nuisance species outside of the assigned mixing zone; or
- (4) endanger the public health or welfare.

In addition, a mixing zone shall not be assigned for point source discharges of fecal coliform organisms in waters classified "WS-II," "WS-III," "B," or "SA". Mixing zones shall not be assigned for point source discharges of enterococci in waters classified "SB" or "SA". For the discharge of heated wastewater, compliance with federal rules and regulations pursuant to Section 316(a) of the Federal Water Pollution Control Act, as amended, shall constitute compliance with Subparagraph (b) of this Rule.

History Note: Authority G.S. 143-214.1;
Eff. February 1, 1976;
Amended Eff. May 1, 2007; October 1, 1989; February 1, 1986; September 9, 1979.

15A NCAC 02B .0205 NATURAL CHARACTERISTICS OUTSIDE STANDARDS LIMITS

Natural waters may on occasion, or temporarily, have characteristics outside of the normal range established by the standards. The adopted water quality standards relate to the condition of waters as affected by the discharge of sewage, industrial wastes or other wastes including those from nonpoint sources and other sources of water pollution. Water quality standards will not be considered violated when values outside the normal range are caused by natural conditions. Where wastes are discharged to such waters, the discharger will not be considered a contributor to substandard conditions provided maximum treatment in compliance with permit requirements is maintained and, therefore, meeting the established limits is beyond the discharger's control.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. October 1, 1989; January 1, 1985.

15A NCAC 02B .0206 FLOW DESIGN CRITERIA FOR EFFLUENT LIMITATIONS

(a) Water quality based effluent limitations shall be developed to allow appropriate frequency and duration of deviations from water quality standards so that the designated uses of receiving waters are protected. There are water quality standards for a number of categories of pollutants and to protect a range of water uses. For this reason, the appropriate frequency and duration of deviations from water quality standards shall not be the same for all categories of standards. A flow design criterion shall be used in the development of water quality based effluent limitations as a simplified means of estimating the acceptable frequency and duration of deviations. More complex modeling techniques may also be used to set effluent limitations directly based on frequency and duration criteria published by the U.S. Environmental Protection Agency available free of charge at <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm> are hereby incorporated by reference including any subsequent amendments. Use of more complex modeling techniques to set water quality based effluent limitations shall be approved by the Commission or its designee on a case-by-case basis. Flow design criteria to calculate water quality based effluent limitations for categories of water quality standards shall be the following:

- (1) All standards except toxic substances and aesthetics shall be protected using the minimum average flow for a period of seven consecutive days that has an average recurrence of once in ten years (7Q10 flow). Other governing flow strategies, such as varying discharges with the receiving waters ability to assimilate wastes, may be designated by the Commission or its designee on a case-by-case basis if the discharger or permit applicant provides evidence that establishes to the satisfaction of the Director that the alternative flow strategies will give equal or better protection for the water quality standards. "Better protection for the water quality standards" means that deviations from the standard would be expected less frequently than provided by using the 7Q10 flow.
- (2) Toxic substance standards to protect aquatic life from chronic toxicity shall be protected using the 7Q10 flow.
- (3) Toxic substance standards to protect aquatic life from acute toxicity shall be protected using the 1Q10 flow.
- (4) Toxic substance standards to protect human health shall be the following:
 - (A) The 7Q10 flow for standards to protect human health through the consumption of water, fish, and shellfish from noncarcinogens; and
 - (B) The mean annual flow to protect human health from carcinogens through the consumption of water, fish, and shellfish unless site specific fish contamination concerns necessitate the use of an alternative design flow;
- (5) Aesthetic quality shall be protected using the minimum average flow for a period of 30 consecutive days that has an average recurrence of once in two years (30Q2 flow).

(b) In cases where the stream flow is regulated, a minimum daily low flow may be used as a substitute for the 7Q10 flow, except in cases where there are acute toxicity concerns for aquatic life. In the cases where there are acute toxicity concerns, an alternative low flow, such as the instantaneous minimum release, shall be approved by the Director on a case-by-case basis so that the designated uses of receiving waters are protected.

(c) Flow design criteria shall be used to develop water quality based effluent limitations and for the design of wastewater treatment facilities. Deviations from a specific water quality standard resulting from discharges that are affirmatively

demonstrated to be in compliance with water quality based effluent limitations for that standard shall not be a violation pursuant to G.S. 143-215.6 when the actual flow is significantly less than the design flow.

(d) In cases where the 7Q10 flow of the receiving stream is estimated to be zero, water quality based effluent limitations shall be assigned as follows:

- (1) Where the 30Q2 flow is estimated to be greater than zero, effluent limitations for new or expanded (additional) discharges of oxygen consuming waste shall be set at BOD₅ = 5 mg/l, NH₃-N = 2 mg/l and DO = 6 mg/l, unless it is determined by the Director that these limitations will not protect water quality standards. Requirements for existing discharges shall be determined on a case-by-case basis by the Director. More stringent limits shall be applied in cases where violations of water quality standards are predicted to occur for a new or expanded discharge with the limits set pursuant to this Rule, or where existing limits are determined to be inadequate to protect water quality standards.
- (2) If the 30Q2 and 7Q10 flows are both estimated to be zero, no new or expanded (additional) discharge of oxygen consuming waste shall be allowed. Requirements for existing discharges to streams where the 30Q2 and 7Q10 flows are both estimated to be zero shall be determined on a case-by-case basis.
- (3) Other water quality standards shall be protected by requiring the discharge to meet the standards unless the Director determines that alternative limitations protect the classified water uses.

(e) Receiving water flow statistics shall be estimated through consultation with the U.S. Geological Survey. Estimates for any given location may be based on actual flow data, modeling analyses, or other methods determined to be appropriate by the Commission or its designee.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
Eff. February 1, 1976;
Amended Eff. January 1, 2015; February 1, 1993; October 1, 1989; August 1, 1985; January 1, 1985.

15A NCAC 02B .0207 MINIMUM ACCEPTABLE DEGREE OF TREATMENT

History Note: Authority G.S. 143-214.1;
Eff. February 1, 1976;
Repealed Eff. September 9, 1979.

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, public health, or 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. Procedures for interpreting the narrative standard for toxic substances and numerical standards applicable to all waters are as follows:

- (1) Aquatic life standards: the concentration of toxic substances shall not result in chronic toxicity. Any levels in excess of the chronic value 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 acceptable acute/chronic ratios). If an acceptable acute/chronic ratio is not available, then that toxic substance shall not exceed one-one hundredth (0.01) of the lowest LC50 or if it is affirmatively 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) Human health standards: the concentration of toxic substances shall not exceed the level necessary to protect human health through exposure routes of fish tissue consumption, water consumption, or other route identified as appropriate for the water body. Fish tissue consumption includes the consumption of shellfish;
 - (A) For non-carcinogens, these concentrations shall be determined using a Reference Dose (RfD) as published by the U.S. Environmental Protection Agency pursuant to Section 304(a) of the Federal Water Pollution Control Act as amended or a RfD issued by the U.S. Environmental Protection Agency 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 are determined as follows:
 - (i) Fish tissue consumption:

$$\text{WQS} = (\text{RfD} \times \text{RSC}) \times \text{Body Weight} / (\text{FCR} \times \text{BCF})$$

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 approved by the Commission or its designee are based on U.S. Environmental Protection Agency publications; FCR values are 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 U.S. Environmental Protection Agency 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):

$$\text{WQS} = (\text{RfD} \times \text{RSC}) \times \text{Body Weight} / [\text{WCR} + (\text{FCR} \times \text{BCF})]$$

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 is 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 considered 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 considered to 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 are calculated using the procedures given in Subparagraphs (A) and (B) of this Rule. 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 are 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;
- (xvi) Trichloroethylene: 30 ug/l;
- (xvii) Vinyl chloride: 2.4 ug/l.

The values listed in Subparts (i) through (xvii) 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 reasonable portion of the water body. Such revisions of the temperature standard must be consistent with the provisions of Section 316(a) of the Federal Water Pollution Control Act as amended. A listing of existing thermal 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.

15A NCAC 02B .0209 VARIANCES FROM APPLICABLE STANDARDS
15A NCAC 02B .0210 BEST USE CRITERIA

History Note: Authority G.S. 143-214.1;
 Eff. February 1, 1976;
 Amended Eff. September 9, 1979;
 Repealed Eff. January 1, 1985.

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

General. The water quality standards for all fresh surface waters shall be the basic standards applicable to Class C waters. Water quality standards for temperature and numerical water quality standards for the protection of human health applicable to all fresh surface waters are in Rule .0208 of this Section. Additional and more stringent standards applicable to other specific freshwater classifications are specified in Rules .0212, .0214, .0215, .0216, .0218, .0219, .0223, .0224 and .0225 of this Section. Action Levels for purposes of National Pollutant Discharge Elimination System (NPDES) permitting are specified in Item (22) of this Rule.

- (1) Best Usage of Waters: aquatic life propagation and maintenance of biological integrity (including fishing and fish), wildlife, secondary recreation, agriculture, and any other usage except for primary recreation or as a source of water supply for drinking, culinary, or food processing purposes;
- (2) Conditions Related to Best Usage: the waters shall be suitable for aquatic life propagation and maintenance of biological integrity, wildlife, secondary recreation, and agriculture. Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be considered to be violating 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, 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 a minimum 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 consecutive samples examined during any 30 day period, nor exceed 400/100ml in more than 20 percent of the samples examined during such period. Violations of the fecal coliform standard are expected during rainfall events and, in some cases, this violation is expected to be caused by uncontrollable nonpoint source pollution. All coliform concentrations shall be analyzed using the membrane filter technique, unless high turbidity or other adverse conditions necessitate the tube dilution method. In case of controversy over results, the MPN 5-tube dilution technique shall be used as the reference method;
- (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, 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) 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) Silver, dissolved, chronic: WER· 0.06 ug/l;

With the exception of mercury and selenium, acute and chronic freshwater aquatic life standards for metals listed in this Subparagraph apply to the dissolved form of the metal and apply as a function of the pollutant's water effect ratio (WER). A WER expresses the difference between the measures of the toxicity of a substance in laboratory waters and the toxicity in site water. 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), free of charge, at <http://water.epa.gov/scitech/swguidance/standards/handbook/>, hereby incorporated by reference including any subsequent amendments. Alternative site-specific standards may also be developed when any person submits values that demonstrate to the Commissions' satisfaction that they were derived in accordance with the "Water Quality Standards Handbook: Second Edition, Recalculation Procedure or the Resident Species Procedure", hereby incorporated by reference including subsequent amendments at <http://water.epa.gov/scitech/swguidance/standards/handbook/>.

This material is available free of charge.

Hardness-dependent freshwater metals standards are located in Sub-Item (c) and (d) of this Rule and in Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals;

(c) Hardness-dependent freshwater metals standards shall be as follows:

- (i) Hardness-dependent 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 CaCO₃ or Ca+Mg) is less than 25 milligrams/liter

(mg/l), standards shall be calculated based upon 25 mg/l hardness. If the actual instream hardness is greater than 25 mg/l and 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;

- (ii) Hardness-dependent metals in NPDES permitting: for NPDES permitting purposes, application of the equations in Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals shall have hardness values (expressed as CaCO₃ or Ca+Mg) established using the median of instream hardness data collected within the local US Geological Survey (USGS) and Natural Resources Conservation Service (NRCS) 8-digit Hydrologic Unit (HU). The minimum applicable instream hardness shall be 25 mg/l and the maximum applicable instream hardness shall be 400 mg/l, even when the actual median instream hardness is less than 25 mg/l and greater than 400 mg/l;

(d) Alternatives:

Acute and chronic freshwater aquatic life standards for metals listed in Table A apply to the dissolved form of the metal and apply as a function of the pollutant's water effect ratio (WER), which is set forth in Sub-Item (b) of this Rule. Alternative site-specific standards may also be developed as set forth in Sub-Item (b) of this Rule;

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 (d) of this Rule.

Metal	Equations for Hardness-Dependent Freshwater Metals (ug/l)	Standard at 25 mg/l hardness (ug/l)
Cadmium, Acute	$WER \cdot \{1.136672 - [\ln \text{hardness}](0.041838)\} \cdot e^{\{0.9151 [\ln \text{hardness}] - 3.1485\}}$	0.82
Cadmium, Acute, Trout waters	$WER \cdot \{1.136672 - [\ln \text{hardness}](0.041838)\} \cdot e^{\{0.9151 [\ln \text{hardness}] - 3.6236\}}$	0.51
Cadmium, Chronic	$WER \cdot \{1.101672 - [\ln \text{hardness}](0.041838)\} \cdot e^{\{0.7998 [\ln \text{hardness}] - 4.4451\}}$	0.15
Chromium III, Acute	$WER \cdot [0.316 \cdot e^{\{0.8190 [\ln \text{hardness}] + 3.7256\}}]$	180
Chromium III, Chronic	$WER \cdot [0.860 \cdot e^{\{0.8190 [\ln \text{hardness}] + 0.6848\}}]$	24
Copper, Acute	$WER \cdot [0.960 \cdot e^{\{0.9422 [\ln \text{hardness}] - 1.700\}}]$ Or, Aquatic Life Ambient Freshwater Quality Criteria—Copper 2007 Revision (EPA-822-R-07-001)	3.6 NA
Copper, Chronic	$WER \cdot [0.960 \cdot e^{\{0.8545 [\ln \text{hardness}] - 1.702\}}]$ Or, Aquatic Life Ambient Freshwater Quality Criteria—Copper 2007 Revision (EPA-822-R-07-001)	2.7 NA
Lead, Acute	$WER \cdot \{1.46203 - [\ln \text{hardness}](0.145712)\} \cdot e^{\{1.273 [\ln \text{hardness}] - 1.460\}}$	14
Lead, Chronic	$WER \cdot \{1.46203 - [\ln \text{hardness}](0.145712)\} \cdot e^{\{1.273 [\ln \text{hardness}] - 4.705\}}$	0.54
Nickel, Acute	$WER \cdot [0.998 \cdot e^{\{0.8460 [\ln \text{hardness}] + 2.255\}}]$	140
Nickel, Chronic	$WER \cdot [0.997 \cdot e^{\{0.8460 [\ln \text{hardness}] + 0.0584\}}]$	16
Silver,	$WER \cdot [0.85 \cdot e^{\{1.72 [\ln \text{hardness}] - 6.59\}}]$	0.30

Acute		
Zinc, Acute	WER: $[0.978 \cdot e^{\{0.8473[\ln \text{ hardness}] + 0.884\}}]$	36
Zinc, Chronic	WER: $[0.986 \cdot e^{\{0.8473[\ln \text{ hardness}] + 0.884\}}]$	36

- (e) 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 an average of a minimum of four samples taken on consecutive days, or as a 96-hour average;
 - (f) Metals criteria shall be used for proactive environmental management. An instream exceedence of the numeric criterion for metals shall not be considered to have caused an adverse impact to the instream aquatic community without biological confirmation and a comparison of all available monitoring data and applicable water quality standards. This weight of evidence evaluation shall take into account data quality and the overall confidence in how representative the sampling is of conditions in the waterbody segment before an assessment of aquatic life use attainment, or non-attainment, shall be made by the Division. Recognizing the synergistic and antagonistic complexities of other water quality variables on the actual toxicity of metals, with the exception of mercury and selenium, biological monitoring will be used to validate, by direct measurement, whether or not the aquatic life use is supported;
- (12) Oils, deleterious substances, 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, 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 pursuant to 40 CFR 110.3(a)-(b) which are hereby incorporated by reference including any subsequent amendments and additions. 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 normal for the waters in the area, which range 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:
- (a) Combined radium-226 and radium-228: the average annual activity level (based on at least one sample collected per quarter) 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 (based on at least one sample collected per quarter) 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: 11 ug/l or 0.36 ug/l in trout classified 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 can be 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]. BMPs shall be in full compliance with all specifications governing the proper design, installation, operation, and maintenance of such BMPs;
- (22) Action Levels for Toxic Substances Applicable to NPDES Permits:
 - (a) Copper, dissolved, chronic: 2.7 ug/l;
 - (b) Silver, dissolved, chronic: 0.06 ug/l;
 - (c) Zinc, dissolved, chronic: 36 ug/l; and
 - (d) Chloride: 230 mg/l;

The hardness-dependent freshwater action levels for copper and zinc, provided here for illustrative purposes, corresponds to a hardness of 25 mg/l. Copper and zinc action level values for other instream hardness values shall be calculated per the chronic equations specified in Item (11) of this Rule and in Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals. If the action levels for any of the substances listed in this Item (which are generally not bioaccumulative and have variable toxicity to aquatic life because of chemical form, solubility, stream characteristics or associated waste characteristics) are 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 these substances from their effluents. Those substances for which action levels are listed in this Item shall be limited as appropriate in the NPDES permit if sufficient information (to be determined for metals by measurements of that portion of the dissolved instream concentration of the action levels parameter attributable to a specific NPDES permitted discharge) exists to indicate that any of those substances 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.

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

The following water quality standards 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 WS-I waters shall be as follows: a source of water supply for drinking, culinary, or food-processing purposes for those users desiring maximum protection of their water supplies; waters located on land in public ownership; and any best usage specified for Class C waters;
- (2) The conditions related to the best usage shall be as follows: waters of this class are protected water supplies within essentially natural and undeveloped watersheds in public ownership with no permitted point source dischargers except those specified in Rule .0104 of this Subchapter; waters within this class shall be relatively unimpacted by nonpoint sources of pollution; land use management programs are required to

protect waters from nonpoint source pollution; the waters, following treatment required by the Division, shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, and food-processing purposes that are specified in the national drinking water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard. 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, the more protective classification requested by local governments shall be considered by the Commission when all local governments having jurisdiction in the affected area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the Commission acts to protect a watershed when one or more local governments has failed to adopt necessary protection measures;

(3) 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) Nonpoint Source Pollution: none shall be allowed that would adversely impact the waters for use as a water supply or any other designated use;
- (c) Organisms of coliform group: total coliforms not to exceed 50/100 ml (MF count) as a monthly geometric mean value in watersheds serving as unfiltered water supplies;
- (d) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems from chlorinated phenols;
- (e) Sewage, industrial wastes: none shall be allowed except those specified in Item (2) of this Rule or Rule .0104 of this Subchapter;
- (f) Solids, total dissolved: not greater than 500 mg/l;
- (g) Total hardness: not greater than 100 mg/l as calcium carbonate (CaCO₃ or Ca + Mg);
- (h) Toxic and other deleterious substances:
 - (i) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for non-carcinogens in Class WS-I waters:
 - (A) Barium: 1.0 mg/l;
 - (B) Chloride: 250 mg/l;
 - (C) Nickel: 25 ug/l;
 - (D) Nitrate nitrogen: 10.0 mg/l;
 - (E) 2,4-D: 70 ug/l;
 - (F) 2,4,5-TP (Silvex): 10 ug/l; and
 - (G) Sulfates: 250 mg/l;
 - (ii) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for carcinogens in Class WS-I waters:
 - (A) Aldrin: 0.05 ng/l;
 - (B) Arsenic: 10 ug/l;
 - (C) Benzene: 1.19 ug/l;
 - (D) Carbon tetrachloride: 0.254 ug/l;
 - (E) Chlordane: 0.8 ng/l;
 - (F) Chlorinated benzenes: 488 ug/l;
 - (G) DDT: 0.2 ng/l;
 - (H) Dieldrin: 0.05 ng/l;
 - (I) Dioxin: 0.000005 ng/l;
 - (J) Heptachlor: 0.08 ng/l;
 - (K) Hexachlorobutadiene: 0.44 ug/l;
 - (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
 - (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
 - (N) Tetrachloroethylene: 0.7 ug/l;
 - (O) Trichloroethylene: 2.5 ug/l; and
 - (P) Vinyl Chloride: 0.025 ug/l.

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.

15A NCAC 02B .0213 REVISIONS TO DISSOLVED OXYGEN STANDARDS

History Note: Authority G.S. 143-214.1;
Eff. December 14, 1978;
Amended Eff. July 1, 1988;
Repealed Eff. October 1, 1989.

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

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

- (1) The best usage of WS-II waters shall be as follows: 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 and any best usage specified for Class C waters;
- (2) The conditions related to the best usage shall be as follows: waters of this class are protected as water supplies that are in predominantly undeveloped watersheds and meet average watershed development density levels as specified in Sub-Items (3)(b)(i)(A), (3)(b)(i)(B), (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges that qualify for a General Permit pursuant to 15A NCAC 02H .0127, trout farm discharges, recycle (closed loop) systems that only discharge in response to 10-year storm events and other stormwater discharges shall be allowed in the entire watershed; new domestic and industrial discharges of treated wastewater shall not be allowed in the entire watershed; the waters, following treatment required by the Division, shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, and food-processing purposes that are specified in the national drinking water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard. 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, the more protective classification requested by local governments shall be considered by the Commission when all local governments having jurisdiction in the affected area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the Commission acts to protect a watershed when one or more local governments has failed to adopt necessary protection measures;
- (3) Quality standards applicable to Class WS-II Waters shall be as follows:
 - (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be allowed except for those specified in either Item (2) of this Rule and Rule .0104 of this Subchapter; none shall be allowed that have an adverse effect on human health or that are not treated to the satisfaction of the Commission and in accordance with the requirements of the Division. Any discharger shall be required upon request by the Commission to 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;
 - (b) Nonpoint Source and Stormwater Pollution: none that would adversely impact the waters for use as a water supply or any other designated use;
 - (i) Nonpoint Source and Stormwater Pollution Control Criteria for Entire Watershed:
 - (A) Low Density Option: development density shall be limited to either no more than one dwelling unit per acre of single family detached residential development (or 40,000 square foot lot excluding roadway right-of-way), or 12 percent built-upon area for all other residential and non-residential development in the watershed outside of the critical area; stormwater runoff

- from the development shall be transported by vegetated conveyances to the maximum extent practicable;
- (B) High Density Option: if new development exceeds the low density option requirements as stated in Sub-Item (3)(b)(i)(A) of this Rule, then engineered stormwater controls shall be used to control runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 30 percent built-upon area;
 - (C) Land within the watershed shall be deemed compliant with the density requirements if the following condition is met: the density of all existing development at the time of reclassification does not exceed the density requirement when densities are averaged throughout the entire watershed area at the time of classification;
 - (D) Cluster development shall be allowed on a project-by-project basis as follows:
 - (I) overall density of the project meets associated density or stormwater control requirements of this Rule;
 - (II) buffers meet the minimum statewide water supply watershed protection requirements;
 - (III) built-upon areas shall be designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;
 - (IV) areas of concentrated development shall be located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways;
 - (V) remainder of tract to remain in vegetated or natural state;
 - (VI) area in the vegetated or natural state may be conveyed to a property owners association, a local government for preservation as a park or greenway, a conservation organization, or placed in a permanent conservation or farmland preservation easement;
 - (VII) a maintenance agreement for the vegetated or natural area shall be filed with the Register of Deeds; and
 - (VIII) cluster development that meets the applicable low density option requirements shall transport stormwater runoff from the development by vegetated conveyances to the maximum extent practicable;
 - (E) A maximum of 10 percent of each jurisdiction's portion of the watershed outside of the critical area as delineated on July 1, 1993 may be developed with new development projects and expansions of existing development of up to 70 percent built-upon surface area (the "10/70 option") in addition to the new development approved in compliance with the appropriate requirements of Sub-Item (3)(b)(i)(A) or Sub-Item (3)(b)(i)(B) of this Rule. For expansions to existing development, the existing built-upon surface area shall not be counted toward the allowed 70 percent built-upon surface area. A local government having jurisdiction within the watershed may transfer, in whole or in part, its right to the 10/70 option land area to another local government within the watershed upon submittal of a joint resolution and review by the Commission. When the water supply watershed is composed of public lands, such as National Forest land, local governments may count the public land acreage within the watershed outside of the critical area in calculating the acreage allowed under this provision. For local governments that do not choose to use the high density option in that WS-II watershed, each project shall, to the maximum extent practicable, minimize built-upon surface area, direct stormwater runoff away from surface waters, and incorporate best management practices, as defined in Rule .0202 of this Section, to minimize water quality impacts. If the local government selects the high density development option

- within that WS-II watershed, then engineered stormwater controls shall be employed for the new development;
- (F) If local governments choose the high density development option that requires stormwater controls, then they shall assume ultimate responsibility for operation and maintenance of the required controls as outlined in Rule .0104 of this Subchapter;
 - (G) A minimum 100 foot vegetative buffer shall be required for all new development activities that exceed the low density option requirements as specified in Sub-Items (3)(b)(i)(A) and Sub-Item (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative buffer for development activities shall be required along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies. Nothing in this Rule shall stand as a bar to artificial streambank or shoreline stabilization;
 - (H) No new development shall be allowed in the buffer; water dependent structures, or other structures such as flag poles, signs, and security lights, which result in only de minimus increases in impervious area and public projects such as road crossings and greenways may be allowed where no practicable alternative exists. These activities shall minimize built-upon surface area and avoid channelizing stormwater;
 - (I) No National Pollutant Discharge Elimination System (NPDES) permits shall be issued for landfills that discharge treated leachate;
- (ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:
 - (A) Low Density Option: new development shall be limited to either no more than one dwelling unit of single family detached residential development per two acres (or 80,000 square foot lot excluding roadway right-of-way), or six percent built-upon area for all other residential and non-residential development; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;
 - (B) High Density Option: if new development density exceeds the low density requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule, then engineered stormwater controls shall be used to control runoff from the first inch of rainfall; new residential and non-residential development density shall not exceed 24 percent built-upon area;
 - (C) No new permitted sites for land application of residuals or petroleum contaminated soils shall be allowed;
 - (D) No new landfills shall be allowed;
- (c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;
 - (d) 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 taste and odor difficulties in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for waters of this class;
 - (e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems from chlorinated phenols;
 - (f) Total hardness: not greater than 100 mg/l as calcium carbonate (CaCO₃ or Ca + Mg);
 - (g) Total dissolved solids: not greater than 500 mg/l;
 - (h) Toxic and other deleterious substances:
 - (i) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for non-carcinogens in Class WS-II waters:
 - (A) Barium: 1.0 mg/l;
 - (B) Chloride: 250 mg/l;
 - (C) Nickel: 25 ug/l;
 - (D) Nitrate nitrogen: 10 mg/l;

- (E) 2,4-D: 70 ug/l;
- (F) 2,4,5-TP (Silvex): 10 ug/l; and
- (G) Sulfates: 250 mg/l;
- (ii) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for carcinogens in Class WS-II waters:
 - (A) Aldrin: 0.05 ng/l;
 - (B) Arsenic: 10 ug/l;
 - (C) Benzene: 1.19 ug/l;
 - (D) Carbon tetrachloride: 0.254 ug/l;
 - (E) Chlordane: 0.8 ng/l;
 - (F) Chlorinated benzenes: 488 ug/l;
 - (G) DDT: 0.2 ng/l;
 - (H) Dieldrin: 0.05 ng/l;
 - (I) Dioxin: 0.000005 ng/l;
 - (J) Heptachlor: 0.08 ng/l;
 - (K) Hexachlorobutadiene: 0.44 ug/l;
 - (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
 - (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
 - (N) Tetrachloroethylene: 0.7 ug/l;
 - (O) Trichloroethylene: 2.5 ug/l; and
 - (P) Vinyl Chloride: 0.025 ug/l.

*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.*

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

The following water quality standards 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 WS-III waters shall be as follows: 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 and any other best usage specified for Class C waters;
- (2) The conditions related to the best usage shall be as follows: waters of this class are protected as water supplies that are in low to moderately developed watersheds and meet average watershed development density levels as specified in Sub-Items (3)(b)(i)(A), (3)(b)(i)(B), (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges that qualify for a General Permit pursuant to 15A NCAC 2H .0127, trout farm discharges, recycle (closed loop) systems that only discharge in response to 10-year storm events, and other stormwater discharges shall be allowed in the entire watershed; treated domestic wastewater discharges shall be allowed in the entire watershed but no new domestic wastewater discharges shall be allowed in the critical area; no new industrial wastewater discharges except non-process industrial discharges shall be allowed in the entire watershed; the waters, following treatment required by the Division, shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes that are specified in the national drinking water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard. 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, the more protective classification requested by local governments shall be considered by the Commission when all local governments having jurisdiction in the affected area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the Commission acts to protect a watershed when one or more local governments has failed to adopt necessary protection measures;
- (3) Quality standards applicable to Class WS-III Waters shall be as follows:

- (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be allowed except for those specified in Item (2) of this Rule and Rule .0104 of this Subchapter; none shall be allowed that have an adverse effect on human health or that are not treated to the satisfaction of the Commission and in accordance with the requirements of the Division. Any discharger may be required by the Commission to 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;
- (b) Nonpoint Source and Stormwater Pollution: none that would adversely impact the waters for use as water supply or any other designated use;
 - (i) Nonpoint Source and Stormwater Pollution Control Criteria For Entire Watershed:
 - (A) Low Density Option: development density shall be limited to either no more than two dwelling units of single family detached residential development per acre (or 20,000 square foot lot excluding roadway right-of-way), or 24 percent built-upon area for all other residential and non-residential development in watershed outside of the critical area; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;
 - (B) High Density Option: if new development density exceeds the low density option requirements specified in Sub-Item (3)(b)(i)(A) of this Rule then development shall control runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 50 percent built-upon area;
 - (C) Land within the watershed shall be deemed compliant with the density requirements if the following condition is met: the density of all existing development at the time of reclassification does not exceed the density requirement when densities are averaged throughout the entire watershed area;
 - (D) Cluster development shall be allowed on a project-by-project basis as follows:
 - (I) overall density of the project meets associated density or stormwater control requirements of this Rule;
 - (II) buffers meet the minimum statewide water supply watershed protection requirements;
 - (III) built-upon areas shall be designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;
 - (IV) areas of concentrated development shall be located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways;
 - (V) remainder of tract to remain in vegetated or natural state;
 - (VI) area in the vegetated or natural state may be conveyed to a property owners association, a local government for preservation as a park or greenway, a conservation organization, or placed in a permanent conservation or farmland preservation easement;
 - (VII) a maintenance agreement for the vegetated or natural area shall be filed with the Register of Deeds; and
 - (VIII) cluster development that meets the applicable low density option requirements shall transport stormwater runoff from the development by vegetated conveyances to the maximum extent practicable;
 - (E) A maximum of 10 percent of each jurisdiction's portion of the watershed outside of the critical area as delineated on July 1, 1993 may be developed with new development projects and expansions of existing development of up to 70 percent built-upon surface area (the "10/70 option") in addition to the new development approved in compliance with the appropriate requirements of

Sub-Item (3)(b)(i)(A) or Sub-Item (3)(b)(i)(B) of this Rule. For expansions to existing development, the existing built-upon surface area shall not be counted toward the allowed 70 percent built-upon surface area. A local government having jurisdiction within the watershed may transfer, in whole or in part, its right to the 10/70 option land area to another local government within the watershed upon submittal of a joint resolution and review by the Commission. When the water supply watershed is composed of public lands, such as National Forest land, local governments may count the public land acreage within the watershed outside of the critical area in figuring the acreage allowed under this provision. For local governments that do not choose to use the high density option in that WS-III watershed, each project shall, to the maximum extent practicable, minimize built-upon surface area, direct stormwater runoff away from surface waters, and incorporate best management practices, as defined in Rule .0202 of this Section, to minimize water quality impacts. If the local government selects the high density development option within that WS-III watershed, then engineered stormwater controls shall be employed for the new development;

- (F) If local governments choose the high density development option that requires engineered stormwater controls, then they shall assume ultimate responsibility for operation and maintenance of the required controls as outlined in Rule .0104 of this Subchapter;
- (G) A minimum 100 foot vegetative buffer shall be required for all new development activities that exceed the low density requirements as specified in Sub-Item (3)(b)(i)(A) and Sub-Item (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative buffer for development shall be required along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies. Nothing in this Rule shall stand as a bar to artificial streambank or shoreline stabilization;
- (H) No new development shall be allowed in the buffer; water dependent structures, or other structures such as flag poles, signs, and security lights, which result in only de minimus increases in impervious area and public projects such as road crossings and greenways may be allowed where no practicable alternative exists. These activities shall minimize built-upon surface area and avoid channelizing stormwater;
- (I) No National Pollutant Discharge Elimination System (NPDES) permits shall be issued for landfills that discharge treated leachate;
- (ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:
 - (A) Low Density Option: new development shall be limited to either no more than one dwelling unit of single family detached residential development per acre (or 40,000 square foot lot excluding roadway right-of-way), or 12 percent built-upon area for all other residential and non-residential development; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;
 - (B) High Density Option: if new development exceeds the low density requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule, then engineered stormwater controls shall be used to control runoff from the first inch of rainfall; development shall not exceed 30 percent built-upon area;
 - (C) No new permitted sites for land application of residuals or petroleum contaminated soils shall be allowed;
 - (D) No new landfills shall be allowed;
- (c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;
- (d) 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 taste

and odor difficulties in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for waters of this class;

- (e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems from chlorinated phenols;
- (f) Total hardness: not greater than 100 mg/l as calcium carbonate (CaCO₃ or Ca + Mg);
- (g) Total dissolved solids: not greater than 500 mg/l;
- (h) Toxic and other deleterious substances:
 - (i) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for non-carcinogens in Class WS-III waters:
 - (A) Barium: 1.0 mg/l;
 - (B) Chloride: 250 mg/l;
 - (C) Nickel: 25 ug/l;
 - (D) Nitrate nitrogen: 10 mg/l;
 - (E) 2,4-D: 70 ug/l;
 - (F) 2,4,5-TP (Silvex): 10 ug/l; and
 - (G) Sulfates: 250 mg/l;
 - (ii) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for carcinogens in Class WS-III waters:
 - (A) Aldrin: 0.05 ng/l;
 - (B) Arsenic: 10 ug/l;
 - (C) Benzene: 1.19 ug/l;
 - (D) Carbon tetrachloride: 0.254 ug/l;
 - (E) Chlordane: 0.8 ng/l;
 - (F) Chlorinated benzenes: 488 ug/l;
 - (G) DDT: 0.2 ng/l;
 - (H) Dieldrin: 0.05 ng/l;
 - (I) Dioxin: 0.000005 ng/l;
 - (J) Heptachlor: 0.08 ng/l;
 - (K) Hexachlorobutadiene: 0.44 ug/l;
 - (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
 - (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
 - (N) Tetrachloroethylene: 0.7 ug/l;
 - (O) Trichloroethylene: 2.5 ug/l; and
 - (P) Vinyl Chloride: 0.025 ug/l.

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.

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

The following water quality standards 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 WS-IV waters shall be as follows: 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 and any other best usage specified for Class C waters;
- (2) The conditions related to the best usage shall be as follows: waters of this class are protected as water supplies that are in moderately to highly developed watersheds or protected areas and meet average watershed development density levels as specified in Sub-Items (3)(b)(i)(A), (3)(b)(i)(B), (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges that qualify for a General Permit pursuant to 15A NCAC 02H .0127, trout farm discharges, recycle (closed loop) systems that only discharge in response to 10-year storm

events, other stormwater discharges, and domestic wastewater discharges shall be allowed in the protected and critical areas; treated industrial wastewater discharges shall be allowed in the protected and critical areas; however, new industrial wastewater discharges in the critical area shall be required to meet the provisions of 15A NCAC 02B .0224(1)(b)(iv), (v) and (vii), and 15A NCAC 02B .0203; new industrial connections and expansions to existing municipal discharges with a pretreatment program pursuant to 15A NCAC 02H .0904 shall be allowed; the waters, following treatment required by the Division, shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes that are specified in the national drinking water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard. 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, the more protective classification requested by local governments shall be considered by the Commission when all local governments having jurisdiction in the affected area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the Commission acts to protect a watershed when one or more local governments has failed to adopt necessary protection measures;

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

- (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be allowed except for those specified in Item (2) of this Rule and Rule .0104 of this Subchapter and none shall be allowed that have an adverse effect on human health or that are not treated to the satisfaction of the Commission and in accordance with the requirements of the Division. Any dischargers or industrial users subject to pretreatment standards may be required by the Commission to 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;
- (b) Nonpoint Source and Stormwater Pollution: none shall be allowed that would adversely impact the waters for use as water supply or any other designated use.
 - (i) Nonpoint Source and Stormwater Pollution Control Criteria For Entire Watershed or Protected Area:
 - (A) Low Density Option: development activities that require a Sedimentation/Erosion Control Plan in accordance with 15A NCAC 04 established by the North Carolina Sedimentation Control Commission or approved local government programs as delegated by the Sedimentation Control Commission shall be limited to no more than either: two dwelling units of single family detached development per acre (or 20,000 square foot lot excluding roadway right-of-way), or 24 percent built-upon on area for all other residential and non-residential development; or three dwelling units per acre, or 36 percent built-upon area for projects without curb and gutter street systems in the protected area outside of the critical area; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;
 - (B) High Density Option: if new development activities that require a Sedimentation/Erosion Control Plan exceed the low density requirements of Sub-Item (3)(b)(i)(A) of this Rule, then development shall control the runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 70 percent built-upon area;
 - (C) Land within the critical and protected area shall be deemed compliant with the density requirements if the following condition is met: the density of all existing development at the time of reclassification does not exceed the density requirement when densities are averaged throughout the entire area;
 - (D) Cluster development shall be allowed on a project-by-project basis as follows:
 - (I) overall density of the project meets associated density or stormwater control requirements of this Rule;

- (II) buffers meet the minimum statewide water supply watershed protection requirements;
 - (III) built-upon areas shall be designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;
 - (IV) areas of concentrated development shall be located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways;
 - (V) remainder of tract to remain in vegetated or natural state;
 - (VI) area in the vegetated or natural state may be conveyed to a property owners association, a local government for preservation as a park or greenway, a conservation organization, or placed in a permanent conservation or farmland preservation easement;
 - (VII) a maintenance agreement for the vegetated or natural area shall be filed with the Register of Deeds; and
 - (VIII) cluster development that meets the applicable low density option requirements shall transport stormwater runoff from the development by vegetated conveyances to the maximum extent practicable;
- (E) If local governments choose the high density development option that requires engineered stormwater controls, then they shall assume responsibility for operation and maintenance of the required controls as outlined in Rule .0104 of this Subchapter;
- (F) A minimum 100 foot vegetative buffer shall be required for all new development activities that exceed the low density option requirements as specified in Sub-Item (3)(b)(i)(A) or Sub-Item (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative buffer for development shall be required along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies;
- (G) No new development shall be allowed in the buffer; water dependent structures, or other structures, such as flag poles, signs, and security lights, which result in only de minimus increases in impervious area and public projects such as road crossings and greenways may be allowed where no practicable alternative exists. These activities shall minimize built-upon surface area and avoid channelizing stormwater;
- (H) For local governments that do not use the high density option, a maximum of 10 percent of each jurisdiction's portion of the watershed outside of the critical area as delineated on July 1, 1995 may be developed with new development projects and expansions to existing development of up to 70 percent built-upon surface area (the "10/70 option") in addition to the new development approved in compliance with the appropriate requirements of Sub-Item (3)(b)(i)(A) of this Rule. For expansions to existing development, the existing built-upon surface area shall not be counted toward the allowed 70 percent built-upon surface area. A local government having jurisdiction within the watershed may transfer, in whole or in part, its right to the 10/70 option land area to another local government within the watershed upon submittal of a joint resolution for review by the Commission. When the designated water supply watershed area is composed of public land, such as National Forest land, local governments may count the public land acreage within the designated watershed area outside of the critical area in figuring the acreage allowed under this provision. Each project shall, to the maximum extent practicable, minimize built-upon surface area, direct stormwater runoff away from surface waters and incorporate best

- management practices, as defined in Rule .0202 of this Section, to minimize water quality impacts;
- (ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:
 - (A) Low Density Option: new development activities that require a Sedimentation/Erosion Control Plan in accordance with 15A NCAC 4 established by the North Carolina Sedimentation Control Commission or approved local government programs as delegated by the Sedimentation Control Commission shall be limited to no more than two dwelling units of single family detached development per acre (or 20,000 square foot lot excluding roadway right-of-way), or 24 percent built-upon area for all other residential and non-residential development; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;
 - (B) High Density Option: if new development density exceeds the low density requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule, engineered stormwater controls shall be used to control runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 50 percent built-upon area;
 - (C) No new permitted sites for land application of residuals or petroleum contaminated soils shall be allowed;
 - (D) No new landfills shall be allowed;
 - (c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;
 - (d) 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 taste and odor difficulties in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for waters of this class;
 - (e) 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;
 - (f) Total hardness shall not exceed 100 mg/l as calcium carbonate (CaCO_3 or $\text{Ca} + \text{Mg}$);
 - (g) Total dissolved solids shall not exceed 500 mg/l;
 - (h) Toxic and other deleterious substances:
 - (i) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for non-carcinogens in Class WS-IV waters:
 - (A) Barium: 1.0 mg/l;
 - (B) Chloride: 250 mg/l;
 - (C) Nickel: 25 ug/l;
 - (D) Nitrate nitrogen: 10.0 mg/l;
 - (E) 2,4-D: 70 ug/l;
 - (F) 2,4,5-TP (Silvex): 10 ug/l; and
 - (G) Sulfates: 250 mg/l;
 - (ii) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for carcinogens in Class WS-IV waters:
 - (A) Aldrin: 0.05 ng/l;
 - (B) Arsenic: 10 ug/l;
 - (C) Benzene: 1.19 ug/l;
 - (D) Carbon tetrachloride: 0.254 ug/l;
 - (E) Chlordane: 0.8 ng/l;
 - (F) Chlorinated benzenes: 488 ug/l;
 - (G) DDT: 0.2 ng/l;
 - (H) Dieldrin: 0.05 ng/l;

- (I) Dioxin: 0.000005 ng/l;
- (J) Heptachlor: 0.08 ng/l;
- (K) Hexachlorobutadiene: 0.44 ug/l;
- (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
- (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
- (N) Tetrachloroethylene: 0.7 ug/l;
- (O) Trichloroethylene: 2.5 ug/l; and
- (P) Vinyl Chloride: 0.025 ug/l.

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.

15A NCAC 02B .0217 STORMWATER CONTROL CRITERIA TO PROTECT WATER QUALITY STDS

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
 Eff. November 1, 1986;
 Repealed Eff. January 1, 1988.

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

The following water quality standards 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 WS-V waters shall be as follows: waters that are protected as water supplies that are upstream and draining to Class WS-IV waters; or 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 shall not be restricted to WS-V classification; and all Class C uses. The Commission may 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;
- (2) The conditions related to the best usage shall be as follows: waters of this class are protected water supplies; the waters, following treatment required by the Division, shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes that are specified in the national drinking water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500; no categorical restrictions on watershed development or wastewater discharges shall be required, however, the Commission or its designee may apply management requirements for the protection of waters downstream of receiving waters (15A NCAC 02B .0203). Sources of water pollution that preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard;
- (3) Quality standards applicable to Class WS-V Waters shall be as follows:
 - (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be allowed that have an adverse effect on human health or that are not treated to the satisfaction of the Commission and in accordance with the requirements of the Division. Any discharges or industrial users subject to pretreatment standards shall be required by the Commission to 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;
 - (b) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;
 - (c) Nonpoint Source and Stormwater Pollution: none that would adversely impact the waters for use as water supply or any other designated use;
 - (d) 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 taste

and odor difficulties in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for waters of this class;

- (e) 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;
- (f) Total hardness: not greater than 100 mg/l as calcium carbonate (CaCO₃ or Ca + Mg);
- (g) Total dissolved solids: not greater than 500 mg/l;
- (h) Toxic and other deleterious substances:
 - (i) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for non-carcinogens in Class WS-V waters:
 - (A) Barium: 1.0 mg/l;
 - (B) Chloride: 250 mg/l;
 - (C) Nickel: 25 ug/l;
 - (D) Nitrate nitrogen: 10.0 mg/l;
 - (E) 2,4-D: 70 ug/l;
 - (F) 2,4,5-TP (Silvex): 10 ug/l; and
 - (G) Sulfates: 250 mg/l.
 - (ii) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for carcinogens in Class WS-V waters:
 - (A) Aldrin: 0.05 ng/l;
 - (B) Arsenic: 10 ug/l;
 - (C) Benzene: 1.19 ug/l;
 - (D) Carbon tetrachloride: 0.254 ug/l;
 - (E) Chlordane: 0.8 ng/l;
 - (F) Chlorinated benzenes: 488 ug/l;
 - (G) DDT: 0.2 ng/l;
 - (H) Dieldrin: 0.05 ng/l;
 - (I) Dioxin: 0.000005 ng/l;
 - (J) Heptachlor: 0.08 ng/l;
 - (K) Hexachlorobutadiene: 0.44 ug/l;
 - (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
 - (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
 - (N) Tetrachloroethylene: 0.7 ug/l;
 - (O) Trichloroethylene: 2.5 ug/l; and
 - (P) Vinyl Chloride: 0.025 ug/l.

*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.*

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

The following water quality standards apply to surface waters that are for primary recreation, including frequent or organized swimming 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) Best Usage of Waters. Primary recreation and any other best usage specified by the "C" classification;
- (2) Conditions Related to Best Usage. The waters shall meet accepted 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 recreation purposes. Sources of water pollution which preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard;
- (3) Quality standards applicable to Class B waters:

- (a) Sewage, industrial wastes, or other wastes: none which are not effectively 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 may not be allowed if the Director determines that the waste can not be reliably treated to ensure the protection of primary recreation;
- (b) Organisms of coliform group: fecal coliforms not to exceed geometric mean of 200/100 ml (MF count) based on at least five consecutive samples examined during any 30-day period and not to exceed 400/100 ml in more than 20 percent of the samples examined during such period.

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

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

General. The water quality standards for all tidal salt waters shall be the basic standards applicable to Class SC waters. Additional and more stringent standards applicable to other specific tidal salt water classifications are specified in Rules .0221 and .0222 of this Section. Action Levels, for purposes of National Pollutant Discharge Elimination System (NPDES) permitting, are specified in Item (20) of this Rule.

- (1) Best Usage of Waters: any usage except primary recreation or shellfishing for market purposes; usages include aquatic life propagation and maintenance of biological integrity (including fishing, fish and functioning Primary Nursery Areas (PNAs)), wildlife, and secondary recreation;
- (2) Conditions Related to Best Usage: the waters shall be suitable for aquatic life propagation and maintenance of biological integrity, wildlife, and secondary recreation. Any source of water pollution that precludes any of these uses, including their functioning as PNAs, on either a short-term or a long-term basis shall be considered to be violating 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, in the opinion of the Director, 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 to exceed a geometric mean of 35 enterococci per 100 ml based upon a minimum of five samples within any consecutive 30 days. For 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 hereby incorporated by reference including any subsequent amendments;
- (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, 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) 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;

(c) Metals criteria shall be used for proactive environmental management. An instream exceedence of the numeric criterion for metals shall not be considered to have caused an adverse impact to the aquatic community without biological confirmation and a comparison of all available monitoring data and applicable water quality standards. This weight of evidence evaluation shall take into account data quality and the overall confidence in how representative the sampling is of conditions in the waterbody segment before an assessment of aquatic life use attainment, or non-attainment, is made by the Division. Recognizing the synergistic and antagonistic complexities of other water quality variables on the actual toxicity of metals, with the exception of mercury and selenium, biological monitoring shall be used to validate, by direct measurement, whether or not the aquatic life use is supported.

(d) Acute and chronic tidal salt water quality metals standards are as follows:

- (i) Arsenic, acute: WER· 69 ug/l;
- (ii) Arsenic, chronic: WER· 36 ug/l;
- (iii) Cadmium, acute: WER· 40 ug/l;
- (iv) Cadmium, chronic: WER· 8.8 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;

With the exception of mercury and selenium, acute and chronic tidal saltwater quality aquatic life standards for metals listed above apply to the dissolved form of the metal and apply as a function of the pollutant's water effect ratio (WER). A WER expresses the difference between the measures of the toxicity of a substance in laboratory waters and the toxicity in site water. 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), free of charge, at <http://water.epa.gov/scitech/swguidance/standards/handbook/>, hereby incorporated by reference including any subsequent amendments. Alternative site-specific standards may also be developed when any person submits values that demonstrate to the Commissions' satisfaction that they were derived in accordance with the "Water Quality Standards Handbook: Second Edition, Recalculation Procedure or the Resident Species Procedure", hereby incorporated by reference including subsequent amendments at <http://water.epa.gov/scitech/swguidance/standards/handbook/>.

This material is available free of charge;

(10) Oils, deleterious substances, 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, 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 pursuant to 40 CFR 110.3;

(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 normal for the waters in the area, which range 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:
- (a) Combined radium-226 and radium-228: The average annual activity level (based on at least one sample collected per quarter) 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 (based on at least one sample collected per quarter) 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 be required to 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 nor more than 2.2 degrees C (3.96 degrees F) during other months and in no cases to 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 can be 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). BMPs shall be in full compliance with all specifications governing the proper design, installation, operation, and maintenance of such BMPs;
- (20) Action Levels for Toxic Substances Applicable to NPDES Permits:
- (a) Copper, dissolved, chronic: 3.1 ug/l;
 - (b) Silver, dissolved, chronic: 0.1 ug/l;
 - (c) Zinc, dissolved, chronic: 81 ug/l

If the action levels for any of the substances listed in this Item (which are generally not bioaccumulative and have variable toxicity to aquatic life because of chemical form, solubility, stream characteristics, or associated waste characteristics) shall be determined by the waste load allocation to be exceeded in a receiving water by a discharge under the 7Q10 flow 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 these substances from their effluents. Those substances for which action levels are listed in this Item shall be limited as appropriate in the NPDES permit if sufficient information (to be determined for metals by measurements of that portion of the dissolved instream concentration of the action

level parameter attributable to a specific NPDES permitted discharge) exists to indicate that any of those substances 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. October 1, 1995;
Amended Eff. January 1, 2015; May 1, 2007; August 1, 2000.

15A NCAC 02B .0221 TIDAL SALT WATER QUALITY STANDARDS FOR CLASS SA WATERS

The following water quality standards apply to surface waters that are used for shellfishing for market purposes and are classified SA. Water quality standards applicable to Class SC and SB waters as described in Rule .0220 and Rule .0222 of this Section also apply to Class SA waters.

- (1) Best Usage of Waters: shellfishing for market purposes and any other usage specified by the "SB" or "SC" classification;
- (2) Conditions Related to Best Usage: waters shall meet the current sanitary and bacteriological standards as adopted by the Commission for Public Health and shall be suitable for shellfish culture. Any source of water pollution which precludes any of these uses, including their functioning as PNAs, on either a short-term or a long-term basis shall be considered to be violating a water quality standard;
- (3) Quality Standards applicable to Class SA Waters:
 - (a) Floating solids, settleable solids, or sludge deposits: none attributable to sewage, industrial wastes or other wastes;
 - (b) Sewage: none;
 - (c) Industrial wastes, or other wastes: none shall be allowed that are not effectively treated to the satisfaction of the Commission in accordance with the requirements of the Division of Environmental Health;
 - (d) Organisms of coliform group: fecal coliform group not to exceed a median MF of 14/100 ml and not more than 10 percent of the samples shall exceed an MF count of 43/100 ml in those areas most probably exposed to fecal contamination during the most unfavorable hydrographic and pollution conditions.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
Eff. October 1, 1995;
Amended Eff. May 1, 2007.

15A NCAC 02B .0222 TIDAL SALT WATER QUALITY STANDARDS FOR CLASS SB WATERS

The following water quality standards apply to surface waters that are used for primary recreation, including frequent or organized swimming, and are classified SB. Water quality standards applicable to Class SC waters are described in Rule .0220 of this Section also apply to SB waters.

- (1) Best Usage of waters: primary recreation and any other usage specified by the "SC" classification;
- (2) Conditions Related to Best Usage: the waters shall meet accepted sanitary standards of water quality for outdoor bathing places as specified in Item (3) of this Rule and will be of sufficient size and depth for primary recreation purposes. Any source of water pollution which precludes any of these uses, including their functioning as PNAs, on either a short-term or a long-term basis shall be considered to be violating a water quality standard;
- (3) Quality Standards applicable to Class SB waters:
 - (a) Floating solids, settleable solids, or sludge deposits: none attributable to sewage, industrial wastes or other wastes;
 - (b) Sewage, industrial wastes, or other wastes: none shall be allowed that are not effectively treated to the satisfaction of the Commission; in determining the degree of treatment required for such waters discharged into waters which are to be used for bathing, the Commission shall take into consideration quantity and quality of the sewage and other wastes involved and the proximity of such discharges to the waters in this class; discharges in the immediate vicinity of bathing areas may not be allowed if the Director determines that the waste can not be treated to ensure the protection of primary recreation;
 - (c) Enterococcus, including *Enterococcus faecalis*, *Enterococcus faecium*, *Enterococcus avium* and *Enterococcus gallinarum*: not to exceed a geometric mean of 35 enterococci per 100 ml based

upon a minimum of five samples within any consecutive 30 days. In accordance with 33 U.S.C. 1313 (Federal Water Pollution Control Act) for purposes of beach monitoring and notification, "Coastal Recreation Waters Monitoring, Evaluation and Notification" regulations (15A NCAC 18A .3400) are hereby incorporated by reference including any subsequent amendments.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);
Eff. October 1, 1995;
Amended Eff. May 1, 2007.

15A NCAC 02B .0223 NUTRIENT SENSITIVE WATERS

- (a) In addition to existing classifications, the Commission may classify any surface waters of the state as nutrient sensitive waters (NSW) upon a finding that such waters are experiencing or are subject to excessive growths of microscopic or macroscopic vegetation. Excessive growths are growths which the Commission determines impair the use of the water for its best usage as determined by the classification applied to such waters.
- (b) NSW may include any or all waters within a particular river basin as the Commission deems necessary to effectively control excessive growths of microscopic or macroscopic vegetation.
- (c) For the purpose of this Rule, the term "nutrients" shall mean phosphorous or nitrogen or any other chemical parameter or combination of parameters which the commission determines to be contributing to excessive growths of microscopic or macroscopic vegetation.
- (d) Those waters additionally classified as nutrient sensitive shall be identified in the appropriate schedule of classifications as referenced in Section .0300 of this Subchapter.
- (e) Nutrient strategies applicable to NSW shall be developed by the Commission to control the magnitude, duration, or frequencies of excessive growths of microscopic or macroscopic vegetation so that the existing and designated uses of the waterbody are protected or restored.

History Note: Authority G.S. 143-214.1; 143-215.8B;
Eff. October 1, 1995;
Amended Eff. August 1, 2000.

15A NCAC 02B .0224 HIGH QUALITY WATERS

High Quality Waters (HQW) are a subset of waters with quality higher than the standards and are as described by 15A NCAC 2B .0101(e)(5). The following procedures shall be implemented in order to implement the requirements of Rule .0201(d) of this Section.

- (1) New or expanded wastewater discharges in High Quality Waters shall comply with the following:
 - (a) Discharges from new single family residences shall be prohibited. Those existing subsurface systems for single family residences which fail and must discharge shall install a septic tank, dual or recirculating sand filters, disinfection and step aeration.
 - (b) All new NPDES wastewater discharges (except single family residences) shall be required to provide the treatment described below:
 - (i) Oxygen Consuming Wastes: Effluent limitations shall be as follows: BOD₅= 5 mg/l, NH₃-N = 2 mg/l and DO = 6 mg/l. More stringent limitations shall be set, if necessary, to ensure that the cumulative pollutant discharge of oxygen-consuming wastes shall not cause the DO of the receiving water to drop more than 0.5 mg/l below background levels, and in no case below the standard. Where background information is not readily available, evaluations shall assume a percent saturation determined by staff to be generally applicable to that hydroenvironment.
 - (ii) Total Suspended Solids: Discharges of total suspended solids (TSS) shall be limited to effluent concentrations of 10 mg/l for trout waters and PNA's, and to 20 mg/l for all other High Quality Waters.
 - (iii) Disinfection: Alternative methods to chlorination shall be required for discharges to trout streams, except that single family residences may use chlorination if other options are not economically feasible. Domestic discharges are prohibited to SA waters.
 - (iv) Emergency Requirements: Failsafe treatment designs shall be employed, including stand-by power capability for entire treatment works, dual train design for all treatment components, or equivalent failsafe treatment designs.

- (v) Volume: The total volume of treated wastewater for all discharges combined shall not exceed 50 percent of the total instream flow under 7Q10 conditions.
 - (vi) Nutrients: Where nutrient overenrichment is projected to be a concern, appropriate effluent limitations shall be set for phosphorus or nitrogen, or both.
 - (vii) Toxic substances: In cases where complex wastes (those containing or potentially containing toxicants) may be present in a discharge, a safety factor shall be applied to any chemical or whole effluent toxicity allocation. The limit for a specific chemical constituent shall be allocated at one-half of the normal standard at design conditions. Whole effluent toxicity shall be allocated to protect for chronic toxicity at an effluent concentration equal to twice that which is acceptable under design conditions. In all instances there may be no acute toxicity in an effluent concentration of 90 percent. Ammonia toxicity shall be evaluated according to EPA guidelines promulgated in "Ambient Water Quality Criteria for Ammonia - 1984"; EPA document number 440/5-85-001; NITS number PB85-227114; July 29, 1985 (50 FR 30784) or "Ambient Water Quality Criteria for Ammonia (Saltwater) - 1989"; EPA document number 440/5-88-004; NTIS number PB89-169825. This material related to ammonia toxicity is hereby incorporated by reference including any subsequent amendments and editions and is available for inspection at the Department of Environment and Natural Resources Library, 512 North Salisbury Street, Raleigh, North Carolina. Copies may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 at a cost of forty-seven dollars (\$47.00).
- (c) All expanded NPDES wastewater discharges in High Quality Waters shall be required to provide the treatment described in Sub-Item (1)(b) of this Rule, except for those existing discharges which expand with no increase in permitted pollutant loading.
- (2) Development activities which require an Erosion and Sedimentation Control Plan in accordance with rules established by the NC Sedimentation Control Commission or local erosion and sedimentation control program approved in accordance with 15A NCAC 4B .0218, and which drain to and are within one mile of High Quality Waters (HQW) shall be required to follow the stormwater management rules as specified in 15A NCAC 2H .1000. Stormwater management requirements specific to HQW are described in 15A NCAC 2H .1006.
 - (3) Listing of Waters Classified HQW with Specific Actions. Waters classified as HQW with specific actions to protect exceptional water quality are listed as follows: Thorpe Reservoir [Little Tennessee River Basin, Index No. 2-79-23-(1)] including all of its tributaries shall be managed with respect to wastewater discharges through Item (1) of this Rule. Item (2) of this Rule shall not be applied in association with this HQW because of the local government implementation of WS-III stormwater management requirements.

If an applicant objects to the requirements to protect high quality waters and believes degradation is necessary to accommodate important social and economic development, the applicant may contest these requirements according to the provisions of G.S. 143-215.1(e) and 150B-23.

*History Note: Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1);
Eff. October 1, 1995;
Amended Eff. August 1, 1998; April 1, 1996.*

15A NCAC 02B .0225 OUTSTANDING RESOURCE WATERS

(a) General. In addition to the existing classifications, the Commission may classify unique and special surface waters of the state as outstanding resource waters (ORW) upon finding that such waters are of exceptional state or national recreational or ecological significance and that the waters have exceptional water quality while meeting the following conditions:

- (1) that the water quality is rated as excellent based on physical, chemical or biological information;
- (2) the characteristics which make these waters unique and special may not be protected by the assigned narrative and numerical water quality standards.

(b) Outstanding Resource Values. In order to be classified as ORW, a water body must exhibit one or more of the following values or uses to demonstrate it is of exceptional state or national recreational or ecological significance:

- (1) there are outstanding fish (or commercially important aquatic species) habitat and fisheries;
- (2) there is an unusually high level of water-based recreation or the potential for such recreation;

- (3) the waters have already received some special designation such as a North Carolina or National Wild and Scenic River, Native or Special Native Trout Waters or National Wildlife Refuge, which do not provide any water quality protection;
- (4) the waters represent an important component of a state or national park or forest; or
- (5) the waters are of special ecological or scientific significance such as habitat for rare or endangered species or as areas for research and education.

(c) Quality Standards for ORW.

- (1) Freshwater: Water quality conditions shall be maintained to protect the outstanding resource values of waters classified ORW. Management strategies to protect resource values shall be developed on a site specific basis during the proceedings to classify waters as ORW. No new discharges or expansions of existing discharges shall be permitted, and stormwater controls for all new development activities requiring an Erosion and Sedimentation Control Plan in accordance with rules established by the NC Sedimentation Control Commission or an appropriate local erosion and sedimentation control program shall be required to follow the stormwater provisions as specified in 15A NCAC 02H .1000. Specific stormwater requirements for ORW areas are described in 15A NCAC 02H .1007.
- (2) Saltwater: Water quality conditions shall be maintained to protect the outstanding resource values of waters classified ORW. Management strategies to protect resource values shall be developed on a site-specific basis during the proceedings to classify waters as ORW. New development shall comply with the stormwater provisions as specified in 15A NCAC 02H .1000. Specific stormwater management requirements for saltwater ORWs are described in 15A NCAC 02H .1007. New non-discharge permits shall meet reduced loading rates and increased buffer zones, to be determined on a case-by-case basis. No dredge or fill activities shall be allowed if those activities would result in a reduction of the beds of submerged aquatic vegetation or a reduction of shellfish producing habitat as defined in 15A NCAC 03I .0101(b)(20)(A) and (B), except for maintenance dredging, such as that required to maintain access to existing channels and facilities located within the designated areas or maintenance dredging for activities such as agriculture. A public hearing is mandatory for any proposed permits to discharge to waters classified as ORW.

Additional actions to protect resource values shall be considered on a site specific basis during the proceedings to classify waters as ORW and shall be specified in Paragraph (e) of this Rule. These actions may include anything within the powers of the Commission. The Commission shall also consider local actions which have been taken to protect a water body in determining the appropriate state protection options. Descriptions of boundaries of waters classified as ORW are included in Paragraph (e) of this Rule and in the Schedule of Classifications (15A NCAC 02B .0302 through 02B .0317) as specified for the appropriate river basin and shall also be described on maps maintained by the Division of Water Quality.

(d) Petition Process. Any person may petition the Commission to classify a surface water of the state as an ORW. The petition shall identify the exceptional resource value to be protected, address how the water body meets the general criteria in Paragraph (a) of this Rule, and the suggested actions to protect the resource values. The Commission may request additional supporting information from the petitioner. The Commission or its designee shall initiate public proceedings to classify waters as ORW or shall inform the petitioner that the waters do not meet the criteria for ORW with an explanation of the basis for this decision. The petition shall be sent to:

Director
DENR/Division of Water Quality
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

The envelope containing the petition shall clearly bear the notation: RULE-MAKING PETITION FOR ORW CLASSIFICATION.

(e) Listing of Waters Classified ORW with Specific Actions. Waters classified as ORW with specific actions to protect exceptional resource values are listed as follows:

- (1) Roosevelt Natural Area [White Oak River Basin, Index Nos. 20-36-9.5-(1) and 20-36-9.5-(2)] including all fresh and saline waters within the property boundaries of the natural area shall have only new development which complies with the low density option in the stormwater rules as specified in 15A NCAC 2H .1005(2)(a) within 575 feet of the Roosevelt Natural Area (if the development site naturally drains to the Roosevelt Natural Area);
- (2) Chattooga River ORW Area (Little Tennessee River Basin and Savannah River Drainage Area): the following undesignated waterbodies that are tributary to ORW designated segments shall comply with

Paragraph (c) of this Rule in order to protect the designated waters as per Rule .0203 of this Section. However, expansions of existing discharges to these segments shall be allowed if there is no increase in pollutant loading:

- (A) North and South Fowler Creeks;
 - (B) Green and Norton Mill Creeks;
 - (C) Cane Creek;
 - (D) Ammons Branch;
 - (E) Glade Creek; and
 - (F) Associated tributaries;
- (3) Henry Fork ORW Area (Catawba River Basin): the following undesignated waterbodies that are tributary to ORW designated segments shall comply with Paragraph (c) of this Rule in order to protect the designated waters as per Rule .0203 of this Section:
- (A) Ivy Creek;
 - (B) Rock Creek; and
 - (C) Associated tributaries;
- (4) South Fork New and New Rivers ORW Area [New River Basin (Index Nos. 10-1-33.5 and 10)]: the following management strategies, in addition to the discharge requirements specified in Subparagraph (c)(1) of this Rule, shall be applied to protect the designated ORW areas:
- (A) Stormwater controls described in Subparagraph (c)(1) of this Rule shall apply to land within one mile of and that drains to the designated ORW areas;
 - (B) New or expanded NPDES permitted wastewater discharges located upstream of the designated ORW (for the North Fork New River ORW area see Subparagraph (14) of this Paragraph) shall be permitted such that the following water quality standards are maintained in the ORW segment:
 - (i) the total volume of treated wastewater for all upstream discharges combined shall not exceed 50 percent of the total instream flow in the designated ORW under 7Q10 conditions, which are defined in Rule .0206(a)(1) of this Section;
 - (ii) a safety factor shall be applied to any chemical allocation such that the effluent limitation for a specific chemical constituent shall be the more stringent of either the limitation allocated under design conditions (pursuant to 15A NCAC 02B .0206) for the normal standard at the point of discharge, or the limitation allocated under design conditions for one-half the normal standard at the upstream border of the ORW segment;
 - (iii) a safety factor shall be applied to any discharge of complex wastewater (those containing or potentially containing toxicants) to protect for chronic toxicity in the ORW segment by setting the whole effluent toxicity limitation at the higher (more stringent) percentage effluent determined under design conditions (pursuant to 15A NCAC 02B .0206) for either the instream effluent concentration at the point of discharge or twice the effluent concentration calculated as if the discharge were at the upstream border of the ORW segment;
 - (C) New or expanded NPDES permitted wastewater discharges located upstream of the designated ORW (for the North Fork New River ORW area; see Subparagraph (14) of this Paragraph) shall comply with the following:
 - (i) Oxygen Consuming Wastes: Effluent limitations shall be as follows: BOD = 5 mg/1, and NH₃-N = 2 mg/1;
 - (ii) Total Suspended Solids: Discharges of total suspended solids (TSS) shall be limited to effluent concentrations of 10 mg/1 for trout waters and to 20 mg/1 for all other waters;
 - (iii) Emergency Requirements: Failsafe treatment designs shall be employed, including stand-by power capability for entire treatment works, dual train design for all treatment components, or equivalent failsafe treatment designs;
 - (iv) Nutrients: Where nutrient overenrichment is projected to be a concern, effluent limitations shall be set for phosphorus or nitrogen, or both;
- (5) Old Field Creek (New River Basin): the undesignated portion of Old Field Creek (from its source to Call Creek) shall comply with Paragraph (c) of this Rule in order to protect the designated waters as per Rule .0203 of this Section;
- (6) In the following designated waterbodies, no additional restrictions shall be placed on new or expanded marinas. The only new or expanded NPDES permitted discharges that shall be allowed shall be

non-domestic, non-process industrial discharges. The Alligator River Area (Pasquotank River Basin) extending from the source of the Alligator River to the U.S. Highway 64 bridge including New Lake Fork, North West Fork Alligator River, Juniper Creek, Southwest Fork Alligator River, Scouts Bay, Gum Neck Creek, Georgia Bay, Winn Bay, Stumpy Creek Bay, Stumpy Creek, Swann Creek (Swann Creek Lake), Whipping Creek (Whipping Creek Lake), Grapevine Bay, Rattlesnake Bay, The Straits, The Frying Pan, Coopers Creek, Babbitt Bay, Goose Creek, Milltail Creek, Boat Bay, Sandy Ridge Gut (Sawyer Lake) and Second Creek, but excluding the Intracoastal Waterway (Pungo River-Alligator River Canal) and all other tributary streams and canals;

- (7) In the following designated waterbodies, the only type of new or expanded marina that shall be allowed shall be those marinas located in upland basin areas, or those with less than 10 slips, having no boats over 21 feet in length and no boats with heads. The only new or expanded NPDES permitted discharges that shall be allowed shall be non-domestic, non-process industrial discharges:
- (A) The Northeast Swanquarter Bay Area including all waters northeast of a line from a point at Lat. 35E 23N 51O and Long. 76E 21N 02O thence southeast along the Swanquarter National Wildlife Refuge hunting closure boundary (as defined by the 1935 Presidential Proclamation) to Drum Point.
 - (B) The Neuse-Southeast Pamlico Sound Area (Southeast Pamlico Sound Section of the Southeast Pamlico, Core and Back Sound Area); (Neuse River Basin) including all waters within an area defined by a line extending from the southern shore of Ocracoke Inlet northwest to the Tar-Pamlico River and Neuse River basin boundary, then southwest to Ship Point.
 - (C) The Core Sound Section of the Southeast Pamlico, Core and Back Sound Area (White Oak River Basin), including all waters of Core Sound and its tributaries, but excluding Nelson Bay, Little Port Branch and Atlantic Harbor at its mouth, and those tributaries of Jarrett Bay that are closed to shellfishing.
 - (D) The Western Bogue Sound Section of the Western Bogue Sound and Bear Island Area (White Oak River Basin) including all waters within an area defined by a line from Bogue Inlet to the mainland at SR 1117 to a line across Bogue Sound from the southwest side of Gales Creek to Rock Point, including Taylor Bay and the Intracoastal Waterway.
 - (E) The Stump Sound Area (Cape Fear River Basin) including all waters of Stump Sound and Alligator Bay from marker Number 17 to the western end of Permuda Island, but excluding Rogers Bay, the Kings Creek Restricted Area and Mill Creek.
 - (F) The Topsail Sound and Middle Sound Area (Cape Fear River Basin) including all estuarine waters from New Topsail Inlet to Mason Inlet, including the Intracoastal Waterway and Howe Creek, but excluding Pages Creek and Futch Creek;
- (8) In the following designated waterbodies, no new or expanded NPDES permitted discharges and only new or expanded marinas with less than 10 slips, having no boats over 21 feet in length and no boats with heads shall be allowed:
- (A) The Swanquarter Bay and Juniper Bay Area (Tar-Pamlico River Basin) including all waters within a line beginning at Juniper Bay Point and running south and then west below Great Island, then northwest to Shell Point and including Shell Bay, Swanquarter and Juniper Bays and their tributaries, but excluding all waters northeast of a line from a point at Lat. 35E 23N 51O and Long. 76E 21N 02O thence southeast along the Swanquarter National Wildlife Refuge hunting closure boundary (as defined by the 1935 Presidential Proclamation) to Drum Point and also excluding the Blowout Canal, Hydeland Canal, Juniper Canal and Quarter Canal.
 - (B) The Back Sound Section of the Southeast Pamlico, Core and Back Sound Area (White Oak River Basin) including that area of Back Sound extending from Core Sound west along Shackleford Banks, then north to the western most point of Middle Marshes and along the northwest shore of Middle Marshes (to include all of Middle Marshes), then west to Rush Point on Harker's Island, and along the southern shore of Harker's Island back to Core Sound.
 - (C) The Bear Island Section of the Western Bogue Sound and Bear Island Area (White Oak River Basin) including all waters within an area defined by a line from the western most point on Bear Island to the northeast mouth of Goose Creek on the mainland, east to the southwest mouth of Queen Creek, then south to green marker No. 49, then northeast to the northern most point on Huggins Island, then southeast along the shoreline of Huggins Island to the southeastern most

point of Huggins Island, then south to the northeastern most point on Dudley Island, then southwest along the shoreline of Dudley Island to the eastern tip of Bear Island.

- (D) The Masonboro Sound Area (Cape Fear River Basin) including all waters between the Barrier Islands and the mainland from Carolina Beach Inlet to Masonboro Inlet;
- (9) Black and South Rivers ORW Area (Cape Fear River Basin) [Index Nos. 18-68-(0.5), 18-68-(3.5), 18-68-(11.5), 18-68-12-(0.5), 18-68-12-(11.5), and 18-68-2]: the following management strategies, in addition to the discharge requirements specified in Subparagraph (c)(1) of this Rule, shall be applied to protect the designated ORW areas:
- (A) Stormwater controls described in Subparagraph (c)(1) of this Rule shall apply to land within one mile of and that drains to the designated ORW areas;
 - (B) New or expanded NPDES permitted wastewater discharges located one mile upstream of the stream segments designated ORW (upstream on the designated mainstem and upstream into direct tributaries to the designated mainstem) shall comply with the following discharge restrictions:
 - (i) Oxygen Consuming Wastes: Effluent limitations shall be as follows: BOD = 5 mg/l and NH₃-N = 2 mg/l;
 - (ii) Total Suspended Solids: Discharges of total suspended solids (TSS) shall be limited to effluent concentrations of 20 mg/l;
 - (iii) Emergency Requirements: Failsafe treatment designs shall be employed, including stand-by power capability for entire treatment works, dual train design for all treatment components, or equivalent failsafe treatment designs;
 - (iv) Nutrients: Where nutrient overenrichment is projected to be a concern, effluent limitations shall be set for phosphorus or nitrogen, or both.
 - (v) Toxic substances: In cases where complex discharges (those containing or potentially containing toxicants) may be currently present in the discharge, a safety factor shall be applied to any chemical or whole effluent toxicity allocation. The limit for a specific chemical constituent shall be allocated at one-half of the normal standard at design conditions. Whole effluent toxicity shall be allocated to protect for chronic toxicity at an effluent concentration equal to twice that which is acceptable under flow design criteria (pursuant to 15A NCAC 02B .0206);
- (10) Lake Waccamaw ORW Area (Lumber River Basin) [Index No. 15-2]: all undesignated waterbodies that are tributary to Lake Waccamaw shall comply with Paragraph (c) of this Rule in order to protect the designated waters as per Rule .0203 of this Section;
- (11) Swift Creek and Sandy Creek ORW Area (Tar-Pamlico River Basin) [portion of Index No. 28-78-(0.5) and Index No. 28-78-1-(19)]: all undesignated waterbodies that drain to the designated waters shall comply with Paragraph (c) of this Rule in order to protect the designated waters as per Rule .0203 of this Section and to protect outstanding resource values found in the designated waters as well as in the undesignated waters that drain to the designated waters;
- (12) Fontana Lake North Shore ORW Area (Little Tennessee River Basin and Savannah River Drainage Area) [Index Nos. 2-96 through 2-164 (excluding all waterbodies that drain to the south shore of Fontana Lake) consists of the entire watersheds of all creeks that drain to the north shore of Fontana Lake between Eagle and Forney Creeks, including Eagle and Forney Creeks. In addition to the requirements specified in Subparagraph (c)(1) of this Rule, any person conducting development activity disturbing greater than or equal to 5,000 square feet of land area in the designated ORW area shall undertake the following actions to protect the outstanding resource values of the designated ORW and downstream waters:
- (A) investigate for the presence of and identify the composition of acid-producing rocks by exploratory drilling or other means and characterize the net neutralization potential of the acid-producing rocks prior to commencing the land-disturbing activity;
 - (B) avoid areas to the maximum extent practical where acid-producing rocks are found with net neutralization potential of -5 or less;
 - (C) establish background levels of acidity and mineralization prior to commencing land-disturbing activity, and monitor and maintain baseline water quality conditions for the duration of the land-disturbing activity and for any period thereafter not less than two years as determined by the Division as part of a certification issued in accordance with 15A NCAC 02H .0500 or stormwater permit issued pursuant to this Rule;

- (D) obtain a National Pollutant Discharge Elimination System permit for construction pursuant to Rule 15A NCAC 02H .0126 prior to initiating land-disturbing activity;
 - (E) design stormwater control systems to control and treat stormwater runoff generated from all surfaces generated by one inch of rainfall in accordance with 15A NCAC 02H. 1008; and
 - (F) replicate pre-development runoff characteristics and mimic the natural and unique hydrology of the site, post development;
- (13) Horsepasture River ORW Area (Savannah Drainage Area) [Index No. 4-13-(0.5) and Index No. 4-13-(12.5)]: all undesignated waterbodies that are located within the Horsepasture River watershed shall comply with Paragraph (c) of this Rule in order to protect the designated waters as per Rule .0203 of this Section and to protect outstanding resource values found throughout the watershed. However, new domestic wastewater discharges and expansions of existing wastewater discharges may be allowed provided that:
- (A) Oxygen Consuming Wastes: Effluent limitations shall be as follows: BOD = 5 mg/l, and NH₃-N = 2 mg/l;
 - (B) Total Suspended Solids: Discharges of total suspended solids (TSS) shall be limited to effluent concentrations of 10 mg/l for trout waters and to 20 mg/l for all other waters except for mining operations, which will be held to their respective NPDES TSS permit limits;
 - (C) Nutrients: Where nutrient overenrichment is projected to be a concern, effluent limitations shall be set for phosphorus or nitrogen, or both; and
 - (D) Volume: The total volume of treated wastewater for all discharges combined shall not exceed 25 percent of the total instream flow in the designated ORW under 7Q10 conditions, which are defined in Rule .0206(a)(1) of this Section; and
- (14) North Fork New River ORW Area (New River Basin) [Index Nos. 10-2-(1), 10-2-(11) and 10-2-(12)]: all non-ORW waterbodies including Little Buffalo Creek and Claybank Creek [Index Nos. 10-2-20-1 and 10-2-20-1-1] that are located within the North Fork New River watershed shall comply with Rule .0224 of this Section in order to protect the ORW designated waters.

History Note: Authority G.S. 143-214.1; S.L. 2005-97; Eff. October 1, 1995; Amended Eff. August 1, 2003 (see S.L. 2003-433, s.2); August 1, 2000; April 1, 1996; January 1, 1996; Temporary Amendment Eff. October 7, 2003; Amended Eff. December 1, 2010; July 1, 2009; January 1, 2007; June 1, 2004.

15A NCAC 02B .0226 EXEMPTIONS FROM SURFACE WATER QUALITY STANDARDS

Variances from applicable standards, revisions to water quality standards or site-specific water quality standards may be granted by the Commission on a case-by-case basis pursuant to G.S. 143-215.3(e), 143-214.3 or 143-214.1. A listing of existing variances shall be maintained and made available to the public by the Division. Exemptions established pursuant to this Rule shall be reviewed as part of the Triennial Review of Water Quality Standards conducted pursuant to 40 CFR 131.10(g).

History Note: Authority G.S. 143-214.1; 143-214.3; 143-215.3(e); Eff. October 1, 1995.

15A NCAC 02B .0227 WATER QUALITY MANAGEMENT PLANS

(a) In implementing the water quality standards to protect the "existing uses" [as defined by Rule .0202 of this Section] of the waters of the state or the water quality that supports those uses, the Commission shall develop water quality management plans on a priority basis to attain, maintain or enhance water quality throughout the state. Additional specific actions deemed necessary by the Commission to protect the water quality or the existing uses of the waters of the state shall be specified in Paragraph (b) of this Rule. These actions may include anything within the powers of the Commission. The Commission may also consider local actions that have been taken to protect a waterbody in determining the appropriate protection options to be incorporated into the water quality management plan.

(b) All waters determined by the Commission to be protected by a water quality management plan are listed with specific actions either in Rules .0601 - .0608 of this Subchapter that address the Goose Creek watershed (Yadkin Pee-Dee River Basin) or as follows:

- (1) The Lockwoods Folly River Area (Lumber River Basin), which includes all waters of the lower Lockwoods Folly River in an area extending north from the Intracoastal Waterway to a line extending from Genoes Point to Mullet Creek, shall be protected by the specific actions described in Parts (A) through (D) of this Subparagraph.
 - (A) New development activities within 575' of the mean high water line that require a Sedimentation Erosion Control Plan or a CAMA major development permit shall comply with the low density option of the coastal stormwater requirements as specified in 15A NCAC 02H .1005(3)(a).
 - (B) New or expanded NPDES permits shall be issued only for non-domestic, non-industrial process type discharges such as non-industrial process cooling or seafood processing discharges. A public hearing shall be mandatory for any proposed (new or expanded) NPDES permit to this protected area.
 - (C) New or expanded marinas shall be located in upland basin areas.
 - (D) No dredge or fill activities shall be allowed if those activities would result in a reduction of the beds of "submerged aquatic vegetation habitat" or "shellfish producing habitat" that are defined in 15A NCAC 03I .0101, except for maintenance dredging, such as that required to maintain access to existing channels and facilities located within the protected area or maintenance dredging for activities such as agriculture.
- (2) A part of the Cape Fear River (Cape Fear River Basin) comprised of a section of Index No.18-(71) from upstream mouth of Toomers Creek to a line across the river between Lilliput Creek and Snows Cut shall be protected by the Class SC Sw standards as well as the following site-specific action: All new individual NPDES wastewater discharges and expansions of existing individual NPDES wastewater discharges shall be required to provide treatment for oxygen consuming wastes as described in Parts (A) through (C) of this Subparagraph.
 - (A) Effluent limitations shall be as follows: BOD₅ = 5 mg/l, NH₃-N = 1 mg/l and DO = 6 mg/l, or utilize site-specific best available technology on a case-by-case basis for industrial discharges in accordance with Rule .0406 (e) of this Subchapter.
 - (B) Seasonal effluent limits for oxygen consuming wastes shall be considered in accordance with Rule .0404 of this Subchapter.
 - (C) Any new or expanded permitted pollutant discharge of oxygen consuming waste shall not cause the dissolved oxygen of the receiving water to drop more than 0.1 mg/l below the modeled in-stream dissolved oxygen at total permitted capacity for all discharges.

History Note: Authority G.S. 143-214.1; 143-215.8A;
 Eff. October 1, 1995;
 Amended Eff. June 30, 2017; January 1, 1996.

15A NCAC 02B .0228 EFFLUENT CHANNELS

The standards of water quality contained in this Section shall not apply to waters within effluent channels, as defined in Rule .0202 of this Section, except that said waters shall be maintained at a quality which shall prevent the occurrence of offensive conditions, protect public health, and allow maintenance of the standards applicable to all downstream waters. Effluent channels shall be designated by the Director, such that the channels shall:

- (1) be contained entirely on property owned (or otherwise controlled) by the discharger (to be demonstrated by the discharger);
- (2) not contain natural waters except when such waters occur in direct response to rainfall events by overland runoff;
- (3) be so constructed or modified as to minimize the migration of fish into said channel;
- (4) be identified and designated on a case-by-case basis prior to permit issuance.

History Note: Authority G.S. 143-214.1;
 Eff. October 1, 1995;
 Amended Eff. January 1, 1996.

15A NCAC 02B .0229 TAR-PAMLICO RIVER BASIN - NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: NUTRIENT OFFSET PAYMENTS FOR NON-TAR-PAMLICO BASIN ASSOCIATION MEMBERS

(a) All waters of the Tar-Pamlico River Basin have been supplementally classified nutrient sensitive waters (NSW) pursuant to 15A NCAC 2B .0223. The following procedures are to be implemented in accordance with 15A NCAC 2B .0223 in all waters of the Tar-Pamlico River Basin for those wastewater dischargers who are not members of the Tar-Pamlico Basin Association;

(b) Existing wastewater dischargers expanding to greater than 0.5 million gallons per day (MGD), who are not members of the Tar-Pamlico Basin Association, shall be required to offset their additional nutrient loads by funding nonpoint source control programs approved by the Division of Water Quality prior to the issuance of their NPDES permit and at each renewal.

Nitrogen and phosphorus loads shall be offset at the rate of 110 percent of the cost to implement BMPs designed to reduce that same load created by expanding the discharge above 0.5 MGD. Equations for calculating the offset costs are:

- (1) For an existing facility with permitted flow of less than or equal to 0.5 MGD as of December 8, 1994 expanding to greater than 0.5 MGD who is not a member of the Tar-Pamlico Basin Association:

Payment = $((PF_e \times (TN+TP) \times 1384) - (0.5 \times (TN+TP) \times 1384)) \times (BMP_c \times 1.1)$ where:

Payment = the nutrient offset payment (\$);

PF_e = Permitted Flow including expansion (MGD);

TN = 6 mg/l total nitrogen for domestic discharges or BAT for industrial discharges;

TP = 1 mg/l total phosphorus for domestic discharges or BAT for industrial discharges;

1384 = conversion factor;

0.5 = the permitted flow (MGD) above which payment for additional nutrient loading is required;

BMP_c = Best Management Practice cost-effectiveness rate in \$/kg as set in 15A NCAC 2B .0237 of this Section;

1.1 = 110 percent of the cost for the nonpoint source controls.

- (2) For an expanding facility with a permitted flow of greater than or equal to 0.5 MGD as of December 8, 1994 who is not a member of the Tar-Pamlico Basin Association:

Payment = $((PF_e \times (TN+TP) \times 1384) - (PF \times (TN+TP) \times 1384)) \times (BMP_c \times 1.1)$ where:

Payment = the nutrient offset payment (\$);

PF_e = Permitted Flow including expansion (MGD);

PF = Permitted Flow as of December 8, 1994 (MGD);

TN = 6 mg/l total nitrogen for domestic discharges or BAT for industrial discharges;

TP = 1 mg/l total phosphorus for domestic discharges or BAT for industrial discharges;

1384 = conversion factor;

BMP_c = Best Management Practice cost-effectiveness rate in \$/kg as set in 15A NCAC 2B .0237 of this Section;

1.1 = 110 percent of the cost for the nonpoint source controls.

(c) New wastewater dischargers with permitted flows greater than or equal to 0.05 MGD, who are not members of the Tar-Pamlico Basin Association, shall be required to offset their nutrient loads by funding nonpoint source control programs approved by the Division of Water Quality prior to the issuance of their NPDES permit and at each renewal. Nitrogen and phosphorus loads shall be offset at the rate of 110 percent of the cost to implement BMPs designed to reduce that same loading created by the new discharge above 0.05 MGD. The equation for calculating the offset costs is:

Payment = $PF \times (TN+TP) \times 1384 \times (BMP_c \times 1.1)$ where:

Payment = the nutrient offset payment (\$);

PF = Permitted Flow (MGD);

TN = 6 mg/l total nitrogen for domestic discharges or BAT for industrial discharges;

TP = 1 mg/l total phosphorus for domestic discharges or BAT for industrial discharges;

1384 = conversion factor;

BMP_c = Best Management Practice cost-effectiveness rate in \$/kg as set in 15A NCAC 2B .0237 of this Section;

1.1 = 110 percent of the cost for the nonpoint source controls.

(d) Existing wastewater dischargers expanding to greater than 0.5 MGD, who are not members of the Tar-Pamlico Basin Association, may petition the Commission or its designee for an exemption from Paragraph (b) of this Rule upon meeting all of the following conditions:

- (1) For industrial facilities:

(A) The facility has reduced its annual average TN loading by 30 percent from its annual average 1991 TN loading or nitrogen is not part of the waste stream above background levels;

(B) The facility has reduced its annual average TP loading by 30 percent from its annual average 1991 TP loading or phosphorus is not part of the waste stream above background levels;

- (C) The expansion does not result in annual average TN loading greater than 70 percent of the 1991 annual average TN load. Permit limits may be established to insure that the 70 percent load is not exceeded;
 - (D) The expansion does not result in annual average TP loading greater than 70 percent of the 1991 annual average TP load. Permit limits may be established to insure that the 70 percent load is not exceeded;
 - (E) To maintain its exemption from Paragraph (b) of this Rule, a facility must continue to meet the requirements of Subparagraph (d)(1) Parts (A) through (D) of this Rule.
- (2) For municipal facilities:
- (A) The facility has reduced its annual average TN loading by 30 percent from its annual average 1991 TN loading;
 - (B) The facility has reduced its annual average TP loading by 30 percent from its annual average 1991 TP loading;
 - (C) The expansion does not result in annual average TN loading greater than 70 percent of the 1991 annual average TN load. Permit limits may be established to insure that the 70 percent load is not exceeded;
 - (D) The expansion does not result in annual average TP loading greater than 70 percent of the 1991 annual average TP load. Permit limits may be established to insure that the 70 percent load is not exceeded;
 - (E) To maintain its exemption from Paragraph (b) of this Rule, a facility must continue to meet the requirements of Subparagraph (d)(2) Parts (A) through (D) of this Rule.

*History Note: Authority G.S. 143-214.1;
Eff. April 1, 1997.*

15A NCAC 02B .0230 ACTIVITIES DEEMED TO COMPLY WITH WETLANDS STANDARDS

(a) The following activities for which Section 404 permits are not required pursuant to Section 404(f)(1) of the Clean Water Act and which are not recaptured into the permitting process pursuant to Section 404(f)(2) are deemed to be in compliance with wetland standards in 15A NCAC 2B .0231 provided that they comply with the most current versions of the federal regulations to implement Section 404 (f) (US Environmental Protection Agency and US Army Corps of Engineers including 40 C.F.R. 232.3) and the Sedimentation Pollution Control Act, G.S. 113A, Article 4:

- (1) normal, on-going silviculture, farming and ranching activities such as plowing, seeding, cultivating, minor drainage and harvesting for the production of food, fiber and forest products, or upland soil and water conservation practices, provided that relevant silvicultural activities must comply with U.S. Environmental Protection Agency and U.S. Army Corps of Engineers Memorandum to the Field entitled "Application of Best Management Practices to Mechanical Silvicultural Site Preparation Activities for the Establishment of Pine Plantations in the Southeast", November 28, 1995 which is hereby incorporated by reference including any subsequent amendments and editions;
- (2) maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, and bridge abutments or approaches, and transportation structures, and other maintenance, repairs or modification to existing structures as required by the NC Dam Safety Program;
- (3) construction and maintenance of farm or stock ponds or irrigation ditches. In addition, new pond construction in designated river basins with riparian buffer protection regulations also must comply with relevant portions of those regulations;
- (4) maintenance of drainage ditches, provided that spoil is removed to high ground, placed on top of previous spoil, or placed parallel to one side or the other of the ditch within a distance of 20 feet and spoils are placed in a manner that minimizes damages to existing wetlands; and ditch maintenance is no greater than the original depth, length and width of the ditch;
- (5) construction of temporary sediment control measures or best management practices as required by the NC Sediment and Erosion Control Program on a construction site, provided that the temporary sediment control measures or best management practices are restored to natural grade and stabilized within two months of completion of the project and native woody vegetation is reestablished during the next appropriate planting season and maintained;

- (6) construction or maintenance of farm roads, forest roads, and temporary roads for moving mining equipment where such roads are constructed and maintained in accordance with best management practices, as defined in 40 C.F.R. 232.3 (c)(6)(i-xv), to assure that flow and circulation patterns and chemical and biological characteristics of the navigable waters are not impaired, that the reach of navigable waters is not reduced, and that any adverse effects on the aquatic environment will be otherwise minimized.
- (b) Where the Director determines, in consultation with the US Army Corps of Engineers or the US Environmental Protection Agency, and considering existing or projected environmental impact, that an activity is not exempt from permitting under Section 404(f), or where the appropriate Best Management Practices are not implemented and maintained in accordance with Paragraph (a) of this Rule, the Director may require restoration of the wetlands as well as imposition of enforcement measures as authorized by G.S. 143-215.6A (civil penalties), G.S. 143-215.6B (criminal penalties) and G.S. 143-215.6C (injunctive relief).

History Note: Authority G.S. 143-214.1; 143-214.7; 143-215; 143-215.3; 143-215.6A; 143-215.6B; 143-215.6C; Temporary Adoption Eff. November 24, 1999; Eff. April 1, 2001.

15A NCAC 02B .0231 WETLAND STANDARDS

(a) General. The water quality standards for all wetlands are designed to protect, preserve, restore and enhance the quality and uses of wetlands and other waters of the state influenced by wetlands. The following are wetland uses:

- (1) Storm and flood water storage and retention and the moderation of extreme water level fluctuations;
- (2) Hydrologic functions including groundwater discharge that contributes to maintain dry weather streamflow and, at other locations or times, groundwater recharge that replenishes the groundwater system;
- (3) Filtration or storage of sediments, nutrients, toxic substances, or other pollutants that would otherwise adversely impact the quality of other waters of the state;
- (4) Shoreline protection against erosion through the dissipation of wave energy and water velocity and stabilization of sediments;
- (5) Habitat for the propagation of resident wetland-dependent aquatic organisms including, but not limited to fish, crustaceans, mollusks, insects, annelids, planktonic organisms and the plants and animals upon which these aquatic organisms feed and depend upon for their needs in all life stages; and
- (6) Habitat for the propagation of resident wetland-dependent wildlife species, including mammals, birds, reptiles and amphibians for breeding, nesting, cover, travel corridors and food.

(b) The following standards shall be used to assure the maintenance or enhancement of the existing uses of wetlands identified in Paragraph (a) of this Rule:

- (1) Liquids, fill or other solids or dissolved gases may not be present in amounts which may cause adverse impacts on existing wetland uses;
- (2) Floating or submerged debris, oil, deleterious substances, or other material may not be present in amounts which may cause adverse impacts on existing wetland uses;
- (3) Materials producing color, odor, taste or unsightliness may not be present in amounts which may cause adverse impacts on existing wetland uses;
- (4) Concentrations or combinations of substances which are toxic or harmful to human, animal or plant life may not be present in amounts which individually or cumulatively may cause adverse impacts on existing wetland uses;
- (5) Hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent adverse impacts on:
 - (A) Water currents, erosion or sedimentation patterns;
 - (B) Natural water temperature variations;
 - (C) The chemical, nutrient and dissolved oxygen regime of the wetland;
 - (D) The movement of aquatic fauna;
 - (E) The pH of the wetland; and
 - (F) Water levels or elevations.
- (6) The populations of wetland flora and fauna shall be maintained to protect biological integrity as defined at 15A NCAC 2B .0202.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1); RRC Objection Eff. July 18, 1996 due to lack of statutory authority and ambiguity;

Eff. October 1, 1996.