

# **APPENDIX I**

**Summary of North Carolina's Water Quality  
Classifications and Standards**

**Antidegradation Policy**

**Nutrient Sensitive Waters Rule**

**High Quality Waters**

**Outstanding Resource Waters**

# SUMMARY OF NORTH CAROLINA'S WATER QUALITY CLASSIFICATIONS AND STANDARDS

## PRIMARY CLASSIFICATIONS

### BEST USAGE

### DISCHARGE RESTRICTIONS<sup>1</sup>

### STORMWATER MANAGEMENT

### OTHER REQUIREMENTS<sup>2</sup>

#### Freshwater:

**C**  
(standards apply to all freshwaters, unless pre-empted by more stringent standard for more protective classification)

Secondary recreation (including swimming on an unorganized or infrequent basis); wildlife; fish and other aquatic life propagation and survival; agriculture and any other usage, except for primary recreation, water supply or other food-related uses

Domestic and industrial wastewater dischargers allowed

Stormwater Management Rules apply in the 20 coastal counties as described in 15A NCAC 2H .1000

#### B

Primary recreation (swimming on an organized or frequent basis) and all uses specified for Class C (and not water supply or other food-related uses)

Same as for Class C; wastewater treatment reliability requirements (dual train design; backup power capability) may apply to protect swimming uses (15A NCAC 2H .0124)

Same as for Class C

#### WS-I Water Supply

Water supplies in natural and undeveloped watersheds

No point source discharges

Not applicable since watershed is undeveloped

No landfills; residual or petroleum contaminated soils application not allowed in the watershed

#### WS-II Water Supply

Water supplies in predominantly undeveloped watersheds

Only general permit wastewater discharges allowed in watershed

Local land management program required as per 15A NCAC 2B .0214; 6% built upon area in Critical Area; 12% built upon area in the Balance of the Watershed; up to 24% built upon area in the Critical Area and 30% in the Balance of the Watershed allowed with engineered stormwater controls for the 1" storm<sup>3</sup>

Buffers required along perennial waters; no new landfills allowed in the Critical Area and no new discharging landfills outside of Critical Area; no new residual or petroleum contaminated soils application allowed in the Critical Area

#### WS-III Water Supply

Water supplies in low to moderately developed watersheds

General permits allowed throughout watershed; domestic and non-process industrial discharges allowed outside of the Critical Area

Local land management program required as per 15A NCAC 2B .0215; 12% built upon area in Critical Area; 24% built upon area outside of Critical Area; up to 30% in Critical Area and 50% built upon area outside Critical Area allowed with engineered stormwater controls for the 1" storm<sup>3</sup>

Buffers required along perennial waters; no new landfills allowed in the Critical Area and no new discharging landfills outside of the Critical Area; no new residual or petroleum contaminated soils application allowed in the Critical Area

SUMMARY OF NORTH CAROLINA'S WATER QUALITY CLASSIFICATIONS AND STANDARDS (continued)

PRIMARY CLASSIFICATIONS	BEST USAGE	DISCHARGE RESTRICTIONS <sup>1</sup>	STORMWATER MANAGEMENT	OTHER REQUIREMENTS <sup>2</sup>
WS-IV Water Supply	Water supplies in moderately to highly developed watersheds	General permits, domestic and industrial discharges allowed throughout watershed <sup>1</sup>	Local land management program required as per 15A NCAC 2B .0216; 24% built-upon area in Critical Area and Protected Area 5.6; up to 50% in Critical Area and 70% built upon area outside Critical Area with engineered stormwater controls for the 1" storm <sup>3</sup>	Buffers required along perennial waters; no new landfills allowed in the Critical Area; no new residual or petroleum contaminated soils application allowed in the Critical Area
WS-V Water Supply	Former or industrial use water supplies	No categorical restrictions on development or wastewater dischargers	Stormwater Management Rules apply in the 20 coastal counties as described in 15A NCAC 2H .1000	Instream water quality standards for water supply waters are applicable

NOTES: Please refer to 15A NCAC 2B .0101, .0104, .0202, .0211 and .0301 for more specific requirements for surface water supply protection.

1 Groundwater remediation discharges allowed when no alternative exists.

2 See attached tables: *Water Quality Standards for Freshwater Classes* and *Water Quality Standards for Saltwater Classes* for numeric standards associated with specific classes.

3 If the high density option is utilized engineered stormwater control systems must be designed for 85% TSS removal. Refer to Stormwater Management Rules (15 A NCAC 2H .1000) for specific design information.

4 New industrial process wastewater discharges in the Critical Area are allowed but must meet additional treatment requirements.

5 Applies to projects requiring an Erosion/Sedimentation Control Plan.

6 36% built-upon area is allowed for projects without a curb and gutter street system in the Protected Area.

- Critical area is 1/2 mile and draining to water supplies from normal pool elevation of reservoirs, or 1/2 mile and draining to a river intake.

- Protected Area is 5 miles and draining to water supplies from normal pool elevation of reservoirs, or 10 miles upstream of and draining to a river intake.

- Agricultural activities are subject to provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation and Trade Act of 1990.

- In WS-I watersheds and Critical Areas of WS-II, WS-III and WS-IV areas, agricultural activities must maintain a 10 foot vegetated buffer or equivalent control as determined by the Soil and Water Conservation Commission.

- Silviculture activities are subject to the provisions of the Forest Practices Guidelines Related to Water Quality (15A NCAC II .0101-.0209).

- The Department of Transportation must use BMPs as described in their document, "Best Management Practices for Protection of Surface Waters".

SUMMARY OF NORTH CAROLINA'S WATER QUALITY CLASSIFICATIONS AND STANDARDS (continued)

OTHER REQUIREMENTS

STORMWATER MANAGEMENT

DISCHARGE RESTRICTIONS

BEST USAGE

PRIMARY CLASSIFICATIONS

Saltwater:

**SC**  
Saltwaters protected for secondary recreation, aquatic life propagation and survival and other uses as described for Class C

Stormwater Management Rules (15A NCAC 2H .1000) apply to all waters in the 20 coastal counties; low density option: 30% built upon area or structural stormwater controls with higher density, as specified

Domestic and industrial wastewater discharges allowed

**SB**  
Saltwaters protected for primary recreation and all Class SC uses (similar to Class B)

Same as for Class SC

Same as Class SC; wastewater treatment reliability requirements (dual train design; backup power capability) may apply to protect swimming uses (15A NCAC 2H .0124)

**SA**  
Shellfishing and all Class SC and SB uses

Same as for Class SC except low density option is 25% built upon area

No domestic discharges and only non-process industrial discharges such as seafood packing houses or cooling water discharges

Supplemental Classifications are added to the primary classifications as appropriate (Examples include Class C-NSW, Class SA-ORW, Class B-Trout, etc.) and impose additional requirements.

SUPPLEMENTAL CLASSIFICATIONS

BEST USAGE

**HQW**  
High Quality Waters

Waters rated as Excellent by DEM; Primary Nursery Areas; Native or Special Native Trout Waters; WS-I, WS-II and SA waters are HQW by definition

STORMWATER MANAGEMENT

OTHER REQUIREMENTS

For projects requiring Erosion/Sedimentation Control Plan and that are within 1 mile and draining to HQW waters: 12% built upon area or higher density with engineered structural controls allowed; WS-I, WS-II and 20 coastal counties exempt since stormwater control requirements already apply

Other treatment requirements may apply, dependent upon type of discharge and characteristics of receiving waters (see Antidegradation Policy: Rule 15A: NCAC 2B .0201)

SUMMARY OF NORTH CAROLINA'S WATER QUALITY CLASSIFICATIONS AND STANDARDS (continued)

SUPPLEMENTAL CLASSIFICATIONS	BEST USAGE	DISCHARGE RESTRICTIONS	STORMWATER MANAGEMENT	OTHER REQUIREMENTS
ORW Outstanding Resource Waters	Unique and special waters having exceptional water quality and being of an exceptional state or national ecological or recreational significance; must meet other conditions and have 1 or more of 5 outstanding resource value criteria as described in Rule 15A NCAC 2B .0225	Water quality must clearly maintain and protect uses, including outstanding resource values; management strategies must include at a minimum: no new or expanded discharges to freshwater ORWs; some discharges may be allowed in coastal areas	Same as for High Quality Waters for Freshwater ORWs; for Saltwater ORWs, development activities within a 575' buffer must comply with the low density option of the Stormwater Management Rules (generally 25% built upon area around SA waters and 30% around other waters)	Other management strategy components as described in 15A NCAC 2B .0225
TR Trout Waters	Protected for natural trout propagation and survival of stocked trout	Domestic and industrial wastewater discharges allowed with stricter treatment requirements		More protective standards for cadmium, total residual chlorine, chlorophyll-a, dissolved oxygen, turbidity and toluene to protect these sensitive species
NSW Nutrient Sensitive Waters	Waters needing additional nutrient management due to their being subject to excessive growth of microscopic and macroscopic vegetation	No increase of nutrients over background levels permitted; domestic and industrial wastewater discharges allowed	Nutrient management strategies developed on a case-by-case basis	Nutrient management strategies developed on a case-by-case basis
SW Swamp Waters	Waters with low velocities and other characteristics different from other waterbodies (generally, low pH, DO, high organic content)			pH as low as 4.3 and DO less than 5 mg/l allowed if due to natural conditions
FWS Future Water Supply	Waters designated for future water supply use	Discharge restrictions will be reflective of those of primary water supply classification	Stormwater management options will be reflective of those of primary water supply classification; not required until after FWS supplemental classification is removed	Requirements for landfill permits, NPDES wastewater discharges, land application of residuals and road construction activities in Critical Area and Balance of Watershed or Protected Area as appropriate (15A NCAC 2H .0101)

Water Quality Standards for Freshwater Classifications  
Standards for All Freshwater

August 2, 1995

Standards to Support Additional Uses

Parameters (ug/l unless noted)	Aquatic Life	Human Health <sup>1</sup>	Standards to Support Additional Uses			
			WS Classes <sup>2</sup>	Trout Waters	HCW	Swamp Waters
Arsenic	50		1000			
Barium		71.4	1.19			
Benzene		0.117	0.0068			
Beryllium	6.5			0.4		
Cadmium	2.0		0.254			
Carbon tetrachloride		4.42	250000			
Chloride	230000 (AL)		488 (N)			
Chlorinated benzenes						
Chlorine, total residual	17 (AL)			17		
Chlorophyll a, corrected	40 (N)			15 (N)		
Chromium, total	50					
Coliform, total (MFTCC/100ml) <sup>3</sup>			50 (N) <sup>4</sup>			
Coliform, fecal (MFFCC/100ml) <sup>3</sup>		200 (N)				
Copper, total	7 (AL)					
Cyanide	5.0					
Dioxin		0.000000014	0.000000013			
Dissolved gases	(N)					
Dissolved oxygen (mg/l)	5.0 <sup>6</sup>			6.0		(N) <sup>6</sup>
Fluoride	1800					
Hardness, total (mg/l)			100			
Hexachlorobutadiene		49.7	0.445			
Iron (mg/l)	1000 (AL)					
Lead	25 (N)					
Manganese			200			
MBAS (Methylene-Blue-Active-Substances)	500					
Mercury	0.012					
Nickel	88		25			
Nitrate nitrogen			10			
Pesticides						
Aldrin	0.002	0.000136	0.000127			
Chlordane	0.004	0.000598	0.000575			
DOT	0.001	0.000591	0.000598			
Demeton	0.1					
Dieldrin	0.002	0.000144	0.000135			
Endosulfan	0.05					
Endrin	0.002					
Guthion	0.01					
Heptachlor	0.004	0.000214	0.000208			
Lindane	0.01					
Methoxychlor	0.03					
Mirex	0.001					
Parathion	0.013					
Toxaphene	0.0002					
2,4-D			100			
2,4,5-TP (Silvex)			10			(N) <sup>5</sup>
pH (units)	6.0-9.0					
Phenolic compounds		(N)	1.0 (N)			
Polychlorinated biphenyls <sup>7</sup>	0.001	0.000079				
Polynuclear aromatic hydrocarbons <sup>8</sup>		0.0311	0.0028			
Radioactive substances		(N)				
Selenium	5					
Silver	0.06 (AL)					
Solids, total dissolved (mg/l)			500			
Solids, total suspended (mg/l)					10 Tr, 20 other	
Solids, settleable	(N)					
Sulfates			250000			
Temperature	(N)					
Tetrachloroethane (1,1,2,2)		10.8	0.172			
Tetrachlorethylene			0.8			
Toluene	11			0.36		
Toxic substances	(N)				(N)	
Trialkylin	0.008					
Trichloroethylene		92.4	3.08			
Turbidity (NTU)	50; 25 (N)			10 (N)		
Vinyl chloride		525	2.0			
Zinc	50 (AL)					

\* These standards apply to all freshwater classifications. For the protection of WS and supplemental classifications, standards listed under Standards to Support Additional Uses should be used unless standards for aquatic life or human health are listed and are more stringent.

(AL) Values represent action levels as specified in 2B .0211(4). WS Classes - Water Supply Classifications, same standards for all WS Classes.

(N) See 2B .0211(3) for narrative description of limits. HCW - High Quality Waters, standards for HCW areas only. Tr - Trout Waters.

<sup>1</sup> Human health standards are based on consumption of fish only unless dermal contact studies available. See 2B .0208 for equation.

<sup>2</sup> Water Supply standards are based on consumption of fish and water. See 2B .0208 for equation.

<sup>3</sup> MFTCC/100ml means membrane filter total coliform count per 100 ml of sample. MFFCC/100ml means membrane filter fecal coliform count per 100 ml of sample.

<sup>4</sup> Applies only to unfiltered water supplies.

<sup>5</sup> An instantaneous reading may be as low as 4.0 mg/l, but the daily average must be 5.0 mg/l or more.

<sup>6</sup> Designated swamp waters may have a dissolved oxygen less than 5.0 mg/l and a pH as low as 4.3, if due to natural conditions.

<sup>7</sup> Applies to total PCBs present and includes PCB 1242, 1254, 1221, 1232, 1248, 1260, and 1016. See 2B .0208 & .0211.

<sup>8</sup> Applies to total PAHs present and includes benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. See 2B .0208, .0212, .0214, .0215, .0216, & .0218.

Water Quality Standards For Saltwater Classifications

April 1, 1995

Standards for All Saltwater

Standards to Support Additional Uses

Parameters (ug/l unless noted)	Aquatic Life	Human Health <sup>1</sup>	Class SA	HQW	Swamp Waters
Arsenic	50				
Benzene		71.4			
Beryllium		0.117			
Cadmium	5.0				
Carbon tetrachloride		4.42			
Chlorophyll a	40 (N)				
Chromium, total	20				
Coliform, fecal (MFFCC/100ml) <sup>2</sup>		200 (N)	14 (N)		
Copper	3 (AL)				
Cyanide	1.0				
Dioxin		0.000000014			
Dissolved gases	(N)				
Dissolved oxygen (mg/l)	5.0			6.0	(N) <sup>3</sup>
Hexachlorobutadiene		49.7			
Lead	25 (N)				
Mercury	0.025				
Nickel	8.3				
Pesticides					
Aldrin	0.003	0.000136			
Chlordane	0.004	0.000588			
DDT	0.001	0.000591			
Demeton	0.1				
Dieldrin	0.0002	0.000144			
Endosulfan	0.009				
Endrin	0.002				
Guthion	0.01				
Heptachlor	0.004	0.000214			
Lindane	0.004				
Methoxychlor	0.03				
Mirex	0.001				
Parathion	0.178				
Toxachene	0.0002				
pH (units)	6.3-8.5				(N) <sup>3</sup>
Phenolic compounds		(N)			
Polychlorinated biphenyls <sup>4</sup>	0.001	0.000079			
Polynuclear aromatic hydrocarbons <sup>5</sup>	0.0311				
Radioactive substances		(N)			
Salinity	(N)				
Selenium	71				
Silver	0.1 (AL)				
Solids, total suspended (mg/l)				10 PNA, 20 other	
Solids, settleable (mg/l)	(N)				
Temperature	(N)				
Tetrachloroethane (1,1,2,2)		10.8			
Toxic substances	(N)			(N)	
Trialkyltin	0.002				
Trichloroethylene		92.4			
Turbidity (NTU)	25 (N)				
Vinyl chloride		525			
Zinc	86 (AL)				

(AL) Values represent action levels as specified in 2B .0220(4).

(N) See 2B .0220 for narrative description of limits.

HQW - High Quality Waters, standards for HQW areas only.

<sup>1</sup> Human health standards are based on consumption of fish only unless dermal contact studies are available. See 2B .0208 for equation.

<sup>2</sup> MFFCC/100ml means membrane filter fecal coliform count per 100 ml of sample.

<sup>3</sup> Designated swamp waters may have a dissolved oxygen less than 5.0 mg/l and a pH as low as 4.3, if due to natural conditions.

<sup>4</sup> Applies to total PCBs present and includes PCB 1242, 1254, 1221, 1232, 1248, 1260, and 1016. See 2B .0208 & .0220.

<sup>5</sup> Applies to total PAHs present and includes benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. See 2B .0208.

Class SA - shellfishing waters see 2B .0101(d)(3) for description.

PNA - Primary Nursery Areas

**.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 Environmental Management, 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). These requirements will be implemented in North Carolina as set forth in Paragraphs (b), (c) and (d) 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 will affect these waters will 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 will 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 will be implemented in order to meet these requirements:

- (1) Each applicant for an NPDES permit or NPDES permit expansion to discharge treated waste will document an effort to consider non-discharge alternatives pursuant to 15A NCAC 2H .0105(c)(2).
- (2) Public Notices for NPDES permits will list parameters that would be water quality limited and state whether or not the discharge will 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 will 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 will 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 will 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 can 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 will 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 will 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, will be maintained and protected.

*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; February 1, 1993; April 1, 1991; August 1, 1990.*

.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 in its discretion finds to substantially 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. When considering the assignment of this classification, the Commission may specify as a "nutrient" any other chemical parameter or combination of parameters which it determines to be essential for the growth of microscopic and 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) For the purpose of this Rule, the term "background levels" shall mean the concentration(s), taking into account seasonal variations, of the specific nutrient or nutrients upstream of a nutrient source.

(f) Quality standards applicable to NSW: no increase in nutrients over background levels unless it is shown to the satisfaction of the Director that the increase:

- (1) is the result of natural variations; or
- (2) will not endanger human health, safety or welfare and that preventing the increase would cause a serious economic hardship without equal or greater benefit to the public.

*History Note: Authority G.S. 143-214.1;*

*Eff. October 1, 1995.*

(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 within one mile and draining to the designated ORW areas;
  - (B) New or expanded NPDES permitted wastewater discharges located upstream of the designated ORW 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;
    - (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 2B .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 2B .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 shall comply with the following:
    - (i) Oxygen Consuming Wastes: Effluent limitations shall be as follows: BOD = 5 mg/1, and NH<sub>3</sub>-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, appropriate 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 30 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. 35° 23' 51" and Long. 76° 21' 02" 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 30 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. 35° 23' 51" and Long. 76° 21' 02" 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 Shackelford 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 within one mile and draining 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 NH<sub>3</sub>-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, appropriate 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 2B .0206).

*History Note:* Authority G.S. 143-214.1;

*Eff. October 1, 1995;*

*Amended Eff. April 1, 1996; January 1, 1996*