

Fact Sheet

Proposed Reclassification of a Portion of the Lower Cape Fear River Estuary from Class SC to Class SC-Swamp (Sw) and Associated Implementation Rule

Purpose

Reclassification – The reclassification to Class SC-Sw will add a swamp narrative to the existing water quality standard recognizing that natural conditions result in levels for some parameters, particularly dissolved oxygen (DO) and pH, which vary from the established water quality standards for Class SC.

Implementation Rule (15A NCAC 2B .0227) – Specifies the highest level of treatment required in North Carolina for oxygen-consuming wastes for new and expanding NPDES discharges.

Background

- In 1998, the Lower Cape Fear River was listed as impaired (on the Clean Water Act 303(d) list) for DO and pH.
- Extensive monitoring and modeling work led to the development of a 3-dimensional hydrodynamic and water quality model of the Cape Fear River from Lock and Dam #1 to the mouth including portions of major tributaries
- Modeling results indicate that the current DO standard of 5 mg/L is not attained about 30 percent of the time during the summer months and that point sources in this segment are a minor contributor to overall dissolved oxygen depletion
- Subsequent modeling and data analyses have indicated that drainage and the wetting and drying of floodplain wetlands and salt marshes are the most significant contributor to the waterbody's not meeting the DO standard

Proposed Changes

- Reclassify the Lower Cape Fear River from Class SC to Class SC-Sw - From a point upstream Toomers Creek to a line across the river from Snows Cut to Lilliput Creek and apply the Swamp supplemental standards to these waters.
- Modify 15A NCAC 2B.0227 Water Quality Management Plans with the following additional language specific to the reclassified section:
 - (1) All new NPDES wastewater discharges and expansions of existing NPDES wastewater discharges shall be required to provide the treatment described below:
 - (A) Oxygen consuming wastes: Effluent limitations shall be as follows: BOD₅ = 5 mg/l, NH₃-N = 1 mg/l and DO = 6 mg/l, or site-specific best available technology on a case-by-case basis for industrial discharges. Seasonal effluent limits for oxygen-consuming wastes will be considered on a case-by-case basis in accordance with 15A NCAC 2B.0404. 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.

Anticipated Outcomes

- Narrative standard for "Swamp" waters will be added to standards applicable to portion of lower estuary as follows:
 - "DO: 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".
 - "pH: shall be normal for the waters in the area, which generally shall 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."
- All new and expanding NPDES dischargers must meet the highly protective limits for oxygen consuming wastes
- The impairment status of lower estuary for DO and pH will be re-evaluated
- There will be continued focus on nonpoint sources potentially contributing to oxygen depletion through on-going water quality programs