

January 9, 2020

Addendum to Regulatory Impact Analysis for 2017 “Swamp waters” Reclassification of the Lower Cape Fear River

The attached Regulatory Impact Analysis (RIA) was completed in support of the rules which added the “Swamp waters” (Sw) classification to a segment of the Lower Cape Fear River and an associated water quality management plan. The current (January 2020) proposed action is to reverse the 2017 reclassification and a portion of the associated water quality management strategy. This proposed action is in response to a Petition for Rulemaking received by the Division of Water Resources in January 2019. The Petition requests that the Environmental Management Commission (EMC) amend Rule 15A NCAC 02B .0311 (Cape Fear River Basin) to remove the supplemental “Swamp waters” classification from a segment of the Lower Cape Fear River in New Hanover and Brunswick Counties. The EMC granted the Petition on July 11, 2019; as such, the EMC is required to initiate rulemaking per NC General Statute 150B-20(c).

Notwithstanding the Petition, the current proposed action is necessary to comply with the requirements of the federal Clean Water Act. Federal code 40 CFR 131.21 specifies that water quality standards are not effective until approved by the U.S. Environmental Protection Agency (EPA). In July 2018, the EPA disapproved the EMC’s 2017 supplemental “Swamp waters” reclassification as well as part of the associated water quality management strategy. In effect, this means that the “Swamp waters” classification and components of the management strategy for the Lower Cape Fear River were not and cannot be used for Clean Water Act purposes, such as setting effluent limits in NPDES permits.

Essentially, the “Swamp waters” reclassification in the Lower Cape Fear River never went into effect; as such, there will be no regulatory or economic impact from removing the classification from the North Carolina Administrative Code. The original RIA is attached to the current proposed rulemaking package to provide context.

Regulatory Impact Analysis

Rule Citation Numbers: 15A NCAC 2B .0227 Water Quality Management Plans and 15A NCAC 2B .0311 Cape Fear River Basin

Rule Topic: Proposed Reclassification of a Segment of the Cape Fear River in New Hanover and Brunswick Counties (Cape Fear River Basin) from Class SC to Class SC Sw with a Water Quality Management Plan

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Impact Summary:

State government:	No
Local government:	No
Private entities:	No
Substantial Impact:	No
Federal government:	No

Necessity: The proposed water quality management plan associated with the proposed reclassification codifies the current permitting policy already in existence for new individual NPDES wastewater discharges and expansions of existing individual National Pollutant Discharge Elimination System (NPDES) wastewater discharges to the subject waters. In addition, the proposed reclassification in partnership with the proposed management plan provides a path forward for new individual NPDES wastewater discharges and expansions of existing individual NPDES wastewater discharges, thus enabling the local community to plan accordingly.

1. Summary

The Lower Cape Fear River Program has submitted a surface water reclassification request for a portion of the Cape Fear River. This portion of the Cape Fear River of interest is proposed to be reclassified from Class SC to Class SC Swamp with a water quality management plan.

The proposal codifies the current permitting policy already in place for new wastewater discharges and expansions of existing wastewater discharges to the subject waters. In addition, the proposal provides a path for the subject water’s discharges, and thus for local communities, for future planning purposes. Finally, the proposal may positively impact the subject water’s current water quality impairments.

There are no quantifiable impacts of the proposed rulemaking according to this fiscal analysis. The expected reclassification effective date is November 1, 2015.

2. Background

The area that would be impacted by this proposal is the portion of the Cape Fear River from upstream mouth of Toomers Creek to a line across the river between Lilliput Creek and Snows Cut. This river segment flows along the border of Brunswick and New Hanover counties. In these waters as well as adjacent waters, there are several tidal saltwater species, including the federally endangered Shortnose Sturgeon and Atlantic Sturgeon, and the associated Marine Fisheries Commission designations of Primary Nursery Area, or PNA; PNA waters are by definition High Quality Waters, or HQW, per 15A NCAC 2B .0101. In addition, the types of land cover occurring adjacent to the proposed river segment are comprised of wetlands, some developed lands, other open waters, forest lands, and shrub/scrub lands. Furthermore, the segment of the Cape Fear River directly above and below the river segment to be reclassified is classified C Swamp and SC, respectively, and the named tributaries flowing to this river segment are currently classified either SC Swamp, WS-IV, SC, or C Swamp.

Several tidal saltwater species, including the federally endangered Shortnose Sturgeon and federally endangered Atlantic Sturgeon, and the striped bass live in the subject waters. The NC Division of Marine Fisheries (DMF) has a tagging program for striped bass and sturgeon in this vicinity. This is an area of diverse and abundant fish use, partially since salinity fluctuates widely. When salinity is lower, fresh-brackish water species such as catfish and gar can be found, while during high salinity times, spotted red drum and spadefish have been documented.

There are currently eight NPDES individual permitted wastewater discharges within this segment. According to the 2012 North Carolina 303(d) list, the river segment is impaired for water quality parameters including dissolved oxygen (DO) and pH.

According to the reclassification request, "...the DO standard of 5 mg/l for the Lower Cape Fear River Estuary is not appropriate since it is not achieved a significant portion of the time as a result of natural drainage from riverine wetlands and salt marshes. 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 for non-swamp classified waters. From a regulatory standpoint, a straightforward way to recognize the natural influence on standards is to reclassify the area with the supplemental Sw classification. "

The regulations applicable to Class SC waters, which include the subject waters, provide a base of protection to all of the state's tidal saltwaters and allow for lower dissolved oxygen and pH values under natural conditions for SC waters that carry the supplemental Swamp designation. For Class SC waters, currently the dissolved oxygen standard is 5 mg/l, and the pH standard is a range between 6.8-8.5; if this segment is reclassified to include the Swamp designation, then the pH can be as low as 4.3 if caused by natural conditions, and the dissolved oxygen can be lower than 5.0 mg/l if caused by natural conditions. These regulations are located in rule, 15A NCAC 02B .0220.

The proposed management plan to accompany the proposed Swamp designation contains effluent limits that new individual NPDES wastewater discharges and expansions of existing individual NPDES wastewater discharges within the river segment would have to meet regarding oxygen consuming wastes. These limits are similar to the limits for High Quality Waters (HQW), and the subject waters

are HQW by virtue of being designated as Primary Nursery Areas. Effluent limits of 5 mg/l for biochemical oxygen demand (BOD), 1 mg/l for Ammonia, and 6 mg/l for dissolved oxygen would apply. For industrial discharges, site specific best available technology on a case by case basis would be utilized to determine the limits for BOD, Ammonia and DO.

For new individual NPDES facilities and expansions of existing individual NPDES facilities, the management plan includes consideration of seasonal effluent limits on a case by case basis in accordance with 15A NCAC 2B .0404. The plan also includes the following stipulation: Any new or expanded individual NPDES 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.

The proposed management plan is consistent with the current permitting policy already in place for new individual NPDES wastewater discharges and expansions of existing individual NPDES wastewater discharges to the subject waters. Furthermore, there is no known plans for new NPDES wastewater discharges and there is one planned expansion of an existing NPDES wastewater discharge in the reclassification area (Cape Fear Public Utility Authority Southside Wilmington, NC), which already meets the proposal's requirements. Finally, the proposed management plan in conjunction with the Swamp designation provides a path for the subject waters' dischargers, and thus for local communities, for future planning purposes, and also may, in a positive fashion, impact the subject water's current impairments. As a result, this proposal serves the environment and public interest per Executive Order #70 and complies with G.S. 150B-19.1.

3. Costs

- (i.) **New and Existing Individual NPDES Wastewater Discharges**
There are eight existing individual NPDES wastewater discharges. For now, there are currently no known planned new individual NPDES wastewater discharges and one planned expansion of an existing individual NPDES wastewater discharge in the reclassification area, which already meets the proposal's requirements. The proposed management plan to accompany the proposed Swamp designation contains effluent limits that new individual NPDES wastewater discharges and expansions of existing individual NPDES wastewater discharges within the river segment would have to meet regarding oxygen consuming wastes. These limits are similar to the limits for High Quality Waters, and the subject waters are HQW by virtue of being designated as Primary Nursery Areas. Effluent limits of 5 mg/l for BOD, 1 mg/l for Ammonia, and 6 mg/l for dissolved oxygen would apply. For industrial discharges, site specific best available technology on a case by case basis would be utilized to determine the limits for BOD, Ammonia and DO. In sum, the proposed regulations would not have any impact on current or future wastewater discharges.
- (ii.) **Implementing Agencies**
The proposed rulemaking will have no cost to the State implementing agency (DWR/DENR). These amendments will not require DWR to revise its existing procedures nor will they require DWR to procure additional staff. Therefore, this proposed rulemaking will have no economic impact to the implementing agency.
- (iii.) **Environment/Ecosystem**

Like it was mentioned in the summary above, according to the reclassification request, "...the DO standard of 5 mg/l for the Lower Cape Fear River Estuary is not appropriate since it is not achieved a significant portion of the time as a result of natural drainage from riverine wetlands and salt marshes. From a regulatory standpoint, a straightforward way to recognize the natural influence on standards is to reclassify the area with the supplemental Sw classification...." As a result of the Sw reclassification, ambient (in-situ) standards for DO and pH would be allowed to reflect natural conditions rather than standards reflected solely by the SC classification. Water quality monitoring may reflect DO and pH at levels below solely SC requirements. It is uncertain if and/or to what extent the DO and pH levels will change over time once the proposal becomes effective.

4. Benefits

(i.) Humans

This reclassification does not provide a direct benefit to humans. No changes to local government programs are required, and there are no existing or proposed activities affected by the proposal.

(ii.) New Individual NPDES and Existing Individual NPDES Wastewater Discharges

New individual NPDES and existing individual NPDES wastewater discharges will not incur any direct benefits from the proposal, other than more accurately describing the characteristics of the waters in this river. There are no existing or known proposed discharges affected by the proposal. However, the proposed management plan codifies the current permitting policy already in place for new individual NPDES wastewater discharges and expansions of existing individual NPDES wastewater discharges to the subject waters, cementing permitting expectations for those discharges. In addition, the proposed management plan in conjunction with the Swamp designation provides a path for the subject waters' discharges, and thus for local communities, for future planning purposes. Finally, as a result of the Sw reclassification, ambient (in-situ) standards for DO and pH would be allowed to reflect natural conditions rather than standards reflected solely by the SC classification. Water quality monitoring may reflect DO and pH at levels solely below SC requirements. Discharges may in the future be granted additional wasteload allocations; the amount, if any, of additional wasteload allocations can only be determined with additional water quality monitoring and analysis. This analysis would also reflect if the reclassification has any positive impact on the subject water's current impairments. It is uncertain if and/or to what extent the DO and pH levels will change over time once the proposal becomes effective.

5. Total Economic Impact

The economic impacts of the proposed rulemaking, both in terms of cost and benefit, are not quantifiable as measured from the baseline conditions. Consequently, there were no specific cost or benefit estimations to report in this fiscal note.