Environmental Quality

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

MEMORANDUM

TO: ENVIRONMENTAL REVIEW COMMISSION
The Honorable Jimmy Dixon, Co-Chairman
The Honorable Chuck McGrady, Co-Chairman
The Honorable Trudy Wade, Co-Chairman

FROM: Mollie Young, Director of Legislative Affairs, NCDEQ

SUBJECT: Basinwide Water Quality Management Plan

Pursuant to G.S. 143-215.8B (d), *"The Commission and the Department shall each report on or before 1 October of each year on an annual basis to the Environmental Review Commission on the progress in developing and implementing basinwide water quality management plans and on increasing public involvement and public education in connection with basinwide water quality management planning. The report to the Environmental Review Commission by the Department shall include a written statement as to all concentrations of heavy metals and other pollutants in the surface waters of the State that are identified in the course of preparing or revising the basinwide water quality management plans."*

If you have any questions or need additional information, please contact me by phone at (919) 339-9433 or via e-mail at mollie.young@ncdenr.gov.

Cc: Don Van der Vaart, Secretary, NCDEQ
Tom Reeder, Assistant Secretary for Environment, NCDEQ
Jay Zimmerman, Director of Water Resources, NCDEQ
Lanier McRee, Fiscal Research Division, NCGA

North Carolina Department of Environmental Quality

And

Environmental Management Commission

Annual report to the General Assembly
Environmental Review Commission
Basinwide Water Quality Management Planning
August 1, 2015 to July 31, 2016

This report is submitted to meet the requirements of G.S. 143-215.8B(d), which requires annual reporting on the development of basinwide water quality management plans.

The responsibilities formerly administered by the Division of Water Quality were reassigned to the Division of Water Resources (DWR) by Session Law 2013-413. Staff are developing data management schemes and planning templates that support the creation of integrated river basin plans which address water quality and quantity issues. DWR is expanding the capacity to present integrated basin plans electronically, increasing the availability to the public and enhancing the public's ability to explore data on which basin plans are based.

River basin water resources plans provide detailed assessments of water quality conditions for watersheds within each river basin. Where possible, sources of pollutants are identified and recommendations are made on how to improve water quality within that watershed. This information supports a variety of state and local programs aimed at protecting and improving water quality in North Carolina's streams, rivers, and water bodies. Water quality issues documented in river basin water resource plans provide support for local governments, natural resource groups, researchers, soil and water agencies, and others when applying for grant or loan funding to address issues.

For implementation, the basinwide planning program relies heavily on other branches and sections within DWR, the Department of Environmental Quality (DEQ) and other state agencies to implement water quality improvement practices. This can be through regulatory directives and/or voluntary measures. If a management strategy is in place, the plans provide detailed updates on the implementation of that strategy including successes, additional needs or changes that may require rule making or legislative action. Basinwide water quality management plans are available at: http://deq.nc.gov/about/divisions/water-resources/planning/basin-planning.

The division's basin planning programs take advantage of stakeholder input, which enhances public participation by maintaining electronic communications. Stakeholders provide information essential to protecting and enhancing watershed water quality and issues associated with reliability of water supplies. Partnering stakeholders typically include watershed associations, land trusts, water quality monitoring coalitions, soil and water conservation districts, public water systems, and other federal, state, and local agencies. DWR staff members regularly assist municipal water systems with developing and updating their local water supply plans.

Tar-Pamlico River Basin Water Resources Plan

Water quality evaluations and recommendations in the Tar-Pamlico River Basin Water Resources Plan were approved by the Environmental Management Commission (EMC) in July 2015. The integrated Tar-Pamlico River Basin Water Resources Plan is available for review on the division's website at: http://www.ncwater.org/basins/Tar-Pamlico/index.php.

The EMC classified the Tar-Pamlico River Basin as Nutrient Sensitive Waters (NSW) in 1989. The Tar-Pamlico NSW Strategy implementation includes nutrient reduction requirements from wastewater treatment plants, agriculture practices and new development stormwater runoff from six municipalities and five counties within the basin. The basin plan provides a summary of the nutrient strategy implementation progress, a strategy evaluation which identifies additional opportunities, and research needs to address and understand nutrient loading to the estuary. While the implementation efforts taken to date have not fully

achieved compliance with the Total Daily Maximum Load (TMDL), the nutrient reductions achieved by point sources and agriculture have helped reduce the severity of fish kills in the Pamlico River and Estuary. DEQ is continuing to work with municipal wastewater facilities and the agricultural community to maintain their compliance with the strategy.

Water Resources Plans for Other River Basins

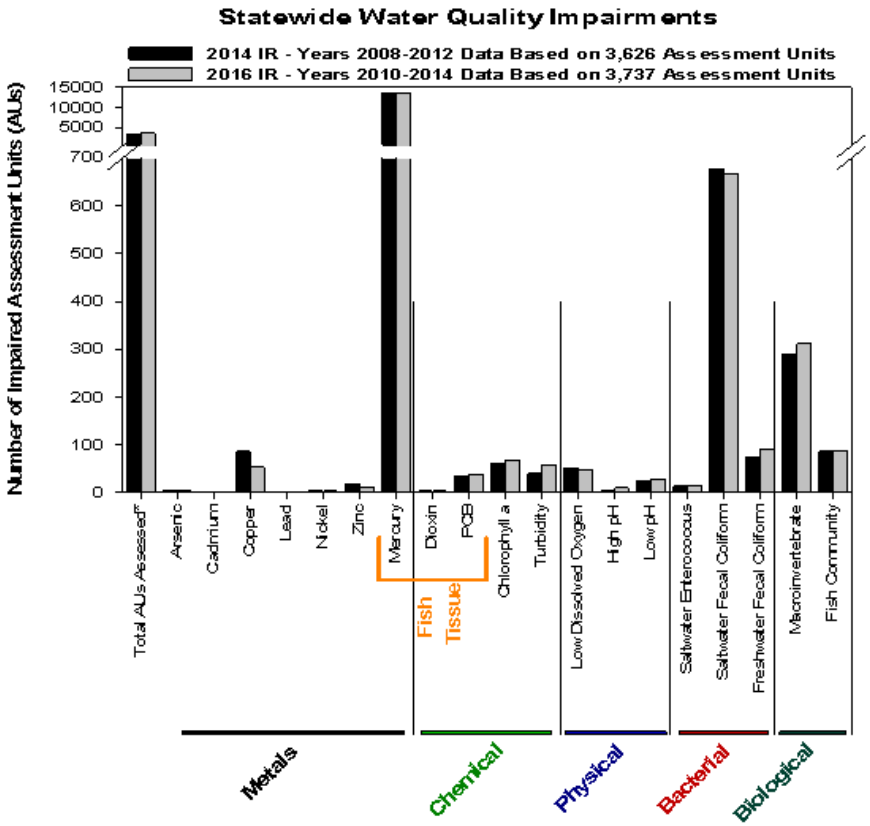
Currently, the Cape Fear, Chowan, Pasquotank, and Watauga River basin water resource plans are under development. These integrated water resource plans will include detailed evaluations of surface water availability as well as future demands and groundwater use where possible, along with in-depth water quality assessments and recommendations for improving water quality.

Water Quality Monitoring and Impairments

All water quality parameters collected in a waterbody or assessment unit (a defined portion of a waterbody) are assessed independently. Assessment criteria are based on frequency of exceedance of numeric and narrative water quality standards. There are 13,393 assessment units that vary in size based on the specific characteristics of the water body being evaluated. Because the characteristics of assessment units vary, some units are only monitored for a subset of the parameters shown on the graph below.

Water quality monitoring for total recoverable metals assessment was suspended in April 2007, to allow for evaluation and re-adoption of revised standards using the most current science. In November 2014 as part of the Triennial Review process, the EMC approved new dissolved metals standards which became effective for state purposes in January 2015. The U.S. Environmental Protection Agency approved these standards for Clean Water Act purposes in April 2016. The division is beginning to collect dissolved metal samples in 2016; therefore, an assessment for metals will be incorporated into the next integrated report in 2018. The metals information included below are for total recoverable metals impairments.

Water quality impairments are compiled and submitted to the U.S. EPA for review and approval pursuant to Section 303(d) of the Clean Water Act. The results of the impairment evaluations are based on a five-year compilation of data that has been quality assured and quality controlled. The 2014 and draft 2016 impairment assessment is based on data collected from 2008-2012 and 2010-2014 respectively. The following graph illustrates the number of assessment units impaired for each assessment period based on the water quality parameters shown on the bottom of the graph.


Statewide Water Quality Impairments
2014 IR - Years 2008-2012 Data Based on 3,626 Assessment Units
2016 IR - Years 2010-2014 Data Based on 3,737 Assessment Units
Number of Impaired Assessment Units (AUs)
15000
10000
5000
700
600
500
400
300
200
100
0
Total AUs Assessed*
Arsenic
Cadmium
Copper
Lead
Nickel
Zinc
Mercury
Dioxin
PCB
Chlorophyll a
Turbidity
Low Dissolved Oxygen
High pH
Low pH
Saltwater Enterococcus
Saltwater Fecal Coliform
Freshwater Fecal Coliform
Macroinvertebrate
Fish Community
Fish Tissue
Metals
Chemical
Physical
Bacterial
Biological