

15A NCAC 02B .0280 FALLS RESERVOIR WATER SUPPLY NUTRIENT STRATEGY: AGRICULTURE

This Rule sets forth a staged process, as prefaced in 15A NCAC 02B .0275, by which agricultural operations in the Falls watershed will collectively limit their nitrogen and phosphorus loading to the Falls Reservoir. This process is as follows:

- (1) **PURPOSE.** The purposes of this Rule are to achieve and maintain the percentage reduction objectives defined in 15A NCAC 02B .0275 for the collective agricultural loading of nitrogen and phosphorus from their respective 2006 baseline levels, to the extent that best available accounting practices will allow, in two stages. Stage I shall be 10 years and Stage II shall be 15 years, as set out in Item (5) of this Rule. Additionally this Rule will protect the water supply uses of the Falls Reservoir.
- (2) **PROCESS.** This Rule requires accounting for agricultural land management practices at the county level in the Falls watershed, and implementation of practices by farmers to collectively achieve the nutrient reduction objectives on a watershed basis. Producers may be eligible to obtain cost share and technical assistance from the NC Agriculture Cost Share Program and similar federal programs to contribute to their counties' nutrient reductions. A Watershed Oversight Committee and Local Advisory Committees will develop strategies, coordinate activities, and account for progress.
- (3) **LIMITATION.** This Rule does not fully address significant agricultural nutrient sources in that it does not directly address atmospheric sources of nitrogen to the Falls watershed from agricultural operations located both within and outside of the Falls watershed. As better information becomes available from ongoing research on atmospheric nitrogen loading to the Falls watershed from these sources, and on measures to control this loading, the Commission may undertake separate rule-making to require such measures it deems necessary from these sources to support the objectives of the Falls Nutrient Strategy.
- (4) **APPLICABILITY.** This Rule shall apply to all persons engaging in agricultural operations in the Falls watershed, including those related to crops, horticulture, livestock, and poultry. This Rule applies to livestock and poultry operations above the size thresholds in this Item in addition to requirements for animal operations set forth in general permits issued pursuant to G.S. 143-215.10C. Nothing in this Rule shall be deemed to allow the violation of any assigned surface water, groundwater, or air quality standard by any agricultural operation, including any livestock or poultry operation below the size thresholds in this Item. This Rule shall not apply to dedicated land application sites permitted under 15A NCAC 02T .1100. This Rule does not require specific actions by any individual person or operation if agriculture in the Falls watershed can collectively achieve its Stage I nutrient reduction objectives, in the manner described in Item (5) of this Rule, by calendar year 2020. If the Stage I nutrient reduction objectives are not met by calendar year 2020, Stage II of implementation shall require specific actions by individuals and operations. For the purposes of this Rule, agricultural operations are activities that relate to any of the following pursuits:
 - (a) The commercial production of crops or horticultural products other than trees. As used in this Rule, commercial shall mean activities conducted primarily for financial profit.
 - (b) Research activities in support of such commercial production.
 - (c) The production or management of any of the following number of livestock or poultry at any time, excluding nursing young:
 - (i) Five or more horses;
 - (ii) 20 or more cattle;
 - (iii) 20 or more swine not kept in a feedlot, or 150 or more swine kept in a feedlot;
 - (iv) 120 or more sheep;
 - (v) 130 or more goats;
 - (vi) 650 or more turkeys;
 - (vii) 3,500 or more chickens; or
 - (viii) Any single species of any other livestock or poultry, or any combination of species of livestock or poultry that exceeds 20,000 pounds of live weight at any time.
- (5) **METHOD FOR RULE IMPLEMENTATION.** This Rule shall be implemented in two stages and through a cooperative effort between the Watershed Oversight Committee and Local Advisory Committees in each county. The membership, roles and responsibilities of these committees are set forth in Items (7) and (8) of this Rule. Committee's activities shall be guided by the following:
 - (a) In Stage I, agriculture shall achieve a collective 20 percent reduction in nitrogen loading and a 40 percent reduction in phosphorus loading relative to the 2006 baseline by calendar year 2020.

- (b) In Stage II, beginning in calendar year 2021 agriculture shall achieve a collective 40 percent reduction in nitrogen loading and a 77 percent reduction in phosphorus loading relative to the 2006 baseline by calendar year 2035.
 - (c) By January 15, 2013, the Watershed Oversight Committee shall provide the Commission with an initial assessment of the extent to which agricultural operations in the Falls watershed have achieved the Stage I nitrogen and phosphorus reduction objectives identified in Item (1) of this rule through activities conducted since the baseline period. The Watershed Oversight Committee shall use the accounting process described in Items (7) and (8) of this rule to make its assessment.
 - (d) If annual reporting following the 10th year of implementation indicates that agriculture has not collectively achieved its Stage I nitrogen and phosphorus reduction objectives identified in this Item, Stage II shall include specific implementation requirements for individual operators. Specifically, within five years of the start of Stage II, cropland operators shall establish vegetated riparian buffers adjacent to streams on all cropland where such buffers do not already exist. Additionally, pastured livestock operators shall establish excluded vegetated riparian buffers adjacent to streams where such excluded buffers do not already exist. Streams to which these requirements apply shall be those that meet the classification of intermittent or perennial streams using the September 2010 version of the *Identification Methods for the Origins of Intermittent and Perennial Streams Manual* published by the Division. Existing and newly established riparian buffers shall be a minimum of 20 feet in width with criteria further defined by the Watershed Oversight Committee.
The Commission may also consider alternative recommendations from the Watershed Oversight Committee based on the Committee's assessment of the practicability of agricultural operations meeting the Stage I objectives. Should the Commission accept some alternative form of individual compliance, then it shall also subsequently approve a framework proposed by the Watershed Oversight Committee for allowing producers to obtain credit through offsite measures. Such offsite measures shall meet the requirements of 15A NCAC 02B .0282.
 - (e) Should a committee called for under Item (5) of this Rule not form nor follow through on its responsibilities such that a local strategy is not implemented in keeping with Item (8) of this Rule, the Commission shall require all persons subject to this Rule in the affected area to implement BMPs as needed to meet the objectives of this Rule.
- (6) **RULE REQUIREMENTS FOR INDIVIDUAL OPERATIONS.** Persons subject to this Rule shall adhere to the following requirements:
- (a) Persons subject to this Rule shall register their operations with their Local Advisory Committee according to the requirements of Item (8) of this Rule;
 - (b) Persons are not required to implement any specific BMPs in Stage I, with the exception of Sub-Item (d) of this Item, but may elect to contribute to the collective local nutrient strategy by implementing any BMPs they choose that are recognized by the Watershed Oversight Committee as nitrogen-reducing or phosphorus-reducing BMPs;
 - (c) The Division shall require that residuals application, animal waste application, and surface irrigation pursuant to permits issued under 15A NCAC 02T .1100, 15A NCAC 02T .1300, and 15A NCAC 02T .0500 respectively, to lands within the Falls watershed be done in a manner that minimizes the potential for nitrogen and phosphorus loading to surface waters by implementing the following measures:
 - (i) Animal waste application operators subject to the permitting requirements in this Sub-item shall meet Realistic Yield Expectation based nitrogen application rates and shall apply phosphorus in compliance with guidance established in the most recent version of North Carolina Agricultural Research Service's Technical Bulletin 323, "North Carolina Phosphorus Loss Assessment: I Model Description and II. Scientific Basis and Supporting Literature" developed by the Department of Soil Science and Biological and Agricultural Engineering at North Carolina State University. The Division shall modify all existing permits for affected lands to include these requirements upon their next renewal after effective date, and shall include these requirements in all new permits issued after effective date. Permittees

shall be required to comply with this condition upon permit issuance or renewal as applicable; and

- (ii) Residual application and surface irrigation operators subject to the permitting requirements in this Sub-item shall meet Realistic Yield Expectation based nitrogen application rates and shall conduct and provide to the Division annual assessments of their soil test phosphorus index results and phosphorus loading rates. At such time as data quantifying the fate and transport of chemically bound phosphorus are made available, the Division may make recommendations to the Commission to consider whether revisions to the requirements of this Rule are needed and may initiate rulemaking or any other action allowed by law.

- (d) Should a local strategy not achieve its Stage I objectives by calendar year 2020; operations within that local area shall face specific implementation requirements, as described under Sub-Item (5)(d) of this Rule.

(7) **WATERSHED OVERSIGHT COMMITTEE.** The Watershed Oversight Committee shall have the following membership, role and responsibilities:

- (a) **MEMBERSHIP.** The Director shall be responsible for forming a Watershed Oversight Committee by March 15, 2011. Until such time as the Commission determines that long-term maintenance of the nutrient loads is assured, the Director shall either reappoint members or replace members at least every six years. The Director shall solicit nominations for membership on this Committee to represent each of the following interests, and shall appoint one nominee to represent each interest except where a greater number is noted. The Director of the Division of Water Quality may appoint a replacement at any time for an interest in Sub-Items (7)(a)(vi) through (7)(a)(x) of this Rule upon request of representatives of that interest or by the request of the Commissioner of Agriculture:

- (i) Division of Soil and Water Conservation;
- (ii) United States Department of Agriculture-Natural Resources Conservation Service (shall serve in an "ex-officio" non-voting capacity and shall function as a technical program advisor to the Committee);
- (iii) North Carolina Department of Agriculture and Consumer Services;
- (iv) North Carolina Cooperative Extension Service;
- (v) Division of Water Quality;
- (vi) Three environmental interests, at least two of which are residents of the Falls watershed;
- (vii) General farming interests;
- (viii) Pasture-based livestock interests;
- (ix) Equine livestock interests;
- (x) Cropland farming interests; and
- (xi) The scientific community with experience related to water quality problems in the Falls watershed.

- (b) **ROLE.** The Watershed Oversight Committee shall:

- (i) Develop tracking and accounting methods for nitrogen and phosphorus loading and submit methods to the Water Quality Committee of the Commission for approval based on the standards set out in Sub-Item (7)(c) of this Rule by March 15, 2012;
- (ii) Identify and implement future refinements to the accounting methods as needed to reflect advances in scientific understanding, including establishment or refinement of nutrient reduction efficiencies for BMPs;
- (iii) By January 15, 2013, collect data needed to conduct initial nutrient loading accounting for the baseline period and the most current year feasible, perform this accounting, and determine the extent to which agricultural operations have achieved the Stage I nitrogen loading objective and phosphorus loading trend indicators for the watershed and present findings to the Water Quality Committee of the Commission;
- (iv) Review, approve, and summarize local nutrient strategies if required pursuant to Sub-Item (5)(d) of this Rule and according to the timeframe identified in Sub-Item (8)(c)(ii) of this Rule. Provide these strategies to the Division;

- (v) Establish requirements for, review, approve and summarize local nitrogen and phosphorus loading annual reports as described under Sub-Item (8)(e) of this Rule, and present the report to the Division annually, until such time as the Commission determines that annual reports are no longer needed to fulfill the purposes of Rule. Present a report in January 2014 to the Commission. Should that report find that agriculture in the watershed has not met its collective nitrogen or phosphorus objective, include an assessment in that report of the practicability of producers achieving the Stage I objective by calendar year 2020, and recommendations to the Commission as deemed appropriate;
 - (vi) Obtain nutrient reduction efficiencies for BMPs from the scientific community associated with design criteria identified in rules adopted by the Soil and Water Conservation Commission, including 15A NCAC 06E .0104 and 15A NCAC 06F .0104; and
 - (vii) Investigate and, if feasible, develop an accounting method to equate implementation of specific nutrient-reducing practices on cropland or pastureland to reductions in nutrient loading delivered to streams;
 - (viii) Quantify the nitrogen and phosphorus credits generated by such practices for the purpose of selling or buying credits; establish criteria and a process as needed for the exchange of nutrient credits between parties subject to this rule with each other or with parties subject to other nutrient strategy rules in the Falls lake watershed pursuant to the requirements of 15A NCAC 02B .0282; obtain approval from the Division for this trading program pursuant to the requirements of Rule .0282; approve eligible trades; and ensure that such credits traded for purposes of meeting this Rule are accounted for and tracked separately from those contributing to the objectives of other rules of the Falls nutrient strategy.
- (c) **ACCOUNTING METHODS.** Success in meeting this Rule's purpose will be gauged by estimating percentage changes in nitrogen loading from agricultural lands in the Falls watershed and by evaluating broader trends in indicators of phosphorus loading from agricultural lands in the Falls watershed. The Watershed Oversight Committee shall develop accounting methods that meet the following requirements:
- (i) The nitrogen method shall estimate baseline and annual total nitrogen loading from agricultural operations in each county and for the entire Falls watershed;
 - (ii) The nitrogen and phosphorus methods shall include a means of tracking implementation of BMPs, including number, type, and area affected;
 - (iii) The nitrogen method shall include a means of estimating incremental nitrogen loading reductions from actual BMP implementation and of evaluating progress toward and maintenance of the nutrient objectives from changes in BMP implementation, fertilization, individual crop acres, and agricultural land use acres;
 - (iv) The nitrogen and phosphorus methods shall be refined as research and technical advances allow;
 - (v) The phosphorus method shall quantify baseline values for and annual changes in factors affecting agricultural phosphorus loading as identified by the phosphorus technical advisory committee established under 15A NCAC 02B .0256(f)(2)(C). The method shall provide for periodic qualitative assessment of likely trends in agricultural phosphorus loading from the Falls watershed relative to baseline conditions;
 - (vi) Phosphorus accounting may also include a scientifically valid, survey-based sampling of farms in the Falls watershed for the purpose of conducting field-scale phosphorus loading assessments and extrapolating phosphorus loading for the Falls watershed for the baseline period and at periodic intervals; and
 - (vii) Aspects of pasture-based livestock operations that potentially affect nutrient loading and are not captured by the accounting methods described above shall be accounted for in annual reporting to the extent that advances in scientific understanding reasonably allow. Such accounting shall, at a minimum, quantify changes in the extent of livestock-related nutrient controlling BMPs. Progress may be judged

based on percent change in the extent of implementation relative to percentage objectives identified in Item (5) of this Rule.

- (8) **LOCAL ADVISORY COMMITTEES.** Local Advisory Committees shall be formed for each county within the watershed by January 15, 2012, and shall have the following membership, roles, and responsibilities:
- (a) **MEMBERSHIP.** A Local Advisory Committee shall be appointed as provided for in this Item. It shall terminate upon a finding by the Commission that it is no longer needed to fulfill the purposes of this Rule. Each Local Advisory Committee shall consist of:
 - (i) One representative of the county Soil and Water Conservation District;
 - (ii) One representative of the county office of the United States Department of Agriculture Natural Resources Conservation Service;
 - (iii) One representative of the North Carolina Department of Agriculture and Consumer Services;
 - (iv) One representative of the county office of the North Carolina Cooperative Extension Service;
 - (v) One representative of the North Carolina Division of Soil and Water Conservation whose regional assignment includes the county;
 - (vi) At least two farmers who reside in the county; and
 - (vii) One representative of equine livestock interests.
 - (b) **APPOINTMENT OF MEMBERS.** The Director of the Division of Water Quality and the Director of the Division of Soil and Water Conservation of the Department of Environment and Natural Resources shall appoint members described in Sub-Items (8)(a)(i), (8)(a)(ii), (8)(a)(iv), and (8)(a)(v) of this Rule. The Director of the Division of Water Quality, with recommendations from the Director of the Division of Soil and Water Conservation and the Commissioner of Agriculture, shall appoint the members described in Sub-Items (8)(a)(iii) and (8)(a)(vi) of this Rule from persons nominated by nongovernmental organizations whose members produce or manage agricultural commodities in each county. Members of the Local Advisory Committees shall serve at the pleasure of their appointing authorities.
 - (c) **ROLE.** The Local Advisory Committees shall:
 - (i) Conduct a registration process for persons subject to this Rule. This registration process shall be completed by January 15, 2012. The registration process shall request at a minimum the type and acreage of agricultural operations. It shall provide persons with information on requirements and options under this Rule, and on available technical assistance and cost share options;
 - (ii) Develop local nutrient control strategies for agricultural operations, pursuant to Sub-Item (8)(d) of this Rule, to meet the nitrogen and phosphorus objectives of this Rule. Strategies shall be submitted to the Watershed Oversight Committee by July 2012;
 - (iii) Ensure that any changes to the design of the local strategy will continue to meet the nutrient objectives of this Rule; and
 - (iv) Submit reports to the Watershed Oversight Committee, pursuant to Sub-Item (8)(e) of this Rule, annually beginning in calendar year 2012 until such time as the Commission determines that annual reports are no longer needed to fulfill the purposes of this Rule.
 - (d) **LOCAL NUTRIENT CONTROL STRATEGIES.** Local Advisory Committees shall develop nutrient control strategies. If a Local Advisory Committee fails to submit a nutrient control strategy required in Sub-Item (8)(c)(ii) of this Rule, the Commission may develop one based on the accounting methods that it approves pursuant to Sub-Item (7)(b)(i) of this Rule. Local strategies shall meet the following requirements:
 - (i) Local nutrient control strategies shall be designed to achieve the required nitrogen loading reduction objectives and qualitative trends in indicators of agricultural phosphorus loading by calendar year 2020, and to maintain those reductions in perpetuity or until such time as this rule is revised to modify this requirement; and
 - (ii) Local nutrient control strategies shall specify the numbers, acres, and types of all agricultural operations within their areas, numbers of BMPs that will be

implemented by enrolled operations and acres to be affected by those BMPs, estimated nitrogen and phosphorus loading reductions, schedule for BMP implementation, and operation and maintenance requirements.

- (e) ANNUAL REPORTS. The Local Advisory Committees shall be responsible for submitting annual reports for their counties to the Watershed Oversight Committee until such time as the Commission determines that annual reports are no longer needed to fulfill the purposes of this Rule. The Watershed Oversight Committee shall determine reporting requirements to meet these objectives. Those requirements may include information on BMPs implemented by individual farms, proper BMP operation and maintenance, BMPs discontinued, changes in agricultural land use or activity, and resultant net nitrogen loading and phosphorus trend indicator changes. The annual reports in 2016 and 2026 shall address agriculture's success in complying with the load reduction requirements described in Items (5)(a) and (5)(b) of this Rule and shall include adjustments to address deficiencies to achieve compliance.
- (f) PROGRESS. In 2016 the Division of Water Quality, in consultation with the Watershed Oversight Committee, shall submit a report to the Commission gauging the extent to which reasonable progress has been achieved towards the Stage I objectives described in this Rule.

*History Note: Authority G.S. 143-214.1; 143-214.3; 143-214.5; 143-214.7; 143-215.1; 143-215.3; 143-215.3(a)(1); 143-215.6A; 143-215.6B; 143-215.6C; 143-215.8B; 143B-282(c); 143B-282(d); S.L. 2005-190; S.L. 2006-259; S.L. 2009-337; S.L. 2009-486;
Eff. January 15, 2011 (this permanent rule replaces the temporary rule approved by the RRC on December 16, 2010).*