State of North Carolina
Department of Environment and Natural Resources

Report of Proceedings on the Proposed Neuse River Basin Nutrient Sensitive Waters (NSW) Management Strategy

Environmental Management Commission Meeting
December 11, 1997

Public Hearings

October 7, 1997
State Highway Building
Raleigh, NC

October 7, 1997
Craven County Courthouse
New Bern, NC

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History

Water quality has been an issue in the Neuse River Basin for over a century. In 1887, legislation was passed to "prevent the throwing of dead stock into the waters of the Neuse River and its tributaries." The State Stream Sanitation Act of 1951 required a statewide survey of all surface waters. As a result of this legislation, the state completed the Neuse River Basin Survey Report in 1959. The most notable findings were the poor quality of waters downstream of point source dischargers. Over 260 sites were sampled during 1955 and 1956 and a large number of these were unacceptable by today's standards.

Water quality improved with better regulations and technology for wastewater treatment and stream classifications with accompanying water quality standards. However, eutrophication became a major concern during the 1970s. The prevalent algal blooms prompted a special investigation of the Neuse River between 1979 and 1981. The Division of Water Quality (DWQ) and university researchers worked to determine the extent of the problem, which nutrients acted as limiting factors for phytoplankton growth and appropriate management actions. Considering these studies, DWQ concluded that preventing eutrophication in the freshwater portion of the Neuse River depends on reducing phosphorus and nitrogen. Concurrent work by Dr. Hans Paerl and other university researchers with support from the Water Resources Research Institute led to similar conclusions.

In 1983, the Environmental Management Commission (EMC) classified the Falls Lake watershed as Nutrient Sensitive Waters (NSW). As a result of this reclassification, all new and expanding facilities greater than 0.05 million gallons per day (MGD) discharge in the Falls Lake watershed received effluent limits of 2 mg/l total phosphorus and existing facilities were given until January 1, 1990 to comply. In 1988, the EMC classified the remainder of the Neuse River Basin as NSW. As a part of the new classification, point source discharges greater than 0.5 MGD and new facilities were given total phosphorus limit of 2 milligrams per liter. Facilities were also put on notice that more stringent controls may be required in the future. DWQ specified that nitrogen loading from nonpoint sources (NPS) should be controlled through the Agricultural Cost Share Program. In addition, a statewide phosphate detergent ban was adopted by the NC General Assembly in January 1, 1988.

In 1993, DWQ completed the first Basinwide Management Plan for the Neuse River Basin. This management plan recognized the reductions in total phosphorus loading that had been achieved as a result of the phosphate detergent ban and the improvements in wastewater treatment. However, the plan recommended an accelerated schedule for reducing nitrogen runoff from

nonpoint sources. Since 1993, DWQ has continued to monitor and evaluate conditions in the Neuse River.

During July, September, and October 1995, extensive fish kills occurred in the Neuse River, primarily from New Bern to Minnesott Beach. Millions of menhaden, as well as numerous flounder, croaker and rock fish, were killed. DWQ collected copious water quality samples in the areas of the fish kills. The samples showed that the water was hypoxic (lacking oxygen) only 1 to 2 meters below the surface. The results also showed a prevalence of algal blooms. Unusual meteorological conditions in 1995 were partly responsible for the fish kills. During June, record rainfalls delivered a tremendous load of nonpoint source nutrients into the Neuse River.

Environmental conditions in the Neuse River are driven by complex interactions between rainfall, flows, temperatures, biological factors, and chemistry. Each year will bring its own variations. However, the long history of problems with nutrient pollution and algal blooms provides solid evidence that immediate control measures are necessary.

On February 8, 1996, the EMC approved a draft conceptual Neuse River NSW strategy with alternative language for various components of the strategy to be taken to workshops for further discussion with the public. A total of six public workshops were held in May 1996, three in New Bern and three in Smithfield. This proposed draft strategy included voluntary actions by various agencies to reduce nutrients and proposed rule language for mandatory measures for point and nonpoint sources. Some initial changes were incorporated into the proposed rules as a result of comments received at the workshops and written comments.

DWQ staff developed several public information documents to help clarify the intent and specifies of the strategy. These documents included:

1) Executive Summary of the Concept Paper on the Draft Plan- a nine page summary of the proposed rules.
2) Concept Paper on the Draft Plan- a comprehensive discussion of the proposed rules and overall strategy. Includes a full copy of the proposed rules. (Approx. 260 pages)
3) General Summary of the Draft Plan- a descriptive summary of the proposed rules. Includes a full copy of the proposed rules. (Approx. 100 pages)
4) Executive Summary of the Draft Fiscal Analysis- a 36-page summary of the estimated fiscal impact.
5) Draft Fiscal Analysis- a comprehensive discussion of the estimated fiscal impacts of the proposed rules to local governments, other affected parties and the implementing agencies. (Approx. 300 pages)

6) Accountability Issues- a description of the process that will be used to estimate and measure the progress towards nutrient reduction goals. (Approx. 45 pages)
7) Subject Notice Comments- a summary of verbal comments received at the public workshops held in May 1996 and a copy of written comments received. (Approx. 120 pages)

In accordance with North Carolina general statutes, four public hearings were held on the proposed rules in November 1996 in Raleigh, New Bern, Goldsboro, and Kinston. The hearings had been originally scheduled for September 1996, but were postponed due to Hurrcane Fran. The strategy DWQ took to the public hearings included point source requirements, an illegal discharge program requirement, two riparian area protection options, two agricultural best management practice options, two urban stormwater options, and two nutrient management requirement options. Nine hundred and sixteen people attended the public hearings, and 201 persons among them made comments at the hearings. In addition to the speakers' comments, DWQ received over 300 written comments on the proposed strategy.

The proposed Neuse River Nutrient Sensitive Waters (NSW) Management Strategy was revised on the basis of the hearing officers' review and analysis of public input from concerned citizens, interested groups and other organizations. The Commission approved the revised strategy in June 1997, and gave staff permission to take the revised rules back out to public hearing. Because the rules had substantial differences from what originally was proposed, the Administrative Procedure Act (APA) required that the revised rules be renoticed and public comment received for a period of 60 days following publication of the final notice. In accordance with the APA, the fiscal note was revised and public hearings were held in Raleigh and New Bern on October 7, 1997. In addition, the public comment period was extended from September 15, 1997 to November 14, 1997.

The strategy DWQ took to the public hearings included rules for protection of riparian areas (was adopted as a temporary rule by the EMC in June 1997), wastewater discharge requirements, basinwide stormwater requirements, an agriculture nitrogen reduction strategy, and nutrient management requirements.

The hearing officers were members of the Commission and included Robert Cook, Robert Epting, David Moreau, Jeffrey Morse and Charles Peterson. Three hundred and sixteen people attended the public hearings, and seventy persons among them made comments at the hearings. Table 1 lists the number of attendees and speakers at each hearing.

Table 1. Summary of Number of Attendees and Speakers at the Public Hearings

Location	Attendees	Speakers
Raleigh	145	40
New Bern	171	30
Total	316	70

The goal of the proposed Neuse River NSW Strategy, improving the water quality of the Neuse River estuary by reducing nitrogen pollution, received overwhelming support from local governments, various agencies (federal, state and local), industries, and citizens' groups during the extensive public comment period. All involved parties realized that we all collectively share responsibility for water quality problems in the Neuse River basin. As for how we achieve our mutual goal of a healthy Neuse River, there remained substantial differences of opinion.

At their June 1997 meeting, the Environmental Management Commission adopted two resolutions, one to recommend that the General Assembly consider implementing a statewide levy on bagged fertilizers to provide funds for Cooperative Extension to educate landowners about nutrient management, and one to work with other agencies and commissions to ensure implementation of rules for maintaining existing forest buffers.

The hearing officers reviewed the extensive comments received on the proposed rules and have incorporated changes to the language that went to public hearing. The change recommended by the hearing officers are included as underlined (new) text or struct through (deleted) text. The hearing officers reached unanimous agreement on all the rules being recommended, with the exception of the Rule (15A NCAC 2B .0234) for wastewater discharge requirement. The majority of the hearing offiecrs supported the rule being recommended herein for wastewater discharge requirement. An alternative proposal for this rule will be sent the Environmental Management Commission members under separate cover as a minority optinion.

Recommendation

The rules proposed herein pertaining to the Neuse River Nutrient Sensitive Waters Management Strategy have been developed on the basis of the Hearing Officers' review and analysis of public input from concerned citizens, interested groups and organizations, as well as further staff analysis and discussions among the Hearing Officers. It is the recommendation of the Hearing Officers

that these rules, as proposed herein, be approved by the full Environmental Management Commission and be filed as permanent rules with the Rule Review Commission. It is further recommended that the EMC give staff permission to notice additional modifications to the riparian area protection rule. In making these recommendations, the Hearing Officers have considered the requirements pursuant to 1995 (Reg. Sess., 1996) NC Session Laws, c. 572 and NC General Statutes 143-214.1, 143-214.7, and 143-215.

Key Issues

A comment that was frequently heard at the public hearings is that a 30 percent reduction in nitrogen loading to the Neuse River will not sufficiently improve water quality. Despite the concerns about the goal, the Division will continue to pursue a 30 percent reduction as an "adaptive goal." A 30 percent reduction is codified in statute (House Bill 1339) as a result of the Senate Select Committee on River Quality and Fish Kills' consensus based on the best available scientific information. As a part of the adaptive process, the Division's staff in the Neuse River Rapid Response Team, modelers and planners will continue to monitor nitrogen concentrations, the presence of nuisance algal conditions and the biological health of the river and the estuary. If the reductions achieved by this plan are not adequately addressing the water quality problems in the Neuse, then the Division and the EMC will pursue additional reduction measures.

Many citizens commented about elements that they believed were omitted from the nitrogen reduction strategy. The Hearing Officers and the Division acknowledge that there are a number of potentially large nitrogen sources that are either not addressed or not thoroughly addressed in the NSW Strategy as it is proposed here. These sources include:

- atmospheric deposition from animal operations;
- septic systems;
- urban and suburban areas not covered by the rule; and
- state-maintained roadways.

The EMC will consider new information as it becomes available on the magnitude of these sources and BMPs to manage them, and may pursue additional management strategies for these sources to achieve additional nutrient reduction.

Even though the overall goal of the NSW strategy is to reduce nitrogen loading to the Neuse River estuary, it should be noted that the atmospheric loading goal presented here is for the area of the basin above New Bern, since the reduction will be calculated for nitrogen loading delivered at New Bern. The majority of atmospheric deposition to open water in the Neuse River Basin occurs below New Bern. Atmospheric loading of nitrogen below New Bern may represent a significant source of nitrogen to the estuary. As scientific research progresses on atmospheric transport and deposition of nitrogen, sources such as animal waste, and estuary hydrodynamics, best management practices, better information will be available to refine the overall strategy for managing atmospheric sources of nitrogen in the Neuse River Basin and its airshed.

The 30% nitrogen reduction goal will continue to be examined as additional data are collected and tools are developed. The Division of Water Quality has contracted with a

team of researchers from several institutions to monitor the estuary for one year and develop a calibrated two dimensional hydrodynamic water quality model. This model will allow the DWQ to estimate the amount of nitrogen that the Neuse estuary can assimilate on an annual basis and maintain the water's uses. The DWQ and the research team will obtain stakeholder input into the development and application of the model. This model is scheduled to be completed in early 1999.

In addition to the nutrient response model, the DWQ is pursuing other research on nutrient sources and their fate and transport within the basin. When this research and modeling tools are completed, the DWQ will review the nutrient loading targets and associated management strategies. If data indicate that revised loading targets or management strategies are needed, the nutrient sensitive waters strategy will be reviewed and modified as appropriate.

Comments received by DWQ on the proposed Neuse River Basin NSW Management Strategy during the nine-month public comment period were highly variable and voluminous. To avoid printing hundreds of pages of comments in this Report of Proceedings, DWQ has summarized and provided responses to the major comments received. All comments received are maintained as a component of the public record and are available for review in the DWQ - Planning Branch on the sixth floor of the Archdale Building at 512 N. Salisbury St., Raleigh, NC.

Definitions .0202

Summary of Proposed Rule that Went to Public Hearing

The existing rule .0202 is proposed for modification by adding seven new definitions. These definitions are intended to clarify the terms used in the eight rules composing the Neuse River NSW Strategy. The terms that were defined in the version of .0202 that went to public hearing were:

- Applicator
- Commercial applicator
- Fertilizer
- Cropland
- Riparian Area

Comments and Responses

Comment: The definition for riparian areas states that they must be properly managed to minimize the impact of upland sources of pollution. This could imply that if a riparian area is not properly managed, then it would not be subject to the rule.

Response: The definition has been clarified that a riparian area is an area adjacent to a body of water, with the reference to "proper management" omitted.

Comment: There is no definition of "forest vegetation."

Response: A definition of "forest vegetation" was added to provide clarity to the rule calling for the protection and maintenance of existing riparian areas.

Comment: There is no definition of "land-distirbing activity."

Response: A "land-distirbing activity" definition was added to provide clarity to the rule calling for the protection and maintenance of existing riparian areas.

Modifications to the Proposed Rule as a Result of Comments

The modifications made to the proposed additions to the Definitions rule are:

1. The definition of "riparian area" was simplified to explain the term as "an area of land adjacent to a body of water."
2. A definition for "forest vegetation" was added. Forest vegetation is defined as "the plants of an areas which grow together in disturbed or undisturbed conditions in various wooded plant communities in any combination of trees,

saplings, shrubs, vines and herbaceous plants. This includes mature and successional forests as well as cutover stands."

3. A definition for "land-disturbing activity" was added to provide clarification to the riparian area rule.

Basin Nutrient Reduction Goal .0232

Summary of Proposed Rule that Went to Public Hearing

Pursuant to 1995 (Reg. Sess., 1996) N.C. Session Laws, c. 572, the Environmental Management Commission establishes the goal of reducing the average annual load of nitrogen delivered to the Neuse River Estuary from point and nonpoint sources by a minimum of 30 percent of the average annual load for the period 1991 through 1995 by the year 2001. All waters of the Neuse River Basin have been supplementally classified as Nutrient Sensitive Waters (NSW) pursuant to 15A NCAC 2B .0223. The following procedures are to be implemented in accordance with 15A NCAC 2B .0223 in all waters of the Neuse River Basin:

- Protection and maintenance of existing forested riparian areas
- Wastewater discharge requirements
- Urban stormwater management
- Agricultural nitrogen reduction goal
- Agricultural nitrogen reduction practices
- Nutrient management
- Nitrogen offset fees

Comments and Responses

Comment: No enforcement mechanisms have been stated in the rules.
Response: A new item has been added to clarify that violations of any of the rules making up the Neuse River NSW Strategy may result in civil penalties, criminal penalties and injunctive relief.

Modifications to the Proposed Rule as a Result of Comments

The following modifications were made to the Basin Nutrient Reduction Goal Rule:

1. Another Item, (2), was added to clarify penalties resulting from violations of the NSW Strategy.
2. A minor wording change was made in Sub-Item (1)(a).

Protection and Maintenance of Riparian Areas .0233

Summary of Proposed Rule that Went to Public Hearing

The proposed rule would require that riparian (streamside) areas be protected and maintained on both sides of certain surface waters. It would not establish new buffers, but would require the protection of existing forest vegetation as the effective date of the rule. A total of 50 feet of riparian area would be required and would consist of 30 feet of virtually undisturbed forest vegetation and 20 feet of grassed/ vegetated area or trees that could be harvested. In the basin's larger urban areas, protection of riparian areas would be a component of the urban stormwater programs discussed below.

Comments and Responses

Comment: There is a conflict between requiring sheet flow through the riparian area and then exempting manmade drainage ditches [that are not modified natural streams]. What happens when a drainage ditch runs through a riparian area?

Response: An existing drainage ditch is allowed to continue to convey flow through a riparian area provided that it is maintained to minimize sediment and nutrient delivery. The flows from new ditches are required to be dispersed into sheet flow before the runoff enters Zone 2 of the riparian area.

Comment: There is no definition for "selective removal of high value trees." How would a property owner know if a tree is "high value?"

Response: The need to define "high value trees" has been eliminated due to rule revisions. Under these new revisions, property owners are free to selectively harvest species of their choosing as long as the riparian area has an adequate density of forest vegetation, measured as basel area.

Comment: Is it permissible to clear understory brush to improve views and access to surface waters?

Response: Pathways are allowed under (2)(e), which allows "passive recreation facilities such as boardwalks, trails. . ." Selective cutting of trees is allowed as long as basal area is maintained.

Comment: Are stormwater management ponds required to protect and maintain a riparian area with forest vegetation?

Response: The revisions in (2)(e) clarify that stormwater management ponds are exempt from this rule provided that there are a lack of practical

alternatives and that the pond is located, designed, constructed and maintained to have minimal negative impact.

Comment: Are airport facilities and railroad crossing required to protect and maintain a riparian area with forest vegetation?

Response: The revisions in (2)(e) clarify that airport facilities and railroad crossings are exempt from this rule provided that there are a lack of practical alternatives and that the structures are located, designed, constructed and maintained to have minimal negative impact.

Comment: How will DOT demonstrate that they have no "practical alternative" to destroying a buffer for road projects?

Response: The rule allows "road crossings," however, it does not allow siting of road beds or highway corridors along stream channels.

Comment: Are landfills required to protect and maintain a riparian area with forest vegetation?

Response: Landfills will be subject to this rule unless a variance is granted by the EMC. In order to receive a variance, the property owner would have to demonstrate that there are practical difficulties or unnecessary hardships associated with implementing the rule, that these hardships are unique to the property and that water quality would be protected.

Comment: Are golf courses required to protect and maintain a riparian area with forest vegetation?

Response: Golf courses will be subject to this rule unless a variance is granted by the EMC. In order to receive a variance, the property owner would have to demonstrate that there are practical difficulties or unnecessary hardships associated with implementing the rule, that these hardships are unique to the property and that water quality would be protected.

Comment: How will this rule be implemented?

Response: This rule will be implemented through the cooperative efforts of the Department's agencies (including DWQ, Division of Land Resources, Division of Forest Resources, Division of Coastal Management and the Division of Soil and Water) and through cooperative agreements with other agencies.

Comment: What is meant by "minimal disturbance"?

Response: Minimal disturbance meansin that the activity does not impair or otherwise adversly affect the functional integrity of the riparian area and that does not lead to violations of water qualtiy standards or otherwise impair the biological integrity or other uses of surface waters.

Comment: What is meant by "Any activities that would result in water quality

standard violations or that would disrupt the structural or functional integrity of the riparian area are prohibited."

Response: This wording has been revised in the rule in (3)(a)(iii)(D) and (3)(b)(iii)(D) to better explain the intent of the EMC. The new wording describes that activities that threaten the health or function of the vegetation, such as excessive use of chemicals, uncontrolled sedimentation and the creation of bare soil, are not allowed.

Modifications to the Proposed Rule as a Result of Comments

The modifications made to the rule for protection and maintenance of riparian areas are:

1. References to "existing riparian areas" were changed to "riparian areas." The word "existing" was redundant since riparian areas are defined as areas of existing land adjacent to water bodies.
2. The effective date of June 12, 1997 was changed to July 22, 1997. This change was made because the temporary rule for riparian areas did not become effective until July 22, 1997 and it is not legally possible to have a retroactive effective date.
3. In (1), the term "pond" was added to the list of affected water bodies. This is a clarification because a pond is simply a small lake, which was previously included in the rule. A similar addition was made in (2)(b).
4. Airport facilities and railroad crossings were added to the list of exemptions given in (2)(e) in keeping with the spirit of the rule to allow necessary public facilities where there is no practical alternative and water quality impacts are minimized.
5. A policy for allowing corridors for utility lines is added in (2)(h).
6. Item (3) describing the location, allowed activities and prohibited activities was better organized for clarity.
7. The procedure for determining the location of Zone 1 was simplified (3)(a)(i). This zone begins at the top of bank for perennial and intermittent streams and top of bank or the mean high water line for all other water bodies.
8. In (3)(a)(ii)(B), the need to determine "high value trees" has been eliminated. Under the revision, property owners are free to selectively harvest species of their choosing as long as the riparian area has an adequate density of forest vegetation.
9. Two new Sub-Items, (3)(a)(ii)(F) and (3)(b)(ii)(C), were added to clarify the requirements for agricultural operations in riparian areas.
10. A new Sub-Item, (3)(a)(iii), was added to clarify practices that are not allowed in Zone 1 of the riparian area, including land-disturbing activities, new development, new septic systems, fertilizer usage and any other activity that threatens the health or function of the vegetation. Similar additions were made in Sub-Item (3)(b)(iii) describing practices not allowed in Zone 2.

11. A new Sub-Item, (3)(d), was added to clarify the requirements for establishing sheet flow through riparian areas. Existing drainage ditches are allowed to continue to convey flow through riparian areas provided that they are maintained to minimize sediment and nutrient delivery. The flows from new ditches are required to be dispersed into sheet flow before the runoff enters the riparian area.
12. The requirement in Item (4) to record the riparian areas as easements on all plats was changed to require that riparian areas be recorded on *new or modified* plats as protected areas.
13. The variance process was moved to its own Item, (6), and was expanded to better explain the conditions under which a variance may be granted by the EMC. Also, in the phrase "Where application of this Rule would prevent all prospective uses of a lot. . .", the term "prospective" was changed to "reasonable."
14. Other minor changes in wording were made throughout to clarify the intent and implementation of the rule.

Wastewater Discharge Requirements .0234

Summary of Proposed Rule that Went to Public Hearing

The purpose of the Wastewater Discharge Management Strategy for the Neuse River Basin is to set in place equitable rules that will achieve a cumulative 30 percent reduction in point source total nitrogen loading to the Neuse River Estuary. The strategy provides for several management options from which the individually permitted National Pollutant Discharge Elimination System (NPDES) dischargers may select to comply with the proposed rules. The options allow for flexibility in approach while maintaining firm commitment to the 30 percent total nitrogen reduction goal.

The 30% nitrogen reduction goal will continue to be examined as additional data are collected and tools are developed. The Division of Water Quality has contracted with a team of researchers from several institutions to monitor the estuary for one year and develop a calibrated two dimensional hydrodynamic water quality model. This model will allow the DWQ to estimate the amount of nitrogen that the Neuse estuary can assimilate on an annual basis and maintain the water's uses. The DWQ and the research team will obtain stakeholder input into the development and application of the model. This model is scheduled to be completed in early 1999.

In addition to the nutrient response model, the DWQ is pursuing other research on nutrient sources and their fate and transport within the basin. When this research and modeling tools are completed, the DWQ will review the nutrient loading targets and associated management strategies. If data indicate that revised loading targets or management strategies are needed, the nutrient sensitive waters strategy will be reviewed and modified as appropriate.

The details of the strategy are outlined below:

Optimization of Existing Facilities: The proposed rule requires all large dischargers (> 0.5 MGD) in the Neuse River Basin to optimize their existing facilities for nitrogen removal. Each affected facility or group of facilities would have one year to report to DWQ on efforts to reduce nitrogen and document nitrogen reduction results. This will help ensure that dischargers take advantage of existing capabilities for nitrogen removal.

Permitting of Existing Facilities: The point sources within the basin are allocated 70% of their 1995 total nitrogen load (2.8 Million pounds). This load allocation is divided among three different groups of dischargers: (1) those with 1995

permitted flows less than 0.5 MGD; (2) facilities located within the Falls Lake watershed that had 1995 permitted flows greater than or equal to 0.5 MGD; and (3) facilities below Falls Lake Dam with 1995 permitted flows greater than or equal to 0.5 MGD.

The facilities with 1995 permitted flow less than 0.5 MGD are allocated 280,000 pounds of nitrogen on an annual basis. The facilities within this category that have permitted flows greater than or equal to 0.05 MGD and are located within the Falls Lake watershed must meet a quarterly average total phosphorus limit of 2 mg/l which is equivalent to the current Falls Lake NSW strategy.

Facilities with 1995 permitted flows greater than or equal to 0.5 MGD that are located within the Falls Lake watershed are allocated 66,600 pounds of nitrogen below Falls Lake Dam. Annual load limits based on the ratio of each facility's permitted flow to the total permitted flow from facilities in this category will be assigned. In addition, these dischargers must meet a quarterly average total phosphorus limit of 2 mg/l.

Finally, facilities located below Falls Lake Dam that have a 1995 permitted flow greater than or equal to 0.5 MGD will be assigned an annual mass loading limit for nitrogen based on the ratio of their 1995 actual average flow to the 1995 total flow from all facilities in this category and the remaining point source allocation (that is, 2.8 Million pounds - 280,000 pounds - 66,600 pounds = 2.45 million pounds total nitrogen). Facilities within this category will be required to meet a quarterly average total phosphorus concentration of 2 mg/l.

Permitting Of New Discharges Of Wastewater: No new discharge of wastewater to the Neuse Basin will be permitted unless each of the three following conditions are met: 1) there is no alternative for discharge, 2) facilities are designed to meet advanced nutrient removal limits (annual mass limit based on 3.5 mg/l concentration times permitted flow), AND 3) the discharger obtains sufficient total nitrogen load allocation from other point sources or nonpoint sources to offset the increase in load that is to be permitted. New facilities must first attempt to purchase a portion of the point source allocation. If that is not feasible, they must purchase a portion of the nonpoint source allocation at a rate of 200% of the cost. New dischargers will also be required to meet a monthly total phosphorus limit of 1 mg/l.

These rules are intended to strongly discourage any new discharge of wastewater to the Neuse Basin and, for any new facilities that are permitted, to ensure that there is no net increase in total nitrogen load.

Facilities That Expand to Accept Flow From Other Facilities: Because the 30 percent nitrogen reduction goal is a collective target, dischargers that take the wastewater from another discharger, allowing for the removal of that discharge

from the Neuse Basin, will be given full allocation credit for any facilities taken off line. For example, if one permitted facility accepts the full waste stream from another permitted facility with a 1000 pound per year allocation and that facility's permit is rescinded, the facility accepting the waste would increase its allocation by 1000 pounds per year. This is intended to allow for the consolidation of waste streams to a smaller number of facilities, thereby increasing the potential efficiency of waste treatment.

Facilities May Meet Limits Collectively: With approval by the EMC, facilities may join together to meet a 30 percent nitrogen reduction collectively. Within five years, such an association would have a nitrogen target that is equivalent to the sum of each individual member's allocation. For any year the target is not met, the Association would be required to make payments for nonpoint source controls to offset the nitrogen load surplus. Requirements are included in the rule to ensure that the effect of nitrogen loss in Falls Lake will not limit the effectiveness of a coalition to meet the 30 percent reduction at the estuary. Likewise, such an association would be required to document nitrogen reduction from any members located in the lowest four counties in the basin, ensuring that nitrogen loss during transport does not limit effectiveness of the strategy at the estuary. In other words, the Association option should result in a 30% reduction in total nitrogen at the estuary. Association members would also be required to meet quarterly average phosphorus limits of 2 mg/l (as per the current Neuse River Nutrient Sensitive Waters Strategy).

Comments and Responses

Comment:	Part VI of House Bill 515 prescribes that NSW waters shall have a nitrogen mass load limit based on a nitrogen concentration of 5.5 mg/l unless there is a calibrated nutrient response model developed in cooperation with the stakeholders that establishes the need for a different limit. The EMC may not establish a 3.5 mg/l limit without such a model.
Response:	HB 515 establishes a ceiling mass concentration of not more 5.5 mg/l concentration at their permitted flow. Allowing facilities to discharge a load based on their permitted flow and 5.5 mg/l does not achieve the 30% reduction goal of total nitrogen that was established by the General Assembly in 1996 [1995 (Reg. Sess., 1996) North Carolina Session Laws, c. 572]. Load allocations to achieve the 30% reduction are established in the revised rule; these allocations do not include any reference to concentration. Concentration limits will NOT be required of any NPDES permitted dischargers in the Neuse River Basin under these proposed rules.

Comment:	Based on the state's fiscal analysis, local governments will be required to bear 68% of the total cost to reduce nitrogen load in the estuary, yet are responsible for only 30% of the loading. This is unfair.
Response:	The nonpoint source loads and costs are difficult to quantify, and therefore it is difficult to compare the point and nonpoint source control costs.
Comment:	Financial assistance is needed to implement this rule. Grant funds rather than low-interest loans should be made readily available.
Response:	The General Assembly passed legislation in 1997 Legislative Session (House Bill 515) establishing that facilities which are subject to being limited in the nitrogen and phosphorus content of their wastewater discharge under the Nutrient Sensitive Waters portion of the bill, as in the Neuse River Basin, be granted a priority for loans and grants from the Clean Water Revolving Loan and Grant Fund.
Comment:	This rule could considerably reduce a facility's current effective treatment capacity because existing components may be used for nitrogen removal rather than for additional flows.
Response:	The rule may reduce current effective treatment capacity of some facilities. However, as an alternative, dischargers may opt to construct additional facilities to enable them to meet the nitrogen requirements of the rule without losing the capacity of the existing units.
Comment:	Dischargers less than 0.5 MGD should also be required to meet the required nitrogen reduction limits.
Response:	The majority of the 1995 point source load was generated by facilities with permitted flow greater than 0.5 MGD. It is not a cost-effective solution to require these smaller dischargers to meet nutrient limits. Most of these smaller dischargers are facilities such as schools that may not be able to technically meet nitrogen reduction requirements. In the initial draft proposal, these dischargers were implicitly limited for total nitrogen. The revised rules explicitly establish the allocation granted to those discharges with permitted flows of less than 0.5 MGD [see paragraph .0234((5)].
Comment:	The rule states that an Association may be required to achieve stepwise decreases in total nitrogen loading for the 5 years immediately following the effective date of the rule. This is inconsistent with allowing NPS nitrogen sources 5 years to meet

	reductions.
Response:	Point sources should be able to meet some interim nitrogen reduction goals by optimizing the treatment at their individual facilities. However, we recognize that nonpoint sources are given a full five years to comply with their reduction targets. The proposed rule is worded in a manner that the EMC can omit the requirement to meet stepwise decreases in nitrogen. If the EMC maintains the requirement to meet stepwise decreases in nitrogen, it will work with the Association to make sure that the decreases are reasonable.
Comment:	It is questionable whether it is technically and economically feasible for point source dischargers to meet a 3.5 mg/l limit.
Response:	Point source dischargers will not be required to meet a 3.5 mg/l total nitrogen limit in their NPDES permits; rather they will be given annual load limits (in pounds) based on their allocation. Reference to allowable concentrations of total nitrogen have been removed from the rule with the exception of the section of the rule that pertains to newly proposed flows (that is, flows not permitted in 1995). As the basin is currently over allocated for total nitrogen, the highest possible level of technology has been required for new dischargers in an effort to discourage, and to minimize, the potential for new sources.
Comment:	Dischargers should not have to make offset payments of nitrogen load increases that result from connection of inadequate subsurface disposal systems to their facilities.
Response:	The overall goal is to reduce total nitrogen loading by 30%. Simply transferring a load from one source to another is not a viable solution.
Comment:	The trading program should include coefficients to apply to point sources that would consider their locations in the basin.
Response:	The rule states that the Commission shall account for differences in transport percentages between dischargers above and below Falls Lake Dam. In addition, the Association must document load reductions for facilities located in the Counties in closest proximity to the estuary.

Comment: The prohibition on new domestic dischargers less than 0.5 MGD should be put back into the strategy.

Response: Several commenters in the first round of public hearings opposed the prohibition on new small dischargers because they felt it would promote urban sprawl; further, they questioned whether they

could be prohibited if alternatives that reduced the loading could be found.. The rules were therefore modified to allow new small dischargers into the basin. However, new dischargers must demonstrate that discharge is their only feasible option, attempt to purchase a portion of the point source allocation, and if that is not feasible, they must purchase an offset payment at a rate of 200% of the cost estimated to reduce the same load created by the new discharge. New dischargers must, at a minimum, meet an annual mass load limit in their effluent based on 3.5 mg/l N and their permitted flows. These requirements will make it difficult for new small domestic WWTPs to obtain NPDES permits within the basin.

Comment: The July 11, 1996 Concept Paper on the Neuse NSW Strategy notes that end-of-pipe discharges need to be reduced to 2.59 million pounds/year. However, the rule sets the collective nitrogen load at 2.8 million pounds/year.

Response: The 1995 load for all dischargers in the basin was 4.1 million pounds. A 30% reduction from that load is 2.8 million pounds. The 2.59 target in the concept paper addressed only dischargers below Falls Dam and not the entire basin.

Comment: Trading should not be allowed. Across-the-board reductions would yield more effective results.

Response: The trading option remains in the rules. This approach should still result in a 30% reduction in total nitrogen load to the estuary as the point source payments would purchase nonpoint source reductions above and beyond the 30% nutrient reduction required of the nonpoint source groups. The coalition approach allows the dischargers to pool their resources and reduce nutrient loads in the most cost-effective manner.

Comment: The rule should be revised to specify what criteria will be used to determine whether "more stringent limits" will be needed to protect localized areas.

Response: More stringent limits are applied when water quality impairment is noted and the discharge is a source of that impairment. A revision to the rules is not warranted.

Comment: The goal is to reduce point source loading by 30%. Some facilities must achieve a greater load reduction than 30%.

Response: Some facilities will have to reduce their point source loading by more than 30% while others will not have to reduce their loads as much. In 1995, facilities in the basin were treating for nitrogen at varying levels. The facilities that were achieving the lowest concentrations will have the lowest reductions in total nitrogen

while the facilities that had the highest concentrations will be assigned higher reductions.

Comment: Dischargers closest to the estuary have the largest impact on estuarine water quality. The rules should focus on nitrogen load reductions in the lower Neuse Basin, particularly that area located closest tot he estuary.

Response: If an association of dischargers forms, the association must document reductions at the facilities located in the counties immediately adjacent to the estuary. In addition, transport through the Falls Dam must be accounted for when the agreement is established.

Comment: The point source rules will likely mandate a reduction of an amount greater than 30%.

Response: The load allocation for point sources of 2.8 million pounds is based in a reduction of 30% from their 1995 actual load of 4.1 million pounds.

Comment: The proposed rules do not address non-discharging systems and could encourage them. These systems could be less desirable than discharging systems.

Response: The DWQ considers non-discharge alternatives to be environmentally preferable to a surface water discharge. Non-discharge permits, such as spray irrigation facilities, are designed to require the application of the treated wastewater to occur at rates which do not exceed agronomic needs of the crops. Therefore, the nitrogen and phosphorus applied will be taken up by the crops being grown and not leaving the site through runoff.

Comment: Facilities with design flows less than 0.5 MGD should also be required to maximize their treatment.

Response: The majority of the 1995 point source load was generated by facilities with permitted flows greater than 0.5 MGD. Therefore, limited reductions would be achieved. Additionally, the type of treatment technology required is likely to be less consistently achievable and the costs significantly higher on a per gallon basis for these facilities.

Comment: There are scenarios in which the dischargers with the highest 1995 concentration limits joined an Association, were required to meet a 30% reduction from their 1995 actual loads, and the point source goal was not met.

Response: The Association option has been modified such that their allowable load is based on the sum of the individual member facilities'

allowable loads. This modification addresses this potential problem.

Modifications to the Proposed Rule as a Result of Comments

The modifications made to the proposed Wastewater Discharge Rule as a result of public comments are:

1. Paragraph (4) was modified to reference other sections of the rule which indicate how the allowable point source load is to be divided among the various dischargers in the basin. In addition, clarifying language which states that the point source load target must be met within 5 years of the effective date of the rule and maintained thereafter was added.

2. Dischargers with 1995 permitted flows of less than 0.5 MGD are explicitly allocated a portion of the point source load as outlined in paragraph (5). In earlier versions of the rule, assumptions were made on the allocation for these smaller dischargers that were not explicitly stated in the rule.

3. Dischargers with 1995 permitted flows greater than or equal to 0.5 MGD that are located in the Falls Lake watershed are explicitly allocated a portion of the point source load as outlined in paragraph (6) of the proposed rule. In earlier versions of the rule, assumptions were made on the allocation of these dischargers that were not explicitly stated in the rule.

4. In earlier versions of the rule, dischargers located below Falls Dam that had a 1995 permitted flow greater than or equal to 0.5 MGD were allocated total nitrogen load based on their 1995 permitted flow and a concentration of 3.5 mg/l. Annual loading targets are now allocated based on the percentage of the facilities' actual 1995 flow and the actual total flow of these facilities. All references to 3.5 mg/l for existing dischargers have been omitted from the rule as outlined in paragraph (7) of the proposed rule. New dischargers still have loading targets that are based on a concentration of 3.5 mg/l if they cannot purchase load from another facility as outlined in paragraph (9). Concentration limits will NOT be required of any NPDES permitted dischargers in the Neuse River Basin under these proposed rules.

5. The language concerning the option to form an Association has been modified in the proposed paragraph (10). The load allocated to the Association shall be calculated as the sum of the individual allocated loads. In addition, language has been added which requires that existing dischargers become members of an Association by April 1, 1998, and that all facilities are eligible to participate.

Because of the rearrangement of the text of the rule, the proposed text is not presented in the format showing the underlining and struckthrough of the text noticed in the North Carolina Register. The proposed text should be substituted for the text noticed in the North Carolina Register.

Basinwide Stormwater Requirements .0235

Summary of Proposed Rule that Went to Public Hearing

The basinwide stormwater program requires that 10 cities and 5 counties (Cary, Durham, Garner, Goldsboro, Havelock, Kinston, New Bern, Raleigh, Smithfield, Wilson, Durham County, Johnston County, Orange County, Wake County, and Wayne County) develop a stormwater management plan to address nutrients. The stormwater management plan requires these local governments to review and approve stormwater management plans for new development, implement a public education program, identify and remove illegal discharges to the storm sewer system, identify suitable locations for retrofitting stormwater management practices in areas of existing development, and provide annual nitrogen load reporting.

New development is required to maintain a nitrogen loading of 70% or less of the 1995 loading and provide no net increase in the pre-development peak flow from the 1-yr. 24-hr. storm. New development must meet a minimum design level for nutrient removal, but may partially offset nitrogen loading by paying into the Wetland Restoration Fund. To establish a design standard for new development within the context of a 30% net reduction goal, DWQ assumed that new development would occur on existing agricultural and forest lands. An area-weighted loading rate of 5.1 lbs/ac/yr was computed for agricultural and forest lands taken collectively in the Neuse River Basin above New Bern. New development would meet the 30% reduction goal by maintaining a loading rate of 3.6 lbs/ac/yr (30% of the existing composite load of 5.1 lbs/ac/yr from developable areas).

DWQ will have one year from the effective date of the rules to develop a model stormwater management plan in cooperation with the affected local governments addressing all of the components listed above. Local governments will then have six months to submit a local stormwater management plan based upon the DWQ model. All of the subject local governments must have a stormwater management program in place within 2 years of the effective date of the rules. If a local government fails to adequately establish its stormwater management program, then DWQ will issue a NPDES stormwater permit to implement the stormwater program for that local government.

Comments and Responses

Comment: How are local governments designated as requiring a local stormwater program? Why are local stormwater programs not

required across the entire basin?

Response: The local governments were designated on the basis of size and growth rate. Municipalities with 1995 population exceeding 10,000 people, counties with 1995 non-municipal populations exceeding 50,000 as well as counties identified as "high growth" based on 1990-1995 data. All of this data was obtained from the Office of State Planning. Even though these criteria were used to select the first round of local governments affected by the rule, future designations may be made on the basis of other factors that affect local governments' potential to cause nitrogen pollution. Any future designations would be made after proper public notice and comment.

Comment: The local governments should be allowed more time to submit and implement their local stormwater programs.

Response: The Hearing Officers have discussed this concern and have decided to allow an additional six months for local governments to submit and implement their local government plans. Additionally, the timeframe for the local governments has been modified so that their schedule is based on approval of the model stormwater plan rather than the effective date of the rule. This will ensure that local governments will not be adversely affected by any delays in approving the model plan.

Comment: Does the proposed standard apply to each and every development site or is it an average across development sites?

Response: If the local governments are able to develop an accountability system for tracking nitrogen removal across the new developments in their jurisdictions that receives the approval of DWQ and the EMC, then it could be applied collectively to new development. In the absence of an approved accountability method, the proposed standard would apply to each and every development.

Comment: Is each local plan required to provide for a 30% reduction from 1995 total nitrogen loadings?

Response: The local plans are required to provide for a 30% reduction from 1995 conditions from new development. The components of the stormwater program listed in the rule, including public education, illegal discharge removal and identification of suitable retrofit sites, are required for existing development.

Comment: Can offset fees also be directed to local governments to fund BMPs, constructed wetlands or buffers within their own jurisdictions?

Response: Offset fees must be directed to the Wetland Restoration Program, some of which may be used to fund restoration of wetlands and riparian areas within the jurisdictions of affected local governments. However, if an accountability system for tracking nitrogen removal across the new developments is developed and receives the approval

of DWQ and the EMC, then it could be applied collectively to new developments and thus serve as a type of "trading program" between new developments.

Comment: Is each local government required to include an estimate of total nitrogen loading for 1995 within their jurisdiction?

Response: Yes. This is consistent with the requirements for point sources and agriculture.

Comment: How will this program coordinate with existing stormwater programs under the NPDES and Water Supply Watershed Programs?

Response: The collaborative process proposed for developing the model stormwater program for nitrogen removal will allow opportunities to coordinate with existing stormwater programs that the local governments are already implementing in their jurisdictions.

Comment: Will a portion of the Clean Water Management Trust Fund money be earmarked for installing retrofits in urban areas covered by this rule?

Response: While there are currently no plans to earmark a portion of the CWMTF for urban retrofit projects, this would certainly be an appropriate use for these funds. A local government that was interested in receiving funds for urban retrofits is strongly urged to submit a proposal to the CWMTF.

Comment: Which BMPs provide high levels of nitrogen removal?

Response: Part of DWQ's effort in developing the model stormwater program will include determining the levels of nitrogen removal expected from various types of BMPs. Preliminary research on this topic is showing that one of the most effective method for controlling nitrogen from urban areas is creating developments that minimize impervious surfaces and maximize flows through natural areas.

Comment: What was the reason for the no-net increase in peak flow required in the rule? How does this affect nitrogen loads?

Response: At first glance, peak flows may not seem to be related to nitrogen levels. However, a key factor in removing nitrogen from urban areas is maintaining healthy vegetated riparian areas. However, the increases in peak flows that often accompany development activities can erode the streambank and damage the health of the riparian area. The proposed rule seeks to protect riparian areas by requiring control of peak flows.

Comment: What was the scientific basis for choosing 6 and 10 pounds per acre per year as the nitrogen exports required for residential and commercial developments, respectively, and then allowing developers to offset down to 3.6 pounds per acre per year?

Response: The nitrogen exports were determined in a manner to allow developers an alternative to meeting the reductions on-site if the costs are prohibitive or if the technology is not available to have high density development and meet the required export. The export coefficient of 6 pounds per acre per year was chosen for residential development because it represents a 30% reduction from the average development export coefficient of approximately 8 pounds per acre per year from residential development. The export coefficient of 10 pounds per acre per year was chosen for commercial development because it represents a 30% reduction from the average commercial development export coefficient approximately 15 pounds per acre per year. The export coefficient of 3.6 pounds per acre is used to describe the expert coefficient from lands most likely to develop and was determined based on 70 percent of the average 1993-1995 nitrogen export coefficient from the non-urban land uses in the basin.

Comment: Do the specified standards apply to a total load on the site, at the edge of the site or to the effective load actually delivered to the stream?

Response: The specified standards apply to the total load leaving the site at the edge of the site.

Comment: Reporting annually on net changes to nitrogen loads from urban areas should be done on a regional or State level.

Response: Part of the process of developing the model stormwater program will be to decide on an appropriate and efficient accounting mechanism for the local governments to track changes in their nitrogen loadings. However, the responsibility for tracking these changes will remain with local governments.

Modifications to the Proposed Rule as a Result of Comments

The modifications made to the proposed Basinwide Stormwater Rule as a result of public comments are:

1. In (5) and (6), language was modified allow an additional six months for local governments to submit and implement their local government plans. Additionally, the timeframe for the local governments has been modified so that their schedule is based on approval of the model stormwater plan rather than the effective date of the rule. This will ensure that local governments will not be adversely affected by any delays in approving the model plan.
2. 7(c) was added to allow local governments that are subject to an NPDES permit to submit a local stormwater plan to the EMC for approval after they have been covered for at least one five-year permit cycle.
3. Minor changes to rule language were made throughout the rule to clarify its provisions.

Agricultural Nitrogen Reduction Goal .0236

Summary of Proposed Rule that Went to Public Hearing

This rule sets an overall nitrogen reduction goal for agriculture consisting of a 30 percent net total nitrogen reduction from the cumulative average 1991-1995 nitrogen loadings. This reduction is equivalent to 1,695,000 pounds per year.

Comments and Responses

Comment: Agriculture is being held responsible for reducing a nitrogen load that is actually a rural contribution, including nitrogen from septic tanks, lawns, forests, and recreational, industrial and highway areas.

Response: Land use / land cover information was analyzed in the Neuse Basin using updated 1993-95 infrared satellite imagery. A winter and summer scene was used in the process. Land in the Neuse Basin was classified based on 24 land cover types. The 24 land use types include high density development, low density development, cultivated, managed herbaceous, upland herbaceous, riverine/estuarine herbaceous, evergreen shrubland, deciduous shrubland, mixed shrubland, mixed hardwood forest, bottomland hardwoods/hardwood swamps, other broadleaf deciduous forests, mountain conifer forests, southern yellow pine forests, other needleleef evergreen forests, broadleaf evergreen forests, mixed hardwoods/conifers forests, oak/gum/cypress forests, needleleaf deciduous forests, water, unconsolidated sediment, exposed rock, and unmapped municipal area.

Each land use type was classified based on the standard classification system produced by the North Carolina Center for Geographic Information and Analysis (CGIA). Under the CGIA's standard classification system, the "cultivated" land use type is described as areas of land that are occupied by row and root crops that are cultivated in distinguishable row and patterns, such as corn, soybean, tobacco, peanuts, potatoes, and beets cultivated on a permanent basis or in rotation. These 24 land cover types were further aggregated into: Cultivated, Urban, Managed Herbaceous (pastures, golf courses, other turfgrass, etc.), Forest, and Open Water.

Nitrogen loadings for agriculture only include the loadings from the land defined as cultivated and the land defined as managed herbaceous (MHP). The nitrogen loading from managed herbaceous areas was split between urban and agriculture. Using the NC

Department of Agriculture (NCDA) turf grass survey results, DWQ estimated that approximately 1/4 of the total MHP area was comprised of non-agricultural land uses such as golf courses, lawns, and commercial lands. Based on these calculations, DWQ split the MHP load by adding 1/4 of its loading to the urban nonpoint source load and the remaining 3/4 to the cultivated nonpoint source load.

Comment: The goal established for agriculture for "a net total nitrogen loading reduction of 1,695,000 pounds per year to the Neuse River Estuary above New Bern" holds little relevance to the individual farmers in the basin.

Response: The instream reduction target (1,695,000 pounds) was deleted to minmize the potential for conflict between the in-stream reduction goal and the reduction calculated at the edge of field. The rule continues to require a 30% reduction in loading from average 1991-1995 conditions. Instead, DWQ will estimate an edge of field baseline condition and then calculate a 30% net reduction in the Neuse Basin using the same accountability method used to establish the baseline condition. In addition, removal of the numeric instream loading goal satisfies the cercorn expressed above about "agriculture" being held responsible for "more" loadings, since the baseline condition and 30% reduction will be based only on agricultural lands.

Modifications to the Proposed Rule as a Result of Comments

1. The term "collectively" was inserted to make the language consistent with Rule .0238.
2. The term "and maintain" was added to clarify that the reduction is to be achieve and maintain in the long term.
3. The numerical instream reduction goal was deleted as explained in the response above.

Agricultural Nitrogen Reduction Strategy .0238

Summary of Proposed Rule that Went to Public Hearing

The proposed strategy for agricultural nitrogen reduction requires the cumulative load from *all* agricultural operations, including those related to crops, pasture, livestock and poultry, to achieve a 30% total nitrogen net loading reduction from the average 1991-95 load. This net nitrogen loading reduction specified must be achieved collectively by agricultural operations within five years from the effective date of the proposed Rule.

Under the revised proposal, persons engaging in agricultural operations in the Neuse River Basin have **two options** for meeting the nitrogen net loading reduction. The options are to either participate in a county nitrogen reduction plan (see Option 1 below) or implement standard Best Management Practices (see Option 2 below). Both these options are contained in a single proposed rule (15A NCAC 2B .0238).

Option 1: County nitrogen reduction plan option

All persons engaging in agricultural operations that choose to participate in the county nitrogen reduction plans must complete a sign-up process. This sign-up process would be completed within one year from the rule's effective date. If an agricultural operation does not complete the sign-up, then it will be subject to implementation of standard Best Management Practices (Option 2).

Option 1 would require the establishment of local advisory committees comprised of staff from Natural Resources Conservation Service (NRCS), NC Cooperative Extension Service (CES), Division of Soil and Water Conservation (DSWC), NC Department of Agriculture (NCDA), local Soil and Water Conservation Districts (SWCD), and a farmer in each county in the Neuse River Basin. The goal of the local advisory committee would be to increase the effectiveness and flexibility in administering pollution reduction strategies. The committee would work to integrate existing agricultural programs and initiatives (for example, Farm Bill EQIP committees/priorities and NC Agricultural Cost Share Program). Landowners would cooperate with the committee to develop site-specific plans for controlling nutrients.

In addition to the local advisory committees, a Basin Oversight Committee would be formed. The EMC will delegate to the Directors of DWQ and the Division of Soil and Water Conservation the responsibility of forming this Basin Oversight Committee. The Directors will solicit nominations for membership on this Committee to represent the following:

- NC Division of Soil and Water Conservation
- US Department of Agriculture- Natural Resources Conservation Service
- NC Department of Agriculture
- NC Cooperative Extension Service
- NC Division of Water Quality
- The scientific community
- The farming community

Under Option 1, the EMC would delegate the following responsibilities to qualified employees of the Department who are members of the Basin Oversight Committee and employees of DWQ and the Division of Soil and Water Conservation. These qualified employees will act with advice from the Basin Oversight Committee to:

- Develop a tracking and accounting methodology for evaluating total nitrogen loading from agricultural operations and progress toward reaching the total nitrogen net loading reduction from the implementation BMPs.
- Submit the accountability process to the EMC for approval within one year after the effective date of the Rule.
- Include methods in the accountability process to accurately track implementation of BMPs, including location and type of BMPs.
- Allocate nitrogen loading reductions between counties within the Neuse River Basin their portion of the nitrogen loading reduction from agricultural operations, including any division of the reduction between specific categories of agricultural operations.
- Review, approve, and summarize county nitrogen reduction plans and present these plans to the Environmental Management Commission for approval within two years from the effective date of this Rule.
- Review, approve, and summarize county nitrogen reduction annual reports and present these reports to the Environmental Management Commission each October.

Under Option 1, the EMC will also delegate the responsibility of forming County Advisory Committees. The Directors will form County Advisory Committees in each county within the Neuse River Basin.:

- NC Soil and Water Conservation District

- US Department of Agriculture- Natural Resources Conservation Service
- NC Department of Agriculture
- NC Cooperative Extension Service

Acting with advice from the County Advisory Committee members, the roles of DSWC employees who are members of the County Advisory Committees include:

- Conducting a sign-up process for persons wishing to participate in and implement the county nitrogen reduction plan.
- Developing county nitrogen reduction plans that collectively meet the nitrogen loading reduction goal for agricultural operations within five years from the effective date of this Rule.
- Submitting an annual report to the Basin Oversight Committee on net total nitrogen loading reductions from agricultural operations, the implementation of BMPs for nitrogen control, and progress towards the total nitrogen loading reduction requirement.

Option 2: Standard Best Management Practices

If an agricultural operation does not complete the sign-up process for implementation of the county nitrogen reduction plan, then the agricultural operation must implement specific best management practices within four years following the effective date of the proposed Rule. Failure to meet these requirements may result in enforcement measures.

Table 5 summarizes the agricultural exemptions and modifications to proposed Option 2. Reductions to the required riparian area width will be allowed if either water control structures or nutrient management is used.

Table 2. Summary of standard Best Management Practices (Option 2)

BMP(s) Implemented	**AGRICULTURE (Option 2 only) Required Riparian area Zones and Vegetation / Width Options**
Nutrient Management ***and*** Controlled Drainage	**No Riparian Area Requirement**
Nutrient Management ***or*** Controlled Drainage	**20′ Forested Riparian Area OR 30′ Vegetated Filter Strip**
Loss of Cropland Required for Receipt of Federal	**20′ Forested Riparian Area AND 30′ Vegetated Filter Strip**

Tobacco Allotments (no Nutrient Management or Controlled Drainage)	
Neither of the following BMPs: Nutrient Management or Controlled Drainage	**30' Forested Riparian Area AND 20' Vegetated Filter Strip (Zones 1 and 2)**

Under Option 2 (standard BMPs), landowners would not need a riparian area if:

- Their streams, canals or ditches do not show up on the 1:24,000 scale USGS topographic map; or
- Both water control structures (with a water management plan) and a nutrient management plan are in effect; or
- Their ditch is small (including hoe drains and field ditches) where drainage waters first enter the drainage system.

Comments and Responses

Comment: Farmers are being asked to sign up and participate in the Option 1 - "county plan" without knowing they are agreeing to do.

Response: Farmers are being provided two options to collectively achieve a 30% nitrogen reduction. The development of Option 1 - "the local strategy" resulted from the input received at public hearings and from the agricultural community. This option provides more flexibility for farmers and gives the agricultural community an opportunity to develop its own management strategies to collectively meet the nitrogen reduction goal.

Comment: The accountability procedure for determining whether farmers are meeting their reduction goals is not described in the rules.

Response: An accounting methodology will be developed by the Basin Oversight Committee within one year after the effective date of the rules. Currently, DWQ is working with DSWC and N.C. State University to explore various options and evaluate numerous methods.

Comment: What is required of counties below New Bern? Can nitrogen reductions achieved by counties below New Bern be counted towards the overall reduction goal?

Response: The rule language has been clarified to explain that counties above

and below New Bern are required to achieve a 30% nitrogen reduction. In the original rule language, counties above New Bern were allowed to work collectively to achieve their goal. The clarified rule language also allows counties below New Bern to work collectively. However, counties above and below New Bern will not be permitted to "trade" nitrogen reductions with each other.

Comment: More effective and comprehensive nutrient reduction planning may be accomplished on a watershed basis instead of on a county boundary basis.

Response: The terminology "County Advisory Committee" has been changed to "Local Advisory Committee" to allow the agricultural community the flexibility to decide to work on a watershed rather than a county basis.

Comment: More farmer representation is needed on the Local Advisory Committees.

Response: The membership of the committees have been expanded to include "at least 2 farmers," and thus allow local committees to determine the appropriate farmer representation.

Comment: There should be a lead agency designated for the Local Advisory Committees. The Soil and Water Conservation District is the logical choice because it is part of the state government and provides most of the technical, financial and program assistance for BMP implementation.

Response: Language has been added to allow the Basin Oversight Committee to designate the Soil and Water Conservation District as the lead agency on the Local Advisory Committees.

Comment: More should be required to address nitroegn loadings from animal operations.

Response: The hearing officers acknowledge that the potential nitrogen loadings from animal operations is large, however, scientific information is lacking on the magnitude of their atmospheric emission and deposition and groundwater loading. A paragraph has been added in the rule (8(f)) to state that the EMC shall require additional best management practices for animal operations as the information becoming avaiable.

Modifications to the Proposed Rule as a Result of Comments

1. Item (1), language was added to clarify that the agricultural community within the Neuse River Basin shall collectively achieve a 30% nitrogen reduction.
2. Item (2), the responsibility of forming a Basin Oversight Committee has been designated to the Secretary of the department instead of Division directors as requested by the agricultural community.

3. Item (2)(b), language was added to state that USDA-NRCS will serve in an "ex-officio" capacity as requested by NRCS.
4. Item (3)(b), language was added to clarify the process and schedule of developing an accountability method.
5. Item (3)(d), language was added to allow the use of the same method to calculate reduction goal and actual reduction as a result of BMPs implementation.
6. Item (3)(d), language was added to clarify that 30% nitrogen reduction goal will be met collectively by all counties within the Neuse River Basin.
7. Item (4), language was added to allow the option for commitee structure, targeting, planning and accounting to be on a watershed basis.
8. Item (4)(a), language was added to allow the Soil and Water Conservation District to be designated as the lead agency as requested by the agricultural community.
9. Item (4)(a)(v) was modified to allow more farmer representation in the Local Advisory Committee.
10. Item (5), language was added to clarify that all BMPs (local strategy and standard option) are to be included in the annual report.
11. Item (7), language was added to clarify that a person can not withdraw from the local strategy after the sign-up process.
12. Item (8)(a)-(e), see the changes for the rule on to protecting riparian areas.
13. Item (8)(f) was added to address nitrogen loadings from animal operations.

Nutrient Management .0239

Summary of Proposed Rule that Went to Public Hearing

Nutrient Management is defined as applying nutrients at rates necessary to achieve realistic crop yields, improve timing of nutrient applications and increase nutrient use efficiency. Under the proposed rule, three categories of nutrient applicators are required to complete training in nutrient management or write a nutrient management plan within five years of the effective date of the rule. These categories are defined as:

1. Persons who apply fertilizer to 50 or more acres of cropland in a calendar year.
2. Persons who apply fertilizer to 50 or more acres of golf course, recreational lands, right-of-way, or other turfgrass areas in a calendar year.
3. Persons who commercially apply fertilizer to 50 or more acres of lawn and garden areas in residential, commercial or industrial areas.

The certificate would be given by either the Cooperative Extension Service (CES) or DWQ. During the first year the rule is in effect, there will be sign-up period administered by DWQ and CES, for those individuals wishing to take nutrient management training.

If, in five years of the rule's effective date, an applicator does not obtain certification in nutrient management, then he or she will have to develop a nutrient management plan for lands on which they apply nutrients. Cropland nutrient management plans would have to meet standards and specifications of the USDA-Natural Resources Conservation Service or those adopted by the NC Soil and Water Conservation Commission (SWCC). Plans may be written by the applicator or by a consultant . However, written approval by a technical specialist designated by the SWCC will be required to certify that the plan meets standards developed by the USDA-NRCS and/or SWCC.

Turfgrass, horticultural and other non-agricultural fertilizer applicators who do not obtain nutrient management training certification in the five year period will have to develop a nutrient management plan that meets nutrient application standards and specifications developed by DWQ in consultation with CES, NRCS, Division of Soil and Water Conservation(DSWC) and the North Carolina Department of Agriculture(NCDA). These standards and specifications will be developed and approved by the Director of DWQ within one year of the rule's effective date. As the case for croplands, these plans may be written by the applicator or by a consultant but must be approved by a technical specialist

designated by the SWCC. Approval by a designated technical specialist will certify that the applicator has a nutrient management plan for lands on which they apply fertilizer and that the plan meets the standards set forth by the DWQ.

Operators of poultry operations of 30,000 or more birds utilizing a dry litter waste management system are required to apply waste at agronomic rates for nitrogen based on realistic yield expectations.

Persons who choose to develop nutrient management plans instead of participating in the training certification program will have to keep nutrient management plans and supporting documents on-site or produce them within 24 hours of request by DWQ. An applicator who opts not to undergo nutrient management training and then fails to develop a nutrient management plan or fails to apply nutrients in accordance with an approved plan would be in violation of the rule.

Under the proposed rule, landowners and other individuals who apply fertilizer to less than fifty acres a year including residential, industrial, commercial and crop landowners are encouraged to apply fertilizer at rates recommended by the CES. Also, they are welcome to participate in nutrient management training.

Comments and Responses

Comment: Dry poultry litter issue is already covered by SB 1217. The language about the dry poultry litter is unnecessary.

Response: The language about the dry poultry litter has been eliminated.

Modifications to the Proposed Rule as a Result of Comments

1. Item (1)(a), language was added to clarify affected party.
2. Item (2)(b), language was added to allow the Environemntal Management Commission to designate technical specialists to approve nutrient management palns for floraculture, ornamental and greenhouse production.
3. Item (4) was eliminated because the dry poultry litter is already covered by SB 1217.

Nutrient Offset Payments .0240

Summary of Proposed Rule that Went to Public Hearing

The Nutrient Offset Payments Rule that went to public hearing contained two options for paying to offset nitrogen loads:

1. Implement agricultural Best Management Practices in the Neuse River Basin through the North Carolina Agricultural Cost Share Program. The fee is based on BMP cost-effectiveness research and is equal to that developed for the Tar-Pamlico Nutrient Management Program.
2. Implement the restorations of wetlands and riparian areas through the North Carolina Wetland Restoration Fund. The fee is based on research on the cost-effectiveness of nitrogen removal in study wetlands. The methodology for determining this figure is explained in the June 1996 Report of Proceedings on the Neuse River NSW Strategy.

Comments and Responses

Comment: The amount of the nitrogen offset payment is much smaller than what is really needed to remove a pound of nitrogen.

Response: The offset payments given in the rules were clarified to state that the $/pound figures are computed on an *annual* basis. Language was added to clarify that the total offset payment must be an amount sufficient to fund 30 years of nitrogen removal, which is based on the design life of the wetland.

Comment: Members of the agricultural community were not interested in receiving the offset payments since they would not reeme credit for nitrogen reduction.

Response: Because the agricultural community was not interested in receiving offset payments, provisions for them to receive this funding were removed from the rule.

Comment: Why are the offset payment amounts for the Agriculture Cost Share Program (ACSP) different from the Wetland Restoration Fund?

Response: The amounts of the offset payments were determined using best available scientific information without making an attempt to match their amounts. However, the difference in offset amounts is no longer an issue since no payments will be made to the ACSP under the revised rule.

Modifications to the Proposed Rule as a Result of Comments

The modifications made to the Offset Payments Rule are:

1. Item (a)(2) allowing offset payments to the Agriculture Cost Share Program was removed. The agricultural community was not interested in receiving the funds.
2. The rule language was clarified to state that the offset payments may be used for both wetland and riparian area restoration.
3. In Item (b), language was added to clarify that the $11 per pound payment is based on a one-year time frame.
4. A paragraph (c) was added to explain how offset payments are to be made. The developer or discharger must pay an offset fee sufficient to immediately fund the construction of a wetland or riparian area that will remove nitrogen over a 30 year design life.
5. Item (d) was added to clarify that the nitrogen reduction credit associated with restored wetlands and riparian areas will be awarded exclusively to the party who made the offset payment.

Copy of the Proposed Rules

A copy of the full text of each proposed rule for the Neuse River Basin NSW Strategy follows. Rule .0202 is proposed for modification by adding six new definitions. The rest of the Neuse Nutrient Sensitive Waters Rules are proposed as new rules. Plain text reflects language that was noticed in the North Carolina Register, underlined text reflects new language from what was noticed, and struckthrough text reflects deleted language.

15A NCAC 2B .0202 is proposed for modification as follows:

The following definitions are proposed to be added to existing definitions in 15A NCAC 2B .0202. Definitions (1) - (4) are used in the proposed Nutrient Management Rule (2B .0239).

.0202 DEFINITIONS

(1) 'Applicator' means any person, firm, corporation, wholesaler, retailer, distributor, any local, state, or federal governmental agency, or any other person who applies fertilizer to the land of a consumer or client or to land they own or to land which they lease or otherwise hold rights.

(2) 'Commercial applicator' means any person, firm, corporation, wholesaler, retailer, distributor or any other person who for hire or compensation applies fertilizer to the land of a consumer or client.

(3) 'Fertilizer' means any substance containing nitrogen or phosphorus which is used primarily for its plant food content.

(4) 'Cropland' means agricultural land that is not covered by a certified animal waste management plan and is used for growing corn, grains, oilseed crops, cotton, forages, tobacco, beans, or other vegetables or fruits.

Definitions (5), (6) and (7) are used in the Rules pertaining to Protection and Maintenance of Riparian Areas (2B .0233) and Agricultural Nitrogen Reduction(2B .0238).

(5) 'Riparian area' means an area ~~of trees, usually accompanied by shrubs and other vegetation,~~ that is adjacent to a body of water ~~which is managed to reduce the impact of upland sources of pollution by trapping, filtering, and converting nutrients, sediments, and other chemicals; maintain the integrity of stream channels, shorelines, and flood storage processes; and to supply food, cover, and thermal protection for fish and other aquatic life~~.

(6) 'Forest vegetation' means the plants of an area which grow together in disturbed or undisturbed conditions in various wooded plant communities in any combination of trees, saplings, shrubs, vines and herbaceous plants. This includes mature and successional forests as well as cutover stands.

(7) 'Land-disturbing activity' means any use of the land that results in a change in the natural cover or topography that may cause or contribute to sedimentation.

15A NCAC 2B .0232 is proposed for adoption as follows:

.0232 NEUSE RIVER BASIN- NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: BASIN NUTRIENT REDUCTION GOAL

Rule states the overall nitrogen reduction goal, identifies Rules which comprise the overall strategy, and lists enforcement mechanisms for failure to meet the requirements of the Rules.

Pursuant to 1995 (Reg. Sess., 1996) N.C. Session Laws, c. 572, the Environmental Management Commission hereby establishes the goal of reducing the average annual load of nitrogen delivered to the Neuse River Estuary from point and nonpoint sources by a minimum of 30 percent of the average annual load for the period 1991 through 1995 by the year 2001. All waters of the Neuse River Basin have been supplementally classified as Nutrient Sensitive Waters (NSW) pursuant to 15A NCAC 2B .0223. The following procedures are to be implemented in accordance with 15A NCAC 2B .0223 in all waters of the Neuse River Basin;

(1) NSW management requirements for the Neuse River Basin are specified in the following Rules of this Section:
   (a) Rule .0233 for protection and maintenance of ~~existing forested~~ riparian areas,
   (b) Rule .0234 for wastewater discharges,
   (c) Rule .0235 for urban stormwater management,
   (d) Rules .0236 and .0238 for agricultural nitrogen reduction,
   (e) Rule .0239 for nutrient management, and
   (f) Rule .0240 for nitrogen offset fees.

(2) Failure to meet requirements of Rules .0233, .0234, .0235, .0236, .0238, .0239, and .0240 of this Section may result in imposition of enforcement measures as authorized by N.C.G.S. 143-215.6A (civil penalties), N.C.G.S. 143-215.6B (criminal penalties), and N.C.G.S. 143-215.6C (injunctive relief).

15A NCAC 2B .0233 is proposed for adoption as follows:

.0233 NEUSE RIVER BASIN: NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: PROTECTION AND MAINTENANCE OF ~~EXISTING~~ RIPARIAN AREAS

The following is the management strategy for maintaining and protecting ~~existing~~ riparian areas in the Neuse River Basin:

(1) ~~Existing r~~Riparian areas shall be protected and maintained in accordance with this Rule ~~Sub-Items (3) (a) (e)~~ on all sides of surface waters in the Neuse River Basin (intermittent streams, perennial streams, lakes, ponds, and estuaries) as indicated on the most recent versions of United States Geological Survey 1:24,000 scale (7.5 minute quadrangle) topographic maps or other site-specific evidence. This Rule only applies to riparian areas where forest vegetation is established in Zone 1 (as described in Sub-Item (3)(a)) as of ~~June 12, 1997~~ July 22, 1997. Forest vegetation , as defined in 15A NCAC 2B .0202, of any width in Zone 1 must be protected and maintained in accordance with this Rule. THIS RULE DOES NOT ESTABLISH NEW BUFFERS IN RIPARIAN AREAS. Exceptions to the requirements of this Rule for ~~existing~~ riparian areas are described in Sub-Items ~~(1)~~ (2) (a-h). Maintenance of the riparian areas should be such that, to the maximum extent possible, sheet flow of surface water is achieved. ~~Any activities that would result in water quality standard violations or that disrupt the structural or functional integrity of the riparian area are prohibited.~~ This Rule specifies requirements that shall be implemented in riparian areas to ensure that the pollutant removal functions of the riparian area are protected and maintained.

Protecting and maintaining riparian areas with existing forest vegetation. This Rule does not establish new buffers in riparian areas

Forest vegetation of any width in Zone 1 must be protected.

(2) The following waterbodies and land uses are exempt from the riparian area protection requirements of this Rule:

(a) Ditches and manmade conveyances, other than modified natural streams;

Ditches are exempt

(b) Areas mapped as intermittent streams, perennial streams, lakes, ponds, or estuaries on the most recent versions of United States Geological Survey 1:24,000 scale (7.5 minute quadrangle) topographic maps where no perennial, ~~or~~ intermittent waterbody, or lake, pond or estuary actually exists on the ground;

Map errors addressed

(c) Ponds and lakes created for animal watering, irrigation, or other agricultural uses that are not part of a natural drainage way that is classified in accordance with 15A NCAC 2B .0100;

~~(e)~~ (d) ~~New development in the riparian area shall be limited to~~ wWater dependent structures as defined in 15A NCAC 2B .0202~~.~~, provided that they are ~~Any such structures shall be~~ located, designed, constructed and maintained to provide maximum nutrient removal, to have the least adverse effects on aquatic life and habitat and to protect water quality;

Water dependent structures are those structures for which the use requires access or proximity to or siting within surface waters to fulfill its basic purpose, such as boat ramps, boat houses, docks and bulkheads.

~~(f)~~ (e) Roads crossings, railroad crossings, bridges, airport facilities, stormwater management facilities~~;~~ and ponds, and utilities may be allowed where no practical alternative exists. These structures shall be located, designed, constructed~~;~~ and maintained to have minimal disturbance, to provide maximum nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical through the use of best management practices. A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size, configuration or density of the proposed activity and all alternative designs, the basic project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impact to surface waters;

Ancillary facilities such as restaurants, outlets for boat supplies, parking lots and commercial storage areas are not water dependent structures.

~~(g)~~(f) Stream restoration projects, scientific studies, stream gauging, water wells, passive recreation facilities such as boardwalks, trails, pathways, historic preservation and archaeological activities are allowed; ~~and~~ provided that they are located, designed, constructed and maintained to provide the maximum nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical through the use of best management practices;

~~(h)~~(g) Stream crossings associated with timber harvesting are allowed if performed in accordance with the Forest Practices Guidelines Related to Water Quality (15A NCAC 1J .0201-.0209)~~.~~; and

(h) A corridor for the construction and maintenance of utility lines (including access roads and stockpiling of materials) is allowed if it is limited to 40 feet in width and best management practices are installed to minimize runoff and maximize water quality protection to the maximum extent practicable. Permanent, maintained access corridors shall be restricted to the minimum width practicable and shall not exceed 10 feet in width except at manhole locations. A 10 feet by 10 feet perpendicular vehicle turnaround is allowed provided it is spaced at least 500 feet apart along the riparian area.

(3) The protected riparian area shall have two zones as follows:

(a) Zone 1 is intended to be an undisturbed area of forest vegetation. Any forest vegetation, as defined in Rule .0202 of this Section, in Zone 1 as of July 22, 1997 shall be maintained and protected in accordance with this Rule.

(i) Location of Zone 1: Zone 1 begins at the ~~centerline of the channel~~ top of bank for intermittent streams and perennial streams ~~without tributaries~~ and extends landward a distance of 30 feet on all sides of the waterbody, measured horizontally on a line perpendicular to the waterbody. For all other waterbodies, Zone 1 begins at ~~the upper edge of the active channel of the surface waterbody (bank full flow) channel or~~ the top of bank or mean high water line and extends landward a distance of 30 feet, measured horizontally on a line perpendicular to the waterbody. ~~Forest vegetation of any width that exists in Zone 1 on the effective date of this Rule must be preserved and maintained in accordance with Sub-Items (i) (v). The application of fertilizer in Zone 1 is prohibited.~~

Zone 1 (30 ft) functions to remove and transform the nutrients, sediments and pollutants that may move through Zone 2 as well as to stabilize the stream bank and prevent erosion.

Zone 1 vegetation also controls the stream environment by providing shade to moderate temperatures, and by maintaining aquatic life uses.

(ii) The following practices and activities are allowed in Zone 1:

Activities that are allowed in Zone 1

~~(i)~~ (A) Natural regeneration of forest vegetation ~~is allowed~~ and planting vegetation to enhance the riparian area ~~zone is allowed~~ if disturbance is minimized, provided that~~.~~ ~~A~~any plantings should primarily consist of locally native trees and shrubs;

~~(ii)~~ (B) Selective ~~removal of individual high value~~ cutting of trees provided that the basal area (measured as 12-inch diameter at breast height) remains at or above 60 square feet per acre of riparian area. ~~is allowed where water quality values are not compromised~~. Limited mechanized equipment is allowed in this area;

~~(iii)~~ (C) Horticulture or silvicultural practices ~~may be used~~ to maintain the health of individual trees;

~~(iv)~~ (D) Removal of ~~I~~individual trees ~~may be removed~~ which are in danger of causing damage to dwellings, other structures~~,~~ or the stream channel; and

~~(v)~~ (E) Removal of dead trees and ~~O~~other timber cutting techniques necessary to prevent extensive pest or disease infestation if recommended by the Director, Division of Forest Resources and approved by the ~~Department~~ Director, Division of Water Quality ~~may be undertaken if necessary to prevent extensive pest or disease infestation~~.

(F) Ongoing agricultural operations provided that existing forest vegetation is protected and requirements in Rules .0236 and .0238 of this Section are followed.

(iii) The following practices are not allowed in Zone 1:

Activities not allowed in Zone 1.

(A) Land-disturbing activities and placement of fill and other materials, other than those allowed in Items 2 and 3(a)(ii) of this Rule, that would disturb forest vegetation, as defined in Rule .0200 of this Section;

(B) New development, except as provided in Sub-Items 2(d), 2(e) and 2(f) of this Rule;

(C) New on-site sanitary sewage systems which use ground adsorption;

(D) The application of fertilizer.

(E) Any activity that threatens the health and function of the vegetation including, but not limited to, application of chemicals in amounts exceeding the manufacturer's recommended rate, uncontrolled sediment sources on adjacent lands, and the creation of any areas with bare soil.

(b) Vegetation in Zone 2 shall consist of a dense ground cover composed of herbaceous or woody species which provides for diffusion and infiltration of runoff and filtering of pollutants.

The purpose of Zone 2 (20 ft) is to provide sediment filtering, nutrient uptake and the space necessary to convert concentrated flow to uniform, shallow, sheet flow.

~~(b)~~ (i) Location of Zone 2: Zone 2 begins at the outer edge of Zone 1 and extends landward a minimum of 20 feet as measured horizontally on a line perpendicular to the waterbody. The combined minimum width of Zones 1 and 2 shall be 50 feet on all sides of the waterbody. ~~Vegetation in Zone 2 shall consist of a dense ground cover composed of herbaceous or woody species which provides for diffusion and infiltration of runoff and filtering of pollutants.~~

(ii) The following practices and activities are allowed in Zone 2 in addition to those allowed in Zone 1:

Activities that are allowed in Zone 2

(A) ~~Removal of grass clippings or~~ Periodic mowing and removal of plant products such as timber, nuts, and fruit is allowed on a periodic ~~and regular~~ basis provided the intended purpose of the riparian area is not compromised by harvesting, disturbance, or loss of forest or herbaceous ground cover.

(B) Forest vegetation in Zone 2 may be managed to minimize shading on adjacent land if the water quality function of the riparian area is not compromised.

(C) Ongoing agricultural operations provided that requirements of Rules .0236 and .0238 of this Section are followed.

(iii) The following practices and activities are not allowed in Zone 2: *Activities not allowed in Zone 2*

(A) Land disturbing activities and placement of fill and other materials, other than those allowed in Items 2 and 3(b)(ii) of this Rule;

~~(i)~~ (B) New development, except as provided in Sun- Items 2(e) and 2(f) of this Rule ~~permanent structures~~;

~~(ii)~~ (C) New on-site sanitary sewage systems which use ground adsorptions;

~~(iii)~~ (D) The application of fertilizer; and

(E) Any activity that threatens the health and function of the vegetation including, but not limited to, application of chemicals in amounts exceeding the manufacturer's recommended rate, uncontrolled sediment sources on adjacent lands, and the creation of any areas with bare soil. ~~Activities that would result in water quality standards violations or disrupt the structural or functional integrity of the riparian area are prohibited.~~

(c) Timber removal and skidding of trees shall be directed away from the water course or water body. Skidding shall be done in a manner to prevent creation of ephemeral channels perpendicular to the water body. Any tree removal must be performed in a manner that does not compromise the intended purpose of the riparian area and is in accordance with the Forest Practices Guidelines Related to Water Quality (15A NCAC 1J .0201-.0209). *Timber removal in the riparian area*

(d) Maintenance of sheet flow in Zones 1 and 2 is required in accordance with this Item.

Sheet flow maintenance is required to ensure that the riparian areas function to reduce nutrient loading as intended.

(i) Sheet flow must be maintained to the maximum extent practical through dispersing concentrated flow and/or re-establishment of vegetation to maintain the effectiveness of the riparian area.

(ii) Concentrated runoff from new ditches or manmade conveyances must be dispersed into sheet flow before the runoff enters Zone 2 of the riparian area. Existing ditches and manmade conveyances, as specified in Sub-Item 2(a) of this Rule, are exempt from this requirement; however, care should be taken to minimize pollutant loading through these existing ditches and manmade conveyances from fertilizer application or erosion.

(iii) Periodic corrective action to restore sheet flow ~~must~~ should be taken by the landowner if necessary to impede the formation of erosion gullies which allow concentrated flow to bypass treatment in the riparian area.

(e) Periodic maintenance of modified natural streams such as canals is allowed provided that disturbance is minimized and the structure and function of the riparian area is not compromised. A grassed travelway is allowed on one side of the waterbody when alternative forms of maintenance access are not practical. The width and specifications of the travelway shall be only that needed for equipment access and operation. The travelway ~~should~~ shall be located to maximize stream shading.

Maintenance of manmade conveyances

~~(2)~~ (4) If a local government has been issued a Municipal Separate Stormwater Sewer System permit or has been delegated to implement a local stormwater program, then the local government shall ensure that the riparian areas to be protected are, as a standard practice, recorded on new or modified plats ~~as easements~~.

Provision for local government subject to the stormwater rule to ensure that riparian areas are recorded on plats.

~~(4)~~ (5) Where the standards and management requirements for riparian areas are in conflict with other laws, regulations, and permits regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting, surface mining, land disturbance activities, development in Coastal Area Management Act Areas of Environmental Concern, or other environmental protection areas, the more protective shall apply ~~so long as they are in effect~~.

(6) Where application of this Rule would prevent all ~~prospective~~ reasonable uses of a lot platted and recorded prior to the effective date of this Rule, a variance may be granted by the Environmental Management Commission if it finds that:

Variances

(a) practical difficulties or unnecessary hardships would result in strict application of the Rule;

(b) such difficulties or hardships result from conditions which are peculiar to the property involved; and

(c) the general purpose and intent of the Rule would be preserved, water quality would be protected and substantial justice would be done if the variance were granted.

15A NCAC 2B .0234 is proposed for adoption as follows:

.0234 NEUSE RIVER BASIN - NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: WASTEWATER DISCHARGE REQUIREMENTS

The proposed rule for wastewater discharges has been rearranged based on public comments received. The following rule should be substituted for the version that was noticed in the North Carolina Register.

The following is the National Pollutant Discharge Elimination System (NPDES) wastewater discharge management strategy for the Neuse River Basin:

Wastewater Point Source Discharger Requirements.

(1) All new and expanding dischargers will be required to document that all practical alternatives to surface water discharge were evaluated pursuant to 15A NCAC 2H .0105(c)(2), prior to a submittal of an application for a discharge. For purposes of this rule, permitted discharges means those individually permitted and not those covered under general permits.

(2) All wastewater dischargers greater than or equal to 0.5 million gallons per day (MGD) permitted flow regardless of current loading levels are required to evaluate and optimize the operation of their facilities in order to reduce nutrient loadings. One year after the effective date of this rule, a report shall be submitted to the division by each wastewater discharger or collectively by an Association, documenting the efforts/level of reductions achieved.

Total Nitrogen Load Allocation for Point Source Dischargers.

(3) The collective total nitrogen load for all individually permitted wastewater discharges shall, on an annual mass basis, be no more than 2.8 million pounds per year, unless individual wastewater discharges separately or collectively purchase an offset loading reduction in accordance with the formula and process for offset payments set forth in 15A NCAC 2B .0240. Paragraphs (5), (6) and (7) of this Rule indicate how this load is allocated in the basin. Compliance with the 2.8 million pounds annual average mass load of total nitrogen shall be required within five years of the effective date of this rule and maintained thereafter. If dischargers individually choose to make nutrient offset payments per Rule .0240 of this Section, those offset payments shall be required prior to permit issuance. Nutrient offset payments made to purchase nitrogen load reductions through the process specified in Rule .0240 of this Section shall not be credited to a nonpoint source's existing load allocation.

(4) Any existing individual discharger or collective group of wastewater dischargers that accepts wastewater from another wastewater treatment facility in the Neuse River Basin and that results in the elimination of the discharge from that wastewater treatment facility shall be allowed to increase their annual mass load of total nitrogen discharged by the annual mass load of total nitrogen allocated to the wastewater treatment facility that is eliminated. If the wastewater treatment system that is to be eliminated has a permitted flow of less than 0.5 MGD, the annual mass load of total nitrogen shall be calculated from the most recent available data on that facility.

Allocation for existing individually permitted wastewater dischargers, total nitrogen and phosphorus requirements.

(5) The individually permitted wastewater discharges to the Neuse River basin with permitted flows of less than 0.5 MGD in 1995 shall be allocated an annual average mass load of 280,000 pounds of total nitrogen.
All existing facilities above Falls Lake Dam with permitted flows greater than or equal to 0.05 MGD will be required to meet a quarterly average total phosphorus limit of 2 mg/l. More stringent limits may apply to protect water quality standards in localized areas.

(6) The following Item specifies the nutrient allocations for discharges above Falls Lake with permitted flows greater than or equal to 0.5 MGD in 1995.

(a) The individually permitted discharges above Falls Lake Dam with permitted flows of greater than or equal to 0.5 MGD in 1995 shall be allocated an annual average mass load of 444,000 pounds of total nitrogen. The load shall be allocated to the individual facilities based upon the ratio of their 1995 permitted flow to the total 1995 permitted flow of those dischargers greater than or equal to 0.5 MGD above the Falls Lake Dam. The estimate of the total nitrogen load discharged through the Falls Lake Dam to the lower Neuse River shall be fifteen (15) percent of 444,000 pounds, or 66,600 pounds annual average total nitrogen discharged to the lower Neuse River.

(b) All existing facilities above Falls Lake Dam with permitted flows greater than or equal to 0.05 MGD will be required to meet a quarterly average total phosphorus limit of 2 mg/l. More stringent limits may apply to protect water quality standards in localized areas.

(7) The following Item specifies the nutrient allocations for discharges below Falls Lake with permitted flows greater than or equal to 0.5 MGD in 1995.

(a) Wastewater treatment plants below Falls Lake Dam that have a permitted flow greater than or equal to 0.5 MGD shall be assigned an annual mass loading limit for total nitrogen based upon the ratio of their 1995 actual flow to the total 1995 actual flow from all wastewater treatment plants greater than or equal to 0.5 MGD below Falls Lake Dam multiplied by 2.45 million pounds. The load shall be met within five years of the effective date of this Rule and maintained thereafter, unless offset payments are purchased in accordance with Item (3) of this Rule and Rule .0240 of this Section.

(b) All existing facilities below Falls Lake Dam with permitted flows greater than or equal to 0.5 MGD will be required to meet a quarterly average total phosphorus limit of 2 mg/l. More stringent limits may apply to protect water quality standards in localized areas.

(8) Wastewater treatment facilities for which individual permits had been issued for flows equal to or greater than 0.5 MGD prior to December 31, 1995, but had not begun discharging, shall be allocated a load based on their actual annual average flow for the period from July 1996 to June 1997

(9) All new wastewater discharge flows, flows not permitted prior to December 31, 1995, shall document efforts to obtain allocation from the load established in paragraph (3) of this section from existing wastewater discharges. If allocation can not be obtained from the existing dischargers, new dischargers may purchase an offset nutrient loading at a rate of 200 percent of the cost as set forth in 15A NCAC 2B .0240 of this Section to implement practices designed to reduce that same loading created by the new discharge. Payment for the offset nutrient loading shall be made prior to permit issuance in accordance with the process set forth in 15A NCAC 2B .0240. The new discharge shall at a minimum comply with an annual mass load of total nitrogen based on a concentration of 3.5 mg/l and their permitted flow. These facilities must meet a monthly average total phosphorous limit of 1 mg/l. More stringent limits may be given to protect water quality standards in localized areas.

Requirements for new proposed discharge flows not previously permitted.

(10) The following Item describes the option for dischargers to join an Association to collectively meet nutrient load allocations.

Establishes the option for dischargers to set up a coalition to jointly reduce total nitrogen loads. Association Member Requirements.

(a) All dischargers within the basin will have the option of forming an Association to meet collectively their allocated total nitrogen load. For dischargers that join the Association, an agreement will be drafted between the Division and the Association that includes annual loading targets. The membership of the Association shall be established no later than March 1, 1998. All facilities who apply for membership in the Association prior to March 1, 1998 shall be accepted. Thereafter, additions of facilities, which are existing as of the effective date of this Rule, to the membership in the Association may be considered every five years.

(b) The total nitrogen load allocated to the Association shall be calculated by the sum of the individual allocated loads developed in Paragraphs (5), (6), (7) and (8) of this Rule. This annual total nitrogen loading target shall be met within five years of the effective date of this rule. The agreement may also require stepwise decreases in total nitrogen loads for the 5 years following the effective date of this rule. When developing a final agreement, the Commission shall acknowledge the differences in transport percentages between dischargers above and below Falls Lake Dam. The Association shall also be required to document reduction in total nitrogen loadings for any member facilities located in Craven, Jones, Pamlico and Carteret Counties as a result of their immediate proximity to the estuary. If the Association does not meet its annual total nitrogen loading target in any given year, the Association shall make offset nutrient loading payments at a rate as set forth in 15A NCAC 2B .0240 of this Section. No Association exists, for the purposes of this Rule, until the Agreement is formally approved by the Commission.

(c) All existing Association dischargers below Falls Lake Dam that have a permitted flow greater than or equal to 0.5 MGD will receive a quarterly average total phosphorus limit of 2 mg/l in their NPDES permits. All existing Association dischargers above Falls Lake Dam that have a permitted flow greater than or equal to 0.05 MGD will receive a quarterly average total phosphorus limit of 2 mg/l in their NPDES permits. New and expanding Association dischargers will receive a quarterly average total phosphorus limit of 2 mg/l in their NPDES permits. More stringent phosphorous limits may apply to protect water quality standards in localized areas.

15A NCAC 2B .0235 is proposed for adoption as follows:

.0235 NEUSE RIVER BASIN- NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: BASINWIDE STORMWATER REQUIREMENTS

Stormwater Requirements

The following is the urban stormwater management strategy for the Neuse River basin:

(1) The following local governments shall be designated, based on population and other factors, for stormwater management requirements as part of the Neuse River Nutrient Sensitive Waters stormwater management strategy:

10 Municipalities and 5 Counties designated for stormwater management

(a) Cary,
(b) Durham,
(c) Garner,
(d) Goldsboro,
(e) Havelock,
(f) Kinston,
(g) New Bern,
(h) Raleigh,
(i) Smithfield,
(j) Wilson
(k) Durham County,
(l) Johnston County,
(m) Orange County,
(n) Wake County, and
(o) Wayne County.

(2) Other incorporated areas and other counties, not listed under Item (1), ~~within affected counties~~ may seek to implement their own local stormwater management plan by complying with the requirements specified in Items (5), (6) and (7) of this rule.

(3) The Environmental Management Commission may designate additional local governments based on their potential to contribute significant nutrient ~~nitrogen~~ loads to the Neuse River. The Commission shall review the need to designate additional local governments, based on population growth or pollution potential. At a minimum, the Commission shall review the need for additional designations to the stormwater management program as part of the basinwide planning process for the Neuse River Basin. Any local governments that are designated at a later date under the Neuse Nutrient Sensitive Waters Stormwater Program shall meet the requirements under Items (5), (6) and (7) of this rule.

Designation of additional local governments.

(4) Within 12 months of the effective date of this rule, the Division of Water Quality shall submit a model local stormwater management program plan to control nutrients to the Commission for approval. The Division will work in cooperation with subject local governments in developing

A model stormwater plan will be developed by DWQ.

this model plan. The model plan shall address nitrogen reductions for both existing and new development and include, but not be limited to, the following elements:

Components of the plan

(a) Review and approval of stormwater management plans for new developments to ensure that:

(i) the nitrogen load contributed by new development activities is held at 70% of the average nitrogen load contributed by the 1995 land uses of the non-urban areas of the Neuse River basin. The local governments shall ~~may~~ use a nitrogen export ~~the design~~ standard of 3.6 pounds/acre/year, determined by the Environmental Management Commission as 70% of the average collective nitrogen load for the 1995 non-urban land uses in the basin above New Bern. The EMC may periodically update the design standard based on the availability of new scientific information. Developers shall have the option of partially offsetting their nitrogen loads by funding wetland or riparian area restoration through the North Carolina Wetland Restoration Fund at the rate specified in Rule .0240 of this section.~~;~~ ~~h~~However, before using offset payments, the development must attain, at a minimum, a nitrogen export that does not exceed 6 pounds/acre/year for residential development and 10 pounds/acre/year for commercial or industrial development.

(ii) there is no net increase in peak flow leaving the site from the predevelopment conditions for the 1-year, 24-hour storm.

(b) Review of new development plans for compliance with requirements for protecting and maintaining ~~existing~~ riparian areas as specified in Rule 15A NCAC 2B .0233;

(c) Implementation of public education programs;

(d) Identification and removal of illegal discharges;

(e) Identification of suitable locations for potential stormwater retrofits (such as riparian areas) that could be funded by various sources; and

(f) Submittal of an annual ~~Annually~~ report on October 30 to the Division documenting progress and ~~on~~ net changes to nitrogen load from the local government's planning jurisdiction ~~urban area~~.

(5) Within 12 ~~18~~ months of the EMC's approval of the model local government stormwater program ~~effective date of this Rule~~ or later designation (as described in Item (3)), subject local governments shall submit their local stormwater management program plans to the Commission for review and approval. These local plans shall equal or exceed the model local stormwater management program plan

Within 12 ~~18~~ months of the EMC's approval of the model local government stormwater program ~~effective date of this Rule~~ or later designation, the designated local governments will submit their program plans for addressing new

established in Item (4). Local governments may submit a more stringent local stormwater management program plan. Local stormwater management programs and modifications to these programs shall be kept on file by the Division of Water Quality.

and existing development to the EMC. The plans must equal or exceed the DWQ model.

(6) Within 18 ~~24~~ months of the EMC's approval of the model local government stormwater program ~~effective date of the rule~~ or designation, subject local governments are required to adopt and implement a local stormwater management program according to their approved plan. Local governments administering a stormwater management program are required to submit annual reports to the Division documenting their progress and net changes to nitrogen load by October ~~November~~ 30 of each year.

Within 18 ~~24~~ months of the EMC's approval of the model local government stormwater program ~~effective date of the rule~~ or designation, the designated local governments will adopt and implement their local stormwater management programs for addressing new and existing development and submit annual reports.

(7) If a local government fails to submit an acceptable local stormwater management program plan within the time frames established in this Rule or fails to properly implement an approved plan, then stormwater management requirements for existing and new urban areas within its jurisdiction will be administered through the NPDES municipal stormwater permitting program per 15A NCAC 2H .0126.

If a designated local government fails to develop or implement an acceptable plan then the requirements will be administered through the NPDES municipal stormwater permitting program.

(a) Subject local governments will be required to develop and implement comprehensive stormwater management programs, tailored toward nitrogen reduction, for both existing and new development.

(b) These stormwater management programs shall provide all components that are required of local government stormwater programs in Item (4)(a)-(f) above. ~~include, but not be limited to, the following elements:~~

NPDES stormwater program requirements

~~(i) Review and approval of stormwater management plans for new developments to ensure that:~~

~~(A) the nitrogen load contributed by new development activities is held at 70% of the nitrogen load contributed by the 1995 land use. The local governments may use the design standard of 3.6 pounds/acre/year, determined by the Environmental Management Commission as the average collective nitrogen load for the 1995 non-urban land uses in the basin above New Bern. The EMC may periodically update the design standard as based on the availability of scientific information. Developers shall have the option of partially offsetting their nitrogen load by funding wetland or riparian area restoration through the North Carolina Wetland Restoration Fund; however, before using offset payments, the development must attain, at a~~

~~minimum, a nitrogen export that does not exceed 6 pounds/acre/year for residential development and 10 pounds/acre/year for commercial development.~~

~~(B) there is no net increase in peak flow from the predevelopment conditions for the 1-year, 24-hour storm.~~

~~(ii) Review new development plans for compliance with requirements for protecting and maintaining existing riparian areas as specified in Rule 15A NCAC 2B .0233;~~

~~(iii) Implementation of public education programs;~~

~~(iv) Identification and removal illegal discharges;~~

~~(v) Identification of suitable locations for potential stormwater retrofits (such as riparian areas) that could be funded by various sources; and~~

~~(vi) Annually report on changes to net nitrogen load from urban area.~~

(c) Local governments that are subject to an NPDES permit shall be covered by the permit for at least one permitting cycle (five years) before they are eligible to submit a local stormwater management program for consideration and approval by the EMC.

15A NCAC 2B .0236 is proposed for adoption as follows:
.0236 NEUSE RIVER BASIN- NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: AGRICULTURAL NITROGEN LOADING REDUCTION

The overall nitrogen reduction goal for agriculture

All persons engaging in agricultural operations in the Neuse River Basin, including those related to crops, livestock, and poultry, shall collectively achieve and maintain a 30% net total nitrogen loading reduction from the cumulative average 1991-1995 nitrogen loadings. ~~Such reduction shall be equivalent to a net total nitrogen loading reduction of 1,695,000 pounds per year to the Neuse River Estuary above New Bern (based on the 1991-1995 average nitrogen loadings).~~ In addition to requirements set forth in general permits for animal operations issued pursuant to N.C.G.S. 143-215.10C, these rules apply to all livestock and poultry operations, regardless of size, in the Neuse River Basin. A management strategy to achieve this reduction is specified in Rule .0238 of this Section.

15A NCAC 2B .0238 is proposed for adoption as follows:

.0238 NEUSE RIVER BASIN- NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: AGRICULTURAL NITROGEN REDUCTION STRATEGY

The following requirements apply to all persons in the Neuse River Basin who engage in agricultural operations. Agricultural operations are activities which relate to the production of crops, livestock, and poultry.

(1) ~~The nitrogen net loading reduction specified in Rule .0236 of this Section shall be achieved collectively by~~ aAll persons engaging in agricultural operations in the Neuse River Basin shall collectively achieve and maintain a 30% net total nitrogen loading reduction from the cumulative average 1991-1995 nitrogen loadings within five years from the effective date of this Rule. Persons subject to this Rule are provided with two options for meeting the requirements of this Rule. The first option is to sign-up for and participate in implementing a collective ~~county plan~~ local strategy for agricultural nitrogen reduction as described in Item (7) of this Rule. This option allows site-specific plans to be developed for those operations where further nitrogen reduction practices are necessary to achieve the collective reduction goal. The second option requires the implementation of standard Best Management Practices as specified in Item (8) of this Rule. Failure to meet requirements of this Rule may result in imposition of enforcement measures as authorized by N.C.G.S. 143-215.6A (civil penalties), N.C.G.S. 143-215.6B (criminal penalties), and N.C.G.S. 143-215.6C (injunctive relief).

Net nitrogen loading reduction for agricultural operations shall collectively achieve a 30% net reduction.

Two options for agricultural operations:

1. *Participate in a collective ~~county plan~~ local strategy that provides site-specific flexibility, or*
2. *Implement standard Best Management Practices*

Enforcement

(2) Formation and membership of the Basin Oversight Committee. The Environmental Management Commission shall delegate to the ~~Directors of the Division of Water Quality and Division of Soil and Water Conservation~~ Secretary of the Department of Environment and Natural Resources the responsibility of forming a Basin Oversight Committee.

Formation of the Basin Oversight Committee

(a) The ~~Directors~~ Secretary shall solicit one nomination for membership on this Committee from each of the following agencies:

Composition of the Basin Oversight Committee

(i) Division of Soil and Water Conservation,
(ii) United States Department of Agriculture- Natural Resources Conservation Service,
(iii) North Carolina Department of Agriculture,
(iv) North Carolina Cooperative Extension Service, and
(v) Division of Water Quality.
(vi) The ~~Directors~~ Secretary shall also solicit one nomination that represents environmental interests, one nomination that represents agricultural

interests, and one from the scientific community with experience related to water quality problems in the Neuse River Basin.

(b) Nominations for Basin Oversight Committee shall be approved by the Secretary, Department of Environment, ~~Health~~ and Natural Resources. Members shall be appointed for a term not to exceed five years and shall serve at the pleasure of the Secretary. The United States Department of Agriculture- Natural Resources Conservation Service member will serve in an "ex-officio" capacity and will function as a technical program advisor to the committee.

Appointment of the Basin Oversight Committee by the Secretary of DE~~H~~NR

(3) Role of the Basin Oversight Committee. The Environmental Management Commission shall delegate the following responsibilities to ~~qualified employees of the Department who are members of~~ the Basin Oversight Committee ~~and employees of the Division of Water Quality and Division of Soil and Water Conservation. These qualified employees shall act with advice from the Basin Oversight Committee~~.

Responsibilities of the Basin Oversight Committee

(a) Develop a tracking and accounting methodology, as described below, for evaluating total nitrogen loading from agricultural operations and progress toward reaching the total nitrogen net loading reduction from the implementation BMPs within the Neuse River Basin ~~above New Bern~~. The accountability methodology must demonstrate how the nitrogen loading reduction can be met collectively by implementing best management practices approved by the Soil and Water Conservation Commission ~~above New Bern~~ that include, but are not limited to, water control structures, riparian area establishment, and nutrient management.

Accountability process

BMPs must have quantifiable nitrogen reduction benefits

(b) Submit ~~the~~ a draft accountability process to the Environmental Management Commission for ~~approval~~ review within ~~one year~~ six months after the effective date of the Rule and the final accountability process to the Environmental Management Commission for approval within one year after the effective date of the Rule. If the Basin Oversight Committee fails to submit an approvable accountability process to the Environmental Management Commission, the Environmental Management Commission may require all agricultural operations to follow the standard Best Management Practices option as specified in Item (8) of this Rule.

EMC reviews the accountability process

(c) Include in the accountability process a method to accurately track implementation of BMPs, including location and type of BMPs; to estimate nitrogen reductions from BMP implementation; to quantify increases or decreases in nitrogen loading due to

Details of the accountability process

changes in land use, modified agricultural activity, or atmospheric nitrogen loading, based on the best available scientific information; to ensure operation and maintenance of BMPs, including year round management for water control structures; to address life expectancy of BMPs; and a method to ensure maintenance of the nitrogen net loading reduction after the initial five years of this Rule, including substitute BMPs to replace expired practices and additional BMPs to offset new sources of nitrogen.

(d) Calculate a separate total nitrogen loading for agricultural lands in the Neuse River Basin above and below New Bern based on the average of 1991-1995 conditions. Based on this loading, calculate a separate 30% net reduction. Loading calculations must include atmospheric emissions and deposition of nitrogen from agricultural lands based on the best available scientific information. Allocate to counties or watersheds, as allowed in 4(a), within the Neuse River Basin ~~above New Bern~~ their portion of the calculated nitrogen loading reduction from agricultural operations, including any division of the reduction between specific categories of agricultural operations. Each county or watershed may not have to reduce individually its nitrogen loading by 30%; however, the nitrogen loading reduction from all counties or watersheds above New Bern should collectively meet ~~the~~ their total nitrogen reduction and all counties or watersheds below New Bern should collectively meet their total nitrogen reduction. If the Basin Oversight Committee fails to allocate the nitrogen loading reductions from agricultural operations to counties or watersheds within the Neuse River Basin, the Environmental Management Commission may assign the agricultural nitrogen reductions based on the approved accountability methodology.

Counties may "trade separately above and below New Bern" as long as the net overall nitrogen reduction goal is met.

Counties below New Bern also have to achieve 30% reduction collectively.

The EMC may assign the nitrogen reduction goal for agricultural operations to counties or watersheds if the Basin Oversight Committee fails to reach an agreement.

(e) Review, approve and summarize county nitrogen reduction ~~plans~~ strategies and present these ~~plans~~ strategies to the Environmental Management Commission for approval within two years from the effective date of this Rule.

Approval of ~~county~~ local reduction ~~plans~~ strategy

(f) Review, approve and summarize ~~county~~ local nitrogen reduction annual reports and present these reports to the Environmental Management Commission each October. Information to be included in the Annual Report is described in Item (5)(d) of this Rule.

Annual reports

(4) Formation and membership of the ~~County~~ Local Advisory Committees. The Environmental Management Commission shall delegate to the Directors of the Division of Water

Formation of ~~County~~ Local Advisory Committees

Quality and Division of Soil and Water Conservation the responsibility of forming ~~County~~ Local Advisory Committees.

(a) The Directors shall form ~~County~~ Local Advisory Committees in each county (or watershed specified by the Basin Oversight Committee) within the Neuse River Basin. The Directors shall solicit nominations for membership on the ~~County~~ Local Advisory Committee from each of the following local agencies:
  (i) Soil and Water Conservation District,
  (ii) United States Department of Agriculture- Natural Resources Conservation Service,
  (iii) North Carolina Department of Agriculture, ~~and~~
  (iv) North Carolina Cooperative Extension Service, and
  (v) North Carolina Division of Soil and Water Conservation.
  (v) The Directors shall also solicit ~~one~~ at least two nominations that represents ~~a~~ local farmers in the county or watershed.

  The Soil and Water Conservation District may be designated by the Basin Oversight Committee as the lead agency on the Local Advisory Committee.

(b) Nominations for the ~~County~~ Local Advisory Committees shall be approved by the ~~Directors~~ Environmental Management Commission and Soil and Water Conservation Commission and shall be appointed for a term not to exceed five years and shall serve at the pleasure of the ~~Directors~~ Commissions.

(5) Role of the ~~County~~ Local Advisory Committees. The Environmental Management Commission shall delegate the following responsibilities to qualified employees of the Department who are members of the ~~County~~ Local Advisory Committees and employees of the Division of Soil and Water Conservation. These qualified employees shall act with advice from the ~~County~~ Local Advisory Committees.

Responsibilities of the ~~County~~ Local Advisory Committees

(a) Conduct a sign-up process for persons wishing to voluntarily implement the ~~county~~ local nitrogen reduction ~~plan~~ strategy as specified in Item (7) of this Rule. This sign-up process shall be completed within one year following the effective date of this Rule.

Sign-up process for ~~county~~ local implementation option within one year of effective date

(b) Develop ~~county~~ local nitrogen reduction ~~plans~~ strategies that meet the nitrogen loading reduction goals for agricultural operations assigned by the ~~Directors with advice from~~ the Basin Oversight Committee. The ~~county plans~~ local strategies shall be designed to achieve the required nitrogen loading reduction within five years from the effective date of this Rule. A matrix of best management practice options, which account for stream order, floodplain width, and regional variations

Development of ~~county~~ local nitrogen reduction ~~plans~~ strategies

Site-specific BMPs - "matrix of options"

in soil types and topography, may be used in developing the ~~county~~ local nitrogen reduction ~~plans~~ strategies. ~~County~~ Local nitrogen reduction ~~plans~~ strategies must specify the name and location of participant agricultural farming operations, BMPs which will be required as part of the plan, estimated nitrogen reduction, schedule for BMP implementation, and operation and maintenance requirements. If the Local Advisory Committee fails to develop the local nitrogen reduction strategy, the Environmental Management Commission may develop the strategy based on the tracking and accounting method approved by the Environmental Management Commission.

Contents of the ~~plans~~ strategies

(c) Submit an annual report to the Basin Oversight Committee each May on net total nitrogen loading reductions from agricultural operations, the implementation of BMPs for nitrogen control, and progress towards the total nitrogen loading reduction requirements in the Neuse River Basin above and below New Bern.

Annual reports to the Basin Oversight Committee

(d) Include in the annual report, at a minimum, documentation on the BMPs implemented (including type and location), their costs, documentation of any expired contracts for BMPs, estimated nitrogen net loading reductions achieved as a result of those BMPs, any increases or decreases in nitrogen loading resulting from changes in land use or modified agricultural-related activity, discussion of operation and maintenance of BMPs, and a summary of the estimated load from agricultural operations for the previous year, and any modifications to the accounting methodology. Information shall be provided in the annual report on the status of BMP implementation and estimated total nitrogen reduction by ~~each participant in the county nitrogen reduction plan. Information shall include~~ all agricultural operations within the Neuse River Basin in each county or watershed. ~~and~~ The annual report shall also be summarized separately for cropland, livestock and poultry activities. ~~The annual report following the fourth year after the effective date of this Rule shall include documentation of the implementation status of best management practices specified in Item (8) of this Rule. The Environmental Management Commission shall use the annual reports to determine the need for adjustments to the nitrogen reduction Neuse river nutrient sentsitive water management strategy for agricultural operations.~~

Contents of the annual reports

~~Fourth~~ The annual report must include reductions achieved by those who did not participate in the county plans.

~~The EMC uses the annual reports to determine the need for adjustments in the reduction strategy.~~

(6) Options for meeting the collective total nitrogen net loading reduction requirement. Each agricultural operation in the

The two options for persons engaged in agricultural operations.

Neuse River Basin shall have two options for meeting the requirements of this Rule. The options are to either implement a ~~county~~ local nitrogen reduction ~~plan~~ strategy, specified by Item (7) of this Rule, or implement standard Best Management Practices specified by Item (8) of this Rule.

(7) ~~County~~ Local nitrogen reduction ~~plan~~ strategy option. All persons subject to this Rule that choose to implement the ~~county~~ local nitrogen reduction ~~plan~~ strategy must complete the sign-up process that will be conducted per the requirements of Item (5)(a) of this Rule. This sign-up process will be completed within one year from the effective date of this Rule. If a person subject to this Rule does not complete the sign-up process, he shall be subject to implementation of Best Management Practices as specified in Item (8) of this Rule. Persons who choose to participate in the ~~county~~ local nitrogen reduction ~~plan~~ strategy must commit and implement ~~his~~ their portion of the plan within 5 years of the effective date of this Rule. Such persons can not withdraw from the local nitrogen reduction strategy during the initial five-year period. The local nitrogen reduction strategy is not be required to be more stringent than the standard best management practice option provided that the net nitrogen reduction goals are met collectively; however, the Local Advisory Committees may develop more stringent strategies if they choose to do so.

County nitrogen reduction plan option

After sign-up for the local nitrogen reduction strategy, persons can't withdraw from the strategy.

8) Standard best management practice option. If a person subject to this Rule does not complete the sign-up process for implementation of the ~~county~~ local nitrogen reduction ~~plan~~ strategy, then he shall implement the following best management practices within four years following the effective date of this Rule.

(a) A forested riparian area, as described in Sub-Item (8)(a)(i)-(ii)of this Rule, is required on all sides of surface waters in the Neuse River Basin indicated as intermittent streams, perennial streams, lakes, ponds and estuaries on the most recent versions of U.S.G.S. 1:24,000 scale (7.5 minute quadrangle) topographic maps or other site-specific evidence. Design and installation of the forested riparian area should be such that, to the maximum extent possible, sheet flow of surface water is achieved. Any activities that would result in water quality standard violations or disrupt the structural or functional integrity of the forested riparian area are prohibited. The protected riparian area shall have two zones as follows:

Standard best management practice option

~~(a) The protected riparian area shall have two zones as follows:~~

Standard riparian forest BMP

(i) Zone 1 is intended to be undisturbed forest. Zone 1

begins at the ~~centerline of the channel~~ top of bank for intermittent streams and perennial streams without tributaries and extends landward a distance of 30 feet on each side of the waterbody, measured horizontally on a line perpendicular to the waterbody. For all other waterbodies, Zone 1 begins at the ~~upper edge of the active channel of the surface waterbody (bank full flow) or~~ top of bank or the mean high water line and extends landward a distance of 30 feet, measured horizontally on a line perpendicular to the waterbody. Forest vegetation of any width that exists in Zone 1 ~~on the effective date of this Rule~~ as of July 22, 1997 must be preserved and maintained in accordance with Sub-Items (A)-(F). The application of fertilizer in Zone 1 is prohibited. The following practices and activities are allowed in Zone 1:

Zone 1 (30 ft) functions to remove and transform the nutrients, sediments and pollutants that may move through Zone 2 as well as to stabilize the stream bank and prevent erosion.

Zone 1 vegetation also controls the stream environment by providing shade to moderate temperatures, and by maintaining aquatic life uses.

Practices allowed in Zone 1

(A) Natural regeneration of forest vegetation ~~is allowed~~ and planting vegetation to enhance the riparian area ~~zone is allowed~~ if disturbance is minimized, provided that~~.~~ ~~A~~any plantings should primarily consist of locally native trees and shrubs;

(B) Selective ~~removal of individual high value~~ cutting of trees ~~is allowed where~~ provided that the basal area (measured as 12-inch dismeter breast height) remains at or above 60 square feet per acre of riparian area.~~ water quality values are not compromised~~. Limited mechanized equipment is allowed in this area;

(C) Horticulture or silvicultural practices ~~may be used~~ to maintain the health of individual trees;

(D) Removal of ~~I~~individual trees ~~may be removed~~ which are in danger of causing damage to dwellings, other structures~~,~~ or the stream channel; and

(E) Removal of dead trees and ~~O~~other timber cutting techniques necessary to prevent extensive pest or disease infestation if recommended by the Director, Division of Forest Resources and approved by the ~~Department~~ Director, Division of Water Quality ~~may be undertaken if necessary to prevent extensive pest or disease infestation~~.

~~(F) For activities where no practical alternative to clearing existing forest vegetation exists, 300 feet of herbaceous vegetation on each side of the waterbody where nutrients are not applied may be substituted in lieu of Zone 1.~~

(ii) Zone 2: begins at the outer edge of Zone 1 and

The purpose of Zone 2 (20 ft) is to

extends landward a minimum of 20 feet as measured horizontally on a line perpendicular to the waterbody. The combined minimum width of Zones 1 and 2 shall be 50 feet on all sides of the waterbody. Vegetation in Zone 2 shall consist of a dense ground cover composed of herbaceous or woody species which provides for diffusion and infiltration of runoff and filtering of pollutants. The following practices and activities are allowed in Zone 2 in addition to those allowed in Zone 1: ~~Removal of grass clippings~~ Periodic mowing and removal ~~or~~ plant products such as timber, nuts, and fruit is allowed on a periodic ~~and regular~~ basis provided the intended purpose of the riparian area is not compromised by harvesting, disturbance, or loss of forest or herbaceous ground cover. Forest vegetation in Zone 2 may be managed to minimize shading on adjacent land if the water quality function of the riparian area is not compromised.

provide sediment filtering, nutrient uptake and the space necessary to convert concentrated flow to uniform, shallow, sheet flow.

(iii) The following practices and activities are not allowed in Zone 1 and Zone 2:

Activities not allowed in Zone 2

A) Land disturbing activities and placement of fill and other materials, other than those allowed in Items 8(a)(i) and 8(b) of this Rule;

~~(i)~~ (B) New development ~~permanent structures~~;

~~(ii)~~ (C) New on-site sanitary sewage systems which use ground adsorptions;

~~(iii)~~ (D) Any activity that threatens the health and function of the vegetation including, but not limited to, application of fertilizer or chemicals in amounts exceeding the manufacturer's recommended rate, uncontrolled sediment sources on adjacent lands, and the creation of any areas with bare soil. ~~Activities that would result in water quality standards violations or disrupt the structural or functional integrity of the riparian area are prohibited.~~

~~(iii)~~ (iv)Timber removal and skidding of trees in the riparian area shall be directed away from the water course or water body. Skidding shall be done in a manner to prevent creation of ephemeral channels perpendicular to the water body. Any tree removal must be performed in a manner that does not compromise the intended purpose of the riparian area and is in accordance with the Forest Practices Guidelines Related to Water Quality (15A NCAC 1J .0201-.0209).

Timber removal in the riparian area

(b) The following waterbodies and land uses are exempt from the riparian area requirement:

Exemptions

(i) Ditches and manmade conveyances, other than modified natural streams which under normal conditions do not receive drainage waters from any tributary ditches, canals, or streams, unless the ditch or manmade conveyance delivers runoff directly to waters classified in accordance with 15A NCAC 2B .0100;

Hoe drains and field ditches

(ii) Ditches and manmade conveyances other than modified natural streams which are used exclusively for drainage of silvicultural land or naturally forested areas. All forest harvesting operations shall be in compliance with North Carolina's Forest Practices Guidelines Related to Water Quality;

Silvicultural ditches

(iii) Areas mapped as perennial streams, intermittent streams, lakes, ponds or estuaries on the most recent versions of United States Geological Survey 1:24,000 scale (7.5 minute quadrangle) topographic maps where no perennial, ~~or~~ intermittent waterbody, or lakes, ponds or estuaries exists on the ground;

Map errors

(iv) Ponds and lakes created for animal watering, irrigation, or other agricultural uses that are not part of a natural drainage way that is classified in accordance with 15A NCAC 2B .0100.

(v) Water dependent structures as defined in 15A NCAC 2B .0202 provided that they are located, designed, constructed and maintained to provide maximum nutrient removal, to have the least adverse effects on aquatic life and habitat and to protect water quality

(vi) Roads crossings, railroad crossings, bridges, airport facilities stormwater management facilities, ponds, and utilities may be allowed where no practical alternative exists. These structures shall be located, designed, constructed, and maintained to have minimal disturbance, to provide maximum nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical through the use of best management practices. A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size, configuration or density of the proposed activity and all alternative designs, the basic project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impact to surface waters;

(vii) Stream restoration projects, scientific studies, stream gauging, water wells, passive recreation

facilities such as boardwalks, trails, pathways, historic preservation and archaeological activities are allowed; ~~and~~ provided that they are located, designed, constructed and maintained to provide the manximun nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to maximum extent practical through the use of best management practices.

(viii) Stream crossings associated with timber harvesting are allowed if performed in accordance with the Forest Practices Guidelines Related to Water Quality (15A NCAC 1J .0201-.0209).;and

(ix) A corridor for the construction and maintenance of utility lines (including access roads and stockpiling of materials) is allowed if it is limited to 40 feet in width and best management practices are installed to minimize runoff and maximize water quality protection to the maximum extent practicable. Permanent, maintained access corridors shall be restricted to the minimum width practicable and shall not exceed 10 feet in width except at manhole locations. A 10 feet by 10 feet perpendicular vehicle turnaround is allowed provided it is spaced at least 500 feet apart along the riparian area.

Forest riparian area exemption for water control structures and nutrient management plan

~~(v)~~(x) In additional to exceptions included in 8(b)(i) - (ix), c~~C~~anals, ditches, and other drainage conveyances are exempt from the riparian area requirement if both water control structures with a water control structure management plan and a nutrient management plan~~, as specified in Rule 15A NCAC 2B .0239,~~ are implemented on the adjacent agricultural land according to the standards and specifications of the USDA - Natural Resources Conservation Service or the standards and specifications adopted by the NC Soil and Water Conservation Commission. The water control structures and nutrient management practices must provide equivalent protection and directly affect the land and waterbodies draining into the waterbody exempted from the riparian area requirement. To the maximum extent practical, water control structures should be managed to maximize nitrogen removal throughout the year. A technical specialist designated pursuant to rules adopted by the Soil and Water Conservation Commission must provide written approval that the nutrient management and water management plans meet the standards and specifications of the USDA - Natural Resources

Conservation Service or the standards and specifications adopted by the NC Soil and Water Conservation Commission. If the nutrient management plans and water management plans are not implemented, then a riparian area pursuant to this Section is required.

(c) The following are modifications to the riparian area requirements. *Modifications*

(i) On agricultural land where either water control structures with a water control structure management plan, or a nutrient management plan is implemented according to the standards and specifications of the USDA - Natural Resources Conservation Service or the standards and specifications adopted by the NC Soil and Water Conservation Commission, then a 20-ft forested or a 30-ft vegetated buffer is required. The water control structures or nutrient management practices must provide equivalent protection and directly affect the land and waterbodies draining into the waterbody with a modified buffer requirement. To the maximum extent practical, water control structures should be managed to maximize nitrogen removal throughout the year. A technical specialist designated pursuant to rules adopted by the Soil and Water Conservation Commission must provide written approval that the nutrient management plan meets the standards and specifications of the USDA - Natural Resources Conservation Service or the standards and specifications adopted by the NC Soil and Water Conservation Commission. *Reduced buffer with water control structures or nutrient management plan*

(ii) A vegetated riparian area may be substituted for an equivalent width of forested riparian area within 100 feet of tile drainage.

(iii) Where the riparian area requirements would result in an unavoidable loss of tobacco allotments [(7 CFR 723.220(c)] and the BMPs of controlled drainage or nutrient management are not in place, forest cover is required only in the first 20 feet of the riparian area.

(d) Maintenance of Zones 1 and 2 is required in accordance with this rule. *Sheet flow maintenance is required to ensure that the riparian areas function to reduce nutrient loading as intended.*

(i) Sheet flow must be maintained to the maximum extent practical through dispersing concentrated flow and/or re-establishment of vegetation to maintain the effectiveness of the riparian area.

(ii) Concentrated runoff from new ditches or manmade conveyances must be dispersed into sheetflow before the runoff enters Zone 2 of the riparian area.

Existing ditches and manmade conveyances, as specified in Sub-Item 8(b)(ii) of this Rule, are exempt from this requirement; however, care should be taken to minimize pollutant loading through these existing ditches and manmade conveyances from fertilizer application or erosion.

Drainage maintenance

(iii) Periodic corrective action to restore sheet flow ~~must~~ should be taken by the landowner if necessary to impede the formation of erosion gullies which allow concentrated flow to bypass treatment in the riparian area.

(e) Where the standards and management requirements for riparian areas are in conflict with other laws, regulations, and permits regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting, surface mining, land disturbance activities, development in Coastal Area Management Act Areas of Environmental Concern, or other environmental protection areas, the more protective shall apply ~~so long as they are in effect~~.

(f) The Environmental Management Commission acknowledges that best management practices under the standard management practice option of this Rule do not fully address nitrogen loading, including atmospheric emissions and deposition, from animal operations. As information becomes available on nitrogen loadings from animal operations and best management practices to control these loadings, other best management practices for animal operations may be required by the Commission as necessary to achieve equivalent reduction in nitrogen loadings therefrom. These additional best management practices shall be required if deemed necessary to achieve a net total nitrogen loading reduction from the animal operations based on average 1991-1995 conditions.

15A NCAC 2B .0239 is proposed for adoption as follows:

.0239 NEUSE RIVER BASIN: NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: NUTRIENT MANAGEMENT

The following is the management strategy for nutrient management in the Neuse River Basin:

(1) The following persons are required to obtain a certificate, issued within five years of the effective date of this Rule by the Cooperative Extension Service or the Division of Water Quality, verifying completion of training and continuing education in nutrient management. Within one year from the effective date of this Rule, the Division of Water Quality, in cooperation with the Cooperative Extension Service, shall conduct a sign-up process for persons wishing to take the nutrient management training. If these persons fail to obtain the nutrient management certificate, they are required to develop and properly implement nutrient management plans for the lands where they apply fertilizer within five years of the effective date of this rule:

Nutrient management: The development, implementation, and periodic update of a nutrient management plan to apply nutrients at rates necessary to achieve realistic crop yields, improve the timing of nutrient application, and increase nutrient use efficiency.

A sign-up process for people wishing to take nutrient management training

(a) Applicators who in a calendar year apply fertilizer to cropland areas, <u>including row and vegetable crops, floraculture areas, ornamental areas and greenhouse production areas,</u> that together comprise at least 50 acres;

(b) Applicators who in a calendar year apply fertilizer to a golf course, recreational land areas, right-of-way, or other turfgrass areas that together comprise at least 50 acres; and

(c) Commercial applicators who apply fertilizer to at least 50 total acres per year of lawn and garden areas in residential, commercial, or industrial developments.

Affected parties - determined by the total combined area to which they apply nutrients in a year

Agricultural and Non-agricultural threshold set at 50 acres cumulative area

Repeat applications in one year do not multiply area

(2) If the persons listed in Item 1 (a)-(c) do not attend and complete within 5 years of the effective date of this Rule a nutrient management training program administered by the Cooperative Extension Service, their nutrient management plans shall meet the following requirements:

If the affected parties do not attend nutrient management training, they must develop and implement a nutrient management plan which must be approved by a technical specialist designated by the SWCC.

(a) Nutrient management plans for cropland shall meet the standards and specifications of the USDA - Natural Resources Conservation Service or the standards and specifications adopted by the NC Soil and Water Conservation Commission. Written approval from a technical specialist designated pursuant to rules adopted by the Soil and Water Conservation Commission must be obtained by the applicator certifying that a nutrient management plan meeting these standards has been developed for the lands where they apply fertilizer.

~~*Agricultural standards*~~
Row crops and some vegetable crops standard

(b) Nutrient management plans for turfgrass, ~~horticultural, and non-agricultural~~ floraculture, ornamental and greenhouse production application of nutrients shall meet the standards and specifications of the Division of Water Quality. These standards and specifications shall be developed by the Division of Water Quality in consultation with the Cooperative Extension Service, the Natural Resources Conservation Service, the Division of Soil and Water Conservation, and the North Carolina Department of Agriculture and approved by the Director of the Division of Water Quality within 1 year of the effective date of this rule. Written approval from a technical specialist designated pursuant to rules adopted by ~~the Soil and Water Conservation Commission~~ the Environmental Management Commission must be obtained by the applicator certifying that a nutrient management plan meeting these standards has been developed for the lands where they apply fertilizer.

~~*Non-agricultural standards*~~
Other standards

(c) Nutrient management plans and supporting documents must be kept on-site or be producible within 24 hours of a request by the Division of Water Quality.

Plans developed by those not participating in the training programs must be producible upon request.

(d) Nutrient management plans may be written by the applicator or a consultant to the applicator.

Plans may be written by farmers, other applicators, or consultants.

(3) Applicators and commercial applicators subject to Item (2) of this Rule who do not develop a nutrient management plan or do not apply nutrients in accordance with a nutrient management plan meeting the specifications in Item (2) are in violation of this rule and are subject to enforcement measures authorized in N.C.G.S. 143-215.6A (civil penalties), N.C.G.S. 143-215.6B (criminal penalties), and N.C.G.S. 143-215.6C (injunctive relief).

Enforcement

~~(4) Dry poultry litter from animal waste management systems involving 30,000 or more birds shall be applied at agronomic rates for nitrogen based on realistic yield expectations derived from waste nutrient content, crop, and soil type or yield records.~~

~~Dry poultry litter applied based on realistic yield expectations~~

~~(5)~~(4) Residential landowners and other individuals applying fertilizer to less than 50 acres per year should to the maximum extent practical apply fertilizer to residential, commercial, industrial, turfgrass, and cropland areas at rates recommended by the Cooperative Extension Service.

Those not affected by this Rule should seek nutrient management education and apply fertilizer accordingly.

.0240 NEUSE RIVER BASIN- NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: NUTRIENT OFFSET PAYMENTS

(a) Nutrient offset payments made as part of fulfilling requirements of the Neuse River Nutrient Sensitive Waters Management Strategy shall be paid to the ~~either of the following programs for implementation of measures to reduce nitrogen delivery to the Neuse River. These programs include:~~

~~Two mechanisms are established for nutrient offset payments:~~

~~• NC Ag. Cost Share Program~~

~~• NC Wetland Restoration Fund~~

The mechanism established for nutrient offset payments is the NC Wetland Restoration Fund.

~~(1) North Carolina Agriculture Cost Share Program for Nonpoint Sources. Monies paid to this fund shall be targeted toward implementing agricultural Best Management Practices for nitrogen reduction within the Neuse River Basin.~~

~~BMPs will be targeted for nitrogen reduction in the Neuse River Basin.~~

~~(2)~~ North Carolina Wetland Restoration Fund. Monies paid to this fund pursuant to this rule shall be targeted toward restoration of wetlands and riparian areas ~~along surface waters~~ within the Neuse River Basin.

Wetland and ~~R~~riparian area restoration will be targeted in the Neuse River Basin.

(b) A cost effectiveness rate shall be established by the Division that represents the cost to achieve a reduction of one kilogram (1 kg) or one pound (1 lb) of total nitrogen per year through the use of nitrogen reduction measures. The rate shall be periodically updated by the Division based on the availability of new cost or effectiveness data. The rate shall be:

~~(1) twenty-nine dollars per kilogram ($29/kg) or thirteen dollars per pound ($13/lb) for the North Carolina Agriculture Cost Share Program for Nonpoint Sources, and~~

~~Fee of $13/lb N for implementation of agricultural BMPs~~

(c) The offset payment shall be an amount sufficient to fund 30 years of nitrogen reduction. For loading offset in the wastewater discharge rule (15A NCAC 2B .0234), payment shall be made prior to permit issuance. For loading offset in the stormwater rule (15A NCAC 2B .0235), payment shall be made prior to approval of the development plan.

~~(2)~~ twenty-three dollars per kilogram per year ($23/kg/year) or eleven dollars per pound per year ($11/lb/year) ~~for the North Carolina Wetland Restoration Fund~~.

Fee of $11/lb/year N for wetland and riparian area restoration

(d) The nitrogen reduction credit associated with restored wetlands and riparian areas funded under this rule will be awarded exclusively to the person, municipality, discharger or group of dischargers who paid the offset fee.

Additional Proposed Modification to the Rule for Protecting Riparian Area

The Hearing Officers have recommended that the proposed riparian area rule in this Report of Proceedings (.0233) be filed with the Rules Review Committee as a permanent rule. They have also recommended that this rule be further modified to provide additional protection to **all** riparian areas in the Neuse River Basin, regardless of existing vegetation. The Hearing Officers are requesting that staff be given permission to notice this proposed rule in The North Carolina Register in accordance with the Administrative Procedure Act. The additional modifications are shown as struckthrough (for deleted text).

15A NCAC 2B .0233 is proposed to be further modified as follows:

.0233 NEUSE RIVER BASIN: NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: PROTECTION AND MAINTENANCE OF RIPARIAN AREAS

The following is the management strategy for maintaining and protecting riparian areas in the Neuse River Basin:

(1) Riparian areas shall be protected and maintained in accordance with this Rule on all sides of surface waters in the Neuse River Basin (intermittent streams, perennial streams, lakes, ponds, and estuaries) as indicated on the most recent versions of United States Geological Survey 1:24,000 scale (7.5 minute quadrangle) topographic maps or other site-specific evidence. ~~This Rule only applies to riparian areas where forest vegetation is established in Zone 1 (as described in Sub-Item (3)(a)) as of July 22, 1997.~~ Forest vegetation , as defined in 15A NCAC 2B .0202, of any width in Zone 1 must be protected and maintained in accordance with this Rule. ~~THIS RULE DOES NOT ESTABLISH NEW BUFFERS IN RIPARIAN AREAS.~~ Exceptions to the requirements of this Rule for riparian areas are described in Sub-Items (2) (a-h). Maintenance of the riparian areas should be such that, to the maximum extent possible, sheet flow of surface water is achieved. This Rule specifies requirements that shall be implemented in riparian areas to ensure that the pollutant removal functions of the riparian area are protected and maintained.

Protecting and maintaining riparian areas with any type of vegetation. ~~with existing forest vegetation. This Rule does not establish new buffers in riparian areas~~

Forest vegetation of any width in Zone 1 must be protected.

(2) The following waterbodies and land uses are exempt from the riparian area protection requirements of this Rule:

(a) Ditches and manmade conveyances, other than modified natural streams;

Ditches are exempt

(b) Areas mapped as intermittent streams, perennial streams, lakes, ponds, or estuaries on the most recent versions of United States Geological Survey 1:24,000 scale (7.5 minute quadrangle) topographic maps where no perennial, ~~or~~ intermittent waterbody, or lake, pond or estuary actually exists on the ground;

Map errors addressed

(c) Ponds and lakes created for animal watering, irrigation, or other agricultural uses that are not part of a natural drainage way that is classified in accordance with 15A NCAC 2B .0100;

(d) Water dependent structures as defined in 15A NCAC 2B .0202~~:~~, provided that they are located, designed, constructed and maintained to provide maximum nutrient removal, to have the least adverse effects on aquatic life and habitat and to protect water quality;

Water dependent structures are those structures for which the use requires access or proximity to or siting within surface waters to fulfill its basic purpose, such as boat ramps, boat houses, docks and bulkheads.
Ancillary facilities such as restaurants, outlets for boat supplies, parking lots and commercial storage areas are not water dependent structures.

(e) Roads crossings, railroad crossings, bridges, airport facilities, stormwater management facilities~~;~~ and ponds, and utilities may be allowed where no practical alternative exists. These structures shall be located, designed, constructed~~;~~ and maintained to have minimal disturbance, to provide maximum nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical through the use of best management practices. A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size, configuration or density of the proposed activity and all alternative designs, the basic project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impact to surface waters;

(f) Stream restoration projects, scientific studies, stream gauging, water wells, passive recreation facilities such as boardwalks, trails, pathways, historic preservation and archaeological activities are allowed; ~~and~~ provided that they are located, designed, constructed and maintained to provide the maximum nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical through the use of best management practices;

(g) Stream crossings associated with timber harvesting are allowed if performed in accordance with the Forest Practices Guidelines Related to Water Quality (15A NCAC 1J .0201-.0209)~~.~~; and

(h) A corridor for the construction and maintenance of utility lines (including access roads and stockpiling of materials) is allowed if it is limited to 40 feet in width and best management practices are installed to minimize runoff and maximize water quality protection to the maximum extent practicable. Permanent, maintained access corridors shall be restricted to the minimum width practicable and shall not exceed 10 feet in width except at manhole locations. A 10 feet by 10 feet perpendicular vehicle turnaround is allowed provided it is spaced at least 500 feet apart along the riparian area.

(3) The protected riparian area shall have two zones as follows:

(a) Zone 1 is intended to be an undisturbed area of forest vegetation. Any forest vegetation, as defined in Rule .0202 of this Section, in Zone 1 as of the effective date of this Rule shall be maintained and protected in accordance with this Rule.

(i) Location of Zone 1: Zone 1 begins at the top of bank for intermittent streams and perennial streams of 30 feet on all sides of the waterbody, measured horizontally on a line perpendicular to the waterbody. For all other waterbodies, Zone 1 begins at the top of bank or mean high water line and extends landward a distance of 30 feet, measured horizontally on a line perpendicular to the waterbody.

Zone 1 (30 ft) functions to remove and transform the nutrients, sediments and pollutants that may move through Zone 2 as well as to stabilize the stream bank and prevent erosion.

Zone 1 vegetation also controls the stream environment by providing shade to moderate temperatures, and by maintaining aquatic life uses.

(ii) The following practices and activities are allowed in Zone 1:

Activities that are allowed in Zone 1

(A) Natural regeneration of forest vegetation and planting vegetation to enhance the riparian area if disturbance is minimized, provided that any plantings should primarily consist of locally native trees and shrubs;

(B) Selective cutting of trees provided that the basal area (measured as 12-inch diameter at breast height) remains at or above 60 square feet per acre of riparian area. Limited mechanized equipment is allowed in this area;

(C) Horticulture or silvicultural practices to maintain the health of individual trees;

(D) Removal of individual trees which are in danger of causing damage to dwellings, other structures, or the stream channel; and

(E) Removal of dead trees and other timber cutting techniques necessary to prevent extensive pest or disease infestation if recommended by the Director, Division of Forest Resources and approved by the Director, Division of Water Quality.

(F) Ongoing agricultural operations provided that existing forest vegetation is protected and requirements in Rules .0236 and .0238 of this Section are followed.

(iii) The following practices are not allowed in Zone 1:

Activities not allowed in Zone 1.

(A) Land-disturbing activities and placement of fill and other materials, other than those allowed in Items 2 and 3(a)(ii) of this Rule~~, that would disturb forest vegetation, as defined in Rule .0200 of this Section~~;

(B) New development, except as provided in Sub-Items 2(d), 2(e) and 2(f) of this Rule;

(C) New on-site sanitary sewage systems which use ground adsorption;

(D) The application of fertilizer.

(E) Any activity that threatens the health and function of the vegetation including, but not limited to, application of chemicals in amounts exceeding the manufacturer's recommended rate, uncontrolled sediment sources on adjacent lands, and the creation of any areas with bare soil.

(b) Vegetation in Zone 2 shall consist of a dense ground cover composed of herbaceous or woody species which provides for diffusion and infiltration of runoff and filtering of pollutants.

The purpose of Zone 2 (20 ft) is to provide sediment filtering, nutrient uptake and the space necessary to convert concentrated flow to uniform, shallow, sheet flow.

~~(b)~~ (i) Location of Zone 2: Zone 2 begins at the outer edge of Zone 1 and extends landward a minimum of 20 feet as measured horizontally on a line perpendicular to the waterbody. The combined minimum width of Zones 1 and 2 shall be 50 feet on all sides of the waterbody.

(ii) The following practices and activities are allowed in Zone 2 in addition to those allowed in Zone 1:

Activities that are allowed in Zone 2

(A) Periodic mowing and removal of plant products such as timber, nuts, and fruit is allowed on a periodic basis provided the intended purpose of the riparian area is not compromised by harvesting, disturbance, or loss of forest or herbaceous ground cover.

(B) Forest vegetation in Zone 2 may be managed to minimize shading on adjacent land if the water quality function of the riparian area is not compromised.

(C) Ongoing agricultural operations provided that requirements of Rules .0236 and .0238 of this Section are followed.

(iii) The following practices and activities are not allowed in Zone 2:

Activities not allowed in Zone 2

(A) Land disturbing activities and placement of fill and other materials, other than those allowed in Items 2 and 3(b)(ii) of this Rule;

(B) New development, except as provided in Sun-Items 2(e) and 2(f) of this Rule;

(C) New on-site sanitary sewage systems which use ground adsorptions;

(D) The application of fertilizer; and

(E) Any activity that threatens the health and function of the vegetation including, but not limited to, application of chemicals in amounts exceeding the manufacturer's recommended rate, uncontrolled sediment sources on adjacent lands, and the creation of any areas with bare soil.

(c) Timber removal and skidding of trees shall be directed away from the water course or water body. Skidding shall be done in a manner to prevent creation of ephemeral channels perpendicular to the water body. Any tree removal must be performed in a manner that does not compromise the intended purpose of the riparian area and is in accordance with the Forest Practices Guidelines Related to Water Quality (15A NCAC 1J .0201-.0209).

Timber removal in the riparian area

(d) Maintenance of sheet flow in Zones 1 and 2 is required in accordance with this Item.

(i) Sheet flow must be maintained to the maximum extent practical through dispersing concentrated flow and/or re-establishment of vegetation to maintain the effectiveness of the riparian area.

(ii) Concentrated runoff from new ditches or manmade conveyances must be dispersed into sheet flow before the runoff enters Zone 2 of the riparian area. Existing ditches and manmade conveyances, as specified in Sub-Item 2(a) of this Rule, are exempt from this requirement; however, care should be taken to minimize pollutant loading through these existing ditches and manmade conveyances from fertilizer application or erosion.

(iii) Periodic corrective action to restore sheet flow should be taken by the landowner if necessary to impede the formation of erosion gullies which allow concentrated flow to bypass treatment in the riparian area.

Sheet flow maintenance is required to ensure that the riparian areas function to reduce nutrient loading as intended.

(e) Periodic maintenance of modified natural streams such as canals is allowed provided that disturbance is minimized and the structure and function of the riparian area is not compromised. A grassed travelway is allowed on one side of the waterbody when alternative forms of maintenance access are not practical. The width and specifications of the travelway shall be only that needed for equipment access and operation. The travelway shall be located to maximize stream shading.

Maintenance of manmade conveyances

~~(2)~~ (4) If a local government has been issued a Municipal Separate Stormwater Sewer System permit or has been delegated to implement a local stormwater program, then the local government shall ensure that the riparian areas to be protected are, as a standard practice, recorded on new or modified plats.

Provision for local government subject to the stormwater rule to ensure that riparian areas are recorded on plats.

~~(4)~~ (5) Where the standards and management requirements for riparian areas are in conflict with other laws, regulations, and permits regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting, surface mining, land disturbance activities, development in Coastal Area Management Act Areas of Environmental Concern, or other environmental protection areas, the more protective shall apply.

(6) Where application of this Rule would prevent all reasonable uses of a lot platted and recorded prior to the effective date of this Rule, a variance may be granted by the Environmental Management Commission if it finds that:

Variances

(a) practical difficulties or unnecessary hardships would result in strict application of the Rule;

(b) such difficulties or hardships result from conditions which are peculiar to the property involved; and

(c) the general purpose and intent of the Rule would be preserved, water quality would be protected and substantial justice would be done if the variance were granted.

History of Neuse Nutrient Sensitive Waters (NSW) Rule-Making Process

The following is a brief summary of the lengthy Neuse NSW rule-making process. Hearings that had been originally scheduled for September 1996 were cancelled because of Hurricane Fran. They were rescheduled and held in November 1996. Additional public hearings were held in October 1997 to gather input on modifications to the proposed rules made as a result of public comments received at the November 1996 hearings. Extensive public outreach was completed and numerous documents were prepared to help explain the proposals to the public. This effort required an enormous amount of staff resources.

February 8, 1996	Permission received from EMC to submit "subject notice" for "concept document." WQC approved this request at their February 7 meeting.
March 14, 1996	EMC reviewed rule language reflecting original "concept document" proposal and proposed alternatives. EMC approved alternatives for inclusion in concept document and for review at public meetings.
April 15, 1996	Notice of Rule-Making Proceeding (subject notice) published in NC Register.
May 6,8, 1996	Public meetings held in New Bern and Smithfield. New Bern Armory and Smithfield Moose Lodge. 10:00 am -12:30 pm, 2:00 pm -4:30 pm and 6:00 pm -8:30 pm.
June 14, 1996	Comment period ends for subject notice.
July 11, 1996	Request permission from EMC to proceed to rule making and to hold public hearings on proposed rules.
July 12, 1996	Final drafts of public information documents made available. Earlier drafts had been available during the preceding months. 1) Executive Summary of the Concept Paper on the Draft Plan- a nine page summary of the proposed rules. 2) Concept Paper on the Draft Plan- a comprehensive discussion of the proposed rules and overall strategy. Includes a full copy of the proposed rules. (Approx. 260 pages) 3) General Summary of the Draft Plan- a descriptive summary of the proposed rules. Includes a full copy of the proposed rules. (Approx. 100 pages)

4) Executive Summary of the Draft Fiscal Analysis- a 36-page summary of the estimated fiscal impact.
5) Draft Fiscal Analysis- a comprehensive discussion of the estimated fiscal impacts of the proposed rules to local governments, other affected parties and the implementing agencies. (Approx. 300 pages)
6) Accountability Issues- a description of the process that will be used to estimate and measure the progress towards nutrient reduction goals. (Approx. 45 pages)
7) Subject Notice Comments- a summary of verbal comments received at the public workshops held in May 1996 and a copy of written comments received. (Approx. 120 pages)

August 15, 1996 — Text of rules published in NC Register. (Included 15A NCAC 2B .0233)

August 30, 1996 — Earliest date for public hearing.

September 1996 — Original set of public hearings cancelled because of Hurricane Fran.
September 9, 1996, Raleigh, State Highway Building
September 10, 1996, Goldsboro, Wayne Community College, Learning Center
September 11, 1996, New Bern, Craven County Courthouse
September 12, 1996, Kinston, Lenoir Community College Auditorium

October 14, 1996 — End of original comment period for set of proposed rules with substantial economic impact. Statute requires 60 days from published notice date.

October 15, 1996 — Text of rules republished in NC Register (because of Hurricane Fran). (Included 15A NCAC 2B .0233)

October 30, 1996 — Earliest date for public hearing.

November 1996 — Held hearings for proposed rules. Hearings began at 7:00 pm.
November 12, 1996, Raleigh, State Highway Building
November 14, 1996, New Bern, Craven County Courthouse
November 19, 1996, Goldsboro, Goldsboro High School Auditorium

	November 21, 1996, Kinston, J.H. Sampson Elementary School Auditorium Hearing officers consisted of five EMC members: Dennis Loflin, Jeffrey Morse, Charles Peterson, Robert Epting, and Larry Zucchino.
December 16, 1996	End of second comment period for proposed rules with substantial economic impact. Statute requires 60 days from published notice date.
June 12, 1997	Request that EMC approve rules for renoticing because of "substantial difference" requirement in APA.
July 15, 1997	Temporary rule (15A NCAC 2B .0233) published in NC Register.
July 22, 1997	Temporary rule became effective (15A NCAC 2B .0233)
August 15, 1997	Comment period ends for temporary rule (15A NCAC 2B .0233)
September 15, 1997	Text of rules renoticed in NC Register (because of "substantial difference"). (Includes text for 15A NCAC 2B .0233)
October 7, 1997	Held two public hearings (began at 7:00 pm) - Raleigh, Highway Building Auditorium - New Bern, Superior Courthouse Hearing officers consisted of five EMC members: Robert Cook, Robert Epting Dave Moreau, Jeffrey Morse, and Charles Peterson.
November 14, 1997	End of comment period for renoticed rules with substantial economic impact. Statute requires 60 days from published notice date
December 11, 1997	Request that EMC approve rules.
January 15, 1998	RRC considers approval of rules (3rd Thursday of month).
January 16, 1998	If approved by RRC, earliest date rules can become effective through Governor's Executive Order

August 1, 1998	Earliest date rules can become effective through regular APA process, considering potential disruption of local government budget process (in accordance with NCGS 150B-21.27).

APA = Administrative Procedure Act
EMC = Environmental Management Commission
RRC = Rules Review Commission
WQC = Water Quality Committee of the Environmental Management Commission

Announcement of Public Hearing on the Proposed Nutrient Sensitive Waters Management Strategy for the Neuse River

North Carolina Environmental Management Commission

Background

Environmental conditions in the Neuse River are driven by complex interactions between rainfall, flows, temperatures, biological factors and chemistry. Each year brings its own variations. However, the long history of problems with nutrient pollution and algal blooms provides solid evidence that immediate control measures are necessary.

In response to these concerns, the Environmental Management Commission (EMC) adopted a draft conceptual Neuse River Nutrient Sensitive Waters (NSW) Management Strategy in February 1996. This proposed draft strategy included a proposed management strategy for point and nonpoint sources of nutrients. In accordance with North Carolina general statutes, four public hearings were held in November 1996. Nine hundred and sixteen people attended the public hearings, with 201 of them making comments at the hearings. In addition to the speakers' comments, DWQ received over 300 written comments on the proposed strategy.

The Neuse River NSW Management Strategy have been revised on the basis of the Hearing Officers' review and analysis of public input from concerned citizens, interested groups and other organizations. The revised strategy was approved by the EMC in June 1997. In accordance with the Administrative Procedure Act, the revised rules will have to be re-noticed and public comment received for a period of 60 days following publication of the final notice due to substantial differences from the originally proposed rules. The public comment period will extend from September 15, 1997 to November 14, 1997. The public hearings will be held in Raleigh and New Bern on October 7. Details on the hearing locations are included at the end of this announcement.

The Revised Rules

The goal of the Neuse River NSW Management Strategy is to reduce by 30 percent the 1991-1995 average annual load of nitrogen from point and nonpoint sources to the Neuse River. To achieve this goal, a number of voluntary and mandatory strategies have been proposed. Below is a list of the revised rules.

Protection and Maintenance of Existing Riparian Buffers

The rule to protect and maintain existing riparian areas was approved and became effective as a temporary rule by the EMC on July 22, 1997. This rule requires that existing riparian (streamside) areas be protected and maintained on both sides of intermittent and perennial

surface waters. **This rule does not establish new buffers.** A total of 50 feet of riparian area is required on each side of certain waterbodies in the basin. This 50 foot riparian area consists of 30 feet of virtually undisturbed forest and 20 feet of grassed/vegetated area or trees that could be harvested. In the basin's larger urban areas, protection of existing riparian areas would be a component of the urban stormwater programs discussed below.

Wastewater Discharges

The purpose of the wastewater discharge requirements for the Neuse River Basin is to establish an equitable strategy that will mandate a cumulative 30 percent reduction in point source total nitrogen loading to the Neuse River Estuary. The strategy provides for several management options from which dischargers may select to comply with the proposed rules. This allows for flexibility in the management approach while maintaining a firm commitment to the 30 percent total nitrogen reduction goal. Dischargers in the Neuse River basin have two options: to meet the new requirements individually, or to join together as an association to meet the 30 percent N reduction collectively. Within each of the two options, dischargers have the flexibility to meet 30 percent reduction goal by optimizing their facility's operation, implementing plant improvements, reducing flows through water conservation and repairing leaky sewers, and paying nitrogen offset fees.

Urban Stormwater Requirements

The basinwide stormwater program requires that 10 cities and five counties (Cary, Durham, Garner, Goldsboro, Havelock, Kinston, New Bern, Raleigh, Smithfield, Wilson, Durham County, Johnston County, Orange County, Wake County and Wayne County) develop a stormwater management plan to address nutrients. The stormwater management plan requires these local governments to review and approve stormwater management plans for new development, implement a public education program, identify and remove illegal discharges to the storm sewer system, identify suitable locations for installing stormwater management practices in areas of existing development, and provide annual nitrogen load reporting. The affected local governments would administer the review and approval of development plans. New developments will be required to maintain a nitrogen loading of 70 percent or less of the 1995 loading and provide no net increase in the pre-development peak flow from the 1-year, 24-hour storm.

Agricultural Best Management Practices for Nitrogen Reduction

Under the revised proposal, persons engaging in agricultural operations in the Neuse River Basin have **two options** for meeting the nitrogen net loading reduction. The options are to either participate in a county nitrogen reduction plan or implement standard Best Management Practices. The two options are as follows:

<u>Option 1 - County Nitrogen Reduction Plan</u>
Farmers may choose to participate in the development and implementation of a countywide plan to reduce nitrogen loading. County Advisory Committees would develop, review and approve site-specific plans for nitrogen, based on the overall County Nitrogen Reduction goal. These committees will be comprised of representatives from the Natural Resources Conservation Service (NRCS), N.C. Cooperative Extension Service (CES), Division of Soil and

Water Conservation (DSWC), N.C. Department of Agriculture (NCDA), local Soil and Water Conservation Districts (SWCD), and a county farmer. The committees would be formed by the Directors of the DSWC and the DWQ.

Option 2 - Standard Best Management Practices (BMPs)
If option 1 is not selected, then the agricultural operation must implement standard BMPs. The standard BMPs include riparian vegetative areas, controlled drainage and nutrient management. These would be required to be established within 4 years of the effective date of the rule.

In addition to the County Advisory Committees, a Basin Oversight Committee will be formed by DSWC and DWQ. This group will have the responsibility of reviewing each county's nitrogen reduction plan. The Basin Oversight Committee would include one representative each from NRCS, DSWC, NCDA, CES, DWQ, an environmental interest group, the scientific community, and a farmer. Additional responsibilities of the Basin Oversight Committee would be to:

- Develop a tracking and accounting method for evaluating nitrogen loading from agricultural sources.
- Review, approve and summarize County Nitrogen Reduction Plans and report findings to the EMC.
- Allocate to counties their individual portion of the nitrogen loading reduction from agricultural operations. Each county may not have to reduce their individual nitrogen loading by 30 percent. However, the nitrogen loading reduction should collectively meet the total nitrogen reduction goal.

Nutrient Management Requirements

What this proposed rule would mean to applicators who apply nutrients to 50 or more acres per calendar year of cropland, golf course, recreational lands, residential, commercial, industrial, right-of-way or other turfgrass areas is:

- Persons must successfully complete nutrient management training and certification delivered by the CES or DWQ within 5 years of the effective date of the rule, -OR-
- Persons will be required to develop and implement nutrient management plans for the lands where nutrients are applied.
- Nutrient management plans must be approved by a technical specialist designated by the Soil and Water Conservation Commission (SWCC).

Additional Material

Staff of the DWQ can provide additional material on the proposals and hearings. DWQ has prepared several documents to help you understand what the EMC is proposing for the Neuse River NSW Management Strategy. The documents are of varying length and detail, and may be focused on specific aspects of the proposed rules. The following documents are available:

1) Report of Proceedings on the Proposed Neuse River Basin Nutrient Sensitive Waters (NSW) Management Strategy (88 pages)

2) Draft Fiscal Analysis - a comprehensive discussion of the estimated fiscal impacts of the proposed rules to local governments, other affected parties and the implementing agencies. (Approx. 170 pages)

You may request these documents by calling Marsha Byrd at (919)733-5083, ext 558. If possible, please refer to the document number listed above (for example, #1 or #2) when making your request.

Questions

Questions concerning the point source discharge requirements can be directed to Coleen Sullins at (919)733-5083, ext. 550. You may direct other questions to Annette Lucas at (919)733-5083, ext. 587.

Submitting Comments

We will accept your verbal and written comments during the hearings. We will also accept your written comments before or after the hearing, but no later than November 14, 1997. You may submit your comments to:

Lin Xu
DEHNR/Division of Water Quality
Planning Branch
P.O. Box 29535
Raleigh, NC 27626-0535

All persons interested and potentially affected by the proposals are strongly encouraged to read this entire announcement and supporting information and make comments on the revised rules. The proposed effective date of the final rules is August 1, 1998.

Public Hearing Dates And Locations

Date:	October 7, 1997 (Tuesday), 7:00 P.M.
Location:	Raleigh, State Highway Building Auditorium
Address:	11 S. Wilmington Street, Raleigh, North Carolina
Directions:	Across from the east side of the Capitol in downtown Raleigh

Date:	October 7, 1997 (Tuesday), 7:00 P.M.
Location:	New Bern, Craven County Courthouse
Address:	302 Broad St., New Bern, North Carolina
Directions:	From Highway 70 East Bypass, take the East Front St., cross the Trent River toward downtown New Bern, make a left at Broad Street, then a right at Craven St. The Courthouse will be on your left.

police investigations data, medical examiner investigative data, health records, mental health records and social services records as specified in G.S. 122C-112(a)(15).

(e) When corrective action is deemed necessary by the Division Director, the Division Director shall request a corrective action plan from the area authority.

(f) The Chairman of the Thomas S. Mortality Review Committee shall review implementation of recommendations made by the committee and corrective action plans established by the Division Director.

(g) The Committee Chairman shall make an annual status report to the Committee and to the Thomas S. Services Section Chief on implementation and corrective actions taken.

(h) The Thomas S. Services Section will collect and analyze mortality and other statistics to determine trends and quality of life issues related to the deaths of Thomas S. class members.

(i) The deliberations of local review committees and the Thomas S. Mortality Review Committee shall be confidential. Reports of the Thomas S. Mortality Review Committee, however, are subject to the North Carolina Public Records Act and shall be available upon request with due regard to privacy and confidentiality of involved persons.

Authority G.S. 108A, Article 6; 122C-112(a)(15); 130A-383; 130A-389; 130A-398.

TITLE 15A - DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES

Notice is hereby given in accordance with G.S. 150B-21.2 that the EHNR - Environmental Management Commission intends to amend rule cited as 15A NCAC 2B .0202; and adopt rules cited as 15A NCAC 2B .0232 - .0236, .0238 - .0240. Notice of Rule-making Proceedings was published in the Register on April 15, 1996.

Proposed Effective Date: *August 1, 1998*

Public Hearings *will both be conducted at 7:00 p.m. on October 7, 1997 at the following locations. You may sign up to speak beginning at 6:30 p.m.*
Raleigh - State Highway Building Auditorium, 11 South Wilmington Street
New Bern - Craven County Courthouse, 302 Broad Street

Reason for Proposed Action: *This Notice of Text and Hearing announces two public hearings to be held on the proposed revised Nutrient Sensitive Waters Management Strategy for the Neuse River Basin. The revised strategy and public hearings will be noticed in the North Carolina Register on September 15, 1997. Public hearings are scheduled for October 1997 in Raleigh and New Bern.*

Public hearings on the original Neuse River Nutrient Sensitive Waters Management Strategy were held in November 1996. After the November 1996 public hearings, the members of the Environmental Management Commission (EMC) that served as Hearing Officers worked with DWQ staff to revise the strategy to address the numerous verbal and written comments that were received. The rules were revised to allow regulated parties more flexibility and to give the state greater assurance that the rules' goals would be met.

In 1988, the EMC classified the entire Neuse River Basin as Nutrient Sensitive Waters (NSW). They adopted this classification due to nutrient-related water quality problems in the freshwater sections between Kinston and New Bern. At that time, the EMC adopted a Nutrient Management Strategy to improve water quality in the river. This initial NSW strategy addressed phosphorus reductions through point source controls and nitrogen from the voluntary implementation of agricultural best management practices (BMPs). The strategy was successful and phosphorus loading has declined due to these point source controls and the phosphate detergent ban.

Even with the management measures adopted in the initial NSW strategy, water quality problems in the lower Neuse River continue, especially below New Bern. For example, during July, September, and October 1995, widespread fish kills occurred in the Neuse River, mainly from New Bern to Minnesott Beach. Millions of fish were killed. The water was lacking oxygen near the surface and algal blooms were common. Because of these continued water quality problems, the EMC intends to revise the NSW strategy and to focus on nitrogen loading to the estuary.

The current Nutrient Sensitive Waters Management Strategy for the Neuse River includes the following rules:
- *Definitions (15A NCAC 2B .0202),*
- *Basin Nutrient Reduction Goal (15A NCAC 2B .0232),*
- *Maintenance of Existing Riparian Areas (15A NCAC 2B .0233),*
- *Wastewater Discharge Requirements (15A NCAC 2B .0234),*
- *Basinwide Stormwater Requirements (15A NCAC 2B .0235),*
- *Agricultural Nitrogen Loading Reduction (15A NCAC 2B .0234),*
- *Agricultural Nitrogen Reduction Strategy (15A NCAC 2B .0235),*
- *Nutrient Management (15A NCAC 2B .0235), and*
- *Nutrient Offset Payments (15A NCAC 2B .0236).*

Comment Procedures: *The purpose of the announcement is to encourage those interested in this proposal to provide comments. You may submit comments, statements, data and other information in writing prior to, during or after the hearing but no later than November 14, 1997. You may also present verbal comments at the hearing. The Hearing Officer may limit the length of time that you speak so that all those who wish to speak may have an opportunity to do so. We encourage you to submit written comments. It is very important that all interested and potentially affected persons or parties make their views known to the Environmental Management Commission (EMC) whether in favor of or opposed to any and all provisions*

of the proposal being noticed. If opposed to any or all provisions of the proposal we encourage you to offer appropriate alternative proposals. Written comments may be submitted to:

Greg Thorpe
DEHNR/Division of Water Quality
PO Box 29535
Raleigh, NC 27626-0535

Questions concerning proposed requirements for point source dischargers may be directed to Coleen Sullins at (919) 733-5083, ext. 550 and questions concerning proposed nonpoint source requirements to Greg Thorpe at (919) 733-5083, ext. 557. In the case of inclement weather, please call (919) 733-5083, ext. 557 for a recording on whether the hearings will be held as scheduled.

Fiscal Note: *These Rules do affect the expenditures or revenues of state or local government funds. These Rules do have a substantial economic impact of at least five million dollars ($5,000,000) in a 12-month period.*

CHAPTER 2 - ENVIRONMENTAL MANAGEMENT

SUBCHAPTER 2B - SURFACE WATER AND WETLAND STANDARDS

SECTION .0200 - CLASSIFICATIONS AND WATER QUALITY STANDARDS APPLICABLE TO SURFACE WATERS AND WETLANDS OF NORTH CAROLINA

.0202 DEFINITIONS

The definition of any word or phrase used in this Section shall be the same as given in Article 21, Chapter 143 of the General Statutes of North Carolina. The following words and phrases, which are not defined in this article, shall be interpreted as follows:

(1) Acute toxicity to aquatic life means lethality or other harmful effects sustained by either resident aquatic populations or indicator species used as test organisms in a controlled toxicity test due to a short-term exposure (relative to the life cycle of the organism) to a specific chemical or mixture of chemicals (as in an effluent). Short-term exposure for acute tests is generally 96 hours or less. Acute toxicity shall be determined using the following procedures:

(a) for specific chemical constituents or compounds, acceptable levels shall be equivalent to a concentration of one-half or less of the Final Acute Value (FAV) as determined according to "Guidelines for Deriving Numerical Water Quality Criteria for the Protection of Aquatic Life and its Uses" published by the Environmental Protection Agency and referenced in the Federal Register (50 FR 30784, July 29, 1985) which is hereby incorporated by reference including any subsequent amendments.

(b) for specific chemical constituents or compounds for which values described under Subparagraph (1)(a) of this Rule can not be determined, acceptable levels shall be equivalent to a concentration of one-third or less of the lowest available LC50 value.

(c) for effluents, acceptable levels are defined as no statistically measurable lethality (99 percent confidence level using Students t test) during a specified exposure period. Concentrations of exposure shall be determined on a case-by-case basis.

(d) in instances where detailed dose response data indicate that levels of acute toxicity are significantly different from those defined in this Rule, the Director may determine on a case-by-case basis an alternate acceptable level through statistical analyses of the dose response curve.

(2) Acute to Chronic Ratio (ACR) means the ratio of acute toxicity expressed as an LC50 for a specific toxicant or an effluent to the chronic value for the same toxicant or effluent.

(3) Agricultural uses include the use of waters for stock watering, irrigation, and other farm purposes.

(4) Applicator means any person, firm, corporation, wholesaler, retailer, distributor, any local, state, or federal governmental agency, or any other person who applies fertilizer to the land of a consumer or client or to land they own or to land which they lease or otherwise hold rights.

(5) ~~(4)~~ Approved treatment, as applied to water supplies, means treatment accepted as satisfactory by the Division of Environmental Health or Division of Water Quality.

(6) ~~(5)~~ Average (except bacterial) means arithmetical average and includes the analytical results of all samples taken during the specified period; all sampling shall be done as to obtain the most representative sample under prevailing conditions:

(a) Daily Average for dissolved oxygen, shall be of at least four samples;

(b) Weekly Average means the average of all daily composite samples obtained during the calendar week. If only one grab sample is taken each day, the weekly average is the average of all daily grab samples. A minimum of three daily grab samples is needed to calculate a weekly average.

(c) Monthly Average means the average of all daily composites (or grab samples if only one per day) obtained during the calendar month.

The definitions in this Paragraph do not affect the monitoring requirements for NPDES permits but rather shall be used by the Division along with other