TAR-PAMLICO RIVER BASIN REGIONAL COUNCIL

Lake Mattamuskeet Lodge
Highway 264 in Hyde County

OCTOBER 23, 1998

AGENDA

10:30	Welcome & Call to Order	Chairman Earl Bell
10:35	Introductions	ALL
10:40	Acceptance of Minutes from 8-20-98 Meeting in Oriental, NC	Chairman Bell
10:45	Briefing on Coordinating Council Meeting Held on 10-16-98 in Raleigh	Chairman Bell
11:00	PRESENTATION: Neuse River Nutrient Sensitive Waters Management Strategy Rules	DWQ Staff
11:45	BREAK	
11:55	DISCUSSION: Development of Criteria to Rate the Council's Performance	Vince Bellis
12:20	Old Business 1- Attendance/Participation Issues 2- Tar-Pamlico Environmental Education Team	 Guy Stefanski Joe Shearon
12:40	New Business/Public Comment 1- APES Conference in New Bern on November 19-20, 1998 2- Plans for Next Meeting	Chairman Bell
12:50	Adjourn for lunch	

Tar-Pamlico River Basin Regional Council
Lake Mattamuskeet Lodge
Swanquarter, North Carolina

October 23, 1998

Meeting Notes

The meeting was called to order by Vice-Chair Paul Blount at 10:40 a.m., and self-introductions were made (see attached attendance sheet). Minutes from the last Council meeting in Oriental were revised, and a motion then made to accept them, which passed.

Vince Bellis and Guy Stefanski began the meeting by discussing the Coordinating Council meeting that was held on October 16. The most important item for the Tar-Pamlico Council is that we will get $26,000 to use for a demonstration project. A Coordinating Council subcommittee will develop criteria and guidelines for us to use in developing our project proposal. Vince Bellis said that he will contact Bill Homan and express our concern that the guidelines be finalized as soon as possible. Other Coordinating Council meeting items included discussion of their by-laws, Basin Council reports, an MOA between North Carolina and Virginia, and the 4-state Chesapeake Bay agreement.

Next, Ling Xu, from the Division of Water Quality gave a presentation of the Neuse River Nutrient Sensitive Waters Management Strategy rules, which were approved by the EMC on December 17, 1997. There is a 5-year nitrogen reduction goal of 30% from the 1991-1995 average, and the rules include mandatory measures for riparian areas, urban stormwater, agriculture, and wastewater treatment. WWTP dischargers have an option to join an Association that has a cap on nitrogen mass loading. The 10 largest municipalities and 5 largest counties (Wake, Orange, Durham, Johnston and Wayne) must develop and implement their own stormwater program, or have a program given to them by permit. The riparian area rule is still a temporary rule. Representative Creech prevented this rule from becoming permanent, and there currently is a stakeholders group studying and discussing the riparian area rules.

After lunch, Vince Bellis led a discussion on the development of criteria to rate the performance of the TPRBC. He stated that we needed to get into an active stage, start advancing some resolutions and setting some goals. A discussion was held on potential goals for 1999. Three that were brought up were 1) each TPRBC member representing a county or municipality should appear before their appointing body and give an update on our Council, possibly using a summary sheet written so that each person would be consistent in what was reported, 2) develop our demonstration project proposal and complete the proposal by some date, and 3) pursue the Ag Extension Environmental Education Team.

The Council was informed that 5 stakeholder groups have been formed to draft the Tar-Pamlico NSW rules. Guy Stefanski will make sure that the TPRBC members receive drafts

of the work products from each stakeholder group.

Joe Shearon reported that he has met with Representative Billy Creech and Senators Martin and Wellons regarding the Tar-Pamlico Extension Environmental Education Team. There were no appropriations for it in the recently passed state budget, but it is planned to be introduced early in January in the next legislative session.

The next meeting is scheduled for December 18 at 10:30 in Greenville. Council members are asked to come prepared with ideas for demonstration projects or knowledge of existing demonstration projects. Also, Jim Stephenson will be asked to give an update on the status of the Tar-Pamlico NSW rules, and a report will be given on how riparian buffers affect farmers.

The meeting was adjourned at 1:40 p.m.

Why is There a Riparian Area Rule for the Neuse River?

In 1995, water quality in the Neuse River left much to be desired. Record rainfalls during Summer 1995 delivered a tremendous load of nitrogen into the Neuse River. Millions of menhaden, flounder, croaker and rock fish were killed as a result. These problems have happened before. Because of the high rainfall this year, it is possible that these problems will happen again this summer and fall.

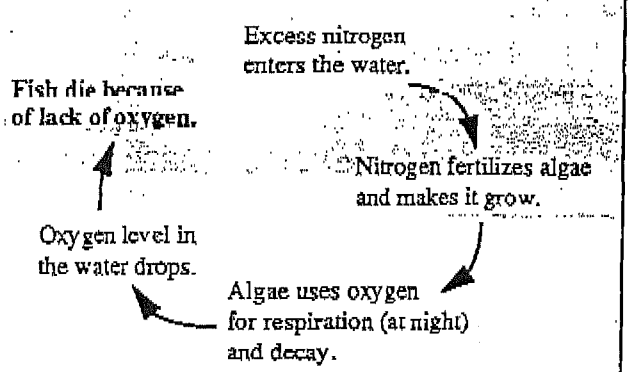


Diagram of how nitrogen causes fish kills

The General Assembly made a strong response. . . House Bill 1339. This bill establishes a 30% reduction goal for nitrogen to be achieved within five years.

The proposed Nutrient Sensitive Waters Management Strategy for the Neuse River is designed to achieve the 30% reduction goal set by the Legislature. This strategy equitably distributes the nitrogen reduction goal between wastewater dischargers, developers, farmers and fertilizer applicators.

The Riparian Area Rule plays a key role in the overall nitrogen reduction strategy: it ensures that we don't backslide as we work to meet the nitrogen reduction goal.

Many scientific studies have shown that riparian areas are highly effective at removing nitrogen before it reaches streams, rivers, ponds, lakes and estuaries. Researchers have shown that forested riparian areas remove between 50 and 80% of nitrogen before it reaches the water.

Large trees next to waters play a crucial role in "denitrification," which is a process by which harmful nitrogen in groundwater is converted to harmless nitrogen gas. **If large trees are taken out of the riparian area, it is less effective in removing nitrogen from water.**

Currently, about 70% of the Neuse River basin has riparian areas with forest vegetation. According to our estimates, if half of these existing riparian areas were lost, it would cause the amount of nitrogen reaching the Neuse River to increase by 17%, or 1.5 million pounds.

If we don't protect our riparian areas, who is going to make up for the nitrogen increases resulting from their loss?

The Environmental Management Commission thinks that this part of the Neuse strategy is crucial to controlling nitrogen. In fact, riparian area protection is the only part of the strategy that the Commission put into effect as a temporary rule during Summer 1997.

A stream with an intact forested riparian area

How Does this Rule Affect Our Economy?

The riparian area rule allows landowners to have practical use and reasonable value of their property. There are exemptions for necessary activities, including:

- Road crossings and bridges.
- Utility crossings and utility construction and maintenance corridors.
- Airport facilities.
- Boardwalks and trails.
- Boat ramps, docks and bulkheads.
- Ongoing agricultural activities and ditches.

The Courts have determined that regulations to protect the public's environmental resources are not a takings if they do not destroy the practical use and reasonable value of the property. The Courts make this determination after looking at the entire property.

People who bought timber or received certain development approvals before the rule went into effect can make a case for vested rights. If the Division of Water Quality believes that an affected party has a strong case for vested rights, DWQ will allow him to carry out his planned activity without following the rule.

Landowners with lots platted and recorded before July 1997 who would suffer severe hardship from the rule can request a variance from the Environmental Management Commission.

Riparian areas provide a number of economic benefits because they:

- Remove other pollutants such as sediment, which are expensive to treat at water supply treatment plants.
- Protect streambanks from erosion, which can cause expensive property damage.
- Keep buildings and other structures away from damaging flood waters.

Developers and homeowners can actually reap financial rewards from following this rule.

Numerous studies have shown that homes next to protected natural areas are worth more than comparable homes located elsewhere.

Riparian area removed. This is a typical situation found on construction sites all over the state.

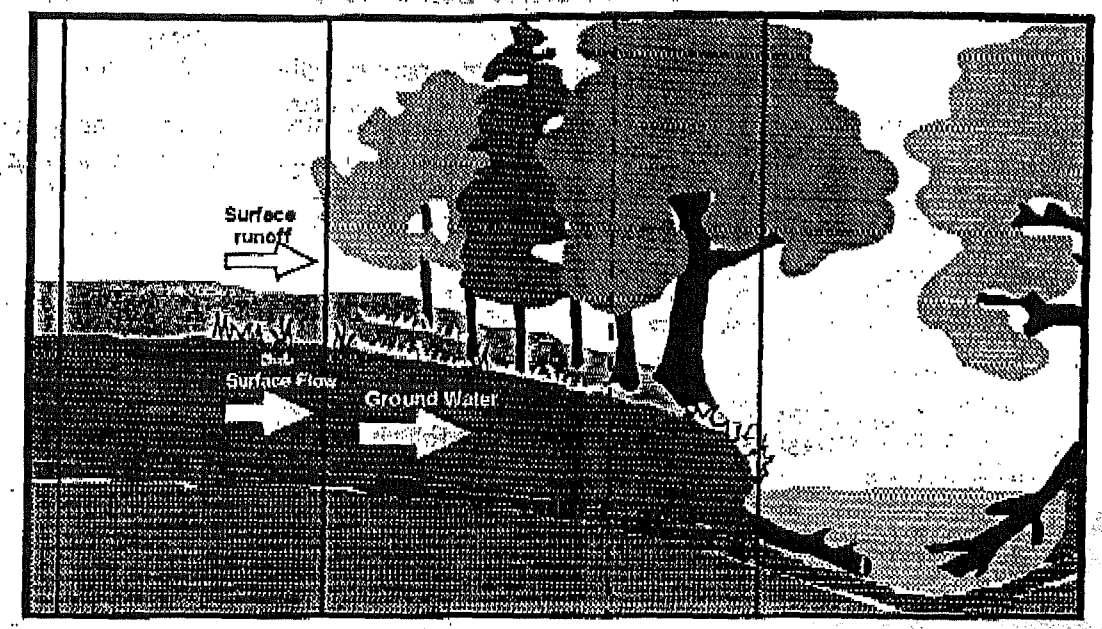
Our problems with nitrogen and fish kills are hurting our economy -- tourism, the seafood/fisheries industries, ports, property values and our state's public image are all suffering adverse economic impacts. The combined economic impacts are impossible to fully quantify. The impacts will continue unless we take action to improve water quality in the Neuse River.

Riparian vegetation removed and stream destroyed.

Can we afford *not* to protect riparian areas?

3/4A

What Does the Neuse River Riparian Area Rule Say?



Zone 2: 20 ft.

Zone 1: 30 ft.
20 ft. limited harvest / 10 ft. undisturbed

A "Riparian Area" is simply land adjacent to water. "Forest vegetation" means trees, saplings, shrubs and vines that grow together or separately. Forest vegetation does not include public or private lawns.

The proposed Neuse River Riparian Area Rule (15A NCAC 2B .0233) applies to all perennial and intermittent streams, lakes, ponds and estuaries in the Neuse River basin. It does not apply to agricultural, forestry or stormwater drainage ditches.

This rule protects forest vegetation in the first 30 feet of land directly adjacent to any water (Zone 1). The rule allows removing diseased trees and trees in danger of damaging dwellings or the streambank. A limited amount of harvesting is allowed in the outer 20 feet of Zone 1. The first 10 feet of Zone 1 must remain essentially undisturbed.

DWQ is currently meeting with forestry interests and others to reach a compromise on the requirements for selective timber harvesting in Zone 1.

Zone 2 is an additional 20 feet on either side of the stream. Zone 2 must have a dense plant cover. For both zones, the landowner or caretaker is required to keep the land undisturbed and refrain from using fertilizer. New development is not allowed in either zone.

The rule allows certain activities within the riparian area provided that they are approved by the Division of Water Quality:

- Road crossings and bridges.
- Utility crossings and utility construction and maintenance corridors.
- Airport facilities.
- Boardwalks and trails.
- Boat ramps, docks and bulkheads.

3/4 A

How is the Riparian Area Rule Being Implemented?

The Division of Water Quality has been implementing the riparian area temporary rule since it first became effective in July 1997. Since this rule affects so many different types of land owners in the Neuse basin, there have been many different questions about it.

DWQ has compiled the questions and answers into a **Riparian Area Guidance Manual.** In addition to answering questions, the manual tells landowners how to obtain an exemption, demonstrate vested rights and apply for variances.

One of the most common questions has been how to tell the difference between streams (which are covered by the rule) and ditches (not covered by the rule). To answer that question, DWQ has developed a checklist that can be easily applied in the field. Some of the factors that help to indicate the presence of a stream include aquatic life and the type of stream bottom.

Some affected parties think that flow would be a better tool than the field checklist to tell the difference between a stream and a drainage ditch. Basing stream determinations on flow would require a hydrologic model of the entire watershed. Even though models require a lot of effort and expertise to develop, they are not very accurate at predicting the presence of a stream. In fact, hydrologic models could determine that there is a stream where one is not present.

DWQ held two training sessions on the riparian area rule for local governments and agencies in April. DWQ will be offering the same training to consultants, foresters and other interested parties in mid-May.

The people that attend our May Riparian Area Training Sessions will be qualified to determine the presence of a stream in the field without obtaining the approval of DWQ.

Timber harvesting removed forest vegetation all the way to the stream bank.

Some of the agencies that DWQ has been coordinating with to implement this rule include:

- N.C. Division of Forest Resources
- N.C. Division of Land Resources
- N.C. Division of Coastal Resources
- N.C. Cooperative Extension Service
- N.C. Division of Soil and Water
- U.S. Army Corps of Engineers

Numerous issues have been coordinated as a result of these meetings. For example, DWQ and the Division of Land Resources (DLR) agreed that cutting trees to maintain dam safety is allowed as long as DLR's maintenance guidelines are followed (these are listed in the Riparian Area Guidance Manual).

Staff have made numerous presentations on the rule at the request of local governments. Many local governments in the basin see this rule as an opportunity to increase their amenities such as greenways, protect their streams and reduce the need for flood control projects. Local governments are interested in seeing how they can work with the state to implement this rule if it becomes effective as a permanent rule.

4/4 A

What Does the Neuse River Wastewater Discharge Rule Say?

The wastewater rule establishes mass-based nutrient discharge limits for the nearly 180 facilities in the Neuse River Basin that have discharge permits from DWQ. The rule also addresses new or expanding discharges that may arise in the future.

Nitrogen Limits

Effective on January 1, 2003, the nitrogen discharge limit reduces the nitrogen from point sources by 30 compared to their 1995 level.

The overall nitrogen discharge limit is 2.8 million pounds per year. Limits in terms of pounds per year are called "mass-based limits." Mass-based limits are flexible because they set limits on nitrogen but allow for daily and seasonal fluctuations in concentration. They also encourage innovative solutions, such as reusing wastewater rather than discharging it.

The overall nitrogen discharge limit is divided among three different groups of dischargers as follows:

- Dischargers with permitted flows greater than or equal to 500,000 gallons per day or 0.5 million gallons per day (MGD) downstream of Falls Lake dam have a combined limit of 2.45 million pounds per year.
- Dischargers with permitted flows greater than or equal to 0.5 MGD upstream of the dam have a combined limit of 444,000 pounds per year.
- Dischargers with permitted flows less than 0.5 MGD have a combined limit of 280,000 pounds per year.

Dischargers with permitted flows greater than 0.5 MGD have two options for meeting the requirements of the rule:

- Option 1: Meet Individual Mass-Based Limits. Each discharger's limit is the same fraction of the group's total allocation (2.45 million or 440,000 pounds per year, depending on the location) as the discharger's permitted flow is of the group's total flow. These allocations will be included in each discharger's permit as discharge limits.
- Option 2: Join the Nitrogen Trading Coalition. Dischargers can establish a nitrogen trading coalition that collectively meets a nitrogen limit equal to the combined nitrogen limits of its members.

Coalition members will enter into a formal agreement with the Environmental Management Commission that establishes the combined nitrogen limit. Forty facilities have submitted letters of intent to join the coalition.

Dischargers below the 0.5 MGD threshold will be required to meet their collective limit but will not have nitrogen limits in their permits. These dischargers may also join the trading coalition.

DWQ may set tighter limits on a case-by-case basis, if necessary, to protect the river and its tributaries from any local water quality impacts.

The limits become effective on January 1, 2003.

Phosphorus Limits

The rule continues the current 2.0 mg/L concentration limit on phosphorus for dischargers above Falls Lake Dam, and extends the same limit to dischargers below the dam.

Optimization of Existing Facilities

Dischargers with permitted flows greater than or equal to 0.5 MGD have one year to evaluate and optimize nutrient removal at their facilities. This ensures that dischargers take full advantage of operational and other low-cost improvements to achieve immediate, cost-effective nitrogen reduction. Many dischargers are already making improvements.

Offset Payments

Offset payments are required if the trading coalition exceeds its limit or a new or expanding discharger has to obtain a nitrogen allocation. Offset payments go to the Wetland Restoration Fund to pay for nonpoint source controls sufficient to remove the same amount of nitrogen.

New or Expanding Discharges

Nitrogen and phosphorus limits for new and expanding discharges are tighter than for existing flows: 3.5 mg/L total nitrogen and 1.0 mg/L total phosphorus. In addition, new or expanding facilities must have a nitrogen allocation in order to discharge the new flows. If they are unable to obtain an allocation by purchasing it from existing dischargers, they must make offset payments equivalent to twice the standard offset payment.

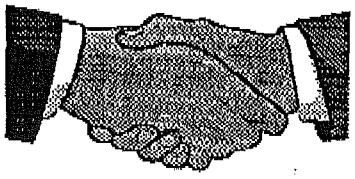
1/2 B #3

The Top Seven Reasons Why the EMC Took This Approach for Wastewater Discharges

Reason 1: The public needs and expects additional controls to protect and restore the Neuse River.
Permittees, regulators, scientists, environmental groups, and involved citizens agree that water quality in the estuary has deteriorated over the last 25 years. Our problems with nitrogen and fish kills are hurting our economy -- tourism, the seafood/fisheries industries, ports, property values and our state's public image are all suffering. The combined economic impacts are impossible to fully quantify. This strategy addresses point source dischargers' contribution to the problem.

Reason 2: The strategy is consistent with the basinwide management plan for the Neuse River.
In 1993, DWQ developed the first basinwide management plan for the Neuse River Basin. Basinwide plans inventory the quality of rivers and streams throughout a basin and identify impacted areas. Basinwide plans also identify sources and impacts of pollutants and recommend actions to correct problems. Not surprisingly, nutrient loads into the Neuse River were identified as the major water quality issue in the Neuse. This point source strategy is a critical step in addressing the problem.

Reason 3: The strategy is reasonable and equitable.
Many of the affected dischargers had input into developing the point source strategy. The strategy considers the size of individual dischargers and their locations in the basin. Small dischargers also have to help meet the 30 percent reduction goal.



Reason 4: The point source strategy protects the Neuse River now and in the future.
The strategy requires dischargers throughout the basin to control their nitrogen discharges to meet the 30 percent reduction goal within 5 years. Once the nitrogen limit is reached, nitrogen levels from dischargers must be held at that level regardless of future development. Dischargers do have the option of making Offset Payments to obtain additional nitrogen allocations.

Reason 5: The strategy is flexible and will promote innovative solutions.
All dischargers have option of participating in a nitrogen trading coalition. Coalition members can decide for themselves how to achieve the most cost-effective nitrogen reductions across the basin. As discharges in the basin increase, the strategy will encourage innovative solutions to reduce discharges of nutrients. For example, conserving water and reusing treated wastewater effluent could both reduce volumes of flow and nutrients to the river.

Reason 6: The strategy is compatible with other requirements.
The rule is consistent with Senate Bill 1339 which establishes a limit of 30 percent nutrient reduction from dischargers in nutrient sensitive waters. It is also compatible with House Bill 515, which calls for controlling nutrients from discharges into Nutrient Sensitive Waters.

Reason 7: The Neuse River is not the only troubled water in our state.
Many areas of the state are experiencing rapid increases in population and urban development. In many cases, these changes are degrading the quality of our rivers and streams. The Neuse River is the first basin to have a comprehensive, mandatory strategy for reducing nutrients, but it may not be the last. The lessons we learn in the Neuse River basin will help us to effectively protect water quality across North Carolina.

What Does the Neuse River Nutrient Management Rule Say?

Like the Agriculture Rule, this rule was developed with a great deal of input from the affected parties. Many of the affected parties told us that educating people about nutrient management was at least as valuable as having a written nutrient management plan.

This rule applies to persons who apply fertilizer to or manage 50 or more acres of the following types of lands in a calendar year:

- Cropland (cropland covered by a certified animal waste management plan is exempt.)
- Golf courses
- Recreational lands
- Rights-of-way
- Lawns and gardens in residential, commercial or industrial areas
- Other turfgrass areas

DWQ has heard support for this rule because it has equitable requirements for many different types of nutrient applicators throughout the Neuse basin.

Each person affected by this rule has two options for meeting its requirements:

1. Complete training and continuing education in nutrient management; or
2. Develop a written nutrient management plan for all property where nutrients are applied.

Option 1: Nutrient Management Training

During the first year after the effective date of this rule, DWQ and the N.C. Cooperative Extension Service (CES), will conduct a sign-up process for persons wishing to take the nutrient management training. Applicators who choose to follow this option are required to complete the training within five years of the effective date of this rule.

Option 2: Nutrient Management Plans

If an affected person does not sign up for nutrient management training within one year after the effective date of the rule, then that person will be required to develop a nutrient management plan. The nutrient management plan must cover all of the lands where the applicator applies nutrients in a calendar year.

Nutrient management plans may be written by either the applicator or a consultant. These plans must be kept on-site or be producible within 24 hours of a request by DWQ.

Nutrient management plans must meet the following standards:

- For cropland: Standards and specifications of the U.S. Natural Resources Conservation Service or those set by the N.C. Soil and Water Conservation Commission.
- For turfgrass: N.C. State University's guidelines for turfgrass management or other applicable recommendations from land-grant universities.
- For nurseries: Southern Nurserymen's Association's guidelines or other applicable recommendations from land-grant universities.
- For others: Applicable recommendations from land-grant universities.

As this list shows, DWQ has utilized existing technical standards and guidelines for nutrient management on different types of lands.

Following either option under this rule will assist in meeting the nitrogen reduction goal on urban, rural and agricultural lands.

V1c

What Does the Neuse River Agriculture Rule Say?

During the public hearing process, there was tremendous input from the agricultural community. The currently proposed rule reflects a consensus between the agricultural community and DWQ on how to effectively reach and account for the 30% nitrogen reduction goal while maximizing options for individual farmers. This strategy also dovetails with other agricultural initiatives, such as the U.S. Department of Agriculture's Environmental Quality Incentives Program.

Overall Strategy

This rule affects all persons engaging in agricultural operations in the Neuse River basin.

The rule provides each farmer with two options for reaching the nitrogen reduction goal:

1. Participate in a **Local Nitrogen Reduction Strategy** that would include specific plans for each farm that would collectively meet the nitrogen reduction goal, *or*
2. Implement **Standard Best Management Practices** such as buffers, water control structures and nutrient management plans.

Option 1: Local Nitrogen Reduction Strategy

The process for the **Local Nitrogen Reduction Strategy** will depend on a number of committees: the Basin Oversight Committee and a Local Advisory Committees for each county or watershed.

Members of the **Basin Oversight Committee** will include DWQ and:

- The agricultural community
- The environmental community
- The scientific community
- Division of Soil and Water Conservation
- Natural Resources Conservation Service
- N.C. Department of Agriculture and Consumer Services
- N.C. Cooperative Extension Service

The major responsibilities of the **Basin Oversight Committee** are:

- Developing a method for tracking nitrogen loadings and reductions from farms.
- Refining calculations on the nitrogen loading from agricultural lands to the Neuse River.
- Allocating nitrogen reduction goals for each county/watershed in the basin
- Reviewing and approving county/watershed nitrogen reduction strategies.
- Presenting the above information to the Environmental Management Commission.

The **Local Advisory Committees** will work with farmers to tailor-make local nitrogen reduction strategies. Members of each Local Advisory Committee will include DWQ and:

- At least two local farmers
- County Soil and Water Conservation District
- Natural Resources Conservation Service
- N.C. Department of Agriculture and Consumer Services
- Division of Soil and Water Conservation

The major responsibilities of the **Local Advisory Committees** are:

- Conducting the sign-up process for farmers.
- Developing local strategies to meet the county/watershed nitrogen reduction goal.
- Submitting annual progress reports to the Basin Oversight Committee.