

CHOWAN RIVER BASIN REGIONAL COUNCIL

Martin Community College
Bertie Campus
Windsor, NC

April 13, 1999

AGENDA

4:00	Welcome and Call to Order	Vice Chairman Brown
4:05	Introductions	ALL
4:10	Acceptance of Minutes from 1/19/99 Meeting in Windsor	Vice Chairman Brown
4:15	Nucor Update: Air Quality Considerations	Edward Childs NC DAQ
4:45	<u>Demonstration Project Development</u> 1- Report from the CRBRC Water Monitoring Committee RE: USGS Proposal for Demonstration Project 2- Formation of a Demonstration Project Committee(?)	ALL
5:15	<u>Old Business:</u> ✓ 1- Vacancies Update ✓ 2- Possible Resolution RE: "future sitings in the Chowan Basin"	Joan Giordano, APNEP Vice Chairman Brown
5:40	<u>New Business:</u> 1- MOA between NC and Virginia 2- GIS/RC Workshops in May 3- Next Coordinating Council Meeting on 4/23/99	Guy Stefanski, APNEP
5:50	Plans for Next Meeting (develop agenda items)	
6:00	Adjourn	



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-MINUTES-

The meeting was called to order by Vice-Chairman Brewster Brown at 4:00 PM. Self-introductions were made (see Attachment A). Motion was made by Roger Spivey to approve minutes of January 19, 1999 meeting. Motion received a second and passed.

NUCOR UPDATE: AIR QUALITY CONSIDERATIONS

Edward Childs with the NC Division of Air Quality (NCDAQ) reviewed the mission of the NCDAQ. He stated that the Nucor air emissions application has been reviewed and meets requirements of NCDAQ. Emissions data are based on continuous operation and therefore emissions should be lower than the worst case scenario. Nitrogen and mercury deposition models, also based on full-time operation and worst case scenarios, showed an increase of 17% total loading per year to the Chowan River. Mr. Childs stated that at least one PM10 monitor would be placed at the Nucor site. The State of Virginia was notified of emissions that will come their way from the Nucor site and no negative response has been received by the DAQ.

Capt. Al Howard read a document from the Division of Marine Fisheries dated March 12, 1999, which states their concern that Nucor presents a threat to the health of marine fisheries. They requested that an Environmental Assessment not be finalized and all permits should be held in abeyance until further investigations are done. After discussion, Capt. Howard made a motion that our council send a resolution to Governor Hunt and Secretary Wayne McDevitt requesting that a full-scale environmental impact study (EIS) be done and that all permits be stopped until this is done. Motion received a second a passed. Patricia Piland and Capt. Howard volunteered to draft a resolution during today's meeting.

OLD BUSINESS

VACANCIES UPDATE

Joan Giordano reported that she sent letters to Chowan, Gates, and Hertford Counties asking for a response by March 8, 1999. As of this date she has only

heard from Chowan County, which named Wayne Goodwin and Jerry Parks as representatives to the council. Vice-Chairman Brown will contact Gates and Hertford County managers.

POSSIBLE RESOLUTION RE: "FUTURE SITINGS IN THE CHOWAN RIVER"

Vice-Chairman Brown will draft a resolution to Secretary McDevitt asking that he advise the Governor that sitings be a cooperative effort between the NC Department of Commerce and the NCDENR. He advised that all regulatory and commercial entities be present at all meetings from the very beginning, thus eliminating confusion for businesses and the public. Everyone would be "working from the same sheet of paper".

NEW BUSINESS

MOA BETWEEN NC AND VIRGINIA

Ernie Brown with the Virginia Department of Conservation and Recreation (VACDR) reviewed a draft MOA between NCDENR and the Virginia Department of Conservation and Recreation. This MOA will give authority for work to be carried out in specified areas as well as provide support for a draft executive order to the Governor of Virginia endorsing the CCMP and APNEP.

A MOA worksheet was passed out to all council members in attendance and a deadline of April 19th was indicated for response. Members were asked to express specific goals and objectives that they would like to have addressed in the MOA. Comments need to be returned to Joan or Guy.

GIS/RC WORKSHOPS IN MAY

Guy handed out a schedule for regional council Geographic Information Systems (GIS) workshops. The workshops were designed to help council members and local officials learn more about GIS and its role as a planning and resource management tool. Equipment will be available to use. Council members were encouraged to attend the workshop for their river basin since material covered will be customized to meet goals and objectives outlined in their respective Programs and Work.

NEXT COORDINATING COUNCIL MEETING

The next meeting of the Coordinating Council will be held on April 23, 1999. Chairman Brown made a motion that Capt. Al Howard serve as the alternate to the Coordinating Council from the Chowan River Basin Regional Council. Motion received a second and passed.

REPORT ON DRAFT RESOLUTION

Capt. Howard and Patricia Piland presented the draft resolution they had written during today's meeting. After discussion, Chairman Brown made a motion that this draft resolution is mailed to all council members with a vote on the resolution to take place at a special called meeting on May 13th. Capt. Al Howard

seconded the motion. Vote was taken by raised hand. All council members voted yes except for one who abstained. **NOTE: The proposed "call meeting" was not held on May 13th because the 30 day requirement for mailing draft resolutions to RC members could not be met.** The council directed the Vice-Chairman to take this draft resolution to the Coordinating Council.

DEMONSTRATION PROJECT DEVELOPMENT

Marjorie Rayburn agreed to chair the Demonstration Project Committee. The Council has \$26,000 to spend on a project (or projects). Council members were asked to send project ideas to Marjorie or Guy. The committee will pull all ideas together and bring them before the council at a later date.

The next meeting will be held on June 15, 1999 beginning at 4:00 PM. Nan Laughton volunteered to find a location in Edenton for the meeting and it will be held **at the USFWS Fish Hatchery** . A possible agenda item for the June meeting will be to ask Tim Baumgartner to bring us up to speed on the Conservation Reserve Enhancement Program (CREP).

There being no further business the meeting adjourned at 6:30 PM.

Respectfully submitted,

Nan Laughton
Recording Secretary

attachments

Attendance
CRBRC
Hindsor

4-15-99

<u>NAME</u>	<u>AFFILIATION</u>
Jean Jordanano	APNEP / DWQ Staff
Guy Stefanuk	APNEP Staff
ERNIE BROWN	VAOGR
ERIC WALBERG	HRPDC
Nan Laughton	Chowan SWCD
Patricia P.iland	Student
GENE BATTON	WCC
Alfred Howard	Chowan Cty
Boyer C. Spivey	Chowan - Tree Farm
W.D. Perry	Bertie
Silly Puffin	Bertie
Lee Wynns	Mayor, Colerain
Marjorie Rayburn	NCCES, Chatham
Victor Liu	CRATER PLANNING DISTRICT, VA
Edward Childs	DENR / DAQ
Bruce Brown	CRBRC



DRAFT
4-13-99

RESOLUTION

RECOMMENDATION THAT AN ENVIRONMENTAL IMPACT STATEMENT
BE CONDUCTED REGARDING THE PROPOSED NUCOR FACILITY
LOCATED ON THE CHOWAN RIVER

WHEREAS, the Chowan River Basin Regional Council was created by Governor Hunt's Executive Order No. 75 to advise agencies responsible for environmental management on concerns and issues relative to the Chowan River Basin; and

WHEREAS, the Chowan River was the first waterbody in North Carolina to be designated as Nutrient Sensitive Waters (NSW) in 1979 because of the occurrence of nuisance algal blooms; and

WHEREAS, the water quality conditions in the Chowan River Basin have improved during the past 20 years due to the enormous effort by industry, municipalities, agriculture, forestry, scientists, environmental groups, government agencies and citizens of the Chowan River Basin; and

WHEREAS, Nucor, a steel industrial company, intends to construct and operate a steel recycling facility on the banks of the Chowan River; and

WHEREAS, it is our belief that review of the environmental impact analysis has been compartmentalized, and that total impact has not been adequately addressed, and a finding of "no significant impact" at this time cannot be justified; and

WHEREAS, it is our opinion that the information and conclusions presented in the Environmental Assessment (EA) and final supplement is not supported with an adequate level of scientific documentation; and

WHEREAS, we believe that the construction and operation of the Nucor facility, as currently proposed, would lead to significant deterioration of the fishery resource and aquatic habitats, would seriously affect the traditional recreational uses of the river, and generally threaten the overall economic sustainability of the resource; and

NOW, THEREFORE, IT IS RESOLVED that based on discussions developed from the review of various documents regarding the status of the Nucor permit applications, members of the Chowan River Basin Regional Council strongly recommend to the Coordinating Council that all requests for final permits for the proposed Nucor facility be held in abeyance and all construction activities cease until an environmental document is completed that adequately discusses and mitigates the potential direct and indirect threats to the Chowan River.

At this time, an Environmental Impact Statement (EIS) is the only document that will address the total current and future impacts of this industry on the Chowan River from an environmental and economical standpoint.

Adopted, this ____ day of _____, 1999.

Brewster Brown, Vice-Chairman
Chowan River Basin Regional Council

Nan Laughton, Secretary
Chowan River Basin Regional Council



January 15, 1999

ALBEMARLE-PAMLICO NATIONAL ESTUARY PROGRAM

DEMONSTRATION PROJECTS

The Comprehensive Conservation and Management Plan (CCMP) of the Albemarle-Pamlico National Estuary Program (A-P NEP) was officially endorsed by the Governor of North Carolina and the U.S. Environmental Protection Agency (EPA) in November 1994. In September 1994, EPA awarded the North Carolina Department of Environment and Natural Resources (DENR) a grant to demonstrate specific recommendations or action items contained in the CCMP. The Division of Water Quality (DWQ) is administering the grant and has oversight of the CCMP implementation process. The EPA grant has been extended to September 30, 1999 and the total amount of the grant is \$1,755,363.

As a part of the implementation strategy, the CCMP recommends the establishment of Regional Councils to foster public input from each of the five major river basins in the Albemarle-Pamlico region. Membership to the Councils consists of citizens and local government officials, representing every county and interest group in the region. In March 1995, Governor Hunt issued an Executive Order directing the creation of the Councils. All five Regional Councils have been established and meet on a regular basis.

A primary role of the Regional Councils is to establish local environmental priorities, based on those outlined in the CCMP, Governor Hunt's Coastal Agenda, and the DWQ's basinwide management plan recommendations. In addition, their role extends to developing support for the most cost-effective methods of dealing with those recommendations. Priorities of resource management vary from basin to basin because concerns for water quality, habitats and fisheries are diverse and widespread. The Regional Councils have been encouraged to develop and implement strategies which are most amenable to local action. Funds from the existing EPA grant have been dedicated to help support local demonstration projects recommended by the Regional Councils. Total funds available for demonstration projects are approximately \$130,400. Individual projects approved for funding are eligible to receive a total of \$26,080 for a single watershed and \$52,160 for a combined watershed project.

Demonstration projects are scaled-down versions of innovative or unique engineering or management strategies that are designed to test the cost and effectiveness of these actions in addressing priority problems in a particular watershed. These projects also aid in defining the time and resources required for basinwide implementation. Demonstrations may include engineering projects, model ordinances, improved management of living resources, and modifications to remove institutional barriers to achieving progress on priority problems.

In order to be eligible for funding, proposed demonstration projects must address a priority problem identified in the CCMP and involve the demonstration of specific management or engineering strategies (not planning or assessment activities). Each Regional Council may submit its own demonstration project proposal or work with another Council(s) with similar problems and submit a combined proposal. Proposals should include all the required information outlined in the "Criteria for Selection of Demonstration Projects" and the "Demonstration Project Checklist".

Regional Councils are tasked with the solicitation, review, ranking, and selection of projects to be funded. In addition, Regional Councils are strongly encouraged to utilize an existing and approved system or process to evaluate project applications. One example is the evaluation system used by the Clean Water Management Trust Fund in its review of proposals. The Coordinating Council must approve all projects selected for funding.

**Albemarle-Pamlico National Estuary Program
Regional Councils**

Format for Demonstration Project Proposals

- I. Discussion of Priority Problem(s)
- II. Options Considered
- III. Discussion of Selected Option/Project Abstract
 - A. Project Title
 - B. Lead Agency/Organization
 - C. Objectives
 - D. Likelihood of Success
 - E. Public Support
 - F. Time and Resources Required
 - G. Cost Effectiveness
 - H. Deliverables
- IV. Detailed Project Description/Scope of Work
 - A. What
 - B. Who
 - C. How
 - D. Where
 - E. When
 - F. Budget
- V. Activities to Monitor Success
 - A. Monitoring Requirements
 - B. QA/QC Plan
- VI. Reports on Progress, Costs, and Results
- VII. Review, Evaluation, and Redirection
- VIII. Basinwide or Regional Application
 - A. General Discussion
 - B. Cost Estimate
- IX. Public Education and Outreach
- X. Endorsement by Regional Council(s) and Other Partners

**Albemarle-Pamlico National Estuary Program - Regional Councils
Demonstration Project - Proposal Checklist**

- ___ 1. Discussion of the priority problem, identifying the probable causes and resource uses affected.
- ___ 2. Statement of the specific objectives of the project related to the problem, source, or cause.
- ___ 3. Discussion of the various management options considered.
- ___ 4. Discussion of the chosen option with reference to likelihood of success, public support, and time and resources (cost effectiveness).
- ___ 5. A complete outline of the specific plan needed to abate and control the problem or protect the resource. Each outline should address:
 - What: Describe specific environmental objectives and related measures of success and what will be done to attain them. For example, specify nutrient load reductions and use designations in the proposed location.
 - Who: Identify who will act, plan, and enforce; spell out roles and resource commitments for each participating agency, institution, or other entity.
 - How: Outline the procedure/process used to perform this project.
 - Where: Describe the location this project will affect.
 - When: Include schedules.
 - Budget: Provide detailed cost estimate.
- ___ 6. Description and schedule of activities to monitor success of the project.
- ___ 7. Timetable and description of reports (e.g., quarterly, final) concerning progress, costs, and results.
- ___ 8. Discussion of methods and schedules for review, evaluation, and redirection of the project.
- ___ 9. Discussion of possible basinwide and/or region wide application of the strategy.
- ___ 10. Commitment to develop cost estimates for basinwide application of the project.
- ___ 11. Discussion of public education and outreach methods.
- ___ 12. Formal endorsement of the demonstration project by the Regional Council(s).

Albemarle-Pamlico National Estuary Program Regional Councils

Criteria for Selection of Demonstration Projects

Preparing a Demonstration Project Proposal

A demonstration project is a scaled-down version of an innovative or unique engineering or management strategy. The project proposal should call for immediate action. Available funding will not pay for planning, but is strictly intended for implementation of specific management or engineering strategies (shovel in the ground type projects). These projects are being funded to demonstrate the process of implementation and the effectiveness of a specific control strategy prior to basinwide or regional application. The demonstration project proposals submitted to the Coordinating Council for funding should discuss each of the components described in the Demonstration Project Checklist. It is important that each of the components be addressed under its own section in the proposal. Use of the checklist will ensure that the proposal is complete.

Selection Criteria

Regional Councils convened under Governor Hunt's Executive Order #75 (as amended #118) are eligible to receive funds from the existing U.S. Environmental Protection Agency grant to support local demonstration projects. In selecting demonstration projects, proposals will be reviewed according to and funds provided based on the following criteria:

1. Projects must address a priority problem in the estuary or its watershed as identified in the Comprehensive Conservation and Management Plan (CCMP), Governor Hunt's Coastal Agenda, or a basinwide management plan approved by the North Carolina Department of Environment and Natural Resources.
2. Proposals should demonstrate that the problem identified for action has been adequately characterized and evaluated and show that the cause(s) of the problem have been adequately assessed.
3. A majority of the members of the Regional Council(s) should support the project(s) recommended for funding. The proposal must be signed by the chair(s) or co-chair(s) of the Council(s).
4. Proposals should establish the commitment to action made by the respective local government entity, other agencies and/or educational institutions and the private sector. Commitment to ensuring regulatory, administrative, financial, and political cooperation that would enhance project success would be beneficial.
5. Proposals should establish that the opportunities and likelihood for success and improvements in environmental quality are good.

6. Proposals must accurately and thoroughly address all required components, as described in the Proposal Checklist.
7. Demonstration of innovative techniques or approaches which can be transferred throughout the watershed or other watersheds in the region will improve chances of selection or approval.
8. Proposals must guarantee that the project will include the development of cost estimates for full-scale application of the strategy throughout the watershed.
9. The proposal should describe appropriate public education and outreach methods to reach constituents and stakeholders throughout the watershed/region.

EPA 319 PROJECT DESCRIPTION (FY 98)

PART 1

Name of Project: Chowan River Basin Agricultural, Urban, and On-site Wastewater BMP/Water Quality Program

Lead Organization: North Carolina Cooperative Extension Service, NCSU, NCDA, USDA-NRCS

Cooperating Organizations: NCDEHNR On-site Wastewater Section

State NPS Management Program Milestones Supported: Agriculture NPS Goal B, C, D, and F; On-site Wastewater Disposal NPS Goal A and B; Wetlands NPS Goal A and B; and Educational NPS Goal A and B.

Project Location: Chowan River Basin

Project Objectives:

1. Development of water quality educational program materials that can be introduced into training programs already in place or that are being developed. These programs shall include: Professional Farm Management, Master Gardeners, etc. The new materials will focus on issues of nutrient management planning, environmental landscaping, septic system operation and maintenance, lawn care, wetland issues, and urban water management.
2. Implementation and evaluation of cover crops and reduced tillage (BMP) in cotton for sediment and nutrient reduction.
3. Implementation and evaluation of vegetative borders (BMP) in conjunction with and without animal waste applications for sediment and nutrient reduction.
4. Implementation and evaluation of covered poultry litter storage (BMP) for nutrient reduction.
5. Evaluation of various animal ^{waste} application schemes on sediment and nutrient runoff.
6. Installation, evaluation, and demonstration of an innovative on-site waste disposal system for coliform, BOD, and nutrient reduction.
7. Evaluation of management practices to improve infiltration and subsequent treatment of municipal wastewater on spray fields.

Project Description: Water quality impairments in the Chowan River Basin include sediments and nutrients in agricultural and urban areas. Additional impairments (nutrients and bacteria) also result from poorly functioning on-site wastewater treatment and disposal systems. This proposal seeks to measure water quality in drainage ditches from fields with no-till and conventional tillage management, in streams either with or without protective field borders, and in shallow groundwater under both covered and uncovered poultry litter stockpiles.

Three BMPs which have been shown to be economically viable for this region include cover crops with reduced tillage, vegetative borders, and covering poultry litter stockpiles. Although reductions in erosion with cover crops with reduced tillage methods have been well documented for sloping land, their recent adoption in flatter coastal region is generally attributed to other factors such as time/cost savings land preparation and enhanced vehicle trafficability. Only a small portion of the total agricultural acreage in the Chowan River Basin is managed with cover crops with reduced tillage methods.

Vegetative borders can trap and transform field runoff to enhance downstream water quality. Farms within this basin are drained by overland flow to streams and surface ditch networks. Stream borders are present on a minority of framed acreage.

Covering poultry litter stockpiles has been developed to reduce leaching losses of nutrients during storage. Poultry litter is commonly used as a fertilizer material, only recently have cost share programs begun to promote the coverage of litter stockpiles.

Evaluation of various animal application schemes on sediment and nutrient runoff.

Anecdotal and survey results all suggest that poorly functioning and failing on-site wastewater systems contributed to NPS pollution within the Chowan River Basin. Many of the failing system were installed before the current regulation took effect and are on lots that are not suited for conventional on-site wastewater treatment and disposal. As such renovation of these systems requires the use of innovative technologies to assure proper treatment of the wastewater. Innovative on-site wastewater disposal system will be installed and evaluated regarding fecal coliform and nutrient contamination reduction. The installation will follow the rules and regulations set forth by NCDEHNR, OSWS. Monitoring of the system will be accomplished in accordance with NCDEHNR, OSWS guidelines. System monitoring parameters will include: Fecal Coliform, BOD, TSS, pH, PO₄-P, Total-P, TKN, NH₃-N, NO₃-N, Total-N. Sampling locations will include: up gradient (minimum of 1 well), septic tank, after treat modules as applicable, within/below nitrification trench (1-2 well), down gradient (minimum of 1 well), and adjacent surface water as applicable. Samples will be taken monthly during winter months (high water table periods) and every other month during the remainder of the year.

Spray fields are used to land apply municipal wastewater by several communities throughout the Chowan River Basin. The effluent is applied at rates which are designed to prevent runoff, however runoff from some fields has been observed. Improved infiltration at the soil surface is one way to minimize runoff problems. Infiltration under several surface and vegetative conditions will be evaluated. Estimates can then be made as to improvements in infiltration based on adoptions of varying practices.

Wetlands often assist in the mitigation of NPS pollution. Despite this role wetlands are often subject to intense developmental pressure or are viewed as wasted space. Furthermore identification of wetlands, in terms of form, function, and location has been problematic. This project will establish a series of water table monitoring wells in wetland and suspected wetland areas to demonstrate ground water fluctuations over time. These well documented sites will assist in training efforts designed to assure proper wetland identification and function analysis.

These field and demonstration sites can be utilized for educational programs such as county or regional field days, agent training sessions, installer and producer training courses. The proposed agricultural BMP demonstrations can be incorporated into the ongoing development of a Professional Farm Managers Course.

Quantified Specific Outputs/Deliverables:

- 1. Implementation and evaluation of 100 acres of no-till (BMP) for sediment and nutrient reduction. *overseeded winter cover vegetative educ. tool - sand blasting*
- 2. Implementation and evaluation of 1000 feet of stream borders (BMP) in conjunction with and without animal waste applications for sediment and nutrient reduction. *field ditches. grass ditches.*
- 3. Implementation and evaluation of 1 covered poultry litter storage (BMP) for nutrient reduction. *before + after on side by side*
- 4. Installation and monitoring of an advanced on-site wastewater treatment system. Water quality monitoring will be used to evaluate the effectiveness in reducing fecal coliform and nutrients. *test application field with subsider. monitor*
- 5. Construction of a demonstration on-site wastewater system (similar to the one installed in output 4) at the On-site Wastewater Research, Training, and Demonstration Facility at the Vernon James Research and Extension Center. This will be more accessible than one installed at a private residence. *water*
- 6. 2 agent training sessions, one each for row crops and animal waste management. 6 meetings for agricultural producer training, three each for row crops and animal waste management. These sessions should result in a 10% increase in the number of soil samples and waste analysis samples submitted.
- 7. 2 agent training days for on-site issues, 4 community meetings for non-agricultural issues. Topics will include technical criteria, septic tank pumping, proper siting of systems, relation of soils and landscape to system performance, matching the system to the needs of the environment and community, and environmental landscaping. These meeting should result in a 10% increase in the number of septic tanks pumped and a 10% reduction in the amount of urban fertilizer application with the a defined focus area. *incl environ field day*
- 8. Develop water quality training modules dealing with NMP, on-site issues, landscaping, wetland, etc. *water models*
- ⑧ Install bench mark wells to be used for water table and wetland training in critical areas.
- 10. Quarterly Reports shall include the status of outputs and milestones.
- 11. The Final Report shall include the following: an abstract; an evaluation of success in preventing and controlling NPS pollution; an estimate of improvement; a summary of costs for installation of innovative technologies and estimated returns to the homeowner; and photo-documentation.

Ambient monitoring stations already present.



Milestones:

DEHNR Executes Contracts With NCCES	April 1, 1998
Selection of Site for On-site system	October 1, 1998
Installation and Monitoring of On-site System	May 1, 1999
Construction of On-site Demonstration System	July 1, 1999
Selection and Monitoring of Agricultural Sites	October 1, 1998
Selection and Monitoring of Municipal Site	June 1, 1999
Agent Training for Agricultural and Non-agricultural Issues	February 1, 1999; February 1, 2000
Community Meeting for Agricultural and Non-agricultural Issues	March 1, 1999; March 1, 2000
Publish Newsletter and Generate Newspaper Articles	February 1, 1999; February 1, 2000
Producer Meetings	January 1, 1999
Quarterly Reports	Quarterly, 1998- 2000
Final Report	Sept. 30, 2000

Funding Requested:

Source of Funds	Activity*	Requested Funding**	Non-Federal Match***	Total
Staff	E, M, P, T		28,248	
Travel to Project Sites	E, M, P, T	6,000		
Equipment	M, B	6,000		
Supplies	B, E, M, P, T	35,000		
Educational model cost	E	<i>1 each</i> 10,000		
Laboratory Analysis Fees	M	23,909		
Septic Systems	B (cost share)	10,000		
Indirect Charges (10%)	E, M, P, T	9,091		
Uncharged Indirect (37.5%)	E, M, P, T		25,000	
Match Indirect (47.5%)	E, M, P, T		13,419	
Total		100,000	66,667	166,667

cost share at least 25%

* Activities; B=BMP Implementation, E=Education, M=Monitoring, P=Project Management, T=Technical Assistance

** Requested 319(h) funds are to be used as follows: Travel funding will be used for project staff travel to Demo sites and educational meetings. Supplies funding will be used for materials to construct Demo facility, training and educational brochures and slide sets, signs, monoliths, watertable wells, sample containers, reagents, and monitoring supplies. Educational models cost will be used to purchase a minimum of 5 ground water models and 5 septic system models. Laboratory Analysis Fees funding will be used for analyzing surface and ground water samples. Septic systems funding will be used to install innovative septic system. The cost-share rate with individuals shall not exceed 75% of the cost of installing the septic system. Indirect costs are charged a 10% of direct costs.

*** Non-Federal Match funds are to be used as follows: Staff funds are used to support salaries and fringe benefits of NCSU staff listed under the Project Investigators section. NCSU salaries represent State funds only. Bookkeeping records are maintained such that no federal funds are indicated in this column. Uncharged indirect costs are forfeited administrative overhead at 37.5% of the eligible direct charges, the difference between the current NCSU standard overhead rate of 47.5 % and the maximum allowed rate by EPA of 10%. Match indirect costs are charged by NCSU at 47.5% of Match direct charges. All invoices submitted to DWQ for payment of Section 319(h) grant funds shall include a summary of non-federal match that has been credited toward project activities for the period of time covered by the invoice. Match activities must meet the same eligibility requirements of the federally funded portions of the project.

Is the requested funding necessary to adequately fund the state base program? yes no

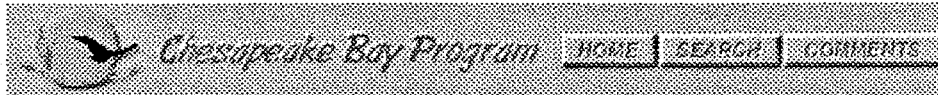
Is the requested funding necessary to complete an ongoing, phased project?
 yes no

If this is a multiyear project have you requested sufficient funds to complete?
 yes no

The Lead Organization, as listed on the first page of this form, agrees to comply with all requirements specified in the guidance package: no yes

Is this a watershed project? yes no If yes, complete PART 2 of this form.

PROJECT INVESTIGATORS



1983 Chesapeake Bay Agreement

We recognize that the findings of the Chesapeake Bay Program have shown an historical decline in the living resources of the Chesapeake Bay and that a cooperative approach is needed among the Environmental Protection Agency (EPA), the State of Maryland, the Commonwealths of Pennsylvania and Virginia, and the District of Columbia (the States) to fully address the extent, complexity, and sources of pollutants entering the Bay. We further recognize that EPA and the States share the responsibility for management decisions and resources regarding the high priority issues of the Chesapeake Bay.

Accordingly, the States and EPA agree to the following actions:

1. A Chesapeake Executive Council will be established which will meet at least twice yearly to assess and oversee the implementation of coordinated plans to improve and protect the water quality and living resources of the Chesapeake Bay estuarine systems. The Council will consist of the appropriate Cabinet designees of the Governors and the Mayor of the District of Columbia and the Regional Administrator of EPA. The Council will be initially chaired by EPA and will report annually to signatories of this Agreement
2. The Chesapeake Executive Council will establish an implementation committee of agency representatives who will meet as needed to coordinate technical matters and to coordinate the development and evaluation of management plans. The Council may appoint such ex officio nonvoting members as deemed appropriate.
3. A liaison office for Chesapeake Bay activities will be established at EPA's Central Regional Laboratory in Annapolis, Maryland, to advise and support the Council and committee.

DATE: December 9, 1983

SIGNERS:

For the Commonwealth of Virginia--*Charles S. Robb, Governor*

For the State of Maryland--*Harry Hughes, Governor*

For the Commonwealth of Pennsylvania--*Mark Single, Lieutenant Governor*

For the District of Columbia, *Marion Barry, Mayor*

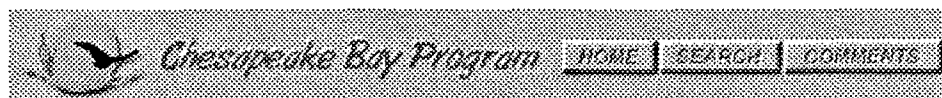
For the United States of America--*William Ruckelshaus, Administrator, U.S. Environmental Protection Agency*

For the Chesapeake Bay Commission--*Joseph V. Gartlan, Jr., Chairman*

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For more information, contact the Chesapeake Bay Program Office, 410 Severn Avenue, Suite 110, Annapolis, MD 21403, Tel: (800) YOUR-BAY, Fax: (410) 267-5777.



1987 Chesapeake Bay Agreement

THE CHESAPEAKE BAY IS A NATIONAL TREASURE and a resource of worldwide significance. Its ecological, economic, and cultural importance are felt far beyond its waters and the communities that line its shores. Man's use and abuse of its bounty, however, together with the continued growth and development of population in its watershed, have taken a toll on the Bay system. In recent decades, the Bay has suffered serious declines in quality and productivity.

REPRESENTING the Federal government and the States which surround the Chesapeake Bay, we acknowledge our stake in the resources of the Bay and accept our share of responsibility for its current condition. We are determined that this decline will be reversed. In response, all of our jurisdictions have embarked on ambitious programs to protect our shared resource and restore it to a more productive state.

IN 1980, the legislatures of Virginia and Maryland established the Chesapeake Bay Commission to coordinate interstate planning and programs from a legislative perspective. In 1985, Pennsylvania joined the Commission. And, in 1983, Virginia, Maryland, Pennsylvania, the District of Columbia, the U.S. Environmental Protection Agency and the Chesapeake Bay Commission formally agreed to a cooperative approach to this undertaking and established specific mechanisms for its coordination. Since 1983, our joint commitment has carried us to new levels of governmental cooperation and scientific understanding. It has formed a firm base for the future success of this long-term program. The extent and complexity of our task now call for an expanded and refined agreement to guide our efforts toward the twenty-first century.

RECOGNIZING that the Chesapeake Bay's importance transcends regional boundaries, we commit to managing the Chesapeake Bay as an integrated ecosystem and pledge our best efforts to achieve the goals in this Agreement. We propose a series of objectives that will establish a policy and institutional framework for continued cooperative efforts to restore and protect Chesapeake Bay. We further commit to specific actions to achieve those objectives. The implementation of these commitments will be reviewed annually and additional commitments developed as needed.

Goals and Priority Commitments

THIS NEW AGREEMENT CONTAINS Coals and Priority Commitments for Living Resources; Water Quality; Population Growth and Development; Public Information, Education and Participation; Public Access; and Governance.

The parties to this 1987 Agreement are the U.S. Environmental Protection Agency representing the Federal government, the District of Columbia, the State of Maryland and the Commonwealths of Pennsylvania and Virginia (hereinafter the "States") and the Chesapeake Bay Commission. This Agreement may be amended and attachments added in the future by unanimous action of the Chesapeake Executive Council.

Living Resources

GOAL: PROVIDE FOR THE RESTORATION AND PROTECTION OF THE LIVING RESOURCES. THEIR HABITATS AND ECOLOGICAL RELATIONSHIPS. The productivity, diversity and abundance of living resources are the best ultimate measures of the Chesapeake Bay's condition. These living resources are the main focus of the restoration and protection effort. Some species of shellfish and finfish are of immense commercial and recreational value to than. Others are valuable because they are part of the vast array of plant and animal life that make up the Chesapeake Bay ecosystem on which all species depend. We recognize that the entire natural system must be healthy and productive. We will determine the essential elements of habitat and environmental quality necessary. to support living resources and will see that these conditions are attained and maintained. We will also manage the harvest of and monitor populations of commercially, recreationally and ecologically valuable species to ensure sustained, viable stocks. We recognize that to be successful, these actions must be carried out in an integrated and coordinated manner across the whole Bay system.

OBJECTIVES:

- Restore, enhance, protect and manage submerged aquatic vegetation.
- Protect, enhance and restore wetlands, coastal sand dunes, forest buffers and other shoreline and riverline systems important to water quality and habitat.
- Conserve soil resources and reduce erosion and sedimentation to protect Bay habitat..
- Maintain freshwater flow regimes necessary to sustain estuarine habitats, including. where appropriate. establishing minimum in-stream flows.
- Develop compatible Bay-wide stock assessment programs
- Develop Bay-wide fisheries management strategies and develop complementary state programs and plans to protect and restore the finfish and shellfish stocks of the Bay. especially the freshwater and estuarine spawners.
- Provide for the restoration of shellfish stocks in the Bay especially' the abundance of commercially important species.
- Restore. enhance and protect waterfowl and wildlife.

COMMITMENT:

TO ACHIEVE THIS GOAL WE AGREE:

- by January 1988 to develop and adopt guidelines for the protection of water quality and habitat conditions necessary to support the living resources found in the Chesapeake Bay system and to use these guidelines in the implementation of water quality and habitat protection programs.
- *by July 1988* to develop, adopt and begin to implement a Bay-wide plan for the assessment of commercially. recreationally and selected ecologically valuable species.
- *by July 1988*, to adopt a schedule for the development of Bay-wide resource management strategies for commercially, recreationally and selected ecologically valuable species.
- *by July 1989*, to develop, adopt and begin to implement Bay-wide management plans for oysters, blue crabs and American Shad. Plans for other major commercially, recreationally and ecologically valuable species should be initiated by 1900.
- *by December 1988*, to develop a Bay-wide policy for the protection of tidal and non-tidal wetlands.
- Provide for fish passage at dams, and remove stream blockages wherever necessary, to restore

natural passage for migratory fish

Water Quality

GOAL: REDUCE AND CONTROL POINT AND NON-POINT SOURCES OF POLLUTION TO ATTAIN THE WATER QUALITY CONDITION NECESSARY TO SUPPORT THE LIVING RESOURCES OF THE BAY. The improvement and maintenance of water quality are the single most critical elements in the overall restoration and protection of the Chesapeake Bay. Water is the medium in which all living resources of the bay live, and their ability to survive and flourish is directly dependent on it.

To ensure the productivity of the living resources of the Bay, we must clearly establish the water quality conditions they require and must then attain and maintain those conditions. Foremost, we must improve or maintain dissolved oxygen concentrations in the Bay and its tributaries through a continued and expanded commitment to the reduction of nutrients from both point and nonpoint sources. We must do the same for toxics and conventional pollutants. To be effective, we will develop basin-wide implementation plans for the control and reduction of pollutants which are based on our best understanding (including that derived from modeling) of the Bay and its tributaries as an integrated system.

OBJECTIVES:

- Provide timely construction and maintenance of public and private sewerage facilities to assure control of pollutant discharges.
- Reduce the discharge of untreated or inadequately treated sewage into Bay waters from such sources as combined sewer overflows, leaking sewage systems, and failing septic systems.
- Evaluate and institute, where appropriate, alternative technologies for point source pollution control, such as biological nutrient re-moral and land application of effluent to reduce pollution loads in a cost-effective manner.
- Establish and enforce pollutant limitations to ensure compliance with water quality laws.
- Reduce the levels of nonpoint sources of pollution.
- Reduce sedimentation by strengthening enforcement of existing control regulations.
- Eliminate pollutant discharges from recreational boats.
- Identify and control toxic discharges to the Bay system, including metals and toxic organics to protect water quality, aquatic resources and human health through implementation and enforcement of the states' National Pollutant Discharge Elimination System permit programs and other programs.
- Reduce chlorine discharges in critical finfish and shellfish areas. Minimize water pollution incidents and provide adequate response to pollutant spills.
- Manage sewage sludge, dredged spoil and hazardous wastes to protect the Bay system.
- Manage groundwater to protect the water quality of the Bay.
- Quantify the impacts and identify the sources of atmospheric inputs on the Bay system.

COMMITMENT:

TO ACHIEVE THIS GOAL WE AGREE:

- by *July 1988*, to develop, adopt and begin implementation of a basin-wide strategy to equitably achieve by the year 2000 at least a 40 percent reduction of nitrogen and phosphorus entering

- the main stem' of the Chesapeake Bay. The strategy should be based on agreed upon 1985 point source loads and on nonpoint loads in an average
- *by December 1991*, to re-evaluate the 40 percent reduction target based on the results of modeling, research, monitoring and other information available at that time.
 - *by December 1988*, to develop, adopt and begin implementation of a basin-wide strategy to achieve a reduction of toxics consistent with the Water Quality Act of 1987 which will ensure protection of human health and living resources. The strategy will cover both point and nonpoint sources, monitoring protocols, enforcement of pretreatment regulations and methods for dealing with in-place toxic sediments where necessary.
 - *by July 1988*, to develop and adopt, as required by the Water Quality Act of 1987, a basin-wide implementation strategy for the management and control of conventional pollutants entering the Chesapeake Bay system from point and nonpoint sources.
 - *by July 1988*, the Environmental Protection Agency, acting for the federal government, will develop, adopt and begin implementation of a strategy for the control and reduction of point and nonpoint sources of nutrient, toxic and conventional pollution from all federal facilities.

Population Growth and Development

GOAL: PLAN FOR AND MANAGE THE ADVERSE ENVIRONMENTAL EFFECTS OF HUMAN POPULATION GROWTH AND LAND DEVELOPMENT IN THE CHESAPEAKE BAY WATERSHED. There is a clear correlation between population growth and associated development and environmental degradation in the Chesapeake Bay system. Enhancing, or even main-mining, the quality of the Bay while accommodating growth will frequently involve difficult decisions and restrictions and will require continued and enhanced commitment to proper development standards. The states and the federal government will assert the full measure of their authority to mitigate the potential adverse effects of continued growth.

Local jurisdictions have been delegated authority over many decisions regarding growth and development which have both direct and indirect effects on the Chesapeake Bay system and its living resources. The role of local governments in the restoration and protection effort will be given proper recognition and support through state and federal resources.

States will engage in an active partnership with local governments to establish policy guidelines to manage growth and development.

OBJECTIVES:

- Designate a state-level office responsible for ensuring consistency with this Agreement among the agencies responsible for comprehensive oversight of development activity, including infrastructure planning, capital budgets, land preservation and waste management activities.
- Provide local governments with financial and technical assistance to continue and expand their management efforts.
- Consult with local government representatives in the development of Chesapeake Bay restoration and protection plans and programs.
- Identify and give public recognition to innovative and otherwise noteworthy examples of local government restoration and protection-related programs.
- Assure that government development projects meet all environmental requirements.
- Promote, among local, state and federal governments, and the private sector, the use of innovative techniques to avoid and, where necessary, mitigate the adverse impacts of growth.

COMMITMENT:*TO ACHIEVE THIS GOAL WE AGREE:*

- to commission a panel of experts to report, by *December 1988*, on anticipated population growth and land development patterns in the Bay region through the year 2020, the infrastructure requirements necessary to serve growth and development, environmental programs needed to improve Bay resources while accommodating growth, alternative means of managing and directing growth and alternative mechanisms for financing governmental services and environmental controls. The panel of experts will consist of twelve members: three each from Virginia, Maryland and Pennsylvania, and one each from the District of Columbia, Environmental Protection Agency and the Chesapeake Bay Commission.
- *by January 1989*, to adopt development policies and guidelines designed to reduce adverse impacts on the water quality and living resources of the Bay, including minimum best management practices for development and to cooperatively assist local governments in evaluating land-use and development decisions within their purview, consistent with the policies and guidelines.
- to evaluate state and federal development projects in light of their potential impacts on the water quality and living resources of the Chesapeake Bay, and design and carry out each state and federal development project so as to serve as a model for the private sector in terms of land-use practices.
- *by December 1988*, to develop a strategy to provide incentives, technical assistance and guidance to local governments to actively encourage them to incorporate protection of tidal and non-tidal wet lands and fragile natural areas in their land-use planning, water and sewer planning, construction and other growth-related management processes.

Public Information, Education and Participation

GOAL: PROMOTE GREATER UNDERSTANDING AMONG CITIZENS ABOUT THE CHESAPEAKE BAY SYSTEM. THE PROBLEMS FACING IT AND POLICIES AND PROGRAMS DESIGNED TO HELP IT AND TO FOSTER INDIVIDUAL RESPONSIBILITY AND STEWARDSHIP OF THE BAY'S RESOURCES.

GOAL: PROVIDE INCREASED OPPORTUNITIES FOR CITIZENS TO PARTICIPATE IN DECISIONS AND PROGRAMS AFFECTING THE BAY. The understanding and support of the general public and interest groups are essential to sustaining the long-term commitment to the restoration and protection of the Chesapeake Bay system and its living resources. Citizens must have opportunities to learn about that system and associated management policies and programs and must be given opportunities to contribute ideas about how best to manage that natural system.

OBJECTIVES:

- Provide timely information on the progress of the restoration program.
- Assure a continuing process of public input and participation in policy decisions affecting the Bay.
- Enhance Bay-oriented education opportunities to increase public awareness and understanding.
- Provide curricula and field experience for students.
- Promote opportunities to involve citizens directly in Bay restoration efforts.

- Coordinate the production and distribution of Bay information and education materials.

COMMITMENT:

TO ACHIEVE THESE GOALS WE AGREE:

to conduct coordinated education and information programs to inform the general public, local governments, business, students, community associations and others of their roles, responsibilities and opportunities in the restoration and protection effort, and to promote public involvement in the management and decision-making process.

- to provide for public review and comment on all implementation plans developed pursuant to this agreement.
- by March 1988, to develop state and federal communication plans for public information, education and participation, and by May 1988, to develop a unified, Bay-wide communication plan.
- to promote Chesapeake Bay restoration efforts by establishing an annual Bay-wide series of Chesapeake Bay Watershed Awareness events, to include a Governor's Cup Fishing Tournament.

Public Access

GOAL: PROMOTE INCREASED OPPORTUNITIES FOR PUBLIC APPRECIATION AND ENJOYMENT OF THE BAY AND ITS TRIBUTARIES. Interest in and commitment to the Chesapeake Bay and its tributaries are greatly affected by personal contact with that natural system. Consequently, improved opportunities for access to the shores and waters of the system are essential if public awareness and support are to be maintained and increased.

OBJECTIVES:

- Improve and maintain access to the Bay including public beaches, parks and forested lands.
- Improve opportunities for recreational and commercial fishing.
- Secure shoreline acreage to maintain open space and provide opportunities for passive recreation.
- Secure necessary acreage to protect unique habitat and environmentally sensitive areas.

COMMITMENT:

TO ACHIEVE THIS GOAL WE AGREE:

- to intensify our efforts to improve and expand public access opportunities being made available by the federal government, the states, and local governments, by developing a strategy, which includes an inventory of current access opportunities by July 1988, which targets state and federal actions to secure additional tidal storefront acres by December 1990 along the Bay and its tributaries.
 - by December 1988, to prepare a comprehensive guide to access facilities and the natural resource system for the tidal Chesapeake Bay.
-

Governance

GOAL: SUPPORT AND ENHANCE THE PRESENT COMPREHENSIVE, COOPERATIVE AND COORDINATED APPROACH TOWARD MANAGEMENT OF THE CHESAPEAKE BAY SYSTEM.

GOAL: PROVIDE FOR CONTINUITY OF MANAGEMENT EFFORTS AND PERPETUATION OF COMMITMENTS NECESSARY TO ENSURE LONG-TERM RESULTS.

The cooperation necessary to sustain an effective Chesapeake Bay restoration and protection effort requires a formal working arrangement involving the states and the federal government. That institutional arrangement must allow for and promote voluntary individual actions coordinated Within a well-defined context of the individual responsibilities and authorities of each state and the federal government. It must also ensure that actions which require a concerted, Bay-wide approach be addressed in common and Without duplication. One of the principal functions of the coordinating institution is to develop strategic plans and oversee their implementation, based on advice from the public, from the scientific Community and from user groups.

In addition, the coordinating body must exert leadership to marshal public Support, and it must be accountable for progress made under the terms of this agreement. The coordinating body will continue to be called the Chesapeake Executive Council. The Chesapeake Executive Council shall be comprised of the Governors, the Mayor of the District of Columbia, the Administrator of the Environmental Protection Agency and the Chairman of the Chesapeake Bay Commission. The chairmanship of the Council shall rotate annually as determined by the Council. The term of the Chairman shall be one year. The Administrator of the Environmental Protection Agency shall represent the federal government and the Chairman of the Chesapeake Bay Commission shall represent its members.

OBJECTIVES:

- Continue to demonstrate strong, regional leadership by convening an annual public meeting of the Chesapeake Executive Council.
- Continue to support the Chesapeake Executive Council and provide for technical and public policy advice by maintaining strong advisory committees.
- Coordinate Bay management activities and develop and maintain effective mechanisms for accountability
- The Chesapeake Bay Liaison Office shall provide staff support to the Chesapeake Executive Council by providing analyses and data management, and by generating reports related to the overall program. The Implementation Committee shall provide guidance to the CBLO Director in all matters relating to support for the Council and their supporting committees, subcommittees and work groups including the development of all plans and other documents associated with the Council.
- Examine the feasibility of joint funding support of the Chesapeake Bay Liaison Office.
- Track and evaluate activities which may affect estuarine water quality and resources and report at least annually.
- Develop and maintain a coordinated Chesapeake Bay data management system.
- Continue to implement a coordinated Bay-wide monitoring system and develop a Bay-wide living resources monitoring system.
- Develop and implement a coordinated Bay-wide research program.

COMMITMENT:

TO ACHIEVE THESE GOALS WE AGREE:

- to develop an annual Chesapeake Bay work plan endorsed by the Chesapeake Executive Council.
- to continue to support Bay-wide environmental monitoring and research to provide the technical and scientific information necessary to support management decisions.
- to strengthen the Chesapeake Bay Liaison Office by assigning, as appropriate, staff persons from each jurisdiction and from participating federal agencies to assist with the technical support functions of that office.
- by *July 1988*, to develop and adopt a comprehensive research plan to be evaluated and updated annually to address the technical needs of the Chesapeake Bay Program.
- by *July 1988*, develop a Bay-wide monitoring plan for selected commercially, recreationally and ecologically valuable species.
- by *March 1988*, to establish a local government advisory committee to the Chesapeake Executive Council and charge that committee to develop a strategy for local government participation in the Bay program.
- to consider and review the feasibility of establishing an independent Chesapeake Bay Executive Board.
- by *July 1988*, the Environmental Protection Agency, acting for the federal government, will develop, a coordinated, federal agency workplan which identifies specific federal programs to be integrated into a coordinated federal effort to support the restoration of the Chesapeake Bay.

BY THIS AGREEMENT, we reaffirm our commitment to restore and protect the ecological integrity, productivity and beneficial uses of the Chesapeake Bay system. We agree to report in *January 1989* on progress made in fulfilling the commitments in this agreement, and to consider at that time additional commitments. The implementation strategies which will be developed pursuant to this agreement will be appended as annexes, and annual reports will include an accounting of progress made on each strategy.

DATE: December 15, 1987

For the Commonwealth of Virginia -- *Gerald L. Balilis, Governor*

For the State of Maryland -- *William Donald Schaefer, Governor*

For the Commonwealth of Pennsylvania -- *Robert P. Casey, Governor*

For the District of Columbia -- *Marion Barry, Mayor*

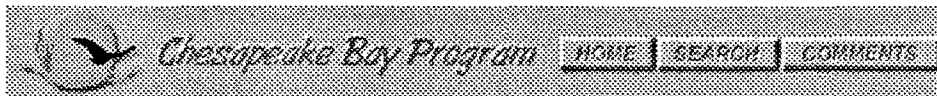
For the United States of America -- *Lee Thomas, Administrator, U.S. Environmental Protection Agency*

For the Chesapeake Bay Commission -- *Kenneth J. Cole, Chairman*

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For more information, contact the Chesapeake Bay Program Office, 410 Severn Avenue, Suite 110, Annapolis, MD 21403, Tel: (800) YOUR-BAY, Fax: (410) 267-5777.



Chesapeake Bay Agreement: 1992 Amendments

In 1987, Virginia, Maryland, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission and the U.S. Environmental Protection Agency formally agreed to reduce and control point and nonpoint sources of pollution to attain the water quality conditions necessary to support the living resources of the Bay. TO achieve this, we agreed to develop, adopt and begin to implement a strategy to equitably achieve by the year 2000 a 40 percent reduction of nitrogen and phosphorus entering the mainstem Chesapeake Bay. WE also agreed to reevaluate the 40 percent reduction target based on the results of modeling, monitoring and other information available to us.

BASED UPON THE 1991 NUTRIENT REDUCTION REEVALUATION, WE HAVE FOUND THAT:

We have achieved significant improvements in water quality and living resources habitat conditions in the mainstem of Chesapeake Bay.

- There is a clear need to expand our program efforts in the tributaries, since most of the spawning grounds and essential habitat are in the tributaries.
- Intensified efforts to control nonpoint sources of pollution, including agriculture and developed areas, will be needed if we are to meet our 40% nutrient reduction goal.
- We are now able to demonstrate the link between water quality conditions and the survival and health of critically important submerged aquatic vegetation (SAV).

Implementation of the Clean Air Act Amendments will provide additional opportunities to achieve nitrogen reductions.

Achieving a 40 percent nutrient reduction goal, in at least some cases, challenges the limits of current point and nonpoint source control technologies.

THEREFORE, TO FURTHER OUR COMMITMENTS MADE IN THE 1987 CHESAPEAKE BAY AGREEMENT, WE AGREE:

- To reaffirm our commitment to achieve an overall 40 percent reduction of nitrogen and phosphorus entering the mainstem Chesapeake Bay by the year 2000 and to maintain at least this level of reduction thereafter.
- To amend the water quality goal of the 1987 Chesapeake Bay Agreement to reflect the critical importance of the tributaries in the ultimate restoration of Chesapeake Bay: "Reduce and control point and nonpoint sources of pollution to attain the water quality condition necessary to support & living resources of the Chesapeake Bay **and its tributaries.**"
- To develop and begin implementation of tributary-specific strategies by August 1993. These strategies will be designed to:
 1. Meet the mainstem nutrient reduction goals.
 2. Achieve the water quality requirements necessary to restore living resources in both

the mainstem and the tributaries.

3. Incorporate public participation in the development, review and implementation of the strategies, ensuring the broadest possible public involvement.

4. Advance both cost-effectiveness and equity.

- To use the distribution of submerged aquatic vegetation (SAV) in the Bay and its tidal tributaries, as documented by Baywide and other aerial surveys conducted since 1970, as an initial measure of progress in the restoration of living resources and water quality.
- To incorporate into the Nutrient Reduction Strategies an air deposition component which builds upon the 1990 Amendments to the federal Clean Air Act and explores additional implementation opportunities to further reduce airborne sources of nitrogen entering Chesapeake Bay and its tributaries.
- To continue to explore improved technologies that may be cost-effective in attaining further nutrient reductions.
- To explore cooperative working relationships with the other three basin states (New York/West Virginia/Delaware) in the development of tributary-specific strategies for nutrient reduction.

By this AGREEMENT, we reaffirm our commitments made in the 1987 Chesapeake Bay Agreement to restore and protect the ecological integrity, productivity and beneficial uses of the Chesapeake Bay system. In addition, we the undersigned agree to further our efforts through the commitments made here today which are hereby incorporated into the 1987 Chesapeake Bay Agreement.

DATE: August 12, 1992

SIGNERS:

For the Commonwealth of Virginia--*Lawrence Douglas Wilder, Governor*

For the State of Maryland--*William Donald Shafer, Governor*

For the Commonwealth of Pennsylvania--*Robert P. Casey, Governor*

For the District of Columbia--*Sharon Pratt Kelly, Mayor*

For the United States of America--*William K. Reilly, Administrator, U.S. Environmental Protection Agency*

For the Chesapeake Bay Commission--*Bernie Fowler, Chairman*

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 *Last modified 4 March 1996*



**Memorandum of Agreement
Between
North Carolina Department of Environment and Natural Resources
and
Virginia Department of Conservation and Recreation**

WORK SHEET

Agreement

The NCDENR and the VADCR will work together to implement the management actions recommended by the CCMP of the APNEP in order to restore and maintain the chemical, physical and biological integrity of the Albemarle-Pamlico Sounds estuarine system and to achieve the specific goals and objectives as described in the CCMP.

Specifically, the NCDENR agrees to:

1. _____

2. _____

Specifically, the VADCR agrees to:

1. _____

2. _____

Key words: water quality, habitats, wetlands, fisheries, stewardship, monitoring, restoration, sharing of data and technologies, nutrient reduction strategies, management, research, partnership, coordinate, cooperate, educate, funding, nonpoint source pollution, point source pollution, growth impacts, groundwater depletion and contamination, impaired streams, land use planning.

Please provide this form by **April 19th** to:

Guy Stefanski
Albemarle-Pamlico National Estuary Program
NC Division of Water Quality
P.O. Box 29535
Raleigh, NC 27626-0535
phone: 919/733-5083 ext. 585
fax: 919/715-5637
guy_stefanski@h2o.enr.state.nc.us

DRAFT

1-11-99

**Memorandum of Agreement
Between
North Carolina Department of Environment and Natural Resources
and
Virginia Department of Conservation and Recreation**

Purpose

This Memorandum of Agreement (MOA) provides for enhanced coordination and cooperation between the North Carolina Department of Environment and Natural Resources (NCDENR) and the Virginia Department of Conservation and Recreation (VADCR), as partners in the Albemarle-Pamlico Sounds National Estuary Program (APNEP). The APNEP, through its Coordinating Council, is a consortium of organizations, including federal, state, local governments, non-profit institutions, private industry, academia, and private citizens, dedicated to the restoration and protection of the Albemarle-Pamlico estuarine ecosystem. This MOA is established to encourage coordination and cooperation between the NCDENR and VADCR and to heighten awareness of each agency's programs regarding the goals and objectives of the APNEP's Comprehensive Conservation and Management Plan (CCMP) with the objective of improving environmental conditions in the Albemarle-Pamlico Sounds watershed.

Background

The Albemarle-Pamlico Sounds are the nation's second largest estuarine system, second only to the Chesapeake Bay. The system supports an array of ecological, economic, recreational, and aesthetic functions which are of regional and national importance. The critical importance of sustaining the system, to fulfill these functions, is reflected through its nomination to the National Estuary Program by the Governor of North Carolina and the Administrator of the US Environmental Protection Agency (USEPA).

In 1987, through a cooperative agreement between NCDENR and the USEPA, the Albemarle-Pamlico Estuarine Study (APES) was created to study the environmental conditions in over 23,000 square miles of watershed in North Carolina and Virginia. Through APES, scientific information was combined with extraordinary involvement by government agencies, stakeholder groups and citizens to develop a CCMP. This document, which proposes management strategies designed to protect the region's natural resources and allow for responsible economic growth, was officially endorsed by the Governor of North Carolina and the USEPA in November 1994.

APES has been renamed and is now referred to as the Albemarle-Pamlico Sounds National Estuary Program (APNEP). The APNEP is located within the NCDENR and many of the CCMP's management strategies are being implemented in the Albemarle-Pamlico Sounds region of North Carolina. Implementation of the CCMP is guided by the Coordinating Council -- a 29-member council consisting of representatives from state and federal government, citizen commissions, and stakeholder groups represented through five river basin Regional Councils.

Authority

This MOA is entered into pursuant to North Carolina Executive Order No. 75 (amended as No. 118) and the CCMP for the Albemarle-Pamlico Sounds National Estuary Program. Authority is further pursuant to the Virginia Water Quality Improvement Act (WQIP), §10.1-2124B.

Agreement

The NCDENR and the VADCR will work together to implement the management actions recommended by the CCMP of the APNEP in order to restore and maintain the chemical, physical and biological integrity of the Albemarle-Pamlico Sounds estuarine system and to achieve the specific goals and objectives as described in the CCMP.

Disclaimer

This MOA does nothing to diminish the independent authority of each agency in the administration of its statutory authority. This MOA is intended to facilitate the mission of each agency through the cooperative mechanisms of the APNEP. All activities conducted under or pursuant to this MOA are subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation of payment of funds in violation of the Anti-Deficiency Act, 31U.S.C. 1341. This MOA is not a funding document and does not represent the obligation or transfer of funds.

Effective and Termination Dates

This MOA is effective upon signatures of authorized representatives of both agencies and shall remain in effect until terminated. This MOA may be modified in writing by the mutual consent of the agencies, and may be terminated at any time by either agency, at its discretion, subject to negotiation of the completion of ongoing projects.

Individuals Authorized to Sign the MOA

As to the NC DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES:

The Honorable Wayne McDevitt, Secretary

As to the VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION:

The Honorable David Brickley, Director

Witnessed By:

