PASQUOTANK RIVER BASIN REGIONAL COUNCIL

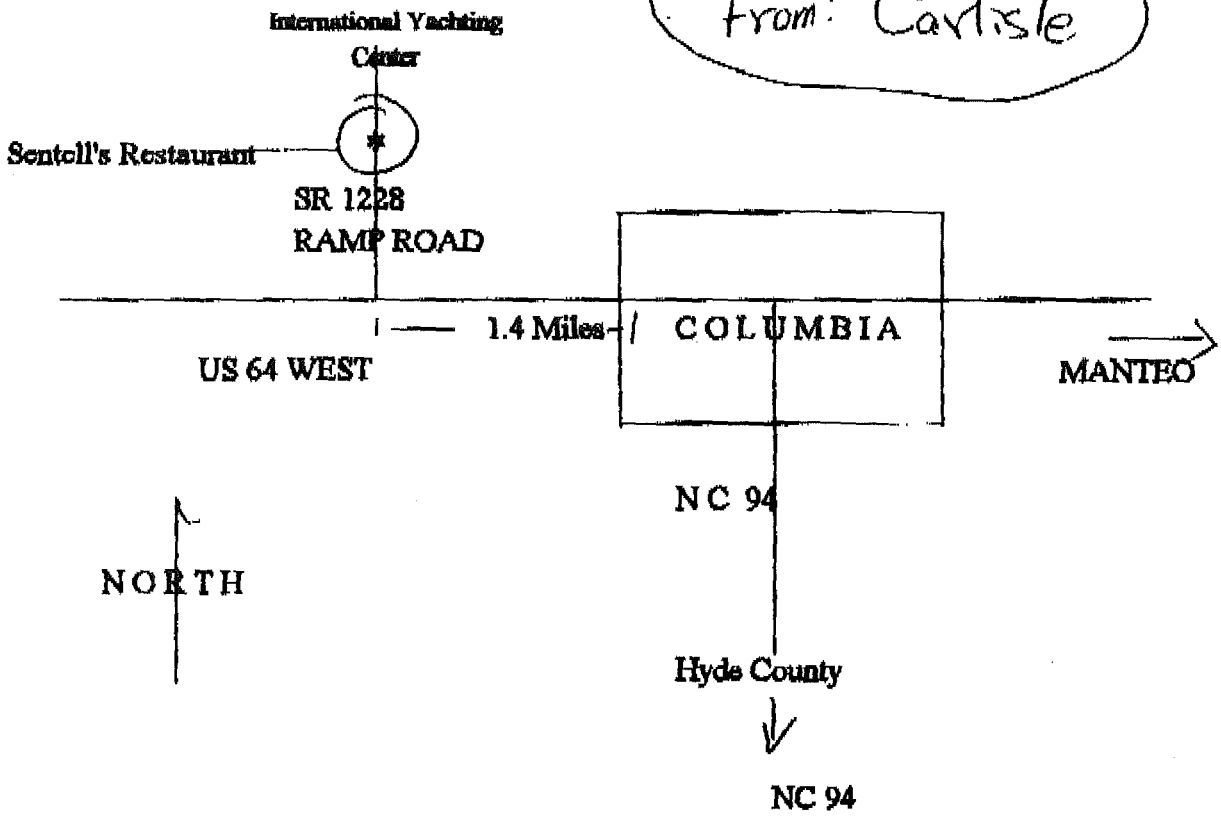
Sentell's Restaurant
SR 1228 off HWY 64
Columbia, NC

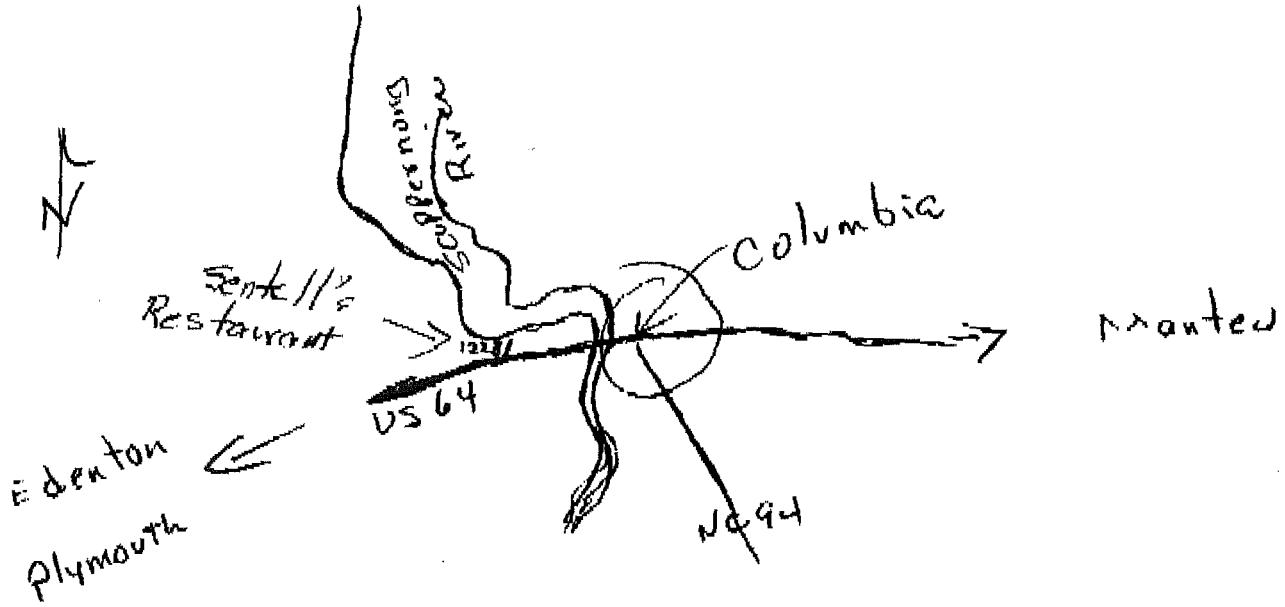
April 8, 1999

AGENDA

4:00	Welcome and Call to Order	Chairman Erie Haste, Jr.
4:05	Introductions	ALL
4:10	Acceptance of Minutes from 2/4/99 Meeting in Roper	Chairman Haste
4:15	Demonstration Project Update: 1- Currituck County -- Jack Simoneau, Currituck Co. Planning Dept. (invited) 2- Water Quality Research at Elizabeth City State University presented by Dr. Maury Powers 3- Others (?)	
5:15	New Business: 1- Election of New Officers Nominees are: Erie Haste, Jr. for CHAIRMAN (2nd term) Yates Barber for VICE CHAIRMAN Carlysle Harrell for SEC/TREASURER (2nd term)	
	2- MOA between NC and Virginia 3- GIS/RC Workshops in May 4- APNEP Newsletter 5- Next Coordinating Council Meeting on 4/23/99	Guy and Joan, APNEP
5:45	Old Business: 1- Vacancies Update	Joan Giordano, APNEP
5:50	Plans for Next Meeting (develop agenda items)	Chairman Haste
6:00	Adjourn	

To: Joan
From: Carlisle





Pasquotank River Basin Regional Council

Sentell's Restaurant
Columbia, NC
April 12, 1999

Minutes

The meeting was called to order by Pasquotank River Basin Regional Council (PRBRC) Chairman, Erie Haste, at 4:15pm. He asked that self-introductions be made around the table (See Attachment A). He then asked for a motion to accept the minutes from the previous meeting. A motion by Carl Parrott, seconded by Harry Lee Winslow, to do so was made. Motion carried.

The next agenda item was an update on possible PRBRC demonstration project topics/ideas. Guy Stefanski set the stage by reiterating the suggestion made by Paul O'Neal at the last meeting, which was that all members should be thinking about ideas for demo projects relating to their respective constituencies either through co-participation or individually. The added that we have approximately $26,000 to spend. He then introduced Jack Simoneau, Currituck Co. Planner.

Mr. Simoneau's presentation centered on Currituck County's unified development ordinance or zoning codes as they relate to water quality. He spoke about the concern Currituck County's Board of Commissioners had concerning storm water runoff for some sub-division developments. They adopted a policy stating that no increase in storm water runoff (from pre-development levels) would be permitted after development had occurred. He said the use of detention ponds in sub-divisions addressed the policy nicely. The policy was seen as a win-win situation because it prevented run-off from entering the sound and tributaries and it also slowed growth (a desired effect) because it forced developers to pay more for land they were developing.

Another effort by Currituck County to protect water quality is through the use of "Open Space Design." He reported that through an APES grant Currituck, Orange and Craven counties worked together to hire a consultant, Randall Arendt, a nationally known expert in conservation design. This type of design allows for development but in a way that minimizes the impact to the natural features of the land. Mr. Simoneau suggested (as a possible demonstration project) the notion of holding a 1 or 1 ½ day- long workshop for planners, developers and engineers to further acquaint/train these professionals and others, with the concept of "open space design." He recommended inviting someone like Randall Arendt to present the workshop would be most useful.

Following his presentation, Mr. Simoneau introduced Mike Doxey from the Currituck Co. Soil & Water District who shared some projects being undertaken by his organizations. Mr. Doxey reported that in addition to Currituck County sending their sub-division plans to the District for storm water review, his organization also works with farmers and large land owners in the county

to protect water quality. Two years ago they began a water quality initiative which includes two water quality projects - an EPA 319 project which reduces nutrients to Toler's Creek from storm water and other non-point sources (~$50K and 20 acres); and a Clean Water Management Trust Fund grant for $352K which will replicate the smaller EPA grant project over a much larger area (~4000 acres). He added that this watershed contains 4-5 sub-divisions with an additional 300 people. Mr. Doxey said in-stream constructed wetlands with water control structures will be built in the 6 mile long canal in question, and that the storm water from a 429 lot sub-division in the area will run through storm water detention ponds before it runs into the canal.

There are also approximately 2500-3000 acres of cropland that will drain into the canal as well, and it is hoped that water control structures can be built on this entire acreage. He reported that there are several USDA programs that will tie-in with this CWMTF grant and that filter strips and riparian buffers are envisioned as being installed on this cropland particularly next to canal . Mr. Doxey added that a service district also is being formed to generate funds for the maintenance of the canal.

Because these projects are underway and the CWMTF project is a big one, Mr. Doxey felt taking on another demo project in Currituck (with us) would be cumbersome. He suggested that a meeting, with the technical people from the 10 counties within the Pasquotank basin be held to see if a "home could be found for our demonstration project money."

A short discussion pertaining to Mr. Doxey's presentation ensued.

Harrell Johnson introduced the next presenter, Sam Chambers, from the Department of Geo Sciences at Elizabeth City State University. He briefly addressed the members with information about the Geo-Sciences Department, the research lab he oversees at the University, and the types of things that are accomplished there. He spoke about a project the lab (ECSU) undertook in the dismal swamp where a boardwalk was built and several wells were dug. Groundwater is sampled form the wells and is tested for several parameters including: groundwater levels, pH, nitrates, etc. Also, attention is given to how wetlands are being affected by drainage in the are. He mentioned that the boardwalk is used as an outdoor classroom for school groups and others interested in the function of wetlands. He further outlined other projects that are being accomplished in the Pasquotank basin.

Mr. Chambers then distributed a draft proposal entitled the "Little River & North River WQ Monitoring Project." (See Attachment B) and also mentioned the desirability of developing a web-site for posting of monitoring data and other information.

Ernie Brown, Va. Dept. of Conservation and Recreation, mentioned a storm water retrofit project at Scott's Creek in Portsmouth, Va. which would benefit from ~$35K.

Guy Stefanski then outlined the ideas which were discussed during the meeting while asking for any other ideas from the members present. Carl Parrott mentioned the proposed shoreline stabilization rules being developed by the Dept. of Coastal Management and the Coastal Resources Commission and described a method he employed to stabilize his property which is on

Kitty Hawk Bay. He essentially deposited rip-rap to prevent the sand in his yard from eroding. It was suggested that we have a spokesperson from DCM speak at a future meeting on the topic of shoreline stabilization and the proposed rules that are currently being developed. Harry Lee Winslow mentioned a water control structure project, (about 150 acres) on a farm in Chowan County, that might have potential for being a demo project possibility. He estimated the cost to be ~$17K.

Mr. Stefanski then asked the group to consider a Demonstration Project sub-committee composed of 4-5 members to identify potential projects. Cheryl Byrd, Harry Lee Winslow, Yates Barber, Lloyd Griffin and Guy Stefanski were selected by Chairman Haste.

The next order of business was the nomination of officers for the next year. Yates Barber, who was identified as a one-person nominating committee at the last meeting, was unable to be present at today's meeting. Joan Giordano gave his report for him. The slate of nominees consists of:

Erie Haste, Jr.	Chairman
Yates Barber	Vice-Chair
Carlyle Harrell	Secretary/Treasurer

Cheryl Byrd made a motion to close the nominations and Carl Parrott seconded it. The motion carried and the slate of nominees was passed by acclamation.

Guy Stefanski then passed out copies of the draft Memorandum of Agreement between NC and Virginia, a worksheet for soliciting members' ideas to include in it, and a copy of the 1983 Chesapeake Bay Agreement upon which members' were encouraged to base their ideas. He asked that those ideas be submitted to him at the address appearing on the reverse side of the worksheet. (See Attachment C).

The suggestion was made that a presenter be invited to a future meeting to speak on the CREP program in NC.

There being no further business, the meeting was adjourned and dinner was served at 6:45pm.

Attachment A

Attendance
Pasquotank RC
4/8/99

NAME	AFFILIATION
Joan Giordano	APNEP/DWQ staff
Jack Simoneau	Currituck County
MIKE DOXEY	CURR. SOIL & WATER
Cheryl Byrd	Dare County Commissioner
Carl Kemp	Local Govt (KH) Dare County
ERNIE BROWN	VA DEPT OF CONSERVATION
Guy Stefanski	APNEP/DWQ ~~staff~~
Harrel Johnson	N. C. Div. of Marine Fisheries
Victor Abramson II	Edenton Town Alderman
Sam Chambers	Elizabeth City State University
Sue Hastey	Hertford, NC
Tony Lewinski	Chowan Comm.
Jim Tobin DVM	Wash. Co. Chamber Commerce
Arnette Fitts	Hyde Co. Partnership in the Sounds
Carlisle Harrell	Town of Columbia
Indell Hassell	" " "

Attachment B

A Proposal for
Little River & North River Water Quality Monitoring Project

By Sam Chambers
Elizabeth City State University

The proposed project will include a one-year study of the Little River and North River and an educational environmental science web site. The project duration will be one year, and the samples will be collected at bi-weekly intervals at pre-selected sample stations. The water testing will include data collection, analysis, and data reporting. Researchers will be encouraged to investigate causes of water pollution where identified. The tests will be run either on site, or at ECSU's Environmental Research Laboratory. The equipment needed to run these tests is already available in the Environmental Research Lab.

The proposed Web site will be designed at the University using the Dept. of Geoscience's GIS/Remote Sensing Computer Laboratory. The web site will have a dual purpose; to report findings from the water quality projects, and to be an educational tool that will benefit Northeastern North Carolina.

The Environmental Research Laboratory already has a successful four-year track record, and combines the enthusiasm of students with the experience and knowledge of professors. Current Projects at the lab include the Pasquotank River Water Quality Program, the Dismal Swamp Project, a residential drinking water hotline, and fluoride testing in residential wells.

Parameters

The following will be determined bi-weekly for each River:

- Dissolved Oxygen
- Salinity
- Temperature
- PO4
- Nitrate and Nitrite
- PH
- Algae Content

Goals

- Construct a Database for the two rivers for the time span of one year.
- Identify any sources of pollution for the two rivers
- Present the Findings to the public and interested parties on the environmental science web page using spreadsheets, charts, graphs, GIS software, etc.
- Develop the web page to include a general information page, a kid's environmental awareness page, an "ask an environmental scientist page, and links to related web sites.

Estimated Budget

1.	Boat w/ motor	10,000
2.	Fuel for boat and travel	2,500
3.	Laboratory Supplies	1,000
4.	Printing Supplies	200
5.	Web Page costs	200
6.	Salaries (two students for 1 year)	21,000
	Total	**34,900**

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:

_____

_____

_____

DRAFT
4-8-99

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, funding, nonpoint source pollution, point source pollution, salinity in Currituck Sound, growth impacts, groundwater depletion and contamination, impaired streams, land use planning.

(OVER)

Please provide this form by **April 15th** 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
fax: 919/715-5637
guy_stefanski@h2o.enr.state.nc.us

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 Ruckleshaus, Administrator, U.S. Environmental Protection Agency*
For the Chesapeake Bay Commission--*Joseph V. Gartlan, Jr., Chairman*

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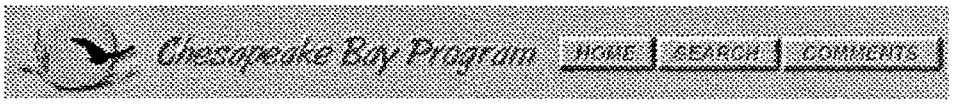
For more information, contact the Chesapeake Bay Program Office, 410 Severn Avenue, Suite 110, Annapolis, MD 21403, Tel: (800) YOUR-BAY, Fax: (410) 267-5777.



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 recognizethat 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 partner ship 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, capita! 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 m 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 con tact 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 &e 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 Shaefer, 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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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.

Last modified 4 March 1996

4/8/99

CARLISLE HARRELL ✓
TOWN MANAGER
PO BOX 361
COLUMBIA NC 27925

CARL PARROTT ✓
3400 VELWAY ST
KITTY HAWK NC 27949

DR JAMES LILLY ✓
PO BOX 280
ROPER NC 27970

HARRY LEE WINSLOW ✓
COUNTY COMMISSIONER
613 GLIDEN RD
BELVIDERE NC 27919

HOLLIS CREECY
COUNTY COMMISSIONER
PO BOX 40
SUNBURY NC 27979

LLOYD GRIFFIN EX
739-C RIVERSIDE AVE
ELIZABETH CITY NC 27909

MARVIN DAVENPORT
RT 2 BOX 169
COLUMBIA NC 27925

MIKE DUNCAN
RT 1 BOX 222
MOYOCK NC 27858

S PAUL O'NEAL EX
COUNTY COMMISSIONER
RT 1 BOX 248
COINJOCK NC 27923

T ERIE HASTE JR ✓
TOWN COUNCIL
PO BOX 127
HERTFORD NC 27944

YATES BARBER EX
901 W CHURCH STREET
ELIZABETH CITY NC 27909

ANNETTE GIBBS ✓
LAKE MATTAMUSKEET NWR
RT 1 BOX N-2
SWAN QUARTER NC 27885

GUY STEFANSKI ✓
DWQ - PLANNING
RALEIGH
COURIER #52-01-00

ANDREW COBURN
COBURN & ASSOCIATES
3307 FOREST GROVE CT.
DURHAM, NC 27703

BETSY SALTER
USEPA
401 M STREET
WASHINGTON, DC 20460

LISA TOLLEY
OFFICE OF ENV. ED.
RALEIGH
COURIER # 52-01-00

LEON DANIELSON
NCSU - POB 8109
RALEIGH, NC 27695

DAMON TATUM, CWMTF
505 COPLEY DRIVE
KILL DEVIL HILLS, NC 27948

JANE STAVELEY
ARCAIDS GERAGHTY & MILLER
2301 REXWOODS DR, SUITE 200
RALEIGH NC 27607

BENJAMIN GRAY
140 LAMB'S ROAD
CAMDEN, NC 27921

CARL CLASSEN
POB 190
CAMDEN, NC 27921

CHERYL BYRD ✓
101 S. DOGWOOD TRAIL
KITTY HAWK, NC 27949

CHARLES CARTER III
MAIN STREET
GATESVILLE, NC 27938

NELSON SMITH
ROUTE 1, BOX 81-C
COLUMBIA, NC 27925

HORACE PRITCHARD, SR.
2046 N. ROAD STREET
ELIZABETH CITY, NC 27907-0039

GILBERT BACCUS, JR.
RT. 2 BOX 264
HERTFORD, NC 27944

ERNEST BURDEN
111 SPENCER STREET
PLYMOUTH, NC 27962

VICTOR ALEXANDER ✓
POB 275
CRESWELL, NC 27928

Ernie Brown ✓
VA.

asquotank River Water Quality Project

mden County &
quotank County
NC

Legend

- Sample Stations
- Landmark Areas
- Pasquotank County
- Camden County
- Water

otank River Water Quality Project
lizabeth City State University
Elizabeth City, NC

o indicates the locations for sample stations
e Pasquotank River. Stations are tested
y for conductivity, dissolved oxygen, e-coli,
pH, phosphates, temperature, total
s and total dissolved solids.

rmation about the PRWQ Project Contact:
ambers or Brian Thompson
nental Research Laboratory
17, Jenkins Science Center
n City State University
n City, NC 27909
5-3595 or 335-3010
sd@alpha.ecsu.edu