Minutes
Albemarle-Pamlico Estuarine Study
Albemarle Citizens' Advisory Committee

College of the Albemarle
August 8, 1988

Attendance: See Attachment A

Dr. Chesson welcomed attendees and called the meeting to order at 7:45 pm. He introduced NRCD Secretary, S. Thomas Rhodes and called upon Secretary Rhodes to say a few words.

Secretary Rhodes assured the group that the Department of Natural Resources and Community Development was very cognizant of their efforts and also welcomed their input. He expressed pleasure at being present at the meeting and would be available for comments and/or questions during the course of the evening.

Consideration of Minutes:

Chairman Chesson asked for a motion to accept the A-CAC minutes from the previous A-CAC meeting held on May 12, 1988. Motion to accept was made by Don Bryan and seconded by W.C. Witherspoon. Motion carried.

Program Update:

Dr. Holman reported that much of the past three months had been dedicated to the budget cycle, with 10 cooperative agreements having been signed on Monday, August 1, 1988. He added that funding for them would occur in October and that the 3rd cycle "Call for Proposals" would begin in November/December with a due back date of January. The total budget for FY '88-'89 is $2.2 million. Dr. Holman added that of the $500,000 from State funds, only -1% reverted to them. Of -$116,000 carry-over funds, all was utilized by cost over-runs, etc.

Dr. Holman was delighted to report that our program received a rating of 89% by EPA's OMEP internal auditors, that rating pertaining to the materials that EPA requires to be on file with them from the National Estuary Programs.

Dr. Holman referred to two challenges he had put forth to the CACs at the last meeting, those being the design of and attendance at a booth at the State Fair (in October) and participation in the first APES Annual Review, also to be held in October. He reported that due to time constraints the State Fair effort would have to be foregone this year. Secretary Rhodes acknowledged the hardship of planning and implementing two such extensive endeavors, but asked the group to please not allow the very positive opportunity of exposure of APES to so many people escape them. He requested staff to design a 1 panel exhibit with

handouts that would not have to be manned in order to capture the public interest. In referring to the Annual Review, Dr. Holman reported on a preliminary agenda as having been drafted and a date and location of October 14 and 15, 1988 in Washington, NC as being selected. Watch for more info!

Dr. Holman's report continued with a commendation for Marguerite Duffy and Kathy Norris, without whose hard work the OMEP presentation could not have been so successful.

Public Participation Update:

Joan Giordano reported that 13,000 copies of the APES Newsletter, The Albemarle-Pamlico Advocate, were distributed. She added that reception of the newsletter was good with much positive comment coming from the areas west of Raleigh. Mrs. Giordano continued with a summary of the Public Participation Coordinators' Summit meeting she attended in Rhode Island in July.

Public Awareness/Governmental Relations Sub-Committee:

Carolyn Hess reported on the APES slide show which was produced by Captain Howard, Joe Stutts, Mrs. Hess and Mrs. Giordano. It is available for use with civic groups, schools, etc. and has most recently been used for Project Wild an educational program for teachers, sponsored by Union Camp. The slide show is a very basic program on the environment and APES.

Rhode Island Citizens' Environmental Monitoring Seminar:

Yates Barber reported on the seminar which was sponsored by EPA and Sea Grant in Rhode Island in May. Twenty-six states, 80 agencies and 20 speakers were featured. An important lesson learned at the seminar was that volunteer collected data is highly credible and that volunteers are very useful and necessary.

In related conversation Dr. Holman reported that Citizens Monitoring money was available and recognized David McNaught, Executive Director of the Pamlico-Tar River Foundation who described the expanded Citizens' Monitoring (into the Albemarle) program his organization is undertaking as an APES project. He reported that the structure of the steering committee for the program would include representatives from Albemarle based environmental groups as well as 2-3 members from NRCD-DEM and a Pamlico Emergency Response Team (PERT) member. A coordinator for the program should be on board by October 1.

The coordinator will be an employee of PTRF and will work for the entire region. Using PTRF as the pivotal resource is the fastest way to get the region-wide monitoring effort off the ground. Stream Watch will coordinate also with PTRF to standardize data. Secretary Rhodes added that here-to-fore Stream Watch had been added to some other person's responsibility, but now, a full-time temporary coordinator was on board. He added that he will go to

the legislature to establish a permanent position for Stream Watch. He said citizen support is needed to influence the legislators. Discussion ensued pertaining to the fate of data gathered after APES funding closed. The data will be stored in the APES data bank (LRIS) and Secretary Rhodes said that he would be asking for state money for the LRIS system because the data gathering must continue.

Update on Nutrient Enriched Water Classification for the Upper Chowan:
Joe Stutts reported that Virginia proposed to designate certain waters as nutrient sensitive. The Chowan and Albemarle Sound were not mentioned. North Carolina asked to have the upper Chowan Basin so designated. Public hearings have been held and the question is coming before the Virginia State Water Control Board at their next meeting in September. A motion by Don Flowers and seconded by Murray Nixon to have a representative present at the Virginia Water Control Board meeting in September on behalf of the state and APES was made. Motion carried.

New Business:
CAC travel reimbursement draft proposal. See Attachment B. Motion to accept and present to the Policy Committee made by Mike Cocoran and seconded by Bill Piland. Motion carried. Secretary Rhodes reiterated the administration's policy of wanting all CAC members to be participatory and that participation should not be prevented by monetary constraint. Anyone needing assistance for travel expenses should contact Dr. Holman. Those requests will be kept in strictest confidence.

Vacancies/Replacements on A-CAC:
Chairman Chesson outlined the existing vacancies on the A-CAC. Nominations were opened with the following slate of candidates resulting: See Attachment C. Motion by Captain Howard, seconded by John Stallings to accept the full slate of nominees and to send the list on to the Policy Committee for consideration, was made. Motion carried.

NOTE: At their meeting on 8/30 the Policy Committee appointed the following list to the A-CAC. See Attachment D.

Annual Meeting Task Force:
Joe Stutts reported that the annual meeting review will be held on October 14 & 15, 1988 in Washington, NC. An amended agenda will be sent out shortly. This is a most important meeting and the CACs are an integral part of the proceedings. It will also serve as a regular CAC meeting.

A-CAC Position Paper:
Captain Howard, Yates Barber and John Stallings were instrumental in preparing the A-CAC position paper See Attachment E. Dr. Holman asked that the position paper writers, members of the Technical Committee and members of the Policy Committee sit down

and put the paper in final form. Captain Howard moved that the position paper be put in final form after working with Dr. Holman and Technical Committee and Policy Committee representatives and that it be presented at the October 14 & 15th meeting. Bill Piland seconded. Motion carried.

Military Activities:

Don Flowers recommended Ms. Chris Baggett, Department of Administration, as a contact and clearinghouse for matters pertaining to the state's responses on EIS from the military.

In other business a motion by Joe Stutts and seconded by Don Bryan to reinstate the present A-CAC officers for another year's term was passed by acclamation.

There being no further business, the meeting was adjourned at 10:00 pm.

Next meeting October 14 & 15, 1988 (APES Annual Review Meeting) in Washington, NC. Agenda to follow!

State of North Carolina
Department of Natural Resources and Community Development
Northeastern Region
1424 Carolina Avenue, Washington, North Carolina 27889

James G. Martin, Governor
S. Thomas Rhodes, Secretary

Lorraine G. Shinn
Regional Manager

ALBEMARLE-PAMLICO ESTUARINE STUDY

July 28, 1988

MEMORANDUM

TO: Albemarle Citizens' Advisory Committee

FROM: Parker Chesson, Chairman
Albemarle Citizens' Advisory Committee

SUBJECT: Albemarle CAC Meeting &
Dinner - Vicki Villa Restaurant

Enclosed is our agenda for the next Albemarle Citizens' Advisory Committee meeting. It will be held on August 8, in Elizabeth City, at the College of the Albemarle (Boardroom) at 7:30 p.m. The meeting will be immediately preceeded by dinner (dutch) at the Vicki Villa, Hwy. 17 (directly in front of the college) at 6:00 p.m.

I thank you for your participation and look forward to a productive meeting.

Enclosure

P.O. Box 1507, Washington, North Carolina 27889-1507 Telephone 919-946-6481

ALBEMARLE CITIZENS' ADVISORY COMMITTEE

COLLEGE OF THE ALBEMARLE

ELIZABETH CITY, N. C.

AUGUST 8, 1988

7:30 p.m.

A G E N D A

7:30 p.m. Meeting of Albemarle Citizens' Advisory Committee

Welcome/Call to Order	Chairman Chesson
Approval of Minutes	
Introduction of S. Thomas Rhodes, Secretary N.C. Department of NRCD	
Reports:	
1. Program Status Update	Dr. Holman
2. Public Awareness/Government Relations Sub-committee	Carolyn Hess
3. R.I. Citizens' Environmental Monitoring Seminar	Yates Barber
4. Update on Nutrient Enriched Water Classification for the Upper Chowan Basin	Joe Stutts
New Business:	
1. Vacancies/Replacements CAC	Chairman Chesson
2. Proposal for CAC Travel Reimbursement Policy	Chairman Chesson
3. Annual Meeting Task Force	Joe Stutts
4. A-CAC Position Paper	Capt. Howard
5. Military Activities: Impact on Environment	Don Flowers
Public Comment	
Election of CAC Officers	
Adjourn	

DRAFT-For Discussion Only

TRAVEL REIMBURSEMENT POLICY FOR CITIZENS' ADVISORY COMMITTEES

Service on the Citizens' Advisory Committees shall be considered a public service to be rendered without compensation. Meetings shall be arranged to minimize expenses for committee members. The Policy Committee authorizes reimbursement of travel expenses for special needs, subject to the written recommendation of the chair of the appropriate Citizens' Advisory Committee and the approval of the Program Director.

If reimbursement is given for special needs, the rates of reimbursement and documentation requirements applicable to state employees shall be used.

A-CAC
8/8/88

Attendance

ATTACHMENT A

CAC Member

Jack Girdard
Bill Piland
Yates Barber
John Hastings
Al Hourtz
MIKE CORCORAN
Carolyn Hess
B. H. McGeorge
H. B. Whitehurst
Don BRYAN
Bob Holman - APES Director
Tommy Rhodes - NRCD
Earl Rountree
Tony Ellis
Lorraine Sims NRCD
DON Flowers
Johnny L. Houston (Jimmy R. Jenkins)
WILLY PHILLIRS PCAC LIAISON
Murray L. Nelson RFD 1 Edenton N.C. 27932
Joe WRIGHT
Marcia Watts - Virginia Pilot
Daniel B. Johnson - N.C. D.M.F.
Joe Watts - CRC

Guest

Dawn Parks
Margaret McGeorge
Daniel McNaughton
Stephen R. VanGiesen.

NC Dept of Agriculture

ATTACHMENT C

College of The Albemarle
P.O. BOX 2327 ELIZABETH CITY, NC 27909
(919) 335-0821

MEMORANDUM August 22, 1988

TO: S. Thomas Rhodes
Dan Ashe
John Costlow
Bud Cross
Lee DeHihns
Dirk Frankenberg
Mike Gantt
Derb Carter

FROM: Parker Chesson
Chairman, Albemarle Citizens's Advisory Committee

SUBJECT: Vacancies on Albemarle Citizens' Advisory Commttee

The Albemarle Citizens' Advisory Committee has seven vacancies. These include the following categories: tourism, engineering, developer, local government, and private citizen (3).

Our committee sought nominations for these categories. These were discussed at our August 8 CAC meeting. Our committee is submitting the individuals given on the attached list. These are for the consideration of the Policy Committee. Our committee recommends that the seven vacancies be filled when the Policy Committee meets on August 30. I will be prepared to make specific recommendations, if this is desired.

JPCjr:sws

Enclosure

cc: ✓Joan Giordano
Bob Holman

NOMINATIONS FOR VACANCIES ON
ALBEMARLE CITIZENS' ADVISORY COMMITTEE

Developer

- David Watson — Tel. No. 261-8282 (O), 261-8889 (H)
  108 Mill Point Road
  Kitty Hawk, NC 27949

  - Owner of Resort Realty
  - Developer of Martin's Point subdivision
  - Resident of Dare County for about 15 years

- Nathan Hurdle — Tel. No. 264-3373 (O), 335-4172 (H)
  1800 Edgewood Drive
  Elizabeth City, NC 27909

  - Owner of Hurdle Realty Co.
  - Is developing residential subdivision in Pasquotank County

Tourism

- John Bone — Tel. No. 441-8144 (O), 261-8258 (H)
  Outer Banks Chamber of Commerce
  P. O. Box 1757
  Kill Devil Hills, NC 27948

  - Executive Vice President, Outer Banks Chamber of Commerce
  - Previously school teacher for 16 years
  - One term as county commissioner of Dare County, including two years as board chairman
  - Served on N.C. Marine Science Council in late 70's-early 80's

Public Official

- Webb Fuller — Tel. No. 441-5508 (O), 441-3922 (H)
  Box 99
  Nags Head, NC 27959

  - Town Manager, Town of Nags Head
  - Member of N.C. Coastal Resources Advisory Council
  - Former member of N.C. Marine Science Council

Private Citizen

- Iredell Hassell — Tel. No. 796-2771 (H)
  P. O. Box 268
  Columbia, NC 27925

  - Retired from federal job as electrical contractor
  - Native of Tyrrell County
  - Active in various civic organizations

- Dr. Polk Williams — Tel. No. 336-4115 (H)
  Taylor's Beach
  Camden, NC 27921

  - Retired surgeon
  - Active in conservation groups, including N.C. Nature Conservancy
  - Has attended CAC meetings

- Phil Hinton — Tel. No. 465-8829 (H)
  Sunbury, NC 27979

  - Director of N.C. Wildlife Federation
  - Past president of Roanoke-Chowan Wildlife Club
  - Employed with Union Camp Corporation in Maintenance Department

- Rod Cross — Tel. No. 482-3958 (H)
  Route 4, Box 514
  Edenton, NC 27932

  - Commercial fisherman
  - Formed citizens interest group, Albemarle Sound Action Program
  - Interest in promoting BMPs in Albemarle Sound area

- Brewster Brown — Tel. No. 332-5921 (O)
  Route 2, Box 46-A
  Ahoskie, NC 27910

  - N.C. House of Representatives, 1986-88
  - Director of Continuing Education, Roanoke-Chowan Community College

- John M. Carlock
  Virginia Beach, VA 23458

  - Chief of Physical Planning, Southeastern Virginia Planning District Commission
  - Adjunct Professor, Old Dominion University

- H. Clayton Bernick, III
  Virginia Beach, VA 23458

  - With Virginia Beach Planning Dept.
  - Formerly with Virginia Marine Resources Commission

- Bill Mallory
  Plymouth, NC 27962

  - Retired as superintendent of R. J. Reynolds' farm in Bertie County
  - Past work with Department of Agriculture's Experimental Station in Lewiston, NC.

- Philip S. McMullan, Jr. Tel. No. 335-3491 (O)
  316 Front Street 426-5931 (H)
  Hertford, NC 27944

  - Executive Director, Northeastern North Carolina Tomorrow, Inc., 1985 to present
  - Varied experience in planning and research at Research Triangle Institute, 1960-1981

- M. Watson Lawrence, Jr. Tel. No. 357-1777
  Route 1, Box 225-A
  Gates, NC 27937

  - Farmer in Gates County
  - B.S. in agronomy, N.C. State University
  - Member of Gates County Board of Elections and Gates County Rescue Squad

<u>Engineering</u>

- Tom Burns Tel. No. 264-3129 (H)
  301 Lane Drive
  Elizabeth City, NC 27909

  - Retired from the FAA
  - B.S. degree in civil engineering
  - Supervisor and present chairman of Pasquotank Committee of the Albemarle Soil and Water Conservation District

ATTACHMENT D

College of The Albemarle
P.O. BOX 2327 ELIZABETH CITY, NC 27909
(919) 335-0821

MEMORANDUM August 31, 1988

TO: Albemarle Citizens' Advisory Committee

FROM: Parker Chesson

SUBJECT: New Appointments to the CAC

At its meeting on August 30, the Policy Committee of the Albemarle-Pamlico Estuarine Study Program approved seven new members for our committee. They are as follows:

David Watson
108 Mill Point Road
Kitty Hawk, NC 27949
(Category) Developer

John Bone
Outer Banks Chamber of Commerce
P. O. Box 1757
Kill Devil Hills, NC 27948
(Category) Tourism

Webb Fuller
Box 99
Nags Head, NC 27959
(Category) Public Official

Iredell Hassell
P. O. Box 268
Columbia, NC 27925
(Category) At-Large

Dr. Polk Williams
Taylor's Beach
Camden, NC 27921
(Category) At-Large

Philip S. McMullan, Jr.
316 Front Street
Hertford, NC 27944
(Category) At-Large

Tom Burns
301 Lane Drive
Elizabeth City, NC 27909
(Category) Engineering

I believe these will be very strong additions to our committee and will help move the program forward in the future. A revised committee list will be developed in the near future and mailed to you.

Please put October 14-15 on your calendar. The annual review meeting will be held on those days in Washington, NC. More information will be sent to you in the near future.

JPCjr:sws

ATTACHMENT E

College of The Albemarle
P.O. BOX 2327 ELIZABETH CITY, NC 27909
(919) 335-0821

MEMORANDUM August 1, 1988

TO: Albemarle Citizens' Advisory Committee Members

FROM: Parker Chesson

SUBJECT: Position Paper for CAC Meeting August 8, 1988

The attached draft position paper was prepared by a special committee consisting of Al Howard, John Stallings, and Yates Barber. The Executive Committee asked them to prepare a position paper which will present our committee's recommended priorities for future APES studies.

Please review this paper carefully and be prepared to discuss it at the meeting on August 8. It is a draft and we want to revise and refine it as needed for distribution in advance of the annual review meeting on October 14 and 15. We propose to have this topic on the agenda at that meeting.

JPCjr:sws

MEMORANDUM DRAFT August 1, 1988

TO: Bob Holman

FROM: Albemarle Citizens' Advisory Committee

SUBJECT: Concerns for the Study Programs Funded to Accomplish the Goals of the APES Program

The Albemarle CAC is apprehensive that the direction and progress of some phases of the APES program are not going satisfactorily. Therefore, we have prepared this evaluation in the hope that it will provide you and the Policy and Technical Committees with some constructive suggestions, particularly concerning the information acquisition sections of the program. Our review of the various study proposals being funded has been handicapped by our not having copies of the proposals which are being continued this year. Equally important, we do not have copies of those which are being discontinued this year (e.g., the NMFS inventory of SAV). Apparently it was the only SAV study in the program and it was cut just when it appeared to be bringing in excellent results. Despite these deficiencies in our review we are offering these suggestions in hope that they will be useful to you.

We have divided our letter into numbered segments so as to facilitate reference to the various comments. We have included attachments which elaborate on some of our concerns.

1. Based upon a review of the 1987-88 and 1988-89 study proposals approved for funding. The following concerns have been identified:

a. The areas of concentration/disciplines funded for the study.

b. The percentage of funding for the Pamlico area versus the Albemarle and Currituck Sounds.

c. Funding of projects for which studies have been conducted and the conclusions/recommendations are on file.

d. Using APES funding for programs that are the normal responsibility of various state and federal agencies.

e. Using APES funding for research programs which have national significance and are not unique to the Carolina estuaries.

f. It appears certain milestones for accomplishing the estuarine study program have not been met.

g. Funded programs should be directed more specifically to understand the natural processes of our estuaries to determine what the problems are, where they are coming from and the actions needed to restore the quality of our waters; to maintain the quality for the future; and to develop a comprehensive water quality management plan.

2. Enclosures to support the committee's consensus:

Enclosure 1 provides a summary of the Albemarle Citizens' Advisory Committee's concerns for calls for study proposals for the 1989-90 year.

Enclosure 2 is a listing of the major environmental concerns in the Albemarle-Pamlico region. All study programs should be directed to realizing those concerns and providing data for development of a comprehensive water management plan.

Enclosure 3 provides the Albemarle CAC concerns for the need to fund solutions to address the degrading of the water quality in the Currituck Sound.

Enclosure 4 is a copy of the proposed schedule for achieving certain milestones to accomplish the successful completion of the APES objectives. It appears the milestones are not being met. A review of these should be accomplished to determine a more realistic set of milestones.

Enclosure 5 is a sample listing of programs for which APES funds should not be provided. These programs should be within the purview and the responsibilities of the state and federal agencies and should be funded from their budgets.

3. Based upon the review of programs funded to date, it is strongly recommended that:

   a. Programs to develop specific data to resolve each of the listed concerns be solicited from individuals or institutions with known disciplines in the area of concern.

b. No program be funded until a review is conducted to determine that a previous project had or had not been conducted that would provide the desired data.

c. Caution should be exercised to insure that multi-discipline projects not overlap or duplicate other projects excessively.

d. Programs which are the responsibility of a federal or state agency should not be funded from the funds.

4. Another area of concern that is receiving little or no attention but could be of major concern are the levels of heavy metals, and other toxic materials in our streams and sounds. Dioxin is one deserving special attention.

5. Acid precipitation should be checked out. It is a serious problem in Western North Carolina, in Maryland and other areas. We need a reconnaissance survey to determine how severe it may be in our coastal areas.

6. The Comprehensive Conservation Management Plan and the organizational plan for implementing the plan should be under development now. Responsible State agencies should be brought into the planning and study activities and beefed up now to carry out the CCMP when it is to be implemented. The Administration and the Legislature should be pressed to support, fund and staff this effort.

We hope these comments will be helpful to you and the committees. If you need more information or want to discuss any aspect of this memo, please let us know.

DRAFT

Enclosure 1

Comments of the Albemarle Citizens' Advisory Committee of the APE Study Concerning the Calls for Proposals and the Status of the Draft Study Plan

The Albemarle CAC presents the following comments concerning the administration of the Information Acquisition Segments of the APES study in hope that they may be helpful in improving the execution of the vital research elements of the program. We feel that the staff should be praised for their accomplishments under the pressure and time frame that they have worked, and we also realize the handicaps inherent in program start up and in changes of personnel.

We have a series of concerns, however, which deserve consideration.

1. Prospective researchers are given insufficient time to prepare the necessary research proposals. We recommend that the call for proposals for 1989 be issued not later than December 1, 1988, with a deadline of about March 1, 1989, for submissions. Reviewers should have 30 to 60 days for review and comment, and the staff and committees should have time to secure revisions to proposals if needed.
2. When the call for research proposals is made, it should provide much more detail concerning the specific proposals being sought. The priorities of specific proposals should be spelled out in the call. At

present, some studies are being funded which could surely wait a year or two, if they are even justified at all, while other critical needs are being ignored.

3. The APES Work Plan needs an updating with a careful review of the priorities. More background information concerning specific problems and geographic areas should be included. There are many of these. We include two examples: (1) loss of herring spawning streams as a result of stream flow diversions and over drainage of watersheds and (2) destruction of Currituck Sounds important black bass fishery by high salinities and other factors, etc.

   In the latter case, a management plan involving interdisciplinary case studies for Currituck Sound and Neuse River is proposed under Human Environment IV. E.2. There is limited reference to Currituck Sound elsewhere in the plan, despite serious water quality degradation, major land conversions, excessive salinity, black bass population loss, diversion of freshwater by Chesapeake, VA., serious loss of SAV, and massive human population growth in both the Virginia and North Carolina sectors of the Currituck watershed. Studies of many of these problems should be underway now under APES. A rewrite of the study plan to more clearly portray the urgency of the Currituck situation would help prospective bidders to understand these needs.

4. There are several items included in the study plan which are important topics but for which we should not spend APES money to solve them.

   For example: Item IV. II. I. 1 at page 47 (submission #218, 117,000) proposes to "Evaluate the efficacy of management alternatives to current fecal contamination procedures e.g. indicator organisms, sampling procedures)." The question of criteria for safe limits on coliforms is a national one and has implications far beyond North Carolina. That problem should be analyzed using Public Health, EPA or other monies but not APES funds. We could better spend APES money immediately to find the cause of some of the other problems in our sounds.

   We might also ask whether an evaluation of Offsite Effects of BMP (continuing proposal #206 $87,000/yr.) could not be done with USDA, USGS, etc. money. Results of the study will have national application and so could perhaps be paid from those other sources. Has there been no evaluation before hand of these techniques?

5. The Policy Committee should ask the NC resource management agencies to review their programs and see if they can conduct supporting surveys and studies using their normal state/federal funds instead of APES money.

   For example Proposal #203 (@ $59,500 fed. and $6,570 non-fed per year. for 3 years) for a "Regional inventory

and protection plan for critical natural areas, wetland ecosystems, and endangered species habitats (phase one)" is to be funded to the North Carolina Division of Parks and Recreation.

There is no question that this information is important and essential to the APES objectives. However, why is the APES money being diverted to the state to do work which the state has responsibility for under its normal programs but has not been accomplished in nine years. The proposal states that "the program is charged by law to conduct and maintain the State of North Carolina's inventory of special natural areas and biological diversity." Apparently eight coastal counties were given a preliminary reconnaissance---level survey of principal natural areas in 1979-81 using Federal Energy Impact Grant funds and subsequently some work has been done in all counties. It would seem that an effort could be made to have the state fund this regional inventory program rather than drawing APES money away from other vital studies.

As another example, proposal #272 "Losses of bay scallops" is being funded at either $32,000 or $64,927. Our budget information is not clear on the funding level.

The Red-tide event of 1987-88 was certainly disastrous and has left severe problems in its wake. However, so far we have heard no indication that it was caused by water quality problems which pre-existed in N. C. estuaries, but rather that an unusual

swirl of currents delivered the problem organisms to our coast from Florida via the Gulf Stream.

It may or may not recur here, but it apparently did destroy many young scallops in 1987-88. This proposal in search of "mitigation in kind for the biological and economic losses of bay scallops" seems to be aimed primarily at the development of "aquaculture technology." Is this a legitimate use of APES funds? Significant sums of "disaster" funds were reported by the media last year. Were there none left to fund this kind of investigation? Could this not be funded from some other source of State or Federal funds, either disaster funds or Sea Grant perhaps? In what way will the study help meet the objectives of the APES study?

These are but two examples, there are several others. Meanwhile it appears that many important questions are not being addressed either through the APES programs or through the normal investigative/management programs of the N.C. resource management agencies. Currituck Sound problems and losses of herring spawning habitat are two good examples of the latter.

Yates Barber
Al Howard
John Stallings

August 2, 1988

MAKE COPY & RETURN - Howard

Enclosure 2

MAJOR ENVIRONMENTAL CONCERNS IN THE ALBEMARLE-PAMLICO REGION

1. Eutrophication - The explosive growth of noxious blue-green algae as a result of nutrient enrichment (phosphorus and nitrogen) occurs in several major tributaries of the Albemarle and Pamlico Sounds whenever flow and weather conditions are right. The Neuse, Chowan and Pasquotank are especially susceptible. The Pamlico River displays periodic heavy growths of more salt-tolerant algae.

2. "Dead water" - Excessive algal growth results in depletion of dissolved oxygen in the water when the algae decompose, resulting in large-scale fish kills. Fishermen call the broad expanses of hypoxic bottom water in the middle part of the Pamlico River in summer "dead water". Wastewater rich in organic materials (such as pulp mill effluent) undoubtedly contributes to local bottom-water anoxia in some tributaries.

3. Ulcerative sore diseases of fish - Ulcerative mycosis and other fish diseases have increased dramatically in recent years, with up to 85% - 90% of menhaden affected at some time in the Pamlico River. Many other commercially important species (such as flounder) are also involved. Scientists believe that environmental stress resulting from water quality deterioration is to blame.

4. Disappearance of rooted aquatic plants - The broad swaths of aquatic plants fringing both shores of the central Pamlico River virtually disappeared between 1976 and 1985. These plants were very important as habitat for juvenile fish and waterfowl. Changes in water quality and chance perturbations from storms and weather seem to have been involved.

5. Reduction in fisheries landings - Certain fisheries have declined strongly from historical levels. Striped bass in the Roanoke River have not produced a successful year class since the early 1970's. Similarly, shad and river herring landings are down significantly. These declines seem to be related to lack of recruitment success due to water quality changes. Recent drops in croakers, blue crabs and some other species are not clearly attributable to any specific cause, but fishing harvesting techniques, water quality deterioration and loss of nursery habitat are probably responsible.

6. Loss of wetlands, increased drainage and sedimentation - A host of factors change whenever highly important wetland areas are cleared and drained for agriculture, silviculture and urban land uses. Not only is wildlife habitat adversely affected, but also increased freshwater drainage, sediment and associated pollutants can threaten vital nursery habitats for estuarine fishes. Increased sediment loads in coastal rivers, decreased salinity, and shellfish harvesting have combined to shift the locations of viable shellfish beds downstream about 10-15 miles since the 1940's in the Neuse, Pamlico and Pungo Rivers.

7. Possible toxicity of wastewater - Although the toxicity of existing and proposed wastewater discharges has not been clearly demonstrated, the large volumes of waste (and contaminants contained) probably contribute to many of the environmental changes documented above. Other specific sources of toxicants are landfills and dumps, including some on U.S. military property.

8. Urban development and stormwater - Increasing population pressure, both from urbanization and resort development, will result in increasing stress on natural resource critical areas. Environmental deterioration and shellfish closures due to runoff from urban areas is not currently a major problem in northeastern North Carolina, but the projected doubling of the peak population in the region by the year 2000 may well change that outlook.

Enclosure 3

College of The Albemarle
P.O. BOX 2327 ELIZABETH CITY, NC 27909
(919) 335-0821

March 10, 1988

Dr. Jerad Bales
U. S. Geological Survey
P. O. Box 2857
Raleigh, NC 27602

Dear Dr. Bales:

We understand that the APES program will be calling for study proposals in the immediate future; therefore, we have rushed to send you this information. We were not sure of the format you needed, but we feel that the information necessary to justify two studies in Currituck Sound is included in the attached documents which were written by Yates Barber, a member of our Citizens's Advisory Committee. The first of these studies is one on the unique hydrology of the area and the second is a study of microbiology or plankton resources of the area. Serious accumulations of nutrients have resulted in excessive planktonic blooms in Back Bay and Currituck Sound over the past several years. Both areas are threatened with eminent urbanization; therefore, the studies need to be made this year if-at-all possible. We have hastily reviewed the work plan and have identified in the opening paragraph of our attachment those specific sections of the work plan to which these studies would respond. We believe they are a perfect match to several high priority items in the work plan.

We will appreciate your incorporating these proposals with specific identification of their need when the call for research proposals is issued by APES in the near future.

Thank you for your assistance.

Sincerely,

J. Parker Chesson, Jr.
Chairman, Albemarle Citizens Advisory Committee

JPCjr:sws

Enclosure

CURRITUCK SOUND HYDROLOGY STUDY AND MICROBIOLOGY STUDY

These two studies are proposed as a response to certain units of the Draft APES Work Plan. Both the Hydrology Study and the Microbiology Study respond directly to Section IV of the Human Environment Item E.2 Interdisciplinary Case Studies of Neuse River and Currituck Sound.

In addition, both the Hydrology and Microbiology studies respond to Section II, Evaluation Items E.2, E.3, E.1, E.14, and others.

The background data provided here is applicable to both the Hydrology Study proposed in Section I and the Microbiology Study proposed in Section V.

Currituck Sound, North Carolina and Back Bay, Virginia have suffered a drastic increase in salinity in 1985, 1986, and 1987. At the same time, there has been a severe build-up of nutrients resulting in heavy turbidity, partly from planktonic blooms. This nutrient build-up has been developing for 10 to 20 years.

These conditions have resulted in an almost total dieback of submerged aquatic vegetation (SAV), especially of the dominant Eurasian Water Milfoil in the last 1 to 4 years depending on which area you are in. There has also been a severe drop in the abundance of large-mouth black bass, crappie, blue-gills, and common sunfish. The NCWRC biologist reports that there has been virtually no spawning of bass in Currituck in 3 years. Commercial fishermen report almost no incidental catch of bass and only limited catch of white perch and catfish, the two most important commercial species. The lucrative sport fishery for black bass was at an extreme low during 1987. Until recently Currituck has been one of the nations top recreational fisheries for black bass.

I. Hydrology Study

The hydrology of Currituck Sound/Back Bay is poorly understood and almost no hydrological data exists for the system.

If there has ever been a monitoring program on Currituck Sound it apparently did not exist for long. Tide and current records are believed to be almost non-existent. Water quality data is minimal and is believed to consist largely of once a month readings, but with seasonal interruptions.

Any future management program demands better undertanding of the natural working of the system as it now exists plus identity of pollution sources and other problems of the Sound. Rapid urbanization of the watersheds of Back Bay/Currituck Sound will continue to create growing problems for the Sound and an understanding of these will be dependent on building a data baseline now.

The recent die-off of vegetation in Currituck Sound/Back Bay has permitted a return to near normal wind tide and flushing conditions during the winter of 1987-88 for the first time in perhaps 20 years.

The hydrological studies should be made now, under these conditions. If a return to fresh water conditions occurs, and it seems to be happening, there may be a resurgence of Eurasian Water Milfoil in the next 1 to 3 years, returning us to the unfavorable conditions of recent years, preventing study of near natural conditions which now exist.

An intensive field study with data recording at key locations is necessary. With these data as a base, an effective model of the Sound would be possible.

II. Description

Currituck Sound (96,000 acres)/Back Bay (26,000 acres) is the most unique of the N.C. coastal sounds because:

1. It is elongated, shallow, fresh-brackish, has a north-south orientation, is closed at the north end, and has a minimal watershed. (Annual runoff has been estimated by the Corps of Engineers at only 90 percent of the volume of the Sound.)

2. Currituck is largely dependent on wind tides for its flushing action.

3. Until recently, it supported the most extensive growth of SAV in North Carolina. Before about 1965, all the dominant species were excellent waterfowl food plants (e.g., wild celery, sago, clasping-leaf pondweed, widgeon grass, bushy pondweed, chara, nitella).

   After 1965, Eurasian Water Milfoil invaded the area forming dense surface mats over virtually the entire Sound.

   These mats became "grass dams," reducing and/or preventing the normal wind tide action and thus reducing the normal flushing of nutrients from the Sound.

III. Nutrients

Nutrient accumulation has occured heavily in the last 20 years. It has been most obvious in last 10 years because of heavy plankton blooms. In much of the Sound in summer, water was almost crystal clear to depth of of 6 feet or more, but in most areas it has not been possible to see bottom in 2 feet at anytime for the past 8 to 10 years.

Nutrient accumulation has accelerated in Currituck/Back Bay because:

1. Lack of normal wind tides due to Milfoil has reduced flushing,

2. Severe drought in 1985, 1986, and 1987 reduced runoff.

3. Extensive land clearing in Dismal Swamp area (watershed of NW River which is Currituck Sounds' principal tributary), perhaps 10,000 acres in last 10 years, has altered runoff and probably contributed large amounts of agricultural fertilizer and chemicals. Much land clearing has been in Virginia.

4. Increased rates of fertilizer application over past several years.

5. Withdrawal of 5 to 13 MGD of water from NW River by City of Chesapeake has reduced flushing.

6. Some land drainage in Currituck has diverted water from the Currituck watershed into the North River, reducing flushing. (There may be more of these drainage diversions than immediately meets the eye.)

7. The extent of additional agricultural drainage, sewage or other discharges into Back Bay, Virginia is not known but is of major concern.

8. Increased population and shore side development, including Outer Banks urbanization in Currituck and northern Dare County, are undoubtedly increasing nutrient runoff and septic tank seepage to Currituck.

9. Virginia Beach, Virginia now predicts tht they will grow by 100,000 people in the next 5 years and all of these will be in the watershed of Currituck Sound/Back Bay. This will more than triple present population in the watershed. (Growth of 300,000 plus in past 20 years has been almost all in the watershed draining north to Chesapeake Bay.)

IV. Salinity

Salinities have been abnormally high in Currituck/Back Bay, Virginia during 1985, 1986, and 1987 because:

1. Severe drought in 1985, 1986, and 1987;

2. Virginia Beach and State of Virginia were pumping ocean water into Back Bay in large quantities (said to be one-million gallons per hour), during much of that time and before;

3. City of Chesapeake has been withdrawing 5 to 13 (or more) million gallons per day of fresh water from the NW River.

4. Maple Swamp (2 or 3,000 acres) South of Coinjock and North of Grandy has apparently had one or more large canals dug in last few years to divert the drainage from Currituck Sound into North River.

5. There may be a pump or siphon effect occuring in Currituck Sound, which has drawn salt water up the Sound.

This could have resulted from the extensive mats of Milfoil in and North of the Narrows, acting somewhat as a valve and also inhibiting the effects of wind on wind tide flows. This, coupled with the Coinjock Canal which cuts across the Currituck Penninsula from upper Currituck Sound to North River, may have created a situation where under certain combinations, durations, and sequences of winds, a siphon effect results which brings salt water up Currituck Sound. Southerly winds can create high tides in upper Currituck and also against the "grass dams" at the Narrows while bringing salty water to the lower Sound from Croatan/ Roanoke Sounds and Oregon Inlet. If prolonged, water creeps through the "grass dam" at the Narrows. If an east wind follows the south wind it creates a seiche on the western shore of upper Currituck Sound and Coinjock Bay while dropping water levels in North River and North Side of Albemarle Sound. This results in a heavy, gravity flow through Coinjock Canal into North River. This results in a net gain in north flowing (salty) water through the narrows.

A series of these sequences can result in a gradual drawing of salt water up into upper Currituck Sound, each time a little further.

V. Microbiology Study of Currituck Sound/Back Bay

Back Bay, Virginia is the northern tip of Currituck Sound and drains south through Currituck Sound.

This area has been more directly impacted by drainage, agricultrual development, and urbanization than most of Currituck Sound. Unfortunately, efforts of the City of Virginia Beach and the State of Virginia to overcome some of Back Bay's water quality problems resulted in heavy pumping of ocean water directly into Back Bay (1 million GPH), over a period of more than 20 years with some interruptions. The result has been disaster and Back Bay is considered a desert by many.

Fortunately, Dr. Harold Marshall of Old Dominion University in Norfolk has been conducting planktonic studies in Back Bay for two or more years. His conversations indicate serious conditions developing there with some threatening species the same as those occuring in the Neuse River.

A graduate student of Dr. Marshall's has begun similar studies of the North Landing River in Virginia and has extended his collections into the north end of Currituck Sound in North Carolina. His findings are also alarming there in view of heavy accumulation of nutrients which has occurred in Currituck Sound/Back Bay.

These microbiology studies are essential to determine how excessive nutrient loading is effecting all aspects of water quality and the biota in these important areas. Additionally, the studies are essential to provide some base-line for evaluating the impacts of the endrmous human population explosion which is over running these areas. These studies are complementary to the hydrology studies proposed.

National Estuary Program Designation

Proposed Schedule, Albemarle-Pamlico Estuarine Study

TIME	MILESTONE
01/88	Inventory of existing monitoring programs completed
03/88	Baseline monitoring program designed
04/88	Identification of potential contributions by other federal agencies
06/88	Key data resources identified (draft)
08/88	Final list of data sets prepared and reviewed
12/88	Priority environmental concerns reviewed and reaccessed by the Policy Committee/Technical Committee/EPA
06/89	1. Databases prioritized (which useful for what purposes) 2. Probable causes of significant environmental changes identified
09/89	1. Inventory of relevant federal programs completed 2. Plan for addressing load/transport/fate relationships
11/89	"Probable cause" document reviewed by scientists/managers
12/89	1. Schedule for data management activities established 2. Federal consistency report completed
04/90	Key sections of Comprehensive Conservation and Management Plan identified
07/90	Draft monitoring plan (management effectiveness)
08/90	Draft report on status and trends and probable causes
10/90	Final combined report distributed to public
04/91	Potential management strategies defined and costs evaluated
08/91	Priority action plan to maintain/attain potential uses drafted (with authority needed, etc.)
11/91	Compliance schedule for action plans developed
01/92	1. Draft Comprehensive Conservation and Management Plan 2. Recommended alternatives to resolve federal inconsistencies
08/92	Institutional and financial commitments for action plans secured
11/92	Final Comprehensive Conservation and Management Plan

Also requires biennial reports on management action effectiveness to public

Enclosure 5

Example of projects that should be funded from sources other than APES - good projects but not appropriate for APES fund:

203 Inventory/natural areas - responsility of NC

218 Microbiological indicators - should be done with public health on EPA funds.

232 Coupling Study---does this duplicate or overlap #233?

242 Managing mulitiple uses - use of public waters that pass through coastal counties should be controlled above the county level

260 Oyster Bed Success - should be Marine Fishery in house

272 Losses of bay scallops - should be funded by an agency or with emergency funds

274 Hyde County soil survey - county responsibility

--- Water quality monitoring project - this should be handled by DEM

Enclosure 6

Development of the CCMP and the Organization for Its Implementation

The ultimate objective of the APES Program is the development of a Comprehensive Conservation and Management Plan (CCMP) for the Albemarle and Pamlico Sounds and tributaries.

It is not clear to us whether the current "Study Plan" adequately reflects what the ultimate "management" plan (CCMP) must contain. We believe that the CCMP should be developed now, at least in modest detail as an adjunct to the Study Plan. The Study Plan should be reviewed in relation to the CCMP draft to ensure that the various essential components are all covered in the studies. Development of this approach may show us that some of the geographic units of the APES area need to be described in more detail and their special research needs spelled out more explicitly in the Study Plan.

As the CCMP is developed it will be essential to define how it will be administered and executed. Will there be a policy board designated to oversee the program and who will be represented on that board? Who will have the responsibility and the authority in the field?

The State and Federal governments already have established agencies for administration of programs and laws pertaining to marine and freshwater fishery resources, wildlife, pollution control, water quality, air quality, natural areas, Coastal Zone Management, public health, Soil Conservation, etc.

It would seem logical for the existing State agencies which have responsiblity for these major programs to be assigned the ultimate responsibility for execution of the respective elements of the Management Plan for the estuaries. Federal agencies with responsibilities in these program areas would presumably continue to operate and support as appropriate the State efforts.

Obviously, the State agencies already have much of the authority and responsibility to do what needs to be done. However, most State natural resources and environmental management and protection agencies are not adequately funded, and they are not adequately staffed, to do their jobs. Of course, there are also occasions when priorities of programs within some of these agencies have not been and still are not, all that is needed for the best resource management.

It is very probable that if our resource agencies had been better funded and staffed, we might not be scrambling now to get the APES underway. When the APES finally produces its management plan some three (?) years down the road, it will require many more dollars and people in the NC Resource/Environmental Agencies than they now have to implement that plan.

The State agencies need to be involved in the APES program at every step from planning and identifying study and management needs to performance of field studies and analyzing the results and developing the management plan. They should be doing many of the listed APES needs with their own money or with extra (makeup for past omissions) State funds. APES funds should be used for special studies, for consolidation of both existing and new

information, for development of monitoring plans and for studies directed at understanding the key physical, chemical and biological functions which keep the Albemarle-Pamlico ecological systems healthy and productive.

A vital element in having the key State agencies play principal roles in the APES and planning effort is recognition of the fact that these agencies will shoulder the burden of executing the final CCMP. Each will handle its respective program responsibilities in the management plan whether it be research, regulation, surveillance, monitoring, management or public education.

Now then, we need to realize that execution of the CCMP will call for larger staffs of scientists and technicians and other resource management specialists. We must realize that we cannot wait to hire an adequate staff until the APES studies are complete, and the CCMP is ready for implementation. Time is necessary to accumulate an adequate staff which has the expertise, the experience and the on the ground familiarity and understanding of our unique estuarine system. The best place and the cheapest way to accomplish that is to involve those agencies as working units of the APES now. We cannot do it by rushing out to hire a few relatively green and inexperienced grad students and private consultants to supplement a handful of overworked district biologists three years down the road.

We believe that the Policy and Technical Committees of the APES should encourage the State Government (i.e. the Administration and the Legislature) to provide immediate support

(and funds, etc.) for this essential build-up of State Government capabilities in the Estuarine Resource Management field.