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TECHNICAL COMMITTEE MINUTES

FEBRUARY 20, 1990

RALEIGH, NC

I. CALL TO ORDER

The meeting was called to order at 10:10 a.m. by Dr. Carl. The agenda was revised with the Status and Trends/CCMP Update to follow the Recommended Proposals and Annual Budget Review.

Dr. Carl told the Technical Committee (TC) that Dr. George Everett has been named Director of the Division of Environmental Management and Mr. Roger Schecter has been named Director of the Division of Coastal Management.

(Attendees list Attachment A).

II. CONSIDERATION OF MINUTES

Mr. David Sides moved to accept the TC minutes of November 8 as distributed. Dr. Hogarth seconded the motion which was unanimously approved.

III. PROGRAM DIRECTOR/PROJECT OFFICER'S REPORT

Dr. Robert Holman updated the committee on the activities of the program (Attachment B). Ms. Joan Giordano reported on the public involvement activities (Attachment C). Mr. Ted Bisterfeld said no firm figures on the amount of EPA money available for FY 1990 has been obtained but it is anticipated that at least the same amount of funds will be available as in FY 1989.

IV. SUBCOMMITTEE REPORTS

Dr. Holman said the Information Management and Monitoring Subcommittees have not met since the last TC meeting. The Standard Operating Procedures Committee met regarding the outline on potential actions of the CCMP. The Preliminary Status and Trends Report lacks recommendations and conclusions. Therefore, the Monitoring and Technical Review Subcommittees recommended a Status and Trends Workgroup be organized to develop these recommendations and conclusions. The workgroup first met on January 30 and an April meeting is being set to present their preliminary recommendations and conclusions. These recommendations will be given to the Standard Operating Procedures Subcommittee for their deliberations in developing individual action items for the CCMP document.

## CITIZENS' AFFAIRS SUBCOMMITTEE

Dr. Orbach said this subcommittee met on February 9 to review the public participation projects submitted for FY 90 funding. Eleven of 29 proposals submitted are being recommended for funding. Dr. Orbach briefly summarized each proposal noting changes recommended by the Citizen' Affairs Subcommittee in specific proposals which will be presented to the investigator during negotiations as follows.

- #407 - production of pamphlets deleted; reduce funding to \$40,000
- #409 - recommended
- #431 - recommended at reduced funding
- #474 - recommended
- #408 - recommended
- #439 - proposed brochure deleted; reduce funding to \$38,000
- #444 - recommended with additional provisions (be specific in contract regarding products produced; coordinate with the Northeast Regional Educational Center; specify results of this program will be taken to other school districts in the Albemarle area for consideration and adoption of the same type of program)
- #403 - recommend funding to coordinate the exercise of developing and recommending awards, holding banquet but the A/P Program be used as the advisory body in what awards to give; how to select participants, etc.
- #411 - recommended; contract specify that fact sheets must be durable for use in the environment
- #412 - recommended at reduced funding
- #413 - recommended with provision that A/P Study put in \$12,000 if another entity can be found to fund the remaining share; not be specific to cited location

Dr. Orbach moved that the proposed recommendations for the public participation package be adopted. Mr. John Stallings seconded the motion.

Regarding #407, Mr. Bill Cole moved that the annual meeting element be moved to the administrative budget. Dr. Bill Hogarth seconded the motion. There was discussion on this item. The success of the November 4 annual meeting was noted and that the A/P staff could not organize the annual meeting considering the amount of time involved in such an effort. Also having an outside entity organize the annual meeting presented itself well as a public involvement activity. The motion failed with four favorable votes.

It was recommended that the concept of 10 fact sheets on A/P Study funded research as presented in #407 be unchanged. The Publications Review Subcommittee will review the individual fact sheets for factual information. Dr. Holman

suggested the Status and Trends Review Committee would be the best group to determine what are the best projects to select for interpretative purposes. The fact sheets as outlined in #411 will also be produced.

It was recommended that budgets be resubmitted by all potential grantees detailing each element outlined in the proposals (i.e., staff time by task).

Dr. Copeland questioned the effectiveness of TV PSAs. He felt the funds would be better spent developing estuarine educational information for elementary school systems. He said the recommended public participation package has too much film and tape and not enough educational features.

Dr. Carl questioned the program becoming involved in estuarine resource center planning (re #413). He stated the A/P Study is to develop a management plan which will be acceptable by the public. The CCMP may contain an estuarine resource educational center as a long range goal. He felt this effort is completely different from the purpose of the Study. Dr. Orbach restated that if there is no other entity which feels that this is an important area in which to invest money, then no money will be spent on this project. The A/P Study will only put in \$12,000 to be matched by some other group.

Mr. Bo Crum asked for a further explanation of #474. He was unclear as to what products would result. Dr. Orbach said they propose a poster, school newsletter and a series of newspaper articles. It was recommended that they be asked to provide staff breakdown costs associated with the project. Dr. Ernie Larkin said they would also be asked to continue the local government liaison which has been done in the past.

Dr. Holman stated that as in past years, following the Policy Committee's adoption of a budget package on March 7, the Citizens' Affairs Subcommittee and Technical Review Subcommittee will meet with each grantee to work out the issues raised on each individual project and the budget. Mr. Crum said we clearly need to know what the products will be and to have detailed budgets.

Dr. Carl asked the Committee to vote on accepting the public participation package as modified. The motion passed unanimously.

#### TECHNICAL REVIEW SUBCOMMITTEE REPORT

Mr. Jim Turner reported that this subcommittee met on February 14 and 15 to review the proposed technical information proposals submitted for FY 1990. Forty-five

proposals were submitted; 18 are recommended for funding (10 continuation projects and 8 new projects). Mr. Turner briefly summarized each recommended proposal as follows:

- #401 - recommended
- #416 - recommended
- #417 - recommended at reduced funding; give this task to an oversight group/agency (Streamwatch, WRRI, Duke Marine Lab, etc.); drop funding to \$25,000
- #437 - recommended at reduced funding; fund first year of research only; look at more than dioxan; coordinate with EPA Duluth Lab (Cooke) and Narragansett Lab
- #453 - recommended
- #458 - recommended at reduced funding; negotiate with researchers on scope of work
- #461 - recommended at reduced funding; request some technical modification by researchers
- #465 - recommended
- #467 - recommended at reduced funding; use monies from Army CORPS (~\$175,000), Striped Bass Board (~\$40,000), and A/P Study (\$60,000 to be matched by USGS)
- #468 - recommended
- #472 - recommended at reduced funding; requires additional technical assistance/input
- #473 - recommended at reduced funding; focus on ambient water quality only and not fish analysis
- #434 - recommended
- #447 - recommended; negotiate with researchers on expectations; collect by-catch data; hire statistician; examine South Carolina report
- #454 - recommended; negotiate with researcher to improve statistical design; hire a statistician
- #415 - recommended
- #430 - recommended
- #452 - recommended

Mr. Turner moved that the recommended technical information package for FY 1990 be accepted with modifications. Mr. Don Hoss seconded the motion.

Early demonstration project funding was discussed. Three early demonstration projects are being recommended: (1) Pollutant Removal by a Demonstration Urban BMP; (2) Upper Bennett's Creek Watershed (Merchant's Millpond); and (3) Marsh Grass Protection. There is a possibility of receiving approximately \$50,000 in supplemental funds. Over \$260,000 would be required to fund all three proposed demonstration projects. EPA has verbally indicated it will pick priority areas in which funding has not been designated previously. A lengthy discussion regarding the funding of early demonstration projects and then not having the money to continue the projects occurred. It was recommended that the A/P Study submit formal correspondence to EPA detailing

the need for early demonstration funds to continue the projects which have been initiated in past years as a result of EPA supplemental funds. The Department of Environment, Health, and Natural Resources should make a similar request to the North Carolina General Assembly.

Mr. Crum asked for a vote on the motion to accept the recommended technical information acquisition package with modifications. The motion carried with one no vote.

Dr. Copeland made a motion that the money saved through negotiations with researchers be used to fund early demonstration projects. Mr. Hoss seconded the motion. Dr. Moreau asked that staff be given flexibility in which early demonstration project(s) will be funded should money be available. The motion was approved.

Dr. Holman explained the proposed budget by category. The administrative budget is lower than the previous year due to moving the data manager position into the information management area; the information management budget will be higher as a result. Public participation is higher than the previous year. Technical information acquisition is at a slightly lower level. There was discussion regarding the information management budget. Dr. Orbach suggested that the data management aspects of the A/P study be reevaluated according to what is available, current status, and what can be achieved during the remaining life of the Study. The information management budget should be scrutinized the same as the other elements of the program.

A motion was made to recommend to the Policy Committee the FY 1990 budget as adopted by the Technical Committee (Attachment D). The motion was seconded by Mr. Randy Waite. The motion was approved.

#### V. STATUS AND TRENDS DOCUMENT/CCMP OUTLINE UPDATE

Dr. Holman said the technical and public versions of the Preliminary Status and Trends Report (STR) are now available. He thanked Dr. Copeland and all those involved in this task. He noted that five public meetings will be held using the STR public version during late March/early April. A Status and Trends Workgroup was organized to develop recommendations and conclusions for this report. This workgroup has met in January and will meet again in April.

Mr. Bisterfeld said specific environmental goals have not been identified for the CCMP outline consistent with each of the problems identified in the system as noted in the STR. Dr. Holman and Mr. Bisterfeld will develop these goals and present them at the Policy Committee meeting in March.

## VI. REVIEW MEETING SCHEDULE

Dr. Holman noted the changes made in the 1990 meeting schedule (Attachment E).

Dr. Holman said that Larry Minock (TC member from Virginia) has requested that an Inland Fisheries representative from Virginia (Mitchell Norman) be added to the Technical Committee. Mr. Waite moved that the Technical Committee recommend the Policy Committee designate a representative from this organization be added to the Technical Committee. Mr. Saunders seconded the motion. The motion was approved.

The meeting was adjourned at 3:15 p.m.

# Technical Meeting

February 20, 1990

Attachment A

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<u>Name</u>	<u>Agency</u>
Karon Donnelly	AIP Staff
Jim Turner	USGS
LARRY SAUNDERS	Corps of ENGR.
Ernie Parkin	P-CAC
Ceif W. Pustle	USDA - SCS
Tom Ellis	NC Dept of Agriculture
David W. Sides	EHNR - Surface Water
John W. Stallings	A - CAC.
MIKE ORBACH	ELU/MSC
Fred White	NC DEK
B J Copeland	UNC - Sea Grant
Jim Overton	DEHNR/DEM
RANDALL G. WAITE	EPA, REG. III
Don Hoss	NOAA/NMFS
RICHARD HAMILTON	NCWRC
Bill Cole	US FWS
Bill Hogarth	NC DMF
Ted Bistefeld	EPA Atlanta
Bob Holman	A/P Staff
Bowman Crum	EPA, Atlanta
Ernie Carl	ENR, Dal
Kathy Davis	A/P Study
Paul Jordan	AIP Staff
Tom Quay	P-CAC
Joe Hollowell	A CAC
Heome Schultz	Alternate Commission
K. D. Brooks	VA/Committee on the Environment

## ALBEMARLE-PAMLICO ESTUARINE STUDY

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## DIRECTOR'S REPORT

## TECHNICAL COMMITTEE

FEBRUARY 20, 1990

1) EARLY DEMONSTRATION PROJECTS

- a) The program currently has 3 agricultural BMP projects from 1988 funding and 1 urban BMP project from 1989 funding.
- (1) Urban BMP project - design complete; process of land acquisition; completion of structure set for October 1990
- (2) Agriculture BMP projects
- (a) Merchants Millpond Watershed - >40 BMP contracts signed (e.g., lagoons, broiler storage, filters, solid set)
- (b) Solid Set - 3 sites  
--Bertie site 35% in place  
--Currituck site 90% in place  
--Washington site - moved to Tidewater Research Station 90% in place
- (c) VA Animal Waste Management  
-- 1 of 6 new waste system designs complete (entire system)  
-- 12 of 19 nutrient mgmt. plans complete (pump down)

2) INFORMATION MANAGEMENT

- A) LRIS (now Center for Geographic Information and Analysis [CGIA]) proceeding with land use and land cover classification for entire study area; due in August 1990
- B) First pilot area for land use mapping will be the Currituck Drainage Basin
- C) Old 1970-73 U. S. Geological Survey LUDA data is on line and CGIA is providing county statistics for each county within the study area
- D) CGIA will take over the data manager position by hiring a software specialist and GIS specialist

3) TECHNICAL COMMITTEE

- A) Technical Review and Citizens' Affairs Subcommittees have been busy reviewing the FY 1990-91 proposals. The meetings to finalize their recommendations to the Technical Committee were February 14-15 and February 9, respectively.
- B) Provide committee members with copies of:
- Preliminary Status and Trends Report (Technical version)
  - Scoping of Water-Column and Bottom Sediments
  - Analysis of Fringe Wetlands
  - Fish Stock Assessment

4) MEETINGS

- A) Nov. 14 - OMEP annual audit of files - 93% complete (Raleigh)
- B) Nov. 22 - Fourth year call for proposals sent out (Raleigh)
- C) Dec. 4-8 - OMEP second annual technology transfer meeting (New Orleans)
- D) Jan. 18 - VA/NC interaction meeting (Chesapeake, VA)
- E) Feb. 16 - Presentation to Surface Water and Environmental Review Legislative Research Commission Study

5) FY 1990-91 PROPOSED PROJECTS

- A) Total 74 projects consisting of:
- |                         |                           |
|-------------------------|---------------------------|
| Early Demonstration (8) | Human Environment (7)     |
| Fisheries (5)           | Resource Crit. Area (5)   |
| Water Quality (20)      | Public Participation (29) |
- B) Review Procedure
- |                                |                |                     |
|--------------------------------|----------------|---------------------|
| Albemarle Tech. (Peer Review)  |                |                     |
| CAC 1/31                       | Review 2/14-15 |                     |
|                                |                | Technical Committee |
| Pamlico Citizens (Peer Review) |                | Policy Committee    |
| CAC 1/29                       | Affairs 2/9    | 2/20 3/7            |

6) PUBLIC PARTICIPATION

Joan Giordano's Report

STATUS AND TRENDS REPORT

- A) Both Preliminary reports (public and technical versions) delivered to project office on January 16, 1990
- B) Public meeting scheduled at 5 locations throughout the state (March - April)
- C) Status/Trends Review Group - resource managers. organizational/meeting January 30, to develop recommendations and conclusions to report
- D) Technical version sent out for peer reviewer comments
- E) Final version due to OMEP October 1990

Public Involvement Coordinator's Report  
February, 1990

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1. Citizens' Advisory Committees (CACs)
  - continue to meet quarterly
  - meeting notices sent to public officials, interested citizens and newspapers in meeting area
  - 2 CAC representatives attended Citizen Monitoring Conference in New Orleans in December (see attached)
  - vacancies exist: P-CAC (1); A-CAC (6)
  
2. Exhibits
  - portable exhibit used in New Orleans
  - portable exhibit presently being used in Atlanta at EPA Region IV
  - State Fair Exhibit (Nursery Area Model) was used at APES Annual Meeting in November in Edenton
  - Nursery Area Model presently on display at PTRF's resource center in Washington, NC
  - Nursery Area Model will be used in April at WRAL's Coastal Celebration in Raleigh
  - Exhibits are available for use in study area at any time
  
3. Outreach
  - Educational presentations:
    - \* White Oak School PTA - Chowan Co.
    - \* Elizabeth City State University
    - \* Soil & Water Area 5 Supervisors' meeting
    - \* Press Conference in Raleigh - December 19, 1989
      - with Secretary Cobey and DPI Superintendent Bobby Etheridge
    - \* Distribution of environmental education materials to 459 schools in APES Area, ECU, environmental groups, individuals
  - Local Government Liaison:
    - County Commissions:  
Hyde, Hertford, Camden, Currituck, Gates, Perquimans, Pasquotank, Chowan Bertie
    - Municipalities:  
Gatesville, Hertford, Winfall, Edenton, Manteo, Kitty Hawk, Bath, Kill Devil Hills, Elizabeth City, Farmville and Greenville

Interest level varied from little to great.

4. ProjectsPrint:

- Poster series/bumper stickers - completed, being distributed
- calendar - completed and distributed
- "Guide to Estuaries"- completed, distributed and going to reprint
- "Where Rivers Meet the Sea"- presently at printer; distribution (600) will be to schools as part of December packet; additional copies being printed
- Status & Trends (public version) - completed; distribution ongoing

Electronic:

- Video PSAs - completed; distributed
- Video/Slide Show - completed; will be shown at Roundtable, 3/6, in Beaufort
- Radio Talk Show - 1st of 6 scripts completed and approved; will begin airing in mid-March

Public Meetings:

- Workshops on Water Quality - scheduled for March 6,7, 14 & 15
- Forum on Management Needs for Protecting Estuarine Resources in A/P System - 2 of 4 completed
- APES Annual Meeting - completed - November 4, 1989 (Edenton)
- Assisting CACs with Estuarine Management Recommendations - planning stage; scheduled for May 4 & 5 in Greenville
- Press Tour - scheduled for late spring

All 3rd cycle projects are completed or nearing completion

5. Meetings & Events

- Citizens' Monitoring Conference - New Orleans - December 5-8, 1989
- ECU Chancellor's Forum on Economics & the Environment - January 3 & 4, 1990
- State Fair
- Roundtable & Policy Committee March 6 & 7 - Beaufort
- Status & Trends Public Meetings (5) across state in late March & early April
- Workshops on Water Quality - March 6,7, 14 & 15
- Public Forum on Management Needs for Protecting Estuarine Natural Resources in the A/P System - February 21 & 27

6. Newsletters

- January edition is out
- next edition in April
- expanded mailing list to 17,000
- responses are very favorable
- negotiation of the new contract and new layout arrangements caused delay

7. Inquiries to Program

- receive almost daily response to newsletter, T.V. from educators, press, students and business
- inquiry log is kept, average response time is 2-3 days
- requests for publications are very popular

## REPORT TO THE A/P STUDY ON THE EPA CITIZEN MONITORING CONFERENCE

NEW ORLEANS, DECEMBER, 1989

The conference gave participants an opportunity to learn what's going on in the world of citizen monitoring across the country. Presenters represented states north, east, south and west and offered two days of panel discussions on their programs. As a result of these discussions, I feel that the Citizen Monitoring effort funded by the A/P Study is one of the most thorough, cost-effective, and safe programs in the country.

Programs in northern states must put away their test tubes in winter as lakes and streams freeze over. Other programs test only one parameter, such as turbidity. Still other programs require monitors to use boats for testing. A/P Citizen Monitoring has the advantage of testing year round because of reasonable weather conditions, the program tests several parameters, and convenience and safety of volunteers are primary considerations. All participants agreed, however, that good quality control and close cooperation with state officials were crucial to the success of all programs.

If we are to continue this valuable data collection and public education program beyond the five-year A/P Study, efforts should begin now to set up a means of sustaining it financially. A non-profit foundation, modeled after the Chesapeake Bay Foundation, partially supported by regional donations and partially supported by federal/state governments, would give volunteer citizen monitoring an identity of its own yet maintain the necessary close ties with state agencies. I would urge that solid groundwork be laid in the next two years for the formation of such an entity.

Respectfully submitted,

Carolyn Hess *CH*

2nd National Citizens Volunteer Monitoring Conference

"The Role of Citizen Volunteers in Environmental Monitoring"

December 5 - 9, 1989

New Orleans, LA

Sponsored by the EPA Office of Marine & Estuarine Protection, and the Office of Water Regulations & Standards; and the Gulf of Mexico Program.

About 150 Citizen Volunteers, scientists, government officials, representatives of industry and others, all united by a common concern for the environment, met recently in New Orleans. Their mission was to take a hard look at how Citizen Volunteers involved in environmental monitoring are being used, how effective are they, should their use be expanded in the future, and if so, how?

Tudor Davies, of EPA's Office of Marine Estuarine Protection set the up-beat tone of the conference in his opening statement that there are now 20,000 citizen volunteers involved in environmental monitoring, and the number is increasing daily. He admitted that state and other agencies were originally sceptical in respect to the accuracy and acceptability of the data provided by citizen volunteers, but they have now become true believers and are enthusiastically recognizing the large and expanding roles that trained volunteers can fill. This becomes especially important in the current climate of shrinking Federal and State budgets, and our huge national deficit.

Tudor Davies posed the sobering question: "Where are we going to obtain the money we'll need to protect our estuaries?" In his answer, he stressed the importance of obtaining a consensus to achieve this and emphasized that citizen volunteers can be the "heroes" in this, by galvanizing action through stirring up grass roots support.

North Carolina's Dr. John Costlow of Duke Marine Laboratory, and TV personality/actor Dennis Weaver of The American Oceans Campaign each delivered stimulating keynote addresses.

Dr. Costlow urged the implementation of estuarine or other water improvement management action based on the reliable knowledge we have already collected. In many situations, we already have sufficient information to allow us to get started, and don't have to collect more data.

He emphasized the extreme importance of communications in our water improvement efforts; communications between all the concerned parties. This includes the property owners, the fishermen, the sportsmen, the concerned organizations, the environmental groups, the beaurocrats; the government, starting with municipal, county and state and including federal.

Dennis Weaver told us that we are now paying the bill for the Industrial Revolution, and claims that ignorance is our most serious problem. However he believes that we are seeing a real change in environmental consciousness today, and that constitutes our greatest hope for the future.

Contrary to what some environmental critics have claimed, he is convinced that we are not over-reacting to our environmental problems; instead, our scientific community tells us that we are under-reacting, badly.

In the three days of conference sessions, we heard from 27 speakers that were on the published program. All of them had something of real interest to contribute. Conferees added many ideas and thought-provoking questions.

Here are some notes on what this conferee learned. Some of these items are, or could be applicable to our citizen volunteer monitoring efforts in the Albemarle-Pamlico estuaries.

1. Before starting new environmental monitoring programs, we must check carefully to be certain that the information being sought isn't being provided by programs already in existence. There is a great risk of re-inventing the wheel; especially when "turf battles" and inter-agency rivalrys are allowed to creep in.
2. An effective data base, and master data collection system available to all users is an essential ingredient of all environmental monitoring programs.
3. A program to guarantee quality assurance and quality control for citizen Volunteer environmental monitoring is another essential ingredient. To date, the volunteer programs now in effect have ranked high in this - - as North Carolina's Paul Wilms stated at the conference, "I havn't had a single problem yet with the accuracy of the data provided by citizen monitors." Other speakers also confirmed the high technical quality of the data being produced by volunteers.
4. A successful citizen environmental monitoring program must include good communications in all directions, such as between monitors, and feed-back of the significance of the data after it has been analysed. The data should be communicated to your federal, state, county and local regulators, to technical institutions, to local politicians. Communications with your media is especially important.
5. If you set up a worthwhile citizen volunteer program to collect data, keep the program going. The value of the data increases with the length of time over which it is collected. And be sure the data is utilized.
6. Be innovative in finding new ways in which citizen volunteers can be utilized in environmental monitoring. The following is a partial list of projects already in operation that were mentioned at the conference:

## 6. (continued)

- Freshwater and Saltwater (by both chemical and biological means)
- Fish
- Sediment
- Shellfish
- Nearshore habitat
- Marine mammals
- Birds
- Conductivity
- Weed census
- Chlorophyll
- Algae
- Acid rain
- Weather
- Marine debris
- Fish tagging

7. Emphasizing again the importance of assuring that monitoring programs once initiated are kept going, their value was stressed as a means of recording observed trends resulting from the effects of additional pollution, as well as verifying the results of management actions to improve water quality.

8. Of special importance to programs built around the use of citizen volunteers who perform their functions on a part time and intermittent basis is the requirement that written procedures, "protocols", or written check lists be developed and used for every function. Such "protocols" can serve as major ingredients for the training programs for citizen volunteers.

9. Training programs for citizen volunteers are viewed as essential. The expressed theme was that no volunteer should be allowed to perform his function without completing a training program and satisfying his coordinator that he can do the job correctly. (He means either "he" or "she", of course!)

10. Several conferees expressed a need for more toxics monitoring, and asked that the practicality of utilizing citizen volunteers for such work be looked at.

11. The need to seek diverse sources of funds for the support of citizen volunteer monitoring received considerable attention. One conferee told of collecting "lay monitoring costs" of the citizen volunteers, (including the theoretical value of time that the volunteers donated), and crediting this into their matching fund applications. While the manpower portion of the cost of environmental monitoring is reduced or eliminated with the use of qualified volunteers, equipment and other costs still have to be faced, and support from organizations, agencies, grants etc. must be found. Innovation in fund raising will be a continuing requirement

12. Environmental monitoring programs must include a rapid response procedure whereby episodic or catastrophic events that are

detected by the citizen volunteers can be immediately channeled to the appropriate agency for further official action, (as in North Carolina Stream Watch, Coastal Management etc. )

13. Several attendees asked what the EPA or other agency could do to satisfy the apparent lack of liability insurance for citizen volunteers involved in accidents while doing environmental monitoring, particularly those doing their work from boats. No satisfactory answer to this potential concern was heard, other than that the organization providing the monitors, (if an organization be involved), might have insurance protection against liability claims arising from an accident.

14. Several organization represented at the conference, and many attendees announced their firm conviction that we have plenty of good environmental legislation on the books, but that not nearly enough is being done to assure compliance and enforcement. Two major groups said that they are concentrating their efforts this year on urging improved enforcement of environmental laws on the local - "grass roots" level instead of lobbying for new laws at their state capitol or in Washington.

15. "Emphasize the positive" was the theme of several speakers. Few if any estuarine homeowners, developers, or marina operators will fail to say yes when we ask if they are in favor of improving the quality of our waters. So right at the start we have an area of agreement from which we can start working out acceptable programs to make our waters better. Then, it takes communication, education and facts. These facts are something that we can expect reliable monitoring to provide.

16. Raising public awareness of environmental problems is one of the key benefits of citizen volunteer monitoring. But to take full advantage of this, good communications must exist. A further factor is that the citizen volunteers who are aware of the problem generally become involved in its solution.

17. To be truly effective, estuarine water monitoring programs must extend into the entire watershed area and not be restricted to the estuary. This point was stressed particularly by scientists of the Chesapeake Bay and other major programs.

*Cal Yaggy*  
Calvin D. Yaggy  
1/28/90

## ALBEMARLE-PAMLICO ESTUARINE STUDY -- RECOMMENDED BUDGET: FY 1990-91

## I. EXISTING FUNDING SOURCES

EPA FY 1990 [Clean Water Act Section 320 Funds]	\$1,200,000	
State of North Carolina Appropriated Funds	\$500,000	
Total (Base Budget)		\$1,700,000

## II. BASE BUDGET BREAKDOWN

ITEM	GUIDELINE	PERCENTAGE	COSTS
ADMINISTRATION	15%	13.06%	\$221,935
INFORMATION MANAGEMENT	15%	12.71%	\$216,000
PUBLIC PARTICIPATION	10%-20%	17.10%	\$290,784
TECHNICAL INFO ACQUISITION	60%	57.13%	\$971,281
TOTAL		100.00%	\$1,700,000

## III. OTHER COMMITTED FUNDS

Army Corps of Engineers	\$135,000*	
N.C. Striped Bass Study Management Board	\$40,000*	
		\$175,000

\*funds used to support Proposal #467

## IV. POSSIBLE SUPPLEMENTAL FUNDING SOURCES

EPA FY 1990 Priority Action Plan Funding [Clean Water Act Section 205(1)]	\$50,000	\$50,000
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## BUDGET BREAKDOWN

## A. ADMINISTRATION

## PERSONNEL (5% COST OF LIVING INCREASE ABOVE 1989 WAGES)

Project Director	\$50,250	
Administrative Asst. (Clerk/Steno IV)	\$24,280	
Clerk/Typist III	\$15,763	
Public Involvement Coordinator	\$26,006	
Clerk/Typist III (Part-time)	\$7,881	
		\$124,180

## FRINGE BENEFITS

Social Security Contr (7.65%)	\$9,500	
Retirement Contr (11.6%)	\$14,405	
Longevity Pay (Project Director/Admin. Asst.)	\$1,800	
Indirect Costs (7.5% for Personnel)	\$9,314	
		\$35,018

## TRAVEL

Project Director/Staff	\$10,000	
Citizens' Advisory Committees	\$5,000	
National Estuary Program Participation	\$3,000	
		\$18,000

## EQUIPMENT

Desk/chair/filing cabinet/bookcases	\$2,000	
		\$2,000

## OFFICE SUPPLIES/FILM

	\$5,000	
		\$5,000

## OTHER

Advertising	\$550	
Telephone	\$3,200	
Postage	\$6,000	
Printing	\$14,000	
Photocopying	\$4,000	
Photo/Graphic Services	\$2,000	
Books/publications	\$400	
Express Freight	\$550	
Room Rental	\$537	
Data Processing Service	\$500	
Other Services (repairs, emp. training, equip. rental, srv./maintenance contracts, insurance & bonding, refreshments at meetings, etc.)	\$2,500	
Regional Office Space Rental (2 staff positions)	\$3,500	
		\$37,737

## TOTAL ADMINISTRATION

\$221,935

## INFORMATION MANAGEMENT

HARDWARE \$30,000

The cost to continue payments for financing the computer system upgrade that is required to support A/P Study data management activities.

SOFTWARE \$10,000

Contingency funds to pay additional software if needed by A/P Study.

MAINTENANCE \$24,000

The costs for maintenance contracts on hardware and software purchased for A/P Study.

COMMUNICATIONS \$20,000

## Fixed Costs

The costs of installing hardware and software to place the CGIA system on an established network; and the fixed fees associated with a network.

COMMUNICATIONS \$25,000

## Variable Costs

The costs of using a data communications network. Costs will vary according to usage levels.

Items 5 & 6 are awaiting completion of the data needs study and the user requirements study.

DESIGN/PROGRAMMING \$5,000

Costs associated with refining the design of the A/P Study database and for refining the design of the front-end software.

DATA ENTRY AND ANALYSIS \$50,000

CGIA charges for entering and analyzing data.

SUPPLIES \$2,000

Miscellaneous supplies, e.g., maps, mylar, data tapes (VA. 100k's), etc.

STAFF \$50,000

Software specialist (\$25,000)  
Applications specialist (\$25,000)

TOTAL INFORMATION MANAGEMENT

\$216,000

## PUBLIC PARTICIPATION

Newsletter & Postage		\$25,000
Water Quality Awards Program	Burns (ARC)	\$9,450
407 Assisting A/P CACs in Organizing an Annual Meeting & Produce 10 Fact Sheets, 5 Educational Pamphlets, & reprint Citizen's Guide	Tursi (NCCF)	\$40,000 [\$45,000]
408 Radio Outreach Program	Cleary (BF)	\$11,679
409 Public Education Program in the Albemarle Sound Area	Powers (AEA)	\$17,150
411 Five Fact Sheets	Powers (AEA)	\$4,875
412 Precious Waters Display	Conoley (NCAS)	\$30,000 [\$54,200]
413 Estuarine Resources Center	McNaught (PTRF)	\$12,000 [\$25,500]
431 Institutional Enhancement for SE VA	Carlock (SEVPD)	\$21,000 [\$27,000]
439 Yes, In Your Backyard: TV PSA	Willard (WP)	\$30,000 [\$38,755]
444 Model Education Curriculum	Schultz (EC/PCS)	\$54,430
474 Community Education Outreach III (C)	Stroud (PTRF)	\$35,200
TOTAL PUBLICATION PARTICIPATION		\$290,784

## TECHNICAL INFORMATION ACQUISITION

## Resource Critical Area

401 Regional Inventory (C)	Roe (DPR)	\$60,000	
416 Delineation of SAV (C)	Ferguson (NOAA)	\$64,578	
			\$124,578

## Water Quality

417 Citizens' Monitoring (C)	Perlic (SC)	\$25,000	[\$52,807]	
437 Biomarkers for Kraft Mill Effluent	DiGiulio (Duke)	\$70,000	[\$154,396]	
453 Nutrient Budgets	Dodd (RTI)	\$69,759		
458 Mgmt. Plan: Currituck Sound (C)	Overton/Adams (NCSU)	\$30,000	[\$60,404]	
461 Blue Crab-Hemocyanin Concentrations	Engel/Brouwer/Noga NMFS/Duke/NCSU	\$20,000	[\$114,130]	
465 Open Sound Monitoring (C)	Bales (USGS)	\$89,300		
467 Flows/Hydrodynamics in Albemarle Sd.	Bales (USGS)	\$60,000	[\$160,000]	
468 Determine Flows/Flow Patterns (C)	Bales (USGS)	\$91,300		
472 Toxicant Inventory	Thorpe (DEM)	\$20,000	[\$70,875]	
473 Baseline WQ Monitoring (C)	Tedder (DEM)	\$43,946	[\$93,946]	
				\$519,305

## Fisheries

4 Blue Crab Fishery (Pamlico)	McKenna (DMF)	\$34,475		
447 Effects of Trawling	Ambrose/West (ECU)	\$37,697		
454 Ulcerative Mycosis (Menhanden) (C)	Noga (NCSU)	\$56,501		
				\$128,673

## Human Environment

415 Public Attitudes Toward WQ/Mgmt. (C)	Hoban/Clifford (NCSU)	\$79,695		
430 Environmental Mgmt. Strategies	Bartholomew (CPN)	\$38,196		
452 Federal Programs (C)	Nichols (RTI)	\$32,834		
				\$150,725

## Others

CCMP Draft Document		\$48,000		\$48,000
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## TOTAL TECHNICAL INFO. ACQUISITION

\$971,281

(C) Continuation Projects from FY 1989

[ ] Original cost of proposed project

REVISED\*

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## ALBEMARLE-PAMLICO ESTUARINE STUDY - 1990

<u>DATES FOR 1990</u>	<u>EVENT</u>
JANUARY 12	REVIEW CALL FOR PROPOSALS (SUBMITTAL DUE DATE)
JANUARY 29/31	CAC MEETINGS TO EVALUATE SPECIFIC PROPOSALS
FEBRUARY 20	TECHNICAL COMMITTEE MEETING TO CONSIDER SUBCOMMITTEES' PROPOSAL RECOMMENDATIONS
MARCH 6	ROUNDTABLE MEETING OF ALL COMMITTEES
MARCH 7	POLICY MEETING TO CONSIDER TECHNICAL COMMITTEES' PROPOSALS AND ANNUAL BUDGET RECOMMENDATIONS
MARCH 8	RETURN SELECTED PROPOSALS TO AUTHORS FOR REVISIONS
MARCH 23	REVISED PROPOSALS TO DIRECTOR/SUBCOMMITTEES
APRIL 13	FINAL COOPERATIVE AGREEMENT PACKAGES
APRIL 23/27	CAC MEETINGS
MAY 9	TECHNICAL COMMITTEE MEETING
AUGUST 1	PROJECTED EPA AWARD OF FUNDING
AUGUST 6/10	CAC MEETINGS
AUGUST 21	TECHNICAL COMMITTEE MEETING
AUGUST 29	ROUNDTABLE MEETING OF ALL COMMITTEES
AUGUST 30	POLICY COMMITTEE MEETING
SEPTEMBER 13	ANNUAL RESEARCHERS' REVIEW WORKSHOP
SEPTEMBER 18	TECHNICAL REVIEW SUBCOMMITTEE MEETING
OCTOBER 5	ANNUAL PUBLIC MEETING
*OCT. 29-NOV. 2	CAC MEETINGS
*NOVEMBER 13	TECHNICAL COMMITTEE MEETING
NOVEMBER 27	POLICY COMMITTEE MEETING
NOVEMBER 28	CALL FOR PROPOSALS SENT OUT

(Revised 2/2/90)

(SCH1990.DOC)