

MINUTES
TECHNICAL COMMITTEE
MAY 9, 1990
RALEIGH, NC

CALL TO ORDER

Mr. Bowman Crum, Co-chairman of the Technical Committee (TC), called the meeting to order at 10:15 a.m. Attendees list Attachment A.

Mr. Crum reported that Mr. Mitchell Norman of the Virginia Division of Inland Fisheries has been added to the membership of the Technical Committee.

CONSIDERATION OF MINUTES

A motion to approve the TC minutes of February 20 as distributed was made by Mr. Fred White, seconded by Mr. Randy Waite and approved.

PROGRAM DIRECTOR/PROJECT OFFICER REPORTS

Dr. Robert Holman gave an update on the activities of the program (Attachment B.) He asked the TC members to review the proposed Preliminary STR Conclusions and CCMP Recommendations and provide their comments to the program office by May 25, 1990. The information will then be presented to the Policy Committee for input on June 12/13. Dr. Holman reported that 29 projects were selected for possible FY 1990 funding. The Policy Committee felt that two of the early demonstration projects needed to be continued. Two of the proposed projects for FY 1990 funding (#437/Biomarkers for Kraft Mill Effluent and #447/Effects of Trawling) were dropped in order to continue funding the demonstration projects. This decision was made because work is currently being done in the area of dioxin by EPA and DEM, and Dr. Hogarth said the Division of Marine Fisheries received a grant from SK for approximately \$230,000 to look at trawling. The Policy Committee felt those two projects could be dropped from funding and the funds used to continue the early demonstration projects (Pollutant Removal by a Demonstration Urban BMP and the Upper Bennett's Creek Watershed).

Mr. Crum reported that the A/P Study received \$1.2 million for FY 1990 from EPA. There is \$600,000 nationwide for action plan projects. Each NEP has been asked to compete for this money by submitting the "single" best project by June 20 with the cost not to exceed \$75,000. Criteria has been received on how the selections will be made. Based on the ranking by the Technical Review Subcommittee, projects #418 "Marsh Grass Shoreline Erosion Control" and #445 "Pasquotank Elementary Wetland" are the logical projects to submit. The Policy Committee gave authority to the

Technical Committee Co-chairmen to make the final selection. The TC discussed each proposal and Mr. Crum indicated that he and Dr. Carl would make the selection.

Mr. Crum encouraged each TC member to make comments to the A/P Study Office as soon as possible pertaining to the draft Goals and Objectives (Attachment C) for Recommended Action Plan Areas. Mr. Crum noted these goals and objectives would be helpful in developing action plans in the future.

The Committee engaged in lengthy discussion on the Preliminary Status and Trends document (technical and public versions) and the process for developing conclusions. Comments on the Conclusions and Recommendations are to be made by May 25 and submitted to Dr. Carl for review by the Standard Operating Procedures (SOP) Subcommittee. Dr. Carl may solicit additional input from members as needed and the SOP subcommittee will finalize the conclusions that will be added to the end of each chapter of the Preliminary STR. Public meetings will take place once the public document is amended. The final Status and Trends Report will be developed after consideration of the public comments. It was suggested that recommendations also be developed by the CACs and considered by the SOP.

Joan Giordano reported on public participation activities pertaining to Citizens Advisory Committees, program exhibits, public outreach activities, update of projects, newsletter status and inquiries concerning the program (Attachment D).

Dr. Carl reported that the Policy Committee instructed the two TC co-chairmen to investigate the concerns raised on the three USGS projects on modeling of the sounds regarding a perceived fatal flaw embodied within the modeling projects. The three USGS projects were sent out for additional reviews by suggested consultants/experts who found no fatal flaws in the projects. The USGS work is to continue. An ad hoc advisory committee to deal with modeling and sound monitoring is to be established. Dr. Carl asked that names be submitted to him to be considered for membership on this committee.

PROJECT STATUS REPORTS

ALGAL BLOOM POTENTIAL - DR. HANS PAERL

Dr. Paerl said the both nitrogen (N) and phosphorus (P) play roles as "limiting nutrients at the lower Neuse-Pamlico Sound locations examined since November 1987. N limitation exists during much of the year but P plays an additional "synergistic" role during high rainfall/runoff periods. Based on in situ nutrient limitation bioassays, observed patterns of both N and/or P stimulation of algal growth are related to either short-term seasonal or longer term inter-annual events. It can be concluded that the

availability of both N and P must be addressed in future management efforts aimed at regulating eutrophication and bloom potentials in APES. Summer pulses of filamentous blue-green algae do appear in the lower Neuse Estuary and it is not known whether these are indicative of incipient stages of nuisance blooms. The situation needs close and continuous monitoring as well as experimental work (toxicity and bloom potentials of such organisms should be investigated). The spring phytoplankton bloom was likely the result of nutrient-laden runoff as well as direct nutrient input from rainfall in the estuary. Clearly the relative importance of rainfall (specifically N-enriched acid rain) as a nutrient source requires further investigation and appears to be a crucial management issue. A comprehensive "base line" data set on algal production, biomass and species composition, zooplankton, productivity-nutrient input interactions and physical chemical features of the Neuse-Pamlico interface has been established. These data have shown specific trends worth following (for example, there appears to be a trend towards increasing primary production developing, and incipient stages of eutrophication appear to be taking place). It would be invaluable to continue this data set from both research and management perspectives; however, this project will terminate in September 1990. No alternative sources of funding are currently available.

SHELL DISEASE IN BLUE CRABS - DR. EDWARD NOGA

Dr. Noga said studies of shell disease in the Albemarle-Pamlico Estuary have revealed that blue crabs possess a potent antibacterial activity in their blood which is active against many of the organisms that can cause shell disease in these animals. There appears to be differences in this immunological activity that is dependent upon the site where the crabs are collected as well as the health state of the animals. Statistical analyses are presently underway to confirm these findings.

ULCERATIVE MYCOSIS IN ATLANTIC MENHADEN - DR. EDWARD NOGA

Dr. Noga reported that studies of ulcerative mycosis in the Albemarle-Pamlico Estuary have revealed that there appear to be temporal and spatial differences in the susceptibility of menhaden to ulcerative mycosis. Results of an experiment conducted in the fall of 1989 showed a higher incidence of disease development in salinity of 4-6 ppt than in lower salinities. There was also a suggestion of a relationship between increased disease and both temperature and dissolved oxygen levels; however, the latter two trends were not statistically significant.

A/P COUPLING STUDY - DR. LEN PIETRAFESA

Dr. Pietrafesa, through a slide presentation, gave an update on his study on the physical hydrodynamic coupling mechanisms that exist between the Albemarle and Pamlico Sounds. He said data indicates that when larvae are ready to enter the Albemarle Sound's primary nursery areas, the mechanisms/conditions (i.e.,

wind, current, sea level, etc.) are not available to carry the larvae into the Sound, thus the lack of finfish in this Sound. However, the necessary mechanisms/conditions do exist in the Pamlico Sound to enable the larvae to enter its primary nursery areas to mature. He said data will be collected through July and interpreted for inclusion in his report to the A/P Study.

SUBCOMMITTEE REPORTS

INFORMATION MANAGEMENT SUBCOMMITTEE

Mr. Randy Waite reported that the Data Needs Document is being printed; the Functional Description Document is under review by this subcommittee and the Publications Review Subcommittee with comments due to Dr. Holman. Karen Siderelis was to conduct a demonstration on the GIS system at her offices following the TC meeting. Also during the PC's budget deliberations the Information Management Budget was reduced by \$30,000 for FY 1990.

REVIEW OF FY 1991 MEETING SCHEDULE

The Committee was given copies of the FY 1991 schedule (Attachment E).

PUBLIC COMMENTS

Dr. Holman said this was his last TC meeting as Program Director and he thanked everyone for their cooperation during his involvement in the Study. Dr. Carl and Mr. Crum thanked Dr. Holman for his work. Dr. Carl also asked that suggestions for a new director be forwarded to him.

ADJOURNMENT

The meeting was adjournment at 2:40.

Technical Committee

5/9/90

Attachment A

Name

Agency

Ed Nojima	North Carolina State Univ.
David Eysel	NMFS, Beaufort Lab.
Paul White	NC DFR
Tom Stalling	H CAC
Tom Ellis	NC Dept. of Agriculture
Bowman Crum	USEPA, Atlanta
Bob Holman	A/P Study Staff
Jimmie Overton	N.C. DEHNR/DEM
RANDALL G. WAITE	U.S. EPA, REG. 3
Paul Giardano	APES Staff
John J. Garrett	Soil Conservation Service
Jim Turner	U.S. Geological Survey
Ernie Carl	DEHNR
HANS PAERL	UNC - Institut Marine Sciences
B. J. Copeland	UNC Sea Grant
Ernie Farkin	Pamlico CAC
Richard Hammett	Wildlife Com

Attach.

ALBEMARLE-PAMLICO ESTUARINE STUDY

DIRECTOR'S REPORT

TECHNICAL COMMITTEE

MAY 9, 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 - 72 BMP contracts signed utilizing 10 practices (e.g., waste lagoons, water control structures, sediment control practices, livestock exclusion from streams and solid set).

(b) Solid Set - 3 sites
--Bertie site 85% in place (Aulander)
--Currituck site completed (Knotts Island)
--Washington site - moved to Tidewater (Plymouth) Research Station 90% in place

(c) VA Animal Waste Management
-- 3 of 5 new waste system designs complete (entire system)
--15 of 21 nutrient mgmt. plans complete (pump down)
6 test/demonstration plots (mineral fertilizer/manure application)

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 utilizing landsat TM 1987-88 imagery which is due in September, 1990.

B) First pilot area for land use mapping will be the Currituck Drainage Basin. Maps indicating the 1972 land use for Currituck, Camden, Dare, Virginia Beach, and Chesapeake City have been sent out for review to the 5 counties in the drainage basin.

- C) U. S. Geological Survey LUDA data (1970-73) is on line and CGIA is providing county statistics for each county within the study area (The map before you is a composite of eight 1:250,000 scale quads. of study area).
- D) CGIA will take over the data manager position by hiring a software specialist and GIS specialist. However, due to the budget constraints CGIA can only hire temporary positions until July 1, 1990.

3) STATUS AND TREND REPORT (STR)

- A) Public meetings to obtain comments concerning the STR have been delayed by the Policy Committee. They felt the delay was needed to modify the conclusions of the technical version and change the format and add conclusions to the public version.
- B) The original group created by Dr. B.J. Copeland to develop the Preliminary Status and Trend Report met on April 25, 1990. This group reviewed their conclusions and identified trends for each section of the report.
- C) The STR Review Group had their second meeting on May 1, 1990. This group reviewed the additional comments provided by Dr. B.J. Copeland's work groups and develop specific recommendations for the CCMP outline.
- D) All of these comments have been incorporated into the STR Conclusions/Comments and CCMP Recommendations before you. Please review this information and provide the program office with your comments by May 25, 1990. This information will be presented to the Policy Committee for their input at their June 12, 1990 meeting.

4) MEETINGS

- A) Feb. 25&27 - Attended a meeting in Williamsburg, VA on reducing pollution from Nonpoint Sources: The Chesapeake Experience
- B) Feb. 6-7 - Roundtable and Policy Committee Meetings
- C) March 21 - Selected Proposal Review with Technical Acquisition Researchers
- D) March 28 - Selected Proposal Review with Public Participation Investigators
- E) April 19 - VA/NC Interaction Meeting
- F) April 24&26- Both CAC meetings
- G) May 3 - WRI Advisory Committee Meeting

5) FY 1990-91 PROPOSED PROJECTS

A total of 74 proposed projects were received, and only 29 projects were funded.

Early Demonstration (2)	Human Environment (3)
Fisheries (2)	Resource Crit. Area (2)
Water Quality (9)	Public Participation (11)

(The list provided indicates the 29 projects that were approved for funding)

6) PUBLIC PARTICIPATION

Joan Giordano's Report

*Ranking of Potential Research Areas
for WRRI 1991 Fiscal Year
by Advisory Committee
= 15/90*

Max. Score 225

Score	Topic
191	I-D. Land use management and water quality
160	I-C. Analysis of relative significance of PS & NPS
121	I-A. Interbasin transfers
107	I-B. Testing for and control of toxics in M&I waste
97	I-E. Development of indices for S & GW quality
97	III-A. Transport of nutrients and toxics in sediments
93	V-B. Residential development patterns and runoff
84	III-B-1. Surface Qual - toxics
77	II-B. Water budgets for wetlands
75	II-D. Dynamics of river and estuarine flows
70	IV-G. Restoration of groundwater quality
69	V-A. Structural controls for stormwater
66	IV-B. On-site waste disposal
65	Add-1 Water Reuse
62	V-C. Monitoring of nonpoint sources
60	III-C. Fish diseases and water quality
55	III-D. Biomarkers
55	Add-2 Impact of water mgmt on stream biota
53	IV-C. Valuing groundwater contamination
33	III-B-4. Surface Qual - pulp mills
32	II-E. Soil moisture and drought forecasting
26	IV-F. Groundwater inflows to estuaries and sounds
26	IV-E. Characterization/estimation of paramters in GW
24	II-A. Evapotranspiration and infiltration
23	III-B-2. Surface Qual - atmospheric inputs
22	III-B-3. Surface Qual - pesticides
20	V-D. Pesticides
17	Add-3 Public attitudes
9	IV-D. Flow in fractured rocks
2	IV-A. Mineralogy of radon in groundwater
0	II-C. Sensitivity of North Carolina to sea-level rise

Post-It™ brand fax transmittal memo 7671 = of pages 1

To Bob Holman	From Jeff Gray
Co. Albemarle-Pamlico	Co. WRRI
Dept. ENR	Phone # 919-737-2815
Fax # 919-733-0490	Fax # 919-737-7802

Item #7
CCMP OUTLINE

Recommended Action Plan Areas

CATEGORY	PRIORITY PROBLEMS	POTENTIAL ACTIONS	GOALS
I. Resource Critical Area	A. Health aquatic resource	1. Brackish/freshwater/wetland ORW	1. Protect unique waters
	B. Change distribution aquatic sessile organisms	2. Wetland-protection/policy	2. Reduce wetland losses
	C. Habitat loss	3. Fish/wildlife/unique habitats 4. Tributary/upland critical area protection	3. Set aside special aquatic and terrestrial habitats 4. Provide buffer to reduce nonpoint source runoff and protection to special habitats
II. Fisheries	A. Decline fish catch	1. Management plan a. population dynamics of target species b. fishing practices c. allocation of resource	1. Development of a balanced aquatic ecosystem
	B. Impairment of nursery area	2. Evaluation of water quality related diseases and target indicator species 3. Commercial/recreational catch data 4. Shellfish protection	2. Determine source and cure of disease 3. Better define user community and interaction 4. Provide a control mechanism to reduce number of closures
III. Water Quality	A. Fish kills	1. Sediment standards (toxic hot spots)	1. Reduce toxic sediments
B. Accelerated eutrophication	2. Groundwater protection	2. Protect drinking water	
C. Shellfish closure	3. Freshwater drainage/control 4. Target point source reduction a. waste load allocation compliance b. alternative removal techniques c. toxicant source reduction	3. Control impact of freshwater drainage 4. Reduce contaminate from point sources	
	5. Atmospheric fallout (local/regional/national/global)	5. Reduce impact from atmospheric fallout	
	6. Target nonpoint source reduction a. alternative BMP b. toxicant source reduction c. erosion control compliance	6. Reduce contaminates from nonpoint sources	
	7. Marina siting policy	7. Locate marinas in least sensitive environmental areas	
	8. Targeted long range monitoring plan a. baseline monitoring b. implementation monitoring	8. Provide an indication of strategy effectiveness	

CATEGORY	PRIORITY PROBLEMS	POTENTIAL ACTIONS	GOALS
IV. Human Environment	A. Population growth	1. Comprehensive environmental land use planning	1. Provide better control of growth & protection to critical habitats
	B. Human use conflicts	2. Environmental education	2. Well educated public concerning estuarine issues
		3. Surface/groundwater use	3. Determine users needs (present and future)
		4. Nutrient trading	4. Alternative point/nonpoint source control
		5. Water dependent facilities	5. Identify facilities and their impact/interaction with the estuary
		6. Federal/state facilities	6. Impact and interaction of these facilities
		7. Spill prevention/response	7. Produce a comprehensive plan that works

Public Involvement Coordinator's Report
Technical Committee
May 9, 1990

1. Citizens' Advisory Committees (CACs)
 - Continue to meet quarterly
 - Meeting notices sent to public officials, interested citizens and newspapers in meeting area
 - Vacancies exist: P-CAC (1); A-CAC (6)
 - Committee members continue to share APES information with community and civic organizations

2. Exhibits
 - State Fair Exhibit (Nursery Area Model) was used at WRAL's Coastal Celebration in Raleigh 4/7 & 8 and at Earth Day Celebration in Greenville on 4/22
 - Nursery Area Model is on semi-permanent display at PTRF's resource center in Washington, NC
 - Nursery Area Model being used April 24, 25 & 26 at Environmental Awareness Field Days sponsored by the Assoc. of Soil & Water Conservation Districts
 - Nursery Area Model will be used at W.H. Robinson & So. Greenville Schools in Greenville during May
 - Exhibits are available for use in study area at any time

3. Outreach
 - Educational Presentations:
 - * Northeastern High School - Pasquotank Co. - March
 - * Currituck Co. High School - March
 - * Bath Ruritan Club - April
 - * Windsor Rotary - April
 - * Earth Day Observance - Elizabeth City & Greenville - April
 - * Bertie Co. High school - Gates - April
 - * Gates Co. High School - April
 - * Camden Co. High School - May
 - * Gatesville Women's Group - May
 - * Washington Co. Middle School - Roper - May
 - * Snug Harbor Ext. Group - May
 - * Arrowhead Beach 4-H Group - May
 - * Chowan Co. High School - May
 - * Weeksville Middle School - Pasquotank Co. - May
 - * Elizabeth City Jaycees - June
 - * Eastern Elementary - Washington
 - * John Small Elementary - Washington
 - * P.S. Jones Jr. High - Washington
 - * 3rd Street School - Pitt County
 - * Belvoir Elementary - Pitt County
 - * A G Cox - Pitt County
 - * Welcome Middle School - Pitt County
 - * Grifton Elementary - Pitt County
 - * Sadie Saulter - Pitt County

- * Stokes School - Pitt County
- * Elm City School - Wilson
- * Speight Middle School - Wilson
- * Belhaven Elementary
- * ECU Teaching "Fellows"

Approximately 3000 individuals were reached through presentations in the Pamlico area

- Local Government Liaison
 - * Belhaven Town Council

4. Projects

- Print
 - * Poster series/bumper stickers - completed, being distributed
 - * calendar - completed and distributed
 - * "Guide to Estuaries" - completed, distributed and going to reprint
 - * "Where the Rivers Meet the Sea" - distributed to schools as part of December packet; additional copies being printed for public distribution
 - * Status & Trends (public version) - being revised to include conclusions
- Electronic
 - * video PSAs - completed; distributed
 - * video/slide show - completed; shown at Roundtable 3/6 & 7 in Beaufort - video is also being shortened to 20 minutes for use at meetings requiring an abbreviated program
 - * radio talk show - 2nd (Wetlands) of 6 scripts completed and being approved; will begin airing in May
- Public Meetings
 - * Workshops on Water Quality - done by NCSU Ag. Extension March 6,7,14 & 15 were very well attended - 275 to 300 people
 - * Forum on Management Needs for Protecting Estuarine Resources in A/P System - all 4 completed - fair to good attendance
 - * Assisting CACs with Estuarine Management Recommendations - scheduled for May 4 & 5 in Washington - well attended - Final workshop - June 5 in Williamston
 - * Press Tour - scheduled for June 6-8 in Albemarle region

All 3rd cycle projects are completed or nearing completion

5. Other Meetings & Events

- Status & Trends Public Meetings (5) across state rescheduled due to revision of S & T Document (Public Version)
- COG presentations in Va. April 3
- Va. Beach Workshops April 3 & 18 - S. E. Va. Planning District
- Va. Interaction meeting April 19
- State Fair - Oct 12-21, 1990 - Dept. theme is Waste Management and Recycling

6. Newsletters

- next edition in April/early May
- expanded mailing list to 17,000
- responses are very favorable

7. Inquiries to Program

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

ALBEMARLE-PAMLICO ESTUARINE STUDY SCHEDULE-1991

<u>Date</u>	<u>Event</u>
January 11, 1991	Review Call For Proposals (submittal due date)
January 28-31, 1991	CAC Meetings to Evaluate Specific Proposals
February 19, 1991	Technical Committee Meeting to Consider Subcommittees' Proposal Recommendations
March 5, 1991	Roundtable Meeting of All Committees
March 6, 1991	Policy Meeting to Consider Technical Committee's Proposals and Annual Budget Recommendations
March 18-30, 1991	Return Selected Proposals to Authors for Revisions
April 12, 1991	Revised Proposals to Director/Subcommittees
April 22-25, 1991	CAC Meetings
May 8, 1991	Technical Committee Meeting
May 17, 1991	Final Cooperative Agreement Packages
June 11-12, 1991	Policy Committee Meeting
August 5-8, 1991	CAC Meetings
August 20, 1991	Technical Committee Meeting
August 28, 1991	Roundtable Meeting of All Committees
August 29, 1991	Policy Committee Meeting
September 2, 1991	Projected EPA Award of Funding
September 12, 1991	Annual Researchers Review Workshop
September 17, 1991	Technical Review Subcommittee Meeting
October 4, 1991	Annual Public Meeting
October 28-31, 1991	CAC Meetings
November 12, 1991	Technical Committee Meeting
November 26, 1991	Policy Committee Meeting
November 27, 1991	Call For Proposals Sent Out

Public Involvement Coordinator's Report
Technical Committee
May 9, 1990

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CAC Recommendations for CCMP Workshops
May 4-5, 1990

33 CAC Members attended (33/54) = 61%
Friday 30 CAC 60 Attendees Friday
Saturday 25 CAC 45 Attendees Saturday

RECOMMENDATIONS

Resource Protection

- 1.) User fees "pay as you go dev."
- 2.) Impact fees
- 3.) Measure of efficiency for agencies

Resource Management

- 1.) Use a basin-wide approach and manage on a sub-basin system wide watershed plan
- 2.) Transferable "pollution rights" and "pollution credits"
- 3.) Oversight committee to oversee monitoring and compliance
- 4.) Establish Baseline Data
- 5.) Using baseline data draw conclusions between it and carrying capacity
- 6.) Increased local planning and zoning
- 7.) Examine existing models - Chesapeake & Puget
- 8.) Regulations consistent horizontally and vertically with state and with surrounding counties
- 9.) Mapping of areas needing protection and restoration

Education

- 1.) Increase general education
- 2.) Build constituency inland
- 3.) Local governments