MINUTES

ALBEMARLE-PAMILCO POLICY COMMITTEE MEETING

AUGUST 15, 1986

WASHINGTON, NORTH CAROLINA

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ATTACHMENTS

MINUTES
ALBEMARLE-PAMLICO POLICY COMMITTEE MEETING
AUGUST 15, 1986
WASHINGTON, NORTH CAROLINA

The Albemarble-Pamlico Estuarine Project Policy Committee reconvened at 9:00 AM on August 15, 1986 at the Washington Cultural and Civics Center, Washington, North Carolina.

LIST OF ATTENDEES

Policy Committee

Co-Chairmen

Secretary S. Thomas Rhodes
N.C. Department of Natural Resources and Community Development

Mr. Jack E. Ravan
Regional Administrator
U.S. Environmental Protection Agency, Region IV

Members

Dr. John D. Costlow, Director
Duke University Marine Laboratory

Dr. Ford A. Cross, Acting Laboratory Director, NOAA Southeast Fisheries Center

Dr. Dirk Frankenberg, Chairman
UNC Marine Science Curriculum
University North Carolina, Chapel Hill

Ms. L.K. (Mike) Gantt
Field Office Supervisor
U.S. Fish & Wildlife Service

Mr. Dan Ashe, Committee on Merchant Marine and Fisheries
U.S. House of Representatives

Observers

Col. Paul Woodbury
District Engineer
U.S. Army Corps of Engineers
Wilmington District

Ms. Edythe McKinney,
Director of Planning and Assessment
N.C. Department of Natural Resources and Community Development

Ms. Sally Turner, Project Officer
U.S. Environmental Protection Agency, Region IV

Dr. Howard Marshall
Project Manager, U.S. Environmental Protection Agency, Region IV

Mr. C.G. Vanderpool
Advanced Technology, Inc.

Bud Cross	Dr. Cross proposed that the Policy Committee develop a policy statement for interaction of the committee members with the press and various groups. Also, they should develop an overall framework of the budget from the outset, looking at other estuary projects and how they distributed funds.
Jack Ravan	Mr. Ravan said EPA would provide information on the budget and on other projects at the next committee meeting.
Dirk Frankenberg	Dr. Frankenberg read the proposed resolution on goals and objectives. It was agreed to amend the second paragraph to begin "The objective . . ." Dr. Frankenberg then read the proposed resolution for a purpose statement and suggested it be amended to include the words "in the following order." The amended resolution passed by unanimous vote.
Jack Ravan	Mr. Ravan called for adjournment to allow the Policy Committee to join the Technical Committee in a joint meeting.

DETAILED MINUTES

Jack Ravan called the meeting to order.

Tommy Rhodes reported on the State's efforts to hire a Project Manager. Advertisement has gone out and copies will be provided to the committee members. Several resumes have been received and interviewing should begin the following week. The budget includes funds for a clerical person, too. The Project Manager should be identified by September 1, 1986.

Sally Turner informed the committee that there would be a national meeting of the Estuary Program September 16 through September 18 in Chicago. She suggested that the Project Manager should be in attendance.

Jack Ravan invited the Policy Committee to attend the Chicago meeting if they could. He recommended the Committee consider hosting a national meeting in the future.

John Costlow stated that he had offered by letter to Jack Ravan to provide facilities at the Duke University Laboratory to host a national meeting in September 1987.

Jack Ravan requested that Sally Turner draft a cover letter to Dr. Costlow's letter that could be sent to the other Regional Administrators as an invitational letter. It should include a suggestion for an October date instead of the September date suggested.

The Committee discussed policy for funding committee members' travel to meetings other than Policy Committee meetings.

Jack Ravan suggested that the Policy Committee establish a set of guidelines or rules for the Project Manager concerning allowable expense for travel. It should have provision for hardship travel money. The Committee agreed to defer discussion until the next meeting when Mike Gantt's travel policy proposal could be considered.

Mike Gantt read the resolution on Administrative Procedures (copy attached) that was drafted by her working group the evening before.

John Costlow moved that the Committee accept the resolution on Administrative Procedures. The motion was seconded and passed by unanimous vote.

Jack Ravan asked for a report from the working group that met to establish guidelines for citizen participation.

John Costlow distributed copies of the resolution his group had drafted the night before and read it to the Committee (copy attached). It recommended regional, area, or watershed subcommittees made up of a specified number of citizens. Each subcommittee would elect a chairman who, along with one other subcommittee member, would sit on a Citizens Advisory Committee to the Technical Committee.

Mike Gantt suggested the regional subcommittees include a subcommittee for the peninsula, which is a unique region.

Dan Ashe added that the private citizens do not identify with watersheds, but they do with regions. Therefore, the regional

approach was good. He also suggested that a brochure showing the regions would be helpful at some point.

Jack Ravan asked who would designate the chair of the subcommittees.

John Costlow said that the subcommittee chair would be elected democratically.

Tommy Rhodes recommended the press and the State Legislature be taken off the list of committee members. There would be overall press support and State Legislature involvement throughout the project. He also suggested that the regional approach would make the citizens group too large with too many layers.

John Costlow said that with one group it is difficult to get good representation.

Tommy Rhodes suggested that an umbrella lobby group could represent several groups rather than setting up too many tiers of committees.

John Costlow added that an alternative would be to follow the three divisions used by Marine Fisheries: Albemarle, Pamlico, and Central.

Dan Ashe suggested sending two options to the Technical Committee: the proposed resolution and the alternative three division grouping.

Tommy Rhodes moved to present the proposed resolution with the three division grouping alternative to the Technical Committee with the following additional comments:

- Remove State Legislature and press representation from the subcommittees.

- Add a subcommittee for the peninsula to the proposed resolution.

- Add four private citizen seats to each subcommittee as proposed.

He added that rather than name a chairman for the Citizen Advisory Committee, they should state that the chairman should attend the Technical Committee meetings.

Jack Ravan stressed that the Policy Committee must put a mechanism in place to keep the State Legislature informed as things progress. He also asked that the record reflect the addition of the seventh region, the peninsula, to the proposed resolution.

The motion to accept the proposed resolution as amended and to offer the three-division grouping option was seconded and passed by unanimous vote.

Bud Cross proposed that two items on administrative procedures be discussed and reported on at the next meeting:

1. A policy statement for the Policy and Technical Committees regarding interaction of the members with the press and various groups.

2. An overall framework of the budget early on, looking at other estuary projects and how they distributed funds.

Jack Ravan said that the EPA (Howard Marshall) would provide information on how other projects have set up their budgets, and will have a report at the next meeting.

Tommy Rhodes asked what had been decided by the working group charged with preparing a resolution on data management and data quality assurance.

Dirk Frankenberg read the proposed resolution (copy attached).

John Costlow moved to accept the resolution; the motion was seconded and passed by unanimous vote.

Dirk Frankenberg then read the proposed resolution on goals and objectives (copy attached).

Bud Cross moved to accept the resolution. The motion was seconded.

Tommy Rhodes suggested that the wording "maintain and restore" as applied to the estuary is not representative of the goal to take the resources and translate them into something for the people.

Jack Ravan suggested that the resolution be amended by starting the second paragraph with the words "The objective . . ." The vote to accept the amended motion was unanimous.

Dirk Frankenberg read the proposed resolution for a purpose statement (copy attached).

Tommy Rhodes moved to accept the resolution. It was seconded.

In discussion of the motion, Tommy Rhodes pointed out that the phases originally set forth in his memo to the Committee set the order of things to be accomplished. There might be a problem if the correct order is not followed.

Dirk Frankenberg suggested the resolution be amended to include the words "in the following order". The amended motion was passed by unanimous vote.

Jack Ravan called for adjournment to allow the Policy Committee to join the Technical Committee in a joint meeting.

ATTACHMENT TO MINUTES

ALBEMARLE-PAMLICO ESTUARINE PROJECT

POLICY COMMITTEE MEETING

AUGUST 15, 1986

Issue: Administrative Procedures

Resolution: Be it resolved that the Policy Committee appoints Mike Gantt to Chair an Administrative Procedures Subcommittee with Bud Cross, Tommy Rhodes or his representative, Sally Turner, and Mark Alderson to develop a set of Administrative Procedures for discussion, review, and appropriate action at the next meeting of the Policy Committee. Issues to be addressed include, but are not limited to:

1. Establishment of Parlimentary Procedures.
2. Policy and Technical Committee voting procedures.
3. Travel reimbursement procedures.
4. Consideration of a "Hardship Fund."
5. Mechanisims for communication among committees.
6. Duties and responsibilities of the APS Project Officer.

Attachment 1

ISSUE: CITIZEN'S ADVISORY COMMITTEE

RESOLUTION: Let it be resolved that the Technical Committee establish a Citizen's Advisory Committee and Regional Advisory Subcommittees for developing and maintaining a communication and public participation program.

The seven regional Subcommittees (Peninsula, Newport, Neuse, Pamlico, Chowan, Roanoke, and Barrier Islands) shall be composed of representatives as follows:

1. Public Official (2)
2. Educator
3. Tourism
4. Developer
5. Sport Fishing Industry
6. Commercial Fishing Industry
7. Agriculture
8. Industry
9. Environmental Group
10. Private Citizen (4)
11. Coastal Engineer/Surveyor

While not official members on the Citizen's Advisory Subcommittee a special effort will be made to keep the State Legislature advised of the Albermarle-Pamilco Study and the press informed about the study and related activities.

The duties of the Citizen's Advisory Subcommittees shall include, but are not limited to:

1. Provide a mechanism for citizens'input into the APS Study.
2. Disseminate information relevant to or developed by the APS Study regarding their region.
3. Organize and sponsor public meetings at the direction of the Technical Committee.
4. Develop a public information program to educate the public regarding the APS Study.
5. Organize and sponsor workshops at the direction of the Technical Committee.
6. Coordinate local press releases regarding study results.
7. Prepare regional news for eventual publication in APS Study newsletters.
8. Report to the Citizen's Advisory Committee on a regular basis.

The Citizens' Advisory Committee shall be composed of the Chairperson and one individual to be elected by each of the Citizen's Advisory Subcommittees.

The Chairman of the Citizen's Advisory Committee shall be a member of the Technical Committee.

The Citizen's Advisory Committee will report to the Technical Committee. The function of the Citizen's Advisory Committee shall include but not be limited to the following:

1. Provide a mechanism for citizens' input into the APS Study.
2. Disseminate information relevant to or developed by the APS Study.
3. Organize and sponsor public meetings at the direction of the Technical Committee.
4. Develop a public information program to educate the public regarding the APS Study.
5. Organize and sponsor workshops at the direction of the Technical Committee.
6. Coordinate local press releases regarding study results.
7. Prepare news for eventual publication of an APS newsletter.
8. Report to the Technical Committee on a regular basis.

The Technical Committee shall be responsible for appointing the Regional Subcommittee members to be approved by the Policy Committee.

It is recommended that the Chairman of the Citizen's Advisory Committee be appointed to the Technical Committee.

RESOLUTION

Be it resolved that:

The Technical Committee is directed to identify an effective data management system for the A/P estuarine project by January 1, 1987.

Be it resolved that:

The Technical Committee is directed to identify an effective data quality assurance/quality control system for the Albemarle/Pamlico estuarine project by March 31, 1987.

RESOLUTION

BE IT RESOLVED THAT:

The goal of the Albemarle-Pamlico Project will be to provide the scientific knowledge and public awareness needed to make rational management decisions so that the Albemarle-Pamlico estuarine system can continue to supply citizens with natural resources, recreational opportunities, and aesthetic enjoyment.

The objectives of the project will include, but are not limited to, generating understanding of what is needed to maintain, and where necessary restore, the chemical, physical and biological integrity of the estuary, the wildlife habitat of the estuary, the production levels of recreational and commercial fisheries of the estuary.

Attachment 4

RESOLUTION

BE IT RESOLVED THAT:

The Technical Committee is to develop a comprehensive workplan to cover program objectives and strategies for the entire study period by February 1, 1987. The initial emphasis will be on the first year's effort. The plan will be updated and revised at least once per year thereafter. The initial 5-year plan and all subsequent revisions will be submitted to the Policy Committee for study and approval. The Technical Committee is to focus its attention in the project's initial stages on the following topics and in the following sequence:

(1) Identification of the beneficial uses of the Albemarle-Pamlico Sounds, with a review of the historical and currently projected future trends for those uses. This will largely define what we are trying to achieve and where we should be focusing our concerns.

(2) Identification of the threats to the continued/restored/expanded enjoyment of those uses.

(3) Identification of where there are gaps in the information/knowledge needed in order to fully assess the interference amoung beneficial uses, the threats to them, and the efficiency of alternative means for reducing those interferences and threats.

(4) Identification of the existing resource management system, including local, state and federal agencies, and addressing regulatory, planning, research, investment, and educational aspects of the system.

(5) The relative priorities for attention to each of the information needs.

(6) The major interrelationships between the uses, threats and management alternatives.

(7) The agenda for needed data gathering and analysis.

(8) The implementation of improvements in our ability to manage the threats and achievement of the most beneficial mix of uses.

The Technical Committee should devlop the working papers and recommendations necessary for the Policy Committee's consideration and deliberation of the above points. The Technical Committee may establish working groups and recommend consulting services as necessary to meet this charge.

Attachment 5

Principles that should guide the Policy Committee efforts include the following:

(1) The focus of the entire project should be developing and implementing improvements to our system for managing impacts on the Albemarle-Pamlico Sounds' long-term productivity and usefulness.

(2) Where possible, existing resources and tools should be used for the project. This includes existing data, public participation vehicles, and management institutions.

(3) Local, state, and federal agencies share management responsibility and all should be actively involved in the project.

(4) Those that use the resources of the Albemarle-Pamlico Sound and are affected by its development should be involved throughout.

(5) The project should be closely coordinated with all other available research and management initiatives.

(6) The project must be comprehensive, examining all uses of the Sounds and all impacts of those uses, extending up the Sounds' watersheds/drainage basins to the extent necessary to achieve understanding of the system.

(7) The project must be action oriented, targeted toward the implementation of specific management improvements.

(8) The project must address the full range of management tools available, including regulatory, planning, education, public acquisition and investment, and taxation.

(9) The project must include a centralized data management, with strong quality assurance/quality control standards for all new data acquisition and assembly of pre-existing information.

(10) The project should be based on the concept that available funds should be spent through an open, understood, competitive and peer reviewed process and that public perceptions and concerns should be actively factored into our efforts.

Albemarle/Pamlico Estuarine Project

Technical Committee

August 15, 1986
Washington, N.C.

9:00 a.m.	Call to Order	Ernie Carl Bruce Barrett
	Project Overview	
	Charge to Technical Committee	
9:30 a.m.	Informational Presentations	
	- Albemarle/Pamlico Water Quality Issues	DEM
	- National Estuarine Program	~~NOAA~~ EPA
	- Existing Fisheries/Water Quality Data	DMF
	- Existing Data System - LRIS	DLR
	- Status of Agricultural Cost Share Program	DSWC
11:30 a.m.	Discussion of Committee Organization/Work Plan	
12:00 noon	Adjourn	

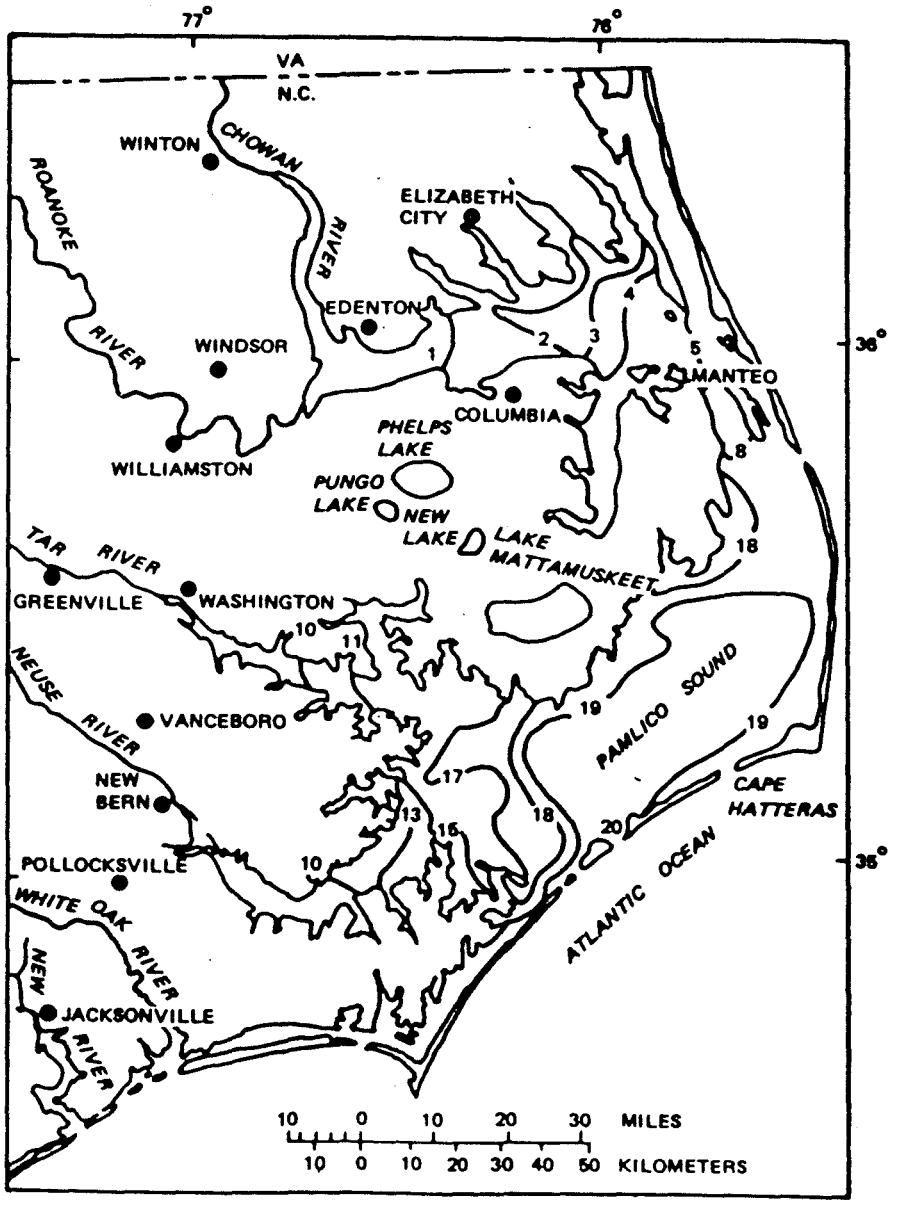
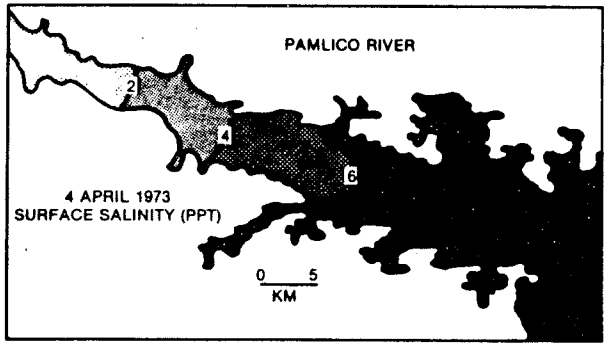


Figure 19. Average surface salinity in Albemarle Sound and vicinity during December (from Giese et al. 1979).

Source: Copeland et al., 1983



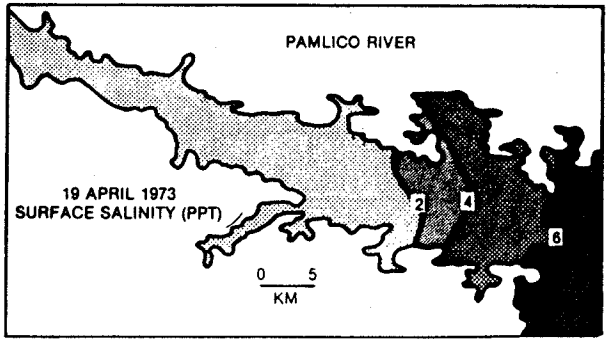
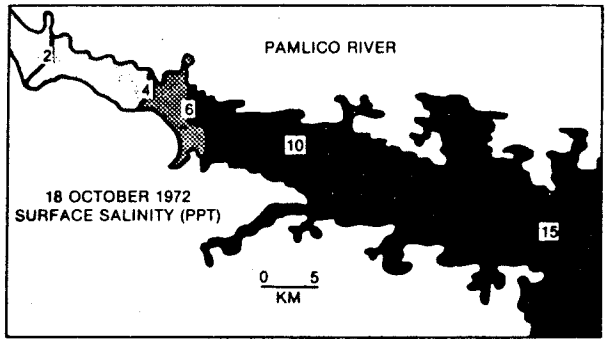


Figure Surface salinity in the Pamlico River Estuary during spring (Hobbie 1974).



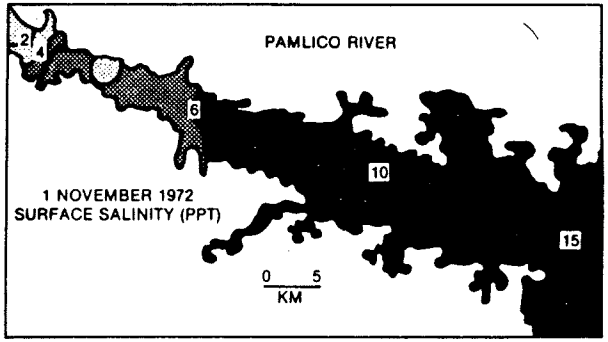
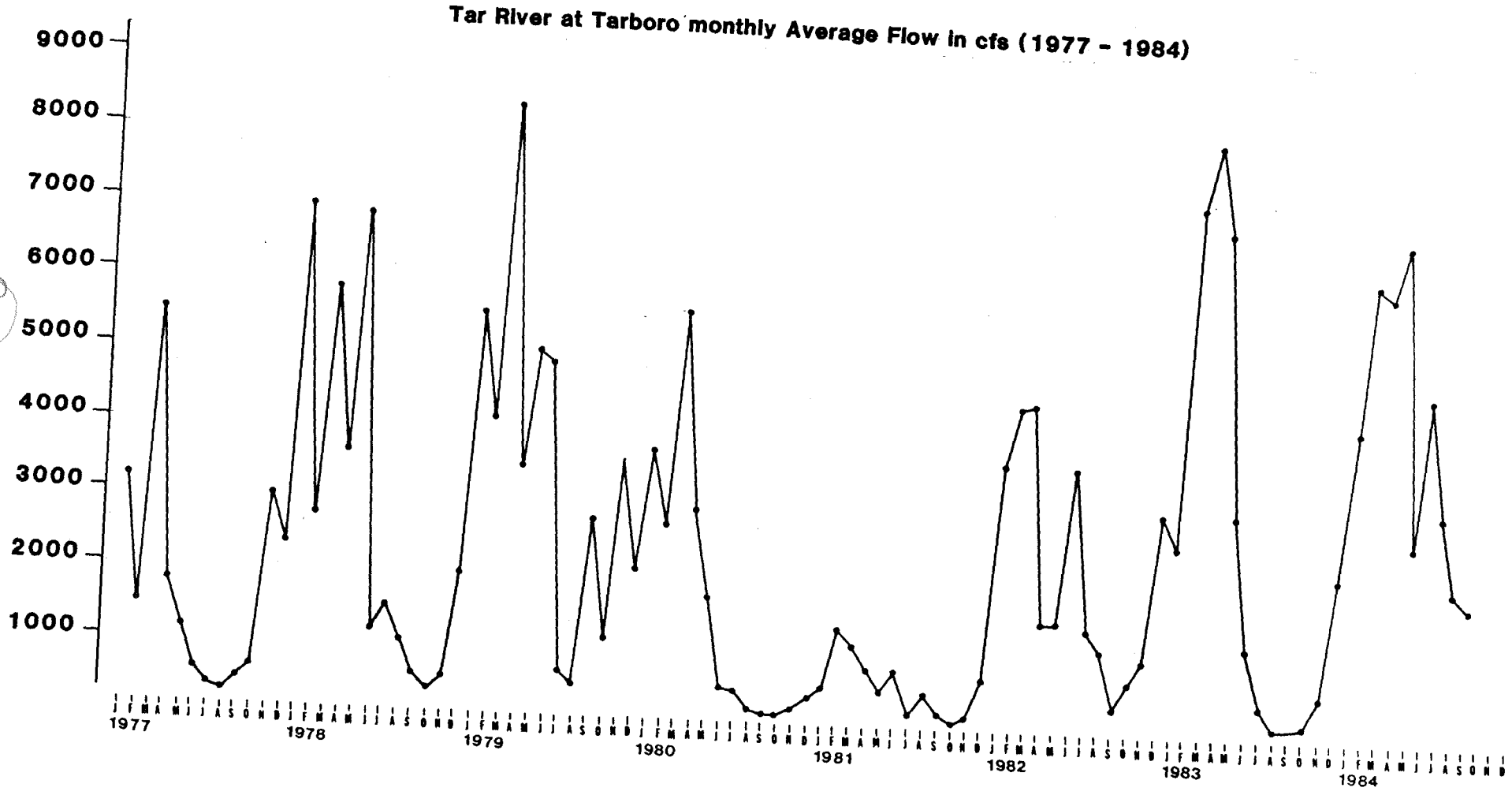


Figure Surface salinity in the Pamlico River Estuary during fall (Hobbie 1974).

Source: Copeland et al., 1984



Source: DEM, 1986b.

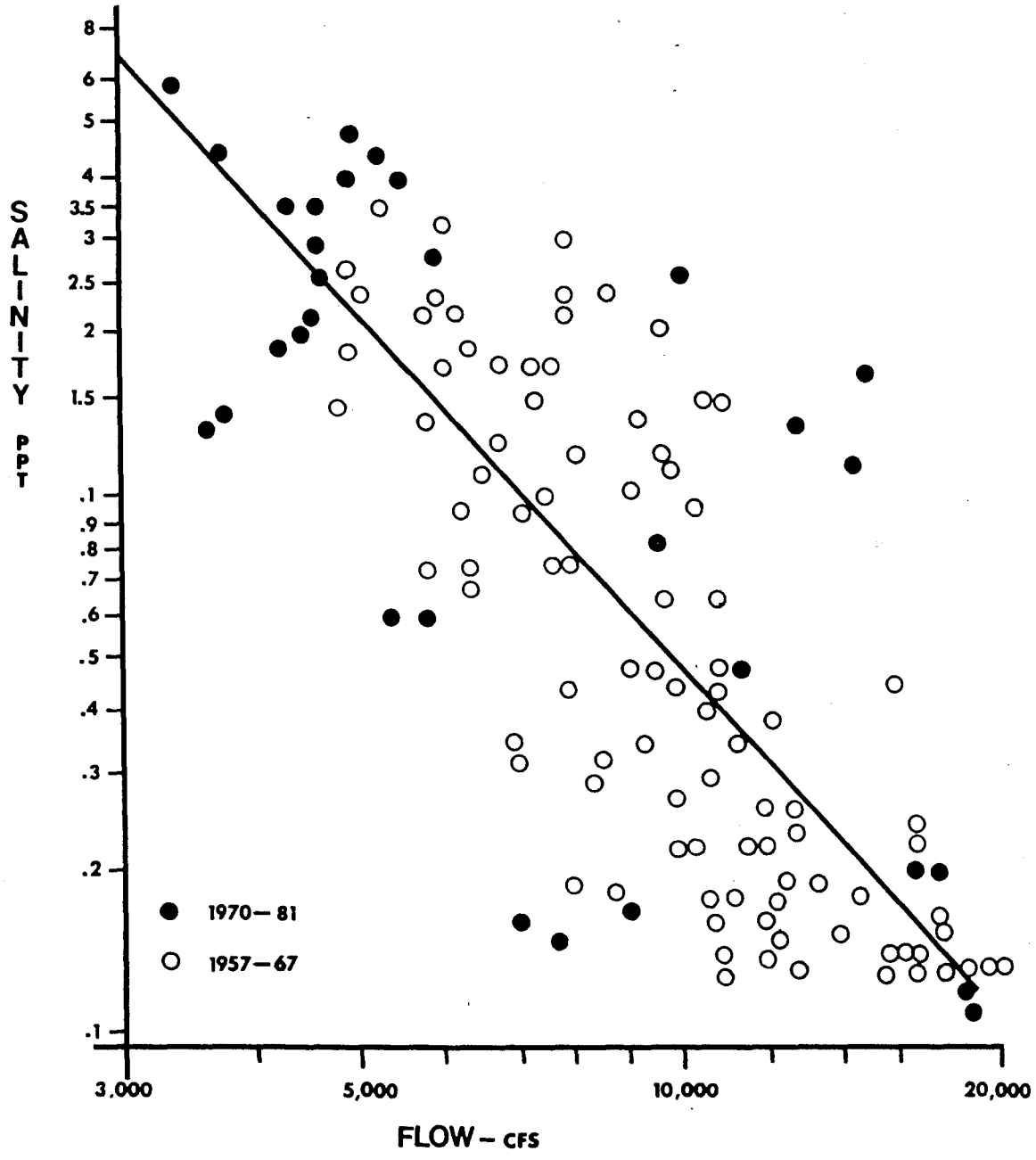
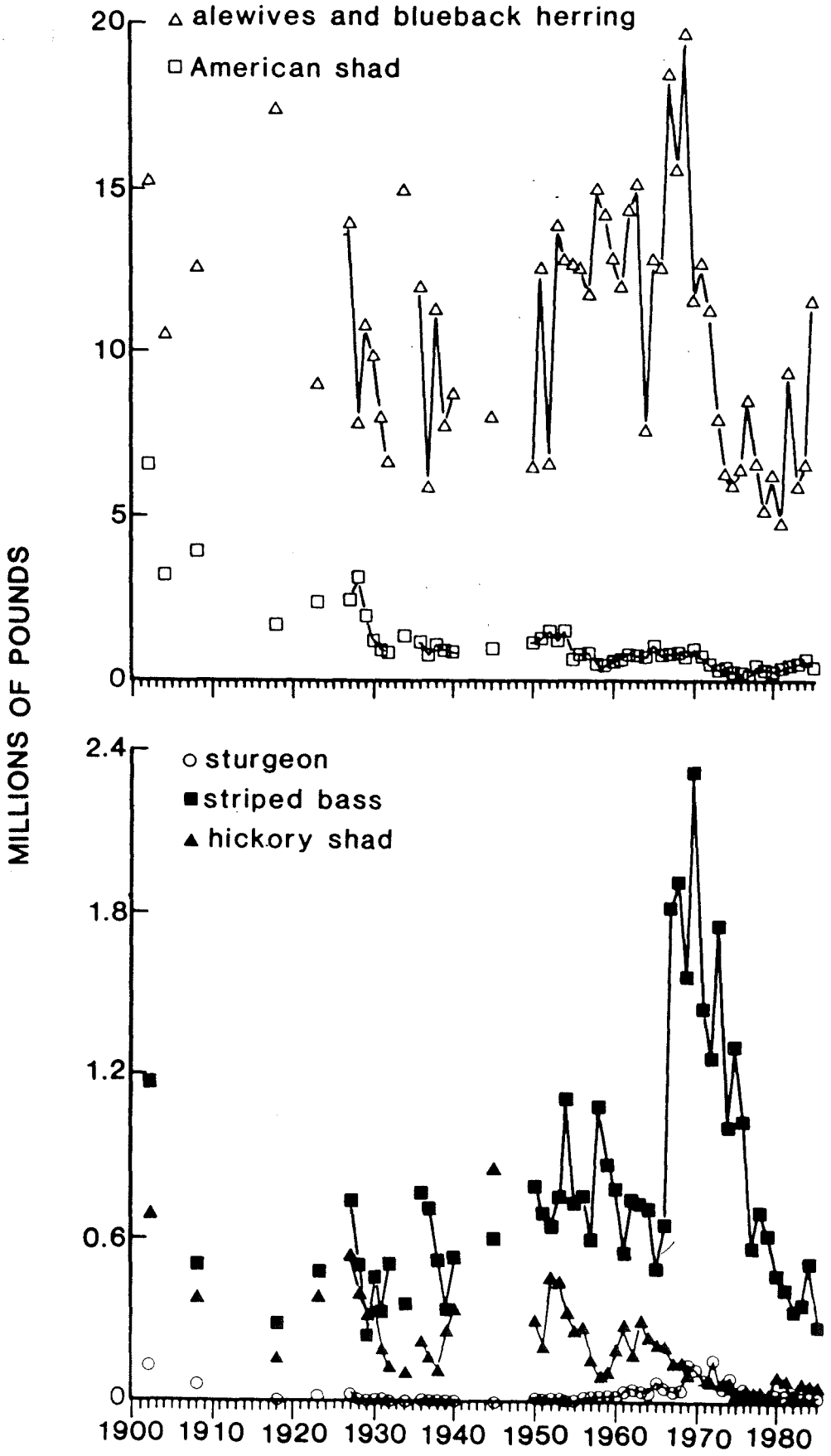


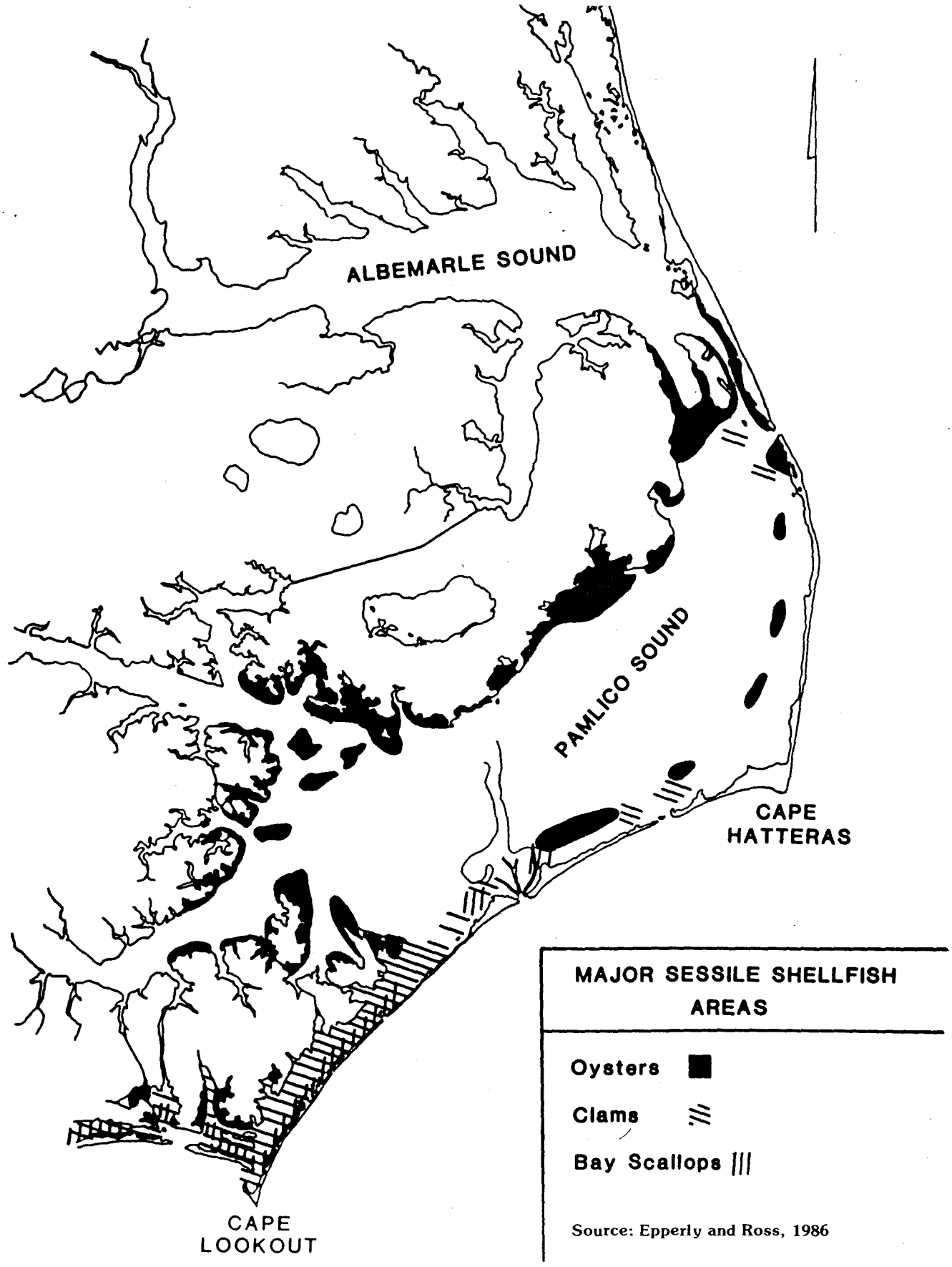
Figure 19. Relationship between salinity at station A-3 in Western Albemarle Sound and the 120 day average antecedent flow of the Chowan and Roanoke Rivers.

Source: DEM, 1982a

N.C. Commercial Landings of Anadromous Fishes



Source: Epperly and Ross, 1986


ALBEMARLE SOUND
PAMLICO SOUND
CAPE HATTERAS
CAPE LOOKOUT
MAJOR SESSILE SHELLFISH AREAS
Oysters
Clams
Bay Scallops
Source: Epperly and Ross, 1986

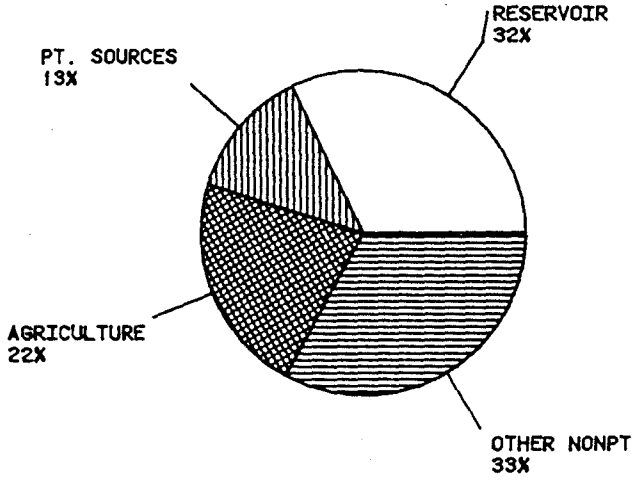


Figure 30. Nitrogen inputs to Albemarle Sound from various point and nonpoint sources. Note: Reservoir inputs represent the portion of the loading coming from the watershed upstream of the Roanoke Rapids Reservoir Dam.

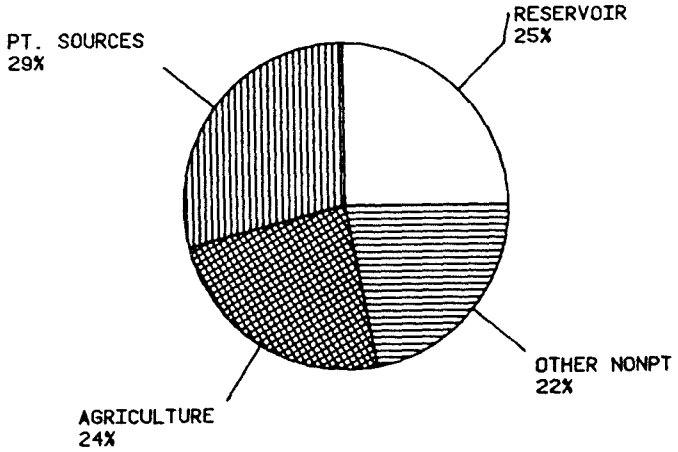
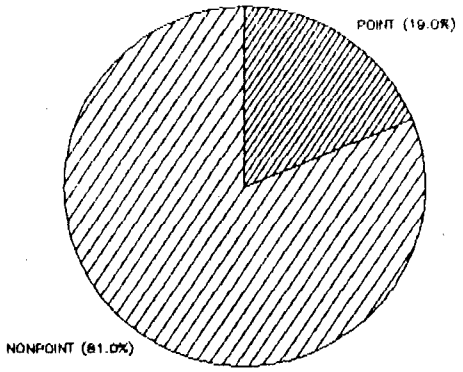


Figure 31. Phosphorus inputs to Albemarle Sound from various point and nonpoint sources. Note: Reservoir inputs represent the portion of the loading coming from the watershed upstream of the Roanoke Rapids Reservoir Dam.

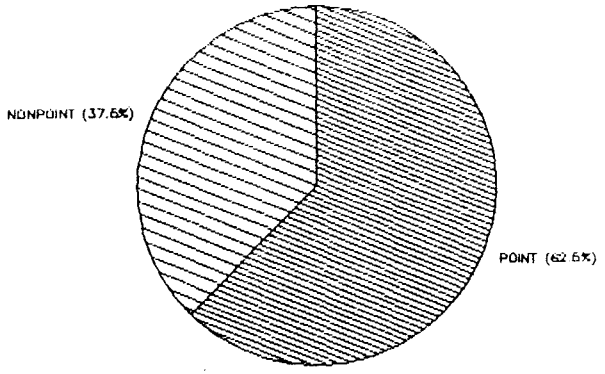
Source: DEM, 1982a

NUTRIENT LOADING FOR THE TAR-PAMLICO BASIN

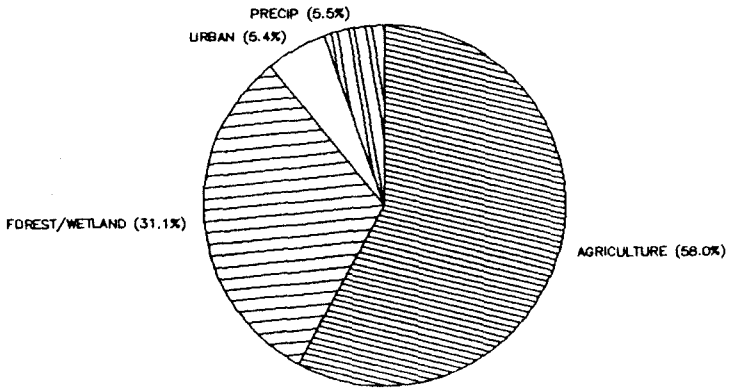
Nitrogen



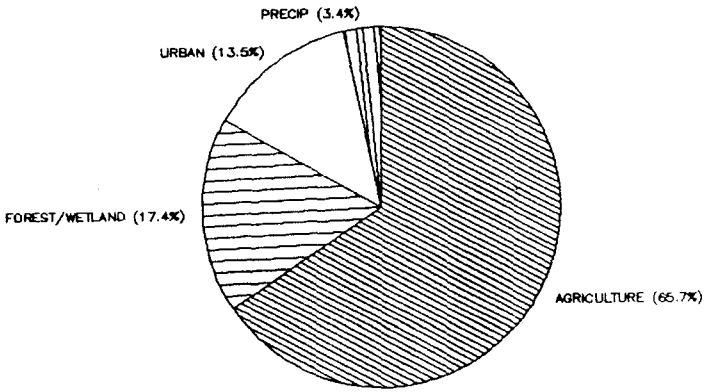
Phosphorus



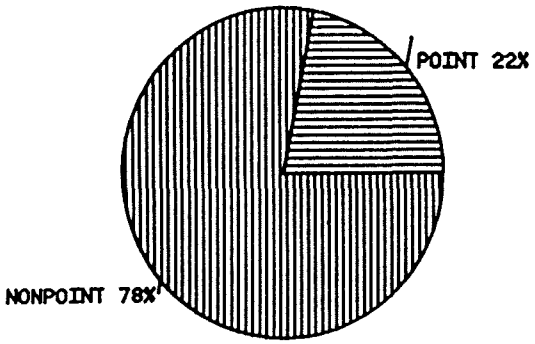
Nitrogen Nonpoint Sources



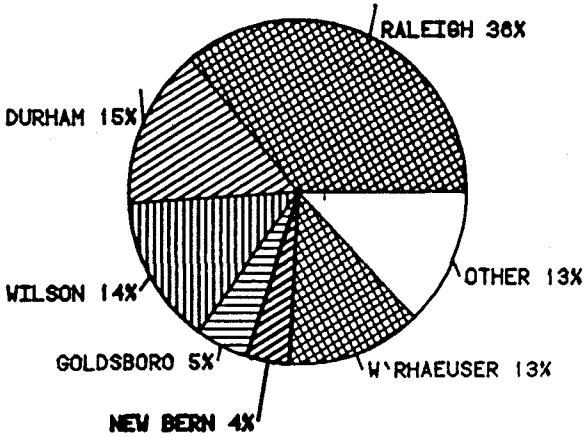
Phosphorus Nonpoint Sources



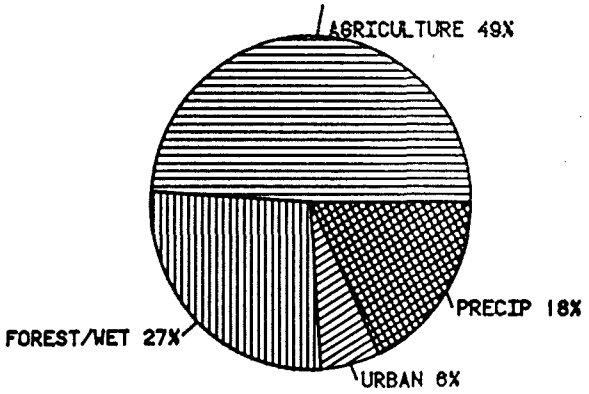
CURRENT N LOADING
NEUSE BASIN



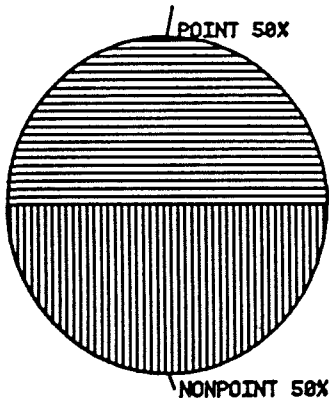
% NITROGEN POINT SOURCE LOADING
NEUSE BASIN



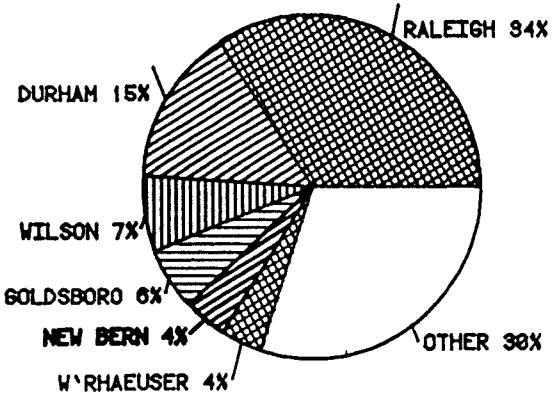
N LOADING IN NEUSE BASIN
% OF NONPOINT LOAD



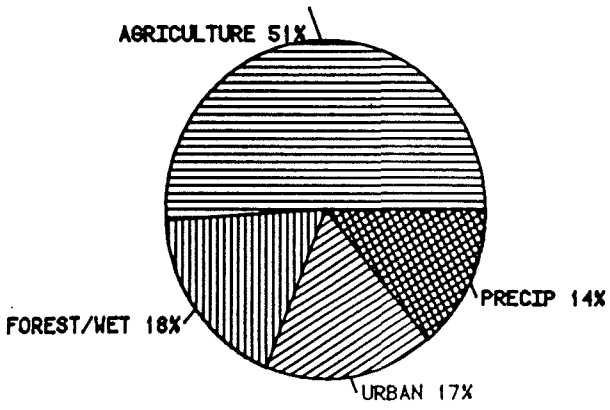
CURRENT P LOADING
NEUSE BASIN



% PHOSPHORUS POINT SOURCE LOADING
NEUSE BASIN



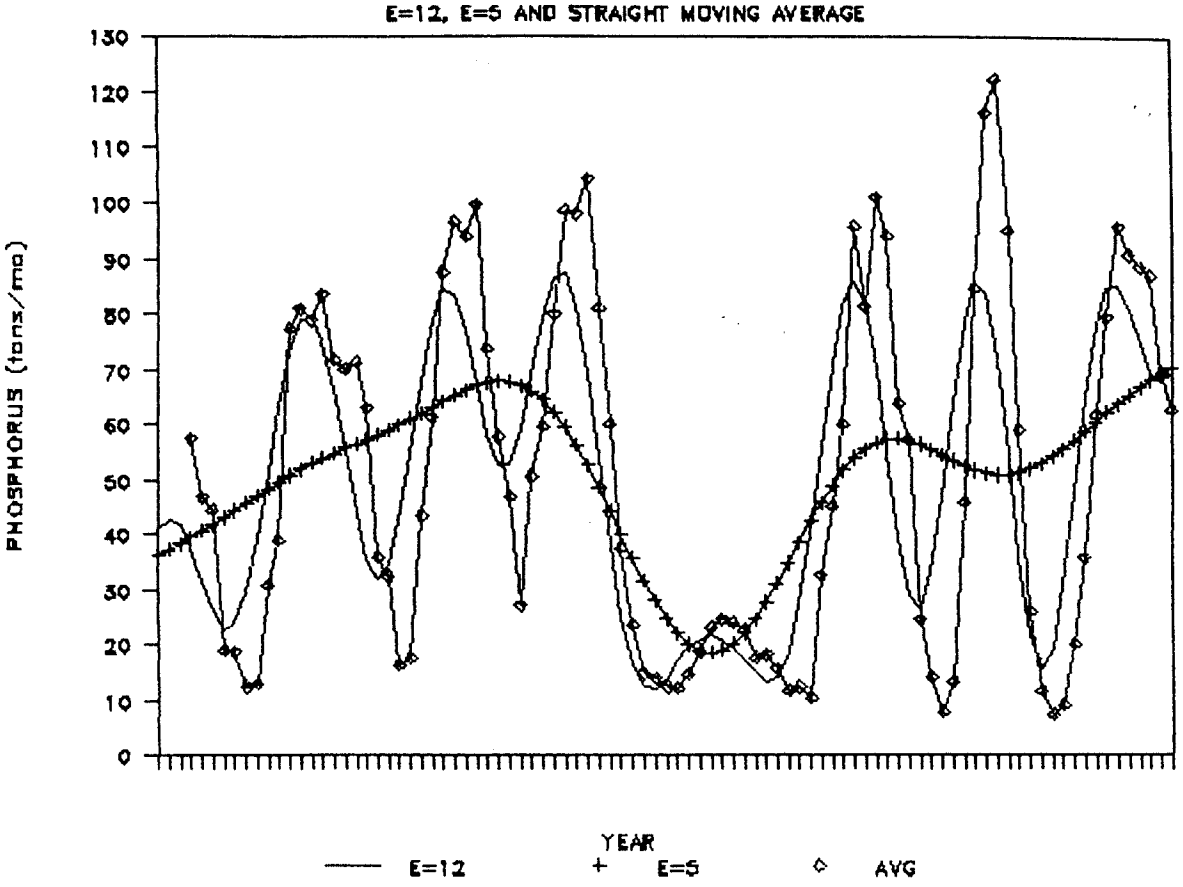
P LOADING IN NEUSE BASIN
% OF NONPOINT LOAD



Source: DEM, 1986c

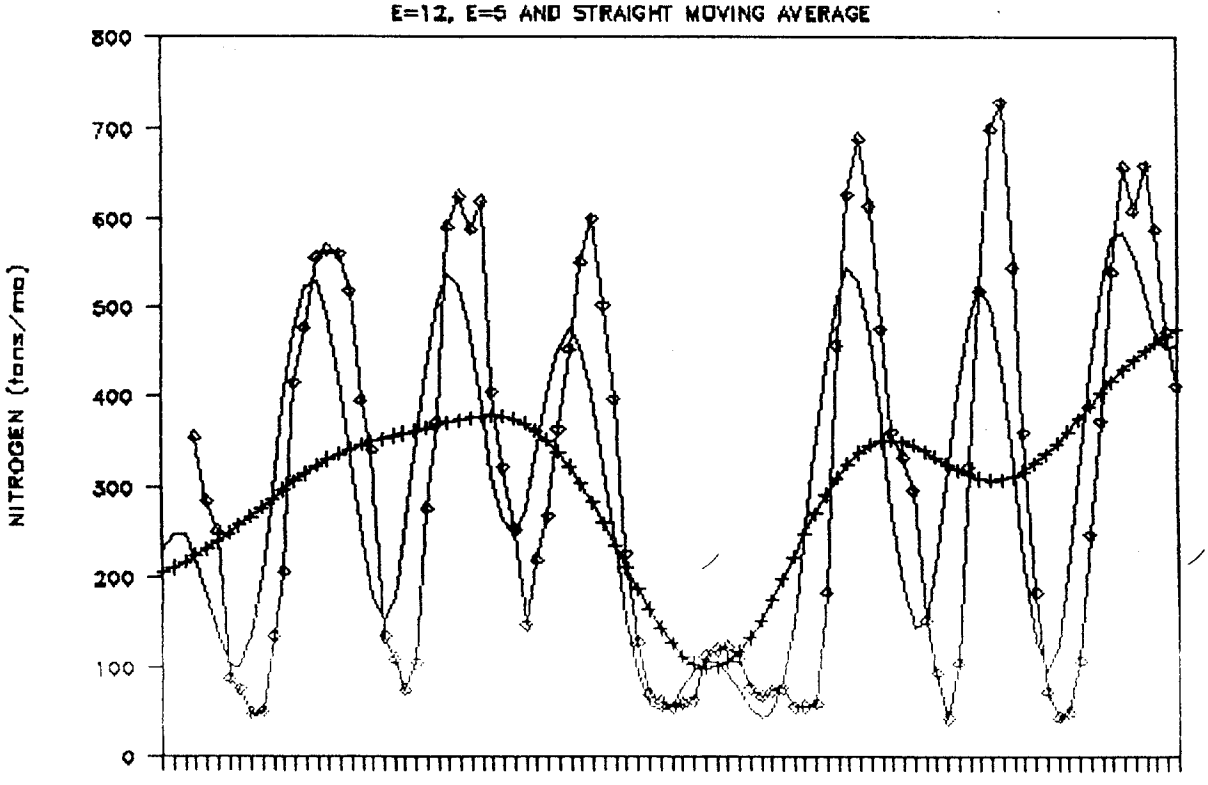
DEM PHOSPHORUS LOADS FOR TAR-PAMLICO

E=12, E=5 AND STRAIGHT MOVING AVERAGE



DEM NITROGEN LOADS FOR TAR-PAMLICO

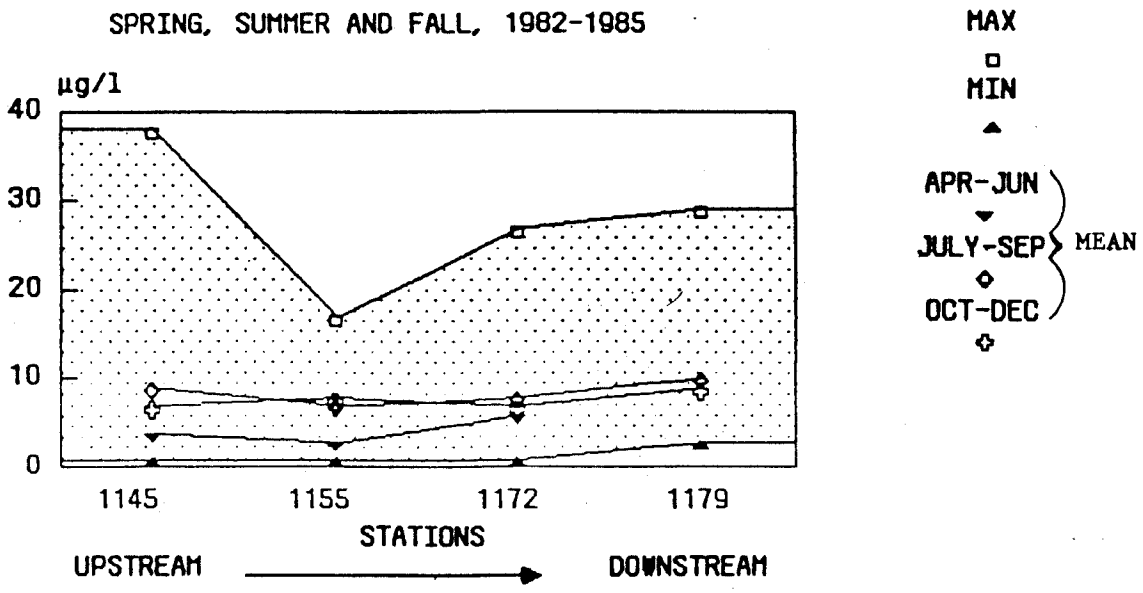
E=12, E=5 AND STRAIGHT MOVING AVERAGE



Source: DEM, 1986b

FIGURE 10.

CHLOROPHYLL-a (MIN, MAX & MEAN) IN THE ALBEMARLE SOUND
SPRING, SUMMER AND FALL, 1982-1985



Source: DEM, 1986d

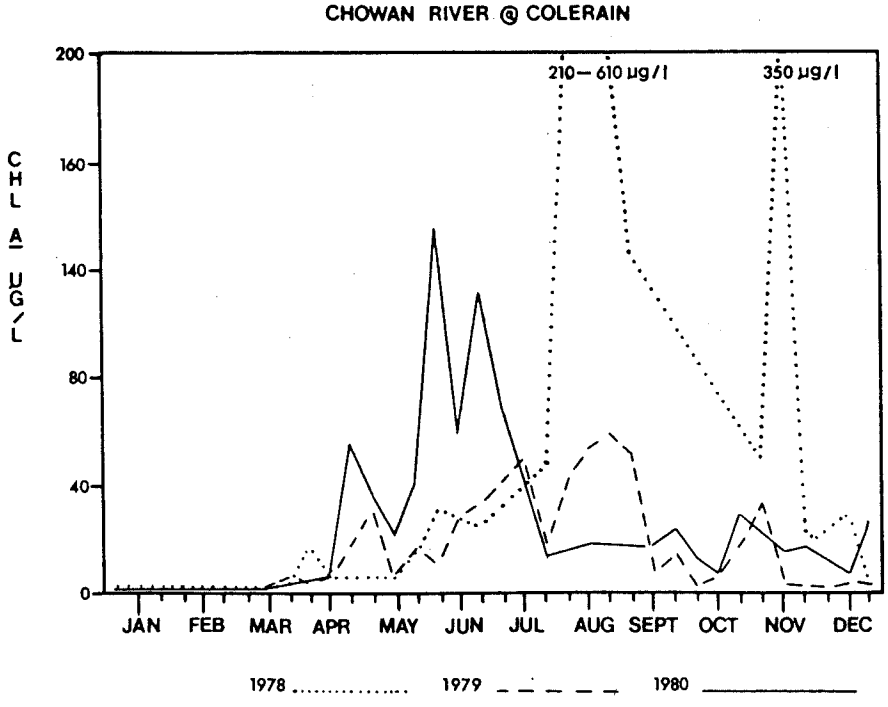


Figure 22. Ten-day average chlorophyll a values for the Chowan River at Colerain, N.C.

Source: DEM, 1982b

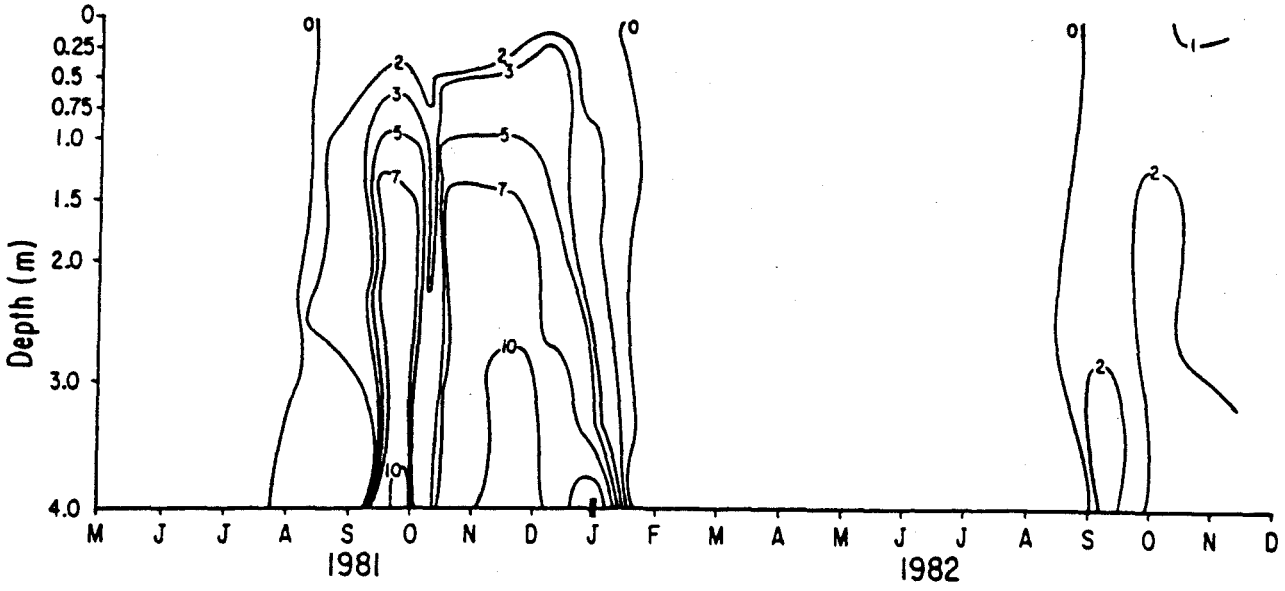


Figure 9. An isopleth illustration of periodic salinity intrusions recorded at marker 52A. Note that during a dry year (1981) salinity intrusions were more profound than during the following wet year (1982). Lines are marked with respective salinity levels (in ppt).

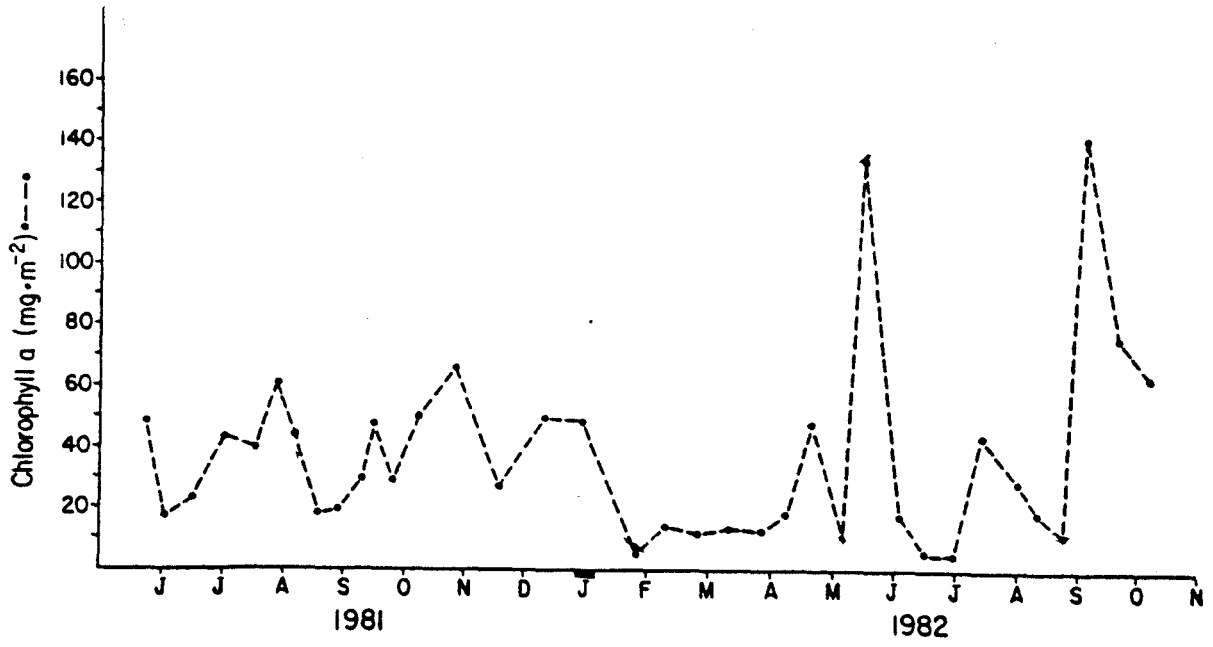


Figure Chlorophyll a measurements made on integrated water samples (8) on biweekly basis at marker 52A.

Source: Paerl, 1983.

Table 7. Number of chlorophyll a values greater than 40 µg/l in the Tar-Pamlico system (1970 - present)

REGION	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
UPPER	1	6	10	1	6	3	8	8	6	1	2	2	54
MIDDLE	12	15	19	7	3	8	0	2	3	2	4	4	79
LOWER	2	11	5	3	0	0	0	0	0	1	2	0	24
TOTAL	15	32	34	11	9	11	8	10	9	4	8	6	157

Data from Hobbie 1972,1974; Stanley- East Carolina University; and NCDNRCD, DEM

Source: DEM, 1986b

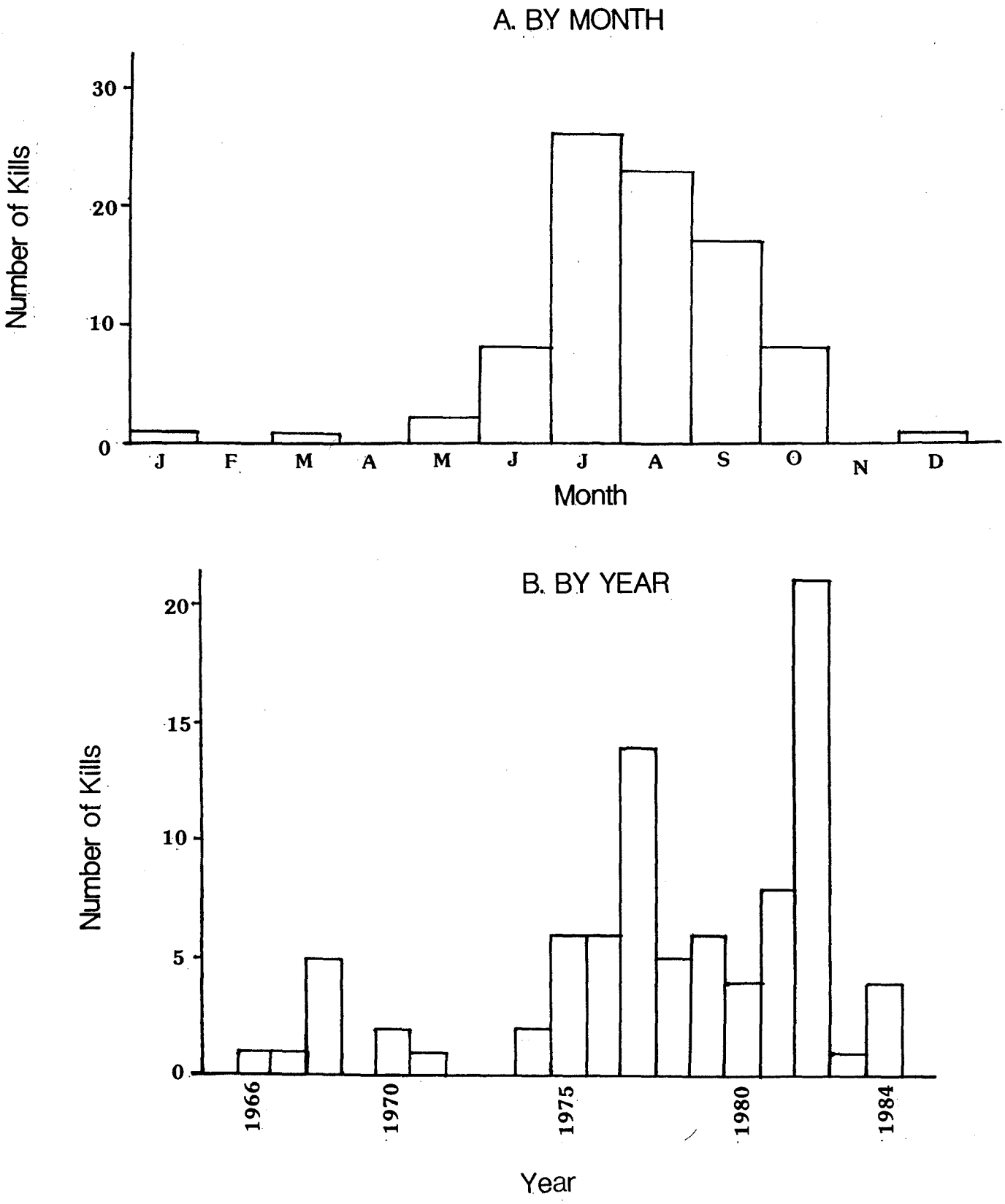
Table 10. Annual organic carbon budget for the Pamlico River Estuary (Davis et al. 1978).

Budget compartment	Input (Tonnes C)	Percent of total
Allochthonous		
Tar River	18,918	17.5
Durham Creek	1,064	1.0
All other tributaries	18,155	16.8
Rainfall[a]	509	0.4
Dryfall	?	-
Ground water and septic tank seepage	?	-
Marsh input	?	-
Sediment release	?	-
	38,646	35.7
Autochthonous		
Phytoplankton production	56,501	52.2
Phytoplankton secretion	12,218	11.3
Macrophyte production[b]	301	0.3
Benthic production[c]	401	0.4
Periphyton production[d]	57	0.1
Chemosynthesis	?	-
	69,478	64.3
Total input	108,124	100.0
	Output (Tonnes C)	Percent of total
Water column respiration	89,726	80.0
Estuarine discharge	21,916	20.0
Sediment respiration	?	-
Sedimentation	?	-
Total output	111,642	100.0
Balance (tonnes C)	-3,518	

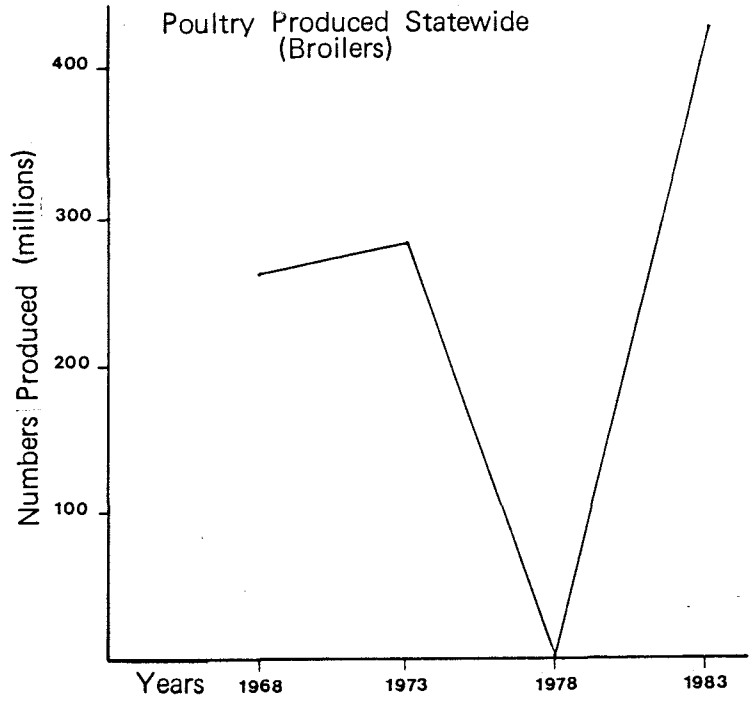
[a] Extrapolated from Brinson et al. (1977).
[b] Davis and Brinson (1976).
[c] Extrapolated from Stanley (1971).
[d] Extrapolated from Sherk (1969).

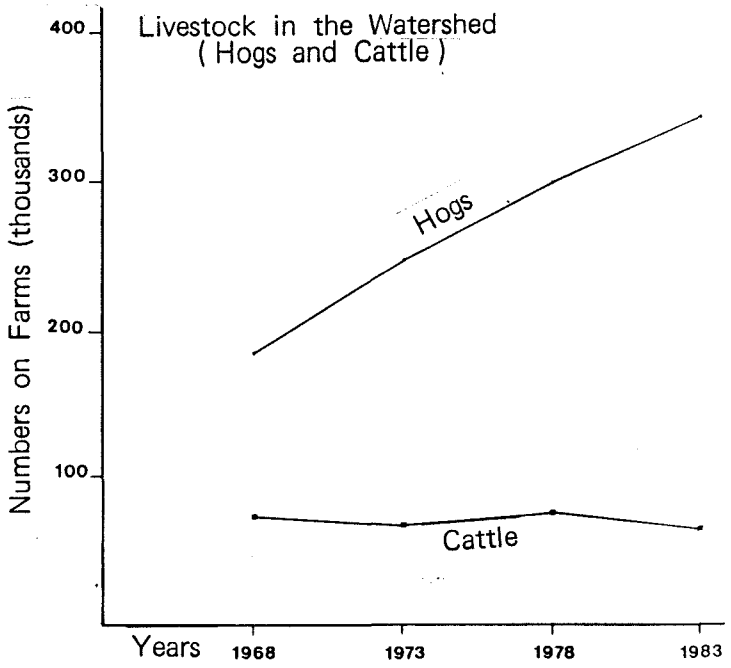
Source: Copeland et al., 1984

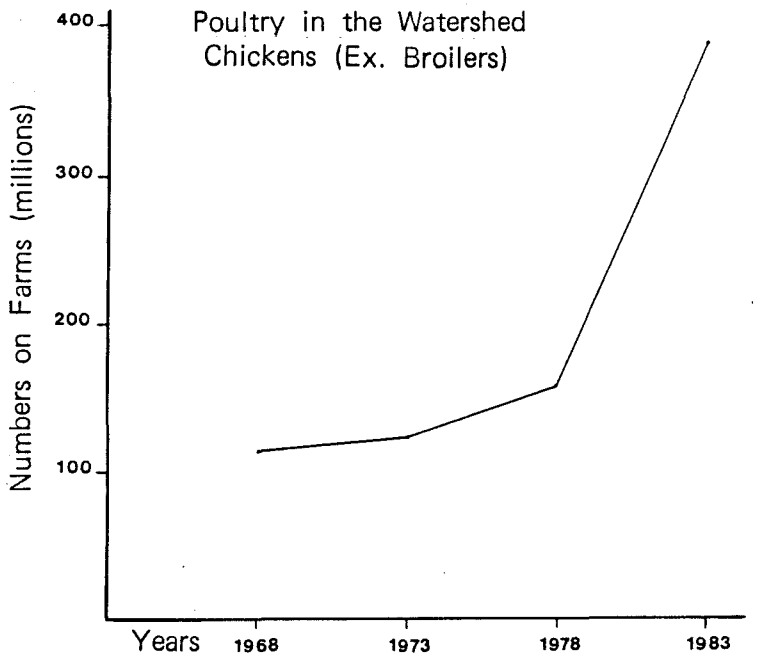
FISH KILLS REPORTED IN THE PAMLICO RIVER

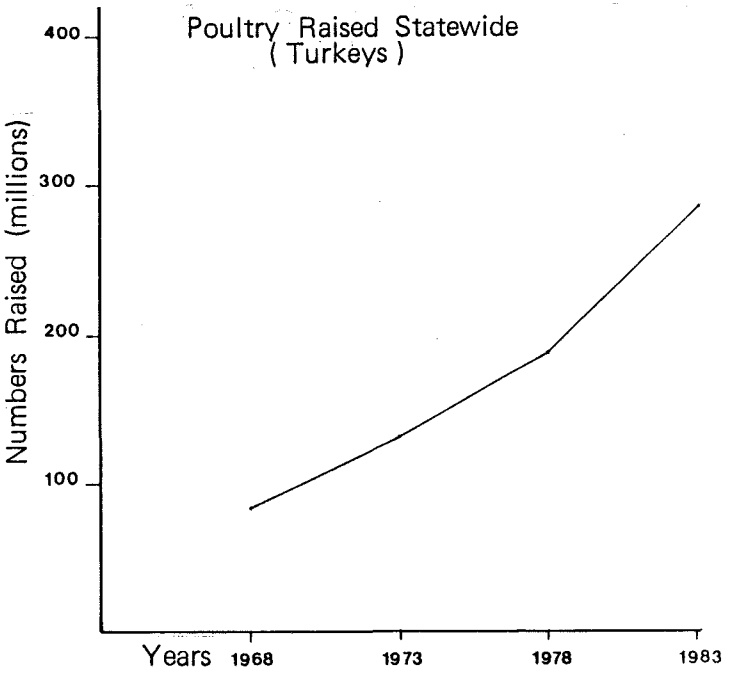


Source: DEM 1986b.









Source: DEM, 1986b

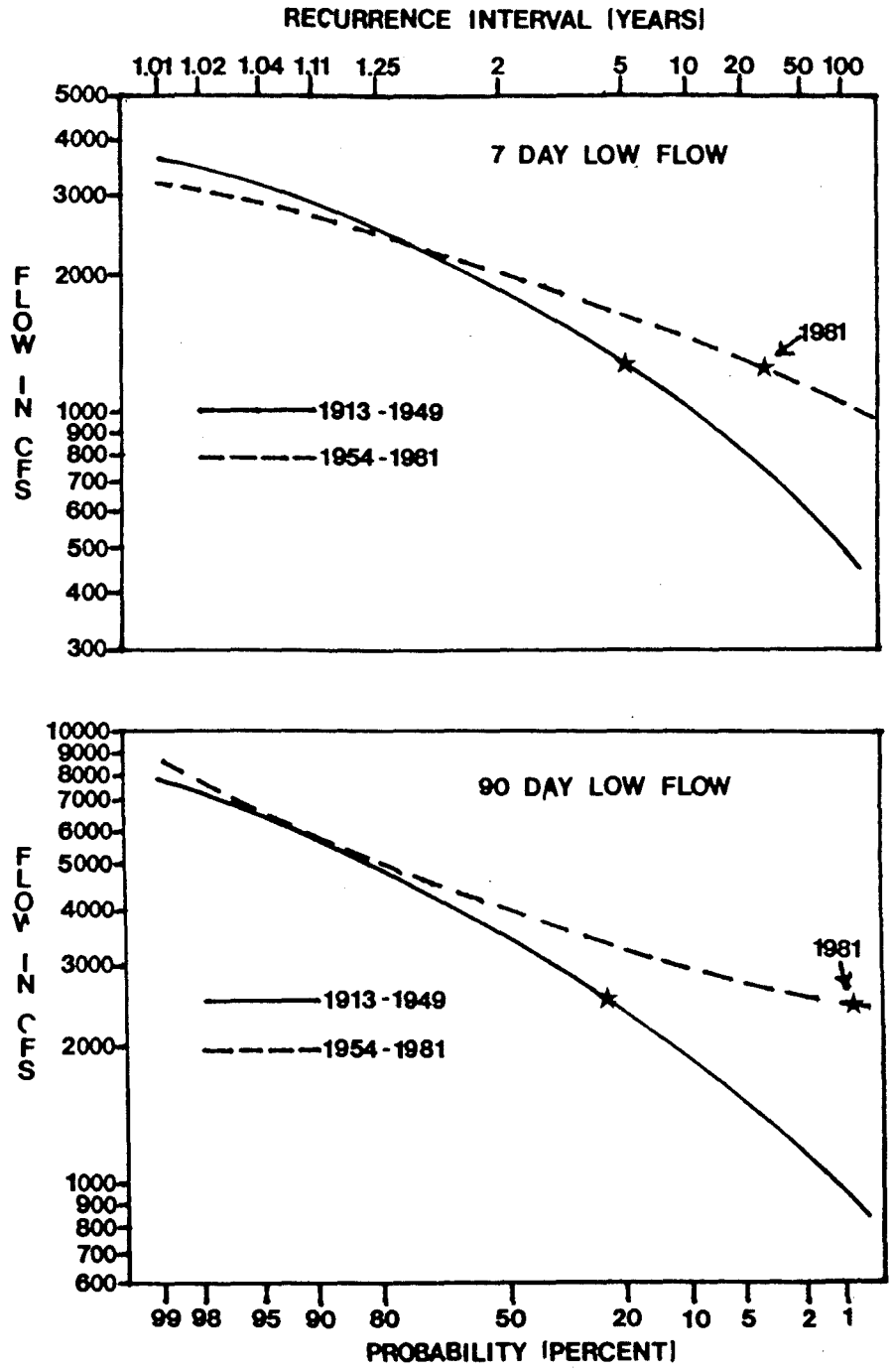
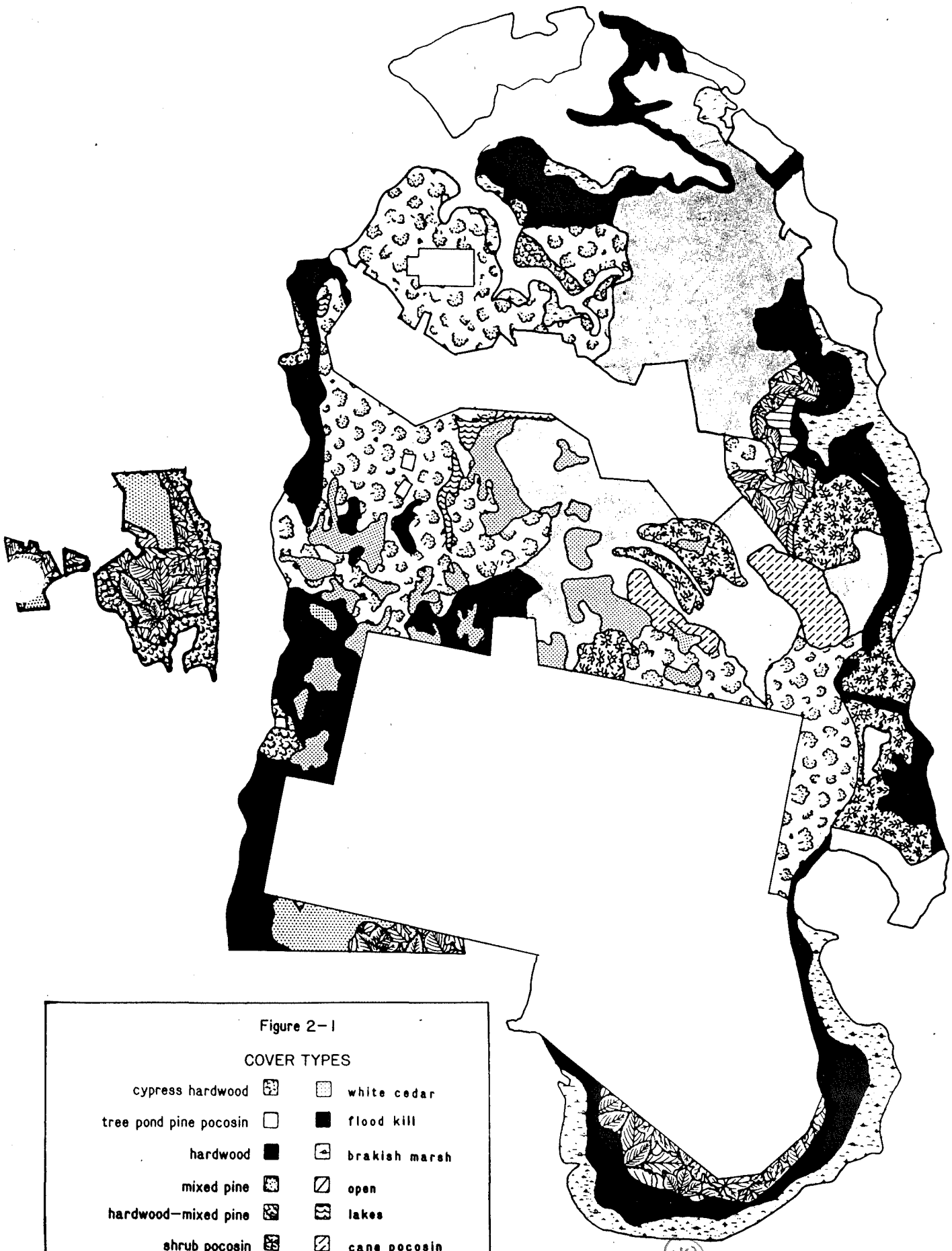


Figure 8. Change in low flow (7 and 90 day duration) frequencies for the Roanoke River at Roanoke Rapids, N.C. after the construction of Kerr Reservoir in 1950-53 (12).

Source: DEM, 1982a

ALLIGATOR RIVER NATIONAL WILDLIFE REFUGE

DARE AND TYRRELL COUNTIES, NORTH CAROLINA



Source: FWS, 1986

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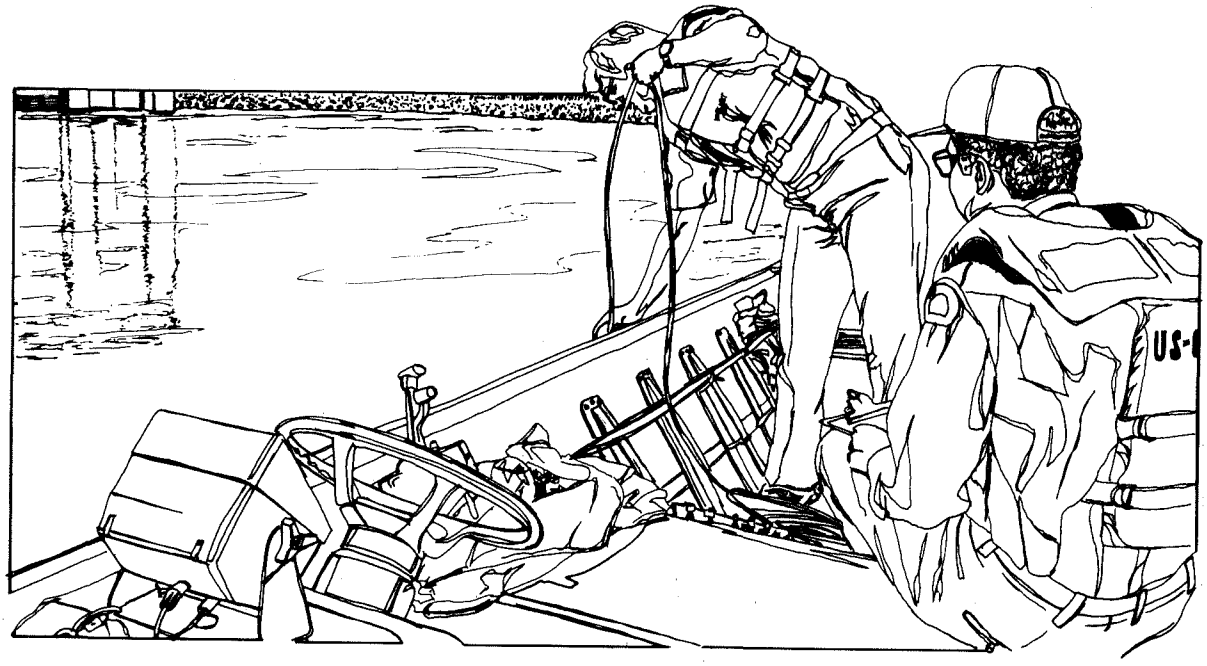
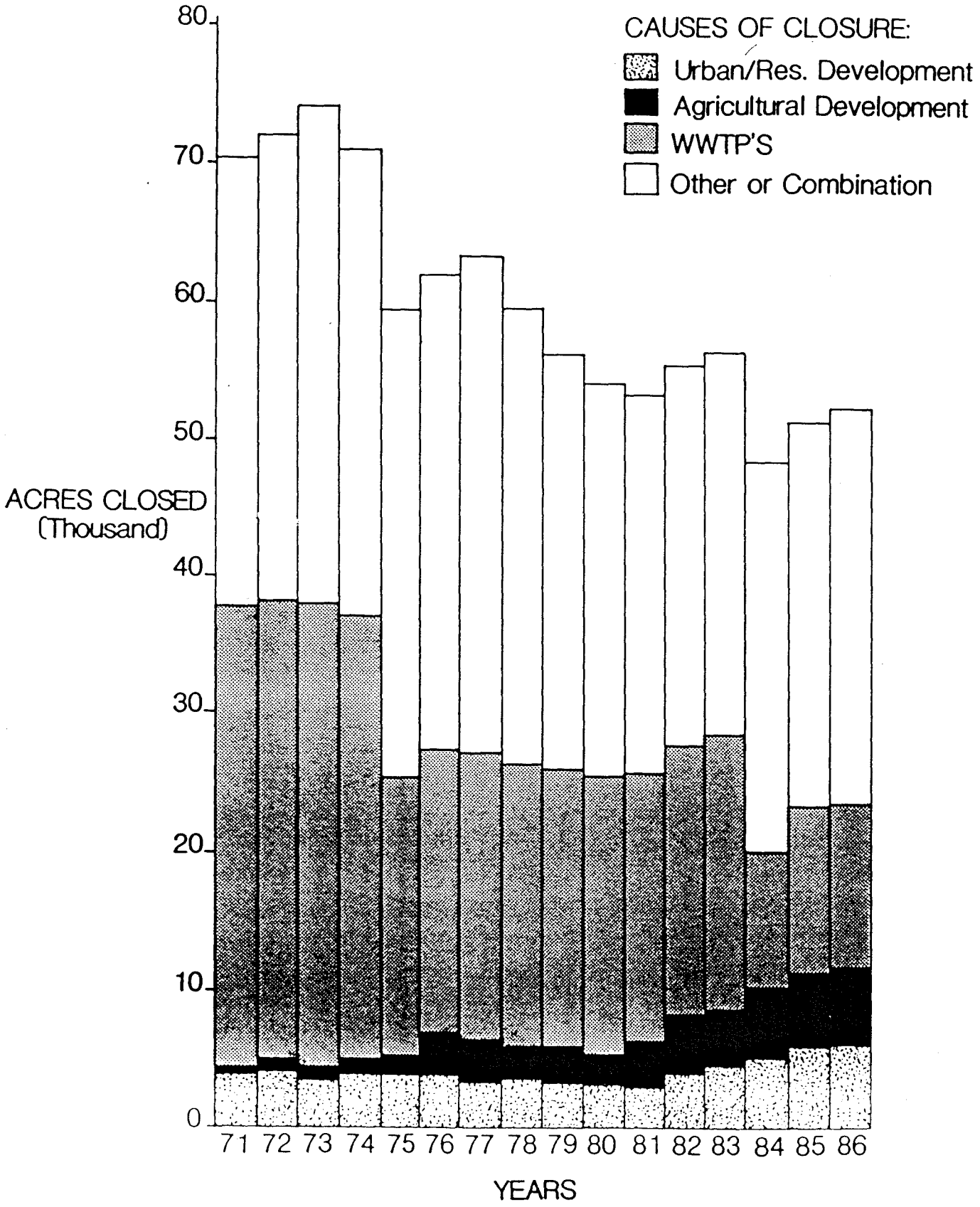
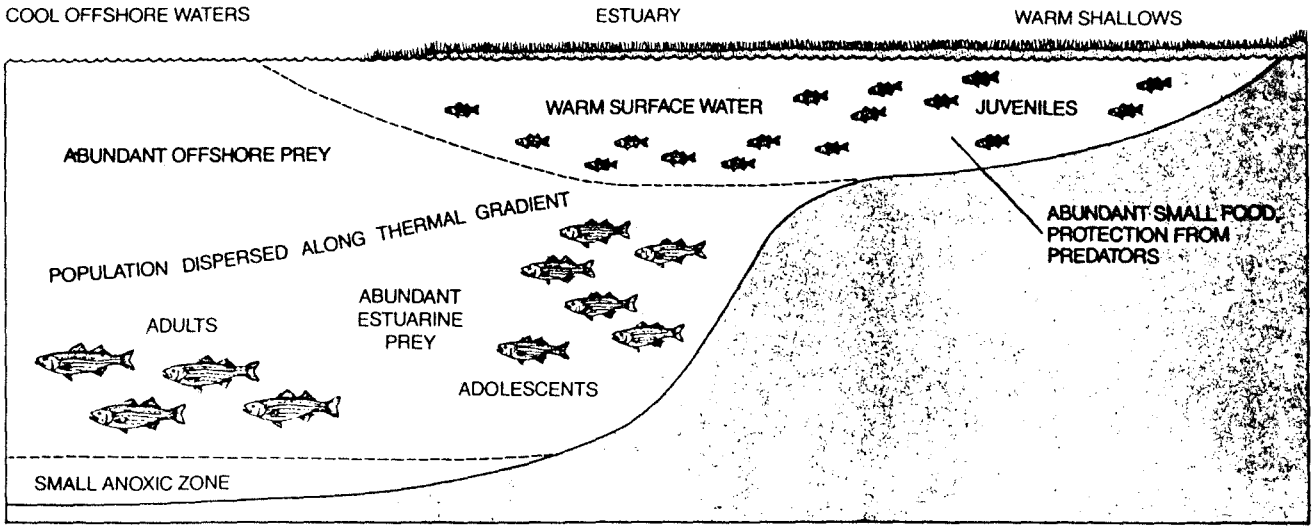


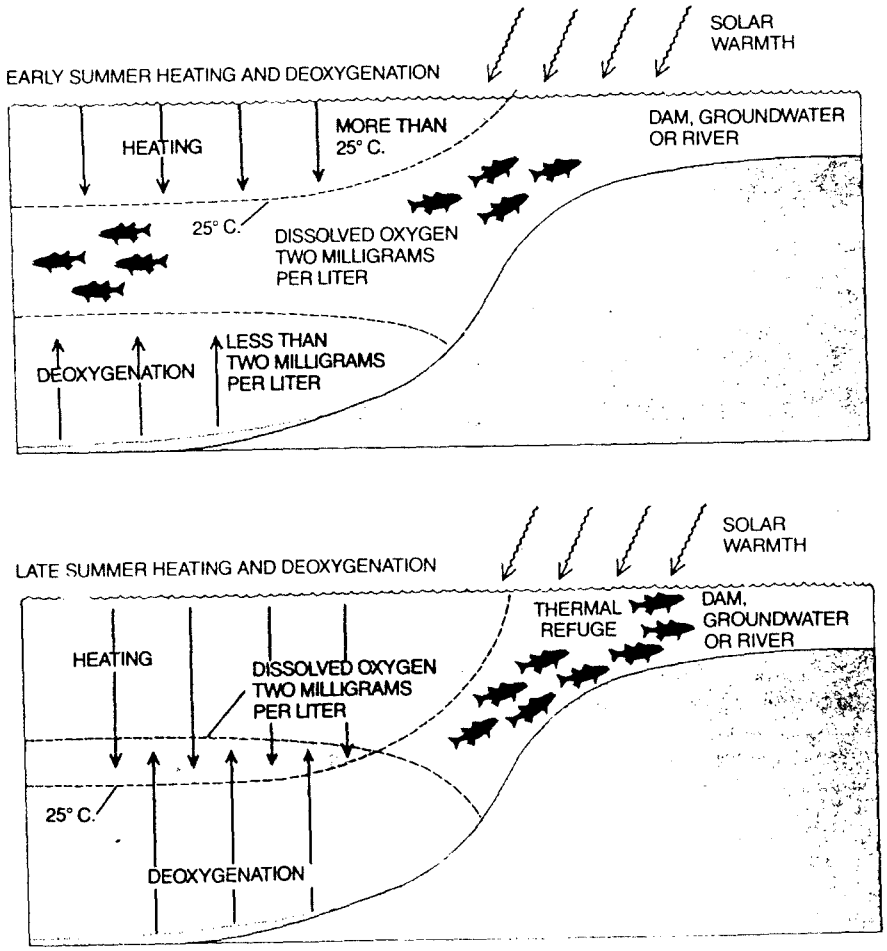
Figure 2. PROHIBITED ACREAGE IN N.C. SHELLFISH WATERS
(46 SALINE AREAS ONLY)



Source: DEM, 1986e



THERMAL GRADIENT separating striped bass by age is inferred from available data on populations in reservoirs, coastal waters and unpolluted estuaries in summer. Differences in the preferred temperature, ranging from warm (about 26 degrees Celsius) for juveniles to cool (about 20 degrees C.) for adult females, allow space and food resources to be partitioned in such a way as to achieve a maximal survival at all stages of life. Limitations on this selection of habitats by striped bass populations have arisen through increasing depletion of oxygen in deeper water and the concentration of toxic substances in zones of preferred water temperatures.



ADVERSE CONDITIONS for adult striped bass can develop in a freshwater reservoir in summer. The example here is Cherokee Reservoir in Tennessee. Because water near the surface gets warmer and water near the bottom becomes low in oxygen owing to the decomposition of organic matter, the habitats suitable for the fish shrink. A suitable habitat for an adult has a temperature below 25 degrees C. and at least two milligrams of dissolved oxygen per liter of water. Such cool water as there is comes from a dam, a river or a spring. **It stays below the warm surface water, so that a thermal stratification develops. As juveniles mature and require cool water, they may saturate the space in thermal refuges, forcing larger adults into unsuitable niches, where they are physiologically stressed and may die.**

Source: Coutant, 1986

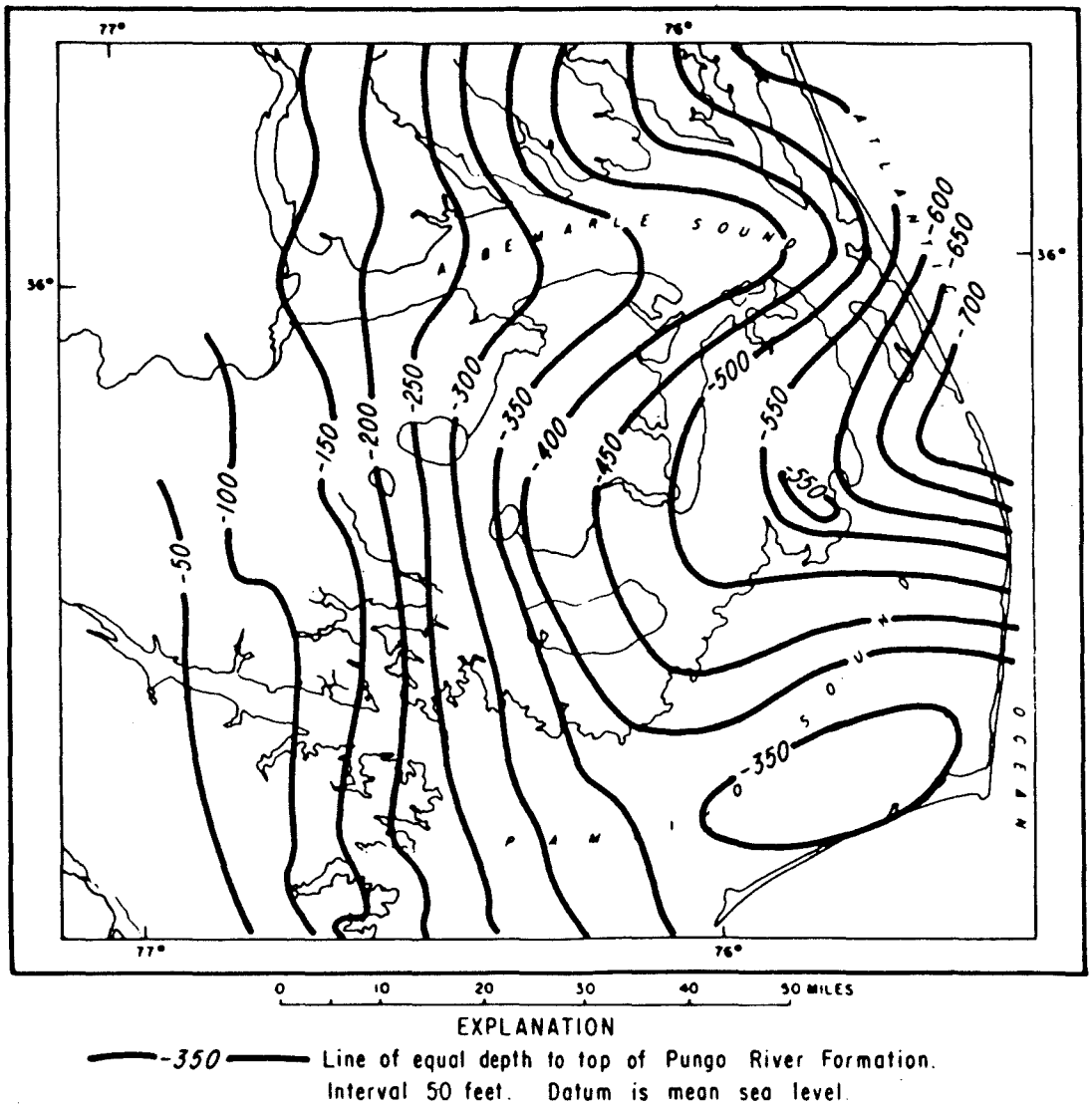


Figure 19.--Depth to the top of the Pungo River Formation. (Adapted from Brown, Miller, and Swain, 1972, pl. 20.)

Source: Heath, 1975

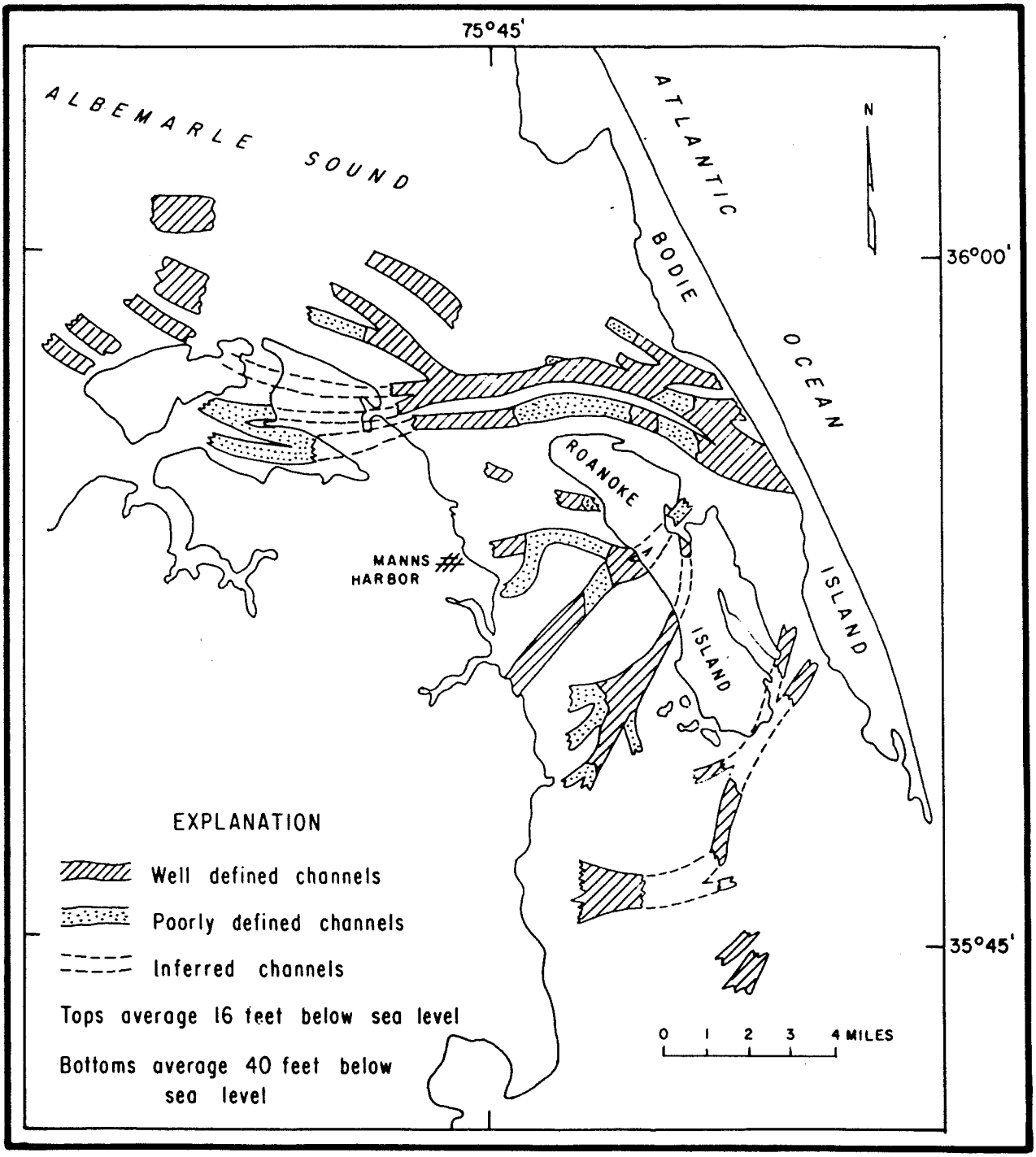


Figure 8.--Buried channels in the vicinity of Roanoke Island. (Adapted from Riggs and O'Connor, 1974, fig. 11.)

Source: Heath, 1975

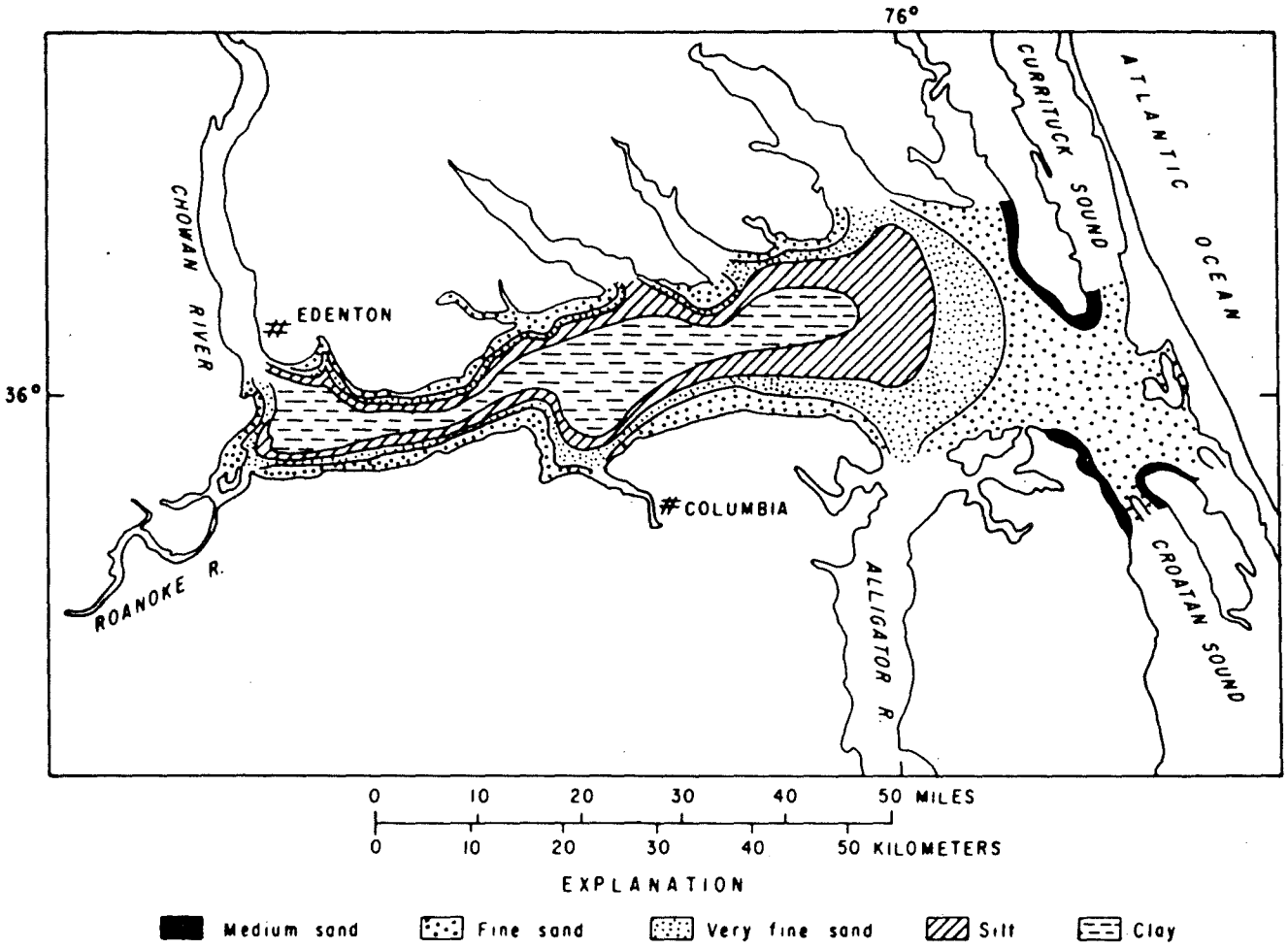


Figure Texture of bottom sediments in Albemarle Sound. (Modified from Pels, 1967, after Folger, 1972.)

Source: Giese et al., 1985

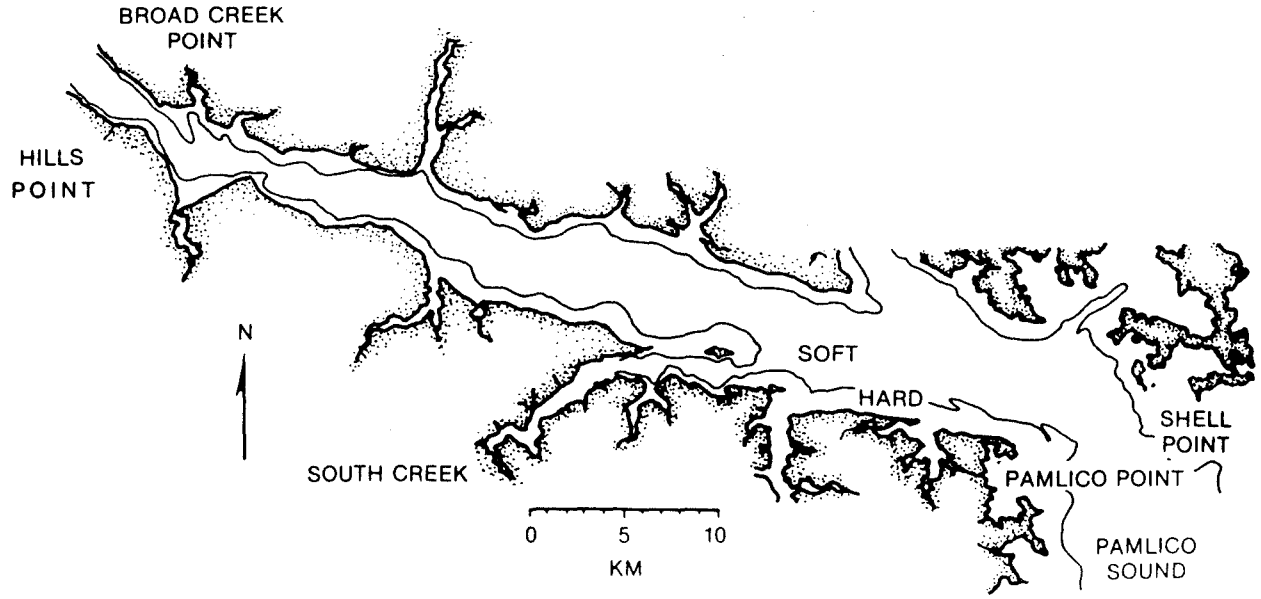


Figure Distribution of bottom types in the Pamlico River Estuary (Reid 1970).

Source: Copeland et al., 1984