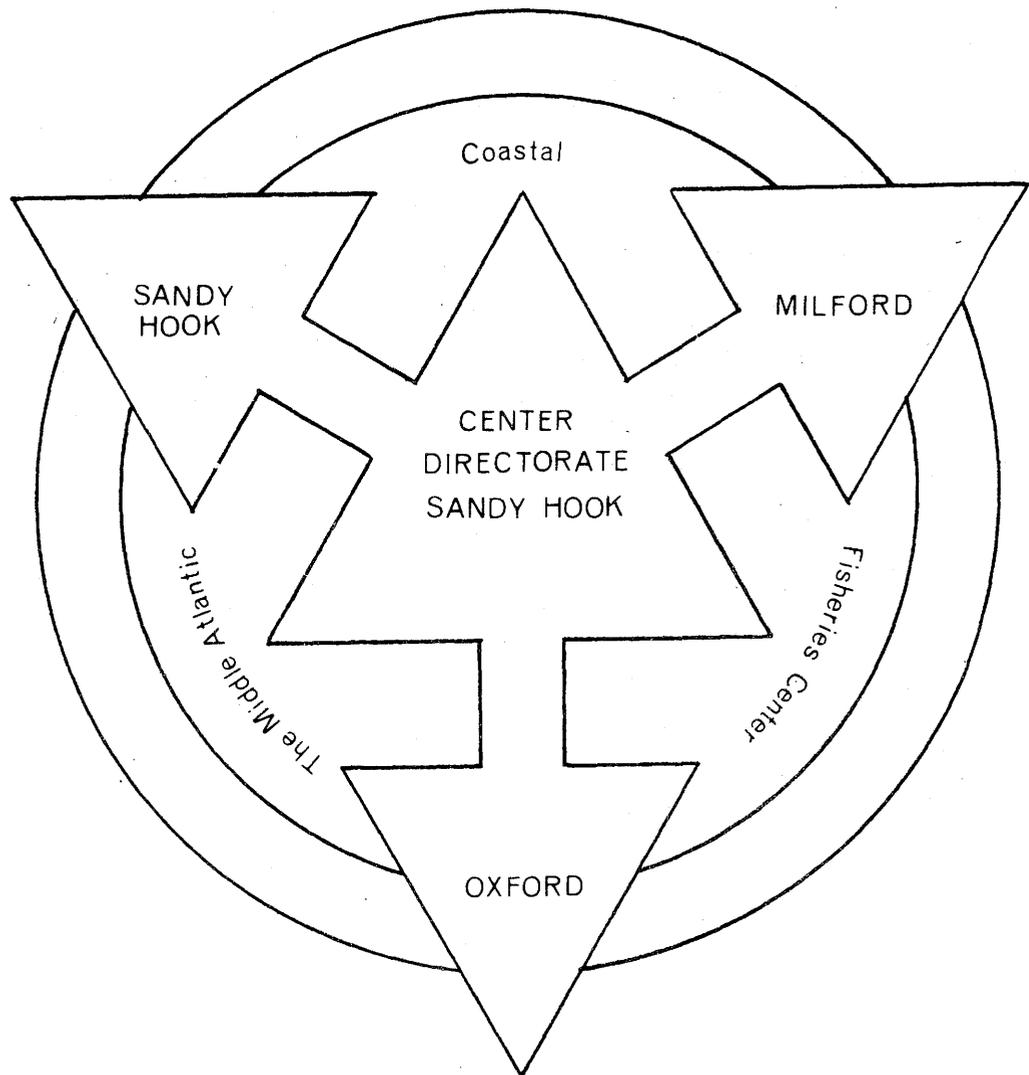


DRAFT RESEARCH PROPOSAL FOR FY 1976  
MESA-NYB FUNDING: "INTERDISCIPLINARY STUDIES  
AND/OR SYNTHESSES OF OBSERVATIONS"



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Northeast Region

MIDDLE ATLANTIC COASTAL FISHERIES CENTER



Informal Report No. 58

March 26, 1975

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Research Proposal

Submitted by

Middle Atlantic Coastal Fisheries Center  
National Marine Fisheries Service  
National Oceanic and Atmospheric Administration

to

MESA-New York Bight Project Manager  
Marine Ecosystems Analysis Program  
Environmental Research Laboratories  
National Oceanic and Atmospheric Administration

for support of studies on:

INTERDISCIPLINARY STUDIES AND/OR SYNTHESSES OF  
OBSERVATIONS

Total Amount Requested: \$ 38,100.00

Date: \_\_\_\_\_

Approved by: \_\_\_\_\_

Principal Investigator  
(201)-872-0200

\_\_\_\_\_  
Carl J. Sindermann  
Director, Middle Atlantic Coastal Fisheries Center

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INTERDISCIPLINARY STUDIES AND/OR SYNTHESSES OF OBSERVATIONS  
(Narrative summary of proposed research)

Topic # 1 - Effect of atmospheric and/or surface  
contaminants on neuston.

- (1) There are direct (but as yet unquantified) relationships between surface-water pollutants, their retention time at the interface and mutagenic effects upon fish eggs and larvae.

Given adequate water-surface pollutant - chemistry studies, mutagenic effects of atmospheric fall-out pollutants upon fish eggs and larvae can be studied and defined quantitatively and qualitatively as a function of pollutant surface-retention time and of oceanic and atmospheric conditions.

- (2) There are two broad types of pollution-induced mutagenicity involving both the somatic and germ cells. Given adequate water-surface chemistry studies and viable, freshly fertilized fish eggs, the sequence of the total of mutagenic effects of pollutants upon fish eggs and larvae can be detected, studied and defined.

Topic # 2 - Oceanographic relationships between seabed  
oxygen consumption and dissolved oxygen in  
water column.

- (1) There is a direct (but as yet unquantified) relationship between seabed oxygen consumption levels and the observed but displaced low dissolved oxygen waters.
- (2) The above relationship can be quantitatively demonstrated through known physical oceanographic processes.

Topic # 3 - Primary productivity and oceanographic  
processes.

- (1) Define quantitatively the oceanographic factors which affect the distribution of Raritan Bay/ New York Bight-apex phytoplankton.

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- (2) Define quantitatively the oceanographic factors which affect the movement and "bloom" of "red tide" organisms.
- (3) Define effects of physical oceanographic processes (thermocline, particulates, etc.) in inhibiting availability of planktonic detritus (food) to demersal organisms.

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Work Unit: Title: Interdisciplinary Syntheses

BUDGET SUMMARY - FY 1976

	<u>% Time</u>	<u>MAN-MONTHS</u>	<u>MESA FUNDS</u>
<u>Personnel Service</u> (15% Benefits - Leave Surcharge, etc.)			
<u>Name or Position</u>			
*Dr. K. McNulty, Fish. Biol.	GS-14 25	3.0	8.1
Dr. A. Longwell, Res. Geneticist	GS-13 10	1.2	2.8
Dr. J. Thomas, Fish. Biol.	GS-12 10	1.2	2.3
Dr. J. Mahoney, Fish. Biol.	GS-12 10	1.2	2.3
J. O'Reilly, Fish. Biol.	GS- 9 10	1.2	1.5
		<u>7.8</u>	<u>17.0</u>
<u>Travel</u>			4.0
<u>Transportation of Things</u>			1.5
<u>Printing and Reproduction</u>			1.3
<u>Computer</u>			2.5
<u>Support Services</u>			.3
<u>Supplies and Expendables</u>			<u>2.0</u>
<u>Total Direct Funds</u>			28.6
<u>Total Support Funds</u>			<u>9.5</u>
Total Funds			38.1

\* MESA Coordinator