MONTHLY REPORT

ON

MESA-FUNDED RESEARCH

DECEMBER 1978

by

NATIONAL MARINE FISHERIES SERVICE
NORTHEAST FISHERIES CENTER
SANDY HOOK LABORATORY
HIGHLANDS, NEW JERSEY 07732

January 1979

Report No. SHL 79-01 (January 1979)

Title of Study: Water Column Respiration and Release of Dissolved Organic Matter from Natural Populations of Phytoplankton (II.D.6)

Principal Investigator: Dr. James P. Thomas

Institution or Agency: National Marine Fisheries Service
Northeast Fisheries Center
Sandy Hook Laboratory
Highlands, New Jersey 07732

Period of Report: December 1978

Planned Activity:	Actual Accomplishments:
(1) Water column respiration and release of dissolved organic matter by phytoplankton - data processing.	(1) Graphs reformatted for publication.
(2) Draft final SINC report.	(2) In progress.

Planned Activities for January:

(1) Figures photographed for SINC final report.
(2) Draft final report.
(3) Begin manuscript preparation for publication in journal.

Title of Study: Environmentally-Induced Mutagenesis, Cytotoxicity and Related Teratogenicity in Planktonic Fish Eggs (III.5)

Principal Investigator: Dr. A. Crosby Longwell

Institution or Agency: National Marine Fisheries Service
Northeast Fisheries Center
Milford Laboratory
Milford, Connecticut 06460

Period of Activity: December 1978

Planned Activity:	Actual Accomplishments:
(1) Continue dissection of mackerel eggs from '78 Bight cruise for cytological-cytogenetic study.	(1) Thus far 1721 embryos have been dissected at 7 different development stages for 15 different Bight sample stations.
(2) Begin cytological analysis of mackerel embryos taken in May '78 at Bight stations.	(2) Underway. Stage II (morula) embryos are being analyzed first and at those stations with chemistry samples for contaminant analysis. As last year, variation seems again to be wide even though egg sample size studied is still low.
(3) Manuscript preparation.	(3) A manuscript for Science is being prepared along with one for ICES symposium-workshop to be held at Duke in March - hence the delay.

Activities Projected for January:

Continue dissection; resume microscopic analysis of Stage II embryos, then move on to Stage V. Report to MESA office at least on these two stages before chemical analyses are reported. Prepare aliquots of the mackerel eggs for scanning electron microscopy of their outer membrane.

A possibility has presented itself for the genetic program to have regular in-house funds for laboratory experimental studies. These would certainly aid interpretation of field studies as done on mackerel eggs for MESA, and would reduce need for us to do back-up experimental work on contract this year.