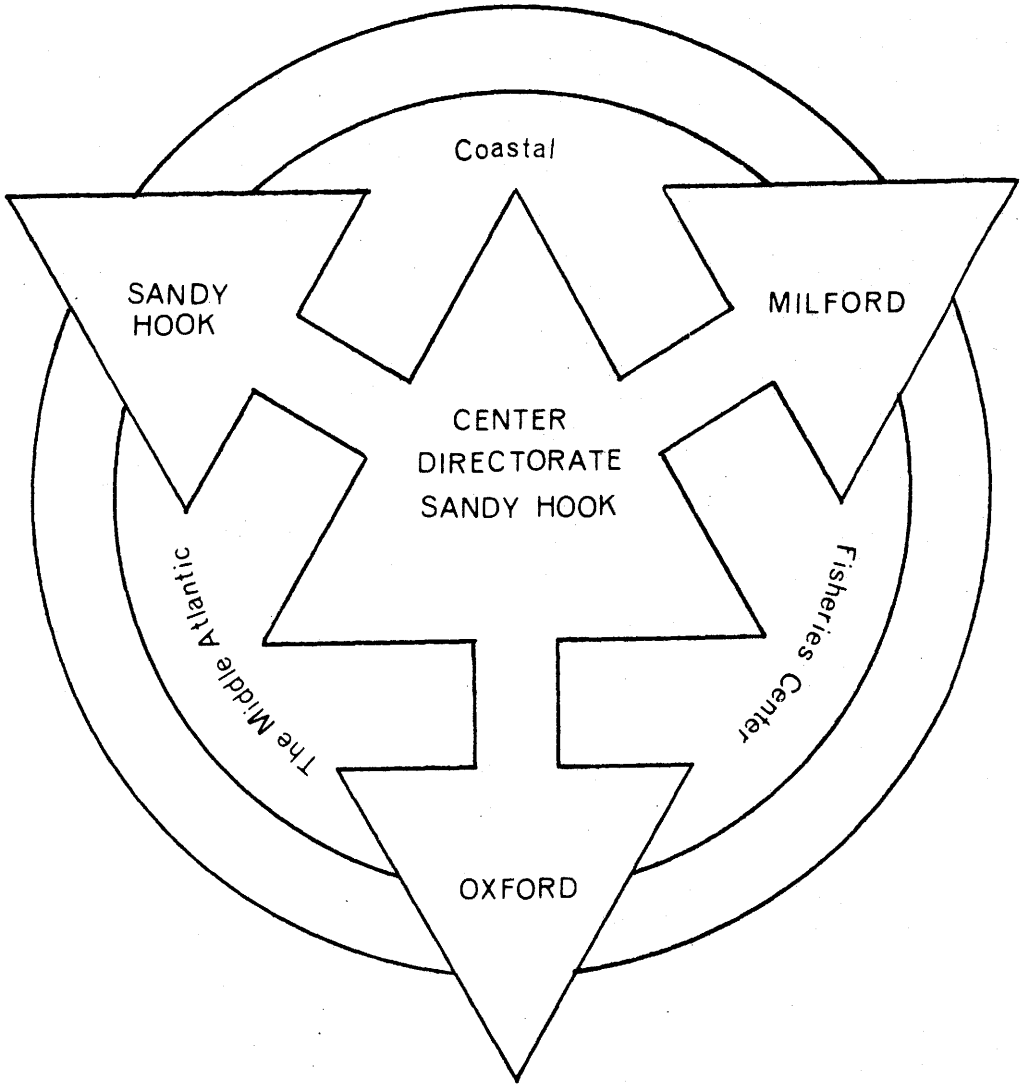
U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Region

MIDDLE ATLANTIC COASTAL FISHERIES CENTER



SUB-TASK PROGRESS REPORT - FY 75

Informal Report No. 76

July, 1975

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
FY 1976

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

2. DATE PREPARED
July 17, 1975

(Submit four copies.)
O: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(01)

5. SUBTASK TITLE
Groundfish Assessment: Autumn Cruise FY 75

NO. OF A/E	7. %	8. STATUS
1 ✓	100	Cruise planning and coordination completed on schedule.
2 ✓	95	Cruises completed on schedule. Some strata incompletely sampled.
3 ✓	98	Data processing completed on schedule.
4 o	60	Cooperative cruise reports completed. MESA report in preparation.
5 o	10	Preliminary assessments begun; some delays encountered.

RESULTS

. Planning and coordination included expanded coverage of Middle Atlantic offshore (15-200 fm) areas. Expansion greatly increased workload. 2. Cruises completed on schedule. 166 stations occupied in Middle Atlantic area between 5 and 200 fms. on albatross IV and Delaware II. Special samples and collections distributed. Vessel schedule constraints prevented total sampling in all coastal strata. Cruise report completed with some delays due to format reorganization. 3. Data processing completed and final tape sent to NEFC. Some routine listing of data not finished. 4. Cruise reports (technical and fishermens) completed and distributed. MESA Atlas report should be completed early FY 76. 5. Preliminary assessments begun. Population dynamics unit will report most assessments. Distribution of fishes will be presented in MESA monograph series.

OFFICIAL PREPARING REPORT *(Signature)*
Thomas R. Azarovitz

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sundermann

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4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(02)

5. SUBTASK TITLE
Groundfish Assessment: Spring Cruise FY 1975

NO. OF A/E	7. %	8. STATUS
1 ✓	100	Planning and coordination of cruise completed on schedule.
2 ✓	80	Spring survey completed, samples distributed.
3 ✓	100	Cruise reports completed and distributed ahead of schedule.
4 ✓	98	Data processing completed ahead of schedule.

RESULTS

1. Delaware II committed for acoustic survey not available for inshore survey. Albatross IV scheduled to do inshore and offshore survey. Sandy Hook scientists to conduct Georges Bank portion of survey.
2. Spring survey conducted with extensive station loss in Mid-Atlantic due to weather and vessel breakdowns. Atlantic Twin chartered in an attempt to complete survey but funding limitations limited coverage to about 80%.
3. Cruise reports (Fishermens and technical) completed and distributed ahead of schedule.
4. Data processing completed ahead of schedule and final tape sent to NEFC. Some routine listing not completed.

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Carl J. Sundermann

OMM-DC 4049-P74

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3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(03

5. SUBTASK TITLE
Resource Assessment - Invertebrates

NO. OF /E	7. %	8. STATUS
✓	100	Distribution and abundance of surf clams Ms completed and ready for review.
✓	100	Distribution and abundance of ocean quahogs Ms completed and ready for review.
✓	100	Burrowing of Spisula Ms completed and ready for review.
✓	100	Atlantic coast surf clam fishery Ms review completed and sent to publisher.
✓	100	Atlantic coast surf clam fishery Ms review completed and sent to publisher.
	75	Analysis of 5 years survey data on schedule.
	0	Analysis of data tabulation of gametogenesis of surf clams inactive due to higher priority items and State-Federal work.
✓	100	Monthly hard clam cruises completed.
	0	Raritan Bay hard clam report
✓	100	Hard clam gametogenesis sample collection and preparation completed.
	0	Analysis of hard clam gametogenesis inactive due to higher priority items and State-Federal work.
✓	100	Surf clam assessment cruise completed.
✓	100	Surf clam cruise report completed.
	50	State-Federal surf clam management continuing on schedule.
✓	100	Sea scallop assessment cruise rescheduled to September.
	0	Sea scallop cruise report rescheduled to September.
✓	100	Sea anemone on oyster Ms complete and under review.
✓	100	Ecological significance of rock crab Ms complete and under review.
✓	100	Effects of quicklime on oyster seed Ms complete and under review.

ESULTS

3. All manuscripts in various stages of review and revision. 4-5. Manuscripts mpleted and sent to publisher. 6. Analysis on schedule. 7. Inactive. 8. Cruises mpleted. 9. Mr. MacKenzie assigned to a cooperative State-Federal study in Mississippi d not available for final report. 10. Sample collection and preparation completed. 11. active. 12-13. Cruise and report completed. 14. State-Federal surf clam management ntinuing. 15-16. Cruise and report reschedule for Aug.-Sept. 1975. 17-19. Manuscripts various stages of review.

FFICIAL PREPARING REPORT *(Signature)*
Kaelico for J. Ropes

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sundstrom

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4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(04)

5. SUBTASK TITLE
Historical Cruise Data - 18 Cruises (1968-1972) Between Florida and New York

NO. OF A/E	7. %	8. STATUS
1	100	Completed during first half FY 75.
2	100	Completed during first half FY 75.
3	0	Behind schedule - feasibility studies of the application of recurrent ~~ground~~ group analysis of coastal cruise data have not been started due to lack of ADP capability in this area.
4	0	Behind schedule - recurrent group analysis was not initiated during fourth quarter due to lack of ADP capabilities in this area.

RESULTS
1-2. Ms "Summer benthic fish fauna of Sandy Hook Bay, N. J." has been accepted for publication upon revision (SSR-F).
3. Recurrent group analysis feasibility studies were not initated due to lack of ADP expertise at this time.
4. Recurrent group analysis was not begun during 4th quarter because ADP capabilities were not realized.

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12. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)
Carl J. Sindermann

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3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(0

5. SUBTASK TITLE
Status of Stocks (Species Briefing Books)

NO. OF /E	7. %	8. STATUS
A	✓95	Literature search completed.
A	90	Rough and updated drafts of most books submitted on shcedule.
A	90	Updating continuing.
A	75	Editing on shcedule) (?).

ESULTS

Work on some books slipped due to wôrkload and other commitments. Some books eassigned because of staff relocations.

Books reviewed; fishery descriptions and management sections need strengthening.

Updating responsibility of authors.

Delays in ASMFC printing.

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[illegible]

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3. REPORTING PERIOD: Seocnd half

4. TDP NO. PLUS STP SUFFIX: MAC-002-75-SII-A-1(06)

5. SUBTASK TITLE: Historical and Ongoing Assessment of the genus Paralichthys

NO. OF /E	7. %	8. STATUS
1	100	Preliminary regression analysis and variate selection completed during first half of FY.
2	0	Discriminant function analysis of summer, southern, Gulf, and broad flounder will begin as soon as ADP capabilities are available.
3	0	Preparation of species diagnostic keys will begin as soon as ADP capabilities are available.
4	0	Identification of unit stocks will begin with the advent of increased ADP capabilities.

RESULTS

. Regression analysis of 31 morphometric and meristic variates were completed during first half of FY for some 1400 specimens.
-4. Self explanatory in status section.

OFFICIAL PREPARING REPORT (Signature): Frank D. Hill

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Carl J. Sindermann

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3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(07)

5. SUBTASK TITLE
Bluefish Monograph (Pomatomus saltatrix)

NO. OF A/E	7. %	8. STATUS
1	100	Morphometric Ms submitted to compendium editor.
2	100	Age and growth Ms submitted to compendium editor.
3	100	Food items Ms submitted to compendium editor.
4	100	Bibliography Ms submitted to compendium editor.
5	100	Migration Ms submitted to compendium editor.
6	100	Egg and larval Ms submitted to compendium editor.
7	25	In abeyance.
8	25	In abeyance.
9	0	In abeyance.

RESULTS

-6. All manuscripts have been submitted to compendium editor.
-9. Dr. L. A. Walford, compendium editor, has recently resigned from the NMFS to be irector of the N. J. Marine Consortium; he has assured all interested parties that he ill complete this compendium as soon as he can fit this work unit into his new duties. ith this report we are phasing out this subtask (MAC002-75-SII-A-1(07).

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3. REPORTING PERIOD
Seocnd half

4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(08

5. SUBTASK TITLE
Historical and Ongoing Assessment of the Family Sciaenidae

NO. OF /E	7. %	8. STATUS
1	100	Completed first half FY.
2	100	Completed first half FY.
3	100	Completed first half FY.
4	70	Reading of spot scales behind schedule.
5	0	Age and growth analysis of spot behind schedule.
6	0	Analysis of weakfish scales not begun second half of FY.
7	100	Completed first half FY.
8	50	Behind schedule due to ADP priorities.
9	100	Atlantic croaker fecundity study on schedule.
0q	100	Spot fecundity study begun.

RESULTS
1-3. During first half of FY 75 the collection and initial processing of sciaenid specimens was completed. 4. Spot scale reading behind schedule due to loss of age reading personnel. 5. Not begun due to scales not being completely read. 6. Not begun due to lack of qualified scale readers. 7. Preliminary DF analysis of spot variates exhibited a 90% separation of unit stocks. 8. Final DF analysis of spot data behind schedule due to ADP priority order. 9. Atlantic croaker fecundity study complete and rough draft of Ms prepared. 10.Some 30-50 spot gonads and 1000 specimens have been collected.

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Carl J. Sundermann

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1. FISCAL YEAR: FY 1976

2. DATE PREPARED: July 17, 1975

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3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-002-75-SII-A-1(.09)

5. SUBTASK TITLE: Groundfish Assessment: Monthly Survey

NO. OF \/E	7. %	8. STATUS
1	100	Planning and coordination of cruises completed on schedule. Schedule revisions anticipated first half of FY 76.
2	100	Scheduled cruises completed and samples distributed on schedule.
3	80	Cruise reports near completion; fisherman reports indefinitely delayed.
4	70	Data processing essentially on schedule, some minor delays.
5	10	Development of analysis program delayed.
6	10	Final report on schedule.

RESULTS 1. TDP and STP to be revised for FY 76 to show schedule changes to bimonthly cruises covering a larger area instead of monthly. 2. Five second half (FY 75) cruises completed. Special samples collected and distributed. 3. All cruise reports except May and June completed and distributed. Due to staffing restrictions and heavy cruise schedule Fishermen's report will not be written. However format has been developed and when personnel are available publication can commence. 4. Due to preparation of end of year reports data processing slightly delayed. 5. Population dynamics unit now being formed, some analysis begun. 6. Catch summaries should be in report form before end of calendar year.

OFFICIAL PREPARING REPORT *(Signature)*: Thomas R. Azarovitz

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*: Capt J. Sundermann

OMM-DC 4049-P74

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3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-002-75-SII-A-1(10)

5. SUBTASK TITLE: Life History Aspects of Finfishes Found in the New York Bight

10. OF /E	7. %	8. STATUS
1	100	On schedule, samples have been collected on schedule during all phases of monthly groundfish cruises made in the New York Bight.
2	100	Processing of collected material is on schedule.
3	100	Semi-annual summary report on schedule for second half of year of collections (Jan.- June 1975).
4	100	Final report (Ms) begun last month of FY 75.

ESULTS

1.-2. Over 35,000 specimens have been collected and processed during the second half of FY 75.

3. A semi-annual report including length-frequencies, length-weight, gonadal indices, distribution occurrence, and movements will be completed by Sept. FY 76.

4. Final report (Ms) has begun and should be completed in draft form by Jan. FY 76.

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3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-002-75-SII-A-1(1

5. SUBTASK TITLE
Juvenile Fish Distribution and Recruitment

NO. OF A/E	7. %	8. STATUS
1	80	Collections complete, data processing on time, standard printouts delayed.
2	0	Delay pending population dynamics analysis.
3	0	Delay pending population dynamics analysis.
4	0	Delay pending population dynamics analysis.
5	0	Delay pending population dynamics analysis.
5	0	Delay pending population dynamics analysis.

RESULTS

. Counts and frequencies of monthly and semi-annual cruises available and on file.

-6. Priority of other aspects of program precluded initiation; slipped to FY 76.

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3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-005-75-FA-A-1(01

5. SUBTASK TITLE: Biostatistics, Middle Atlantic Sportfish

NO. OF A/E	7. %	8. STATUS
1	98	Field survey, Ocean City, on schedule, supplementing July-Aug. with continued effort.
2	15	Field data collected, programming begun, on shcedule.
3	0	Not available, on schedule.
4	0	Not available, on shcedule.
5	60	Available, on schedule.

RESULTS

1. Data on hand (interviews, logbooks, and counts.
2. Field data edited, submitted for keypunching.
3. Statistical testing dependent on listings.
4. Report will be based on completion of data processing.
5. Sampling protocols established for small boat and shore anglers. No contracts let for FY 76.

OFFICIAL PREPARING REPORT *(Signature)*: C. Pacheco

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*: Carl J. Sundermann

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3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-005-75-FA-A-1(03)

5. SUBTASK TITLE
Salt water Fishing Contest Catches

NO. OF A/E	7. %	8. STATUS
1	100	On schedule.
2	0	Indeterminate.
3	90	Large fish; bluefish >6#; striped bass >15#.
4	100	Completed, ahead of schedule.
5	30	Ahead of schedule.

RESULTS

. Keypunching completed.
. FY 75 is base year to establish reference index.
. Preliminary report available; insufficient data for analysis of cod and weakfish.
. Preliminary report printed and distributed.
. Outline complete, rought draft, bluefish data being analyzed.

OFFICIAL PREPARING REPORT *(Signature)*
Pacheco

FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J Sundstrom

A FORM 32-15C
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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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3. REPORTING PERIOD
2nd half

4. TDP NO. PLUS STP SUFFIX
MAC-006-75-IE-A-1-01

5. SUBTASK TITLE
Behavior of Fishes under Environmental Stress: Field Studies

O. F E	7. %	8. STATUS
	100	Manuscript completed and accepted for publication
	30	Observation of winter flounder movements, activity, and habitat selection - on schedule
	0	Comparison of winter flounder, cunner, and tautog movements, to begin FY76 - on schedule.
	20	Winter flounder feeding habits - on schedule.
	0	Feeding habit comparison: juvenile winter flounder, tautog and cunner to begin late FY75 - on schedule.
	30	Winter flounder seasonal movements - delayed by seasonal variation in availability.

ESULTS

1. Olla, B.L., A.J.Bejda, and A.D.Martin. "Activity, Movements and Feeding Behavior of the Cunner, Tautogolabrus adspersus and Comparison of Food Habits with Young Tautog, Tautoga onitis off Long Island, New York." Fish. Bull., U.S.

2. Status unchanged due to seasonal variability in availability.

4. Monthly samples collected on schedule and stomach analysis in progress.

6. Observations still in progress.

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John B. Pearce

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)
Carl J. Sindermann

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
1975

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

2. DATE PREPARED
June 1975

(Submit four copies.)
: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
2nd half

4. TDP NO. PLUS STP SUFFIX
MAC-006-75-IE-A-1-02

5. SUBTASK TITLE
Behavior of Fishes Under Environmental Stress Laboratory Studies

O. F E	7. %	8. STATUS
	100	Adult tautog activity and feeding - completed on schedule.
	100	Adult tautog shelter and territorial requirements - completed on schedule.
	20	Temperature effects on adult tautog - on schedule.
	50	Adult weakfish activity and feeding - delayed.
	0	Effects of temperature on activity and feeding of adult weakfish - delayed.
	100	Manuscript completed on schedule.
	15	Chronic (long-term) thermal stress effects on activity, feeding and schooling of juvenile bluefish - delayed by season.
	100	Study completed, manuscript completed ahead of schedule.
	100	Manuscript published on schedule: "Fish-to-Fish Attraction and the Facilitation of Feeding Behavior as Mediated by Visual Stimuli in Striped Mullet, Mugil cephalus." J. Fish. Res. Board Can. 31: 1621-1630.

SULTS

. Adult tautog are active and feeding during the day, quiescent and generally unresponsive at night. The dominant fish initiates feeding each day. Following its satiation, other fish feed.

. Dominant fish defends shelter as well as feeding zone. There is a defined distance maintained between dominant and subordinate fish.

Preliminary results indicate changes in activity, feeding and social interactions when fish are subjected to high temperature stress.

Delayed by experiments and analysis of data on tautog behavior.

Delayed by experiments on tautog.

"The Effect of Temperature on the Behavior of Young Tautog, Tautoga onitis (L.)".

(see next page)

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9. RESULTS (continued)

7. Tests will resume as soon as juvenile fish are available in area.
8. "The Effect of Temperature on the Behavior of Marine Fishes: A Comparison among Atlantic Mackerel, *Scomber scombrus*, Bluefish, *Pomatomus saltatrix*, and Tautog, *Tautoga onitis*.

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(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-007-75-IE-A-1-0

5. SUBTASK TITLE: Impact of environmental change, Raritan Bay and Long Island Sound.

NO. OF A/E	7. %	8. STATUS
1	90	Final report to EPA on stations surrounding NAD-EARLE USEPA Field testing station now scheduled for late in calendar 75. Delays here and in other Raritan Bay studies due largely to increased duties related to dredge - spoil disposal monitoring survey at New London, Ct.
2	95	Ambrose Channel project completion now scheduled for August 1975.
3	90	Summation of overall Raritan Bay data still anticipated for early in FY 76. Manuscript on heavy metals distributions and their relationship to sediments now in preparation.
4	100	Report to New England River Basin Commission on environmental baselines in Long Island Sound completed and submitted in February 1974.
5	15	May summarize above report for publication. More specific paper(s) on benthic macrofauna of Long Island Sound still in data analysis phase.

RESULTS

. Variability of fauna, apparently due to natural environmental fluctuations, continues to be marked.
. Information will be presented as a manuscript rather than a data report.
. Identified trimodal distribution of metals throughout Bay, strongly related to sediment type.
. Establishes first synoptic "baselines" of benthic characteristics throughout Long sland Sound.
. Regressions show species diversity strongly related to sediment type but not to eavy metals contamination.

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2. DATE PREPARED: July 1975

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: 1 January - 30 June 1975

4. TDP NO. PLUS STP SUFFIX: MAC-007-75-IE-A-1-02

5. SUBTASK TITLE: Impact of Environmental Change, Deep Water Oil Exploration and Waste Disposal Sites.

NO. OF A/E	7. %	8. STATUS
1	100	Mt. Mitchell cooperative cruise to establish sediment types and benthic faunal baselines completed on schedule, as reported in prior STPR.
2	30	23 samples sorted; identification completed on 10 of these. BLM funding still pending, so no sorters yet hired - activity schedule is based on presence of these sorters.
3	20	Report begun; further progress awaits completion of baseline samples. Locations in primary sampling area have been tentatively selected for observation with submersible in August 75.

RESULTS

. Reported in prior STPR.
&3. Stations continue to appear similar to inshore N.J. areas. Some inconsistency in species occurrences due to trough, swale and depression preferences. Submersible cruise will enable in situ observations of these distributions.

OFFICIAL PREPARING REPORT (Signature): Robert N. Reid

11. EMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Carl J. Sindermann

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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: 2nd Half, 2/2

4. TDP NO. PLUS STP SUFFIX: MAC-008-75-EI-A-1-01

5. SUBTASK TITLE: Organically Bound Metal Effects on Biochemistry and Physiology of Crustacea

NO. OF /E	7. %	8. STATUS
.	100	Crab gill enzyme system characterized and tests for effects of cadmium and lead completed.
2	80	ATPase assays carried out on gills from lobsters exposed, in vivo, to cadmium.
3	30	Procedures worked out for investigating effects of metals on amino acid metabolism.
4	100	Larval rearing completed, tissue samples stored for tests.
5	--	(Repeat of item #2).
5	0	Equipment set up for shrimp studies, but this work currently held in abeyance due to resignation of investigator responsible for study.
7	0	Investigations of organically bound metal effects on animals in planning stage.
8	100	Manuscript completed, in press.
9	0	Draft of manuscript completed, ready for review.
0	100	Manuscript completed, in editing process.

RESULTS

nzyme studies showing significant effects of trace levels of lead and cadmium have een completed, rearing of Cancer irroratus larvae from egg through five Zoeal stages as been carried out, methods and techniques for additional studies of metal and etal-organic effects on animals developed, and several manuscripts finished or in raft form.

OFFICIAL PREPARING REPORT (Signature): John B. Pearce

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Washington, D.C. 20235

3. REPORTING PERIOD: 2nd Half, 2/2

4. TDP NO. PLUS STP SUFFIX: MAC-008-75-EI-A-1-02

5. SUBTASK TITLE: Environmental Forms of Nutrients and Heavy Metals

NO. OF V/E	7. %	8. STATUS
1	100	Analysis of nutrient samples completed for Long Island Baseline Survey.
2	60	Polarographic analysis of metals continuing.
3	0	Preliminary report on metals in Raritan Bay in preparation.
4	50	Methods being developed for study of metal-organic interactions.
5	20	Analysis of interactions between metals and organics begun.
6	0	Draft of manuscript in editing and review process.

RESULTS

Considerable data on nutrient composition and heavy metal concentrations in the marine environment has been generated. Data analysis and reports should be available shortly.

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MGIC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Carl J. Sindermann

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2. DATE PREPARED
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3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-009-76-IEA (01)

5. SUBTASK TITLE
Microbial Ecology - Ocean Dumping

NO. OF A/E	7. %	8. STATUS
		LONG ISLAND SOUND STUDY
1A	50	Two quarterly samplings (winter and spring) of New London - Thames River dredging operation completed and on schedule.
2A	50	Enumeration and characterization of specific isolates completed.
3A	50	Sediment and animals analysis for select heavy metals partially completed.
4E	50	Informal Center Report completed and submitted to the Navy.
5E	25	Summation of data on previous study in progress.
		NEW YORK BIGHT
1A	100	Collection of New York Bights samples for this FY of Fin-Rot, Control (Alternate Dumpsites included) done.
2A	100	Enumeration, isolations completed and characterization of select species in progress.
3E	50	Informal Report on Fin-Rot being compiled
4E	100	Informal Report on Bacteriology of Alternate Dumpsite Comparison and New York Bight Apex completed and submitted.
		CHESAPEAKE - DELAWARE
1A	0	Postponed to FY76

RESULTS

A. Fecal coliforms in sediments remained relatively higher in winter samples. Variations with quarterly samplings being observed, whether seasonal or due to dredging operations not clear.

B. Resistant of confirmed coliforms to select antibiotics vary and does not correlate with sampling areas.

C. Predominant species Clostriadial counts indicate Cl perfringens.

D. Differential counts on selective media at 35°/20°C for Marine Vibrios indicates significantly lower values at 35°C for winter sampling of sediments in New York Bight area.

E. Alternate Dumpsites (NYB) show no fecal coliforms.

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John E. Lance

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Carl J. Sindermann

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3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-009-76-IEA (02)

5. SUBTASK TITLE
Environmental Chemistry - Heavy Metals

NO. OF /E	7. %	8. STATUS
		Long Island Sound Study
1		
A	50	Whelk and lobster were collected from two dump sites in June as a continuation of seasonal sampling. Samples have not been analyzed as yet. Results of neutron activation analyses of Milford Harbor water obtained in February were completed. Data are being reviewed.
B	50	Second draft of manuscript on trace metals in sediments of Long Island Sound being reviewed in laboratory.
		New York Bight Study
1		
A	0	Study on food chain organisms of Bight postponed indefinitely.
B	40	Draft of one manuscript sent to an outside reviewer and being revised along his suggestions. Second manuscript is being reviewed at laboratory.
		Uptake and Clearance of Metals
	60	A. Analysis of striped bass exposed to cadmium completed. B. Analysis of cunner exposed to silver completed. C. Oysters transferred from Housatonic River to Milford Harbor water were examined over a year's period to determine if metals depurated or not.
	40	D. New Studies initiated 1. Oysters from Housatonic River were transferred to North Carolina waters to determine depuration of metals and oysters from N.C. were transferred to Milford Harbor water to determine uptake of metal. 2. Winter flounder exposed to cadmium were analyzed for uptake of the metal. 3. Lobster exposed to mercury and cadmium separately were examined for

RESULTS

. Striped bass exposed to 2.5 ppb cadmium for 30 days did not take up measurable evels of this metal.

. Cunner exposed to silver at 0.25 and 0.50 ppm for 96 hours showed no measurable ptake of silver in blood, muscle, gills, and liver. Slight uptake was found for the arcass.

. The concentrations of Ag, Cd, Cu, and Zn in oysters did not change significantly ver the year holding period in Milford Harbor Water.

ercury levels in surf clam were below detection limits in all samples. Silver were bout twice as great for animals collected above 38°N latitude in comparison to animals ollected below 38°N. The levels of the other seven metals did not vary substantially s related to geographic location of harvest.

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John B. Pearce

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3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-009-76-IEA (02)

5. SUBTASK TITLE
Environmental Chemistry - Heavy Metals

NO. OF A/E	7. %	8. STATUS
		uptake of these metals. 4. Oysters, hard clams, and mussels exposed to silver were frozen for possible future analysis of uptake.
P	100	Surf clam collected from Long Island to North Carolina were examined for nine metals. Analyses were completed and a Center Informal Report was prepared which is being reviewed by Investigation Chief.
Q	0	Scallop survey was postponed until August and September by the Resource Assessment Investigation.
R	0	Blue crab samples are being obtained from Chesapeake Bay and Chincoteague Inlet by biologists.
S	100	Special study (MESA Funded) on trace metal levels in sediments of New York Bight completed first half of FY.

RESULTS

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Carl J. Sindermann

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX: MAC-014-75-IE-A-1

5. SUBTASK TITLE: Mutagenic Effects of Pollutants

	7. %	8. STATUS
A	100	Accomplished
M	95	Almost ready for distribution as Center Informal Report
M	85	Slightly behind schedule, but to be finished soon
M	80	Slightly behind schedule, but to be finished soon
A	80	All but cyto-genetic analysis completed
A	100	Accomplished
M	80	To be included in manuscript under "4 M" above
A	20	Dropped until basic information on lobster chromosomes is collected, as well as information on background aberration rate
A	100	Accomplished
M	25	Manuscript in preparation
M	25	Will be done as scheduled
A	25	Dropped because of new contract work
A	0	Deferred because of new contract work

Same lag in schedule due again to reprogramming changes

ESULTS

Manuscripts are being prepared on the mutagenic effects of the heavy metal contamin-
s - silver, cadmium and lead. The experiments and results with chronic and acute expo-
es to the American oysters were described in detail in the last Subtask Progress Report.
o being prepared for publication are the results of a study on mackerel eggs from
ston and bongo samples in the New York Bight. A cyto-genetic study of these eggs showed
h incidences of chromosome and mitotic disturbances. An informal report has been pre-
ed for limited distribution - Evaluation of the Mutagenicity of Marine Contaminants for
ine Species as Affecting Inshore and Offshore Fisheries.

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3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-015-75-IE-A-1(01)

5. SUBTASK TITLE
Physioecology

6. F E	7. %	8. STATUS
	100	Lobster, chronic exposure to cadmium - exposures completed
	100	Lobster, chronic exposure to mercury - exposures completed
	100	Cunner, acute exposure to silver - exposures completed
	100	Cunner, chronic exposure to cadmium - exposures completed
	100	Striped bass, chronic exposure to cadmium - completed
	100	Striped bass, chronic exposure to mercury - completed
	50	Bivalves, chronic exposure to silver - on schedule
	100	Blue crabs, chronic exposure to cadmium - exposure completed
	10	Surf clams embryos, acute exposure to heavy metals - behind schedule
A	10	Lobster larvae, chronic exposure to cadmium - on schedule
M	80	MS - Effect of cadmium and mercury on lobsters - on schedule
M	80	MS - Effect of cadmium and mercury on striped bass - on schedule
M	100	MS - Effect of silver on surf clams - completed
M	25	MS - Effect of cadmium on blue crabs - completed
M	0	MS - See Activity No. 9 above - behind schedule

ESULTS

Testing completed - 150 lobsters exposed
Testing completed - 150 lobsters exposed
Testing completed
Testing completed
Testing completed - 500 striped bass 3 to 5 inches exposed
Testing completed - 240 striped bass 3 to 5 inches exposed
Data incomplete
Testing completed. MS being prepared by Oxford Laboratory
Difficulties in spawning of surf clams - temporarily suspended
Initiated late FY 1975
MS in preparation

(OVER)

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nthony Calabrese Anthony Calabrese

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

Results (contd)

12. MS in preparation
13. Data being analyzed
14. In-house report completed
15. No data - see No. 9 above

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3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-015-75-IE-A-1(02)

5. SUBTASK TITLE
Physiological Effects

). E	7. %	8. STATUS
A	100	Effects of cadmium on lobster respiration and osmoregulation - on schedule
A	100	Effects of mercury on lobster respiration and osmoregulation - on schedule
A	90	Effects of silver on cunner respiration and osmoregulation - on schedule
A	100	Effects of cadmium on cunner respiration and osmoregulation - completed
A	100	Effects of cadmium on juvenile striped bass respiration - testing completed
A	100	Effects of mercury on juvenile striped bass respiration - testing completed
A	50	Effects of silver on bivalve molluscs - on schedule
A	100	Effects of cadmium on rock crab respiration - testing completed
M	80	MS in preparation (1 & 2 above)
M	50	Data being analyzed - MS on schedule (3 above)
M	80	MS in preparation (5 & 6 above)
M	75	MS in press; 2nd MS: Data being analyzed (7 above)
M	75	MS in preparation (8 above)

ESULTS

Respiratory and osmoregulatory changes evaluated
Respiratory and osmoregulatory changes evaluated
Acute exposure to silver resulted in depressed oxygen consumption and no osmoregulatory change
Depressed oxygen consumption
Depressed gill tissue oxygen consumption after 30- and 60-day exposures
Oxygen consumption varies with length of exposure and concentration of pollutant
Data incomplete in second phase; first phase completed
MS in preparation
MS in preparation
MS in preparation
11. MS in preparation
12. One MS in press; second being assembled
13. MS in preparation

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rederick P. Thurberg
Frederick P. Thurberg

11. FRC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)
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3. REPORTING PERIOD: January 1 - June 30, 1975
4. TDP NO. PLUS STP SUFFIX: MAC-015-75-IE-A-1(03)
5. SUBTASK TITLE: Biochemical Effects

O. F E	7. %	8. STATUS
A	100	Lobster, chronic exposure to cadmium - on schedule
A	90	Lobster, chronic exposure to mercury - on schedule
A	100	Cunner, acute exposure to silver - on schedule
A	100	Cunner, chronic exposure to cadmium - on schedule
A	100	Striped bass, chronic exposure to cadmium - on schedule
A	100	Striped bass, chronic exposure to mercury - on schedule
A	10	Bivalve molluscs, exposure to silver - temporarily suspended
A	100	Rock crab, chronic exposure to cadmium - on schedule
A	NA	Baseline studies on transaminase in marine animals - continuing study
M	90	MS - Biochemical effects, cadmium and mercury in lobsters - on schedule
M	40	MS - Biochemical effects, acute exposure to Ag salts in cunner - on schedule
M	40	MS - Biochemical effects, cadmium and mercury in striped bass - on schedule
M	95	MS - Biochemical effects, chronic exposure to Cd in rock crab - on schedule

RESULTS

. Testing completed; MS nearing completion
. Exposure and major testing completed
. Testing completed
. Testing completed
. Testing completed
. Testing completed
. Preliminary work suspended
. Testing completed
. Seasonal variations in rock crab being gathered (heart transaminase)
. Data being analyzed for Hg; MS for Cd nearing completion
. MS in preparation on schedule
12. Data analyzed; MS in preparation
13. MS nearing completion

OFFICIAL PREPARING REPORT (Signature)
Edith Gould

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3. REPORTING PERIOD
2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-016-75-LS-A-1
(01)

5. SUBTASK TITLE
Molluscan Pathobiology

NO. OF A/E	7. %	8. STATUS
1	50	Ultrastructural studies of M. balthica have been completed, examination of O. lurida and M. edulis indicated additional material was needed to complete plans. Tissues are presently being processed.
2	100	The publication describing the ultrastructure of M. balthica is in press.
3	100	The ultrastructure of oyster papovavirus publication is in press.
4	75	The publication describing the ultrastructural pathology of oysters infected with papovavirus is in preparation.
5	100	The feasibility study of molluscan pathology in the New York Bight was completed. It was found that mollusks, Arctica atlantica could be collected and examined with the right vessel and equipment available.
6	N/A	Diagnostic services have been provided on a continuing basis on request from States, Federal agencies, universities, and industries.
	50	Samples of Korean oysters are now being examined on a monthly basis.
	50	Manuscript describing Minchinia parasite in Korean oysters has been completed. Additional data are being collected on the distribution of nematodes in surf clams and other marine mollusks.

RESULTS

. Ultrastructural studies of M. balthica revealed the site of origin of the neoplasm nd suggested the possibility of environmental insult in the form of damaged gill pithelial cells. Electron micrographs of M. edulis and O. lurida neoplasm showed ixation problems which require additional examination of new material which is being rocessed now. 2,3. Manuscripts describing the ultrastructure of the Macoma balthica eoplasm and papovavirus infections in Crassostrea virginica are in press. 4. The ublication describing the ultrastructural pathology is still in preparation. 5. Two ruises were made to the New York Bight to see if mollusks could be collected in dequate numbers for pathology studies. We found that Arctica atlantica was present n sufficient quantities and locations to warrant a study. 6. Samples of mollusks were xamined for parasites and pathology for the following organizations: the NMFS Lab,

OFFICIAL PREPARING REPORT (Signature)
For: C. Austin Farley

TITLE DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)

9. Results (continued)

Beaufort, N. C.; the States of Delaware and Washington; the University of Delaware and the Woods Hole Oceanographic Institute, the Blue Points Oyster Co., International Shellfish Enterprises, and W. F. Flower & Son. 7. Procedures have been improved samples are partially processed by the Republic of Korea prior to shipment. One of the monthly samples from Bogu, Korea, was found infected with vegetative stages of the Minchinia oyster parasite. 8. The additional Minchinia incidence data have been incorporated into the paper. In addition to the surf clam, Paranisakiopsis-like nematodes have been found in the welk, Busycon canaliculata and the moon snail, Lunatia heros.

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
1975

2. DATE PREPARED
7/22/75

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

(Submit four copies.)
O: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
2nd half, 2/2
January 1, 1975 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-016-75-LS-A-1
(02)

5. SUBTASK TITLE
Crustacean Pathobiology

NO. OF A/E	7. %	8. STATUS
1	100	Manuscript on virus symptomatology, pathology, and electron microscopy completed, accepted by J. Invertebr. Pathol., in press.
2	100	Data on tissues from virus-infected blue crabs have been synthesized.
3	10	Isolation attempts of virus continuing; to date no heavy infections recognized and isolation of virus may not have been achieved.
4	100	Completed and reported previous quarter (summer epizootic, Paramoeba)
5	100	Tissues from blue crabs collected Nov.-Mar. processed, examined, data concerning Paramoeba prevalence and range of pathology collated.
6	N/A	Begins FY 1976 (transmission attempts with Paramoeba and blue crab)
7	100	Completed and reported previous quarter (30-day Cd exposure)
8	100	Tissues of crabs from 60-day Cd exposure prepared and examined; data collated and synthesized.
9	100	All chronic Cd-exposure data reviewed, informal report prepared.
0	100	Satisfactory fixation, decalcification and staining methods for shrimp have been developed.
1	10	Grossly abnormal shrimp have not been found to date; monthly samples from NY Bight and control areas will continue
2	10	Data synthesis continues on normal histology of the blue crab
3	100	(Added) Progress of histopathologies of gas-bubble disease and bacterial infection in blue crab have been ascertained and papers prepared and submitted to J. Invertebr. Pathol.

RESULTS

. The virus infects gill epithelium and epidermis as well as hemocytes. 3. Due to navoidable lags between acquisition of crab tissues possibly infected with virus and xamination of them by light and electron microscopy, infection experiments with vailable frozen tissues cannot be attempted as yet. 5. Infection rates of Paramoeba n hibernating winter crabs ranged from 10-20%. Terminal (blood) infections are rare n winter crabs but tissue infections may be very heavy. 8 & 9. Insufficient numbers f survivors obviate statistical analysis. A report was prepared for the 1975 inhouse Contaminants Study Report." 10 & 11. Bouins fixative and a modified Mallory stain re satisfactory. 12. Photographs of normal tissues at various stages of the molt ycle are being made. 13. Paper on bacterial infection has been accepted by J. Invertebr athol; no word as yet on the gas-bubble disease paper.

OFFICIAL PREPARING REPORT *(Signature)*
Phyllis T. Johnson

11. EMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
1975

2. DATE PREPARED
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NMFS SUBTASK PROGRESS REPORT

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Washington, D.C. 20235

3. REPORTING PERIOD
2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-016-75-LS-A-1
(03)

5. SUBTASK TITLE
Fish Pathobiology

NO. OF A/E	7. %	8. STATUS
1	25	Processing and examination of tissues of juvenile striped bass exposed to mercury and cadmium continues.
2	100	Subsamples from all high level exposure groups and controls have been examined.
3	N/A	For next 1/2 year - examine low level exposure groups.
4	100	EM grids and photos of kidney tissues from cadmium exposed fish have been prepared for future reference.
5	60	Histopathological examination of tissues of diseased skipjack tuna continues.
6	100	Dissection and processing of all samples of skipjack tuna received to date has been completed.
7	N/A	For next 1/2 year - microscopic examination skipjack.
8	5	Studies of spinning disease of menhaden continue on schedule.
9	100	All histological specimens of diseased menhaden collected in previous years have been reviewed.
0	100	Ultrastructural examination of CNS lesions of menhaden have been completed on material collected prior to CY 1975.
1	80	Numerous specimens of diseased menhaden have been collected in Chesapeake Bay. Material from recently occurring mortalities in the N.Y. Bight has been added.
2	N/A	Studies of parasites and diseases of fish amenable to aquaculture continue as time permits.
3	80	The first draft of a paper entitled "Cutaneous myxosporidiosis in an American eel" has been completed.
4	N/A	Diagnostic services marine and estuarine fish continue to be provided.

RESULTS

,2. Striped bass exposed for 90 days to 5 ppb cadmium or 10 ppb mercury show lesions n the kidney and possibly in the pancreas. 4. Reference material on the effects of admium on fish kidney at the ultrastructural level are available for comparison with uture experimental material. 5,6. A specific cause for the "puffy snout" disease of una cannot be determined at present. The lesions can only be described and possible echanisms suggested. This will be the subject of a future report. 8,9,10,11. Samples f moribund menhaden have been collected from the eastern and western shores of hesapeake Bay, and the New York Bight. These will be processed and examined as time ermits. Gross examination of the specimens suggests that the mortalities in the three reas are all of different etiologies. In at least one case there are definitely CNS esions associated with the mortalities, as well as specific systemic manifestations

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Martin H. Thurman

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DSM-DC 4043-P74

of disease. In other cases gross lesions are absent, suggestive of a very acute death, perhaps caused by unfavorable environmental conditions. 12,13. A paper describing a skin disease in eels has been prepared for publication. 14. Specimens for diagnosis were received from Environmental Concern, Duke University Marine Lab, NMFS College Park, and private citizens.

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
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2. DATE PREPARED
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O: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-016-75-LS-A-1
(04)

5. SUBTASK TITLE
Histological Services

NO. OF A/E	7. %	8. STATUS
1	100	All samples and specimen materials processed and prepared for histological examination on schedule.
2	100	All periodic reports, manuals, and instruction sheets prepared on schedule.

RESULTS

, 2. Technical service performed; no other result.

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Robert H. Muncke

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR 1975

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3. REPORTING PERIOD 2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-016-75-LS-A-1
(05)

5. SUBTASK TITLE
Diseases of Larval Mollusks

NO. OF /E	7. %	8. STATUS
	68	Active isolation of mollusk larval pathogens from hatchery at Milford laboratory and commercial shellfish hatcheries on Long Island, New York.
	25	Data collection and collation to identify shellfish larval pathogens proceeding behind schedule.
	55	Site visits to all Long Island commercial shellfish hatcheries have been made. Consultation with the Univ. of Delaware Sea Grant project for closed cycle mariculture proceeding on monthly basis. Suggested improvements to reduce hatchery disease have been made to Long Island shellfish growers and monthly bacteriological tests are conducted in cooperation with Cornell University Sea Grant personnel at Long Island hatcheries.
	20	Use of silver as a bacteriocide in larval culture proceeding on schedule. Assessment of ozonization as a larval disinfectant is behind schedule due to lack of an assistant.
	4	Data collection to find methods to improve seawater quality have just been started and are on schedule.
	8	Literature search begun for manuscript describing methods for improving seawater quality. Project based on completion of event #5.
	75	Complete inactivation of Gonyaulax toxin by ozone gas demonstrated in laboratory and field experiments. Part of project funded by Massachusetts Science and Technology Foundation. Cooperative work to elicit molecular structure of PSP on schedule with University of Illinois.
	100	Publication of manuscript describing inactivation of Gonyaulax toxin will be available in November 1975 from the Marine Technology Society.

ESULTS

Several different bivalve pathogens have been isolated and re-inoculated in challenge sts with bivalve larvae. 2. Using work-study assistance standard techniques to entify larval pathogens are employed. With return of full time assistant in September 75 this work will go on schedule. 3. Consultations with local and west coast shellsh hatcheries have resulted in acute emphasis on water quality control and hatchery eanliness which are improving % survival of larvae. Have edited a book entitled uatic Applications of Ozone which will be available in August 1975 showing methods to prove water quality and reduce disease. 4. Identification of hypobromite radical oduced when ozonizing seawater appears to be causative agent of larval mortality in onized seawater. Lack of trained assistant hampers progress in assessing damage to ellfish larvae held in ozonized water. 7. A pilot scale project was completed in

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FOR: Walter Blogoslawski

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Carl J. Sindermann

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9. Results (continued)

June 1975 showing that ozone can detoxify shellfish. 8. A paper is now being prepared which will describe ozonization techniques used in field studies and pilot plant depuration of toxic shellfish during an actual red tide.

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1. FISCAL YEAR
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2. DATE PREPARED
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Washington, D.C. 20235

3. REPORTING PERIOD
2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-017-75-IE-A-1
(01)

5. SUBTASK TITLE
Fin Rot Disease in the New York Bight

NO. OF V/E	7. %	8. STATUS
1	100	All "corridor" cruises to the N.Y. Bight to determine fin rot prevalence are complete through June 1975.
2	100	All fin rot prevalence data from the "corridor" cruises have been collated.
3	100	Manuscript completed 1st half FY 75.
4	100	Manuscript completed 1st half FY 75.
5	50	Traps have been placed in the sewage sludge disposal area of the N.Y. Bight
6	10	Microscopic studies on fin rot in progress; to be completed FY 76.
7	N/A	To be completed FY 76 - manuscript on fin rot laboratory studies.
8	50	In progress; to be completed FY 76 - monitor fin rot in summer flounder.
9	N/A	To be completed FY 76 - collate, analyze fin rot data on summer flounder.

RESULTS

From July '74-July '75, 7,897 winter and summer flounder were examined on "corridor" ruises to the N.Y. Bight. Inside the apex 85/3711 (2.3%) winter flounder and 34/1693 2.0%) summer flounder exhibited fin rot disease. Outside the apex no diseased winter ounder (1438) or summer flounder (1055) were found. 5. Traps containing winter ounder have been placed in the sewage sludge area of the N.Y. Bight three times for rom 2-4 weeks. No traps yet have been retrieved from the control site. Trapped winter ounder from the sludge area invariably display caudal fin erosion.

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OMM-DC 4040-P74

U. S. DEPARTMENT OF COMMERCE
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1. FISCAL YEAR 1975

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(See Detailed Instructions)

2. DATE PREPARED 7/23/75

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3. REPORTING PERIOD 2nd half, 2/2 January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX MAC-017-75-IE-A-1 (02)

5. SUBTASK TITLE Immunity in Marine Fish

NO. OF A/E	7. %	8. STATUS
1	100	Examination of flounder for antibody to environmental bacteria is complete. Data in final stages of analysis.
2	100	Determination of antibody response in laboratory-immunized flounder complete on schedule.
3	100 (85)	Programmed examination of effects of cadmium on antibody response in striped bass and cunners complete. However, data review shows need to obtain values at additional cadmium levels and exposure times.
4	20	Slippage in manuscript preparation for no's. 1, 2 and 3 due to excessive time spent training and supervising new student (temporary) help.
5	0	Evaluation and publication of flounder-bacterial interaction in environment is not complete for reason given in no. 4.
6	100	Determination of Vibrio levels that cause ulcers in tank-held flounder is complete.
7	100	Examination of Long Island Sound fish sera for antibody to ulcer disease agent is complete on schedule.
8	0	Slippage in manuscript preparation for reason given in no. 4.
9	0	Publication of manuscript detailing pathogenicity of Vibrio ulcer disease agent scheduled for next month; however, slippage is expected due to reason in no. 4.
0	0	Studies of multiple bacterial pathogenicity in flounder will be dropped unless stable source of hatchery-reared juvenile flounder can be found.
.	N/A	Examination of Vibrio-phagocyte interaction in susceptible and nonsusceptible fish is scheduled for FY 76.
2	N/A	Examination of cadmium-caused phagocytic defect in cunners and striped bass is scheduled for FY 76.

RESULTS

Serological evidence indicates a higher contact with potentially pathogenic bacteria flounder from the New York Bight than in flounder from the Great Bay control area. fish with fin rot, no correlation can be found between any specific bacterium and esence of the disease; however, these fish, in general, seem to have slightly reduced tibody response. 2. Summer flounder from two polluted areas, when immunized in the b, give higher antibody responses to bacterial antigens than those caught in a clean ea (another indication of higher previous bacterial exposure in polluted areas). Exposure of cunners to 12 ppm cadmium for 96 hr causes some suppression of their tibacterial antibody response. Indications are that at cold temp. uptake of cadmium d (therefore) antibody response is reduced. Chronic exposure of striped bass to dmium at cold temp. produces no effect on antibody response. 4. Literature survey

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FOR: Richard Robohm

FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)
Carl J. Sindermann

NMM-DC 4049-P74

9. Results (continued)

for manuscript covering no's. 1, 2 and 3 is complete. 6. Addition of a newly discovered Vibrio pathogen to aquarium water at about 400 cells per ml. results in ulcers in winter flounder. The Vibrio cells persist in sterile seawater at 15 C or 25 C for a period in excess of 100 days. 7. 71% of the blackfish, 61% of the cunners, 14% of the windowpane flounder and 10% of the winter flounder examined in Long Island Sound had significant serum antibody titers to the Vibrio ulcer-disease agent.

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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: 7/18/75

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3. REPORTING PERIOD: 2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX: MAC-017-75-IE-A-1 (03)

5. SUBTASK TITLE: Microfauna of New York Bight Fish and Benthos

NO. OF A/E	7. %	8. STATUS
	100	Amoeboid protozoa identified to genus and species
	100	Collections from sewage, dredge, acid waste, control areas finished.
	50	Abstracts on preliminary data published (see attachment).
	75	Approximately 1,000 crabs and lobsters processed; 500 for histology.
	100	Principal conditions involved in gill fouling are documented.
	100	Principal differences in gill fouling organisms documented.
	100	Comparative baseline histopathology of Crustacea in New York Bight and Sandy Hook Bay have been completed.
	100	Collection trips for Atlantic mackerel completed in April 1975.
	100	Mackerel tissues fixed and examined histologically.
	100	Proposals for aquaculture study completed and work initiated.
	100	Current literature on protozoa associated with aquaculture has been surveyed and summarized.

RESULTS

. 26 species of amoeboid protozoa identified from N.Y. Bight and publications on des-
riptions of new genera and species (see attachment) now permits data to be published.
. Comparative species composition of protozoa in different micro-habitats now being
ıbulated for publication. 3.Preliminary findings published as abstracts in July 1975
ɔw being expanded in full manuscript. 4. Two large collections of crabs and lobsters
ıde at MESA grid stations in first half of 1975 are being processed for histopathology.
. The parasitic amoeba, Paramoeba perniciosa, has been discovered as the principal
gent causing phagocytic nodule formation in rock crabs and lobsters, the suctorian
:iliate) has been discovered at depths of 100 feet or more on crab gills in the Bight
ɔex, and excessive melanization of certain crab gills has been found to be associated
ith massive diatom infestations on cuticular surfaces. 6. Massive bacterial populations

OFFICIAL PREPARING REPORT (Signature): Thomas K. Sawyer

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Carl J. Sindermann

DMA-DC 4049-R74

). Results (Continued)

often associated with amoebae, are present on gill surfaces primarily with rock crabs and rarely with swimming crabs. 7. Comparative histopathology between crustacean species is essentially complete and certain conditions are being studied in cooperative electron microscopic studies. 8. 36 Atlantic mackerel were collected in April 1975, processed for routine histopathology, and selected blood samples were processed for cooperative electron microscopic studies on parasites in the blood cells. 9. Histopathological techniques on blood and tissues of mackerel have revealed the presence of two distinct sporozoan parasites in host fish; life cycles are under investigation. 10. Initial studies on protozoa associated with aquaculture are in progress. 11. Protozoa associated with aquaculture have been surveyed as described in available literature.

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
1975

NMFS SUBTASK PROGRESS REPORT

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2. DATE PREPARED
7/23/75

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3. REPORTING PERIOD
2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-017-75-IE-A-1
(04)

5. SUBTASK TITLE
Ultrastructural studies of normal and physiologically stressed crabs, fish, and mollusks

HO. OF /E	7. %	8. STATUS
	66	Ultrastructural studies on diseased crabs (C. sapidus & C. irroratus) are continuing and preliminary investigations have led to several specific studies as described below (results).
	100	Paper entitled: Ultrastructural Observations on the Blood and Hemopoietic Tissue in the Crab, Callinectes sapidus. I. Hemocytes from Intermolt Animals is presently being typed and will be submitted to the journal Cell and Tissue Research upon completion of the review process.
	100	Manuscript entitled: A Disease of the Blue Crab, Callinectes sapidus, of Possible Viral Etiology was submitted to J. Invertebr. Pathol. last reporting period and has been accepted for publication.
	66	Scanning and transmission electron microscope studies on normal and diseased tissues (fins) from flounder collected in the New York Bight have continued with emphasis being placed on fish collected during spring cruises of 1975.
	50	Evaluation of EM data on normal and diseased (fin rot) winter flounder from the New York Bight. Progress listed at 50% owing to reasons explained in 4 & 5 of Results below.
	0	Manuscript on the cytopathology of fin rot disease in winter flounder not prepared at this time (see Results 4 & 5).
3	0	Experiments dealing with wound repair processes in winter flounder could not be performed before February; therefore, data analysis and manuscript preparation are six months behind (see results 7 & 8).
	50	Ultrastructural studies on the blood cells of the striped bass and winter flounder.
	N/A	Completion of fine structure studies of blood and phagocytic cells from the striped bass and winter flounder (FY 1976 study).
	N/A	Collection and examination of red blood cells from mackerel parasitized by a hemogregarine-like parasite (FY 1976 study).

ESULTS

. Studies on virus development, pathogenic amoebae, and host response to microbial nsult are being conducted on blue crabs (C. sapidus) and rock crabs (C. irroratus) ollected from degraded (N.Y. Bight) and normal environments. 2. Original study on ue crab hemocytes expanded to include more specific information on their functional tology and a second study of blood cell formation in this species is underway. 3. nuscript accepted for publication. 4. Present efforts are directed toward examining n eroded tissues collected this spring for only a limited amount of properly prepared ssue was available from July 1974 to March 1975. 5. Evaluation of material collected st year (1974) has indicated that the earliest stages of fin erosion disease, thus r detected, are characterized by a loss of integrity in the epithelium as a result of cellular loss of adhesiveness. Exaggerated extracellular space appears to accompany

OFFICIAL PREPARING REPORT (Signature)

FOR: Joel E. Bodammer

11. FRC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)

9. Results (continued)

cell death which eventually renders the epithelium permeable to the environment and possible secondary infection. The above observations are being compared with material collected this year before this hypothesis can be further advanced.
6. Data still being evaluated (see 4 & 5 above). 7, 8. An inability to maintain the fish needed for this experiment prohibited any progress until February of this year. Consequently, this project will require an additional six months to complete.
9. Ultrastructural studies on blood cells from striped bass have shown that the peripheral blood of this species has seven types of cells and the function of each type is presently being investigated. 10, 11. No results are available for these projects at the present time.

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

2. DATE PREPARED
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3. REPORTING PERIOD
2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-017-75-IE-A-1
(05)

5. SUBTASK TITLE
Registry of Marine Pathology

NO. OF /E	7. %	8. STATUS
	95	Policy discussions held with officials in and out of NOAA and NMFS leading to decisions on materials, accession methods, cataloguing, and retrieval systems.
	55	Review and revision of activity is continuous.
	100	Initial solicitation of accessions has been accomplished.
	100	An accession entry form has been prepared and is currently in use.
	100	All initial accessions have been received and catalogued.
	100	New accessions are being received and catalogued on a continuing basis.
	85	The first catalogue will be issued during the first half of FY 76.
	65	Solicitation of contributions outside NMFS will continue during FY 76.
	N/A	First annual review is scheduled for FY 76.

RESULTS

Further discussions were held with automatic data processing specialists at Sandy ok and with Mr. John Pleasants, manager of a biological and ecological information orage facility (Marine Environment and Resources Research and Management System, MERRMS) om the Virginia Institute of Marine Science. 2. Activities are under continuous review insure that flexibility and leeway for advantageous modifications are incorporated to policies and methods. 3. Contributions have been solicited from biologists at the ddle Atlantic Coastal Fisheries Center with special emphasis on the staff of the ford Laboratory. 4. A brief but comprehensive accession entry form has been prepared d modified. The form includes an array of pertinent information descriptive of the cession and useful for indexing, cataloguing, and retrieval.

REPORTING OFFICER (Signature)

FOR: Haskell S. Tubiash

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

MM-OC 4041-P74

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
FY 1975

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

2. DATE PREPARED
July 17, 1975

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3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-053-75-LS-A-1(01)

5. SUBTASK TITLE
Distribution and Abundance of Prerecruits

NO. OF A/E	7. %	8. STATUS
1	100	Ichthyoplankton and neuston samples from fall (FY 75) sorted and identified.
2	100	Ichthyoplankton data from above cruise compiled and available to user groups.
3	100	Spring survey cruise completed.
4	30	Sorting and identifying of ichthyoplankton samples from spring cruise started on schedule.

RESULTS

1. Completed sorting and identification of larval and juvenile fishes from 74 plankton samples and 174 neuston samples collected during fall (FY 75).
2. Compilation of both plankton and neuston data completed.
3. Spring survey cruise completed.
4. Began sorting samples from spring cruise (FY 75).

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U. S. DEPARTMENT OF COMMERCE
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(See Detailed Instructions)

1. FISCAL YEAR: FY 1975

2. DATE PREPARED: July 17, 1975

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Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-053-75-LS-A-1(02)

5. SUBTASK TITLE: Diurnal Activities of Young Fishes - Field Work

NO. OF /E	7. %	8. STATUS
L		Planned for summer cruise (FY 76) to study diurnal activities of young silver hake and associated species.

RESULTS

.. Began preping for July (FY 76) cruise.

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15. NMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sundermann

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NMFS SUBTASK PROGRESS REPORT

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2. DATE PREPARED: July 17, 1975

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3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-053-75-LS-A-1(03)

5. SUBTASK TITLE: Analysis and Preparation of In-House Data for Publication

NO. OF /E	7. %	8. STATUS
1	90	Final draft of Ms on distribution of young bluefish completed. Submission of Ms for review delayed by need to revise some figures.
2	95	Ms on distribution of Atlantic mackerel being revised after review. Completed on schedule but delayed by need for revision.
3	90	Final draft of Ms on description of young sea robins nearly completed. Behind schedule due to changes in Ms format.
4	75	Figures completed, text in preparation on Ms describing two species of Merluccius. Completion behind schedule.
5	95	Ms on description and occurrence of eels being revised after review. Completed on schedule but delayed by need for revision.
6	10-30	Actively working on Ms of following four species and three families: 1. Seasonal distribution and abundance of: a) cod, pollock, haddock b) members of family Scombridae c) members of family Sciaenidae d) members of family Clupeidae 2. Description of young stages of tilefish.

RESULTS

. Bluefish Ms completed except for revision of few figures.
. Atlantic mackerel Ms completed, reviewed, now undergoing minor revision.
. Sea robin Ms submitted for final typing prior to review.
. Actively working on initial draft of text describing young Merluccius.
. Eel Ms completed, reviewed, now undergoing minor revision.
. Ms on fishes listed above proceeding on schedule.

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U. S. DEPARTMENT OF COMMERCE
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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
O: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: 2nd Half, 2/2

4. TDP NO. PLUS STP SUFFIX: MAC-055-75-IE-R-1-01

5. SUBTASK TITLE: Seabed Oxygen Consumption, New York Bight

NO. OF A/E	7. %	8. STATUS
1	100%	On Schedule
2	85%	On Schedule
3	50	On Schedule
4	100%	Completed
5	50%	Submitted technical report to MESA
6	0	On Schedule
7	0	On Schedule
8	0	On Schedule
9	0	On Schedule
0	0	On Schedule

RESULTS

Submitted to MESA Office two reports:

1. Technical Report - New York Bight Apex - Data on Total Oxygen Consumption by the seabed - March 1974 - February 1975.
2. Material for EIS concerning the proposed alternate waste disposal sites in the New York Bight.

OFFICIAL PREPARING REPORT (Sig.Sture) John S. Ramie

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.) Carl J. Sindermann

OMM DC 4049-P74

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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second Half

4. TDP NO. PLUS STP SUFFIX: MAC-055-75-IE-R-1(02)

5. SUBTASK TITLE: Phytoplankton and Primary Productivity, New York Bight

NO. OF A/E	7. %	8. STATUS
		* SEE MAC-067-75-IE-A (01)

RESULTS

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11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*: [illegible]

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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
O: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-055-75-IE-R-1-03

5. SUBTASK TITLE: Benthic Macrofauna, New York Bight

NO. OF A/E	7. %	8. STATUS
1	100	On schedule.
2	100	On schedule.
3	100	On schedule.

RESULTS

. Three cruises conducted that are not shown on plan: (1) February to proposed alternate dump sites; (2) April to either side of proposed alternate dump sites in comparable depths; and (3) May-June to Long Island near shore.
. Completed 1 grab of: (1) 5th quarterly cruise; (2) alternate dump site cruises; and (3) about half of cruise described in (2), above.
. Reports received on historical data; contract continued to analyze reconnaissance data. This function to be reported in future under subtask suffix 06.

OFFICIAL PREPARING REPORT *(Signature)*: J. K. McCully

11. ~~FMC DIRECTOR OR~~ DESIGNATED REPRESENTATIVE *(Sig.)*: Carl J. Sindermann

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NMFS SUBTASK PROGRESS REPORT

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1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-055-75-IE-R-1-04

5. SUBTASK TITLE: Benthic Macrofauna - Sorting and Reporting

NO. OF M/E	7. %	8. STATUS
		Contract terminated. Sorters now hired as work-study students.

RESULTS

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1. FISCAL YEAR
1975

2. DATE PREPARED
July 1975

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

(Submit four copies.)
(): Director, National Marine Fisheries Service, ATTN: Fx5 National Oceanic and Atmospheric Administration Washington, D.C. 20235

3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-055-75-JE-R-1-0

5. SUBTASK TITLE
Benthic Macrofauna - Sorting and Reporting

NO. OF /E	7. %	8. STATUS
1	100	On schedule.
2	100	On schedule.
3	100	On schedule.
4	100	On schedule.

RESULTS

-4. Productivity of group improved over 1st half of FY. Contract was extended to September 15, 1975, after which the contract will terminate. Functions of this subtask will be transferred to STP 03.

OFFICIAL PREPARING REPORT *(Signature)*
J. K. McCarthy

10. PAC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

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1. FISCAL YEAR
1975

2. DATE PREPARED
July 1975

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

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): Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
Second Half

4. TDP NO. PLUS STP SUFFIX
MAC-055-75-IE-R-1-0

5. SUBTASK TITLE
Statistical Design and Analysis - New York Bight

0. OF /E	7. %	8. STATUS
3	100	On schedule.
4	100	On schedule.
5	0	Contractor does not have necessary data for multivariate analyses.
5	0	Contractor does not have necessary data for multivariate analyses.

RESULTS

and 4. Contractor supplied list of ecologically important species.
and 6. Support of contract lapsed from 30 December 1974 until mid-June, when continuation was authorized based on redefinition of goals.

OFFICIAL PREPARING REPORT *(Signature)*
J. K. McCarthy

U. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sundermann

MM-DC 4049-P74

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(See Detailed Instructions)

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3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-055-75-IE-R-1-07

5. SUBTASK TITLE
Benthic Meiofauna - Foraminifera - New York Bight

NO. OF A/E	7. %	8. STATUS
1	70	Behind schedule.
2	70	Behind schedule.
3	70	Behind schedule.

RESULTS

Contractor has given verbal assurances that the research on foraminiferal indicators of dumping is proceeding satisfactorily. A continuation of contract until 30 June, 1975 was negotiated in December 1974. Final report not yet received.

OFFICIAL PREPARING REPORT *(Signature)*
J. K. McCarty

11. MC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

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1. FISCAL YEAR
1975

NMFS SUBTASK PROGRESS REPORT

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2. DATE PREPARED
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Washington, D.C. 20235

3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-055-75-IE-R-1-08

5. SUBTASK TITLE
Benthic Meiofauna - Nematodes - New York Bight

0. F /E	7. %	8. STATUS
	100	On schedule.
	100	On schedule.
	100	On schedule.

ESULTS

ontractor's final report received.

FFICIAL PREPARING REPORT *(Signature)*
J. H. McCry

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

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): Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-055-75-IE-R-1-09

5. SUBTASK TITLE: Benthic Meiofauna - Ciliates - New York Bight

NO. OF /E	7. %	8. STATUS
1	100	On schedule.
2	100	On schedule.
3	100	On schedule.

RESULTS

Contractor's final report received.

OFFICIAL PREPARING REPORT *(Signature)*: J. K. W. Ulty

11. DMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*: Carl J. Sindermann

NOAA FORM 32-15C
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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

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TO: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-055-75-IE-R-1-10

5. SUBTASK TITLE: Phytoplankton and Primary Productivity - Apex of New York Bight

NO. OF A/E	7. %	8. STATUS
4	100	On schedule.
5	100	On schedule.

RESULTS

Contractor's final report received.

OFFICIAL PREPARING REPORT *(Signature)*: J. K. McCarthy

11. DOC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*: Carl J. Sindermann

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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: FY 1975

2. DATE PREPARED: July 17, 1975

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TO: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-055-75-IE-R-1(11)

5. SUBTASK TITLE: Analysis of Groundfish Samples for MESA Objectives

NO. OF A/E	7. %	8. STATUS
1	100	Pathological samples collected and distributed on schedule.
2	60	Data processing on schedule, data analysis begun.
3	100	Information for scheduled reports submitted on time.
4	100	Data summaries prepared and submitted to MESA in manuscript form for publication.

RESULTS

1. Groundfish catch data and finrot samples collected on schedule.
2. Data processing on schedule. Analysis of impacted areas begun.
3. Station listings and catch data submitted for alternate dump site and tri-mester reports.
4. Six summary reports submitted to MESA for publication. Other reports in progress comparing fish distribution in impacted and non-impacted areas.

OFFICIAL PREPARING REPORT *(Signature)*: Thomas P. Garrod

NMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*: Carl J. Sindermann

COMM-DC 4049-P74

A FORM 32-15C
4)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
1975

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

2. DATE PREPARED
July 23, 1975

(Submit four copies.)
Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-056-75-AO-A-1

5. SUBTASK TITLE
Aquacultural Genetics

D. E	7. %	8. STATUS
A	25	Background data collected
M	80	Manuscript partly completed
A	0	Initiation postponed on condition of new hire
A	0	Dropped until more work has been done on artificial foods
A	10	Literature being explored
M	85	Manuscript largely completed; awaits review by Investigation Chief
M	90	Manuscript almost ready for Center review
M	90	Manuscript awaits review by Investigation Chief
E	100	Accomplished
M	70	Manuscripts partly completed
A	30	Progress being made
E	25	To be done as scheduled
M	0	To be done as scheduled
A	15	Idea still being fostered

Same lag in schedule due again to reprogramming changes

ESULTS

Three manuscripts are largely completed for scientific journals. One deals with parthenogenesis induced by genetically "dead" sperm, and use of this method to obtain absolutely inbred oyster larvae for breeding tests and use. Another is a comprehensive study (and discussion) on the use of radiation as a tool in experimental breeding with practical applications in mind. The third is a cyto-genetic study of the large deeper water oyster, Hyotissa hyotis (of the old Pycnodonte or third genus of oysters). Evidence is presented for the genetic distinctness of these oysters from the common commercial oysters, a finding with implications for the establishment of wide-hybridization programs.

(OVER)

OFFICIAL PREPARING REPORT (Signature)
Arlene C. Longwell

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)

9. Results (contd)

The usual consulting work on breeding has been done on request of hatcheries. A symposium lecture on aquacultural genetics is being prepared for this year's 3rd Pacific Science Congress in Vancouver.

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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975
2. DATE PREPARED: July 23, 1975

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Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: January 1 - June 30, 1975
4. TDP NO. PLUS STP SUFFIX: MAC-057-75-AQ-A-1
5. SUBTASK TITLE: Laboratory Culture of Marine Micro-algae

7. %	8. STATUS
100	On schedule
100	On schedule
100	On schedule
100	On schedule

SULTS

- Species in the culture collection were kept in viable state by periodic subculturing on various types of growth media.
- All strains subjected to periodic tests for sterility. Two species have been recently purified, leaving only 3 strains that are still bacterized.
- Several species have been acquired from other investigators and some additional isolates were made.

(OVER)

FFICIAL PREPARING REPORT *(Signature)*
venna Ukeles

11. FAC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*

Results (contd)

4. Growth, as affected by the presence or absence of vitamin supplements, is being evaluated in several species.

   A unique method has been developed for culture of microscope algae that can be used for evaluating growth response to chemical and physical factors. A manuscript has been prepared entitled, An Unusual Method for the Culture of Marine Microscopic Algae.

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2. DATE PREPARED: July 23, 1975

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX: MAC-057-75-AQ-A-1

5. SUBTASK TITLE: Mass Cultivation of Marine Micro-algae

	7. %	8. STATUS
	100	On schedule
	50	On schedule
	30	On schedule

ESULTS

1. Mass cultures of microscopic algae were maintained as semi-continuous pure cultures to yield a total of 2,335 liters. This material was used as a food source for juvenile and larval stages of molluscs experimented with in other Investigations in Experimental Biology. The number of culture carboys was increased from 12 to 30. Mass cultures of mixed species were maintained in open tanks to provide a continuous food source for adult animals. The harvest for this past 6-month period was 52,700 liters.

2. This is an ongoing activity for which progress will be continuous. Efficiency at maintaining clean cultures for long periods has increased and hence the storing of food cultures at low temperatures becomes more efficient. Experiments into (OVER)

FFICIAL PREPARING REPORT (Signature)
Ravenna Ukeles

-11-

11. PMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)
Carl J. Sindermann

9. Results (contd)

the potential of lyophilizing cultures have been started.

3. Experiments in which minimal growth media is being evaluated with an aim towards increasing the cost efficiency of the growth process are in progress.

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1. FISCAL YEAR: 1975
2. DATE PREPARED: July 23, 1975

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: January 1 - June 30, 1975
4. TDP NO. PLUS STP SUFFIX: MAC-057-75-AQ-A-1
5. SUBTASK TITLE: Experiments in Molluscan Nutrition

6. TITLE	7. %	8. STATUS
	40	Partially on schedule
	20	Partially on schedule
	20	Partially on schedule

ESULTS

1. Experiments were conducted in rearing oyster larvae with various containers and other experimental variables in natural and artificial seawater, both sterile and non-sterile but, as yet, no satisfactory method for rearing the animals in a satisfactory experimental design has been found.

2. and 3. Some experimental work has been conducted but progress here is limited by lack of developments in part 1.

FFICIAL PREPARING REPORT *(Signature)*
Ravenna Ukeles Ravenna Ukeles

-12- 11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Paul J. Sandermann

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1. FISCAL YEAR
1975

2. DATE PREPARED
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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-057-75-AQ-A-1

5. SUBTASK TITLE
Effects of Pollutants on Cultivation of Micro-algae

D. F E	7. %	8. STATUS
A	70	Not on schedule
A	80	On schedule

ESULTS

1. Not on schedule due to pressure of other work and insufficient assistance in the laboratory.

2. Manuscript entitled, Observations on Organic Carbon Utilization by Photosynthetic Marine Microalgae, has been completed. The study describes organic carbon utilization of 13 axenic species of micro-algae in the light and in the dark. The compounds tested were 15 sugars, 19 acids, and 16 alcohols. The ecological aspects are evaluated.

(OVER)

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Ravenna Ukeles

-63-

11. FHC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

Results (contd)

Some additional data on toxicity levels of the alkali metals - lithium, cesium and rubidium - for microscopic algae were obtained. The interrelationships between these elements and sodium and potassium are being studied.

A study evaluating the toxic effects of the non-metallic element - selenium - is in progress. Elements that are antagonistic to selenium toxicity are being researched.

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1975

2. DATE PREPARED
7/23/75

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Washington, D.C. 20235

3. REPORTING PERIOD
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX
MAC-059-75-AQ-A-1(01)

5. SUBTASK TITLE
Culture Methods for the Surf Clam

O. F 'E	7. %	8. STATUS
A	66	On schedule
A	70	On schedule
A	40	Behind schedule
A	50	Behind schedule

ESULTS

1. Attempts to ripen surf clams during the winter failed. New approach planned.
2. Damp refrigeration of ripe clams, which improves their response to spawning stimuli, shown to lower fertilization percentage.
3. Fouling of recently-set clams, which can be fatal, studied. Control measures not yet found.
4. Due to heavy mortality of post-set clams from fouling, studies of growth of juveniles in the tank farm this growing season have been delayed.

OFFICIAL PREPARING REPORT *(Signature)*
arren S. Landers

10. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*

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2. DATE PREPARED: 7/23/75

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ational Oceanic and
tmospheric Administration
ashington, D.C. 20235

3. REPORTING PERIOD: January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX: MAC-059-75-AQ-A-1(02)

5. SUBTASK TITLE: Culture Methods for the Bay Scallop

7. %	8. STATUS
90	On schedule
10	Ahead of schedule
10	Ahead of schedule

ULTS

Sources of adult scallops scarce but adequate. Search for new sources being pursued constantly.

Initial attempts to ripen scallops out of season partially successful. Several avenues of study suggested by initial results.

Preliminary rearing attempts partially successful. Larvae reared to metamorphosis but problems are apparent which limit consistency of results.

FICIAL PREPARING REPORT *(Signature)*
rren S. Landers *Warren S. Landers*

11. FMC/DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

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U. S. DEPARTMENT OF COMMERCE
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1. FISCAL YEAR
FY 75

2. DATE PREPARED
7/18/75

NMFS SUBTASK PROGRESS REPORT

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
2nd Half FY 75

4. TDP NO. PLUS STP SUFFIX
MAC-061-75-IE-R-1

5. SUBTASK TITLE The effect of temperature change on schooling and feeding behavior of juvenile mullet and bluefish

D. F /E	7. %	8. STATUS
A	30	Continuation of tests to establish normal feeding, vision, and schooling responses delayed by seasonal unavailability of bluefish.
A	10	Acute thermal stress effects have begun on activity, feeding, and schooling of juvenile bluefish.
A	25	Thermal stress effects on mullet have been delayed by seasonal unavailability of fish.
A	0	Bluefish studies to be completed on schedule.

RESULTS

1. Preliminary tests have shown that vision is a primary sensory component in normal intraspecific social attraction.
2. Significant changes in schooling cohesion and feeding are evident at sublethal levels during rapid temperature rises (about 1.5°C/hr).
3. Visual attraction between species mates is disrupted at sublethal temperatures.

OFFICIAL PREPARING REPORT (Signature)
John B. Pearce

11. NMFS DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)
Capt J. Lucas

A FORM 32-15C
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NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: FY 1975

2. DATE PREPARED: July 17, 1975

(Submit four copies.)
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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-065-76-IE-R(01)

5. SUBTASK TITLE: Ichthyoplankton Survey of New York Bight

O. F E	7. %	8. STATUS
	100	Monthly cruises in New York Bight completed.
	50	Plankton samples being sorted on contract on schedule.
	100	Cruise reports (in form of quarterly reports to BNL) prepared on schedule.
	50	Sorting, counting and measuring of sorted samples on schedule.
	50	Analysis of plankton data on schedule.

ESULTS

- Ten monthly cruises conducted on schedule.
- Contract let to NYOSL 200 of 550 samples sorted to date.
- Quarterly reports to BNL include cruise report information.
- Samples from monthly cruises sorted as received from NYOSL.
- Analysis of data proceeding - some results presented to BNL at conference in May.

OFFICIAL PREPARING REPORT *(Signature)*

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sindermann

FORM 32-15C

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: FY 1975

2. DATE PREPARED: July 17, 1975

(Submit four copies.)
Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-065-76-IE-R(02)

5. SUBTASK TITLE: Atlas of Ichthyoplankton Data from R/V Dolphin Survey 1965-66.

7. %	8. STATUS
100	Accumulation of data completed.
100	Keypunching, auditing and editing of data completed.
80	Preparation of computer printout program behind schedule.
10	Production of machine generated listings behind schedule.
20	Preparation of atlas underway - behind schedule.

ESULTS

Data accumulation completed in April 1975.
Data keypunching, auditing, editing completed May 1975.
Format changes required by editor of SSR -- their completion time consuming due lack of ADP terminal.
Machine generated list depended on format changes.
Preparation of atlas underway -- first draft nearly complete.

FICIAL PREPARING REPORT *(Signature)*

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*

A FORM 32-15C
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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-065-76-IE-R(03)

5. SUBTASK TITLE: Diurnal Activities of Young Fishes - Lab Work

D. E	7. %	8. STATUS
	100	Sorting of summer FY 75 samples completed on schedule.
	75	Identifying, counting and measuring larval collections proceeding on schedule.
	75	Ms pertaining to diurnal activities of larval Atlantic mackerel and yellowtail behind schedule, due to unanticipated need for ADP analysis, and subsequent interpretation of results.

ESULTS

. Sorting of samples from summer cruise (FY 75) to study diurnal activities of blue-ish completed.
. Identifications, counts and measurements of bluefish and associated larvae on chedule.
. Completion of Ms on yellowtail flounder and Atlantic mackerel delayed by need for tatistical analysis of data and subsequent interpretation of ADP results.

OFFICIAL PREPARING REPORT *(Signature)*

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*

DAA FORM 32-15C
-74)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. FISCAL YEAR
FY 1975

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

2. DATE PREPARED
July 17, 1975

(Submit four copies.)
O: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD
Second half

4. TDP NO. PLUS STP SUFFIX
MAC-065-76-IE-R(04)

5. SUBTASK TITLE
Historical Hydrographic Data

NO. OF A/E	7. %	8. STATUS
1	100	Obtained hydrographic data from NODC, editing and formating complete.
2	100	Updating data on file at Sandy Hook complete.
3	90	Obtaining and editing pertinent data from other NMFS sources behind schedule.
4	80	Accumulation and processing raw data in files at Sandy Hook behind schedule.
5	80	Compiling data into a uniform file behind schedule.
6	60	Forwarding processed data to BNL behind schedule.

RESULTS
. NODC data file complete, reformated. 2. Sandy Hook data file updated. 3. Card data from Woods Hole not all available. 4. Some data from MESA and groundfish rojects not accessed. 5. Data compiling dependent on completion of activities 3 and 4. . Forwarding of data dependent on completion of activities 3, 4, and 5.
OTE: This subtask was originally to be completed in April 1975. This was extended o July 1975. Several parts of the subtask are still incomplete because of lack of data rocessing personnel and problems getting data from original sources.

OFFICIAL PREPARING REPORT *(Signature)*

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE *(Sig.)*
Carl J. Sundermann

FORM 37-15C

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: 2nd half, 2/2

4. TDP NO. PLUS STP SUFFIX: MAC-067-75-JE-A-01

5. SUBTASK TITLE: Phytoplankton and Primary Productivity, New York Bight

7. %	8. STATUS
100%	Completed
90	On schedule
50	Almost back on schedule
5	Delayed due to computer processing
0	On schedule

ULTS

Exxon Research and Engineering Company, Linden, N.J. has supplied with recent values of hydrocarbons in the Raritan, Lower Hudson Estuary.
We are occasionally finding extremely high quantities of dissolved organic matter being released by phytoplankton. Such release may be due to environmental stress.

ICIAL PREPARING REPORT *(Signature)*: John A. Ryan

11. ~~NMFS DIRECTOR OR DESIGNATED~~ REPRESENTATIVE *(Sig.)*: Carl J. Sindermann

RA FORM 37-15C
74)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: 2nd Half, 2/2

4. TDP NO. PLUS STP SUFFIX: MAC-067-75-IE-A-2

5. SUBTASK TITLE: Ecology of Chronically Occurring Phytoplankton Blooms in the New York Bight, including Lower New York Harbon and Adjacent Waters

O. F E	7. %	8. STATUS
	100	Initial work on utilization of variety of nutrients by three bloom phytoplankton completed.
a	80	Draft of manuscript prepared; some work on text and data format required for publication; on schedule.
	75	Initial planned work on possible stress effects of estuarine-to-ocean salinity changes on growth of the bloom phytoplankters finished. Additional work on growth rates at salinities spanning this range is considered necessary; completion expected during first half FY 76.
a	75	Results from tests of salinity stress effects have been drafted; finish of growth rate work is desired before publication.
	85	Test of relative importance of certain organic and inorganic N and P compounds nearing completion.
	30	Critical levels of vitamin B_{12} determined for one species; additional experiments are required for the other two phytoplankters.
	50	Tests of temperature effects on the phytoplankters growth yielded good results but were not completed due to incubator bread-down; the unit has been repaired and these tests will be resumed shortly.
	100	Photoperiod studies were completed.
	30	In light intensity studies, test design and equipment changes are now enhancing experimental results. Expect completion of work during first half of FY 76.
1	10	On schedule.
	10	Work on effects of metals on bloom phytoplankters has not been resumed.
	0	Equipment for work on effects of external metabolites/interspecific competition not acquired.
	0	Equipment for work on critical concentrations of essential nutrients in the promotion of blooms not acquired.
	80	Phytoplankton/nutrient field survey on schedule.
	10	On schedule.

SULTS

In a study of a possible relationship between the advanced entrophication in New rk Harbor and chronic phytoplankton blooms, the causitive phytoplankters demonstrated ility to utilize a wide variety of organic nitrogen, phosphorous and carbon compounds environmentally relevent concentrations. Working with natural levels of nutrients, though more difficult, parries the criticism currently directed at most previous udies of this nature, namely, because abnormally high nutrient concentrations were ployed, they have dubious ecological value.

Studies have been set up to examine important parameters, e.g., light, temperature, d are yielding data leading to an understanding of the ecology of these blooms.

FICIAL PREPARING REPORT (Signature)

FIC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.)

A FORM 32-15L
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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-069-75-IE-R-1-01

5. SUBTASK TITLE: Effects of Dredge Spoil Disposal (New London, Conn.) on Benthic Macrofauna.

O. F E	7. %	8. STATUS
	66	First four of six quarterly field surveys completed on schedule.
	37	First three of eight quarterly reports completed on schedule.

ESULTS

Sampled for sediments, heavy metals, macrofauna; deployed sediment traps and ges in January - February and April - May.

Impacts of spoils to date have been detected only where spoils are evident, thin 1/4 mile of dumpsite.

FFICIAL PREPARING REPORT (Signature): John C. Pearson

11. FRC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Carl J. Sindermann

A FORM 37-15C
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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-069-75-IE-R-1-02

5. SUBTASK TITLE: Effects of Dredge Spoil Disposal (New London, Conn.) on Physical and Chemical Oceanography of Dump Site

NO. OF /E	7. %	8. STATUS
	50	Activities for first half of field survey schedule completed as planned.
	50	First four of eight quarterly reports submitted on schedule.

RESULTS

. Five cruises conducted this half, deploying drogues to study fate and effects f disposal plume.
. Plume has no effects on water column pH or Eh. Has effects on dissolved oxygen, uspended and volatile solids, and turbidity, but water column generally returns o ambient within 30 minutes.

OFFICIAL PREPARING REPORT (Signature): John P. Ocarna

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Capt J. Lundquist

OSA FORM 32-15C
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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: July 1975

(Submit four copies.)
TO: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: Second half

4. TDP NO. PLUS STP SUFFIX: MAC-069-75-IE-R-1-0

5. SUBTASK TITLE: Effects of Dredge Spoil Disposal (New London, Conn.) on Suspended Matter, Phytoplankton and Shellfish of Tha RIV

NO. OF A/E	7. %	8. STATUS
1	50	Activities for first half of field survey schedule completed on schedule.
2	50	First four of eight quarterly reports submitted on schedule.

RESULTS

1. Conducted 6 high-resolution surveys of turbidity and water quality in vicinity of operating dredge.
2. Have chosen hydraulic model to determine effects of dredging on Thames River flow characteristics. Found dredging effects on turbidity, chlorophyll A and shellfish heavy metals very localized.

OFFICIAL PREPARING REPORT (Signature): John C. Thomas

11. FMC DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Carl J. Sindermann

OMBLDC 40-46-1974

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U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NMFS SUBTASK PROGRESS REPORT

(See Detailed Instructions)

1. FISCAL YEAR: 1975

2. DATE PREPARED: 7/21/75

(Submit four copies.)
: Director, National Marine Fisheries Service, ATTN: Fx5
National Oceanic and Atmospheric Administration
Washington, D.C. 20235

3. REPORTING PERIOD: 2nd half, 2/2
January 1 - June 30, 1975

4. TDP NO. PLUS STP SUFFIX: Task # R81707

5. SUBTASK TITLE
Studies of proliferative cell conditions in selected species of mollusks from Chesapeake Bay

O. E	7. %	8. STATUS
	100	A temperature contolled recirculated seawater system has been established and M. balthica has been held for 1 year. The boat has been acquired and modified for use and has proven to be an effective collecting tool. The van is here and operative.
	30	On schedule regular monthly sampling of M. balthica from Fox Hole and Double Mills is underway. April, May, and June samples have been made.
	-	Not scheduled until 4th quarter 1976
	-	Not scheduled until 2nd quarter 1977
	33	M. balthica ultrastructure complete; O. lurida and M. edulis underway
	-	Not scheduled until 2nd quarter 1976
	-	Not scheduled until 3rd quarter 1976
	5	Transmission or induction experiments to begin when positive material is found. Dieldrin induction to begin when sufficient clams are available.
	-	Not scheduled until late 1976, early 1977.
	20	Chemical analysis was begun on a monthly basis for aldrin and dieldrin in clams from Fox Hole and Double Mills.

SULTS

The controlled environment seawater system is operable and M. balthica has been held r about 1 year; however, surviving animals were found to be heavily infected with rmocystidium. Field equipment (boat and van) are functioning well. 2. Three monthly nples of M. balthica, Mya arenaria, and Macoma phenax have been collected from Fox le bar (affected) and Double Mills (control) bar. Samples were also collected from front of the lab and Town Creek and Eastern Bay. 5. A paper describing the ultra-ructure of M. balthica is in press. Additional material is being processed for amination from M. edulis and O. lurida because of fixation difficulties in previously amined material. 8. Lack of neoplasms in animals collected during the expected izootic period prevented transplantation studies. Dieldrin exposures are planned on sufficient numbers of clams are available for experiments. 10. Chemical analysis

FISCAL PREPARING REPORT (Signature): Robert A. Murchelano
For: C. Austin Farley

NMFS DIRECTOR OR DESIGNATED REPRESENTATIVE (Sig.): Carl J. Sindermann

9. Results (continued)

for aldrin and dieldrin are being done by National Cancer Institute on sediments and clam tissues from the affected and control areas.