

U S DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Southeast Fisheries Center  
P O Drawer 1207  
Pascagoula, Miss. 39568-1207

FEB 9 1998

NOAA Ship Chapman Cruise 97-05 (81)  
09/04-28/97

## INTRODUCTION

The NOAA Ship CHAPMAN departed Pascagoula, MS on September 4, 1997 to initiate the Southeast Area Monitoring and Assessment Program (SEAMAP) fall ichthyoplankton survey in the northern Gulf of Mexico. A total of 23 successful sea days were worked over two Legs during the cruise: Leg 1, September 4 - 19 and Leg 2, September 22 - 28.

## OBJECTIVES

### SEAMAP:

1. Collect ichthyoplankton with bongo and single neuston gear for abundance and distribution of eggs, larvae, and small juveniles of king and Spanish mackerel, clupeids, lutjanids and sciaenids.
2. Obtain station associated environmental and oceanographic data throughout the survey area using the SBE 25 - 03 Sealogger Conductivity, Temperature and Depth recorder (CTD), outfitted with a SBE 13/22/23 dissolved oxygen sensor, a Sea Tech Fluorometer, and a Sea Tech Transmissometer.
3. Obtain real time depth, temperature and salinity data for each of the bongo profiles using the SEACAT SBE - 19.
4. Obtain real time sea surface temperature, salinity and fluorescence using the SEACAT SBE - 21 and Turner fluorometer model 10-au-005 over the course of the cruise track.
5. Collect larval fish in coordination with the Gulf Coast Research Laboratory red drum project using the standard 60cm MARMAP bongo array.

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- 6. Record opportunistic marine mammal sightings/identifications along cruise track.

**METHODS**

All cruise objectives, environmental and ichthyoplankton, were implemented in accordance with procedures outlined in the SEAMAP data collections manual.

A predefined cruise track of one hundred and twenty-three stations were targeted for the survey. Ninety - four SEAMAP stations approximately thirty nautical miles apart were targeted during Legs 1 & 2. Primary station operations were to consist of a bongo tow outfitted with a Seabird SBE 19 profiler, a neuston tow, and a Seabird SBE 25 CTD profile.

Cruise objectives associated with the GCRL red drum project were conducted at stations, in the Mississippi sound, along a predefined cruise track of twenty - nine stations approximately eight nautical miles apart. Larval fish samples were taken with the standard MARMAP 60cm bongo outfitted with two 0.335 micron mesh nets. Associated sea surface temperatures were recorded from hull mounted transducers.

Opportunistic marine mammal sightings were recorded along the standard SEAMAP survey track.

**RESULTS**

Over the course of this survey, ichthyoplankton was collected from 123 stations. 94 standard SEAMAP stations (Figure 1), and 29 GCRL red drum stations (Figure 2). A breakdown of samples collected by Leg of survey and gear is given in Table 1.

TABLE 1. Breakdown of Ichthyoplankton and Environmental Collections During Chapman Cruise 97-05 (81)

GEAR TYPE	Leg I	Leg II
BONGO:		
SEAMAP:		
LEFT:	64	27
RIGHT:	63	29
GCRL:		
LEFT:	29	0
RIGHT:	29	0

Table 1. Continued

NEUSTON:		
	SEAMAP:	65
	GCRL:	0
CTD*		
	SBE 25:	59
	SBE 19:	45

29

0

29

0

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 \*SBE - 21 data not presented because of collection format.

Observed differences between left bongo, right bongo and single neuston tows are the result of lost cod ends during bongo retrieval, and bongo winch level- wind complications during the bongo tow. Differences between the environmental sensing gear, unaccounted for in the sampling protocols, are the result of water in the splice for two of the CTD profilers, and water in the battery housing on the SBE - 19.

Ichthyoplankton larvae collected during the GCRL red drum effort, were deposited with GCRL for sorting and analysis. SEAMAP numbers were assigned to all SEAMAP samples before deposition of left bongos with GCRL. Right bongos and single neustons were shipped to ZSIOP Szczecin, Poland for sorting.

A summary of the environmental data collected is also presented in Table 1. Locations of CTD profiles are shown in Figures 3 and 4. The SBE - 21 sea surface profile of the survey track, Turner fluorometer values and all other environmental data were returned to the NMFS Mississippi laboratories for analysis, editing, comparison, and archiving.

**PARTICIPANTS**

Leg 1 (September 4 - September 19, 1997)

<u>Name</u>	<u>Title</u>	<u>Organization</u>
Alonzo N. Hamilton, Jr.	Chief Scientist	NMFS Pascagoula, MS
Denice Drass	Fishery Biologist	Johnson Controls

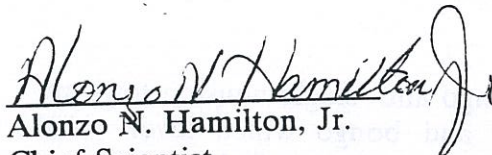
Leg 2

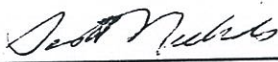
(September 22 - September 28, 1997)

<u>Name</u>	<u>Title</u>	<u>Organization</u>
Alonzo N. Hamilton, Jr. Kevin Rademacher	Chief Scientist Fishery Biologist	NMFS Pascagoula, MS Johnson Controls

Submitted By:

Approved By:

  
Alonzo N. Hamilton, Jr.  
Chief Scientist

  
Scott Nichols, Director  
Mississippi Laboratories

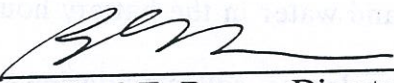
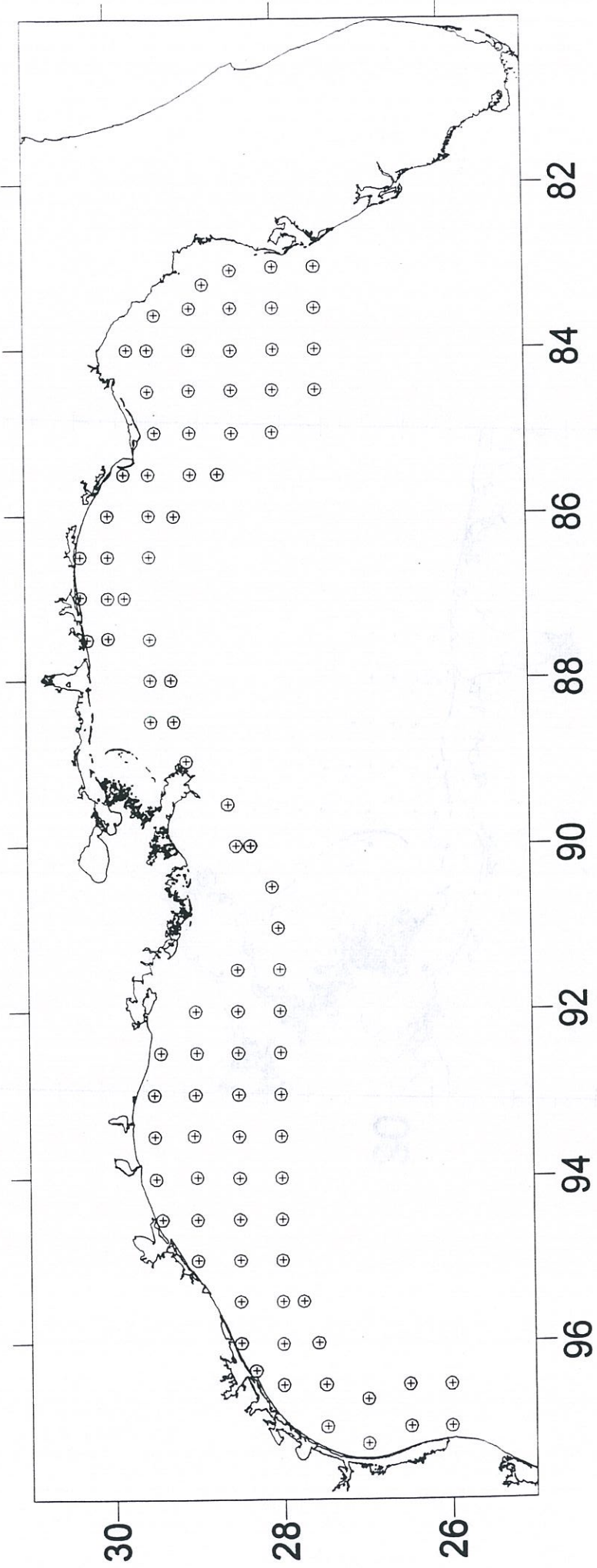
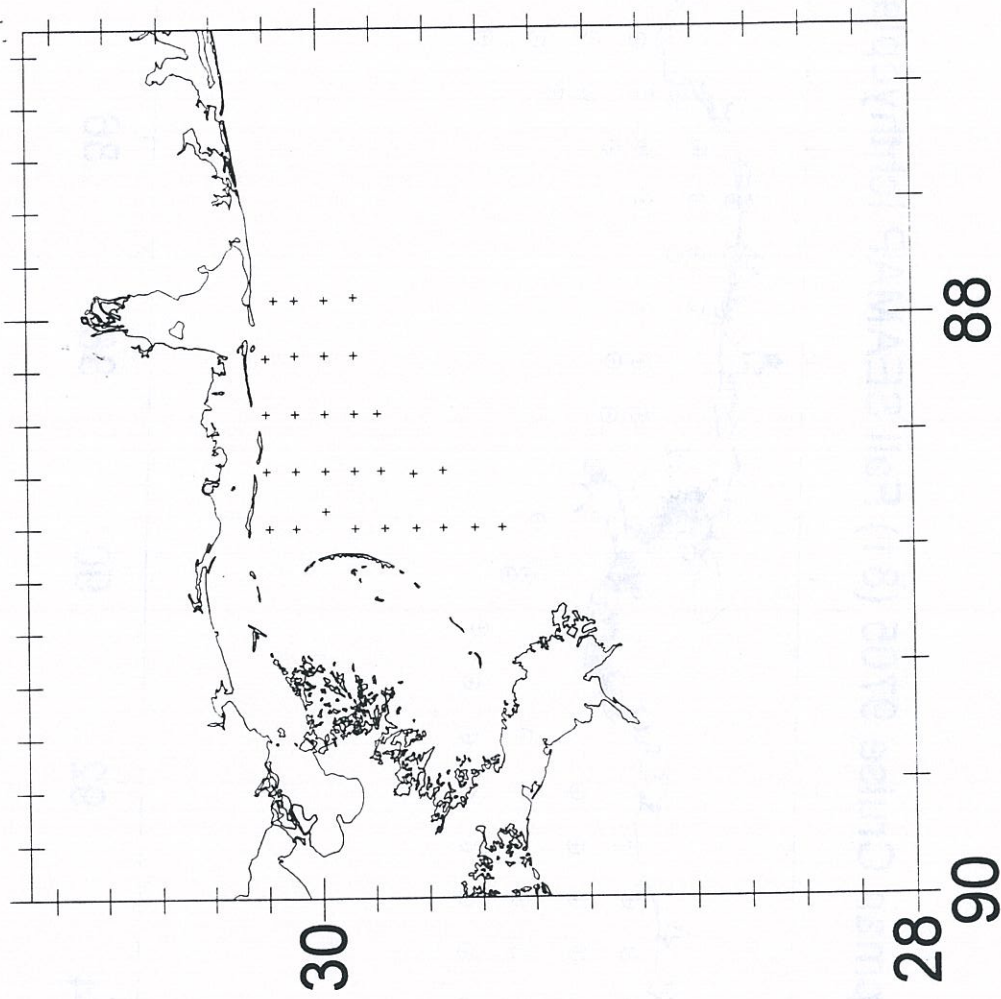
  
Bradford E. Brown, Director  
Southeast Science & Research  
Center

FIGURE 1. Chapman Cruise 9705 (81) Fall SEAMAP Ichthyoplankton cruise track.



*Chapman Cruise 9705 (81)*



**FIGURE 2. GCRL Stations for red drum larvae during leg 1.**

FIGURE 3. Chapman cruise 9705 (81) SBE-25 profile sites.

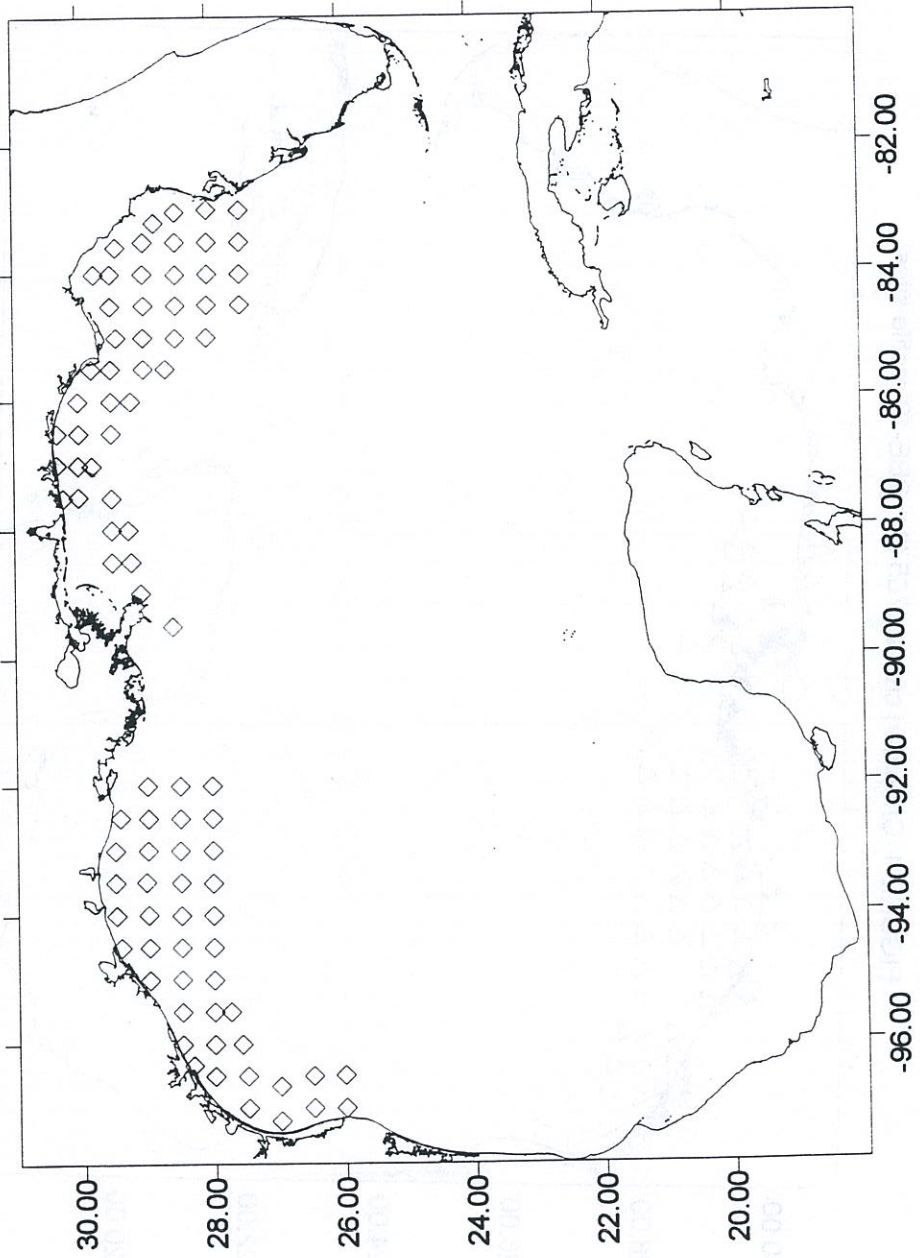


FIGURE 4. Chapman cruise 9705 (81) SBE-19 profile sites.

