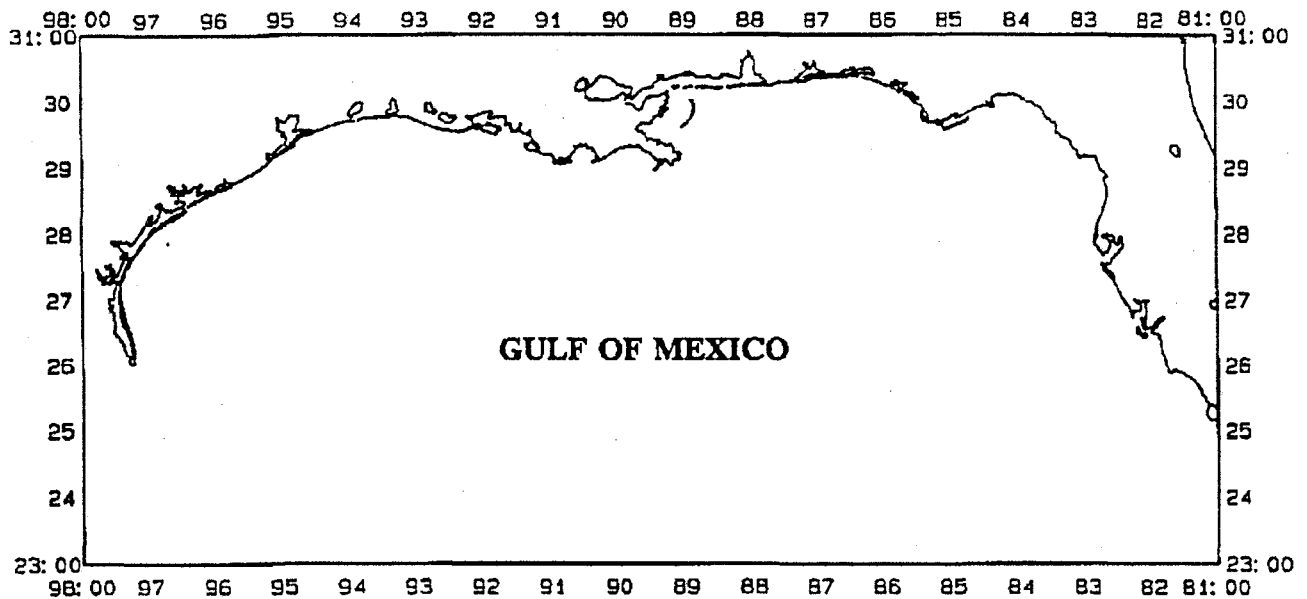


CRUISE RESULTS

SEAMAP Fall Ichthyoplankton Survey

**NOAA Ship CHAPMAN Cruise 92-05 (50)
08/28-09/20/92**

**NOAA Ship OREGON II Cruise 92-05 (201) Part IV
09/21-29/92**



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CHAPMAN CRUISE 92-05 (50)
8/28-9/20/92
and
OREGON II CRUISE 92-05 (201) PART IV
9/21-29/92

INTRODUCTION

The NOAA Ship CHAPMAN departed Pascagoula, MS on August 28, 1992 to conduct the SEAMAP fall ichthyoplankton survey. A predefined cruise track containing one hundred SEAMAP stations was targeted for sampling. Standard SEAMAP operations were implemented at 32 sampling sites during part I, August 28-September 5; and 68 sampling sites during part II, September 8-20; and 68 sampling sites during part III, September 21-29. A third component of the survey consisted of 48 sites of red drum/snapper collections for the Mississippi Gulf Coast Research Laboratory (GCRL), and 22 GCRL/MARFIN snapper sampling sites. A single station was conducted where SEAMAP and GCRL project sampling sites were in close proximity. The result was a total of 164 ichthyoplankton stations occupied during this survey. The third component of this survey was conducted aboard the NOAA Ship OREGON II from September 23 through 29, 1992. Survey sites from the original SEAMAP plan and the GCRL/MARFIN snapper grid were targeted. The fall SEAMAP and ancillary project data, planned for collection during the third component of this survey, are databased and referenced as OREGON II cruise 92-05 (201) part IV. A change in vessels for this survey was necessary in order to accommodate the special requirements of acoustical sensing equipment for the MARFIN Coastal Pelagic project.

OBJECTIVES

1. Collect ichthyoplankton with bongo, neuston and Tucker trawl gear for abundance and distribution of eggs, larvae and small juveniles of king and spanish mackerel, clupeids, lutjanids and sciaenids.
2. Collect water samples from surface, mid-depth and maximum depth for dissolved oxygen and salinity determinations.
3. Measure environmental parameters using the CTD.
4. Collect reference salinity samples once a day for CTD calibration.

5. Collect chlorophyll samples from surface waters.
6. Record marine mammal sightings/identifications along the cruise track.
7. Collect red drum/snapper larvae in coordination with the GCRL red drum project.
8. Collect larval fish in coordination with the GCRL MARFIN snapper project.
9. Collect tar/debris encountered during neuston sampling at SEAMAP stations.

OPERATIONAL PLAN

Cruise operations were to commence off south Texas. One-hundred stations, approximately thirty nautical miles apart, were planned for completion in accordance with standard SEAMAP protocol over the course of this survey.

Part I (8/24-9/5)

During part I, at stations one through thirty-seven, a bongo and single neuston sample was to be taken along with the associated hydrographic data. Approximately 120 hr had been allocated to sampling effort around the Mississippi River plume area. Sites occupied within this window were to be sampled for chlorophyll, temperature, salinity, Tucker trawl and single neuston information, relevant to understanding the role played by the Mississippi River discharge plume in recruitment of selected Gulf of Mexico fishes.

Part II (9/8-9/21)

Cruise operations were to start with station thirty-eight and continue through station seventy-two. The protocol outlined in part I was planned for stations thirty-eight through fifty-six. Stations east of the Mississippi River, fifty-seven through seventy-two, were to include an oblique single net Tucker trawl sample at each site. Midway between these sites an additional oblique single net Tucker trawl was to be taken.

Part III (9/23-9/30)

Standard SEAMAP cruise operations were to begin offshore of central Florida, station seventy-three, and terminate off the northwest Florida coast, station one-hundred. When cruise operations reached the Alabama-NW Florida shelf, Tucker trawl samples were to be collected to meet the requirements of the twenty-two station (22) GCRL MARFIN snapper project.

OPERATIONAL PLAN MODIFICATIONS

Hurricane Andrew forced a four day delay in starting the cruise. The actual starting date was August 28, 1992. This resulted in a reallocation of time and effort. The Mississippi River plume effort was transferred to NOAA ship CHAPMAN cruise, 92-06 (51) part II in October of 1992. The time saved by this change was used to complete as many of the proposed thirty-seven stations west of the Mississippi River mouth during part I.

Samples for tar/debris found in neuston collections were not taken during the survey. All remaining survey objectives were addressed.

Part II began with a film crew from the National Science Foundation (NSF) aboard, gathering footage of the role the National Marine Fisheries Service is undertaking in the development of a functional relationship with an Historically Black University and Jackson State University. Also an unscheduled port call in Pascagoula, MS because of a medical emergency, a faulty shaft seal and the weather resulted in the loss of one sea day. A NMFS Mississippi Laboratory request for two, one-thousand meter CTD profiles further impacted survey time allocation. In response, only those SEAMAP and GCRL red drum/snapper stations east of the Mississippi River over to 86 30.00 West longitude, and the one-thousand meter CTD profile sites were targeted for completion during part II. The GCRL/MARFIN snapper collections were moved to the third component of the survey.

RESULTS

Despite hurricane Andrew and other delays, all of the selected sampling sites were occupied, and most of the cruise objectives were met (Figure 1). The weather created sea conditions which were less than favorable for full-time marine mammal observations. It also forced the cancellation of neuston tows at two sampling sights (Figure 2), as well as several secchi and forel-ule readings. The CTD, a device which records temperature, salinity, turbidity and dissolved oxygen by depth, was test profiled only to eight-hundred meters because of NOAA ship CHAPMAN's hydro-winch cable limitations. The sites for the test profiles are depicted in Figure 3. The rate of descent for the first cast was forty meters per minute. The rate for the second cast was twenty meters per minute. A faulty pressure sensor forced the discontinued use of the CTD during the second station after the 800m casts. Water samples were taken for salinity determinations at subsequent SEAMAP stations and surface temperatures were taken with a thermometer. Prior to malfunctioning, the CTD profile was the source of environmental data for GCRL sampling sites where SEAMAP and GCRL operations did not coincide. Afterward, a surface chlorophyll and

a Tucker trawl comprised GCRL station operations (Figure 4). A summary of sampling effort during CHAPMAN cruise 92-05 (50) and OREGON II cruise 92-05 (201) part IV is presented in the following table:

Table 1. Summary of Ichthyoplankton effort.

SAMPLE TYPE	NUMBER OF SAMPLES			TOTAL
	PART I	PART II	PART III	
BONGOS:				212
SEAMAP LEFT	32	41	27	
SEAMAP RIGHT	32	41	27	
GCRL LEFT	0	6	0	
GCRL RIGHT	0	6	0	
TUCKER TRAWLS:				62
GCRL RED DRUM	0	41	0	
GCRL MARFIN	0	0	21	
NEUSTONS:				98
SEAMAP SINGLE	32	41	25	
				372

Table 2. Summary of Environmental data.

GEAR TYPE	NUMBER OF READINGS			TOTAL
	PART I	PART II	PART III	
CHLOROPHYLLS:				155
SEAMAP	32	41	27	
GCRL RED DRUM	0	33	0	
GCRL MARFIN	0	0	22	
YSI OXYGEN:				287
SURFACE	30	39	27	
MIDDEPTH	30	39	25	
MAXIMUM	31	40	26	
SALINITY:*				56
(Reference)				(47)
surface	5	6	5	
middepth	5	6	4	
maximum depth	5	6	5	
(Water Bottle)				(9)
surface	0	3	0	
middepth	0	3	0	
maximum depth	0	3	0	

Table 2. Summary of Environmental data (Cont'd).

GEAR TYPE	NUMBER OF READINGS			TOTAL
	PART I	PART II	PART III	
HYDROCASTS:	32	71	49	152
CTD PROFILES:**	32	68	49	149
THERMOMETER:				13
SURFACE	0	7	0	
MIDDEPTH	0	3	0	
MAXIMUM	0	3	0	
MARINE MAMMAL SIGHTINGS	0	23	9	32

* Represents reference samples for CTD calibration and water samples collected for salinity when the CTD malfunctioned.

** Does not contain 800m profile test readings.

After the assignment of SEAMAP numbers to SEAMAP samples, left bongos were deposited with Mr. Ken Stuck at GCRL, for processing, analysis and storage. Also, substitute left and right bongo samples, taken for the GCRL effort, along with Tucker trawl collections were deposited with Mr. Bruce Comyns at GCRL. The right bongo and single neuston SEAMAP samples were shipped to SZIOP, Szczecin, Poland for sorting.

Test data from the two 800m CTD profiles, chlorophyll samples, and all remaining data were returned to NMFS Mississippi Laboratories for analysis, comparison and archiving. The results of the chlorophyll samples taken at GCRL sampling sites, will be provided to GCRL as soon as the analysis are complete.

CRUISE PARTICIPANTS

Part I (08/28-09/05/92)

Alonzo N. Hamilton, Jr.	Field Party Chief	NMFS Pascagoula, MS
Teresa Rotunno	Biological Tech.	NMFS Pascagoula, MS
Eva Kargard	Biological Tech.	NMFS Pascagoula, MS
Doug DeVries	Fishery Biologist	NMFS Panama City, FL
Andrew David	Biological Tech.	NMFS Panama City, FL

Part II (09/08-20/92)

Alonzo N. Hamilton, Jr.	Field Party Chief	NMFS Pascagoula, MS
Joanne Lyczkowski-Shultz	Fishery Biologist	NMFS Pascagoula, MS
Lisa Mills	Fishery Biologist	NMFS Pascagoula, MS
Eva Kargard	Biological Tech.	NMFS Pascagoula, MS
John Dahl	Biological Tech.	NMFS Panama City, FL

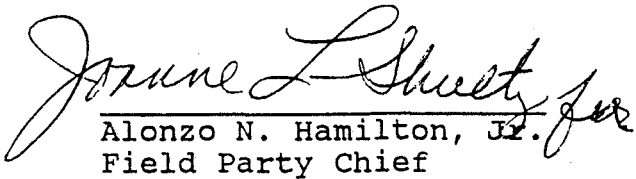
CRUISE PARTICIPANTS (Cont'd)

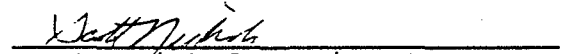
PART III (09/21-29/92)

Alonzo N. Hamilton, Jr.	Field Party Chief	NMFS	Pascagoula, MS
Perry Thompson	Fishery Biologist	NMFS	Pascagoula, MS
Lisa Mills	Fishery Biologist	NMFS	Pascagoula, MS
Teresa Rotunno	Biological Tech.	NMFS	Pascagoula, MS
Eva Kargard	Biological Tech.	NMFS	Pascagoula, MS
Jon Peterson	Biological Tech.	NMFS	Pascagoula, MS

Submitted By:

Approved By:


Alonzo N. Hamilton, Jr.
Field Party Chief


Scott Nichols, Director
Mississippi Laboratories



Bradford E. Brown,
Southeast Science & Research
Director

Figure 1. A coverage plot of primary sampling gears used during NOAA Ship Chapman cruise 92-05 (50) and NOAA Ship Oregon II cruise 92-05 (201) part IV. Legend: (O) Bongo (+) Neuston (X) Tucker trawl

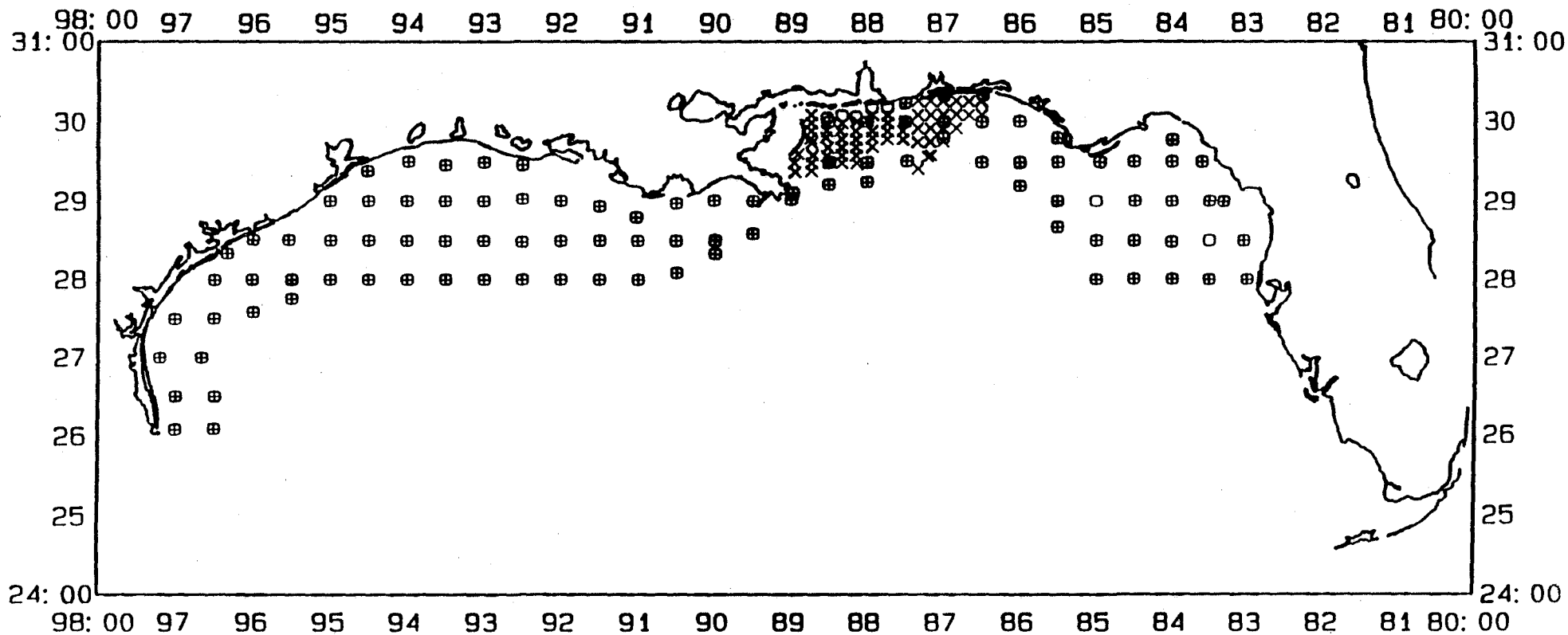


Figure 2. Sampling sights where bongo (O) and single neuston (+) tows were conducted during the survey.

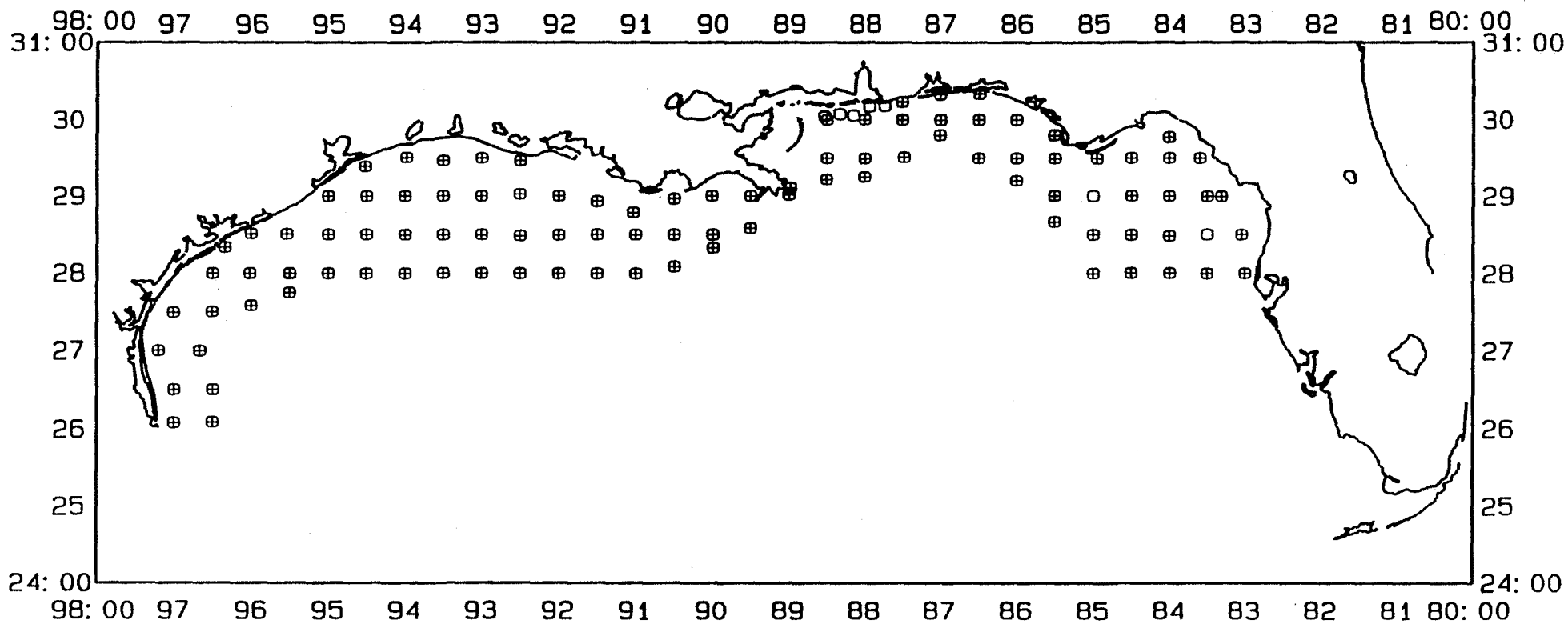


Figure 3. Location of 800m test profiles for the CTD unit.

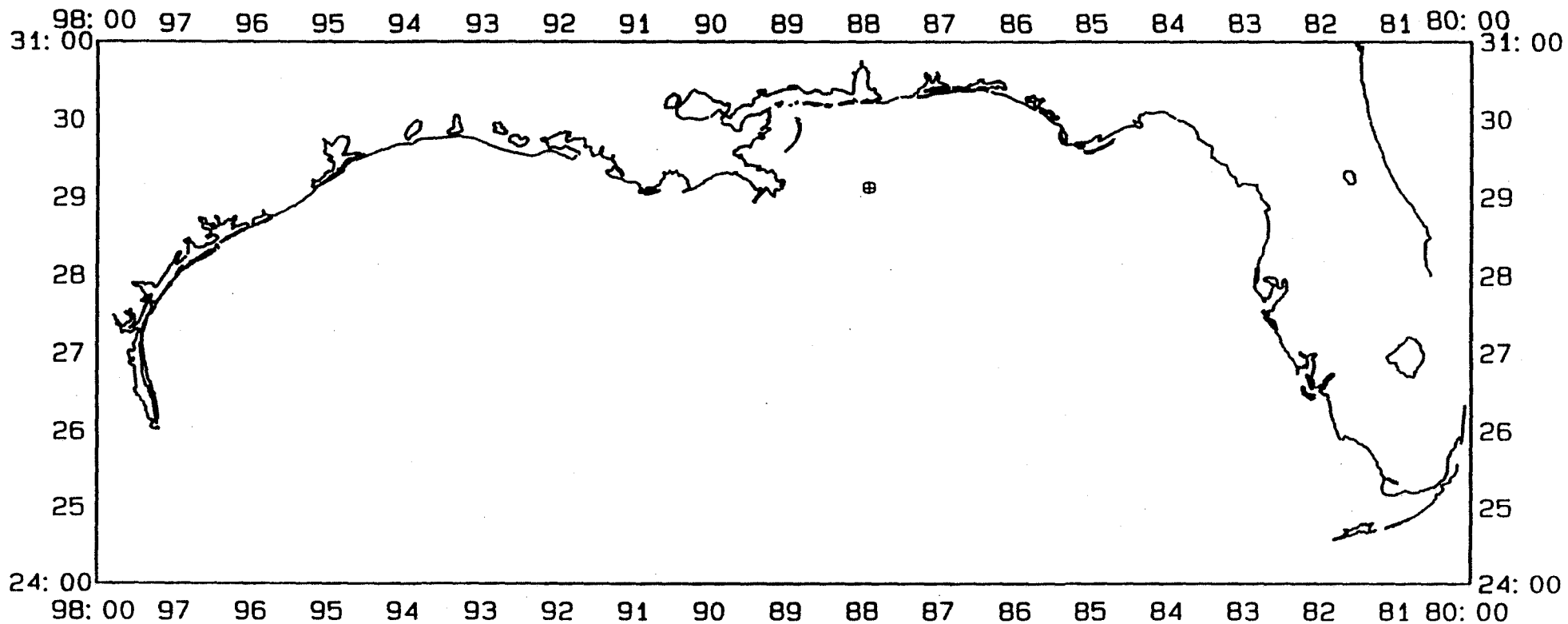


Figure 4. Sampling sights where Tucker trawls were conducted for GCRL red drum and red snapper larvae. Six (6) bongo tows are not represented in the depiction.

