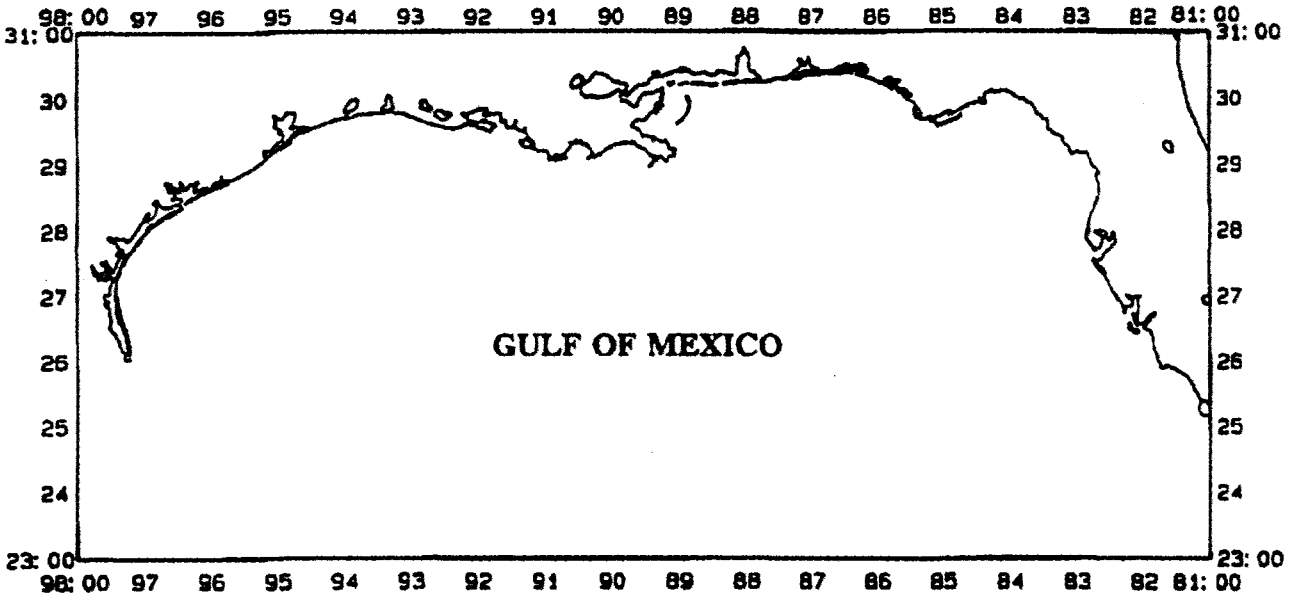
CRUISE RESULTS

SEAMAP Spring Ichthyoplankton Survey

NOAA Ship *Oregon II* Cruise 92-02 (199)

04/17 - 06/08/92



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OREGON II Cruise 92-02 (199)
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INTRODUCTION

The NOAA ship OREGON II departed Pascagoula, MS on April 17, 1992 to conduct the SEAMAP spring ichthyoplankton survey and the spring marine mammals survey for the Minerals Management Service. Scientific gear and vessel equipment problems resulted in a loss of approximately nine (9) days necessitating modification of the SEAMAP ichthyoplankton survey track and the station protocol for chlorophyll sampling. Seventy-two (72) stations were completed of a revised seventy-eight (78) station survey track during Part I (April 17-May 4). However, all preselected sampling sites were occupied as per original survey design during Part III of this cruise (16 by Florida Department of Natural Resources (FDNR) and 76 by NMFS Pascagoula). The results of Part III (May 26-June 8), a non SEAMAP segment, are included in the marine mammal efforts enclosed as a supplement to this report.

OBJECTIVES

SEAMAP

1) Collect ichthyoplankton, particularly bluefin tuna eggs and larvae, for distribution and abundance determinations.

2) Collect environmental data and chlorophyll samples.

Non-SEAMAP

1) Collect line-transect sampling data for marine mammals along the defined ichthyoplankton cruise track during Parts I and II.

2) Collect line transect sampling data for marine mammals along a predefined marine mammal cruise track during Part III.

METHODS AND MATERIALS

PLANNED OPERATIONS:

The original 54 day survey was divided into three parts: two twenty day ichthyoplankton/marine mammal Parts (I & II) and a

thirteen day marine mammal part (III). The survey track for Parts I and II included ninety-three preselected ichthyoplankton sites approximately thirty miles apart.

Concomitant with the marine mammal project, line transect sampling was to be conducted along the ichthyoplankton cruise track line. During runs between stations minor deviations from the cruise track were allowed to more closely observe marine mammals as long as the deviations did not affect completion of ichthyoplankton objectives.

A CTD/STD hydrocast to a maximum depth of 500 m was planned for each station. Chlorophyll samples were taken at the surface and from depths of 30, 50, 60, 70, 80, and 100 m. On SEAMAP day time stations secchi depth and forel-ule readings were taken. Reference samples were collected and returned to NMFS Pascagoula Laboratory for analysis and comparison. When the CTD/STD malfunctioned XBT's were dropped and niskin bottles were deployed to collect water samples for environmental data. Standard protocol as described in SEAMAP Operations manual was followed for bongo tows. Vessel speed was adjusted during the tow to maintain a 45°-wire angle. Double neuston tows of 10 min duration at a vessel speed of 1.5 knots were taken after the bongo tows using two 1 x 2 m nets with 0.947 or 0.950 micron mesh.

MODIFICATIONS TO OPERATIONS:

Modifications to planned cruise operations during Parts I and II were made in an attempt to save time, occupy as many stations in the predefined cruise track as possible and to preserve SEAMAP data acquisition integrity. Changes during Part I included:

1) taking the multiple depth bottle cast at only those sampling sites where bongo and neuston samples were collected;

2) taking a surface bucket water sample for chlorophyll and dissolved oxygen determinations at neuston only sites;

3) lowering the CTD to a maximum depth of 200 meters at neuston only sites.

Environmental protocol during Part II on May 14 and 15 consisted of 1) an XBT drop, 2) water samples from 100 and 200 m only for salinity samples and dissolved oxygen and as per instruction of Environmental Surveys Chief, 3) use of 36 parts $^{o}/_{oo}$ for YSI salinity setting, and/or 4) use of thermosalinograph surface salinity and temperature readings. Temperature and salinity were measured with the STD during the remaining portions of Part II, May 17-25.

RESULTS

A summary of sampling effort during OREGON II cruise 199 Parts I and II is presented in the following tables:

Table 1. Ichthyoplankton sampling effort

Gear	Number of samples collected Part I	Part II	Total
Bongo Left	35	37	72
Bongo Right	35	37	72
Neuston Left	70	76	146
Neuston Right	70	76	146

Table 2. Environmental sampling effort

Gear	Number of samples collected Part I	Part II	Total
Surface Chlorophyll	73	75	148
Dissolved Oxygen			
Surface	71	75	146
Midwater	35	59	94
Maxdepth	38	60	98
Thermosalinograph Readings	0	10	10
Salinity Samples*	14	53	67
Hydrocasts	37	60	97
CTD Profiles	72	29	101
STD Profiles	0	41	41
XBT Profiles	24	27	51
Stations	72	76	148

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

After the assignment of SEAMAP numbers, left bongo samples will be deposited with Gulf Coast Research Lab (GCRL) for processing, analysis, and storage; the left neuston samples will be deposited with NMFS Miami for sorting; and the right bongo and neuston will be shipped to SZIOP, Szczecin, Poland for sorting. Chlorophyll samples and all remaining data were returned to NMFS Pascagoula Laboratory for analysis, comparison and archiving.

CRUISE PARTICIPANTS

Part 1 (April 17-May 4, 1992)

Name	Title	Organization
Alonzo Hamilton, Jr.	Field Party Chief	NMFS, Pascagoula, Miss.
Clifton Harper	Electronics Tech.	NMFS, Pascagoula, Miss.
Karen Mitchell	Res. Fish. Biol	NMFS, Pascagoula, Miss.
Carol Roden	Res. Fish. Biol.	NMFS, Pascagoula, Miss.
Carolyn Rogers	Bio. Tech.	NMFS, Pascagoula, Miss.
Kevin Rademacher	Bio. Tech.	NMFS, Pascagoula, Miss.
Jack Javech	Scientific Illus.	NMFS, Miami, Fla.
Darlene Johnson	Res. Fish. Biol.	NMFS, Miami, Fla.
Kathy Prunier	Bio. Tech.	NMFS, Miami, Fla.
Robert Pittman	Fishery Biologist	NMFS, La Jolla, Calif.
Jim Cotton	Fishery Biologist	NMFS, La Jolla, Calif.

Part 2 (May 6-25, 1992)

Name	Title	Organization
Alonzo Hamilton, Jr.	Field Party Chief	NMFS, Pascagoula, Miss.
Brian Underwood	Student Trainee	NMFS, Pascagoula, Miss.
Jon Peterson	Bio. Tech.	NMFS, Pascagoula, Miss.
Carol Roden	Fishery Biologist	NMFS, Pascagoula, Miss.
Kevin Rademacher	Bio. Tech.	NMFS, Pascagoula, Miss.
Carolyn Rogers	Bio. Technician	NMFS, Pascagoula, Miss.
Wayne Hoggard	Res. Fish. Biol.	NMFS, Pascagoula, Miss.
Stephanie Bolden	Fishery Biologist	NMFS, Miami, Fla.
Darlene Johnson	Fishery Biologist	NMFS, Miami, Fla.
Jim Cotton	Fishery Biologist	NMFS, La Jolla, Calif.
Robert Pittman	Fishery Biologist	NMFS, La Jolla, Calif.

Submitted By:

Alonzo N. Hamilton, Jr.
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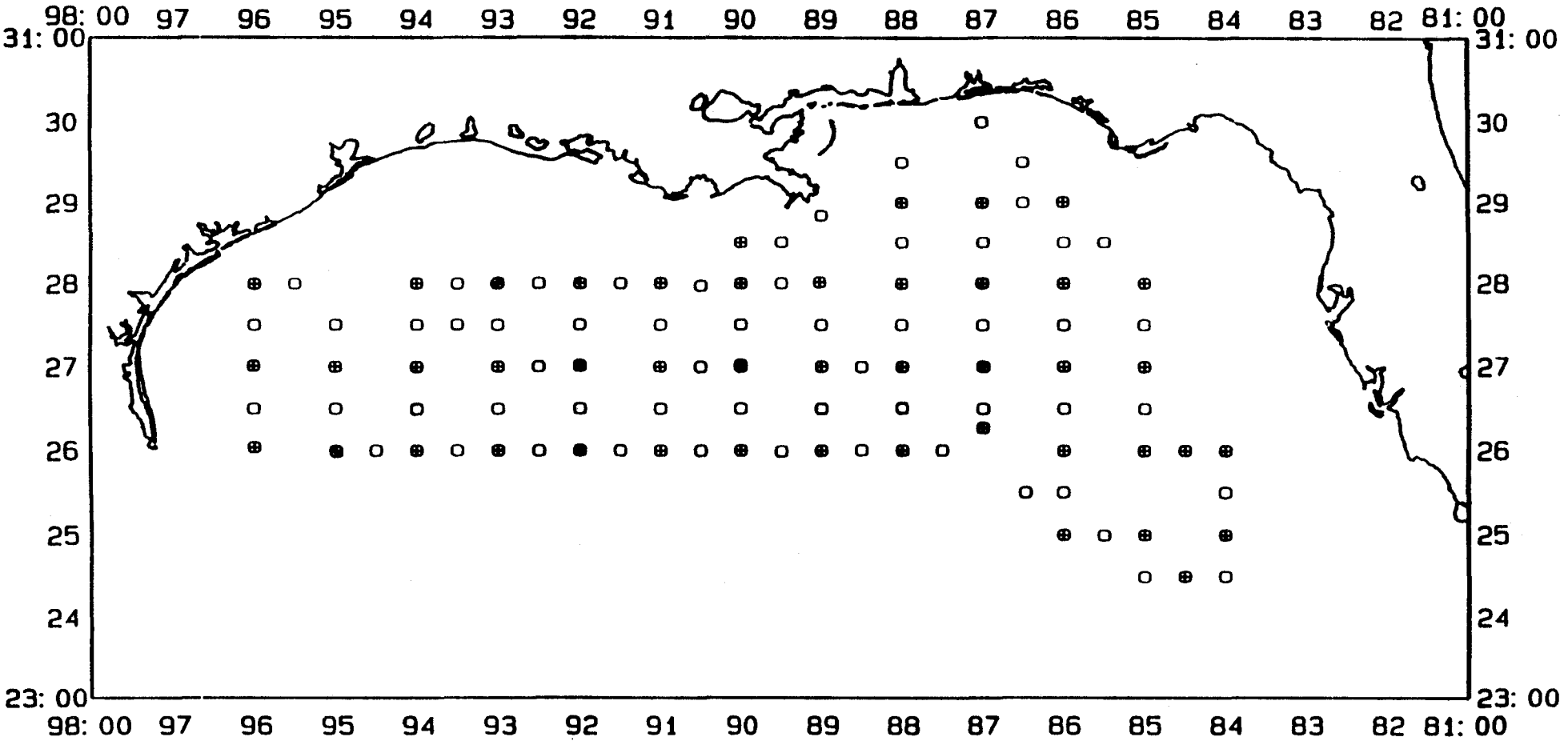

Figure 1. Sampling effort during OREGON II Cruise 199 Parts I and II. x = Site where both bongo and neuston collections were taken.

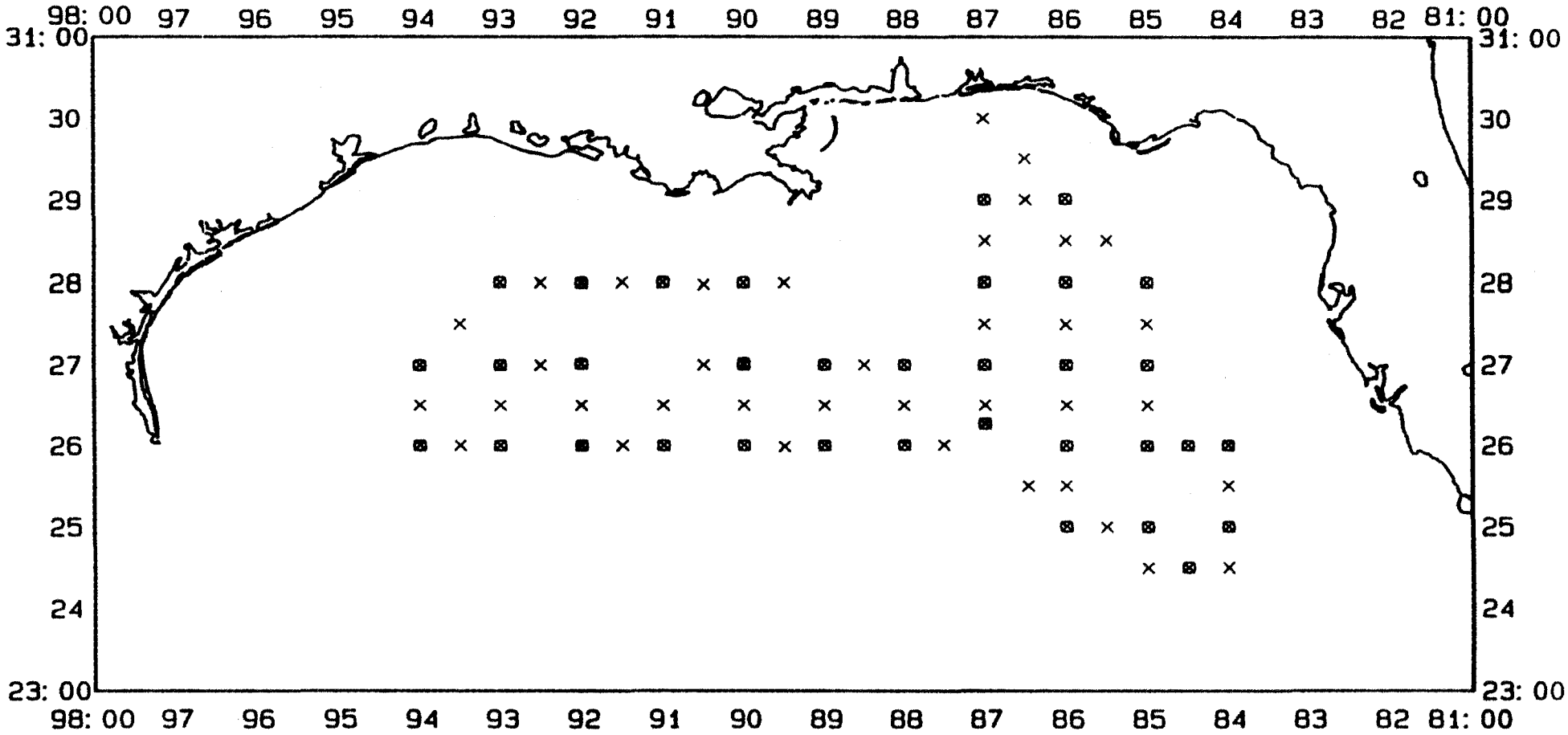

Figure 2. Bongo/neuston ⊠ and neuston x sampling sites during OREGON II Cruise 199 Part I.

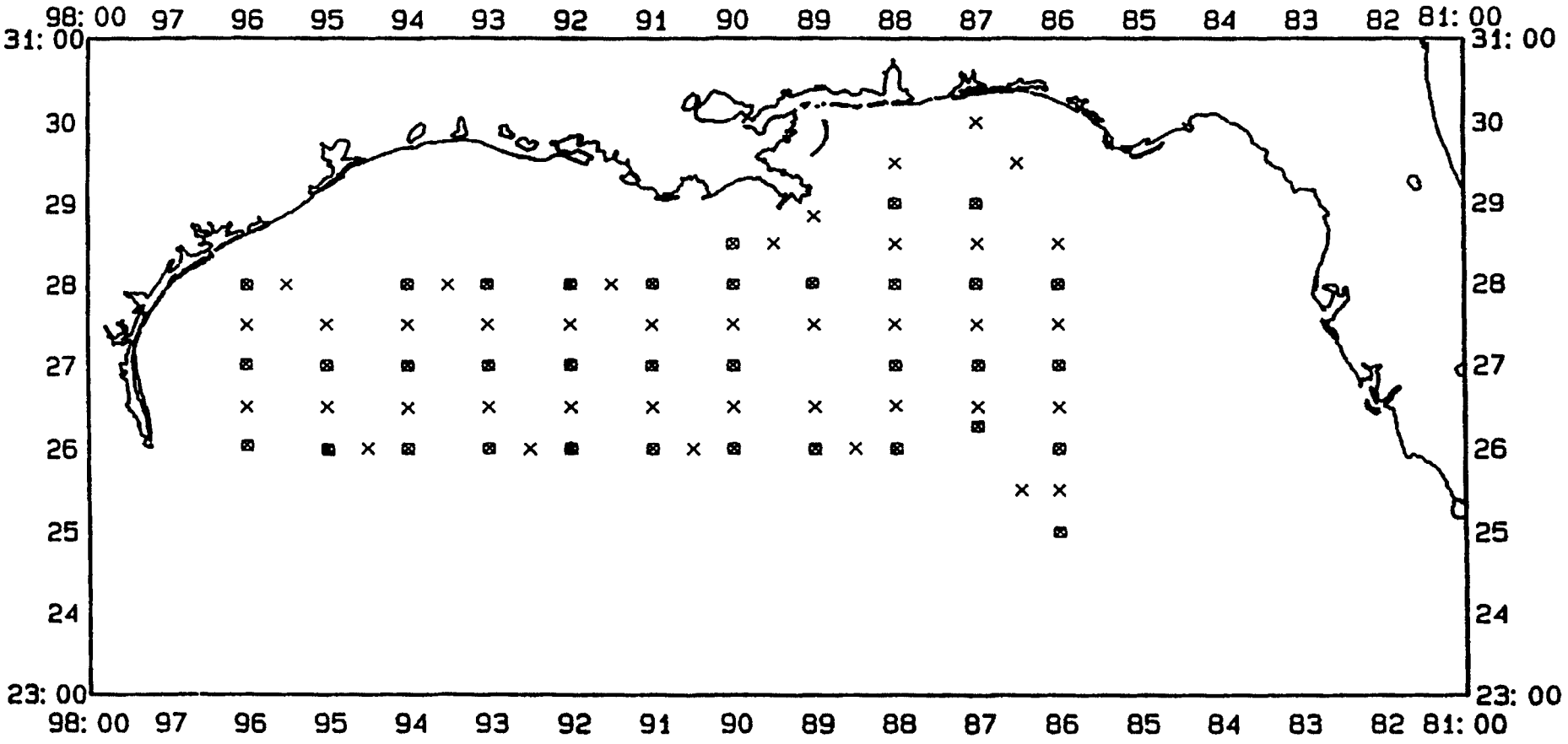

Figure 3. Bongo/neuston x and neuston x sampling sites during OREGON II Cruise 199 Part II.