

Gulf States Marine Fisheries Commission

Commissioners

ALABAMA

James D. Martin, Commissioner
Alabama Department of
Conservation and Natural
Resources
64 North Union Street
Montgomery, AL 36130

Representative Taylor F. Harper
Alabama House of Representatives
P.O. Box 229
Grand Bay, AL 36541

Chris Nelson
Bon Secour Fisheries, Inc.
P.O. Box 60
Bon Secour, AL 36511

FLORIDA

Virginia Wetherell
Executive Director
Florida Department of Natural
Resources
3900 Commonwealth Blvd.
Tallahassee, FL 32399

Representative Sam Mitchell
Florida House of Representatives
P.O. Box 299
Chipley, FL 32428

Hans G. Tanzler, III
P.O. Box 2525
Ocala, FL 32678-2525

LOUISIANA

William S. "Corky" Perret
Assistant Secretary
Louisiana Department of Wildlife
and Fisheries
P.O. Box 98000
Baton Rouge, LA 70898-9000

Representative Frank J. Patti
Louisiana House of Representatives
P.O. Box 53
Belle Chasse, LA 70037

Leroy Kiffe
Route 1, Box 239
Lockport, LA 70374

MISSISSIPPI

Sam Polles
Executive Director
Mississippi Department of
Wildlife, Fisheries and Parks
P.O. Box 451
Jackson, MS 39205-0451

Senator Tommy Gollott
Mississippi Senate
235 Bayview Avenue
Biloxi, MS 39530

George Sekul
Gulf Central Seafoods, Inc.
132 Howard Avenue
Biloxi, MS 39530

TEXAS

Andrew Sansom
Executive Director
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, TX 78744

Representative Robert Saunders
Texas House of Representatives
P.O. Box 2910
Austin, TX 78768-2910

Charles E. Belaire
P.O. Box 1210
Fulton, TX 78358

Staff

Larry B. Simpson
Executive Director

Ronald R. Lukens
V.K. "Ginny" Herring
David M. Donaldson
Richard L. Leard

Lucia B. Hourihan
Nancy K. Marcellus
Cynthia D. Bosworth
Cheryl R. Noble

SEAMAP ENVIRONMENTAL AND BIOLOGICAL ATLAS OF THE GULF OF MEXICO, 1990

Edited by

Nathaniel Sanders, Jr.
*National Marine Fisheries Service
Pascagoula, Mississippi*

David M. Donaldson
*Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi*

Perry A. Thompson
*National Marine Fisheries Service
Pascagoula, Mississippi*

Manuscript Design and Layout

Cheryl Noble

*Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi*

Lucia Hourihan

GULF STATES MARINE FISHERIES COMMISSION

**December 1992
Number 27**

This project was supported in part by the National Oceanic and Atmospheric Administration, National Marine Fisheries Service, under State/Federal Project Number SM 35-1 (NA 27FS0028-01).



SEAMAP SUBCOMMITTEE

Mr. Walter M. Tatum, Chairman
*Alabama Department of Conservation
and Natural Resources
Gulf Shores, Alabama*

Mr. Richard S. Waller, Vice Chairman
*Gulf Coast Research Laboratory
Ocean Springs, Mississippi*

Mr. Terry Cody
*Texas Parks and Wildlife Department
Austin, Texas*

Mr. Jim Hanifen
*Louisiana Department of
Wildlife and Fisheries*

Dr. Joanne Shultz
*National Marine Fisheries Service
Pascagoula, Mississippi*

Dr. Joseph Kimmel
*Florida Department of Natural
Resources
St. Petersburg, Florida*

Mr. Steven Atran
*Gulf of Mexico Fishery
Management Council
Tampa, Florida*

Mr. David Donaldson
*SEAMAP Coordinator
Gulf States Marine Fisheries Commission
Ocean Springs, Mississippi*

SEAMAP DATA COORDINATING WORK GROUP

Mr. Kenneth Savastano, Leader
*National Marine Fisheries Service
Stennis Space Center
NSTL Station, Mississippi*

Mr. Stevens Heath
*Shrimp/Groundfish Work Group Leader
Alabama Department of Conservation
and Natural Resources/Marine Resources Division
Dauphin Island, Alabama*

Dr. Thomas McIlwain
*Red Drum Work Group Leader
Gulf Coast Research Laboratory
Ocean Springs, Mississippi*

Dr. Joanne Shultz
*Plankton Work Group Leader
National Marine Fisheries Service
Pascagoula, Mississippi*

Dr. Warren Stuntz
*Environmental Work Group Leader
National Marine Fisheries Service
Pascagoula, Mississippi*

Mr. Walter Tatum
*SEAMAP Subcommittee Chairman
Alabama Department of Conservation
and Natural Resources
Gulf Shores, Alabama*

ACKNOWLEDGEMENTS

The 1990 SEAMAP Atlas was developed as a cooperative effort between the five Gulf States fishery management agencies and the National Marine Fisheries Service (NMFS), to present information collected during SEAMAP research survey activities in the Gulf of Mexico. The SEAMAP Data Coordinating Work Group would like to thank the following agencies for their participation in the project: Florida Department of Natural Resources, Alabama Department of Conservation and Natural Resources, Gulf Coast Research Laboratory (representing the Mississippi Department of Wildlife, Fisheries and Parks), Louisiana Department of Wildlife and Fisheries, Texas Parks and Wildlife Department, and NMFS-Southeast Fisheries Center.

Special thanks go to NMFS-Southeast Fisheries Center, Mississippi Laboratory personnel Rick Minkler, Rosanne Brasher and Mark Grace; and to the Gulf States Marine Fisheries Commission staff for their assistance in preparing this atlas.

TABLE OF CONTENTS

	PAGE
Introduction	1
Materials and Methods	1
Plankton Surveys.	2
Environmental Surveys	3
Satellite Images	4
Trawl Surveys	4
Spring Louisiana Trawl Survey.	4
Summer Shrimp/Groundfish Survey.	4
Fall Shrimp/Groundfish Survey	5
Results	5
Plankton Surveys.	5
Environmental Surveys	5
Trawl Surveys	5
Spring Louisiana Trawl Survey.	5
Summer Shrimp/Groundfish Survey.	6
Fall Shrimp/Groundfish Survey.	7
Real-Time Data Management	7
Discussion	8
Data Requests	9
Literature Cited	310

LIST OF TABLES

		PAGE
Table 1.	List of SEAMAP survey activities from 1982 to 1989.	10
Table 2.	Selected environmental parameters measured during 1990 SEAMAP surveys in the Gulf of Mexico, by individual vessel and survey.	11
Table 3.	1990 Spring Louisiana Trawl Survey species composition list, 18 trawl stations, using 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.	66
Table 4a.	Statistical Zone 13. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 13 during 1990 Spring Louisiana Trawl Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	69
Table 4b.	Statistical Zone 13. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during 1990 Spring Louisiana Trawl Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	70
Table 5a.	Statistical Zone 14. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 14 during 1990 Spring Louisiana Trawl Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.	71
Table 5b.	Statistical Zone 14. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during 1990 Spring Louisiana Trawl Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.	72
Table 6.	1990 Summer Shrimp/Groundfish Survey species composition list, 282 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.	73
Table 7.	1990 Summer Shrimp/Groundfish Survey species composition list, 80 trawl stations, for those vessels that used a 20-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.	81
Table 8.	1990 Summer Shrimp/Groundfish Survey species composition list, 21 trawl stations, for those vessels that used a 16-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.	85
Table 9a.	Statistical Zone 11. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 11 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	87
Table 9b.	Statistical Zone 11. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	89
Table 10a.	Statistical Zone 13. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 13 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.	90

LIST OF TABLES

	PAGE
Table 10b. Statistical Zone 13. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.	92
Table 11a. Statistical Zone 14. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 14 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	93
Table 11b. Statistical Zone 14. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	95
Table 12a. Statistical Zone 15. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 15 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	96
Table 12b. Statistical Zone 15. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	98
Table 13a. Statistical Zone 16. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 16 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	99
Table 13b. Statistical Zone 16. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	101
Table 14a. Statistical Zone 17. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 17 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.	102
Table 14b. Statistical Zone 17. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.	104
Table 15a. Statistical Zone 18. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 18 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.	105
Table 15b. Statistical Zone 18. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.	107

LIST OF TABLES

	PAGE
Table 16a. Statistical Zone 19. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 19 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 30 fm.	108
Table 16b. Statistical Zone 19. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 30 fm.	110
Table 17a. Statistical Zone 20. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 20 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	111
Table 17b. Statistical Zone 20. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	113
Table 18a. Statistical Zone 21. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 21 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	114
Table 18b. Statistical Zone 21. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	116
Table 19a. Statistical Zone 17. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 17 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.	117
Table 19b. Statistical Zone 17. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.	118
Table 20a. Statistical Zone 18. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 18 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.	119
Table 20b. Statistical Zone 18. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.	120

LIST OF TABLES

	PAGE
Table 21a. Statistical Zone 19. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 19 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	121
Table 21b. Statistical Zone 19. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	122
Table 22a. Statistical Zone 20. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 20 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	123
Table 22b. Statistical Zone 20. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	124
Table 23a. Statistical Zone 21. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 21 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	125
Table 23b. Statistical Zone 21. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	126
Table 24a. Statistical Zone 22. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 22 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	127
Table 24b. Statistical Zone 22. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	128
Table 25a. Statistical Zone 11. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 11 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	129
Table 25b. Statistical Zone 11. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	130

LIST OF TABLES

	PAGE
Table 26a. Statistical Zone 12. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 12 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	131
Table 26b. Statistical Zone 12. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	132
Table 27a. Statistical Zone 13. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 13 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	133
Table 27b. Statistical Zone 13. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	134
Table 28a. Statistical Zone 14. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 14 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	135
Table 28b. Statistical Zone 14. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	136
Table 29a. Statistical Zone 16. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 16 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	137
Table 29b. Statistical Zone 16. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	138
Table 30a. Statistical Zone 17. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 17 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	139
Table 30b. Statistical Zone 17. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	140

LIST OF TABLES

	PAGE
Table 31. 1990 Fall Shrimp/Groundfish Survey species composition list, 277 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.	141
Table 32. 1990 Fall Shrimp/Groundfish Survey species composition list, 80 trawl stations, for those vessels that used a 20-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.	149
Table 33. 1990 Fall Shrimp/Groundfish Survey species composition list, 21 trawl stations, for those vessels that used a 16-ft trawl. Species with a total weight of less than 0.0227 kg (0.05 lb) are indicated on table as 0.0 kg.	153
Table 34a. Statistical Zone 11. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 11 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	155
Table 34b. Statistical Zone 11. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	157
Table 35a. Statistical Zone 12. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 12 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	158
Table 35b. Statistical Zone 12. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	159
Table 36a. Statistical Zone 13. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 13 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.	160
Table 36b. Statistical Zone 13. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths less than 5 fm.	162
Table 37a. Statistical Zone 14. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 14 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	163
Table 37b. Statistical Zone 14. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	165
Table 38a. Statistical Zone 15. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 15 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	166

LIST OF TABLES

	PAGE
Table 38b. Statistical Zone 15. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	168
Table 39a. Statistical Zone 16. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 16 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.	169
Table 39b. Statistical Zone 16. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths less than 5 fm.	171
Table 40a. Statistical Zone 17. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 17 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm or greater than 40 fm.	172
Table 40b. Statistical Zone 17. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey and by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths less than 5 fm or greater than 40 fm.	174
Table 41a. Statistical Zone 18. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 18 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.	175
Table 41b. Statistical Zone 18. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.	177
Table 42a. Statistical Zone 19. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 19 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl stations were taken in depths less than 5 fm or greater than 30 fm.	178
Table 42b. Statistical Zone 19. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl stations were taken in depths less than 5 fm or greater than 30 fm.	180
Table 43a. Statistical Zone 20. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 20 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl stations were taken in depths less than 5 fm.	181

LIST OF TABLES

	PAGE
Table 43b. Statistical Zone 20. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl stations were taken in depths less than 5 fm.	183
Table 44a. Statistical Zone 21. 40-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 21 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.	184
Table 44b. Statistical Zone 21. 40-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm.	186
Table 45a. Statistical Zone 17. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 17 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.	187
Table 45b. Statistical Zone 17. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.	188
Table 46a. Statistical Zone 18. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 18 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.	189
Table 46b. Statistical Zone 18. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.	190
Table 47a. Statistical Zone 19. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 19 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	191
Table 47b. Statistical Zone 19. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	192
Table 48a. Statistical Zone 20. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 20 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	193

LIST OF TABLES

	PAGE
Table 48b. Statistical Zone 20. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	194
Table 49a. Statistical Zone 21. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 21 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.	195
Table 49b. Statistical Zone 21. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.	196
Table 50a. Statistical Zone 22. 20-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 22 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.	197
Table 50b. Statistical Zone 22. 20-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.	198
Table 51a. Statistical Zone 11. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 11 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	199
Table 51b. Statistical Zone 11. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	200
Table 52a. Statistical Zone 12. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 12 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	201
Table 52b. Statistical Zone 12. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	202
Table 53a. Statistical Zone 13. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 13 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	203

LIST OF TABLES

	PAGE
Table 53b. Statistical Zone 13. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	204
Table 54a. Statistical Zone 14. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 14 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	205
Table 54b. Statistical Zone 14. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	206
Table 55a. Statistical Zone 16. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 16 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	207
Table 55b. Statistical Zone 16. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	208
Table 56a. Statistical Zone 17. 16-ft trawls. Summary of dominant organisms taken in shrimp statistical zone 17 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.	209
Table 56b. Statistical Zone 17. 16-ft trawls. Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m ³ , and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.	210

LIST OF FIGURES

	PAGE
Figure 1. 1990 SEAMAP Surveys, Gulf of Mexico.	211
Figure 2. Statistical zones for shrimp in the Gulf of Mexico.	212
Figure 3. Locations of plankton and environmental stations during 1990 Spring Plankton Survey.	213
Figure 4. Locations of plankton stations during 1990 Summer Shrimp/Groundfish Survey	214
Figure 5. Locations of plankton and environmental stations during 1990 Fall Plankton Survey.	215
Figure 6. Locations of plankton stations during 1990 Fall Shrimp/Groundfish Survey	216
Figure 7. Locations of 1990 Summer Shrimp/Groundfish environmental stations, summarized by 10-minute squares.	217
Figure 8. Locations of 1990 Fall Shrimp/Groundfish Survey environmental stations, summarized by 10-minute squares.	218
Figure 9. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, April 14, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	219
Figure 10. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, May 12, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	220
Figure 11. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, June 2, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	221
Figure 12. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, July 7, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	222
Figure 13. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, August 11, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	223
Figure 14. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, September 16, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	224
Figure 15. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, October 14, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	225
Figure 16. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, November 11, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	226
Figure 17. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, December 19, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).	227
Figure 18. Locations of 1990 Summer Shrimp/Groundfish trawl stations, summarized by 10-minute squares	228
Figure 19. Locations of 1990 Fall Shrimp/Groundfish trawl stations, summarized by 10-minute squares.	229
Figure 20. Atlantic croaker, <u>Micropogonias undulatus</u> , number/hour for June-July 1990.	230
Figure 21. Atlantic croaker, <u>Micropogonias undulatus</u> , lb/hour for June-July 1990.	231
Figure 22. Longspine porgy, <u>Stenotomus caprinus</u> , number/hour for June-July 1990.	232
Figure 23. Longspine porgy, <u>Stenotomus caprinus</u> , lb/hour for June-July 1990.	233

LIST OF FIGURES

	PAGE
Figure 24. Gulf butterfish, <u>Peprilus burti</u> , number/hour for June-July 1990.	234
Figure 25. Gulf butterfish, <u>Peprilus burti</u> , lb/hour for June-July 1990.	235
Figure 26. Spot, <u>Leiostomus xanthurus</u> , number/hour for June-July 1990.	236
Figure 27. Spot, <u>Leiostomus xanthurus</u> , lb/hour for June-July 1990.	237
Figure 28. Rough scad, <u>Trachurus lathami</u> , number/hour for June-July 1990.	238
Figure 29. Rough scad, <u>Trachurus lathami</u> , lb/hour for June-July 1990.	239
Figure 30. Dwarf goatfish, <u>Upeneus parvus</u> , number/hour for June-July 1990.	240
Figure 31. Dwarf goatfish, <u>Upeneus parvus</u> , lb/hour for June-July 1990.	241
Figure 32. Silver seatrout, <u>Cynoscion nothus</u> , number/hour for June-July 1990.	242
Figure 33. Silver seatrout, <u>Cynoscion nothus</u> , lb/hour for June-July 1990.	243
Figure 34. Atlantic bumper, <u>Chloroscombrus chrysurus</u> , number/hour for June-July 1990.	244
Figure 35. Atlantic bumper, <u>Chloroscombrus chrysurus</u> , lb/hour for June-July 1990.	245
Figure 36. Bigeye searobin, <u>Prionotus longispinosus</u> , number/hour for June-July 1990.	246
Figure 37. Bigeye searobin, <u>Prionotus longispinosus</u> , lb/hour for June-July 1990.	247
Figure 38. Rock seabass, <u>Centropristis philadelphia</u> , number/hour for June-July 1990.	248
Figure 39. Rock seabass, <u>Centropristis philadelphia</u> , lb/hour for June-July 1990.	249
Figure 40. Red snapper, <u>Lutjanus campechanus</u> , number/hour for June-July 1990.	250
Figure 41. Red snapper, <u>Lutjanus campechanus</u> , lb/hour for June-July 1990.	251
Figure 42. Brown shrimp, <u>Penaeus aztecus</u> , number/hour for June-July 1990.	252
Figure 43. Brown shrimp, <u>Penaeus aztecus</u> , lb/hour for June-July 1990.	253
Figure 44. Pink shrimp, <u>Penaeus duorarum</u> , number/hour for June-July 1990.	254
Figure 45. Pink shrimp, <u>Penaeus duorarum</u> , lb/hour for June-July 1990.	255
Figure 46. White shrimp, <u>Penaeus setiferus</u> , number/hour for June-July 1990.	256
Figure 47. White shrimp, <u>Penaeus setiferus</u> , lb/hour for June-July 1990.	257
Figure 48. Roughback shrimp, <u>Trachypenaeus similis</u> , number/hour for June-July 1990.	258
Figure 49. Roughback shrimp, <u>Trachypenaeus similis</u> , lb/hour for June-July 1990.	259
Figure 50. Lesser blue crab, <u>Callinectes similis</u> , number/hour for June-July 1990.	260
Figure 51. Lesser blue crab, <u>Callinectes similis</u> , lb/hour for June-July 1990.	261
Figure 52. Roughneck shrimp, <u>Trachypenaeus</u> spp., number/hour for June-July 1990.	262
Figure 53. Roughneck shrimp, <u>Trachypenaeus</u> spp., lb/hour for June-July 1990.	263
Figure 54. Mantis shrimp, <u>Squilla empusa</u> , number/hour for June-July 1990.	264
Figure 55. Mantis shrimp, <u>Squilla empusa</u> , lb/hour for June-July 1990.	265

LIST OF FIGURES

	PAGE
Figure 56. Brown rock shrimp, <u>Sicyonia brevirostris</u> , number/hour for June-July 1990.	266
Figure 57. Brown rock shrimp, <u>Sicyonia brevirostris</u> , lb/hour for June-July 1990.	267
Figure 58. Longfin squid, <u>Loliqo pealeii</u> , number/hour for June-July 1990.	268
Figure 59. Longfin squid, <u>Loliqo pealeii</u> , lb/hour for June-July 1990.	269
Figure 60. Atlantic croaker, <u>Micropogonias undulatus</u> , number/hour for October-December 1990. . .	270
Figure 61. Atlantic croaker, <u>Micropogonias undulatus</u> , lb/hour for October-December 1990.	271
Figure 62. Atlantic bumper, <u>Chloroscombrus chrysurus</u> , number/hour for October-December 1990. . .	272
Figure 63. Atlantic bumper, <u>Chloroscombrus chrysurus</u> , lb/hour for October-December 1990.	273
Figure 64. Longspine porgy, <u>Stenotomus caprinus</u> , number/hour for October-December 1990.	274
Figure 65. Longspine porgy, <u>Stenotomus caprinus</u> , lb/hour for October-December 1990.	275
Figure 66. Gulf butterfish, <u>Peprilus burti</u> , number/hour for October-December 1990.	276
Figure 67. Gulf butterfish, <u>Peprilus burti</u> , lb/hour for October-December 1990.	277
Figure 68. Spot, <u>Leiostomus xanthurus</u> , number/hour for October-December 1990.	278
Figure 69. Spot, <u>Leiostomus xanthurus</u> , lb/hour for October-December 1990.	279
Figure 70. Blackear bass, <u>Serranus atrobranchus</u> , number/hour for October-December 1990.	280
Figure 71. Blackear bass, <u>Serranus atrobranchus</u> , lb/hour for October-December 1990.	281
Figure 72. Rough scad, <u>Trachurus lathami</u> , number/hour for October-December 1990.	282
Figure 73. Rough scad, <u>Trachurus lathami</u> , lb/hour for October-December 1990.	283
Figure 74. Hardhead catfish, <u>Arius felis</u> , number/hour for October-December 1990.	284
Figure 75. Hardhead catfish, <u>Arius felis</u> , lb/hour for October-December 1990.	285
Figure 76. Dwarf sand perch, <u>Synodus foetens</u> , number/hour for October-December 1990.	286
Figure 77. Dwarf sand perch, <u>Synodus foetens</u> , lb/hour for October-December 1990.	287
Figure 78. Bigeye searobin, <u>Prionotus longispinosus</u> , number/hour for October-December 1990. . . .	288
Figure 79. Bigeye searobin, <u>Prionotus longispinosus</u> , lb/hour for October-December 1990.	289
Figure 80. Red snapper, <u>Lutjanus campechanus</u> , number/hour for October-December 1990.	290
Figure 81. Red snapper, <u>Lutjanus campechanus</u> , lb/hour for October-December 1990.	291
Figure 82. Brown shrimp, <u>Penaeus aztecus</u> , number/hour for October-December 1990.	292
Figure 83. Brown shrimp, <u>Penaeus aztecus</u> , lb/hour for October-December 1990.	293
Figure 84. White shrimp, <u>Penaeus setiferus</u> , number/hour for October-December 1990.	294
Figure 85. White shrimp, <u>Penaeus setiferus</u> , lb/hour for October-December 1990.	295
Figure 86. Pink shrimp, <u>Penaeus duorarum</u> , number/hour for October-December 1990.	296
Figure 87. Pink shrimp, <u>Penaeus duorarum</u> , lb/hour for October-December 1990.	297
Figure 88. Lesser blue crab, <u>Callinectes similis</u> , number/hour for October-December 1990.	298
Figure 89. Lesser blue crab, <u>Callinectes similis</u> , lb/hour for October-December 1990.	299

LIST OF FIGURES

	PAGE
Figure 90. Irridescent swimming crab, <u>Portunus gibbesii</u> , number/hour for October-December 1990. . .	300
Figure 91. Irridescent swimming crab, <u>Portunus gibbesii</u> , lb/hour for October-December 1990. . . .	301
Figure 92. Roughback shrimp, <u>Trachypenaeus similis</u> , number/hour for October-December 1990. . . .	302
Figure 93. Roughback shrimp, <u>Trachypenaeus similis</u> , lb/hour for October-December 1990.	303
Figure 94. Brown rock shrimp, <u>Sicyonia brevirostris</u> , number/hour for October-December 1990. . . .	304
Figure 95. Brown rock shrimp, <u>Sicyonia brevirostris</u> , number/hour for October-December 1990. . . .	305
Figure 96. Mantis shrimp, <u>Squilla empusa</u> , number/hour for October-December 1990.	306
Figure 97. Mantis shrimp, <u>Squilla empusa</u> , lb/hour for October-December 1990.	307
Figure 98. Longfin squid, <u>Loligo pealeii</u> , number/hour for October-December 1990.	308
Figure 99. Longfin squid, <u>Loligo pealeii</u> , lb/hour for October-December 1990.	309

INTRODUCTION

The Southeast Area Monitoring and Assessment Program (SEAMAP) is a State/Federal/university program for the collection, management and dissemination of fishery-independent data (information collected without direct reliance on statistics reported by commercial or recreational fishermen) in United States waters of the Gulf of Mexico (Eldridge 1988). A major SEAMAP objective is to provide a large, standardized data base needed by management agencies, industry and scientists to wisely manage and develop fishery resources for the least possible cost. To accomplish this goal, survey data must be disseminated in a useful format to SEAMAP participants, cooperators and other interested organizations.

The SEAMAP Program began in March 1981 when the National Marine Fisheries Service (NMFS), Southeast Fisheries Center (SEFC), presented a SEAMAP Strategic Plan (January 1981) to the Gulf States Marine Fisheries Commission (GSMFC). This strategic plan outlined the proposed program organization (goals, objectives, procedures, resource requirements, etc.); within the existing framework of the GSMFC, a SEAMAP Subcommittee was then formed. The Subcommittee consists of one representative from each state fishery management agency [Florida Department of Natural Resources (FDNR); Alabama Department of Conservation and Natural Resources (ADCNR); Mississippi Department of Wildlife, Fisheries and Parks (MDWFP), represented by the Gulf Coast Research Laboratory (GCRL); Louisiana Department of Wildlife and Fisheries (LDWF) and Texas Parks and Wildlife Department (TPWD)], one from NMFS Southeast Fisheries Center and a non-voting member representing the Gulf of Mexico Fishery Management Council (GMFMC). The Subcommittee organized and successfully coordinated a number of surveys between 1982 through 1989 (Table 1). The data has been published in atlases for the surveys in 1982 (Stuntz et al. 1985); 1983 (Thompson and Bane 1986a); 1984 (Thompson and Bane 1986b); 1985 (Thompson et al. 1988); 1986 (Sanders et al. 1990a); 1987 (Sanders et al. 1990b); 1988 (Sanders et al. 1991a) and 1989 (Sanders et al. 1991b). Environmental assessment activities occurred with each of the surveys found in Table 1.

In January 1990, the SEAMAP Subcommittee identified and began to plan the year's SEAMAP survey activities for the Gulf of Mexico. In keeping with the program goal of establishing a coordinated long-term resource data base, it was decided to continue the same types of survey activities conducted in 1982 through 1989. Overall survey objectives in 1982 to 1989 were to assess the distribution and abundance of recreational and commercial ichthyoplankton and trawl-caught organisms and document environmental factors that might affect their distribution and abundance. The basis for plankton work was primarily assessment of selected finfish and invertebrate eggs and larvae across the northern Gulf of Mexico (Sherman et al. 1983). The basis for the trawl surveys which started with the Texas Closure (Nichols 1982, 1984; Nichols and Poffenberger 1987), was to establish a seasonal data base to assess the abundance and distribution of the shrimp and groundfish stocks across the northern Gulf of Mexico.

A major purpose of SEAMAP is to provide resource survey data to State and Federal management agencies and universities participating in SEAMAP activities. This ninth in a series of SEAMAP environmental and biological atlases presents such data, in a summarized form, collected during the 1990 SEAMAP surveys. The area covered in the Gulf of Mexico for all SEAMAP survey activities during 1990 is shown in Figure 1.

MATERIALS AND METHODS

Methodology for the 1990 SEAMAP surveys is similar to that of the 1982 through 1989 surveys. Sampling was conducted within the U.S. Exclusive Economic Zone (EEZ) and state territorial waters.

Vessels that participated in collecting plankton and environmental data during the Spring Survey included the NOAA Ship OREGON II (April 20-May 24) and the Florida vessel HERNAN CORTEZ II (May 24-30). The Louisiana vessel PELICAN collected plankton samples off Louisiana during its trawl survey (April 11-13).

Vessels that participated in the Summer Shrimp/Groundfish Survey and concurrently sampled plankton and environmental data included the GCRL vessel TOMMY MUNRO (June 9-10; June 19-20; July 11-13; July 27-29; and August 7); the NOAA Ship OREGON II (June 14-July 13); Louisiana small inshore vessels (July 9-11); and the Louisiana vessel PELICAN (July 9-12). The Alabama vessels (June 7-11 and July 12) and TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, GALVESTON BAY and SABINE (June 10-21) did not sample plankton in conjunction with the summer survey.

Vessels that participated in collecting plankton and environmental data during the Fall Plankton Survey included the GCRL vessel TOMMY MUNRO (September 7-11); the NOAA Ship OREGON II (September 12-29); Alabama vessels (September 19); the Louisiana vessel PELICAN (October 1) and the Florida vessel HERNAN CORTEZ II (October 13-18).

Vessels that participated in the Fall Shrimp/Groundfish Survey and concurrently sampled plankton and environmental data included the NOAA Ship OREGON II (October 16-November 18); Alabama vessels (November 13 and 15); the GCRL vessel TOMMY MUNRO (November 15-18); Louisiana inshore vessels (November 7 and 14); the Louisiana vessel PELICAN (November 26 and 27 and December 5-7). The TPWD vessels ARANSAS BAY, MATAGORDA BAY, LAGUNA MADRE, GALVESTON BAY and SABINE (November 1-28) did not sample plankton in conjunction with the fall survey.

PLANKTON SURVEYS

Plankton samples were taken at stations arranged in a systematic grid across the Gulf of Mexico. Such a grid was chosen because of the large survey area. Stations were set at minimum intervals of 30 miles (1/2 degree). The exceptions were with LDWF vessels, which collected samples opportunistically at the end of a trawl station.

Sampling gear and procedures were similar to those recommended by Kramer et al. (1972), Smith and Richardson (1977) and Posgay and Marak (1980). Plankton sampling gear consisted of standard 61-cm bongos and a 2x1-m neuston net for the large vessels. The bongos were fitted with 0.333-mm mesh nets with either hard (PVC) or soft (0.333-mm mesh net) cod ends. A flowmeter was mounted off-center in the mouth of each net to record the volume of water filtered. A 50-lb weight was attached approximately 1 m below the bongo frame attachment. The neuston net consisted of a 2x1-m pipe frame fitted with a 0.948-mm mesh net on which the cod end was tied off.

At each designated plankton station, either an oblique bongo/surface neuston tow or a surface neuston tow was made. In deep water bongo stations (more than 95 m) a standard oblique tow was made to 200 m, or to 5 m off the bottom at depths less than 200 m, with a payout speed of 50 m/min, 1-minute settling time, and a retrieval speed of 20 m/min, at a vessel speed of 1.5 knots to maintain a 45° angle. Neuston tows were made at the surface with the net half-submerged for 10 minutes at a vessel speed of 1.5 knots. The Louisiana vessels made plankton tows with small, 20-cm bongo nets with 0.333-mm mesh and soft cod ends.

Samples were preserved initially in 10% buffered formalin. After a 48-hr period, the bongo and neuston samples were transferred to 95% ethyl alcohol for final preservation, and subsequently shipped to the NMFS Miami Laboratory. The Miami Laboratory curated and computerized the sample data. The right bongo sample and the neuston sample from each station were transshipped to the Polish Sorting and Identification Center (PSC) in Szczecin, Poland, for sorting and identification. Plankton samples from Louisiana vessels were retained by LDWF for sorting and identification at their facilities. All ichthyoplankton components (eggs and larvae) were removed from each sample and the fish larvae identified to the lowest feasible taxon (families in most cases).

Sorted ichthyoplankton specimens from PSC were returned to the SEAMAP Archiving Center (SAC), managed in conjunction with the FDNR, for long-term storage under museum-like conditions. Sorted ichthyoplankton samples from 1982 through 1989 are available for loan to researchers throughout the country. Plankton volumes were determined according to procedures in Smith and Richardson (1977). The alternate bongo sample from each station was retained at GCRL as a backup for those samples transshipped to the PSC, in case of loss or damage during transit. These backup unsorted plankton

samples containing zooplankton and phytoplankton are stored at the SEAMAP Invertebrate Plankton Archiving Center (SIPAC), managed in conjunction with GCRL, for use by researchers.

ENVIRONMENTAL SURVEYS

Standardized methodology was used although the actual parameters measured varied among vessels participating in each survey. The following parameters were recorded:

- Vessel: Vessel code for each vessel.
- Station: Station identifiers varied by state and vessel.
- Cruise: Cruise numbers varied by state and vessels.
- Date: Month/Day/Year.
- Time: Local time and time zone, recorded at the start of sampling.
- Latitude/longitude: Recorded to seconds.
- Barometric pressure: Recorded in millibars.
- Wave height: Estimated visually in meters.
- Wind speed and direction: Recorded in knots with direction recorded in compass degrees from which the wind was blowing.
- Air temperature: Recorded in Centigrade.
- Cloud type: Types of clouds recorded in daylight stations.
- Cloud cover: Estimated visually in percent cloud cover.
- Secchi depth: Secchi depth in meters, estimated at each daylight station. Standard oceanographic 30-cm white discs were lowered until no longer visible, then raised until visible. If different depths were recorded, an average was used.
- Water Color: Forel-Ule data was recorded.

The following parameters were measured at the surface, mid-depth and bottom; for bottom depths greater than 200 m, samples were taken at surface, 100 m and 200 m:

- Water temperature: Temperatures were measured by a hand-held thermometer onboard ship, in situ electronic sensors, and in situ reversing thermometers. No attempt was made to intercalibrate the various instruments used on individual vessels although several vessels did sample together to calibrate other sampling gear. Some error can be expected.
- Salinity: Salinity samples were collected by Niskin bottles and stored for laboratory analysis with a salinometer. Conductivity probes and refractometers were used on some vessels.
- Chlorophyll: Chlorophyll samples were collected and frozen for later laboratory analysis. The general procedure for shipboard collection of chlorophyll was to collect more than 9 liters of water from the surface. This was kept stirred by bubbling air through it while filtration was being done. Three samples, to each of which a 1 ml, 1% (W/V), suspension of $MgCO_3$ was added, of up to 3 liters of water from the 9 liter sample were filtered through GF/C filters. The three filters were placed individually in Petri dishes, wrapped in opaque material and frozen until analysis. Each of the three samples was analyzed separately in the laboratory. Values in the tables that follow, are the mean of the three samples.

Laboratory analyses for chlorophyll a and phaeophytin a (chlorophyll degradation product) were conducted by fluorometry and spectrophotometry. The general extraction procedures prior to measurement were similar. Samples analyzed by spectrophotometer included other chlorophyllous products but have not been included as data in this report. The methodology used is described in Strickland and Parsons (1972) and Jeffrey and Humphrey (1975). Some of the values have been deleted from the data base because of analytical errors.

Dissolved oxygen: Dissolved oxygen values were measured by electronic probes (depending on the vessel) or by the standard Winkler method. No attempts were made to intercalibrate the methods. When oxygen was measured in samples collected from a Niskin sampler, the oxygen bottles were allowed to overflow a minimum of 10 seconds to eliminate oxygen contamination. The tubing which delivered the water sample was inserted to the bottom of the bottle and withdrawn while the sample was still flowing. The oxygen bottles were sealed with a ground-glass stopper and analyzed onboard the vessels.

Turbidity: Turbidity values were measured by electronic probes (depending on the vessel).

Satellite Images

Thermal data were collected by the Advanced Very High Resolution Radiometers (AVHRR) carried on the NOAA Polar Orbiter series of satellites. The data were analyzed by the National Environmental Satellite Data and Information Service (NESDIS).

TRAWL SURVEYS

Spring Louisiana Trawl Survey

The Louisiana Department of Wildlife and Fisheries conducted a seasonal day/night trawl survey and concurrently took environmental samples at each trawl station and plankton samples opportunistically. The trawl survey was conducted as part of an effort to provide comparative information on critical life states of major Gulf species, especially shrimp, and associated environmental parameters in Louisiana and adjacent EEZ waters. The LDWF sampled day and night stations with a 40-ft shrimp trawl to depths of 17 fm. A stratified random station selection design was maintained. All organisms captured were identified, counted, measured and weighed.

Summer Shrimp/Groundfish Survey

The sampling strategy and a description of the statistical rationale for the sampling design as described by Nichols in the 1982 SEAMAP Atlas (Stuntz et al. 1985) has been modified. Since 1987, the strategy has been that day/night sampling sites were chosen randomly in five areas stratified by depth and statistical area. These areas are shrimp statistical zones 10-22, (Figure 2). Trawl stations for NMFS, Alabama, Mississippi and Louisiana vessels are made with a standard SEAMAP 40-ft net, 20-ft net for Texas vessels and 16-ft net for Louisiana inshore vessels. Depth strata consisted of 1 fm intervals from 5 to 20 fm, a 2 fm interval from 20 to 22 fm, a 3 fm interval from 22 to 25 fm, 5 fm intervals from 25 to 50 fm and a 10 fm interval from 50 to 60 fms. Additionally, the GCRL vessel TOMMY MUNRO sampled 1 fm intervals from 2 to 5 fm off Louisiana in July. Trawls were towed perpendicularly to the depth contours and covered the entire depth stratum on each station. Single tows were for a maximum of 60 minutes; for certain stations, a series of consecutive trawl tows was necessary to cover a given depth stratum, with a minimum individual tow across each stratum of 10 minutes and a maximum tow of 60 minutes. The Texas vessels towed 10 minutes parallel to the depth stratum. The Louisiana vessels did not cover a complete depth stratum on several stations because of the distance between depth stratum.

The Louisiana Department of Wildlife and Fisheries used small vessels (less than 30 ft) to sample seven study areas in NMFS statistical zones 11, 12, 13, 14, 16 and 17, utilizing 16-ft shrimp trawls during daylight hours. Statistical zone 15 was not sampled, as stations were made along set transects occurring only in the five other zones with the 16-ft trawl. Six samples were taken weekly in each study area during the survey period. A sampling station consisted of a 10 minute tow at depths of 1, 3 and 5 fm made parallel to the depth contour.

All Penaeus spp. shrimp were separated from the trawl catch at each station. Total count and weight by species were recorded for each station. A sample of up to 200 shrimp of each species from every trawl was sexed and measured to obtain length-frequency information. Estimated total numbers

were derived from the total weights of those processed. Other species of fishes and invertebrates were identified, enumerated and weighed. Weights and individual measurements on selected species other than commercial shrimp were also recorded.

Fall Shrimp/Groundfish Survey

The design of the fall survey was similar to the Summer Shrimp/Groundfish Survey. During the Fall survey trawl stations were made with the standard 40-ft, 20-ft and 16-ft SEAMAP net and covered NMFS shrimp statistical zones 11 through 22 (Figure 2).

Catch rates on all the vessels sampling were treated in the same manner as the Summer Shrimp/Groundfish Survey.

RESULTS

PLANKTON SURVEYS

Over 10,000 lots of identified ichthyoplankton samples were returned from the PSC and LDWF to the NMFS Lab in Miami (from PSC) and the SAC (from LDWF). These samples represent specimens collected during the 1990 sample year, and also include backlogged samples taken from 1987 through 1989. The data are currently being verified and entered into the SAC computer database.

Plankton stations for the Spring Plankton Survey in conjunction with environmental stations are shown in Figure 3, the Summer Shrimp/Groundfish Survey stations are shown in Figure 4, the Fall Plankton Survey Stations in conjunction with environmental stations are shown in Figure 5, and the Fall Shrimp/Groundfish survey stations are shown in Figure 6.

ENVIRONMENTAL SURVEYS

Environmental data was collected in conjunction with each plankton station for the Spring (Figure 3) and Fall (Figure 5) plankton surveys. Environmental data stations for the Summer Shrimp/Groundfish Survey are shown in Figure 7 and the Fall Shrimp/Groundfish Survey in Figure 8. Environmental sampling locations are summarized in Figures 7 and 8 by 10-minute squares. A complete listing of environmental stations and dates of sampling by vessel for all SEAMAP surveys is shown in Table 2. In Table 2 under statistical zone, the 99 codes are stations located outside the shrimp statistical zones.

Additional environmental information (Secchi readings, Forel-Ule, cloud cover, etc.) may be obtained from the SEAMAP Information System by contacting the SEAMAP Data Manager.

Satellite-derived sea-surface temperatures are shown for the months of April (Figure 9), May (Figure 10), June (Figure 11), July (Figure 12), August (Figure 13), September (Figure 14), October (Figure 15), November (Figure 16) and December (Figure 17).

TRAWL SURVEYS

Spring Louisiana Trawl Survey

Louisiana Department of Wildlife and Fisheries conducted their seasonal day/night trawl survey in April 1990. Trawl station data can be found in Table 2 and the plankton/environmental stations are plotted in Figure 3. A species composition listing from the trawls is presented in Table 3, ranked in order of abundance within the categories of finfish, crustaceans and other invertebrates.

Tables 4a-5a present the biological data, from 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squids within NMFS statistical zones 13 and 14 by depth stratum. Tables 4b-5b list the total catch and environmental data from the 40-ft nets within NMFS statistical zones 13 and 14 depth stratum.

For all tables, the standard error of the mean (SEM) was calculated with the equation:

$$SEM = \frac{\alpha}{\sqrt{n}} \quad \text{where } \alpha = \text{population standard deviation} \\ n = \text{number of samples}$$

On all tables, NUM = number per hour; all weights shown are in kilograms per hour.

For all "b" tables, discrepancies between catch and environmental data may appear in the number of samples (n). These discrepancies may be due to different sampling depths for trawl and environmental stations, unsuccessful trawl stations and/or stations where only plankton data was collected.

Summer Shrimp/Groundfish Survey

Shrimp and groundfish sampling was conducted during June and July from off Gulf Shores, Alabama to Brownsville, Texas and summarized by 10-minute squares in Figure 18. The Summer Shrimp/Groundfish Survey consisted primarily of biological trawl data and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 6, ranked in order of abundance, within the categories of finfish, crustaceans and other invertebrates. Species composition listing from 20-ft trawls is presented in Table 7 and the 16-ft trawls is presented in Table 8.

Biological distributions of the ten most abundant finfish plus red snapper, three main penaeid shrimps, five most abundant non-Penaeus invertebrates and squid species, taken from Table 6, 7 and 8, are displayed in plots of number/hour and lb/hour in Figures 20-59. Data for the biological plots were computed from the 40-ft, 20-ft and 16-ft trawl data, standardized to 40-ft trawls using relative headrope length. In the plots of lb/hour, a zero value indicates less than 0.5 lb/hr taken; only stations where some of the species were taken are shown. During this time frame, the state of Florida did not participate in any survey activities.

Tables 9a-18a present the biological data, from the 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 11 and 13 through 21, by depth stratum. Tables 9b-18b list the total catch and environmental data from the 40-ft nets within NMFS statistical zone listed above, by depth stratum.

Tables 19a-24a present the biological data from the 20-ft nets of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 17 through 22, by depth stratum. Tables 19b-24b present the total catch and environmental data from the 20-ft nets within the NMFS statistical zones listed above, by depth stratum.

Tables 25a-30a present the biological data from the 16-ft nets of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 11, 12, 13, 14, 16 and 17, inside 5 fm. Tables 25b-30b present the total catch and environmental data from the 16-ft nets within the NMFS statistical zones listed above, inside 5 fm.

Catch rates for the survey were computed with the same equations used to compute the Spring Louisiana Trawl Survey catch rates.

As in the Spring Louisiana Trawl Survey, discrepancies in the "b" tables may have occurred.

Fall Shrimp/Groundfish Survey

Shrimp and groundfish sampling was conducted during October through December from off Mobile Bay, Alabama to Brownsville, Texas and summarized by 10-minute squares in Figure 19. The Fall Shrimp/Groundfish Survey consisted of biological trawl data and concomitant environmental and plankton data. A species composition listing from the 40-ft trawls is presented in Table 31, 20-ft trawls in Table 32 and 16-ft trawls in Table 33. The species list for Tables 31 to 33 are ranked in order of abundance within the categories of finfish, crustaceans and other invertebrates.

Biological distributions of the ten most abundant finfish plus red snapper, three main penaeid shrimps, five most abundant non-Penaeus invertebrates and squid species, taken from Tables 31 to 33 are displayed in plots of number/hour and lb/hour in Figures 60 to 99. Data for the biological plots were computed from the 40-ft, 20-ft and from 16-ft trawl data, standardized to 40-ft trawls using relative headrope length. In the plots of lb/hour, a zero value indicates less than 0.5 lb/hr taken; only stations where some of the species were taken are shown. During this time frame, the state of Florida did not participate in any survey activities.

Tables 34a-44a present the biological data, from the 40-ft nets, of the eight most abundant fish, six most abundant invertebrates and squid species within NMFS statistical zones 11 through 21, by depth stratum. Tables 34b-44b list the total catch and environmental data from the 40-ft nets within the NMFS statistical zone listed above, by depth stratum.

Tables 45a-50a present the biological data from the 20-ft net of the eight most abundant finfish, six most abundant invertebrates and squid within each NMFS shrimp statistical zones 17 through 22, by depth stratum. Tables 45b-50b present the total catch and environmental data from the 20-ft nets within the NMFS statistical zones listed above, by depth stratum.

Tables 51a-56a present the biological data from the 16-ft nets of the eight most abundant fish, six most abundant invertebrates and squid within NMFS statistical zones 11, 12, 13, 14, 16 and 17, inside 5 fm. Tables 51b-56b present the total catch and environmental data from the 16-ft nets within the NMFS statistical zones listed above, inside 5 fm.

The catch data were calculated using the same equation that was used to compute catch rates for the Spring Louisiana Trawl Survey.

As in the Spring Louisiana Trawl Survey, discrepancies in the "b" tables may have occurred.

REAL-TIME DATA MANAGEMENT

The SEAMAP Subcommittee agreed it was imperative to the success of the SEAMAP Program to distribute data on a near real-time basis to the fishing industry and others interested in SEAMAP. To distribute near real-time data, NMFS utilized a cellular phone aboard the NOAA Ship OREGON 11. This enabled personnel aboard the vessel to transmit daily catch rates and environmental data to the NMFS computer system located at the NMFS Mississippi Laboratories in Pascagoula.

Summarized data were distributed weekly to over 300 individuals during the Summer Shrimp/Groundfish Survey. The summarized data in the form of computer plots and data listings was sent to management agencies and industry members. These plots showed station locations, catches of brown, pink and white shrimp in lb/hr and count/lb and total finfish catch in lb/hr.

DISCUSSION

The quasisynoptic SEAMAP sampling program and the intended long-term nature of the sampling programs have been designed to provide the baseline data set needed for fishery management and conservation. In 1985, the SEAMAP long-term baseline data was disrupted by the loss of the Spring Gulf-wide plankton and Fall Mackerel Survey. In 1986, the SEAMAP Subcommittee renewed its commitment for the collection of baseline plankton data. These ichthyoplankton samples are and will be used by researchers studying taxonomy, age and growth, bioenergetics and other life history aspects, as well as spawning biomass and recruitment. Information on species' relative distributions within the Gulf of Mexico can be analyzed with respect to environmental data to assess population abundance as a function of environmental change. In the same way, satellite data can be related to species distribution and changing conditions in the Gulf of Mexico.

Similar analyses and investigations are being undertaken with Summer Shrimp/Groundfish Survey data and the Fall Shrimp/Groundfish Survey. These data sets will be utilized in resource management decisions, and because of the program's ability to process data quickly, the capability exists to optimize some fisheries on a real-time basis. The long-term data set on all of the species collected, not just those of commercial and recreational importance, offers an opportunity to examine ecological relationships, with the eventual goal of developing management models that take into account the multi-species nature of most Gulf fisheries. The value of the SEAMAP program lies in its use for both immediate and long-range management. In addition, there are many studies and other uses for SEAMAP data that are not mentioned here.

Much use has already been made of SEAMAP data. For example, during the past SEAMAP surveys an area of very low dissolved bottom oxygen was found off Louisiana in the summers of 1982, 1985-1990. The presence of this phenomenon and some of the related conditions and biological effects were reported by Leming and Stuntz (1984), and during such occurrences, SEAMAP has distributed special environmental bulletins and news releases to management agencies and the shrimp industry. In addition, SEAMAP data were used by some coastal states to determine the status of shrimp stocks and their movements just as the shrimping seasons were to be opened.

In 1981-1983 SEAMAP ichthyoplankton data were used to estimate spawning stock sizes of bluefin tuna in the Gulf of Mexico (McGowan and Richards 1986). SEAMAP ichthyoplankton data were also used to estimate spawning stock sizes of bluefin tuna in 1984 and in 1986-1989. The results of this work were recognized by the International Commission for the Conservation of Atlantic Tunas as a reliable index of stock size. Continuation of the ichthyoplankton surveys each spring by SEAMAP will provide information on Gulf of Mexico tuna stocks.

The SEAMAP data collected during the Summer Shrimp/Groundfish Survey continues to be used extensively for fishery management purposes. In 1981, the Gulf of Mexico Fishery Management Council's plan for shrimp was implemented (Center for Wetland Resources 1980), with one management measure calling for the temporary closure to shrimping of the EEZ off Texas. This closure complements the traditional closure of the Texas territorial sea, normally May 15 through early July of each year. The GMFMC determined that this type of closure would still allow small brown shrimp to be protected from harvest but would allow the taking of larger brown shrimp by fishermen in deeper waters.

National Marine Fisheries Service was charged with evaluating the effects of the Texas Closure and submitted a report (Klima et al. 1991) to the GMFMC in January 1991. This report contained the results and an overview of the effect of the 1990 Texas Closure. Emphasis was placed on the difference between a 15 nautical mile closure and a 200 nautical mile closure. After review of these data and other information, the GMFMC voted to continue the Texas Closure in 1991.

DATA REQUESTS

It is the policy of the SEAMAP Subcommittee that all verified non-confidential SEAMAP data, collected specimens and samples shall be available to all SEAMAP participants, other fishery researchers and management organizations approved by the Subcommittee. This atlas presents, to those individuals interested in the data or specimens, a chance to review the data in a summary form.

Data and specimen requests from SEAMAP participants, cooperators and others will normally be handled on a first-come, first-served and time-available basis. Because of personnel and funding limitations, however, certain priorities must be assigned to the data and specimen requests. These priorities are reviewed by the SEAMAP Subcommittee. For further information on SEAMAP data management, see the SEAMAP Management Plan: 1990-1995 (Atlantic States Marine Fisheries Commission 1990).

Data requests and inquiries, as well as requests for plankton samples, can be made by contacting the SEAMAP Coordinator, Gulf States Marine Fisheries Commission, P.O. Box 726, Ocean Springs, MS 39564; 601/875-5912.

Table 1. List of SEAMAP survey activities from 1982 to 1989.

SEAMAP SURVEY ACTIVITIES

YEAR	SPRING PLANKTON	SUMMER SHRIMP/GOURNDFISH	BUTTERFISH	FALL PLANKTON	FALL SHRIMP/GROUND FISH	WINTER PLANKTON
1982	APRIL-MAY	JUNE-JULY	--	--	--	--
1983	APRIL-MAY	JUNE-JULY	--	--	--	DECEMBER
1984	APRIL-MAY	JUNE-JULY	--	AUGUST	--	DECEMBER
1985	--	JUNE-JULY	JULY-AUGUST	SEPTEMBER	SEPTEMBER-DECEMBER	--
1986	APRIL-MAY	JUNE-JULY	MAY-JUNE	SEPTEMBER	OCTOBER-DECEMBER	--
1987	APRIL-MAY	JUNE-JULY	--	SEPTEMBER	SEPTEMBER-DECEMBER	--
1988	MARCH-MAY	JUNE-JULY	--	SEPTEMBER-OCTOBER	OCTOBER-DECEMBER	--
1989	APRIL-MAY	JUNE-JULY	--	SEPTEMBER-OCTOBER	OCTOBER-DECEMBER	--

Table 2. Selected environmental parameters measured during 1990 SEAMAP surveys in the Gulf of Mexico, by individual vessel and survey.

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LUMCON PELICAN

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
36530	4/11/90	1036	2900.0	9100.0	15	5	2	5	19.8	19.9	19.9	23.3	23.3	23.3		8.8	8.4	8.6	PN
36531	4/11/90	1429	2900.0	9030.0	14	10	4	10	20.2	20.4	20.5	24.3	24.4	28.2		8.0	9.0	9.2	PN
36532	4/11/90	1815	2900.0	9000.0	14	24	12	24	20.0	19.3	19.9	21.4	28.2	34.2		3.4	8.2	9.3	PN
36533	4/11/90	1923	2855.6	9003.2	14	27	13	27	19.6	19.3	20.3	20.9	28.1	35.1	2.746	8.7	7.8	1.2	ST
36534	4/11/90	2103	2855.5	9003.4	14	27	13	27	19.6	19.3	20.3	20.9	28.1	35.1	2.746	8.7	7.8	1.2	ST
36535	4/12/90	0004	2904.6	8950.4	13	26	11	23	19.6	19.3	20.2	22.6	26.8	35.5	6.370	8.8	7.9	4.0	ST
36536	4/12/90	0156	2910.9	8947.3	13	15	7	14	19.7	19.8	20.1	23.4	23.7	33.0	2.845	8.4	8.1	4.6	ST
36537	4/12/90	0253	2908.8	8948.0	13	18	9	17	19.5	19.8	20.2	23.5	27.3	34.9	3.687	8.7	6.4	4.0	ST
36538	4/12/90	0355	2908.9	8943.1	13	16	8	16	19.5	19.6	20.2	23.5	24.9	34.8	4.052	8.7	7.4	4.0	ST
36539	4/12/90	0535	2912.5	8940.2	13	9	4	9	19.6	19.7	20.1	22.5	22.7	32.4	3.043	11.1	6.3	4.8	ST
36540	4/12/90	0804	2900.0	8930.0	13	14	6	14	20.7	19.8	18.8	22.4	30.0	33.8		6.5	6.2	7.2	PN
36541	4/12/90	1005	2912.3	8936.5	13	7	3	7	19.2	19.2	20.1	24.0	24.0	32.2	6.461	7.2	6.7	5.5	ST
36542	4/12/90	1121	2912.5	8940.0	13	9	4	9	19.0	20.1	20.1	22.9	32.3	32.4	4.698	9.4	4.9	4.8	ST
36543	4/12/90	1239	2908.8	8942.7	13	16	8	16	19.4	19.4	20.2	23.7	23.7	34.3	5.114	8.6	7.7	3.9	ST
36544	4/12/90	1406	2911.1	8947.2	13	15	6	14	19.6	19.5	20.2	23.7	23.7	33.2	3.955	8.7	8.1	4.5	ST
36545	4/12/90	1505	2908.9	8948.1	13	18	8	17	19.4	19.2	20.2	23.1	23.3	34.7	5.025	9.1	8.1	3.7	ST
36546	4/12/90	1617	2904.9	8950.6	13	26	10	23	19.7	19.5	21.0	23.0	23.4	35.5	6.984	9.3	8.8	4.0	ST
36547	4/12/90	1950	2912.2	8936.4	13	7	3	7	19.7	19.7	19.9	23.1	25.9	29.6	4.059	7.9	6.3	5.6	ST
36548	4/13/90	0230	2837.6	9019.8	14	31	15	31	20.7	20.9	20.1	34.4	35.1	35.9	0.814	7.1	6.0	4.5	ST
36549	4/13/90	0402	2837.8	9028.2	14	22	10	21	20.3	20.4	20.8	32.4	32.6	35.6	4.509	7.7	7.4	4.3	ST
36550	4/13/90	0650	2830.0	9030.0	14	37	18	37	20.6	20.8	20.2	32.8	34.7	36.2		4.9	6.4	7.5	PN
36551	4/13/90	0849	2837.9	9020.3	14	31	16	30	20.6	20.7	20.7	34.7	34.9	35.9	0.227	7.2	6.7	4.4	ST
36552	4/13/90	1015	2838.0	9027.6	14	22	11	21	20.5	20.5	20.8	33.8	34.0	35.5	1.225	7.3	7.2	4.8	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51131	4/20/90	2358	2959.4	8700.1	10	72	35	70	20.7	20.4	19.9	36.2	36.4	36.5		7.4	7.4	7.2	PN
51133	4/21/90	0410	2929.7	8629.8	9	209	100	200	21.0	19.5	14.1	36.6	36.7	36.3	0.075	7.2	5.6	6.3	PN
51135	4/21/90	0846	2900.0	8600.2	99	249	100	200	21.5	19.1	15.0	36.7	36.6	36.4	0.055	7.1	6.8	5.0	PN
51137	4/21/90	1346	2830.1	8530.1	8	200	100	198	22.3	19.1	15.4	36.8	36.7	36.4	0.057	7.2	6.3	5.1	PN
51139	4/21/90	1803	2801.1	8459.8	6	251	101	200	23.8	19.1	14.4	36.8	36.9	36.3	0.045	6.8	5.3	4.8	PN
51141	4/21/90	2154	2730.1	8500.0	5	402	100	200	24.1	19.1	15.0	36.6	36.9	36.4	0.057	6.9	5.6	4.4	PN
51143	4/22/90	0108	2700.1	8500.0	5	858	100	200	24.2	18.0	14.1	36.7	36.9	36.4	0.037	7.5	5.6	5.2	PN
51145	4/22/90	0507	2630.2	8500.5	99	1829	100	200	24.7	18.6	14.1	36.6	36.8	36.4	0.044	7.2	5.1	4.9	PN
51147	4/22/90	0824	2600.0	8459.9	99	3094	100	200	26.2	22.1	17.2	36.5	37.0	36.7	0.047	6.9	5.8	5.6	PN
51149	4/22/90	1129	2600.0	8430.0	99	218	100	202	25.8	18.8	14.1	36.6	37.0	36.3	0.042	6.8			PN
51151	4/22/90	1423	2600.1	8400.1	4	136	68	136	23.8	21.4	15.2	36.8	36.8	36.4	0.040	7.5	7.5	5.3	PN
51153	4/22/90	1800	2529.9	8359.8	3	136	70	135	24.1	21.9	15.3	36.8	36.9	36.5	0.037	7.1	7.4	4.9	PN
51155	4/22/90	2107	2500.1	8359.9	3	128	63	126	24.0	22.9	17.8	36.7	36.7	36.8	0.043	7.7	7.8	5.4	PN
51157	4/23/90	0039	2430.1	8400.0	2	2196	100	200	24.5	17.9	12.9	36.8	36.8	36.1	0.054	6.7	5.1	5.2	PN
51159	4/23/90	0333	2430.0	8429.9	99	3477	100	200	26.1	23.9	17.4	36.4	36.9	36.7		7.2	7.0	5.7	PN
51161	4/23/90	0702	2429.9	8500.1	99	3395	100	200	26.2	25.5	22.6	36.5	36.6	37.4	0.053	7.1	7.1	5.8	PN
51163	4/23/90	1042	2500.0	8500.1	99	3273	100	200	26.0	25.1	21.9	36.6	36.5	37.4	0.063	6.9	7.1	5.8	PN
51165	4/23/90	1419	2459.8	8530.0	99	3294	100	200	25.7	25.1	23.8	37.0	36.6	37.3	0.039	7.0	7.0	7.0	PN
51167	4/23/90	1725	2459.7	8600.0	99	3294	100	200	25.8	25.2	24.1	36.7	36.6	37.2		7.0	7.1	6.0	PN
51169	4/23/90	2123	2530.3	8600.0	99	3202	100	200	29.9	25.2	24.4	36.5	36.6	37.1	0.053	7.0	7.2	6.0	PN
51171	4/24/90	0019	2530.0	8631.1	99	3294	100	200	25.6	25.4	23.8	36.5	36.6	37.2	0.053	7.4	7.4	6.6	PN
51173	4/24/90	0433	2559.9	8559.9	99	3241	100	200	25.6	25.3	24.1	36.5	36.6	37.2	0.040	7.5	7.4	6.4	PN
51175	4/24/90	0840	2629.9	8559.9	99	3203	101	200	26.6	25.9	21.4	36.5	36.6	37.3	0.083	7.3	7.3	5.8	PN
51177	4/24/90	1222	2659.9	8600.0	99	3203	100	200	26.7	24.1	18.8	36.5	37.2	37.0	0.053	6.5	5.8		PN
51179	4/24/90	1651	2730.1	8559.8	99	3203	100	200	25.2	19.3	14.6	36.7	36.9	36.3	0.019	7.3	5.9	5.2	PN
51181	4/24/90	2002	2800.0	8600.0	99	988	101	200	23.4	17.4	13.4	21.2	36.8	36.1	0.072	7.2	4.8	4.7	PN
51183	4/24/90	2334	2830.0	8600.0	99	338	100	200	24.1	19.1	14.9	36.7	36.9	36.4	0.043	7.6	6.1	5.6	PN
51185	4/25/90	0327	2900.1	8630.0	99	384	100	200	22.0	19.2	15.4	36.7	36.6	36.5	0.047	7.9	7.2	5.6	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M3	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51187	4/25/90	0625	2900.1	8700.1	99	664	100	200	21.9	19.1	15.3	35.9	36.8	36.5	0.080	7.5	6.2	5.1	PN
51189	4/25/90	1004	2830.0	8700.0	99	866	101	199	23.2	18.6	14.5	36.7	36.8	36.3	0.056	7.4	5.2	5.0	PN
51191	4/25/90	1323	2800.0	8700.0	99	2875	100	200	24.8	17.6	12.8	36.7	36.8	36.1	0.057	6.8	5.4	4.7	PN
51193	4/25/90	1728	2730.0	8659.4	99	3056	100	200	24.7	19.8	15.5	36.8	36.8	36.5	0.067	6.9	6.3		PN
51195	4/26/90	0313	2700.2	8759.3	99	2763	100	200	24.9	19.5	14.9	36.7			0.062	6.4			PN
51197	4/26/90	0656	2700.0	8829.5	99	2388	100	200	23.6	17.9	13.3				0.062	7.4			PN
51199	4/26/90	0934	2700.0	8900.0	99	2379	99	199	23.4	17.0	13.5	36.8	36.7	36.1	0.094	7.3		5.0	PN
51201	4/26/90	1312	2629.9	8859.9	99	2873	100	200	24.2	18.0	14.5	36.8	36.7	36.3	0.099	6.8	5.7	5.1	PN
51203	4/26/90	1628	2600.0	8900.1	99	3149	100	200	24.9	19.8	15.3	36.8	36.9	36.4	0.094	7.4	5.5	5.3	PN
51205	4/26/90	1949	2600.3	8929.5	99	3111	100	200	24.3	19.1	14.7	36.8	37.0	36.3	0.056	7.4	5.4	5.2	PN
51207	4/26/90	2238	2600.0	8959.9	99	2909	100	200	24.0	18.5	13.9	36.8	36.8	36.2	0.062	6.8	4.7	4.3	PN
51209	4/27/90	0222	2630.0	9000.1	99	2928	100	200	23.9	18.8	14.2	36.7	36.8	36.2	0.099	6.8	5.5	4.7	PN
51211	4/27/90	0535	2700.1	8959.9	99	2535	100	200	23.5	18.9	15.1	36.4	36.8	36.4	0.080	7.1	6.6	5.0	PN
51213	4/27/90	1331	2700.0	9031.2	99	1647	100	200	23.5	18.4	14.9				0.100	7.1			PN
51215	4/27/90	1619	2700.0	9100.2	99	1835	100	200	23.4	19.3	15.0	36.7	36.8	36.4	0.083	7.0	5.6	5.1	PN
51217	4/27/90	2008	2630.0	9100.0	99	2141	99	200	23.6	18.3	13.6	36.7	36.8	36.1	0.056	6.7	5.0	5.0	PN
51219	4/27/90	2313	2600.0	9100.0	99	3111	100	200	23.6	18.4	14.1	36.7	36.9	36.3	0.078	7.1	6.3	5.9	PN
51221	4/28/90	0234	2600.0	9130.0	99	2196	100	200	24.0	19.5	14.7	36.2	36.8	36.3	0.058	7.4	7.5	6.0	PN
51223	4/28/90	0543	2600.0	9200.0	99	2233	100	200	23.6	18.6	14.5	35.7	36.7	36.3	0.083	7.4	6.3	5.0	PN
51225	4/28/90	0924	2630.0	9200.0	99	1830	99	201	23.7	19.6	14.8	36.4	36.8	36.3	0.084	7.3	6.2	5.1	PN
51227	4/28/90	1259	2659.9	9200.1	99	1684	100	200	23.6	19.0	13.1	36.4	36.9	36.1	0.019	6.9	6.4	5.3	PN
51229	4/28/90	1752	2700.1	9230.1	99	1610	100	200	24.5	18.8	15.2	36.1	36.6	36.5	0.143	7.3	7.0	5.4	PN
51231	4/28/90	2038	2700.0	9300.0	99	1285	102	201	24.3	19.4	14.8	36.1	36.7	36.4	0.056	8.5	7.4	6.4	PN
51233	4/29/90	0026	2630.1	9259.9	99	1739	100	200	24.7	18.4	14.4	36.2	36.8	36.3	0.056	7.1	6.5	6.0	PN
51235	4/29/90	0402	2600.0	9300.0	99	2745	100	200	24.2	17.8	13.6	34.6	36.9	36.1	0.078	7.3	5.8	5.6	PN
51237	4/29/90	0759	2600.2	9329.5	99	3307	99	200	24.4	18.2	14.0	32.6	36.9	36.3	0.040	8.4	6.6	6.4	PN
51239	4/29/90	1105	2600.2	9359.8	99	3166	100	200	24.2	17.5	12.5	32.8	36.7	36.1	0.096	7.5	6.7	6.3	PN
51241	4/29/90	1449	2630.9	9400.1	99	1556	100	200	24.5	17.0	12.1	32.0			0.078	7.1			PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51243	4/29/90	1740	2700.2	9400.1	99	988	100	200	24.4	17.2	13.2	34.8		0.080	7.1	5.9	6.1	PN	
51245	4/29/90	2236	2729.9	9330.1	99	567	98	200	23.9	19.7	14.8	36.3	36.7	36.4	0.053		6.7	6.2	PN
51247	4/30/90	0232	2800.4	9259.9	17	105	53	105	23.6	21.6	20.0	36.0	36.7	36.8	0.059	6.7	6.9	6.5	PN
51249	4/30/90	0559	2759.9	9229.9	16	105	50	104	23.6	21.5	19.6	36.2	36.7	36.8	0.125	6.8	6.8	6.1	PN
51251	4/30/90	0900	2800.1	9200.2	16	124	61	119	23.1	20.7	18.2	36.3	36.7	36.7	0.050	6.7	5.2	4.8	PN
51253	4/30/90	1217	2800.0	9129.9	15	160	80	160	23.4	20.1	17.4	36.7	36.7	36.8	0.032	6.8	6.8	5.5	PN
51255	4/30/90	1508	2800.0	9059.8	15	151	75	150	23.6	20.1	17.2	36.6	36.8	36.7	0.048	6.8	6.5	4.8	PN
51257	4/30/90	1900	2800.0	9029.6	14	310	100	200	23.5	19.0	14.3	36.3	37.0	36.3	0.062	7.0	5.5	4.9	PN
51259	4/30/90	2150	2800.0	9000.2	14	563	100	201	23.9	19.0	15.2	36.6	36.8	36.4		6.6	5.2	4.9	PN
51261	5/ 1/90	0115	2800.0	8930.0	99	979	100	200	24.0	19.1	15.1	36.8	36.7	36.5	0.045	6.5	6.1	5.3	PN
51263	5/ 1/90	0412	2759.9	8859.9	99	1373	100	200	23.2	19.3	15.7	36.6	36.7	36.6	0.040	6.7	6.2	5.1	PN
51265	5/ 1/90	0824	2800.0	8830.1	99	2079	100	201	23.9	18.7	14.0	36.8	37.1	36.3	0.089	6.6	4.7		PN
51267	5/ 1/90	1122	2800.1	8800.0	99	2544	100	200	24.0	17.7	13.2	36.7	36.8	36.1	0.081	6.4	5.4	4.7	PN
51269	5/ 1/90	1458	2830.1	8800.0	99	2288	100	200	25.0	18.7	14.3	37.3	36.9	36.3	0.037	6.6	5.4		PN
51271	5/ 1/90	1812	2900.0	8759.9	11	1409	100	200	23.6	18.1	13.1	35.4	36.7	36.2	0.083	6.7	5.2	4.7	PN
51273	5/ 1/90	2206	2930.0	8800.0	11	48	23	47	23.9	21.6	20.6	36.2	36.3	36.3	0.056	7.4	7.3	7.3	PN
51287	5/12/90	0059	2959.9	8700.0	10	71	35	70	22.5	22.5	22.2	36.6	36.6	36.6	0.056	5.7	5.3	5.2	PN
51289	5/12/90	0522	2929.9	8629.9	9	208	100	200	22.8	18.6	14.6	36.3	36.7	36.5	0.061	6.9	5.5	4.5	PN
51291	5/12/90	1014	2900.0	8600.0	99	252	100	203	22.7	18.9	14.8	36.7	36.8	36.4	0.037	6.7	5.6	4.4	PN
51293	5/12/90	1604	2830.0	8530.0	8	204	100	200	23.8	19.2	15.1	36.7	36.8	36.4	0.058	6.6	5.6	4.5	PN
51295	5/13/90	1208	2500.1	8500.0	99	3347	100	200	26.8	22.3	17.2	36.7	36.6	36.7	0.056	6.3	6.8		PN
51297	5/13/90	1542	2429.8	8500.0	99	3387	100	200	26.1	18.6	14.7	36.8	36.8	36.4	0.055	6.5	5.0	4.9	PN
51299	5/13/90	2026	2459.8	8530.2	99	3249	100	200	27.1	25.6	22.3	36.5	36.6	37.3	0.045	6.4	6.4	5.1	PN
51301	5/13/90	2337	2459.9	8600.0	99	3292	100	200	27.0	26.2	24.4	36.5	36.6	37.1	0.045	6.4	6.3	5.7	PN
51303	5/14/90	0350	2530.0	8600.1	99	3150	100	200	26.2	25.3	24.0	36.6	36.6	37.3		6.5	6.6	6.5	PN
51305	5/14/90	0717	2530.1	8630.1	99	3500	100	200	26.2	25.6	24.5	36.6	36.6	37.2		6.5	6.5	5.5	PN
51307	5/14/90	1202	2600.0	8559.9	99	3202	100	200	26.2	25.4	23.9	36.6	36.6	37.2	0.037	6.5	6.5	5.6	PN
51309	5/14/90	1620	2630.0	8559.8	99	3400	100	200	26.6	25.5	23.5	36.6	36.6	37.3		6.4	6.6	5.2	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51311	5/14/90	2017	2659.8	8559.6	99	3130	100	200	27.6	25.7	21.0	36.6	36.8	37.2		6.2	6.1	5.2	PN
51313	5/15/90	0138	2730.0	8559.7	99	3219	100	200	25.0	20.5	13.9	36.7	37.2	36.2		6.5	5.4	5.0	PN
51315	5/15/90	0515	2800.1	8559.9	99	1000	100	200	25.5	18.1	14.3	36.7	36.9	36.4	0.052	6.5	4.7	5.0	PN
51317	5/15/90	0913	2830.0	8559.8	99	324	100	200	24.4	19.2	15.7	36.8	36.7	36.5	0.037	6.5	6.3	4.7	PN
51319	5/15/90	1352	2900.0	8630.1	99	380	100	200	25.0	19.2	15.4	37.1	36.9	36.5	0.032	6.5	6.0	5.8	PN
51321	5/15/90	1934	2859.9	8659.7	99	675	100	200	25.1	19.8	15.2	36.8	36.9	36.7	0.066	6.5	5.3	4.5	PN
51323	5/15/90	2353	2830.1	8700.0	99	859	100	200	25.2	19.0	14.7	36.6	37.3	36.3	0.036	6.1	5.4	5.1	PN
51325	5/16/90	0346	2800.2	8659.6	99	2860	100	200	26.1	20.1	14.8	36.3	36.8	36.4	0.030	7.6	7.2	6.6	PN
51327	5/16/90	0821	2730.0	8700.2	99	3011	100	200	27.5	25.0	18.8	36.5	37.1	36.8	0.040	5.9	5.4	5.2	PN
51329	5/16/90	1236	2700.0	8700.0	99	2930	100	200	27.6	25.8	21.8	36.6	36.6	37.3		6.4	6.2	6.2	PN
51331	5/16/90	1729	2630.0	8659.8	99	2970	100	200	27.1	25.6	24.1	36.6	36.6	37.3	0.030				PN
51333	5/16/90	2122	2600.2	8659.8	99	3150	100	200	27.0	25.7	24.8	36.6	36.6	37.0					PN
51335	5/17/90	0145	2600.0	8730.0	99	3130	100	200	27.0	25.6	24.2	36.5	36.6	37.1					PN
51337	5/17/90	0503	2559.9	8759.9	99	2970	100	200	27.6	25.5	22.1	36.5	36.6	37.5	0.059				PN
51339	5/17/90	0836	2630.0	8759.8	99	2673	100	200	27.9	25.7	20.9	36.5	36.7	37.2	0.075				PN
51341	5/17/90	1206	2700.2	8759.8	99	2748	100	200	26.5	20.4	15.4	36.8	36.9	36.4	0.032				PN
51343	5/17/90	1615	2700.0	8830.1	99	6401	100	200	25.6	18.4	13.9	35.9	36.8	36.4	0.109				PN
51345	5/17/90	1938	2700.0	8859.9	99	2211	100	200	26.2	19.0	15.0	36.1	36.8	36.5	0.075				PN
51347	5/17/90	2332	2630.0	8859.9	99	2853	100	200	27.1	17.7	15.1	36.3	36.8	36.4	0.032				PN
51349	5/18/90	0305	2600.0	8900.1	99	3245	100	200	27.7	20.3	15.8	36.2	37.3	36.5	0.093				PN
51351	5/18/90	0639	2600.0	8930.1	99	3292	100	200	26.5	19.3	14.7	36.2	36.9	36.5	0.066				PN
51353	5/18/90	0946	2600.1	9000.0	99	2880	100	200	26.9	19.6	14.5	35.0	37.0	36.3	0.056				PN
51355	5/18/90	1335	2630.1	8959.9	99	2639	100	200	27.0	18.9	13.8	36.4	37.0	36.5	0.056				PN
51357	5/18/90	1638	2700.1	9000.0	99	2600	100	200	27.0	19.1	14.8	36.5	36.9	36.5					PN
51359	5/18/90	2047	2701.0	9029.8	99	1530	100	200	26.3	18.2	13.7	36.4	36.8	36.2	0.054				PN
51361	5/19/90	0032	2659.9	9100.0	99	1820	100	200	26.1	19.0	15.3	36.4	36.9	36.4					PN
51363	5/19/90	0431	2630.0	9059.9	99	2137	100	200	25.8	19.0	14.8	36.5	36.8	36.5	0.027				PN
51365	5/19/90	0806	2600.0	9059.9	99	3204	100	200	26.1	17.8	13.7	36.6	37.0	36.2	0.056				PN

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON 11

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
51367	5/19/90	1201	2559.9	9130.0	99	2184	100	200	26.4	18.6	14.2	36.8	36.8	36.3	0.039				PN
51369	5/19/90	1521	2600.0	9200.0	99	2220	100	200	26.3	19.6	15.1	36.1	36.9	36.4					PN
51371	5/19/90	1912	2630.1	9159.7	99	2000	100	200	26.8	19.5	14.8	34.9	36.8	36.4	0.061				PN
51373	5/19/90	2228	2700.0	9200.0	99	1820	100	200	25.7	19.8	12.6	36.4	36.8	36.2	2.643				PN
51375	5/20/90	0225	2659.8	9230.0	99	1530	100	200	25.7	19.8	13.2	36.3	36.8	36.1					PN
51377	5/20/90	0544	2659.8	9300.0	99	1280	100	200	25.8	19.9	15.2	35.3	36.9	36.5	0.053				PN
51379	5/20/90	1022	2630.1	9300.0	99	1800	100	200	26.2	19.8	14.9	35.5	36.8	36.5	0.059				PN
51381	5/20/90	1443	2600.1	9300.0	99	2730	100	200	26.1	17.1	13.4	35.1	36.9	36.2	0.081				PN
51383	5/20/90	1817	2600.1	9329.8	99	3200	100	200	26.3	17.0	12.9	34.3	36.9	36.2	0.078				PN
51385	5/20/90	2204	2559.8	9359.8	99	3150	100	200	26.2	17.6	12.2	34.1	36.8	36.1	0.081				PN
51387	5/21/90	0201	2630.1	9400.0	99	1547	100	200	26.1	17.3	12.8	34.6	36.8	36.0	0.083				PN
51389	5/21/90	0521	2700.1	9400.0	99	972	100	200	26.0	19.7	15.4	35.6	36.8	36.6	0.069				PN
51391	5/21/90	1014	2729.8	9329.9	99	540	100	200	26.4	20.2	15.8	34.3	36.8	36.5	0.084				PN
51393	5/21/90	1524	2800.1	9259.9	17	106	50	100	26.7	21.8	19.4	34.6	36.7	36.7	0.215				PN
51395	5/21/90	1845	2800.0	9229.9	16	109	50	108	27.1	22.2	19.0	34.5	36.7	36.8	0.056				PN
51397	5/21/90	2236	2759.6	9200.1	16	120	60	120	26.2	21.2	18.5	36.4	36.7	36.8	0.047				PN
51399	5/22/90	0223	2800.1	9129.9	15	161	80	161	26.3	19.2	15.7	36.4	36.9	36.4	0.037				PN
51401	5/22/90	0532	2759.9	9059.9	15	152	70	151	26.1	21.0	15.7	36.4	36.8	36.9	0.047				PN
51403	5/22/90	0917	2759.9	9029.9	14	306	100	200	26.1	19.3	14.7	34.8	36.7	36.4	0.150				PN
51405	5/22/90	1223	2800.2	8959.7	14	549	100	200	26.3	20.2	15.6	36.5	36.7	36.6					PN
51407	5/22/90	1907	2800.2	8929.9	99	987	100	200	26.6	18.9	14.9	34.9	36.9	36.4	0.075				PN
51409	5/22/90	2229	2759.8	8900.1	99	1314	100	200	26.5	18.3	13.5	31.7	37.0	36.4					PN
51411	5/23/90	0220	2800.0	8830.0	99	2184	100	200	26.9	19.6	13.1	36.6	37.0	36.1	0.053				PN
51413	5/23/90	0615	2800.1	8800.1	99	2420	100	200	26.7	17.5	14.1	36.1	36.4	35.7					PN
51415	5/23/90	2106	2830.0	8800.0	99	3160	100	200	26.9	18.4	13.5	35.5	36.4	35.7	0.037				PN
51417	5/24/90	0030	2900.0	8800.0	11	1371	100	200	26.2	18.8	14.3	35.8	36.5	35.9	0.027				PN
51419	5/24/90	0524	2930.0	8800.0	11	43	20	40	24.4	23.2	21.9	35.1	34.9	35.7	0.061				PN

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
HERNAN CORTEZ II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00001	5/24/90	1535	2730.0	8259.6	5	15	5	10	27.1	27.0	26.8	36.0	36.5	36.0	0.203	4.2	4.3	4.3	PN
00002	5/24/90	2005	2759.5	8259.6	5	10	3	6	27.7	27.7	27.2	36.6	35.5	36.7	0.570	4.2	4.1	4.2	PN
00003	5/24/90	2355	2759.6	8329.6	5	28	11	22	25.9	25.8	24.7	36.2	36.3	36.3	0.153	4.4	4.4	4.4	PN
00004	5/25/90	0425	2730.1	8330.1	5	39	17	34	25.8	25.7	24.5	36.7	36.4	36.3	0.126	4.5	4.6	4.7	PN
00005	5/25/90	0808	2729.6	8359.6	5	57	26	52	26.1	25.2	22.9	36.4	36.6	36.5	0.140	4.4	4.6	4.6	PN
00006	5/25/90	1227	2759.6	8359.6	5	44	20	39	26.1	25.1	23.5	36.5	36.5	36.4	0.115	4.3	4.4	4.5	PN
00007	5/25/90	1605	2759.6	8429.6	5	72	33	66	26.8	25.1	21.4	36.4	36.7	36.5	0.086	4.4	4.6	4.8	PN
00008	5/25/90	2040	2730.1	8430.0	5	128	61	123	26.3	22.6	16.9	37.1	36.7	36.4	0.096	4.4	4.7	3.1	PN
00009	5/26/90	0210	2800.0	8500.1	99	246	100	200	26.3	20.1	15.0	36.8	35.6		0.096	4.4	4.5	3.2	PN
00010	5/26/90	0715	2729.5	8500.3	99	415	100	200	26.4	20.0	14.8	36.0	37.9	35.9	0.085	4.4	3.8	3.4	PN
00011	5/26/90	1215	2700.0	8500.0	99	914	100	200	26.2	18.4	12.6	36.4	36.6	37.1	0.150	4.4	3.4	3.1	PN
00012	5/26/90	1730	2629.5	8459.4	99	1618	100	200	26.9	21.1	14.6	36.2	36.9	37.3	0.090				PN
00013	5/28/90	1740	2429.6	8359.6	2	1225	100	200	28.2	20.4	14.6	37.4	37.5	36.3	0.130				PN
00014	5/28/90	2145	2429.6	8429.6	99	3421	100	200	27.5	18.8	13.6	36.3	36.7	35.9	0.100				PN
00015	5/29/90	0340	2459.6	8400.1	99	121	58	116	27.4	22.2	19.5	37.3	37.5	36.5	0.110				PN
00016	5/29/90	0755	2529.6	8400.0	99	133	64	128	27.0	22.2	16.7	36.4	36.5	36.4	0.080				PN
00017	5/29/90	1155	2529.6	8429.6	99	439	100	200	27.5	19.7	14.3	36.7	36.4	36.7	0.073				PN
00018	5/29/90	1610	2529.6	8459.5	99	3328	100	200	28.8	24.0	18.0	37.1	36.4	36.9	0.123				PN
00019	5/29/90	2035	2559.5	8459.6	99	3328	100	200	27.6	20.4	15.5	36.2	37.2	36.1	0.083				PN
00020	5/30/90	0055	2559.5	8430.0	99	213	100	200	27.4	18.9	13.5	36.8	36.5	35.7	0.070				PN
00021	5/30/90	0452	2600.0	8400.1	99	133	64	128	27.2	21.9	15.0	36.3	36.5	36.9	0.090				PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ALABAMA VESSELS

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
23001	6/ 7/90	0833	3009.8	8802.4	11	14	7	14	29.5	27.0	27.0	21.0	30.0	30.0	6.8	6.0	6.6	ST	
23002	6/ 7/90	1026	3013.8	8814.5	11	5	3	5	30.0		29.0	21.0		29.0	7.4		6.6	ST	
23003	6/ 7/90	1114	3010.5	8816.1	11	9	5	9	30.0	28.0	28.0	21.0	29.0	30.0	6.0	6.8	5.6	ST	
23004	6/ 7/90	1328	3005.3	8829.4	11	18	9	18	30.0	28.0	28.0	19.0	29.0	28.0		6.6	6.6	ST	
23005	6/ 7/90	1513	3004.0	8819.1	11	20	10	20	31.0	29.0	28.0	29.0	28.0	28.0	9.4	6.6	4.8	ST	
23006	6/ 7/90	1623	2959.1	8820.3	11	31	16	31	30.0	28.0	27.0	19.0	29.0	29.0	6.0	5.2	5.2	ST	
23007	6/ 7/90	1951	3000.3	8821.0	11	28	14	28	30.0	28.0	27.0	19.0	28.0	29.0	7.0	4.2	3.0	ST	
23008	6/ 7/90	2057	3002.6	8827.2	11	22	11	22	30.0	28.0	27.0	19.0	29.0	29.0	6.8	3.6	4.2	ST	
23009	6/ 7/90	2131	3004.2	8825.8	11	17	9	17	30.0	28.0	27.0	19.0	26.0	26.0	9.0	5.2	4.4	ST	
23010	6/ 7/90	2306	3011.0	8823.4	11	15	7	15	30.5	28.5	26.5	17.0	21.0	19.0	7.6	3.6	3.0	ST	
23011	6/ 8/90	0054	3007.1	8804.2	11	19	9	19	30.0	27.0	26.0	28.0	27.0	27.0	7.0	4.0	3.4	ST	
23012	6/11/90	1104	2956.9	8820.3	11	32	16	32	30.0	28.0	27.0	26.0	30.0	30.0	4.6	3.6	7.2	ST	
23013	6/11/90	1254	3001.1	8812.4	11	26	13	26	30.5	28.0	27.0	22.0	30.0	30.0	7.2	6.8	4.2	ST	
23014	6/11/90	1353	3002.8	8812.0	11	25	13	25	31.0	29.0	28.0	22.0	30.0	30.0	8.0	3.2	3.0	ST	
23001	7/12/90	1740	3012.8	8814.2	11	10	5	5	30.0	30.0	28.0	26.0	28.0	30.0	7.4	4.0	4.2	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
17001	6/ 9/90	0749	2930.0	8830.1	11	50	25	49	28.4	22.4	22.0	33.4	36.0	35.4	5.831	9.6	6.9	6.8	PN
17002	6/ 9/90	1201	2940.3	8844.3	11	16	8	15	29.3	23.1	22.9	18.4	27.7	35.6		8.6	5.2	5.0	ST
17003	6/ 9/90	1408	2946.6	8847.5	11	10	4	9	28.8	27.7	23.0	19.2	34.7	34.6	2.056	8.2	6.6	4.7	ST
17004	6/ 9/90	1635	2942.6	8839.7	11	18	8	17	28.0	26.1	23.0	24.4	31.9	35.1	0.692	6.8	5.6	5.5	ST
17005	6/ 9/90	1933	2941.9	8836.6	11	22	11	21	28.7	22.6	23.0	16.9	34.4	35.8	2.243	7.8	4.6	5.8	ST
17006	6/ 9/90	2223	2937.4	8833.4	11	28	14	27	28.5	25.4	22.5	19.6	35.4		4.112	9.1	6.6	6.4	ST
17007	6/10/90	0047	2942.8	8829.7	11	35	17	34	28.1	24.5	22.2	17.3	35.8	35.6	2.635	7.5	5.9	6.2	ST
17008	6/10/90	0318	2948.1	8836.2	11	22	11	21	28.3	22.5	22.4	24.4	35.2	35.5	0.935	7.5	6.9	6.4	ST
17009	6/10/90	0520	2952.6	8834.0	11	24	12	23	27.3	25.1	22.0	24.1	35.3	35.4	0.312	7.6	7.3	6.7	ST
17010	6/10/90	0843	2954.6	8829.2	11	28	14	28	27.8	25.1	22.4	26.1	35.7	35.5	1.495	6.2	6.6	5.8	ST
17011	6/10/90	1136	3000.0	8830.0	11	25	12	24	28.0	24.1	22.9	23.9	34.8		0.436	6.3	6.1	5.4	PN
17012	6/19/90	1201	3012.4	8840.6	11	9	4	8	30.7	25.9	23.8	18.6	32.4	34.8	0.654	8.3	5.2	5.2	ST
17013	6/19/90	2121	3009.6	8849.8	11	11	5	9	31.2	29.9	23.4	18.6	20.4	34.4	0.957	7.4	7.0		ST
17014	6/20/90	0037	3011.1	8852.1	11	9	4	8	30.5	30.1	23.7	19.0	19.0	34.4	1.103	6.4	6.6	5.0	ST
17015	7/11/90	1758	2918.0	8949.7	13	5	2	4	30.2	30.6	30.4	12.3	12.4	12.4	23.855	8.0	9.0	9.4	ST
17016	7/12/90	0005	2902.8	9037.1	14	5	2	4	30.0	29.7	29.7	21.5	21.4	21.7	3.925	5.4	6.4	6.4	ST
17017	7/12/90	0152	2903.4	9037.6	14	4	1	2	30.3	30.1	30.1	22.1	22.2	22.1	3.107	6.4	6.5	6.5	ST
17018	7/12/90	1053	2910.3	9159.9	16	7	3	6	29.8	29.8	29.8	18.6	18.5	19.8	3.906	6.6	6.4	6.4	ST
17019	7/12/90	1332	2921.6	9157.3	15	4	2	3	30.1	30.1	29.5	3.3	4.0	8.3	8.186	7.2	5.4	4.6	ST
17020	7/12/90	1750	2927.6	9215.6	16	4	2	3	30.3	29.7	29.5	6.4	7.1	7.4	33.642	9.8	6.9	6.5	ST
17021	7/12/90	2322	2939.5	9259.2	16	3	1	2	30.0	30.0	30.0	12.6	13.0	13.0	11.027	7.4	7.4	7.0	ST
17022	7/13/90	0139	2942.0	9312.5	17	5	2	4	29.6	29.4	29.2	14.3	14.3	18.6	7.065	7.0	6.6	5.0	ST
17023	7/13/90	0315	2941.2	9318.2	17	7	3	6	29.3	29.9	29.6	15.0	21.5	22.7	6.953	6.4	5.7	4.6	ST
17024	7/13/90	0705	2945.2	9325.8	17	5	2	4	29.6	29.6	29.6	19.2	19.2	21.1	3.621	5.5	5.5	5.0	ST
17027	7/27/90	1540	3007.7	8835.2	11	14	7	13	29.9	29.5	26.5	28.7	28.9	34.6	0.614	6.5	6.9	5.4	ST
17028	7/27/90	1758	3001.5	8829.6	11	22	12	21	29.0	28.6	25.7	28.3	31.4	35.2	0.654	5.4	5.3	4.9	ST
17029	7/27/90	1856	3000.0	8829.9	11	26	13	25	28.6	27.6	24.6	28.4	32.6	35.3	0.636	6.2	5.6	4.5	PN
17030	7/27/90	2022	3001.5	8830.2	11	25	12	24	29.2	26.5	27.7	28.4	34.6	30.8	0.542	6.5	5.5	5.8	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
17031	7/27/90	2304	2954.7	8826.0	11	31	15	30	28.7	27.0	24.3	29.1	34.3	35.5	0.673	6.2	5.6	4.8	ST	
17032	7/28/90	0332	2923.4	8828.1	11	57	28	56	28.5	24.6	22.1	29.4	36.4	36.3	0.393	5.6	6.0	5.1	ST	
17033	7/28/90	0458	2921.1	8827.7	11	57	28	56	28.5	24.6	22.1	29.4	36.4	36.3		5.6	6.0	5.1	ST	
17034	7/28/90	0936	2939.3	8810.3	11	37	18	36	28.8	25.3	29.5	29.6	36.0	29.6	0.328	5.7	6.6	6.5	ST	
17035	7/28/90	1259	2951.2	8809.7	11	32	16	31	29.4	25.7	24.6	29.8	35.7	35.8	0.318	6.8	6.8	5.9	ST	
17036	7/28/90	1513	3000.1	8800.0	11	26	13	25	29.6	27.3	25.5	30.0	34.7	35.8	0.318	6.4			PN	
17037	7/28/90	2042	2950.2	8808.3	11	35	17	34	29.5	25.9	24.3	29.8	35.8	35.9	0.336	6.6	6.6	5.5	ST	
17038	7/28/90	2318	2954.3	8808.6	11	32	16	31	29.3	26.8	24.3	29.9	35.3	35.7	0.318	7.0	6.2	5.5	ST	
17039	7/29/90	0158	3000.1	8812.3	11	28	14	27	29.4	27.3	24.7	27.3	35.1	35.6	0.434	7.2	6.6	5.3	ST	
17040	7/29/90	0341	3003.3	8811.5	11	23	12	22	29.2	26.9	25.5	27.8	34.8	35.7	0.523	7.2	6.7	6.1	ST	
17041	7/29/90	0555	3006.4	8807.0	11	19	9	18	28.4	27.3	26.1	26.5	33.4	35.2	1.084	7.3	6.7	5.5	ST	
17042	7/29/90	0806	3003.5	8814.3	11	19	9	18	28.8	27.0	26.0	28.4	34.5	35.2	0.729	7.3	6.8	5.6	ST	
17043	7/29/90	1012	2958.6	8827.3	11	28	14	27	29.2	27.0	24.6	28.7	34.4	35.6	0.729	7.0	6.3	5.2	ST	
17044	7/29/90	1233	3004.5	8825.1	11	18	9	17	29.8	27.9	25.7	28.0	33.0	35.1	0.878	6.8	6.9	5.0	ST	
17045	8/ 7/90	2042	3007.6	8819.3	11	17	8	16	29.9	29.6	25.6	28.9	29.0	35.4	0.561	6.1	6.0	2.8	ST	
17046	8/ 7/90	2347	3012.3	8819.7	11	8	4	7	29.4	29.4	28.4	29.8	29.7	32.0	1.065	6.1	6.0	5.6	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ARANSAS BAY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
31001	6/12/90	0848	2558.8	9708.5	22	5	3	5	26.9	26.8	26.5	35.6	35.6	35.4	2.181	5.7	5.5	5.4	ST
31002	6/12/90	0925	2559.6	9706.4	22	12	6	12	26.5	25.3	25.5	35.1	35.0	35.3	0.336	6.0	5.9	6.0	ST
31003	6/12/90	1003	2559.5	9704.4	22	18	9	18	25.4	25.0	22.3	35.2	35.4	35.8	0.306	6.0	6.1	6.0	ST
31004	6/12/90	1100	2558.5	9704.6	22	20	12	20	25.8	22.2	22.2	35.1	35.3	35.7	0.386	6.1	6.0	5.7	ST
31005	6/12/90	1200	2601.7	9659.5	21	27	19	27	25.9	25.4	21.6		35.7	35.9	0.285	5.8	6.1	5.9	ST
31006	6/12/90	1255	2604.8	9702.4	21	22	11	22	26.0	25.1	22.0	34.8	35.1	35.8	0.530	6.1	6.2	6.3	ST
31007	6/12/90	1333	2606.5	9701.4	21	24	12	24	26.5	25.6	21.9	34.9	35.3	36.0	0.411	6.2	6.1	6.4	ST
31008	6/12/90	1425	2609.3	9704.5	21	19	9	19	26.2	23.7	22.3	34.7	35.2	35.8	0.237	6.1	6.5	6.8	ST
31009	6/19/90	0825	2609.4	9709.4	21	9	5	9	25.7	24.9	24.7	35.7		35.8	0.312	12.8	12.9	13.0	ST
31010	6/19/90	0926	2614.9	9704.6	21	18	9	18	27.3	26.4	26.2	35.3	35.2	35.7	0.112	12.3	12.8	13.3	ST
31011	6/19/90	1022	2621.6	9706.3	21	18	9	18	26.9	25.2	24.7	35.4	35.6	35.7	0.196	13.2	12.8	13.1	ST
31012	6/19/90	1115	2621.4	9710.4	21	15	7	15	25.6	24.0	23.6	35.7	35.7	35.7	0.374	13.2	13.0	11.9	ST
31013	6/19/90	1142	2620.4	9711.6	21	8	4	8	26.0	24.3	23.7	35.8	35.7	35.7	0.374	12.4	12.7	12.0	ST
31014	6/19/90	1231	2616.6	9708.7	21	16	8	16	26.9	24.6	22.7	35.6	35.6	35.5	0.235	13.0	12.8	12.4	ST
31015	6/19/90	1308	2614.3	9709.6	21	14	7	14	26.3	24.5	23.0	35.5	35.6	35.7	0.142	13.2	13.0	11.5	ST
31016	6/19/90	1346	2613.3	9708.7	21	15	8	15	26.6	25.1	23.1	35.6	35.7	35.7	0.162	13.2	13.0	12.4	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
MATAGORDA BAY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
32001	6/11/90	1049	2824.3	9610.3	19	16	8	16	27.3	26.9	23.9	29.5	30.9	33.0	0.091	6.3	6.3	2.4	ST	
32002	6/11/90	1203	2823.4	9608.0	19	18	9	18	27.4	26.8	23.5	29.8	30.0	31.9	0.107	6.2	6.2	2.5	ST	
32003	6/11/90	1301	2822.5	9607.3	19	19	10	19	28.1	26.9	23.1	24.5	24.6	27.9	0.723	6.0	6.1	2.8	ST	
32004	6/11/90	1340	2824.5	9607.7	19	17	9	17	27.7	26.8	26.0	29.7	29.9	31.0	0.196	6.1	6.2	6.5	ST	
32005	6/11/90	1421	2825.7	9606.7	19	16	8	16	28.4	27.2	25.8	30.1	31.0	34.0	0.158	6.1	6.4	6.5	ST	
32006	6/11/90	1501	2827.7	9604.6	19	15	8	15	28.4	27.5	24.3	29.8	31.3	33.9	0.150	6.3	6.4	2.1	ST	
32007	6/11/90	1714	2826.5	9611.5	19	14	7	14	28.5	27.7	27.0	30.1	31.4	33.8	0.053	6.4	6.6	5.3	ST	
32008	6/11/90	1815	2825.5	9618.6	19	7	4	7	29.8	29.3	27.6	29.5	32.0	33.9		8.0	7.7	5.9	ST	
32009	6/18/90	1120	2818.6	9614.4	19	20	10	20	28.2	27.8	23.4	30.2	30.3	31.6	0.841	6.0	6.0	1.8	ST	
32010	6/18/90	1230	2813.6	9619.4	19	22	11	22	28.9	27.9	26.5	31.2	31.2	31.3	0.326	6.0	6.2	6.2	ST	
32011	6/18/90	1333	2813.6	9626.5	19	17	8	17	28.8	28.1	26.4	29.9	30.0	34.0	0.102	6.2	6.1	5.0	ST	
32012	6/18/90	1416	2815.6	9623.4	19	18	9	18	28.7	28.0	23.6	29.8	31.3	34.3	0.107	6.3	6.1	1.7	ST	
32013	6/18/90	1447	2817.6	9622.4	19	16	8	16	28.8	28.1	24.3	29.7	31.1	34.3	0.053	6.0	5.7	1.0	ST	
32014	6/18/90	1517	2817.6	9621.4	19	17	8	17	28.9	28.1	25.4	29.8	30.7	34.4		6.1	6.1	3.5	ST	
32015	6/18/90	1603	2822.5	9622.3	19	5	2	5	30.2	30.1	29.3	29.9	30.2	31.9		6.2	6.1	5.3	ST	
32016	6/18/90	1632	2822.6	9620.5	19	8	4	8	30.0	29.8	27.7	29.3	29.8	34.0	0.075	6.2	6.1	4.1	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LAGUNA MADRE

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
33001	6/10/90	0822	2752.4	9701.5	20	4	2	4	28.3	28.3	28.1	32.0	32.0	32.0	0.320	6.2	6.2	5.9	ST	
33002	6/10/90	0927	2758.5	9655.8	20	7	4	7	28.4	28.1	26.6	31.5	31.4	32.7	0.374	6.1	6.3	6.6	ST	
33003	6/10/90	1008	2800.4	9653.7	19	7	4	7	28.6	28.4	27.0	31.4	31.5	32.2	0.673	6.3	6.3	6.1	ST	
33004	6/10/90	1133	2750.8	9651.4	20	21	11	21	28.2	26.6	24.3	29.6	31.1	34.3	0.091	5.9	5.8	5.0	ST	
33005	6/10/90	1206	2750.9	9653.2	20	20	10	20	28.1	26.1	23.5	29.6	32.8	34.7	0.080	6.0	5.9	3.6	ST	
33006	6/10/90	1251	2750.7	9656.3	20	17	8	17	28.1	27.4	24.6	29.6	30.8	34.2	0.075	5.9	6.0	3.8	ST	
33007	6/10/90	1323	2750.9	9658.3	20	15	7	15	28.2	27.5	24.6	30.0	31.5	34.2	0.075	5.8	5.9	3.7	ST	
33008	6/10/90	1355	2749.8	9658.5	20	15	8	15	28.2	27.3	24.4	29.9	31.6	34.4	0.112	5.7	5.9	3.6	ST	
33009	6/18/90	0839	2748.6	9702.5	20	8	4	8	28.0	28.0	28.1	33.4	33.4	33.4	0.386	5.8	5.8	5.9	ST	
33010	6/18/90	0913	2747.6	9704.4	20	6	3	6	28.6	27.9	28.0	33.3	33.3	33.3	0.386	5.8	6.0	5.7	ST	
33011	6/18/90	1010	2742.5	9705.7	20	13	7	13	27.3	27.2	26.5	33.7	33.7	33.7	0.107	6.1	6.2	5.3	ST	
33012	6/18/90	1107	2739.7	9700.3	20	22	11	22	27.9	27.5	24.3	33.4	33.6	33.9		6.0	6.2	4.3	ST	
33013	6/18/90	1217	2743.6	9702.1	20	17	8	17	27.9	27.4	26.1	33.4	33.6	33.5	0.110	6.4	6.4	5.9	ST	
33014	6/18/90	1257	2745.5	9700.4	20	17	8	17	28.1	27.6	27.5	33.4	33.3	32.4		6.3	6.5	6.3	ST	
33015	6/18/90	1340	2745.6	9657.7	20	20	10	20	28.6	27.5	24.7	33.2	33.5	33.6	0.075	6.3	6.4	4.3	ST	
33016	6/18/90	1432	2749.6	9700.5	20	13	6	13	28.5	27.6	27.3	32.4	33.0	33.1		6.4	6.6	5.5	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
GALVESTON BAY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
34001	6/13/90	1252	2913.7	9448.6	18	10	5	10	28.7	28.6	28.6	26.8	27.8	29.3	0.409	6.6	6.7	8.7	ST
34002	6/13/90	1352	2910.7	9445.4	18	15	7	15	27.9	27.9	28.0	28.5	28.7	32.4	0.249	6.2	6.1	6.0	ST
34003	6/13/90	1425	2912.7	9444.4	18	13	7	13	28.4	28.3	28.0	28.0	28.2	31.3	0.577	6.1	6.1	6.0	ST
34004	6/13/90	1513	2911.8	9441.3	18	15	8	15	28.0	28.0	29.0	28.4	28.5	32.7	0.445	6.0	6.0	6.0	ST
34005	6/13/90	1542	2912.7	9441.3	18	15	7	15	28.5	28.5	28.3	28.3	28.6	32.4	0.470	6.0	6.0	5.9	ST
34006	6/13/90	1609	2913.7	9441.4	18	14	7	14	28.6	28.6	28.6	27.5	27.5	32.0	0.442	5.9	5.9	5.7	ST
34007	6/13/90	1636	2914.7	9441.3	18	13	7	13	28.8	27.7	28.7	27.0	26.9	27.4	0.374	6.1	6.0	6.1	ST
34008	6/13/90	1702	2915.7	9441.4	18	10	5	10	29.0	29.0	28.9	26.8	26.8	29.7	0.648	6.0	6.1	6.1	ST
34009	6/21/90	1053	2917.7	9440.2	18	9	5	9	28.4	27.6	25.7	29.8	30.3	31.4	0.267	5.4	4.4	1.3	ST
34010	6/21/90	1132	2918.6	9443.5	18	6	3	6	28.3	27.7	26.8	31.1	31.1	31.9	3.389	5.0	4.2	2.3	ST
34011	6/21/90	1247	2912.7	9451.1	18	10	5	10	29.2	27.2	25.7	30.8	33.1	33.1	0.883	5.9	5.2	1.3	ST
34012	6/21/90	1321	2911.5	9451.4	18	11	6	11	29.3	27.9	25.7	29.9	31.3	33.2	1.018	6.3	6.0	1.3	ST
34013	6/21/90	1410	2906.6	9448.4	18	16	8	16	29.8	28.8	25.7	28.0	29.8	33.4	0.150	5.6	5.7	3.9	ST
34014	6/21/90	1438	2906.5	9447.5	18	16	8	16	29.9	28.9	28.1	27.9	30.3	33.4	0.178	6.0	5.8	5.7	ST
34015	6/21/90	1549	2913.8	9439.3	18	14	7	14	29.6	28.8	28.3	27.9	30.2	33.2		5.9	5.8	5.7	ST
34016	6/21/90	1640	2919.6	9436.5	18	11	6	11	29.3	26.9	26.7	30.6	32.1	33.4	0.947	6.3	4.9	2.9	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
SABINE

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
40001	6/12/90	0748	2936.4	9349.4	17	8	4	8	29.7	29.0	28.8	15.8	22.2	25.7	1.259	6.8	7.7	8.0	ST
40002	6/12/90	0841	2936.6	9350.4	17	8	4	8	29.3	28.5	28.1	17.8	21.2	23.8	1.283	6.7	10.3	7.8	ST
40003	6/12/90	0936	2939.5	9352.5	17	4	2	4	29.1	29.4	29.3	16.8	19.1	20.2	0.536	7.2	7.1	6.0	ST
40004	6/12/90	1020	2938.5	9355.4	17	5	2	5	29.9	30.0	28.4	19.4	20.2	23.0	0.935	7.6	7.7	8.0	ST
40005	6/12/90	1133	2937.7	9401.7	18	6	3	6	30.0	29.1	28.8	20.5	20.9	22.7	1.618	9.9	10.6	8.2	ST
40006	6/12/90	1346	2934.5	9352.5	17	10	5	10	30.5	29.9	27.9	18.1	24.0	26.5	0.854	7.5	7.4	6.5	ST
40007	6/12/90	1434	2933.5	9348.5	17	12	6	12	30.8	30.3	28.3	17.2	23.0	25.9	0.847	9.3	7.9	11.4	ST
40008	6/12/90	1514	2933.6	9345.5	17	12	6	12	31.1	29.5	27.2	19.3	25.1	25.9	0.748	7.5	10.8	10.3	ST
40009	6/18/90	0956	2939.7	9347.2	17	8	4	8	30.0	30.1	28.9	17.4	20.6	25.0	1.203	7.4	6.5	6.7	ST
40010	6/18/90	1037	2942.6	9346.4	17	5	3	5	30.4	30.2	30.1	16.6	19.0	19.4	0.710	7.1	5.9	4.3	ST
40011	6/18/90	1127	2940.5	9342.5	17	8	4	8	30.9	30.3	28.4	17.8	18.0	30.8	2.766	9.2	6.8	4.5	ST
40012	6/18/90	1300	2943.5	9338.6	17	6	3	6	32.1	30.2	29.3	17.5	18.3	23.4	1.744	7.0	6.6	4.1	ST
40013	6/18/90	1347	2940.5	9338.6	17	8	4	8	32.1	30.2	28.7	18.0	19.8	27.8	0.793	9.9	6.8	6.5	ST
40014	6/18/90	1432	2940.5	9334.6	17	9	5	9	32.0	29.9	27.6	17.2	23.0	16.8	1.290	9.5	8.5	6.2	ST
40015	6/18/90	1531	2936.5	9337.5	17	11	6	11	31.3	28.6	27.1	18.6	26.9	30.3	1.084	8.1	7.1	5.5	ST
40016	6/18/90	1623	2935.5	9341.5	17	11	6	11	31.1	30.1	27.1		25.9	30.1	1.259	8.5	9.8	4.2	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51482	6/14/90	0317	2924.3	8854.0	11	17	9	17	29.0	24.9	24.2	19.9	35.9	36.1	3.258	7.5	5.8	5.5	ST
51529	6/18/90	1010	2649.6	9641.9	21	80	40	80	27.2	21.8	20.7	34.9	36.8	36.8	0.090	6.8	7.2	6.8	ST
51530	6/18/90	1249	2640.3	9640.6	21	70	35	70	28.2	23.6	20.8	33.9	36.1	36.8	0.112	6.4	7.0	7.2	ST
51531	6/18/90	1542	2630.0	9630.0	21	84	42	84	28.4	22.4	20.4	33.4	36.8	36.8	0.112	6.5	6.7	6.5	PN
51532	6/18/90	1731	2627.5	9624.2	99	90	45	90	29.1	21.4	19.6	32.6	36.8	36.8	0.078	6.6	6.3	6.3	ST
51533	6/18/90	2057	2623.0	9622.9	99	81	40	81	28.9	21.9	19.9	32.8	36.8	36.8	0.053	6.5	6.9	6.4	ST
51534	6/18/90	2251	2620.3	9628.0	99	64	32	64	28.5	26.2	20.8	33.3	35.4	36.7	0.069	6.8	7.0	6.6	ST
51535	6/19/90	0043	2618.9	9634.4	21	55	28	55	28.6	26.2	21.3	33.1	35.5	36.7	0.561	6.9		6.6	ST
51537	6/19/90	0525	2613.6	9601.5	99	22	11	22	27.9	26.1	23.0	34.8	35.2	36.3	0.064	6.8	6.6	6.7	ST
51538	6/19/90	0733	2600.0	9700.1	21	26	13	26	27.6	25.7	22.6	35.7	35.8	36.4	0.134	6.3	6.5	6.5	PN
51539	6/19/90	0906	2603.3	9707.6	21	12	6	12	26.1	24.9	22.2	36.0	35.6	35.8	0.412	8.0	7.6	7.2	ST
51540	6/19/90	1051	2612.4	9657.6	21	28	14	28	27.6	26.1	22.2	35.7	35.8	36.5	0.223	6.5			ST
51541	6/19/90	1246	2610.8	9709.6	21	9	5	9	26.7	25.2	25.0	36.0	36.4	36.1	0.249	8.6	8.6	7.4	ST
51542	6/19/90	1443	2624.2	9711.9	21	9	5	9	26.5	25.8	25.1	36.0	36.1	36.0	0.222				ST
51543	6/19/90	1649	2635.4	9713.2	21	15	8	15	27.4	27.2	24.6	35.5	35.3	36.0	0.085	7.3	7.4	6.4	ST
51544	6/19/90	1900	2630.1	9659.9	21	33	17	33	26.8	26.0	22.2	35.8	36.2	36.4	0.097	5.9	6.3	6.4	PN
51545	6/19/90	2052	2631.3	9653.0	21	40	20	40	23.5	26.4	21.9	34.8	35.7	36.6	0.063	7.8	9.5		ST
51547	6/20/90	0039	2622.4	9700.5	21	30	15	30	28.0	25.9	22.6	34.7	36.1	36.3	0.084	7.2	7.0	6.8	ST
51548	6/20/90	0251	2630.2	9713.9	21	10	5	10	27.1	27.1	26.7	35.7	35.8	35.9	0.231	6.8	6.8	6.8	ST
51549	6/20/90	0503	2645.9	9716.4	21	16	8	16	26.9	26.5	26.3	34.7	35.3	35.4	0.093	5.0	4.9	4.8	ST
51550	6/20/90	0718	2654.2	9703.1	21	35	18	35	26.9	24.0	21.9	34.3	35.7	37.0	0.145	5.3	5.5	4.6	ST
51551	6/20/90	0911	2656.0	9653.1	21	54	27	54	27.3	23.4	21.1	35.0	36.2	36.8	0.109	6.7	7.0	6.4	ST
51552	6/20/90	1135	2659.8	9700.3	20	40	20	40	27.4	24.2	21.5	35.1	36.0	36.6	0.134	6.9	7.1	6.4	PN
51553	6/20/90	1322	2703.1	9709.6	20	27	14	27	28.4	24.0	22.7	33.1	36.0	36.2	0.116	7.2	6.9	7.1	ST
51554	6/20/90	1456	2707.3	9715.4	20	21	11	21	28.1	26.5	24.3	33.4	34.8	35.3	0.125	6.7	7.1	7.3	ST
51555	6/20/90	1607	2706.7	9720.7	20	12	6	12	27.8	27.7	26.9	34.3	34.4	35.0	0.130	8.1	8.2	8.0	ST
51556	6/20/90	2047	2705.7	9721.6	20	9	5	9	27.6	27.6	27.4	34.5	34.5	34.7	0.187	7.4	7.4	7.7	ST
51557	6/20/90	2143	2659.9	9716.8	20	19	9	19	27.9	27.9	24.4	33.8	33.8	35.5	0.056	7.5	7.2	7.3	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
51558	6/20/90	2307	2654.1	9714.6	21	23	12	23	28.0	25.9	23.7	33.7	34.6	35.9	0.112	7.1	7.3	7.4	ST	
51559	6/21/90	0044	2659.4	9712.1	21	25	13	25	28.3	24.6	23.0	33.4	35.6	36.3	0.112	7.1	7.3	7.3	ST	
51560	6/21/90	0237	2704.4	9713.2	20	24	12	24	28.2	28.1	23.4	33.4	33.8	35.9	0.070	6.9	7.1	7.2	ST	
51561	6/21/90	0600	2730.3	9659.9	20	27	14	27	27.9	27.7	26.8	34.3	34.6	35.5	0.084	7.3	7.4	7.0	PN	
51562	6/21/90	0736	2725.6	9656.8	20	33	17	32	28.0	27.7	22.7	34.1	34.8	36.3	0.109	7.0	7.3	6.0	ST	
51563	6/21/90	0856	2729.4	9701.5	20	25	12	24	28.3	27.9	23.6	33.2	34.6	35.5	0.114	6.6	6.5	6.7	ST	
51564	6/21/90	1143	2742.2	9647.0	20	30	15	30	28.8	27.6	24.5	31.2	33.6	35.0	0.094	6.8	6.6	6.3	ST	
51565	6/21/90	1309	2739.6	9641.6	20	38	19	38	29.1	27.7	23.0	29.8	33.0	35.3	0.119	6.7	6.5	5.1	ST	
51566	6/21/90	1534	2735.6	9625.4	20	73	37	73	29.4	23.5	21.0	31.1	36.1	36.8	0.118	6.4	6.7	6.2	ST	
51567	6/21/90	1757	2730.0	9629.9	20	72	36	72	29.1	24.0	21.0	30.6	36.1	36.8	0.134	6.5	6.9	6.5	PN	
51568	6/21/90	2124	2715.1	9637.3	20	82	41	82	29.5	23.3	20.8	30.2	36.6	36.8	0.125	6.3	7.0	7.6	ST	
51569	6/22/90	0000	2726.8	9651.7	20	40	20	40	28.0	27.6	22.1	34.9	35.0	36.6	0.062	6.6	6.2	6.1	ST	
51570	6/22/90	0206	2732.8	9653.1	20	32	16	32	28.3	27.8	22.6	33.6	35.0	36.6	0.131	6.3	6.4	6.0	ST	
51571	6/22/90	0412	2736.3	9706.4	20	16	8	16	28.2			33.5			0.061	6.8	6.5	6.6	ST	
51572	6/22/90	0453	2736.4	9709.3	20	14	7	14	27.8	27.8	27.3	33.9	34.0	34.6	0.078	6.7	6.5	6.5	ST	
51573	6/22/90	0800	2749.8	9653.8	20	19	9	18	28.0	28.0	26.8	33.6	33.7	34.6	0.347	5.4	5.3	5.8	ST	
51574	6/22/90	0940	2750.1	9645.2	20	24	12	24	28.6	28.1	27.1	32.2	33.8	34.7		5.6	5.6	5.8	ST	
51575	6/22/90	1127	2754.9	9644.1	20	20	10	20	28.7	28.1	24.8	33.0	33.6	35.0	0.089	5.4	5.6	4.9	ST	
51576	6/22/90	1319	2759.9	9629.9	19	26	13	26	28.1	27.3	24.4	34.1	33.8	35.4	0.107	6.0	6.1	6.2	PN	
51577	6/22/90	1437	2755.1	9627.8	20	33	17	33	29.0	28.2	23.0	31.6	33.4	36.2	0.075	5.2	4.7	5.5	ST	
51578	6/22/90	2048	2739.2	9626.4	20	62	31	62	29.5	24.9	21.5	30.2	35.1	36.8	0.187	6.4	7.0	7.2	ST	
51579	6/22/90	2305	2743.2	9637.7	20	36	18	36	28.7	28.1	22.7	32.2	34.4	36.2	0.107	5.8	5.9	5.0	ST	
51580	6/23/90	0140	2757.6	9655.7	20	10	5	10	28.2	28.2	28.1	34.3	34.3	34.4	0.586	6.3	6.0	5.7	ST	
51581	6/23/90	0424	2754.6	9630.5	20	31	16	30	28.8	27.6	24.0	32.2	33.7	35.2	0.079	6.1	5.9	5.9	ST	
51582	6/23/90	0608	2802.1	9628.3	19	24	12	24	28.4	28.2	24.1	33.0	33.5	35.4	0.341	6.5	6.6	6.0	ST	
51583	6/23/90	0844	2757.1	9609.8	20	45	22	45	26.9	27.3	21.7	33.4	34.3	36.7	0.093	6.5	6.7	6.1	ST	
51584	6/23/90	1102	2759.9	9600.0	19	44	22	44	28.7	25.4	21.6	32.9	35.1	36.7	0.114	6.6	6.9	6.3	PN	
51585	6/23/90	1155	2800.6	9557.9	19	42	21	42	28.8	27.1	21.8	32.9	35.0	36.8	0.156	6.9	7.1	6.4	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
51586	6/23/90	1353	2804.9	9553.9	19	39	20	39	28.6	27.7	22.0	32.6	33.0	36.7	0.056	6.5	6.1	5.0	ST	
51587	6/23/90	1607	2810.4	9606.9	19	27	13	27	28.6	27.7	23.6	33.4	33.8	35.8	0.198	6.8	7.0		ST	
51588	6/23/90	1805	2814.6	9625.0	19	14	7	14	29.1	28.0	25.1	32.5	33.5	35.0	0.085	5.8	5.8	5.8	ST	
51589	6/23/90	2101	2810.9	9632.9	19	12	6	12	29.0	28.9	25.8	32.9	32.9	34.4	0.112	10.9	11.5	12.0	ST	
51590	6/23/90	2156	2807.1	9628.6	19	20	10	20	28.6	28.0	25.1	33.7	33.9	35.1	0.067				ST	
51591	6/24/90	0020	2820.0	9622.7	19	11	6	11	28.9	28.7	25.1	33.0	33.2	35.2	0.117	6.0	5.6	5.3	ST	
51592	6/24/90	0204	2824.6	9609.5	19	14	7	14	29.0	29.0	26.5	32.2	32.3	34.9	0.055	6.1	5.6	5.6	ST	
51593	6/24/90	0405	2823.6	9556.2	19	17	9	17	27.2	27.1	25.6	30.5	32.5	34.5	4.062	6.9	6.7	6.5	ST	
51594	6/24/90	0605	2831.5	9559.2	19	12	6	12	28.5	28.5	27.4	32.4	32.5	33.7	0.089	6.5	6.4	6.1	PN	
51595	6/24/90	0759	2838.3	9549.5	19	7	4	6	28.3	28.3	28.3	32.6	32.6	32.6	1.412	6.2	6.4	5.8	ST	
51596	6/24/90	0922	2833.1	9553.2	19	13	6	13	28.8	28.7	27.9	32.3	32.4	33.1	0.187	6.4	6.4	6.1	ST	
51597	6/24/90	1230	2830.0	9530.0	19	24	12	24	29.8	29.3	24.6	28.8	28.9	35.0	0.093	6.5	6.3	5.4	PN	
51598	6/24/90	1555	2825.8	9556.5	19	18	9	18	29.2	28.6	24.7	32.6	33.0	34.7	0.122	6.5	6.5	5.4	ST	
51599	6/24/90	2107	2811.0	9610.2	19	24	12	24	29.1	28.2	24.2	33.3	33.7	35.9	0.209	6.7	6.7	6.6	ST	
51600	6/24/90	2241	2809.4	9607.9	19	26	13	26	28.9	27.7	23.3	32.9	33.8	36.3	0.093	6.5	6.5	6.4	ST	
51601	6/25/90	0023	2807.8	9616.1	19	28	14	28	28.6	28.0	22.5	33.7	34.7	36.6	0.075	6.4	6.5	5.5	ST	
51602	6/25/90	0232	2808.1	9600.4	19	31	16	31	28.6	28.4	22.4	32.7	33.7	36.5	0.117	6.4	6.4	6.0	ST	
51603	6/25/90	0950	2818.3	9445.9	18	44	22	44	29.4	25.1	22.4	31.6	35.4	36.6	0.187	6.4	5.2	6.1	ST	
51606	6/25/90	1600	2803.5	9455.4	18	61	31	61	30.0	24.4	21.7	29.2	35.6	36.7	0.117	6.5	6.1	6.3	ST	
51607	6/25/90	1706	2801.9	9456.1	18	87	43	86	30.0	23.3	20.3	36.8	36.9	36.9		6.5	6.9	6.6	ST	
51608	6/25/90	2212	2747.3	9530.5	20	91	45	90	30.1	23.3	19.1	30.0	36.9	36.9	0.136	6.5	7.2	6.2	ST	
51609	6/26/90	0307	2818.1	9510.4	19	39	20	39	29.9	28.4	23.4	28.8	30.7	36.3	0.079	6.7	6.6	5.5	ST	
51611	6/26/90	0830	2834.2	9445.1	18	32	16	32	30.0	27.4	24.5	29.4	34.6	36.4	0.130	6.4	6.7	5.2	ST	
51612	6/26/90	1121	2829.9	9506.6	19	32	16	32	29.4	28.6	24.1	29.2	30.6	36.0	0.165	6.9	6.8	4.9	ST	
51613	6/26/90	1309	2831.2	9512.9	19	30	15	30	29.5	28.9	24.0	28.8	30.2	36.4	0.119	6.7	6.6	5.8	ST	
51614	6/26/90	1446	2839.6	9509.0	19	24	12	24	29.7	28.5	24.7	29.7	32.9	35.8	1.557	6.5	6.1	4.1	ST	
51615	6/26/90	1728	2900.0	9459.9	19	15	7	15	29.8	29.3	26.5	31.2	31.7	34.8	0.129	6.5	6.3	4.1	PN	
51616	6/26/90	1857	2859.4	9510.1	19	11	6	11	29.3	29.2	26.8	32.3	32.3	34.8	0.299	6.6	6.3	4.3	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51617	6/26/90	2059	2853.0	9511.3	19	11	6	11	29.5	29.5	26.7	31.6	31.8	34.7	0.160	6.4	6.5	4.1	ST
51618	6/26/90	2348	2835.5	9506.3	19	28	14	28	29.7	29.1	24.5	29.4	32.0	35.8	0.187	6.6	6.6	3.7	ST
51619	6/27/90	0203	2827.2	9455.4	18	35	18	35	29.5	27.6	24.3	28.7	32.7	36.4	0.077	6.9	6.6	6.0	ST
51621	6/27/90	0529	2816.8	9440.5	18	50	25	50	29.3	24.6	22.3	30.0	35.7	36.7	0.117	6.4	5.8	6.5	ST
51622	6/27/90	0949	2831.8	9428.5	18	34	17	34	29.4	27.4	24.1	31.1	32.9	36.3		6.8			ST/PN
51623	6/27/90	1318	2814.7	9408.4	18	53	27	53	29.8	25.9	22.0	29.9	36.5	36.7	0.187	6.0	5.8	5.1	ST
51625	6/27/90	1704	2754.9	9404.9	99	92	46	92	29.9	22.6	20.1	29.7	36.6	36.8	0.089	6.4	5.8	6.0	ST
51626	6/27/90	1921	2758.0	9417.8	99	75	37	75	29.6	24.0	19.4	30.1	36.6	36.8	0.118	6.5	6.7	5.4	ST
51627	6/27/90	2215	2758.5	9432.4	99	74	37	74	29.5	23.8	21.0	29.0	36.4	36.9	0.075	6.7	7.2	7.4	ST
51628	6/27/90	2316	2756.6	9435.7	99	89	45	89	29.5	23.7	20.9	29.0	36.7	36.8	0.075	6.8	7.0	6.6	ST
51629	6/28/90	0302	2803.0	9406.1	18	72	36	72	29.1	24.5	19.5	29.9	36.5	36.9	0.070	6.7	6.5	6.1	ST
51630	6/28/90	0602	2814.7	9403.7	18	56	28	56	29.5	26.6	21.9	30.0	36.0	36.7	0.103	6.7	7.0	6.6	ST
51631	6/28/90	1108	2854.9	9401.1	18	22	11	22	29.8	29.7	26.6	28.4	28.4	35.9	0.205	6.8	6.8	4.6	ST
51632	6/28/90	1304	2905.2	9413.1	18	14	7	14	29.8	29.4	29.2	29.6	30.8	31.3	0.132	6.4	6.1	6.0	ST
51633	6/28/90	1506	2900.0	9430.0	18	17	9	17	29.7	29.6	29.5	30.3	30.1	31.0	0.150	6.5	6.3	6.2	PN
51634	6/28/90	1726	2842.1	9439.2	18	26	13	26	29.7	28.5	25.7	30.6	33.0	36.1	0.138	6.5	6.1	4.9	ST
51635	6/28/90	2124	2835.9	9413.3	18	33	16	33	29.7	29.1	25.1	29.0	33.3	36.4	0.257	6.6	6.2	5.6	ST
51636	6/29/90	0038	2846.3	9434.4	18	22	11	22	29.8	29.8	27.1	29.5	29.6	35.0	0.118	6.6	6.6	4.9	ST
51637	6/30/90	1920	2919.2	9401.8	18	12	6	11	29.7	29.4	29.2	29.4	30.4	31.1	0.193	7.2	7.2	6.5	ST
51638	6/30/90	2231	2933.6	9416.5	18	8	4	7	29.8	29.3	29.2	25.2	27.0	29.6	2.720	7.4	5.9	6.3	ST
51639	7/ 1/90	0340	2915.7	9334.4	17	13	7	13	29.6	29.6	29.1	28.8	28.9	31.0	0.218	6.6	6.5	4.2	ST
51640	7/ 1/90	0557	2907.7	9339.9	17	19	9	19	29.4	29.5	27.3	29.0	29.0	34.2	0.530	7.2	7.0	1.2	ST
51641	7/ 1/90	0653	2907.9	9340.3	17	18	9	17	29.6	29.6	27.7	28.9	29.0	33.8	0.421	6.2	6.5	1.9	ST
51642	7/ 1/90	0916	2911.0	9330.6	17	17	8	16	29.3	29.5	28.9	25.4	28.7	31.6	0.567	7.1	7.0	3.6	ST
51643	7/ 1/90	1243	2937.5	9321.0	17	9	5	9	30.0	29.4	29.2	18.3	20.6	24.5	4.984	7.4	8.1	6.3	ST
51644	7/ 1/90	1619	2931.1	9257.7	16	12	6	12	30.5	29.5	29.1	25.9	26.8	28.4	1.408	7.5	6.8	5.8	ST
51645	7/ 1/90	1935	2919.7	9302.5	17	15	7	14	30.5	29.8	28.6	26.3	27.4	30.9	0.467	6.7	6.4	1.5	ST
51646	7/ 1/90	2224	2908.3	9305.0	17	17	8	16	29.9	29.6	28.4	25.6	25.9	32.9	0.390	7.0	6.7	5.2	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
51647	7/ 2/90	0137	2858.0	9337.0	17	22	11	22	29.6	29.8	26.8	25.7	28.7	35.4	0.602	9.5	8.4	2.0	ST	
51648	7/ 2/90	0407	2839.5	9337.6	17	32	16	32	29.4	29.2	24.8	30.1	31.2	36.6	0.150	7.5	6.5	6.4	ST	
51649	7/ 2/90	0604	2837.0	9325.1	17	35	17	34	29.3	29.4	24.3	29.9	34.3	36.3		6.0	6.0	5.1	ST	
51650	7/ 2/90	0920	2834.5	9349.1	17	35	17	34	29.6	28.9	23.5	30.7	33.6	36.8	0.125	6.2	6.1	5.5	ST	
51651	7/ 2/90	1153	2830.8	9333.9	17	40	20	39	29.4	28.8	23.4	29.9	34.7	36.5	0.218	6.3	6.3	6.7	ST	
51652	7/ 2/90	1324	2829.8	9329.9	17	42	21	42	29.5	27.5	23.1	30.7	35.8	36.7	0.164	6.3	6.5	6.5	PN	
51653	7/ 2/90	1450	2821.2	9333.1	17	54	27	54	31.0	26.2	21.7	30.3	36.2	37.0	0.092	6.4	6.5	6.2	ST	
51655	7/ 2/90	2259	2807.3	9255.1	16	82	41	81	29.8	24.0	19.7	30.8	36.6	36.9	0.045	6.4	7.2	5.7	ST	
51656	7/ 3/90	0205	2810.8	9237.1	16	74	37	74	29.7	24.5	20.0	32.9	36.7	36.9		6.4	7.3	5.2	ST	
51658	7/ 3/90	0530	2819.6	9234.8	16	58	29	57	29.3	25.7	21.6	31.3	36.2	36.7	0.100	6.0	6.1	6.3	ST	
51659	7/ 3/90	1014	2808.1	9228.4	16	82	41	81	29.4	24.1	20.0	34.1	36.4	36.9	0.069	5.9	6.6	5.7	ST	
51660	7/ 3/90	1207	2810.6	9223.2	16	73	36	72	29.1	25.1	20.1	33.7	36.4	36.8	0.112	6.1	6.4	5.9	ST	
51662	7/ 3/90	1556	2826.7	9223.1	16	54	27	54	29.3	27.2	22.1	25.5	36.0	36.6	0.685	7.3	7.7	8.0	ST	
51664	7/ 3/90	2025	2831.9	9229.2	16	45	22	44	29.5	28.3	22.4	27.2	35.7	36.9	0.947	6.5	6.4	6.0	ST	
51666	7/ 4/90	0030	2832.7	9236.2	16	44	22	44	29.2	28.6	23.8	23.9	35.5	36.7	0.810	6.8	6.6	7.2	ST	
51667	7/ 4/90	0116	2834.0	9235.5	16	39	20	39	29.0	28.9	24.2	24.0	35.4	36.5	0.893	6.7	6.4	6.9	ST	
51668	7/ 4/90	0357	2843.4	9247.4	16	32	16	32	28.8	28.8	25.9	26.9	34.8	36.1	0.421	6.5	6.1	5.8	ST	
51669	7/ 4/90	0623	2841.4	9236.6	16	34	17	34	28.6	28.1	23.7	25.9	35.1	36.9	0.673	7.0	6.3	5.6	ST	
51670	7/ 4/90	0855	2843.0	9244.9	16	32	16	31	29.1	29.2	25.2	27.5	35.0	36.4	0.514	6.1	6.0	4.9	ST	
51671	7/ 4/90	1020	2850.7	9247.4	16	26	13	25	29.3	28.3	27.0	25.3	34.9	35.8	0.984	7.0	6.0	4.7	ST	
51672	7/ 4/90	1211	2849.0	9251.1	16	26	13	26	29.6	29.4	26.2	25.6	33.4	36.2	1.329	6.7	5.6	4.5	ST	
51673	7/ 4/90	1450	2845.0	9302.4	17	31	16	31	30.0	28.9	25.0	26.0	34.0	36.5	1.106	6.6	5.6	5.4	ST	
51674	7/ 4/90	1815	2854.8	9310.3	17	22	11	22	30.2	29.4	27.3	25.8	29.8	35.5	0.505	7.5	5.8	4.5	ST	
51675	7/ 4/90	2041	2852.9	9311.6	17	23	11	22	29.6	29.2	26.9	25.5	30.7	35.8	0.443	7.3	5.3	4.1	ST	
51677	7/ 5/90	0122	2901.3	9245.8	16	24	12	24	29.3	29.4	26.9	23.5	29.2	36.1	0.685	6.0	6.1	4.9	ST	
51678	7/ 5/90	0535	2931.9	9253.7	16	11	6	11	29.5	29.7	27.3	21.8	26.4	33.0	1.209	7.0	7.5	2.9	ST	
51679	7/ 5/90	0740	2926.9	9247.5	16	13	7	13	29.6	30.0	27.0	24.5	27.3	34.2	0.810	7.8	8.0	2.7	ST	
51680	7/ 5/90	1232	2910.4	9210.3	16	10	5	9	29.4	29.4	27.5	20.4	20.6	33.4	5.752	8.4	9.1	4.2	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE	TIME	POSITION		STAT	DEPTH	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL,	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			ZONE	DEPTH (M)	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	MG/M ³	SUR	
51681	7/ 5/90	1500	2901.5	9224.7	16	23	12	23	29.9	29.4	26.9	23.3	33.0	36.3	0.914	8.6	8.0	5.5	ST/PN
51682	7/ 5/90	1750	2845.9	9221.6	16	33	17	33	28.9	28.5	24.4	21.8	35.4	37.0	2.554	8.3	8.5	8.5	ST
51683	7/ 5/90	2033	2848.0	9237.6	16	29	14	28	29.1	29.0	26.1	24.0	35.5	36.2	1.833	7.2	6.4	4.5	ST
51684	7/ 5/90	2300	2853.4	9230.4	16	27	13	26	29.4	29.2	25.6	23.6	34.0	36.3	0.609	7.6	6.6	5.8	ST
51685	7/ 6/90	0127	2904.4	9213.8	16	17	9	17	29.3	28.8	27.1	19.7	30.8	36.0	3.240	6.7	3.3	2.7	ST
51686	7/ 6/90	0236	2909.3	9216.5	16	10	5	10	29.1	29.4	27.1	20.8	22.7	35.5	3.676	6.8	6.5	0.9	ST
51687	7/ 6/90	0439	2907.8	9202.9	16	11	6	11	29.2	29.3	26.8	20.4	22.6	35.7	9.333	6.6	4.2	1.7	ST
51688	7/ 6/90	0635	2900.3	9200.0	16	18	9	18	29.1	27.5	26.5	21.9	35.5	36.1	1.931	7.4	4.7	3.5	PN
51689	7/ 6/90	0941	2841.4	9140.6	15	30	15	29	28.1	28.9	26.1	25.8	35.0	36.3	0.876	7.5	6.7	4.9	ST
51690	7/ 6/90	1052	2837.5	9136.0	15	34	17	33	28.9	28.3	23.4	23.0	35.6	36.5	0.841	7.2	6.7	4.7	ST
51691	7/ 6/90	1241	2830.2	9130.0	15	45	23	45	29.3	23.1	21.8	20.1	35.8	37.0	1.786	7.8	7.2	6.0	PN
51692	7/ 6/90	1455	2847.0	9130.0	15	21	10	21	29.5	28.9	26.0	18.2	31.1	36.2	3.219	7.7	3.3	3.0	ST
51693	7/ 6/90	1647	2848.3	9119.5	15	13	7	13	30.9	29.6	26.9	14.9	26.7	26.1	5.093	9.0	4.0	2.5	ST
51694	7/ 6/90	1925	2900.1	9130.1	15	9	4	9	29.9	29.5	26.9	14.7	16.6	35.7	7.310	9.5	7.5	0.9	PN
51695	7/ 6/90	2046	2859.1	9124.3	15	8	4	7	29.7	29.3	27.0	13.2	17.1	35.3	6.500	8.6	7.3	3.3	ST
51696	7/ 7/90	0018	2903.7	9150.7	15	12	6	12	29.8	29.3	27.0	16.7	27.5	35.8	4.070	9.4	4.9	0.7	ST
51697	7/ 7/90	0210	2852.4	9151.0	15	22	11	22	29.5	28.8	26.3	24.2	32.6	36.8	0.582	6.9	6.1	4.4	ST
51699	7/ 7/90	0456	2843.7	9148.4	15	30	15	30	28.7	29.1	26.2	28.3	35.4	36.2	0.701	6.5	6.2	6.1	ST
51700	7/ 7/90	0808	2830.0	9200.1	16	49	28	48	28.4	26.4	22.7	28.9	36.0	36.6	0.530	6.8	3.5	7.0	PN
51701	7/ 7/90	1012	2826.8	9142.3	15	53	26	52	28.7	28.9	21.7	24.6	35.3	36.9	0.789	6.7	6.3	4.8	ST
51703	7/ 7/90	1354	2814.2	9148.6	15	72	36	72	29.3	25.5	20.3	28.0	36.3	36.7	0.514	6.9	7.4	5.7	ST
51705	7/ 7/90	2051	2812.4	9123.8	15	82	41	81	30.2	24.6	19.9	20.1	36.6	37.1	0.899	7.7	7.5	6.0	ST
51707	7/ 7/90	2308	2825.1	9129.5	15	54	27	54	29.6	28.0	21.3	22.9	35.8	36.9	0.623	7.3	6.6	5.1	ST
51709	7/ 8/90	0437	2843.9	9116.6	15	17	8	17	29.9	29.1	26.8	18.2	28.6	35.9	2.887	8.2	3.7	1.8	ST
51710	7/ 8/90	0704	2828.5	9110.8	15	39	19	39	29.4	29.0	22.6	17.6	35.7	36.6	2.398	7.8	6.8	3.8	ST
51711	7/ 8/90	0926	2831.4	9056.1	14	30	15	29	29.3	28.0	23.1	17.0	35.6	37.0	3.364	8.2	5.8	4.8	ST
51712	7/ 8/90	1043	2835.2	9050.9	14	20	10	19	29.2	29.0	24.8	15.3	32.4	36.3	6.874	8.2	4.7	5.1	ST
51713	7/ 8/90	1353	2812.6	9027.9	14	78	39	78	30.4	24.8	20.5	27.9	36.6	36.7	0.564	6.9	7.3	5.0	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON 11																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	SUR	MID	
51714	7/ 8/90	1739	2810.3	9051.4	14	90	45	89	29.7	24.2	19.7	32.3	36.4	36.8	0.219	7.2	7.5	5.6	ST
51715	7/ 8/90	2042	2810.7	9101.5	15	93	46	92	29.4	24.4	19.2	29.0	36.7	37.0	0.349	6.4	6.7	5.0	ST
51716	7/ 8/90	2301	2827.5	9059.8	15	37	18	36	29.9	29.1	22.8	19.5	35.5	36.6	1.947	7.9	6.4	5.3	ST
51717	7/ 9/90	0113	2834.4	9043.9	14	22	11	22	29.2	28.5	26.4	17.0	33.8	36.1	29.219	8.4	5.8	5.3	ST
51718	7/ 9/90	0232	2834.5	9035.6	14	26	13	26	29.8	28.7	23.5	23.4	35.3	36.7	0.810	7.1	6.1	3.6	ST
51719	7/ 9/90	0330	2832.8	9032.3	14	31	16	31	29.7	28.2	22.5	23.4	35.7	36.4	0.623	7.1	4.9	1.7	ST
51720	7/ 9/90	0433	2825.9	9028.2	14	44	22	44	29.6	27.9	21.9	25.7	35.9	36.6	0.523	7.5	6.4	4.0	ST
51721	7/ 9/90	0825	2840.6	9013.7	14	35	17	34	29.5	27.8	22.2	23.4	35.9	36.7	1.919	8.6	8.2	5.3	ST
51722	7/ 9/90	1053	2849.7	8954.7	13	45	22	44	29.7	24.4	21.2	23.8	36.8	36.6	2.617	9.3	7.6	6.7	ST
51723	7/ 9/90	1327	2857.9	9000.4	14	26	13	26	30.6	28.4	22.6	23.1	35.7	36.2	2.575	8.7	8.1	3.0	ST
51724	7/ 9/90	1626	2859.9	9029.2	14	10	5	10	31.6	30.1	28.2	21.2	25.8	33.6	4.797	8.5	7.0	3.0	ST
51725	7/ 9/90	1736	2859.5	9031.5	14	10	5	10	30.3	30.5	30.1	24.7	24.5	25.6	2.835	8.1	6.7	4.0	ST
51726	7/ 9/90	2021	2854.5	9039.0	14	7	3	6	30.6	30.4	30.1	21.1	27.2	27.4	5.015	7.8	6.7	6.5	ST
51727	7/ 9/90	2327	2840.5	9011.6	14	39	19	38	30.0	27.9	21.8	22.7	36.0	36.7	2.093	9.4	6.0	4.5	ST
51728	7/10/90	0129	2826.6	9008.0	14	62	31	62	29.7	24.9	20.4	28.4	36.4	36.7	0.374	7.3	7.7	6.3	ST
51729	7/10/90	0350	2817.9	9007.9	14	90	45	90	29.5	23.1	18.7	31.8	36.6	36.8	0.405	6.6	6.9	5.1	ST
51730	7/10/90	1026	2904.8	8951.6	13	25	12	24	30.5	28.8	22.5	19.1	34.7	36.2	5.399	8.8	3.8	2.4	ST
51731	7/10/90	1159	2910.8	8946.5	13	9	5	9	30.3	30.3	29.0	20.7	21.0	31.3	10.825	8.5	6.7	3.9	ST
51732	7/10/90	1530	2900.6	8932.4	13	14	7	14	31.1	28.6	25.3	13.5	30.0	35.4	18.410	11.2	2.6	1.0	ST
51733	7/10/90	1635	2859.7	8935.1	13	25	13	25	30.1	27.2	23.9	24.7	35.4	36.6	1.063	7.6	6.5	4.3	ST
51734	7/10/90	1824	2904.5	8937.8	13	16	8	15	30.4	28.9	24.7	13.9	32.3	36.1	34.514	8.5	5.1	4.3	ST
51735	7/10/90	2016	2902.0	8937.0	13	21	11	20	30.3	28.6	23.9	14.1	34.8	36.7	67.118	8.2	7.2	6.9	ST
51736	7/10/90	2255	2852.1	8952.1	13	44	22	43	30.3	24.5	21.2	23.2	36.3	36.7	5.150	8.6	7.7	7.1	ST
51737	7/11/90	0101	2902.4	8950.2	13	30	15	30	29.6	23.9	22.4	16.0	35.9	36.2	25.626	8.2	0.8	0.8	ST
51738	7/11/90	0300	2906.4	9002.1	14	13	7	13	30.4	30.5	24.5	20.7	21.1	34.6	5.877	6.9	7.1	0.7	ST
51739	7/11/90	0426	2903.3	9002.7	14	16	8	16	30.2	29.7	24.4	20.6	23.9	35.3	6.417	8.0	7.8	2.4	ST
51740	7/11/90	0550	2856.1	9009.3	14	20	10	20	29.9	29.1	24.4	21.9	34.8	36.4	1.838	8.7	8.4	6.7	ST
51741	7/11/90	0944	2854.2	8935.1	13	63	31	62	30.2	22.9	19.8	18.1	36.9	36.9	15.720	6.9	5.7	4.7	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51742	7/11/90	1204	2851.5	8927.8	13	42	21	42	28.9	25.6	21.1	12.1	36.3	36.7	1.931	6.0	5.6	5.5	ST
51743	7/11/90	1642	2905.5	8851.9	11	83	42	83	29.9	21.0	18.6	19.4	36.7	36.8	34.172	12.0	8.0	6.9	ST
51744	7/11/90	1857	2909.2	8839.5	11	81	40	80	29.7	21.7	19.4	22.3	36.8	36.8	11.567	12.0	9.7	6.3	ST
51745	7/11/90	2108	2907.6	8849.0	11	83	41	82	29.5	21.2	18.5	24.0	36.7	36.9	8.270	8.3	6.8	5.9	ST
51746	7/11/90	2337	2859.8	8858.0	11	90	45	89	29.5	21.4	18.4	24.4	36.6	36.8	14.703	7.3	6.5	5.3	ST
51747	7/12/90	0143	2908.4	8855.1	11	43	22	43	29.5	23.7	22.0	21.6	36.5	36.6	13.457	7.5	5.8	4.9	ST
51748	7/12/90	0341	2916.3	8843.9	11	64	32	64	29.9	22.0	19.4	16.1	36.6	36.8	21.182	8.7	6.2	4.9	ST
51751	7/12/90	0755	2916.4	8840.5	11	64	32	63	29.8	21.6	19.9	15.3	36.5	36.8	8.431	8.0	5.1	4.9	ST
51752	7/12/90	1029	2917.9	8838.7	11	64	32	63	29.9	21.8	19.6	16.7	36.6	36.8	0.350	9.8	5.6	5.1	ST
51754	7/12/90	1323	2927.2	8846.3	11	19	10	19	30.4	24.7	24.0	25.3	35.7	36.1	2.492	7.2	3.8	3.0	ST
51755	7/12/90	1429	2929.4	8849.1	11	16	8	16	30.4	27.1	24.5	25.3	33.1	35.9	2.589	6.9	3.3	3.3	ST
51756	7/12/90	1641	2926.1	8851.5	11	18	9	18	30.4	24.1	24.0	22.1	36.1	36.0	10.514	9.0	4.5	3.5	ST
51757	7/12/90	1808	2927.5	8857.4	11	11	6	11	26.6	26.6	24.7	25.5	34.3	35.2	8.286	7.0	5.2	4.0	ST
51758	7/12/90	2009	2925.4	8857.4	11	13	6	12	29.2	26.4	24.6	24.2	35.2	35.9	4.361	6.9	5.0	4.0	ST
51759	7/12/90	2157	2917.5	8855.1	11	30	15	29	28.8	23.4	23.0	24.5	36.6	36.5	1.433	6.8	5.2	4.3	ST
51760	7/12/90	2226	2917.4	8854.5	11	32	16	31	28.8	23.3	23.0	25.0	36.6	36.5	1.620	6.8	5.3	5.5	ST
51761	7/13/90	0045	2928.4	8843.8	11	20	10	20	30.1	24.2	23.9	25.5	36.3	36.3	1.682	6.9	5.1	4.4	ST
51762	7/13/90	0215	2932.3	8834.4	11	39	20	39	29.8	23.9	22.4	27.1	36.5	36.6	0.095	6.7	5.6	4.5	ST
51763	7/13/90	0405	2936.8	8835.0	11	24	12	24	29.6	25.0	23.3	27.8	36.1	36.4	0.499	6.8	5.8	5.3	ST
51764	7/13/90	0621	2926.8	8829.5	11	54	27	54	29.3	23.4	21.3	24.5	36.7	36.8	1.670	6.5	6.0	5.5	ST
51766	7/13/90	0946	2932.5	8832.8	11	46	23	45	29.2	23.9	22.1	27.8	36.6	36.6	0.540	8.0	8.0	6.0	ST
51767	7/13/90	1211	2946.8	8826.4	11	33	16	32	29.8	26.2	22.7	26.5	36.4	36.8	1.994	8.0	7.0	5.0	ST
51768	7/13/90	1343	2943.8	8831.0	11	33	16	33	29.5	25.3	22.9	26.7	36.5	36.8	1.651	6.4	5.4	4.0	ST
51769	7/13/90	1511	2948.4	8835.4	11	24	12	24	30.2	24.9	23.9	26.5	36.2	36.2	1.744	6.9	4.8	4.1	ST
51770	7/13/90	2020	2949.0	8846.8	11	10	5	9	29.0	28.7	28.1	27.0	28.4	30.0	4.219	7.0	6.4	5.8	ST
51771	7/13/90	2159	2959.3	8844.9	11	14	7	14	29.6	29.3	24.6	23.1	28.4	36.3	2.575	7.1	3.8	4.0	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY SEAMAP ENVIRONMENTAL DATA LUMCON PELICAN																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36553	7/ 9/90	1332	2900.0	9030.0	14	8	4	8	30.3	30.2	28.7	24.4	25.8	31.6	3.829	7.2	5.7	2.1	PN
36554	7/ 9/90	1702	2900.0	9100.0	15	5	2	5	31.0	30.6	29.3	17.4	23.6	28.0	16.276	8.0	6.5	3.7	PN
36555	7/ 9/90	1933	2853.3	9038.0	14	11	3	8	31.2	30.5	27.8	15.8	26.6	32.3	9.506	8.1	7.0	2.5	ST
36556	7/ 9/90	2043	2854.0	9038.1	14	9	3	8	31.2	30.5	27.8	15.8	26.6	32.3	9.506	8.1	7.0	2.5	ST
36557	7/10/90	0026	2848.3	9006.2	14	33	16	32	30.2	27.0	22.5	20.8	35.6	36.0	2.493	7.8	4.3	2.0	ST
36558	7/10/90	0626	2845.6	9006.2	14	33	16	32	29.8	28.4	22.6	21.0	35.5	36.0	3.238	7.3	4.8	1.9	ST
36559	7/10/90	0857	2900.0	9000.0	14	23	11	23	30.2	29.6	22.8	23.9	34.5	35.3	3.192	6.6	5.5	0.1	PN
36560	7/10/90	1027	2905.0	8951.8	13	24	11	24	30.8	22.0	22.8	18.7	34.4	35.5	9.454	7.7	1.5	0.2	ST
36561	7/10/90	1200	2910.7	8946.7	13	15	7	15	30.6	29.4	24.5	20.1	30.0	35.2	11.174	7.6	3.6	0.0	ST
36562	7/10/90	1457	2900.0	8930.0	13	15	6	14	30.4	28.8	25.5	12.5	33.1	34.8	51.386	8.5	3.3	0.3	PN
36563	7/10/90	1536	2900.6	8932.9	13	15	6	14	30.4	28.8	25.5	12.5	33.1	34.8	2.177	8.5	3.3	0.3	ST
36564	7/10/90	1642	2859.3	8934.8	13	27	13	27	30.3	26.7	23.3	15.3	35.6	36.0	27.353	8.4	4.8	3.5	ST
36565	7/10/90	1825	2904.5	8937.6	13	18	8	17	30.8	29.0	24.3	13.5	32.8	35.5	30.958	8.4	3.5	0.7	ST
36566	7/10/90	2021	2901.7	8936.8	13	26	13	25	30.5	26.5	23.0	13.0	35.3	36.0	45.906	8.6	4.2	4.1	ST
36567	7/10/90	2258	2852.2	8951.7	13	45	22	43	30.6	23.4	21.4	22.3	36.0	36.2	4.396	7.1	5.7	4.3	ST
36568	7/11/90	0100	2902.7	8950.6	13	29	14	28	29.8	23.5	22.5	15.8	35.3	35.9	41.776	8.7	0.0	0.0	ST
36569	7/11/90	0302	2906.2	9002.3	14	13	6	13	30.7	30.9	24.7	20.5	21.4	34.2	10.875	6.6	4.3	0.6	ST
36570	7/11/90	0431	2903.4	9002.5	14	18	7	17	30.5	29.8	23.4	20.2	28.5	35.0	11.755	9.7	4.7	0.6	ST
36571	7/11/90	1015	2830.0	9030.0	14	38	18	38	30.1	22.7	22.2	24.5	35.6	35.9	2.148	6.2	4.9	1.7	PN
36572	7/11/90	1131	2835.4	9030.2	14	27	13	26	30.0	28.3	23.9	22.5	35.2	35.9	2.897	6.8	5.2	2.2	ST
36573	7/11/90	1334	2835.8	9038.1	14	20	9	18	30.5	28.5	25.4	18.1	35.2	35.3	4.458	7.8	4.9	1.6	ST
36574	7/11/90	1458	2831.4	9037.4	14	31	14	29	31.5	27.0	23.0	18.5	35.5	35.9	4.808	7.3	2.0	0.9	ST
36575	7/11/90	1749	2830.0	9100.0	15	32	16	32	30.7	28.3	28.3	22.9	35.3	36.0	1.786	6.6	5.2	0.8	PN
36576	7/11/90	2057	2830.4	9037.8	14	33	16	32	30.6	28.2	23.0	18.5	35.3	35.9	2.461	7.5	4.8	0.7	ST
36577	7/11/90	2307	2835.7	9030.3	14	27	13	26	30.6	28.1	23.8	18.0	35.3	36.0	1.511	7.2	4.0	1.4	ST
36578	7/12/90	0045	2835.8	9038.3	14	20	10	20	30.5	28.5	25.9	17.9	35.2	35.7	2.499	7.5	4.8	1.7	ST
36579	7/12/90	0446	2849.7	9106.7	15	7	2	6	30.4	29.8	29.0	17.1	25.0	28.9	2.922	7.0	2.9	2.1	ST
36580	7/12/90	0713	2848.9	9121.1	15	15	7	14	30.4	29.0	27.3	21.9	30.9	35.2	3.064	6.5	1.7	0.6	ST
36581	7/12/90	0940	2900.0	9130.0	15	9	4	9	30.6	30.5	27.9	19.5	23.4	31.8	3.194	7.2	6.3	0.5	PN
36582	7/12/90	1303	2849.3	9106.8	15	7	3	6	30.6	30.1	29.7	13.4	26.2	27.7		6.9	6.1	4.3	ST
36583	7/12/90	2043	2848.8	9121.0	15	15	7	13	31.0	28.2	27.4	23.1	35.2	35.2		7.0	4.1	0.8	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LOUISIANA INSHORE VESSELS

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36584	7/ 9/90	0839	2940.0	9320.0	17	9	9	30.8	29.9	21.5	27.7	1.198	6.5	1.3	ST/PN				
36585	7/ 9/90	0924	2944.0	9322.0	17	5	5	30.2	30.1	22.6	23.4	10.568	4.4	3.6	ST/PN				
36586	7/ 9/90	0955	2945.0	9322.0	17	2	2	31.1	30.3	20.7	22.0	17.562	5.6	3.6	ST/PN				
36587	7/ 9/90	1058	2924.8	8904.3	12	9	9	30.4	25.2	18.6	33.4	9.409	9.1	3.1	ST/PN				
36588	7/ 9/90	1140	2926.9	8909.6	12	5	5	31.0	30.1	18.5	26.2	11.104	7.8	6.8	ST/PN				
36589	7/ 9/90	1212	2927.4	8912.2	12	2	2	30.2	30.3	13.4	16.1	9.995	7.1	5.2	ST/PN				
36590	7/10/90	0742	2856.2	9058.0	14	9	9	30.1	30.3	14.0	14.6	10.380	7.7	4.4	ST/PN				
36591	7/10/90	0835	2901.0	9058.9	14	5	5	30.2	30.1	14.1	14.5	9.789	7.8	7.7	ST/PN				
36592	7/10/90	0839	2900.5	9035.7	14	9	9	30.6	29.2	15.9	31.2	6.207	7.1	6.8	ST/PN				
36593	7/10/90	0937	2909.5	9058.3	14	2	2	30.6	30.4	9.9	10.3	14.628	6.6	6.5	ST/PN				
36594	7/10/90	0945	2902.0	9035.7	14	5	5	31.1	31.2	20.8	23.3	5.343	7.0	6.0	ST/PN				
36595	7/10/90	1009	2904.5	9035.7	14	2	2	31.0	31.1	22.9	23.3	5.238	5.7	6.0	ST/PN				
36596	7/10/90	1032	2909.5	9209.5	16	9	9	30.3	29.0	23.4	29.8	7.397	6.8	3.3	ST/PN				
36597	7/10/90	1049	3003.1	8851.2	11	9	9	31.1	25.3	21.9	35.2	10.314	8.4	2.2	ST/PN				
36598	7/10/90	1130	2919.3	9206.8	16	5	5	31.1	30.3	19.9	22.3	26.104	7.4	6.4	ST/PN				
36599	7/10/90	1131	3003.2	8851.3	11	5	5	31.2	26.7	22.4	34.7	11.528	10.8	2.2	ST/PN				
36600	7/10/90	1156	3003.1	8851.4	11	2	2	31.3	31.1	22.6	22.7	10.379	11.1	3.0	ST/PN				
36601	7/10/90	1254	2934.0	9201.8	16	2	2	31.4	30.0	4.9	4.8	15.926	7.0	6.8	ST/PN				
36602	7/11/90	0931	2916.3	8956.0	13	2	2	31.6	31.2	13.9	14.0	27.892	8.2	7.8	ST/PN				
36603	7/11/90	1044	2915.1	8954.2	13	5	5	31.6	31.5	13.4	15.8	31.964	8.6	5.0	ST/PN				
36604	7/11/90	1116	2913.9	8952.7	13	9	9	31.4	32.0	12.9	18.5	28.339	9.5	4.2	ST/PN				

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
51772	9/ 2/90	1058	2809.7	8459.5	6	175	86	172	29.8	21.0	13.2	35.0	36.3	35.6	0.112		6.0	PN	
51774	9/ 2/90	1437	2800.6	8429.9	6	80	40	78	29.9	25.4	21.7	35.2	36.2	36.3	0.068	9.0	PN		
51776	9/ 2/90	1725	2759.9	8359.9	6	45	21	45	29.9	28.0	22.0	34.6	36.2	36.3		4.0	PN		
51778	9/ 2/90	2020	2800.0	8329.4	6	32	15	31	30.1	29.8	25.9	35.5	35.7	36.3	0.106	9.0	PN		
51780	9/ 2/90	2344	2759.8	8300.4	6	11	5	10	30.2	30.2	30.2	35.5	35.5	35.6	0.449	12.0	9.0	PN	
51782	9/ 3/90	0349	2829.7	8303.9	6	11	5	9	30.2	30.2	30.2	35.4	35.4	35.4	1.483	9.0	9.0	PN	
51784	9/ 3/90	0618	2829.8	8330.1	6	25	12	24	29.9	30.0	29.4	35.7	35.7	36.2	0.235	9.0	5.0	PN	
51786	9/ 3/90	0925	2830.1	8400.1	6	34	16	33	29.8	29.9	25.7	35.1	35.3	36.3	0.131	10.0	7.0	PN	
51788	9/ 3/90	1214	2829.9	8429.5	6	46	23	45	29.6	29.4	22.4	34.5	36.0	36.8	0.053	8.0	8.0	PN	
51790	9/ 3/90	1717	2829.7	8500.5	8	100	50	97	29.9	24.1	20.7	34.7	36.4	36.3	0.021	9.0	7.0	5.0	PN
51792	9/ 3/90	2011	2840.3	8530.4	8	178	80	163	29.8	21.3	16.3	34.3	37.3	36.1	0.062	6.0	6.0	5.0	PN
51794	9/ 3/90	2247	2900.0	8529.9	8	68	33	66	29.8	26.1	21.5	34.1	36.2	36.3		6.0	6.5	6.5	PN
51796	9/ 4/90	0123	2900.0	8459.8	8	35	17	34	29.7	26.3	22.9	34.2	36.1	36.3	0.134	6.1	6.3	6.3	PN
51798	9/ 4/90	0414	2900.0	8430.6	7	35	17	35	29.3	27.3	22.8	34.2	35.9	36.3	0.237	6.2	6.4	6.3	PN
51800	9/ 4/90	0656	2900.1	8400.5	7	29	15	29	29.8	29.8	27.9	35.0	35.0	36.2	0.262	6.2	6.3	6.0	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51802	9/ 4/90	0944	2859.9	8329.8	7	18	10	18	30.0	30.0	30.0	35.0	35.0	35.0	0.779	6.3	6.3	6.3	PN
51804	9/ 4/90	1103	2859.9	8318.9	7	12	5	11	30.1	30.0	30.0	34.6	34.6	34.6	0.516	6.6	6.3	6.3	PN
51806	9/ 4/90	1457	2930.1	8336.4	7	11	6	11	30.7	30.0	30.0	33.6	33.7	33.8	0.456	6.3	5.8	5.9	PN
51808	9/ 4/90	1709	2929.9	8359.9	7	20	9	20	30.4	29.9	29.7	35.1	35.2	35.8	0.258	6.1	6.3	5.3	PN
51810	9/ 4/90	1912	2945.6	8359.9	7	10	6	10	30.2	30.3	30.3	34.0	34.0	34.0	0.547	6.0	5.9	6.0	PN
51812	9/ 4/90	2223	2930.1	8429.4	7	24	12	24	30.0	29.8	28.1	34.8	35.0	36.0	0.118	6.1	6.2	5.5	PN
51814	9/ 5/90	0130	2927.0	8458.0	7	11	5	10	29.4	29.4	29.4	35.1	35.1	35.1	0.227	5.9	5.8	6.1	PN
51816	9/ 5/90	0459	2926.9	8527.6	8	26	13	26	29.8	29.2	24.4	32.8	34.6	36.1	0.516	6.2	6.1	5.1	PN
51818	9/ 5/90	0756	2948.1	8529.9	8	21	9	19	29.4	29.4	27.0	34.2	34.3	35.9	0.291	6.2	6.4	5.4	PN
51820	9/ 5/90	1050	3000.0	8600.3	9	33	15	33	29.9	29.2	24.7	33.2	35.4	36.2	0.231	6.3	6.2	6.1	PN
51822	9/ 5/90	1453	2930.0	8600.0	9	55	27	54	29.9	30.2	25.2	33.1	34.3	36.2	0.249	6.3	6.4	6.0	PN
51824	9/ 5/90	1655	2912.2	8600.0	99	185	92	178	29.8	20.2	15.9	33.7	36.3	36.0	0.136	6.4	6.5	4.8	PN
51826	9/ 5/90	2035	2930.4	8629.8	9	202	99	195	29.9	19.8	14.2	34.0	36.2	35.8	0.059	6.8	6.2	4.8	PN
51828	9/ 5/90	2333	2959.9	8629.9	9	53	26	52	30.0	26.1	22.5	32.7	36.1	36.3	0.374	7.2	6.3	7.0	PN
51830	9/ 6/90	0205	3020.0	8630.0	9	20	10	19	29.5	29.7	26.6	33.4	33.8	36.1	0.472	6.7	6.6	5.8	PN
51832	9/ 6/90	0454	3019.5	8659.9	10	20	10	20	29.5	29.5	29.5	34.1	34.1	34.1	0.280	6.2	6.2	5.8	PN
51834	9/ 6/90	0723	3020.1	8700.1	10	71	35	70	30.3	23.5	21.2	32.7	36.4	36.3	0.312	6.2	6.8		PN
51836	9/ 6/90	0852	2947.7	8700.2	10	193	96	178	30.2	20.3	16.2	33.2	36.2	36.1	0.278	6.4	6.5	4.3	PN
51838	9/ 6/90	1350	3014.5	8729.4	10	10	5	9	29.5	29.2	29.0	34.1	34.5	34.7	0.401	6.0	5.8	5.9	PN
51840	9/ 6/90	1530	3000.0	8730.0	10	26	13	25	30.6	25.8	25.5	30.7	36.1	36.0	0.897	7.4	7.0	6.3	PN
51842	9/ 6/90	1856	2927.1	8730.0	99	86	43	86	30.0	24.6	20.7	33.0	36.2	36.3		6.3	6.8	6.3	PN
51844	9/ 6/90	2157	2914.9	8759.8	11	257	94	188	29.8	20.1	15.7	30.1	36.3	36.0	0.519	6.7	6.1	4.4	PN
51846	9/ 7/90	0010	2930.1	8800.0	11	42	21	41	30.2	27.9	24.3	28.9	35.9	36.1	0.589	5.9	6.3	5.5	PN
51848	9/ 7/90	0325	3000.0	8800.0	11	22	10	21	30.2	30.3	26.7	29.7	30.3	35.9	0.208	5.7	5.7	4.5	PN
51850	9/ 7/90	0642	3000.0	8830.2	11	26	13	26	29.8	28.0	25.9	31.1	35.6	36.0	0.523	6.3	5.4	4.5	PN
51852	9/ 7/90	1004	2929.9	8829.9	11	51	27	51	29.7	25.3	23.2	26.5	36.1	36.2	0.685	6.4	5.7	4.7	PN
51854	9/ 7/90	1158	2912.9	8829.9	11	118	59	117	30.3	22.4	19.1	27.9	36.3	36.3	1.079	6.3	6.3	5.2	PN
51856	9/ 7/90	1450	2905.2	8859.0	11	31	14	28	30.3	25.2	23.8	24.1	35.9	36.2	31.565	9.1	3.8	3.7	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51858	9/ 7/90	1548	2900.0	8900.0	13	69	34	69	30.4	24.0	22.1	26.3	36.2	36.3	1.146	6.8	5.7	5.2	PN
51860	9/ 7/90	1947	2835.1	8929.8	13	187	93	185	30.2	19.9	14.5	27.2	36.5	35.9	0.285	6.3	5.6	5.2	PN
51862	9/ 7/90	2300	2858.8	8932.4	13	29	15	29	30.0	28.5	25.3	17.6	34.8	36.0	36.850	11.2	3.8	4.8	PN
51864	9/ 8/90	0152	2900.0	9000.0	14	23	11	22	30.2	29.8	25.3	26.1	31.9	35.7	0.926	6.7	6.0	4.2	PN
51866	9/ 8/90	0501	2830.2	8959.9	14	91	43	91	29.8	23.7	21.2	28.7	36.4	36.3	0.162	6.6	5.5	5.1	PN
51868	9/ 8/90	0623	2820.2	9000.3	14	110	55	109	29.8	25.8	20.0	36.2	36.5	36.5	0.075	6.0	6.2	5.4	PN
51870	9/ 8/90	1007	2804.7	9030.1	14	145	70	144	29.2	22.5	17.6	35.9	36.5	36.3	0.053	6.4	6.6		PN
51872	9/ 8/90	1245	2830.2	9029.9	14	38	19	37	30.3	29.2	23.3	30.1	33.6	36.1	0.193	6.3	4.6	3.9	PN
51874	9/ 8/90	1546	2858.2	9030.0	14	11	5	10	30.6	30.2	29.8	24.9	25.0	26.9	3.701	6.6	6.5	4.9	PN
51876	9/ 8/90	1855	2851.5	9059.5	15	10	4	10	31.3	31.2	29.8	27.7	27.8	28.7	1.171	5.8	6.0	6.1	PN
51878	9/ 8/90	2141	2830.1	9100.3	15	35	16	35	30.2	29.5	23.3	29.5	34.5	36.1	0.384	6.3	5.4	1.7	PN
51880	9/ 9/90	0045	2800.0	9100.0	15	149	72	148	30.1	22.7	17.8	34.8	36.3	36.4	0.162	5.7	6.4	5.3	PN
51882	9/ 9/90	0353	2800.0	9130.0	15	163	81	162	29.9	22.1	17.5	35.0	36.6	36.4	0.153	5.7	4.8	4.1	PN
51884	9/12/90	1946	2908.5	8851.9	11	73	36	71	27.5	23.8	22.1	21.9	36.1	36.3	20.185				PN
51885	9/12/90	2109	2910.4	8852.6	11	56	28	55	27.8	25.6	23.1	13.6	36.1	36.3	49.562				PN
51886	9/12/90	2218	2912.1	8853.8	11	49	22	43	27.8	25.9	24.7	25.3	35.9	36.1	2.881				PN
51887	9/12/90	2334	2913.9	8854.3	11	45	22	43	26.9	26.2	24.2	27.9	35.9	36.2	5.841				PN
51888	9/13/90	0300	2917.8	8856.0	11	29	14	28	28.7	27.5	24.7	27.9	35.7	36.1	12.938				PN
51889	9/13/90	0401	2916.4	8855.9	11	34	16	31	28.4	25.8	24.6	28.7	35.8	36.1	10.429				PN
51890	9/13/90	0621	2906.0	8851.2	11	96	45	88	28.8	23.4	20.4	24.8	36.2	36.3	3.090				PN
51892	9/13/90	1645	2856.2	8911.3	13	36	18	36	32.4	25.7	23.8	20.4	36.1	36.2	34.670				PN
51893	9/13/90	1750	2854.8	8910.9	13	66	33	65	29.5	24.4	23.4	17.6	36.1	36.2	19.473				PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51902	9/18/90	0910	2910.2	8846.7	11	73	36	72	29.5	24.3	21.1	28.8	36.2	36.2	5.794				PN
51903	9/18/90	1105	2909.5	8847.6	11	75	37	73	29.3	24.9	20.8	26.1	36.1	36.3	6.168				PN
51904	9/18/90	1309	2909.6	8848.8	11	75	37	74	29.4	24.9	20.0	24.5	36.1	36.3	5.815				PN
51905	9/18/90	1533	2910.4	8850.2	11	71	36	65	29.5	25.0	20.1	24.9	36.1	36.3	7.518				PN
51906	9/18/90	1730	2911.7	8850.7	11	67	34	65	29.5	25.6	20.4	25.9	36.1	36.3	10.051				PN
51909	9/21/90	1656	2829.6	9130.0	15	48	24	47	30.8	29.9	23.2	31.0	33.4	36.2	0.150	5.8	5.8	4.2	PN
51911	9/21/90	2049	2858.9	9131.7	15	11	6	11	30.2	30.0	29.6	28.8	29.3	31.2	0.320	5.8	6.0	5.7	PN
51913	9/22/90	0002	2900.0	9200.0	16	16	8	16	29.9	29.8	29.3	30.0	31.1	33.5	0.205	6.1	5.8	5.8	PN
51915	9/22/90	0324	2829.9	9200.0	16	50	25	49	30.0	29.2	22.7	31.2	35.9	36.1	0.150	6.1	6.1	6.1	PN
51917	9/22/90	0638	2800.3	9200.1	16	118	56	117	30.0	23.5	18.7	37.8	36.4	36.4	0.196	7.0	7.6	5.7	PN
51919	9/22/90	0958	2800.3	9230.1	16	102	51	101	29.9	26.6	19.6	34.6	36.1	36.3	0.187	6.9	7.6	5.6	PN
51921	9/22/90	1303	2830.2	9229.6	16	46	23	45	29.8	27.6	23.1				0.109	7.2	6.2	5.7	PN
51923	9/22/90	1622	2900.2	9231.3	16	27	14	26	30.3	29.6	26.6	30.0	33.7	35.5	0.347	6.3	6.1	2.2	PN
51925	9/22/90	1918	2924.9	9228.6	16	11	5	10	30.3	29.9	29.7	24.7	29.0	29.1	4.859	9.1	8.8	6.9	PN
51927	9/22/90	2300	2930.0	9300.0	17	14	6	12	30.1	29.9	29.4	22.6	29.5	30.2	5.638	6.9	6.4	4.7	PN
51929	9/23/90	0227	2900.0	9300.0	17	26	14	24	29.6	29.8	28.3	31.7	33.3	35.5	0.240	5.9	5.8	5.0	PN
51931	9/23/90	0555	2829.7	9300.2	17	46	23	45	29.6	29.6	25.0	32.7	35.1	36.2	0.125	5.8	5.9	6.2	PN
51933	9/23/90	0935	2800.7	9259.9	17	105	52	100	29.6	25.3	19.9	34.7	36.4	36.4	0.100	7.2	7.8	6.9	PN
51935	9/23/90	1310	2800.0	9330.0	17	80	40	78	29.3	29.5	21.8	35.2	36.3	36.3	0.132	6.0	6.2	6.9	PN
51937	9/23/90	2025	2858.9	9329.9	17	22	11	21	29.5	29.5	29.9	32.2	32.3	32.8	0.324	6.2	6.4	6.3	PN
51939	9/23/90	2357	2930.1	9330.0	17	10	5	10	28.8	28.8	28.8	28.3	28.3	28.3	0.862	6.8	6.5	6.6	PN
51941	9/24/90	0305	2930.0	9400.0	18	11	6	10	28.7	28.8	28.9	30.6	30.6	30.8	1.771	5.6	5.3	5.1	PN
51943	9/24/90	0602	2900.0	9400.1	18	21	10	20	29.1	29.1	29.1	33.3	33.3	33.3	0.268	6.7	6.2	6.7	PN
51945	9/24/90	0908	2859.8	9430.1	18	19	9	18	28.9	28.9	28.9	33.0	33.0	33.0	0.768	6.4	6.4	6.4	PN
51947	9/24/90	1215	2925.4	9430.0	18	9	5	9	28.1	28.1	28.1	27.3	27.4	27.4	2.293	6.8	6.5	6.5	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
51949	9/24/90	1548	2900.1	9459.8	19	18	8	16	28.7	28.7	28.6	30.5	31.3	31.6	0.810	6.3	6.3	6.1	PN
51951	9/24/90	1851	2830.1	9500.0	19	34	17	33	28.7	28.9	27.8	35.4	35.6	36.0	0.193	5.8	5.8	5.9	PN
51953	9/24/90	2140	2830.0	9529.2	19	26	13	26	28.8	28.9	28.9	34.3	34.6	34.8	3.029	6.1	6.1	5.6	PN
51955	9/25/90	0044	2830.0	9600.0	19	16	8	14	28.4	28.6	28.7	33.5	33.6	33.8	1.451	6.1	6.1	6.1	PN
51957	9/25/90	0300	2820.5	9619.8	19	16	8	15	28.4	28.4	28.4	34.5	34.6	34.6	1.520	5.9	6.0	6.1	PN
51959	9/25/90	0606	2800.1	9600.2	19	47	23	46	28.9	29.0	27.7	35.2	35.5	36.2	1.028	7.4	7.0	6.0	PN
51961	9/25/90	0855	2800.0	9630.1	19	27	13	27	28.9	28.9	28.9	35.2	35.3	35.2	2.399	6.3	6.5	6.5	PN
51963	9/25/90	1153	2730.0	9630.0	20	73	37	72	28.8	28.4	21.8	35.6	36.1	36.3	0.187	7.6	7.5	5.9	PN
51965	9/25/90	1505	2730.0	9700.0	20	27	13	26	29.3	28.8	28.9	35.7	35.7	35.8	2.622	7.4	6.3	6.5	PN
51967	9/25/90	1812	2700.1	9712.2	20	27	14	26	29.3	28.6	28.6	36.3	36.3	36.3	6.951	8.0	6.3	6.4	PN
51969	9/25/90	2138	2629.9	9659.9	21	35	17	35	28.3	28.1	28.1	36.1	36.2	36.2	0.179	6.5	6.4	6.3	PN
51971	9/26/90	0035	2559.8	9659.9	21	27	13	26	28.2	28.2	27.9	35.9	36.0	36.2	0.093	6.9	7.3	6.6	PN
51973	9/26/90	0337	2600.0	9630.0	21	63	32	62	28.6	28.8	24.2	35.6	36.0	36.3	0.107	7.2	7.5	7.4	PN
51975	9/26/90	0634	2629.7	9629.9	21	82	41	81	28.9	29.1	21.5	35.4	36.1	36.3	0.080	7.5	6.4	6.2	PN
51977	9/26/90	1014	2659.9	9640.1	20	87	43	86	28.3	25.1	20.8	35.7	36.1	36.3	0.032	6.4	7.2	5.8	PN
51979	9/26/90	1447	2735.0	9600.0	20	142	71	140	29.2	23.1	18.2	35.3	36.3	36.4	0.103	8.0	7.5	6.2	PN
51981	9/26/90	1804	2744.9	9529.9	20	106	53	105	29.8	27.2	19.9	35.3	36.3	36.2	0.087	6.7	8.0	6.7	PN
51983	9/26/90	2010	2759.9	9529.9	19	55	27	54	28.9	28.4	22.9	35.3	36.1	36.3	0.075	7.0	8.0	6.0	PN
51985	9/26/90	2300	2800.1	9500.2	19	81	40	80	29.1	29.6	20.6	35.1	36.4	36.4	0.027	6.2	6.1	5.8	PN
51987	9/27/90	0135	2800.0	9429.9	18	73	37	72	28.8	28.9	21.5	35.4	35.9	36.3	0.053	5.8	5.9	5.3	PN
51989	9/27/90	0443	2830.1	9430.3	18	37	18	36	28.7	28.7	27.2	35.3	35.6	36.1	0.095	6.3	6.3	6.0	PN
51991	9/27/90	0744	2829.9	9359.8	18	42	11	22	28.7	29.3	24.8	34.0	35.4		0.140	6.3	6.2		PN
51993	9/27/90	1043	2759.9	9400.0	18	82	41	82	28.7	26.7	20.2	35.9	36.2	36.4	0.049	6.2	6.6	5.4	PN
51995	9/28/90	0132	2830.0	9330.0	17	42	22	42	28.5	28.9	24.2				0.104	6.2	6.2	5.9	PN
51997	9/29/90	0520	2922.5	8856.8	11	18	8	15	27.5	27.9	28.3	29.1	29.7	31.3	1.969	6.2	6.0	4.0	PN
51998	9/29/90	0653	2922.9	8844.3	11	47	23	46	27.7	28.5	22.7	29.8	35.2	36.3	1.184	6.4	6.3	4.7	PN
51999	9/29/90	0828	2929.0	8844.1	11	19	9	17	27.5	27.6	27.6	29.6	30.1	34.6	1.212	6.2	6.0	2.3	PN
52000	9/29/90	0949	2934.8	8832.0	11	42	21	41	27.5	28.2	23.0	31.2	36.1	36.3	0.530	6.1	3.5	3.7	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
 SEAMAP ENVIRONMENTAL DATA
 OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
52001	9/29/90	1048	2941.0	8832.0	11	29	15	29	27.6	28.1	23.1	30.5	34.5	36.3	0.685	5.9	5.3	3.4	PN
52002	9/29/90	1138	2946.9	8831.9	11	29	13	24	27.5	27.6	24.1	31.3	31.9	36.2	0.488	6.2	6.1	2.7	PN
52003	9/29/90	1256	2946.8	8820.3	11	37	18	36	27.6	29.2	23.8	31.7	34.0	36.2	0.318	6.8	6.8	4.5	PN
52004	9/29/90	1417	2946.8	8808.5	11	37	16	36	27.3	28.5	24.6	30.9	34.3	36.2	0.610	6.7	4.9	4.4	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
 SEAMAP ENVIRONMENTAL DATA
 TOMMY MUNRO

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
17001	9/ 7/90	1558	2959.0	8720.1	10	27	14	26	30.5	26.9	27.4	31.3	36.0	35.0	0.280				PN	
17002	9/ 7/90	1656	3005.0	8720.0	10	25	14	24	29.8	26.1	25.1	31.3			0.985				PN	
17003	9/ 7/90	1751	3011.0	8720.0	10	22	11	21	29.0	26.5	28.7	33.8			0.308				PN	
17004	9/ 7/90	1929	3010.9	8732.0	10	16	8	15	28.5	28.9	28.1	33.9			0.531				PN	
17005	9/ 7/90	2022	3004.8	8732.0	10	30			29.2			31.7			0.673				PN	
17006	9/ 7/90	2159	2958.9	8732.0	10	31			29.1			31.8			0.449				PN	
17007	9/ 7/90	2307	2953.0	8732.1	10	39	19	38	29.1	28.7	24.3	32.4			0.160				PN	
17008	9/ 8/90	0100	2947.0	8744.0	10	35	17	34	29.1	29.2	24.6	31.4			0.344				PN	
17009	9/ 8/90	0148	2953.0	8744.0	10	32			29.3			31.5			0.294				PN	
17010	9/ 8/90	0237	2958.9	8744.0	10	30			29.5			30.0			0.443				PN	
17011	9/ 8/90	0329	3005.2	8744.0	10	17			29.0			32.8			0.673				PN	
17012	9/ 8/90	0420	3010.8	8744.0	10	12	7	11	28.9	29.2	27.9	33.8			1.009				PN	
17013	9/ 8/90	0554	3010.2	8756.0	10	13	6	12	28.5	27.4	28.5	33.0			1.626				PN	
17014	9/ 8/90	0643	3004.4	8756.0	10	14			28.5			31.6			1.607				PN	
17015	9/ 8/90	0736	2958.6	8755.9	10	30	15	29	29.6	26.2	24.8	29.2			0.561				PN	
17016	9/ 8/90	0821	2958.8	8756.0	10	28			29.3			27.8			0.598				PN	
17017	9/ 8/90	0916	2946.9	8756.1	10	34	16	33	29.3	28.9	25.8	27.9			0.398				PN	
17018	9/ 8/90	1037	2946.9	8807.9	11	36			30.8			27.3			0.454				PN	
17019	9/ 8/90	1134	2952.8	8808.0	11	34			31.0			27.4			0.635				PN	
17020	9/ 8/90	1231	2958.8	8808.0	11	28	14	27	30.7	27.0	26.3	29.3			0.360				PN	
17021	9/ 8/90	1325	3005.0	8808.1	11	20		19	31.4		26.1	29.1			2.187				PN	
17022	9/ 8/90	1427	3010.8	8808.0	11	13	6	12	30.8	29.2	27.3	32.4			0.897				PN	
17023	9/ 8/90	1604	3010.8	8819.5	11	13	6	12	30.2	29.0	27.0	31.7			1.290				PN	
17024	9/ 8/90	1701	3004.9	8820.1	11	19			30.4			31.8			0.561				PN	
17025	9/ 8/90	1808	2958.7	8819.9	11	30	14	29	29.6	28.3	27.0	27.8			0.505				PN	
17026	9/ 8/90	1905	2952.9	8820.0	11	34			29.5			28.1			0.336				PN	
17027	9/ 8/90	2014	2946.9	8820.0	11	37	17	36	29.7	25.7	23.3	28.7			0.409				PN	
17030	9/ 8/90	2150	2946.9	8831.9	11	29	13	28	28.4	28.5	26.8	31.8			0.416				PN	

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
17031	9/ 8/90	2240	2952.9	8832.0	11	27				29.1			29.4			0.294			PN	
17032	9/ 8/90	2326	2958.9	8832.1	11	26				29.4			29.4			0.300			PN	
17033	9/ 9/90	0015	3004.8	8832.0	11	18				29.5			8.9			0.312			PN	
17034	9/ 9/90	0131	3010.9	8832.1	11	12	6	11	28.9	28.9	27.2	32.6			0.991			PN		
17035	9/ 9/90	0252	3011.0	8843.9	11	13	6	12	28.6	29.1	27.3	31.7			0.935			PN		
17036	9/ 9/90	0338	3005.0	8844.0	11	14			28.9			31.7			0.916			PN		
17037	9/ 9/90	0429	2959.0	8844.0	11	14	7	13	29.2			32.4			1.629			PN		
17038	9/ 9/90	0533	2952.9	8843.9	11	13	5	12	28.9	29.4	26.9	31.4			0.644			PN		
17039	9/ 9/90	0626	2946.8	8844.0	11	13	5	12	29.3	29.1	28.3	28.6			0.617			PN		
17040	9/ 9/90	0716	2940.9	8844.1	11	15			29.1			27.7			1.031			PN		
17041	9/ 9/90	0809	2934.9	8844.0	11	14	6	13	28.8	28.2	26.3	26.9			1.402			PN		
17045	9/ 9/90	1024	2928.9	8856.0	11	12	5	11	30.6	27.6	27.5	20.7			13.524			PN		
17046	9/ 9/90	0932	2935.0	8856.0	11	10	4	8	29.7	29.1	28.3	27.6			1.720			PN		
17047	9/ 9/90	1239	2930.0	8905.9	12	7	3	6	30.7	29.8	29.8	20.5			20.666			PN		
17050	9/ 9/90	1312	2930.9	8915.2	12	4		3	30.8		24.0	18.5			27.374			PN		
17051	9/ 9/90	1456	2934.1	8911.5	12	5		4	31.4		29.8	18.4			38.377			PN		
17052	9/ 9/90	1437	2937.5	8907.9	12	5						19.4			14.124			PN		
17053	9/ 9/90	1519	2941.8	8905.7	12	4		3	30.7		30.0	24.0			5.046			PN		
17054	9/ 9/90	1557	2946.2	8903.4	12	4			31.2			26.8			3.761			PN		
17055	9/ 9/90	1636	2950.4	8901.5	12	5		4	31.0		30.1	29.5			2.803			PN		
17056	9/ 9/90	1725	2954.5	8859.0	11	5			30.0			28.5			3.271			PN		
17057	9/ 9/90	1809	2959.4	8858.9	11	5		4	29.6		29.4	27.3			3.289			PN		
17058	9/ 9/90	1853	3003.9	8858.5	11	8			29.7			29.0			2.355			PN		
17059	9/ 9/90	1934	3008.1	8900.0	12	8			29.2	29.3	28.3	29.4			2.392			PN		
17060	9/ 9/90	2039	3009.5	8851.4	11	11		5	29.5	29.0	27.6	29.5			2.504			PN		
17061	9/14/90	0957	2958.9	8719.9	10	28	13	27	28.2	27.5	25.2	30.4			0.320			PN		
17062	9/14/90	1050	3004.9	8720.0	10	29			28.8			31.2			0.272			PN		
17063	9/14/90	1136	3010.8	8720.1	10	21			29.5			31.5			0.280			PN		

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX	SUR	
17064	9/14/90	1246	3010.9	8732.0	10	16				29.3			30.8			0.395				PN
17065	9/14/90	1333	3005.0	8732.1	10	29				29.1			29.5			0.451				PN
17066	9/14/90	1425	2959.0	8732.0	10	31				29.2			28.2			0.433				PN
17067	9/14/90	1516	2953.0	8732.1	10	38				29.0			27.8			0.393				PN
17068	9/14/90	1649	2946.9	8744.0	10	34				29.2			27.2			0.435				PN
17069	9/14/90	1743	2953.1	8744.0	10	31				28.6			27.7			0.339				PN
17070	9/14/90	1833	2959.0	8744.2	10	31				28.6			28.4			0.312				PN
17071	9/14/90	1924	3004.9	8744.0	10	19				28.9			31.3			0.411				PN
17072	9/14/90	2012	3010.9	8744.1	10	12				28.5			32.1			0.331				PN
17073	9/14/90	2133	3010.4	8756.2	10	14	6	13		28.4	28.7	28.6	30.2			0.243				PN
17074	9/14/90	2216	3004.8	8756.2	10	15				28.0			28.9			0.451				PN
17075	9/14/90	1109	2959.0	8756.0	10	29	14	28		28.6	28.2	25.5	28.1			0.470				PN
17076	9/15/90	0000	2953.0	8756.0	10	28				28.6			27.7			0.355				PN
17077	9/15/90	0050	2946.9	8756.0	10	36				28.7			27.1			0.598				PN
17078	9/15/90	0208	2946.9	8808.1	11	36				28.7			28.4			0.334				PN
17079	9/15/90	0257	2952.8	8808.0	11	34				28.7			29.0			0.286				PN
17080	9/15/90	0352	2958.8	8808.0	11	28	14	27		28.2	27.7	25.3	27.4			0.470				PN
17081	9/15/90	0444	3004.8	8808.1	11	20	10	19		28.5	28.7	27.0	28.0			0.587				PN
17082	9/15/90	0557	3010.8	8807.9	11	14	6	13		28.2	28.5	28.0	29.9			1.084				PN
17083	9/15/90	0719	3010.7	8820.1	11	13	6	12		28.1	28.6	28.0	30.0			1.346				PN
17084	9/15/90	0829	3004.7	8820.2	11	19				28.2			30.7			1.271				PN
17085	9/15/90	0921	2959.0	8820.0	11	30	15	29		28.5	25.4	28.4	27.3			0.881				PN
17086	9/15/90	1015	2952.8	8820.1	11	34				29.1			27.2			0.764				PN
17087	9/15/90	1207	2946.8	8820.0	11	37				29.1			27.8			0.523				PN
17088	9/15/90	1240	2940.6	8832.0	11	31				29.4			27.3			1.084				PN
17089	9/15/90	1333	2946.8	8832.0	11	29				29.5			28.6			1.215				PN
17090	9/15/90	1422	2952.8	8832.0	11	27				29.1			29.5			1.308				PN
17091	9/15/90	1514	2958.8	8832.0	11	25				29.2			30.8			0.953				PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
17092	9/15/90	1604	3004.8	8832.0	11	18				28.9			27.3			1.215				PN
17093	9/15/90	1650	3010.8	8832.1	11	12				29.3			30.6			0.841				PN
17094	9/15/90	1809	3010.9	8844.1	11	12	6	11	29.4	28.8	28.7	31.5			1.533				PN	
17095	9/15/90	1853	3004.8	8844.2	11	14			29.2			30.9			1.757				PN	
17096	9/15/90	1941	2958.8	8844.1	11	14	6	13	29.3	28.5	28.5	29.6			1.458				PN	
17097	9/15/90	2028	2952.8	8844.0	11	12			29.2			17.6			1.906				PN	
17098	9/15/90	2118	2946.9	8843.8	11	13	6	12	28.9	28.8	28.4	29.3			1.869				PN	
17099	9/15/90	2204	2940.9	8844.1	11	14			29.2			28.1			0.991				PN	
17100	9/15/90	2256	2935.0	8844.7	11	15	6	13	28.8	29.3	27.1	25.2			3.855				PN	
17101	9/16/90	0114	2929.0	8856.0	11	12		11	29.0		28.7	26.8			3.252				PN	
17102	9/16/90	0020	2935.0	8856.0	11	10		9	28.9		29.4	26.4			3.481				PN	
17103	9/16/90	0325	2930.0	8906.0	12	7	3	6	29.2	29.2	29.4	27.2	27.3	27.3	2.075	5.8	5.8	5.9	PN	
17104	9/16/90	0435	2930.8	8915.2	12	5		4	28.6		28.7	23.0			15.652				PN	
17105	9/16/90	0536	2934.3	8911.5	12	6		4	29.1		29.0	25.2			10.971				PN	
17106	9/16/90	0629	2936.9	8907.5	12	5			28.6			26.4			9.420				PN	
17107	9/16/90	0708	2941.9	8905.5	12	4		3	28.9		28.7	26.7			4.205				PN	
17108	9/16/90	0742	2946.2	8903.7	12	5			28.7			26.1			4.560				PN	
17109	9/16/90	0819	2950.6	8901.5	12	5		4	29.3		29.1	25.9			3.196				PN	
17110	9/16/90	0853	2954.7	8859.0	11	6			28.7			26.5			3.383				PN	
17111	9/16/90	1056	2959.4	8858.9	11	6		5	29.2		28.9	27.0			5.476	6.2			PN	
17112	9/16/90	1048	3003.8	8858.5	11	8			31.1			28.6			1.738				PN	
17113	9/16/90	1120	3008.0	8859.0	11	9		8	30.8		29.1	29.6			1.925				PN	
17114	9/16/90	1116	3009.5	8851.5	11	11	5	10	30.5	28.8	28.4	30.7			1.757				PN	

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ALABAMA VESSELS

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
23011	9/19/90	1711	3007.9	8801.4	11	16	8	16	29.0	29.5	29.5	28.0	30.0	32.0		6.0	7.2	7.0	PN	
23012	9/19/90	1642	3007.5	8804.1	11	15	8	15	29.5	29.5	29.0	28.0	30.0	32.0		9.4	6.8	6.8	PN	
23013	9/19/90	1614	3008.8	8806.1	11	11	5	11	29.0	28.0	29.0	28.0	28.0	30.0		5.4	7.8	6.4	PN	
23021	9/19/90	1742	3010.7	8800.8	11	7	4	7	29.0		29.5	32.0		32.0		4.4		7.6	PN	
23022	9/19/90	1849	3012.0	8802.5	11	15	8	15	29.0	28.0	28.5	28.0	30.0	32.0		4.0	3.8	5.0	PN	
23023	9/19/90	1450	3013.5	8804.9	11	3	2	3	28.0		29.0	28.0		28.0		7.4		7.0	PN	
23024	9/19/90	1520	3014.1	8807.8	11	3	2	3	29.0		29.5	30.0		30.0		7.2		8.0	PN	
23031	9/19/90	1927	3015.5	8801.1	11	4	2	4	28.5		29.0	26.0		28.0		5.4		4.8	PN	
23032	9/19/90	1949	3016.1	8802.2	11	15	8	15	28.5		28.5	26.0		28.0		5.2		4.0	PN	
23033	9/19/90	2018	3016.7	8804.9	11	3	2	3	28.0		28.5	22.0		26.0		4.8		5.4	PN	

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LUMCON PELICAN

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR		MID	MAX		
36605	10/	1/90	1515	2900.0 9100.0	15	6	3	6	28.3 27.7 27.7	27.2 27.4 27.3	3.160	6.9 6.6 6.4	PN							
36607	10/	1/90	1925	2853.9 9128.3	15	15	5	13	28.4 28.3 28.2	27.1 28.3 28.5		7.1 6.7 5.0	ST							
36608	10/	1/90	2211	2844.8 9121.0	15	18	9	17	28.3 28.1 28.4	28.4 29.5 32.6	2.281	8.4 6.9 1.5	ST							
36609	10/	2/90	0107	2850.4 9105.9	15	7	3	6	28.2 28.2 28.3	27.8 27.8 28.1	1.061	7.4 7.2 7.8	ST							
36610	10/	2/90	0321	2852.0 9054.1	14	9	4	7	28.0 28.0 28.1	27.0 27.0 27.6	1.177	6.5 6.5 6.0	ST							
36612	10/	2/90	1023	2844.7 9120.9	15	18	9	17	28.1 28.2 28.8	29.0 29.6 32.4	2.621	8.3 6.2 0.9	ST							
36613	10/	2/90	1301	2855.3 9128.5	15	15	7	13	28.3 28.2 28.7	28.1 28.2 22.9	0.891	7.1 6.6 3.2	ST							
36614	10/	2/90	1642	2849.8 9106.0	15	7	3	6	28.3 28.3 28.3	27.5 27.5 27.5	1.831	7.7 7.8 7.9	ST							
36615	10/	2/90	1858	2851.1 9054.2	14	10	6	10	28.2 28.2 28.2	28.1 28.1 29.1	3.830	8.6 8.6 6.8	ST							
36616	10/	2/90	2333	2855.3 9026.9	14	16	7	14	28.3 28.3 28.3	33.7 33.8 33.8		6.6 6.1 6.2	ST							
36617	10/	3/90	0246	2901.8 9012.0	14	13	5	11	28.1 28.1 28.1	30.9 30.9 30.9		8.4 7.2 7.1	ST							
36618	10/	3/90	0459	2900.2 8958.8	13	26	12	25	27.9 27.9 28.4	29.2 29.4 32.7	5.432	6.7 6.3 4.9	ST							
36619	10/	3/90	0731	2855.9 9012.6	14	20	9	20	28.2 28.2 28.5	33.4 33.4 33.8		6.6 6.5 5.1	ST							
36620	10/	3/90	1002	2855.0 9027.0	14	16	7	15	28.1 28.2 28.3	32.8 33.0 34.0	2.246	7.2 7.2 6.8	ST							
36622	10/	3/90	1446	2901.6 9011.9	14	13	5	11	28.2 28.1 28.1	30.8 30.8 30.9	2.585	6.7 6.6 6.5	ST							
36623	10/	3/90	1648	2900.3 8958.8	13	26	11	24	28.0 28.1 28.6	28.8 30.4 34.3	5.177	6.7 5.6 4.1	ST							
36625	10/	3/90	1943	2855.7 9012.6	14	20	8	18	28.2 28.2 28.2	31.7 32.2 32.9	1.666	6.5 6.6 5.9	ST							
36626	10/	4/90	0004	2901.2 8937.8	13	33	16	32	27.6 29.2 27.6	26.4 35.3 36.0	6.329	8.2 5.2 3.2	ST							
36627	10/	4/90	0218	2912.1 8939.1	13	11	4	9	27.8 27.8 27.8	26.2 26.2 26.6	51.137	8.5 8.2 5.6	ST							
36628	10/	4/90	0707	2912.0 8939.1	13	11	4	9	27.7 27.7 27.8	25.9 25.9 26.5	72.694	7.4 7.4 7.0	ST							
36629	10/	4/90	0902	2900.8 8938.1	13	37	16	33	27.6 29.3 27.3	26.5 35.3 36.0	40.310	8.3 5.1 3.2	ST							
36631	10/	4/90	1551	2839.4 9019.7	14	27	11	24	29.2 28.5 28.5	34.5 34.9 35.2	3.826	6.5 6.5 6.3	ST							
36632	10/	4/90	1631	2836.9 9020.1	14	37	19	36	28.5 28.6 26.1	34.5 35.7 36.1	0.490	6.7 6.0 4.7	ST							
36634	10/	4/90	2041	2839.3 9019.7	14	27	11	24	28.5 28.6 28.6	33.5 34.8 35.2	0.704	6.5 6.4 5.9	ST							
36635	10/	4/90	2129	2836.6 9020.2	14	35	18	33	28.8 28.6 26.8	33.2 35.2 36.0	1.490	7.0 5.5 4.3	ST							

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
HERNAN CORTEZ II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
00022	10/13/90	1245	2730.3	8252.4	5	15	5	10	28.9	28.6	28.2	36.2	36.7	36.2	2.399	5.7	6.0	6.0	PN
00023	10/13/90	1805	2729.6	8329.5	5	38	16	32	28.0	27.8	25.5	35.8	35.6	36.5	0.650	6.2	6.3	6.1	PN
00024	10/13/90	2154	2729.6	8359.5	5	58	26	52	27.3	27.5	23.4	35.7	36.4	36.5	0.000	6.1	5.7	5.7	PN
00025	10/14/90	0140	2729.6	8429.5	5	127	61	122	27.2	22.9	19.6	36.2	36.6	36.6	0.368	5.7	6.3	4.4	PN
00026	10/14/90	0546	2700.1	8430.0	5	171	83	166	27.6	22.1	18.1	36.6	36.7	36.5	0.293	6.3	5.9	4.7	PN
00027	10/14/90	0925	2700.0	8400.1	5	79	37	74	28.2	26.8	23.0	36.5	36.6	37.2	0.203	6.1	6.8	5.8	PN
00028	10/14/90	1314	2659.6	8330.0	99	49	22	44	28.4	27.7	25.1	35.9	36.3	36.6	0.438	6.2	6.4	6.6	PN
00029	10/14/90	1649	2700.0	8300.1	5	31	13	26	28.9	28.3	25.7	36.0	35.9	36.4	0.402	6.3	6.4	6.1	PN
00030	10/14/90	2022	2659.6	8230.1	4	9	2	4	27.3	27.4	27.4	36.3	37.0	36.4	2.885	6.7	6.8	6.3	PN
00031	10/15/90	0003	2630.1	8230.0	4	18	6	12	27.8	27.7	27.5	36.2	36.3	36.2	9.036	8.5	7.2	6.5	PN
00032	10/15/90	0328	2630.0	8259.6	4	37	16	32	27.4	27.3	25.0	36.1	36.1	36.6	0.722	5.9	6.3	6.1	PN
00033	10/15/90	0701	2629.6	8329.5	4	55	25	50	27.6	27.6	23.3	36.2	36.2	36.7	0.284	6.0	6.3	5.2	PN
00034	10/15/90	1042	2630.0	8359.6	4	119	57	114	28.5	25.8	21.8	36.2	36.5	36.5	0.435	6.1	6.5	4.7	PN
00035	10/15/90	1400	2631.4	8429.7	99	194	94	188	29.0	24.5	19.8	36.5	36.7	36.2	0.290	6.1	5.4	4.8	PN
00036	10/15/90	1856	2600.1	8429.6	99	211	100	200	27.8	22.4	19.2	36.1	37.0	35.9	0.268	6.3	5.0	4.8	PN
00037	10/15/90	2313	2600.0	8400.1	99	132	63	126	27.9	24.2	20.3	36.7	37.1	36.6	0.276	6.2	6.2	4.8	PN
00038	10/16/90	0300	2559.6	8330.0	3	61	28	56	27.9	27.8	23.7	36.3	36.3	36.8	0.226	6.4	6.5	5.3	PN
00039	10/16/90	0642	2600.0	8300.1	4	41	18	36	27.5	27.7	24.6	36.6	36.3	36.8	0.446	6.3	6.4	6.1	PN
00040	10/16/90	1020	2600.0	8230.0	4	27	11	22	27.6	27.7	26.4	36.5	36.4	36.4	1.381	6.6	6.4	5.9	PN
00041	10/16/90	1405	2559.6	8200.1	3	11	3	6	29.9	29.5	29.5	34.7	34.6	35.9	2.294	6.5	6.6	6.7	PN
00042	10/16/90	1832	2530.0	8159.6	3	16	5	10	28.7	28.6	28.4	36.5	36.6	36.6	1.624	6.6	6.6	6.5	PN
00043	10/16/90	2215	2530.0	8229.5	3	31	13	26	27.8	27.8	25.1	36.4	36.3	36.6	0.668	5.9	6.4	5.9	PN
00044	10/17/90	0140	2530.0	8259.6	3	49	22	44	27.5	27.6	24.4	36.2	36.1	36.9	0.291	6.5	6.4	5.7	PN
00045	10/17/90	0510	2529.6	8329.5	3	66	30	60	27.7	26.9	24.0	36.7	36.8	37.3	0.192	6.3	6.5	6.4	PN
00046	10/17/90	0923	2500.1	8330.1	3	68	31	62	28.5	27.7	25.9	36.2	36.5	37.1	0.371	6.2	6.4	5.9	PN
00047	10/17/90	1321	2459.6	8300.1	99	48	21	42	28.9	28.9	25.0	36.2	37.8	36.7	0.199	6.2	6.2	5.4	PN
00048	10/17/90	1724	2459.6	8230.1	99	31	13	26	28.8	28.2	25.4	37.5	36.8	36.7	0.497	6.3	6.3	6.1	PN
00049	10/17/90	2111	2459.6	8200.1	99	20	7	14	27.7	27.7	27.7	36.4	36.7	36.4	1.832	6.3	6.4	6.3	PN
00050	10/18/90	0055	2500.0	8130.1	3	8	2	4	27.9	27.9	27.9	37.3	37.3	36.6	5.873	6.4	6.4	6.4	PN
00051	10/18/90	0501	2529.9	8145.0	3	8	2	4	27.9	27.8	27.9	37.0	38.2	36.5	5.599	6.3	6.6	6.5	PN

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE	TIME	POSITION		STAT	DEPTH	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			ZONE	(M)	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	
52045	10/16/90	0843	2629.9	9630.1	21	83	41	82	27.8	27.8	18.8	36.3	36.3	36.5	4.112	6.9	7.0	5.5	PN
52046	10/16/90	1054	2623.1	9635.2	21	53	26	52	27.9	27.9	27.6	36.2	36.2	36.3	2.710	6.2	6.2	5.9	ST
52047	10/16/90	1436	2602.9	9623.4	99	89	46	89	28.3	28.2	20.3	36.1	36.1	36.0	0.056	6.5	6.4	5.5	ST
52048	10/16/90	2000	2602.1	9653.1	21	33	16	32	27.4	27.3	26.9	36.3	36.3	36.4	0.392	6.4	6.2	6.1	ST/PN
52049	10/16/90	2217	2616.3	9642.7	21	44	22	44	27.9	27.9	27.9	36.3	36.3	36.3	3.364	6.1		5.9	ST
52051	10/17/90	0220	2616.1	9655.6	21	37	19	37	27.6	27.6	27.2	36.3	36.3	36.4	0.474	6.3	6.4	6.3	ST
52052	10/17/90	0406	2621.2	9701.9	21	28	14	27	26.7	26.8	26.7	36.2	36.3	36.4	0.810	7.0	6.8	6.0	ST
52053	10/17/90	0542	2620.2	9711.5	21	8	4	8	26.6	26.6	26.6	36.0	36.0	36.0	3.905	6.4	6.2	6.2	ST
52054	10/17/90	0629	2616.2	9708.0	21	16	8	16	26.9	26.9	26.9	36.5	36.5	36.5		6.6	6.6	6.5	ST
52055	10/17/90	0807	2615.7	9709.8	21	10	5	9	26.9	26.9	26.9	36.4	36.4	36.4	0.626	6.0	6.2	6.1	ST
52056	10/17/90	1049	2625.9	9713.0	21	11	5	10	26.8	26.8	26.8	35.9	35.9	35.9	33.829	6.6	6.5	6.5	ST
52057	10/17/90	1255	2643.0	9713.4	21	18	8	16	27.2	27.2	27.2	35.6	35.6	35.6	2.517	6.9	6.8	6.8	ST
52058	10/17/90	1331	2644.0	9711.2	21	26	12	25	27.3	27.3	27.3	35.7	35.7	35.8	2.635	6.8	6.7	6.3	ST
52059	10/17/90	1626	2638.1	9651.5	21	45	23	45	27.9	27.8	26.7	36.2	36.3	35.7	0.338	6.5	6.5	6.0	ST
52060	10/17/90	2016	2630.0	9700.8	21	33	16	32	27.3	27.3	26.9	36.2	36.2	36.3	0.654	7.1	7.0		ST/PN
52061	10/17/90	2143	2626.3	9705.6	21	19	9	18	26.9	26.9	26.9	36.2	36.2	36.2	11.899	7.0	7.1	7.1	ST
52062	10/17/90	2258	2629.4	9711.8	21	15	7	14	26.9	26.9	26.9	36.0	36.0	36.1	26.820	7.2	7.1	7.1	ST
52063	10/18/90	0033	2637.9	9709.8	21	21	10	20	27.3	27.3	27.3	35.9	35.9	35.9	10.392	7.3	7.1	7.1	ST
52064	10/18/90	0151	2640.9	9707.6	21	28	14	27	27.3	27.3	27.2	35.8	35.9	35.9	1.757	8.0	8.0	7.0	ST
52065	10/18/90	0431	2648.4	9711.8	21	24	12	23	27.5	27.5	27.5	35.8	35.8	35.8	2.249	7.0	7.0	6.3	ST
52066	10/18/90	0806	2651.0	9720.1	21	11	5	10	27.1	27.1	27.1	35.2	35.2	35.2	1.919	6.5	6.4	6.4	ST
52067	10/18/90	2059	2701.9	9721.6	20	10	5	9	26.7	26.7	26.8	34.9	34.9	35.0	39.997	7.9	7.9	7.8	ST
52068	10/19/90	0030	2647.9	9656.8	21	43	21	42	27.6	27.6	27.6	35.9	35.9	35.9	4.112	7.1	6.9	6.9	ST
52070	10/19/90	0411	2648.0	9647.1	21	63	32	62	27.6	27.7	25.7	36.2	36.3	36.3	0.168	6.8	6.8	6.5	ST
52071	10/19/90	0800	2645.1	9639.9	21	83	41	82	27.7	27.8	22.4	36.0	36.2	36.5	0.118	6.8	6.7	6.6	ST
52072	10/19/90	1045	2657.4	9642.1	21	82	41	81	27.6	27.6	21.7	36.0	36.3	36.5	0.997	6.7	6.9	6.0	ST
52073	10/19/90	1348	2700.9	9657.5	20	46	23	45	27.5	27.6	27.8	35.3	35.6	35.9	0.380	7.0	6.8	6.5	ST/PN
52074	10/19/90	1517	2659.0	9700.9	21	40	19	40	27.2	27.4	27.4	34.8	35.0	35.2	0.380	6.8	6.7	6.5	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE	TIME	POSITION		STAT	DEPTH	SAMPLE		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED			GEAR
			LAT	LONG			ZONE	DEPTH	MID	MAX	SUR	MID	MAX	SUR		MID	MAX	SUR	
52075	10/19/90	1723	2651.2	9714.2	21	22	11	22	27.2	26.9	27.1	35.2	35.2	35.4	1.022	6.9	6.9	6.6	ST
52076	10/19/90	1808	2652.7	9719.7	21	13	7	13	27.0	26.8	26.6	35.3	35.2	35.2	1.495	8.2	8.0	7.6	ST
52077	10/19/90	2201	2718.8	9714.0	20	19	9	18	26.4	26.5	26.5	33.9	34.0	34.4	0.617	6.7		6.1	ST
52078	10/19/90	2354	2726.1	9716.2	20	13	6	12	26.2	26.2	25.8	33.8	33.8	34.0	1.439	6.6	6.6	6.9	ST
52079	10/20/90	0153	2729.9	9700.1	20	28	14	27	26.3	26.3	26.3	33.4	33.5	33.5	0.665	7.0	7.0	7.0	PN
52080	10/20/90	0758	2709.5	9646.3	20	62	31	61	27.4	27.6	25.2	35.9	36.1	36.5	0.098	6.7	6.9	7.4	ST
52081	10/20/90	1124	2717.9	9700.2	20	35	17	34	26.5	26.8	27.3	33.9	34.2	35.2	4.018	8.0	7.9	7.5	ST
52082	10/20/90	1305	2712.8	9708.8	20	28	14	27	26.6	26.5	26.5	34.1	34.1	34.1	0.828	8.1	8.1	8.0	ST
52083	10/20/90	1452	2704.9	9716.3	20	23	11	22	26.7	26.6	26.6	34.5	34.5	34.8	0.841	8.0	8.0	7.7	ST
52084	10/20/90	1709	2722.8	9716.2	20	12	6	12	26.3	26.3	26.2	33.9	33.9	33.9	1.259	6.9	6.8	6.8	ST
52085	10/20/90	2002	2728.8	9653.0	20	35	17	35	26.6	26.5	26.9	33.9	34.2	34.7	0.305	7.0	7.0	6.3	ST
52086	10/20/90	2149	2725.8	9643.9	20	53	26	52	27.4	27.4	27.7	35.5	35.5	36.0	0.109	7.0	6.9	6.9	ST
52088	10/21/90	0104	2721.8	9636.9	20	73	36	72	27.7	27.7	22.9	35.9	36.0	36.3	0.027	7.0	6.9	5.9	ST/PN
52089	10/21/90	0545	2754.4	9636.4	20	26	13	26	26.3	26.5	26.4	33.4	34.1	34.1	0.187	6.5	6.4	6.3	ST
52090	10/21/90	0807	2742.1	9643.2	20	34	17	34	26.5	26.9	26.8	33.8	34.9	34.9	0.324	6.4	6.4	6.4	ST
52091	10/21/90	0937	2738.3	9648.8	20	33	16	32	26.3	26.8	26.7	33.4	34.7	34.8	0.327	7.1	7.2	7.0	ST
52092	10/21/90	1021	2739.2	9651.7	20	27	13	26	26.2	26.1	26.4	33.1	33.1	33.7	0.355	7.1	7.0	6.9	ST
52093	10/21/90	1207	2733.8	9658.0	20	25	12	24	26.2	26.4	26.4	33.2	33.5	33.7	0.305	6.1	6.2	6.0	ST
52094	10/21/90	1952	2818.8	9621.0	19	17	8	17	24.9	24.9	24.9	31.1	31.1	31.2	1.072	6.4	6.2	6.1	ST
52095	10/21/90	2254	2807.6	9612.1	19	26	13	25	26.0	25.9	26.7	33.4	33.5	34.7	0.629	6.1	6.0	5.7	ST
52096	10/22/90	0204	2817.2	9603.3	19							32.9			0.417	6.5			ST
52097	10/22/90	0805	2836.7	9550.6	19	10	5	10	23.6	23.7	23.7	29.1	29.4	29.4	11.635	6.6	6.4	6.3	ST
52098	10/22/90	0942	2829.9	9600.0	19	12	6	11	23.9	23.9	23.9	29.9	30.0	30.0	0.907	6.6	6.4	6.4	PN
52099	10/22/90	1230	2811.9	9554.3	19	31	15	30	25.9	25.9	26.0	34.0	34.1	34.2	0.542	6.1	6.0	6.0	ST
52100	10/22/90	1335	2807.5	9552.7	19	37	18	36	26.1	26.2	26.3	34.9	35.0	35.2	0.343	6.1	6.0	5.9	ST
52101	10/22/90	1645	2801.4	9606.0	19	40	19	39	26.3	26.4	26.6	34.9	35.1	35.3	0.424	7.3	7.3	7.3	ST/PN
52102	10/22/90	1952	2739.9	9610.9	20	88	44	88	27.5	27.5	20.6	35.9	36.0	36.7	0.107	6.0	5.9	4.5	ST
52104	10/23/90	0005	2742.4	9604.6	20	91	45	90	27.1	27.2	20.7	35.6	35.9	36.5	0.124	6.1	6.0	5.4	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE	TIME	POSITION		STAT	DEPTH	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL,	DISSOLVED			GEAR
			LAT	LONG			ZONE	(M)	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	MG/M ³	SUR	
52105	10/23/90	0307	2807.2	9607.9	19	31	16	31	25.8	25.8	25.8	34.1	34.2	34.2	3.863	6.5	6.4	6.2	ST
52106	10/23/90	0610	2809.6	9551.2	19	34	17	34	26.3	26.3	26.5	35.3	35.4	35.5	0.361	6.0	5.9	5.9	ST
52107	10/23/90	0658	2802.8	9546.9	19	45	22	44	26.5	26.6	26.6	35.2	35.6	35.6	0.299	6.2	6.0	5.9	ST
52108	10/23/90	1050	2817.5	9523.8	19	35	17	34	26.2	26.2	26.2	35.1	35.3	35.3	0.536	6.2	6.0	6.0	ST
52109	10/23/90	1315	2831.3	9515.8	19	30	14	29	25.0	25.6	26.0	33.8	34.2	34.9	0.548	7.0	6.7	6.5	ST
52110	10/23/90	1512	2837.0	9521.6	19	24	12	23	24.3	25.2	25.5	31.8	33.6	34.0	0.368	6.7	6.6	6.4	ST
52111	10/23/90	1659	2847.6	9523.2	19	11	6	11	23.5	23.4	23.5	29.0	29.2	29.5	1.000	7.3	7.1	6.9	ST
52112	10/23/90	1920	2835.2	9520.9	19	25	12	25	25.3	25.4	25.5	33.5	33.8	34.0	3.685	6.9	6.7	6.6	ST/PN
52113	10/23/90	2213	2812.0	9528.5	19	39	19	38	26.3	26.4	26.5	34.6	35.8	35.8	2.523	7.0	6.8	6.7	ST
52115	10/24/90	0202	2813.0	9542.3	19	33	16	33	25.9	26.3	26.2	35.2	35.3	35.5	0.330	7.0	6.9	6.7	ST
52118	10/24/90	0644	2800.9	9526.9	19	54	27	54	26.3	26.4	26.1	35.3	35.8	36.2	0.237	6.8	6.8	5.9	ST/PN
52119	10/24/90	1116	2754.5	9459.3	99	110	55	109	26.9	25.9	18.8	35.7	36.5	36.5	0.137	5.9	5.7	4.4	ST/PN
52120	10/24/90	1626	2800.2	9432.9	18	63	30	62	27.0	26.8	22.6	35.8	35.9	36.6	0.106	5.6	5.6	4.3	ST/PN
52121	10/24/90	1720	2757.8	9432.7	99	85	42	83	27.1	26.4	20.3	35.9	36.1	36.6	0.841	6.3	6.0	5.0	ST
52122	10/24/90	1916	2756.7	9442.1	99	93	46	92	27.0	26.6	19.6	35.8	36.0	36.6	0.935	6.4	6.2	4.7	ST
52123	10/24/90	2215	2802.1	9453.7	18	74	37	73	26.4	26.5	21.9	35.9	36.0	36.4	2.305	6.6	6.4	5.5	ST
52124	10/26/90	1956	2913.5	9450.4	18	9	5	9	21.4	21.4	21.4	27.1	27.3	27.4	0.685	7.9	8.0		ST
52125	10/26/90	2228	2902.3	9457.4	18	15	8	14	22.2	22.4	24.2	29.4	29.6	31.6	3.177	7.5			ST/PN
52126	10/27/90	0112	2853.7	9517.7	19	11	5	11	22.2	22.2	22.3	28.9	28.9	28.9	0.276	7.2	7.3	7.3	ST
52127	10/27/90	0249	2847.9	9523.3	19	12	6	12	22.4	22.4	23.0	29.2	29.3	30.6	0.536	7.5	7.5	6.7	ST
52128	10/27/90	0420	2841.4	9521.6	19	18	9	18	22.5	24.0	24.5	30.5	32.9	33.8	0.249	6.9	6.4	6.4	ST
52129	10/27/90	0858	2910.2	9448.3	18	12	6	11	21.2	22.7	23.2	27.6	29.8	30.9	4.953	8.5	7.6	6.5	ST
52130	10/27/90	1125	2854.1	9447.1	18	17	9	16	22.3	22.7	24.0	30.0	31.5	33.4	3.458	8.0	7.6	6.8	ST
52131	10/27/90	1250	2849.4	9451.0	18	20	10	20	22.3	23.0	24.2	30.1	31.4	33.8	0.162	7.8	7.1	7.0	ST
52132	10/27/90	1359	2845.4	9450.1	18	24	12	24	22.5	24.5	25.2	31.1	34.1	34.6	0.178	7.7	7.1	6.5	ST
52133	10/27/90	1521	2840.6	9446.7	18	28	14	28	24.5	24.8	25.5	34.1	34.5	35.3	2.118	7.2	6.9	7.0	ST
52135	10/27/90	1730	2832.4	9452.5	18	33	17	33	24.6	25.3	25.6	32.7	35.1	35.5	0.109	7.2	7.2	7.0	ST/PN
52136	10/27/90	2130	2839.5	9515.9	19	24	12	24	23.9	24.1	24.8	33.2	33.4	34.5	1.962	7.6	7.2	7.1	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)			TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX		
52138	10/28/90	0006	2831.5	9511.1	19	31	15	31	24.9	24.9	25.3	34.5	34.5	35.1	0.255	7.1	7.0	6.6	ST	
52139	10/28/90	0549	2856.0	9407.0	18	21	11	21	23.7	23.8	24.2	33.7	33.8	34.1	0.249	7.4	7.1	6.9	ST	
52140	10/28/90	0959	2927.6	9424.0	18	11	5	10	21.2	21.0	22.6	27.1	27.6	30.2	0.513	8.6	9.0	7.0	ST	
52141	10/28/90	1409	2855.5	9423.1	18	17	8	17	23.6	23.5	23.7	33.3	33.2	33.5	0.218	7.2	7.1	7.1	ST/PN	
52142	10/28/90	1641	2839.3	9428.0	18	29	15	29	25.2	25.3	25.3	35.1	35.2	35.2	0.267	7.3	7.3	7.2	ST/PN	
52143	10/28/90	2132	2841.4	9351.1	17	28	14	28	24.9	25.2	25.3	34.7	35.0	35.1	1.655	8.9	7.2	7.4	ST/PN	
52144	10/29/90	0127	2814.3	9408.6	18	55	27	55	25.9	26.0	24.4	35.6	35.6	36.3	0.075	7.9	8.1	8.5	ST	
52146	10/29/90	0440	2800.5	9405.6	18	82	41	82	25.5	26.1	21.0	35.1	36.1	36.5	0.080	7.9	7.8	6.9	ST/PN	
52147	10/29/90	0946	2817.8	9432.5	18	46	23	46	25.9	25.9	25.8	35.9	35.9	36.0	0.174	7.4	7.6	7.8	ST	
52150	10/29/90	1503	2814.2	9409.0	18	54	27	54	25.9	26.0	23.6	35.5	35.8	36.6	0.075	5.9	5.5	5.9	ST	
52152	10/29/90	2041	2821.1	9335.3	17	55	27	55	25.7	25.8	25.3	35.6	35.8	36.0	0.748	6.0	5.9	5.6	ST	
52155	10/30/90	0233	2830.1	9316.8	17	41	20	41	25.1	25.2	25.4	35.1	35.2	35.4	0.131	6.2	6.1	6.0	ST	
52156	10/30/90	0538	2812.8	9312.5	17	64	17	64	25.4	25.4	22.8	35.2	35.2	36.4	0.160	5.9	6.0	4.6	ST	
52157	10/30/90	0726	2809.4	9312.9	17	72	36	72	25.2	25.5	21.5	35.2	35.4	36.5	0.156	6.1	5.3	4.4	ST	
52158	10/30/90	1050	2808.3	9331.1	17	72	36	72	25.4	26.0	22.0	35.4	35.8	36.4	0.997	6.4	5.9	4.9	ST	
52159	10/30/90	1314	2814.1	9343.4	17	64	32	64	25.7	25.9	25.9	35.4	35.7	35.8	0.100	6.4	6.1	5.6	ST	
52162	10/30/90	2200	2804.5	9255.9	16	90	45	89	25.3	23.8	20.4	35.4	36.4	36.5	1.371	6.4	5.4	4.8	ST/PN	
52163	10/31/90	0121	2824.3	9246.0	16	54	27	54	24.4	24.9	24.2	33.6	34.2	36.3	0.231	6.7	6.1	4.2	ST	
52165	10/31/90	0453	2834.3	9244.0	16	43	22	43	24.2	24.4	24.8	33.5	33.7	36.2	0.240	6.4	5.9	2.8	ST	
52166	10/31/90	0758	2836.6	9249.9	16	36	18	36	24.3	24.3	25.8	33.6	33.6	35.9	0.343	6.5	6.3	3.3	ST/PN	
52168	10/31/90	1128	2834.1	9250.9	16	40	20	39	24.6	25.2	25.6	34.3	34.8	35.9	1.994	6.3	6.0	4.9	ST	
52169	10/31/90	1407	2826.3	9306.2	17	46	23	46	24.7	25.1	25.1	33.9	34.7	35.2	0.199	6.2	6.2	6.0	ST	
52171	10/31/90	2136	2848.6	9228.6	16	35	17	34	22.5	23.7	24.9	31.2	33.2	35.0	4.205	7.1	6.9	5.3	ST	
52172	11/ 1/90	0029	2858.1	9234.9	16	29	15	28	22.9	23.5	24.4	31.8	32.5	33.9	4.299	7.5	7.4	6.5	ST/PN	
52173	11/ 1/90	0434	2906.1	9304.8	17	24	12	24	24.0	24.0	23.9	33.3	33.3	33.4	0.284	7.1	7.0	6.9	ST	
52174	11/ 1/90	0834	2930.9	9258.8	16	14	7	14	22.2	22.2	22.2	31.1	31.1	31.1	1.162	7.0	7.0	7.0	ST/PN	
52176	11/ 1/90	1206	2922.3	9315.6	17	14	7	14	23.0	23.0	23.0	31.1	32.8	32.8	1.379	6.5	6.6	6.6	ST	
52177	11/ 1/90	1504	2911.2	9344.1	17	19	9	19	22.6	22.5	23.1	32.1	32.1	32.6	0.271	6.5	6.6	6.4	ST	

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,°C			SALINITY,PPT			CL, MG/M ³	DISSOLVED OXYGEN,PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
52179	11/ 1/90	1713	2906.1	9341.1	17	22	11	22	23.0	23.6	23.8	32.5	33.2	33.6	0.356	6.3	6.3	6.0	ST/PN
52180	11/ 1/90	2215	2938.5	9338.1	17	12	6	11	21.7	21.7	21.8	30.1	30.1	30.1	7.356	7.9	7.9	7.9	ST/PN
52181	11/ 2/90	0149	2923.5	9341.5	17	14	7	14	22.3	22.3	22.3	31.4	31.4	31.4	0.654	7.4	7.4	7.2	ST
52182	11/ 2/90	0447	2908.0	9353.7	17	18	9	18	23.2	23.2	23.2	33.0	33.0	33.0	0.199	7.3	7.3	7.3	ST
52184	11/ 2/90	0840	2853.9	9351.5	17	24	12	23	24.0	24.0	24.0	33.9	33.9	33.9	2.710	6.7	6.7	6.8	ST
52188	11/ 2/90	1417	2840.0	9344.7	17	30	15	30	25.0	25.3	25.6	35.1	35.5	35.6	0.228	6.6	6.6	6.5	ST
52189	11/ 2/90	1540	2841.1	9336.2	17	32	16	32	25.3	25.3	25.4	35.2	35.2	35.4	0.117	6.5	6.5	6.3	ST
52190	11/ 2/90	2314	2848.6	9217.8	16	33	17	32	23.2	24.2	26.2	31.0	33.2	35.9	14.485	7.1	5.9	1.8	ST
52191	11/ 3/90	0035	2846.3	9214.1	16	36	18	36	24.0	24.3	25.6	33.4	33.9	35.9	0.893	6.5	6.4	5.0	ST
52192	11/ 3/90	0718	2855.9	9255.9	16	25	13	25	23.8	23.8	24.1	32.9	33.0	33.7	0.498	6.9	7.0	6.8	ST/PN
52193	11/ 3/90	0941	2848.4	9308.1	17	28	14	27	24.4	24.4	24.8	34.0	34.0	34.3	2.990	6.8	6.8	6.0	ST
52194	11/ 3/90	1205	2848.8	9257.2	16	28	14	28	24.3	24.2	24.9	33.8	33.9	35.0	0.367	6.7	6.7	5.9	ST
52195	11/ 3/90	1330	2843.4	9258.5	16	34	17	34	24.7	24.4	25.5	34.0	34.3	35.5	0.379	6.7	6.7	4.8	ST
52196	11/ 3/90	1527	2836.0	9257.7	16	38	19	38	24.7	24.4	25.9	34.1	34.3	35.8	0.203	6.7	6.7	3.5	ST
52197	11/ 3/90	2051	2856.9	9211.1	16	26	13	25	23.9	24.1	26.6	33.2	33.3	34.8	6.168	7.1	6.6	1.1	ST
52198	11/ 3/90	2242	2907.1	9217.7	16	18	9	17	22.9	22.9	23.6	29.5	29.7	31.2	3.090	6.7	6.5	6.5	ST
52199	11/ 4/90	0011	2909.5	9223.5	16	17	9	16	22.3	22.9	23.1	28.1	29.5	31.3	2.461	7.1		6.1	ST
52200	11/ 4/90	0322	2926.3	9228.5	16	12	6	12	21.3	21.3	21.3	28.2	28.2	28.2	1.776	7.3	7.1	6.5	ST/PN
52202	11/ 4/90	0700	2918.2	9238.7	16	18	9	17	23.4	23.4	23.4	32.0	32.1	32.1	1.209	7.5	7.4	7.4	ST
52203	11/ 4/90	0933	2914.6	9225.7	16	12	6	11	22.1	22.0	22.1	28.0	28.0	28.1	2.255	7.7	7.6	7.6	ST
52204	11/ 4/90	1105	2911.0	9221.1	16	12	6	11	22.5	22.7	22.8	28.9	29.5	29.8	2.729	7.3	6.9	6.5	ST
52205	11/ 4/90	1433	2857.4	9152.2	15	21	10	21	23.2	23.0	23.0	32.2	32.2	32.3	1.879	7.4	7.3	6.6	ST
52206	11/ 4/90	1601	2846.0	9150.6	15	30	14	30	24.8	24.8	25.2	34.7	35.0	35.7	2.835	6.8	6.1	6.3	ST
52207	11/ 4/90	1755	2841.6	9148.3	15	34	19	34	24.9	25.3	25.3	35.1	35.8	36.0	0.797	6.6	6.3	6.3	ST
52208	11/ 4/90	2027	2846.9	9202.8	16	33	17	32	24.4	24.5	25.0	34.4	34.5	35.3	8.597	6.8	6.7	6.5	ST
52209	11/ 4/90	2319	2901.0	9204.9	16	22	11	21	23.7	23.9	24.1	32.8	33.2	33.4	13.644	7.1	7.0	6.5	ST/PN
52210	11/ 5/90	0235	2856.0	9134.7	15	18	9	18	22.6	22.6	22.6	31.8	31.8	31.8	4.875	7.3	7.5	7.4	ST
52211	11/ 5/90	0410	2900.4	9131.7	15	12	6	11	22.7	22.7	22.7	31.3	31.5	31.5	3.634	7.1	6.8	6.8	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE	TIME	POSITION		STAT	DEPTH	SAMPLE DEPTHS		TEMPERATURE, °C			SALINITY, PPT			CL,	DISSOLVED			GEAR
			LAT	LONG			ZONE	(M)	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	MG/M ³	SUR	
52212	11/ 5/90	0725	2847.5	9110.2	15	12	6	12	23.2	23.2	23.2	32.0	32.0	32.0	3.530	7.1	6.9	6.9	ST
52213	11/ 5/90	0919	2837.8	9109.7	15	24	12	23	24.2	24.3	24.7	34.0	34.1	35.2	2.318	6.8	6.7	6.2	ST
52214	11/ 5/90	1129	2829.7	9108.1	15	38	19	37	24.8	24.8	25.8	35.5	35.5	36.2	6.028	6.9	6.8	6.6	ST
52215	11/ 5/90	1322	2822.5	9113.0	15	56	28	56	25.4	25.5	24.0	36.1	36.1	36.5	0.324	7.1	7.0	6.3	ST
52216	11/ 5/90	1555	2835.4	9129.5	15	37	20	37	24.4	25.2	25.4	34.6	35.8	36.1	0.970	6.9	6.8	6.8	ST/PN
52217	11/ 5/90	1911	2831.3	9119.7	15	40	20	40	24.8	24.8	25.6	35.4	35.5	36.0	0.810	7.0	6.9	6.7	ST
52218	11/ 5/90	2042	2833.7	9119.3	15	36	18	35	24.0	24.8	25.1	34.4	35.5	35.7	1.346	7.4	7.0	6.9	ST
52219	11/ 5/90	2159	2836.2	9120.6	15	33	16	32	23.7	24.7	25.2	33.9	35.4	35.8	18.036	6.8	6.5	6.1	ST
52220	11/ 6/90	0016	2839.4	9112.6	15	23	11	23	23.3	23.5	24.6	32.7	33.1	35.2	2.056	6.7	6.6	6.0	ST
52221	11/ 6/90	0132	2842.1	9106.1	15	15	8	15	23.0	23.0	24.6	32.4	32.4	34.6	2.212	6.7	6.7	4.9	ST
52222	11/ 6/90	0357	2835.3	9100.6	15	24	12	24	23.7	23.9	24.7	33.2	33.5	35.2	2.224	6.9	6.7	5.9	ST
52223	11/ 6/90	0657	2834.9	9104.1	15	26	13	26	23.4	24.3	24.7	33.0	34.0	35.2	2.222	6.7	6.4	5.6	ST/PN
52224	11/ 6/90	1011	2813.1	9117.9	15	84	42	83	25.3	25.3	21.4	35.8	36.1	36.7	2.118	6.9	6.8	5.4	ST
52226	11/ 6/90	1317	2808.8	9132.2	15	92	46	92	25.9	25.8	21.0	36.3	36.4	36.6	0.122	6.7	6.6	5.6	ST
52227	11/ 6/90	1628	2812.0	9149.5	15	77	40	77	25.4	25.5	22.1	35.9	36.3	36.6	0.171	6.8	6.7	4.8	ST
52228	11/ 6/90	1920	2806.6	9158.8	15	94	47	94	25.7	25.7	21.1	35.9	36.3	36.6	0.104	6.8	6.7	5.5	ST/PN
52229	11/ 6/90	2249	2810.8	9136.3	15	84	42	83	25.5	25.5	21.4	36.1	36.3	36.6	0.083	8.0	6.3	4.6	ST
52230	11/ 7/90	0113	2806.5	9121.7	15	114	57	114	25.5	24.6	20.1	35.9	36.5	36.6	0.069	6.5	6.3	5.0	ST/PN
52231	11/ 7/90	0427	2816.2	9113.6	15	74	37	74	25.0	25.1	22.1	35.5	36.1	36.6	0.128	6.5	6.3	5.1	ST
52232	11/ 7/90	0755	2816.3	9053.3	14	64	32	64	25.3	25.3	22.6	35.8	36.0	36.6	3.613	6.4	6.2	5.2	ST
52233	11/ 7/90	1203	2811.9	9035.9	14	96	48	95	25.2	25.0	21.1	35.8	36.0	36.6	1.931	6.2	6.1	5.0	ST/PN
52234	11/ 7/90	1514	2835.6	9046.2	14	21	10	21	23.5	24.6	25.0	32.0	33.9	35.6	1.090	7.5	6.1	5.7	ST
52235	11/ 7/90	1753	2850.5	9047.9	14	16	9	15	22.8	22.9	24.1	30.8	31.1	32.6	1.038	7.5	7.5	2.6	ST
52236	11/ 7/90	2028	2832.5	9050.6	14	29	14	28	23.4	24.9	25.1	33.2	35.5	35.7	5.514	7.3	6.0	5.8	ST
52237	11/ 7/90	2358	2818.7	9110.5	15	64	32	63	25.2	25.2	22.7	36.1	36.2	36.6	0.089	6.5	6.3	5.7	ST
52238	11/ 8/90	0322	2816.4	9042.5	14	66	33	66	24.8	24.8	23.0	35.8	35.9	36.6	0.317	6.5	6.4	5.4	ST
52239	11/ 8/90	0426	2821.6	9040.7	14	46	23	46	24.6	24.7	24.6	35.5	35.7	36.4	0.271	6.5	6.3	4.8	ST
52241	11/ 8/90	0931	2838.1	9018.9	14	33	17	32	24.1	25.1	25.1	35.4	36.1	36.2	2.803	6.9	6.5	6.4	ST/PN

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
OREGON II																			
STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
52242	11/ 8/90	1249	2848.4	8951.1	13	53	26	53	23.0	25.5	25.2	31.9	36.2	36.2	2.480	8.0	6.8	5.6	ST
52243	11/ 8/90	1449	2841.8	8941.1	13	91	45	91	23.9	25.6	20.9	34.2	36.0	36.6	1.329	6.7	6.3	5.8	ST
52245	11/13/90	0740	2857.8	8932.2	13	44	23	43	21.5	23.8	22.3	31.1	34.8	36.5	0.498	6.5	4.9	4.2	ST/PN
52246	11/13/90	1012	2909.5	8942.1	13	15	10	15	21.7	21.7	22.9	31.8	32.0	34.0	0.318	6.7	5.3	6.4	ST
52247	11/13/90	1146	2912.2	8952.5	13	12	6	12	20.8	21.3	23.8	31.5	31.9	34.4	0.888	7.0	6.7	5.4	ST
52248	11/13/90	1438	2903.2	9012.0	14	11	5	10	21.0	21.0	21.0	31.6	31.6	32.9	0.730	6.4	6.1	4.4	ST
52249	11/13/90	1738	2909.1	9004.1	14	8	4	7	20.1	20.1	20.1	31.3	31.4	31.4	1.219	8.4	7.0	6.9	ST
52250	11/13/90	1948	2901.1	8956.1	13	27	14	24	21.6	23.2	24.2	31.1	34.0	35.4	0.694	6.7	6.3	4.9	ST/PN
52251	11/13/90	2200	2904.9	8941.1	13	22	11	22	22.0	22.2	23.9	31.9	32.1	34.5	2.061	7.0	6.5	7.3	ST
52252	11/13/90	2325	2900.6	8936.6	13	29	14	29	21.3	22.4	24.0	28.6	32.4	35.4	1.327	7.1	6.4	4.2	ST
52253	11/14/90	0020	2900.1	8932.7	13	18	9	18	21.5	21.8	22.4	29.6	31.1	33.7	1.149	7.1	6.5	5.5	ST
52254	11/14/90	0248	2852.7	8951.3	13	46	22	46	22.4	24.1	22.9	33.9	36.1	36.4	0.436	7.3	6.3	4.8	ST
52255	11/14/90	0700	2900.4	9013.0	14	14	7	14	21.3	21.9	21.9	31.7	32.2	32.3	0.395	5.0	5.1	5.2	ST
52256	11/14/90	0950	2859.3	9002.1	14	23	12	23	21.5	23.5	24.1	30.9	34.7	35.6	0.551	7.3	6.6	5.5	ST/PN
52257	11/14/90	1144	2900.8	8953.2	13	30	15	30	21.3	23.4	24.3	29.7	34.6	35.8	0.785	9.3	8.8	5.0	ST
52258	11/14/90	1339	2904.7	8945.8	13	29	15	29	21.9	22.2	24.4	31.6	32.4	35.3	0.779	6.7	6.5	5.4	ST
52259	11/14/90	1758	2849.6	8940.1	13	68	34	67	23.7	23.7	20.7	35.8	35.8	36.7	1.672	7.0	6.4	4.4	ST
52261	11/15/90	0211	2912.2	8839.8	11	72	36	71	23.5	23.7	21.1	35.7	36.0	36.5	0.181	6.7	6.6	5.8	ST
52262	11/15/90	0340	2909.3	8836.7	11	97	48	96	23.2	23.6	19.9	35.5			0.343	6.7			ST
52267	11/15/90	1942	2930.1	8840.1	11	29	14	28				34.3	34.2	36.3	1.350	7.0	6.6	5.8	ST
52268	11/15/90	2213	2925.9	8854.3	11	15	7	15	22.1	21.0	20.4	33.1	33.6	33.4	3.040	7.2	7.6	7.5	ST
52269	11/15/90	2339	2920.0	8852.7	11	31	15	31	21.7	23.7	22.7	31.1	34.9	35.8	1.836	7.4	5.8	5.4	ST
52270	11/16/90	0137	2920.1	8905.2	12	10	4	9	19.4	19.2	19.3	24.9	27.0	31.6	1.542	8.1	8.1	7.5	ST
52271	11/16/90	0649	2910.8	8856.4	11	22	11	22	19.9	20.5	22.3	33.2	32.1	21.8	3.115	6.6	6.6	7.5	ST
52272	11/16/90	0942	2904.1	8852.4	11	91	46	91	19.9	24.1	20.3	25.6	35.8	35.4	3.115	7.7	6.5	5.3	ST/PN
52273	11/16/90	1122	2859.5	8859.2	11	95	48	95	20.1	24.1	20.5	24.4	35.3	36.4	2.747	7.6	6.6	5.9	ST
52274	11/16/90	1531	2915.1	8828.1	11	78	34	77	22.9	22.9	21.2	35.2	35.7	34.9	0.604	6.7	6.5	6.5	ST
52275	11/16/90	1746	2924.3	8835.9	11	55	27	55	22.4	23.1	22.1	34.2	35.7	35.8	3.377	7.3	6.5	4.8	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
OREGON II

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE,°C			SALINITY,PPT			CL, MG/M ³	DISSOLVED OXYGEN,PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
52277	11/16/90	2103	2915.0	8828.1	11	95	47	95	22.8	22.5	20.6	35.6	36.2	36.0	0.495	7.0	5.0	5.2	ST
52278	11/16/90	2314	2920.3	8817.7	11	64	32	64	23.6	23.6	21.8	35.8	35.8	35.1	0.178	6.5	6.6	5.6	ST
52279	11/17/90	0223	2935.8	8807.9	11	40	20	40	22.6	22.7	23.0	35.4	35.2	35.6	0.636	7.0	6.6	5.2	ST
52280	11/17/90	0649	2926.5	8802.0	11	56	27	55	22.7	22.8	22.8	35.5	35.4	35.9	0.768	6.7	6.7	6.4	ST/PN
52281	11/17/90	0942	2918.6	8825.1	11	64	32	64	23.0	23.2	21.5	35.7	35.7	36.2	0.401	7.2	6.7	5.6	ST
52282	11/17/90	1219	2926.5	8839.1	11	44	22	44	22.1	22.8	22.8	34.9	35.3	35.5	1.609	7.4	7.0	6.6	ST/PN
52283	11/17/90	1507	2934.7	8834.5	11	32	16	32	21.8	22.3	22.8	34.6	34.9	36.1	2.198	7.5	7.0	5.0	ST
52284	11/17/90	1552	2934.9	8830.6	11	46	20	45	22.7	22.7	21.9	35.3	35.1	36.3	1.537	7.0	6.9	4.5	ST
52285	11/17/90	1740	2935.4	8833.0	11	40	37	39	22.6	22.7	22.4	35.1	34.9	36.3	2.139	7.3	7.4	3.9	ST
52286	11/17/90	1848	2934.3	8830.2	11	48	21	47	22.6	22.7	21.8	35.3	35.2	36.2	2.754	7.0	7.0	4.5	ST
52289	11/17/90	2355	2940.5	8830.6	11	37	18	37	22.1	22.2	22.3	35.2	35.0	36.1	1.757	7.6	6.8	4.8	ST
52290	11/18/90	0304	2949.3	8803.9	11	37	19	37	22.4	22.4	22.4	35.0	35.0	35.0	0.779	7.5	7.4	7.1	ST
52291	11/18/90	0700	2951.0	8803.9	11	33	15	32	22.3	22.3	22.4	35.2	35.1	35.2	0.543	7.0	7.0	7.0	ST
52292	11/18/90	0907	2945.4	8815.3	11	36	18	36	22.7	22.7	22.7	35.5	35.1	35.3	0.551	7.2	6.7	6.8	ST
52293	11/18/90	1121	2947.7	8822.1	11	37	18	37	22.3	22.5	22.5	35.4	35.4	36.3	0.804	7.6	7.8	5.4	ST
52294	11/18/90	1335	2959.8	8818.9	11	30	15	29	22.1	22.3	22.4	35.1	35.3	34.8	0.863	7.7	7.3	7.1	ST
52295	11/18/90	1444	3000.3	8816.9	11	29	14	29	22.1	22.2	22.3	34.7	35.1	35.1	0.667	7.2	7.0	6.9	ST
52296	11/18/90	1746	3004.2	8808.2	11	18	7	17	21.3	21.3	21.7	34.3	34.5	34.6	0.374	7.1	7.1	7.2	ST
52297	11/18/90	1819	3002.7	8808.1	11	22	11	22	22.0	22.0	22.1	35.0	34.9	35.0	0.779	6.9	6.8	6.8	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ARANSAS BAY

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
31001	11/12/90	0812	2604.5	9703.5	21	22	11	22	22.0	21.9	21.4	33.1	33.2	33.3		7.3	7.2	7.4	ST
31002	11/12/90	0853	2604.4	9700.5	21	26	13	26	22.0	21.9	21.7	33.3	33.3	33.3		7.5	7.4	7.3	ST
31003	11/12/90	0935	2602.5	9703.6	21	22	11	22	21.8	21.7	21.5	33.2	33.0	33.1		7.3	7.1	7.1	ST
31004	11/12/90	1015	2601.2	9702.6	21	24	12	24	21.8	21.8	21.6	33.2	33.4	33.3		7.4	7.6	7.6	ST
31005	11/12/90	1045	2600.4	9703.6	21	22	11	22	21.9	21.8	21.7	33.1	33.4	33.7		7.4	7.6	7.6	ST
31006	11/12/90	1122	2558.2	9702.5	22	24	12	24	22.0	21.9	21.7	33.5	33.5	33.6		7.5	7.6	7.5	ST
31007	11/12/90	1204	2557.5	9705.6	22	19	9	19	21.8	21.7	21.6	33.2	33.3	33.4		7.5	7.6	7.8	ST
31008	11/12/90	1247	2600.4	9708.6	21	7	4	7	21.9	21.8	21.8	33.1	33.2	33.2		7.7	7.7	7.9	ST
31009	11/28/90	0800	2602.7	9706.6	21	17	9	17	23.8	24.1	24.3	34.2	34.9	35.7		6.1	5.9	5.4	ST
31010	11/28/90	0832	2604.6	9706.6	21	6	3	6	23.7	23.9	24.3	34.3	34.7	35.7		6.6	6.4	5.4	ST
31011	11/28/90	0903	2605.5	9705.6	21	19	9	19	23.7	23.9	24.3	34.2	34.8	35.7		6.7	6.5	5.5	ST
31012	11/28/90	0937	2607.7	9705.6	21	19	9	19	23.7	23.9	24.2	33.7	34.6	35.6		6.7	6.5	6.1	ST
31013	11/28/90	1005	2608.6	9705.6	21	19	10	19	23.8	23.9	24.2	34.5	34.6	35.6		6.7	6.5	6.4	ST
31014	11/28/90	1037	2610.8	9705.5	21	19	10	19	23.7	23.8	24.3	34.3	34.8	35.6		6.6	6.5	6.3	ST
31015	11/28/90	1125	2608.7	9707.6	21	17	8	17	23.9	23.9	24.3	34.3	35.7		6.6	6.3	6.3	ST	
31016	11/28/90	1208	2605.7	9708.6	21	12	6	12	24.0	24.0	24.2	34.3	35.3	35.3		6.6	6.4	5.9	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS-LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
MATAGORDA BAY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
32001	11/ 1/90	1024	2822.5	9617.6	19	12	6	12	21.7	21.7	21.8	29.6	30.2	30.6		6.9	7.1	7.0	ST
32002	11/ 1/90	1104	2820.6	9615.6	19	18	9	18	22.0	21.5	23.2	30.0	29.9	33.8		7.2	7.3	5.7	ST
32003	11/ 1/90	1134	2821.3	9615.6	19	17	9	17	21.7	21.7	22.0	29.7	29.8	30.7		7.3	7.3	6.9	ST
32004	11/ 1/90	1222	2821.4	9612.5	19	19	10	19	22.1	21.4	23.9	29.8	29.3	34.4		7.3	7.3	5.5	ST
32005	11/ 1/90	1301	2821.5	9609.6	19	20	10	20	21.9	22.1	23.9	29.1	32.7	34.5		7.2	7.0	6.0	ST
32006	11/ 1/90	1339	2822.5	9608.6	19	19	10	19	21.5	23.0	23.9	29.1	33.0	34.6		7.4	6.6	6.0	ST
32007	11/ 1/90	1430	2827.5	9611.6	19	13	7	13	22.1	21.6	21.7	29.1	29.8	30.0		7.4	7.5	7.5	ST
32008	11/ 1/90	1507	2826.5	9615.7	19	10	5	10	22.6	22.0	21.9	28.8	30.3	30.5		7.4	7.4	7.5	ST
32009	11/16/90	0934	2822.5	9620.6	19	9	5	9	19.4	19.3	19.2	29.7	29.7	29.7		9.9	9.9	9.7	ST
32010	11/16/90	1110	2820.5	9620.5	19	12	6	12	19.9	19.4	19.6	29.8	30.1	30.4		10.1	10.0	10.1	ST
32011	11/16/90	1153	2816.4	9619.7	19	20	10	20	20.9	20.9	21.0	31.6	32.5	33.0		9.8	9.9	9.3	ST
32012	11/16/90	1235	2813.4	9617.6	19	23	11	23	22.0	21.5	21.6	33.4	34.0	34.2		9.4	9.5	9.5	ST
32013	11/16/90	1326	2811.4	9624.8	19	22	11	22	20.6	21.0	20.7	31.5	32.7	33.0		9.9	9.4	9.7	ST
32014	11/16/90	1357	2811.5	9626.6	19	20	10	20	21.0	20.2	20.2	31.4	31.9	31.9		9.9	9.8	10.0	ST
32015	11/16/90	1444	2816.5	9628.6	19	9	4	9	20.2	19.6	19.4	30.0	30.1	30.3		10.3	10.5	10.3	ST
32016	11/16/90	1523	2817.4	9625.6	19	11	6	11	20.4	19.6	19.7	29.7	29.9	30.6		9.0	8.5	8.5	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
 SEAMAP ENVIRONMENTAL DATA
 LAGUNA MADRE

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
33001	11/ 1/90	0828	2754.5	9700.4	20	6	3	6	22.6	22.7	22.7	30.9	30.9	30.9		6.6	6.6	6.7	ST
33002	11/ 1/90	0925	2755.5	9657.7	20	11	5	11	22.4	22.4	22.4	30.8	30.8	30.7		6.6	6.6	6.6	ST
33003	11/ 1/90	1008	2800.4	9654.3	19	5	2	5	22.7	22.7	22.7	30.7	30.7	30.5		6.5	6.5	6.5	ST
33004	11/ 1/90	1059	2755.5	9654.7	20	14	7	14	23.2	23.2	23.1	31.5	31.6	31.6		6.4	6.3	6.5	ST
33005	11/ 1/90	1136	2755.8	9655.6	20	15	7	15	23.0	23.1	23.1	31.1	31.4	31.4		6.4	6.5	6.3	ST
33006	11/ 1/90	1222	2754.5	9655.7	20	14	7	14	23.0	22.9	23.2	31.1	31.1	31.2		6.6	6.6	6.4	ST
33007	11/ 1/90	1318	2748.8	9655.5	20	20	10	20	23.4	23.2	23.3	31.4	31.6	31.8		6.4	6.4	6.4	ST
33008	11/ 1/90	1358	2748.7	9656.8	20	19	9	19	23.5	23.3	23.2		31.9	31.8		6.4	6.4	6.5	ST
33009	11/16/90	0820	2743.4	9706.7	20	10	5	10	21.1	21.0	20.9	31.5	31.6	31.8		7.5	7.5	7.4	ST
33010	11/16/90	0858	2740.5	9707.6	20	13	6	13	20.8	20.8	20.8	31.4	31.6	31.5		7.1	7.1	7.1	ST
33011	11/16/90	0941	2737.4	9705.7	20	18	9	18	21.1	21.2	21.2	31.9	31.9	32.1		7.0	6.5	6.4	ST
33012	11/16/90	1027	2735.5	9702.5	20	23	11	23	22.3	22.3	22.5	33.3	33.7	34.2		7.0	6.4	6.2	ST
33013	11/16/90	1127	2741.2	9701.8	20	19	10	19	22.1	21.8	22.0	32.6	32.8	33.3		6.7	6.8	6.6	ST
33014	11/16/90	1216	2744.4	9702.6	20	16	8	16	21.5	21.8	21.9	31.4	32.4	32.6		7.8	6.7	6.6	ST
33015	11/16/90	1330	2746.3	9655.7	20	22	11	22	22.4	22.1	22.3	33.4	32.4	33.4		7.3	6.6	6.4	ST
33016	11/16/90	1407	2747.4	9656.5	20	20	10	20	21.8	21.7	22.0	32.2	32.6	33.3		7.8	6.9	6.5	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
GALVESTON BAY

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
34001	11/ 6/90	1035	2914.6	9445.0	18	10	5	10	20.2	20.4	22.1	28.1	29.5	31.2		6.9	6.7	6.0	ST
34002	11/ 6/90	1105	2913.4	9446.1	18	11	5	11	21.2	21.5	21.5	28.1	30.2	31.2		7.2	10.0	10.4	ST
34003	11/ 6/90	1200	2911.9	9449.1	18	11	6	11	20.6		21.8	28.0	29.0	29.9				6.2	ST
34004	11/ 6/90	1235	2911.7	9453.1	18	8	4	8	20.5	20.5	21.3	28.0	28.2	28.2		7.2	7.0	6.6	ST
34005	11/ 6/90	1336	2910.2	9447.0	18	14	7	14	19.5	19.5	20.9	28.3	31.2	31.4		7.0	6.7	6.1	ST
34006	11/ 6/90	1421	2910.3	9444.1	18	15	8	15	19.7	19.7	21.0	28.9	31.7	31.7		7.1	6.9	6.3	ST
34007	11/ 6/90	1505	2913.1	9443.2	18	13	7	13	20.8	20.8	21.4	28.5	29.2	32.1		7.1	7.0	6.0	ST
34008	11/ 6/90	1544	2917.3	9440.7	18	8	4	8	21.0	21.0	21.1	28.7	29.4	29.2		6.8	6.8	6.8	ST
34009	11/19/90	1050	2918.9	9443.3	18	5	3	5	19.5	19.4	19.4	28.2	28.5	28.4		9.2	12.1	12.6	ST
34010	11/19/90	1148	2916.1	9438.8	18	12	6	12	19.5	19.0	19.2	28.6	29.1	28.4		8.5	9.5	10.6	ST
34011	11/19/90	1218	2917.0	9438.0	18	13	7	13	19.2	19.1	19.1	27.7	29.3	30.6		8.3	10.2	11.1	ST
34012	11/19/90	1248	2919.0	9437.8	18	11	6	11	19.4	19.2	18.9		28.0			8.8	10.5	11.7	ST
34013	11/19/90	1335	2920.2	9438.9	18	9	5	9	19.5	19.3	19.0	27.8	28.2	28.5		10.7	11.2	11.5	ST
34014	11/19/90	1411	2921.1	9439.8	18	10	5	10	19.5	19.3	19.0	27.7	26.1	28.5		10.9	11.1	11.7	ST
34015	11/19/90	1443	2922.1	9440.7	18	8	4	8	19.5	19.4	19.1	28.4	28.5	28.9		11.3	10.9	11.5	ST
34016	11/19/90	1514	2920.9	9440.2	18	8	4	8	19.1	19.1	18.8	27.8	29.0	28.3		10.6	10.8	11.1	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
 SEAMAP ENVIRONMENTAL DATA
 SABINE

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
40001	11/	1/90	0940	2935.6 9353.6	17	8	4	8	20.4	20.4	20.7	26.4	28.1	28.9		11.8	13.6	12.0	ST
40002	11/	1/90	1020	2935.4 9355.6	17	8	4	8	20.9	21.0	20.8	26.6	28.3			9.8	8.5	12.5	ST
40003	11/	1/90	1056	2937.6 9356.6	17	6	3	6	21.3	21.1	20.3	26.7	25.5	26.9		8.6	9.9	15.2	ST
40004	11/	1/90	1126	2938.4 9356.4	17	6	3	6	21.2	21.1	21.1	26.6	26.5	26.5		8.6	8.8	14.2	ST
40005	11/	1/90	1212	2940.5 9359.5	17	3	2	3	20.6	20.5	20.6	25.5	25.5	25.5		7.3	7.0	6.6	ST
40006	11/	1/90	1312	2938.7 9404.5	18	7	4	7	21.0	20.9	20.1	26.2	26.5	26.5		8.1	8.2	13.6	ST
40007	11/	1/90	1408	2935.6 9400.7	18	8	4	8	21.3	20.9	20.8	27.3	27.4	28.3		10.1	13.7	11.5	ST
40008	11/	1/90	1457	2933.2 9359.4	17	12	6	12	21.5	21.0	21.0	29.4	29.6	29.7		8.1	12.2	12.3	ST
40009	11/16/90	0718	2936.4 9352.3	17	6	3	6	6	18.6	18.5	18.3	27.5	27.6	27.5		8.9	10.3	11.4	ST
40010	11/16/90	0800	2937.4 9350.6	17	6	3	6	6	18.5	18.5	18.3	27.2	27.5	27.7		9.8	10.6	11.5	ST
40011	11/16/90	0855	2940.3 9345.4	17	7	4	7	7	18.6	18.6	18.6	27.3		27.5		10.3	9.7	11.7	ST
40012	11/16/90	0951	2942.6 9344.9	17	5	2	5	5	18.8	18.6	18.5	26.9	26.8			8.5	10.4	10.1	ST
40013	11/16/90	1045	2943.6 9337.8	17	6	3	6	6	18.0	18.5	18.3	26.4	26.5	26.8		7.8	7.5	11.1	ST
40014	11/16/90	1143	2938.5 9335.5	17	10	5	10	10	18.6	18.3	18.9	27.0	27.4	29.6		11.6	9.6	9.1	ST
40015	11/16/90	1300	2934.6 9346.1	17	12	6	12	12	19.4	18.9	19.0	25.7	27.9	30.0		8.8	8.5	8.2	ST
40016	11/16/90	1341	2934.6 9347.2	17	12	6	12	12	19.7	19.0	19.1	27.6	28.1	29.6		9.2	8.3	8.5	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY																			
SEAMAP ENVIRONMENTAL DATA																			
LOUISIANA INSHORE VESSELS																			
STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
36636	11/ 7/90	0829	2856.2	9058.0	14	9	9	9	21.7	21.6	30.9	30.9	3.424				ST/PN		
36637	11/ 7/90	0848	2940.0	9322.0	17	9	9	9	19.2	19.2	26.7	26.7	4.397				ST/PN		
36638	11/ 7/90	0922	2900.5	9035.7	14	9	9	9	21.6	20.9	30.7	30.1	2.283				ST/PN		
36639	11/ 7/90	0932	2901.0	9058.9	14	5	5	5	20.6	20.7	29.3	29.3	9.385				ST/PN		
36640	11/ 7/90	0935	2944.0	9322.0	17	5	5	5	18.8	18.8	25.9	25.9	6.426				ST/PN		
36641	11/ 7/90	1002	2909.5	9209.5	16	9	9	9	20.4	22.3	27.2	30.0	4.397				ST/PN		
36642	11/ 7/90	1008	2945.0	9322.0	17	2	2	2	17.8	17.8	25.9	25.9	6.595				ST/PN		
36643	11/ 7/90	1024	2916.3	8956.0	13	2	2	2	21.1	21.0	28.4	28.4	1.902				ST/PN		
36644	11/ 7/90	1025	2902.0	9035.7	14	5	5	5	21.1	20.3	28.5	29.0	2.790				ST/PN		
36645	11/ 7/90	1032	2909.5	9058.3	14	2	2	2	18.4	18.4	21.8	21.9	7.356				ST/PN		
36646	11/ 7/90	1046	2924.8	8904.3	12	9	9	9	20.7	20.7	31.4	31.6					ST/PN		
36647	11/ 7/90	1105	2904.5	9035.7	14	2	2	2	20.5	20.6	29.5	29.0	2.156				ST/PN		
36648	11/ 7/90	1109	2915.1	8954.2	13	5	5	5	20.6	20.6	27.9	27.8	1.902				ST/PN		
36649	11/ 7/90	1126	2919.3	9206.8	16	5	5	5	20.1	19.9	23.2	23.9	6.426				ST/PN		
36650	11/ 7/90	1156	2913.9	8952.7	13	9	9	9	20.9	22.4	28.3	30.2	1.902				ST/PN		
36651	11/ 7/90	1156	2926.9	8909.6	12	5	5	5	20.1	20.2	29.3	29.4					ST/PN		
36652	11/ 7/90	1242	2927.4	8912.2	12	2	2	2	20.7	20.7	29.4	29.7					ST/PN		
36653	11/ 7/90	1301	2934.0	9201.8	16	2	2	2	17.5	17.5	10.4	10.4	6.595				ST/PN		
36654	11/14/90	1100	3000.0	8800.0	11	9	9	9	19.4	19.3	35.1	35.5	0.609				ST/PN		
36655	11/14/90	1135	3000.0	8800.0	11	6	6	6	19.6	19.7	35.3	35.7	0.609				ST/PN		
36656	11/14/90	1159	3000.0	8851.4	11	2	2	2	19.5	19.5	35.4	35.1	1.015				ST/PN		

Table 2. Selected environmental parameters (cont'd.)

NMFS,SEFC,MS.LABS,PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
ALABAMA VESSELS

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
23001	11/13/90	0954	3013.0	8812.1	11	12	6	12	17.5	17.0	17.5					6.2	6.0	6.4	ST
23002	11/13/90	1058	3010.1	8816.1	11	16	8	16	16.0	16.5	16.5					4.2	7.4	5.4	ST
23003	11/13/90	1213	3007.9	8810.0	11	18	9	18	16.5	17.5	19.0					6.2	5.4	6.0	ST
23004	11/13/90	1344	3005.2	8806.0	11	24	12	24	18.0	18.5	19.0					5.0	6.2	5.8	ST
23005	11/13/90	1720	3001.7	8808.0	11	25	13	25	20.5	20.5	20.5					5.8	4.0	3.6	ST
23006	11/13/90	1759	3003.2	8807.3	11	22	11	22	19.5	20.0	20.0					7.4	5.4	5.6	ST
23007	11/13/90	1948	3012.4	8805.0	11	6	3	6	15.5	16.0	16.0					4.4	7.2	6.2	ST
23008	11/15/90	0945	3012.0	8818.1	11	10	5	10	17.5	17.0	17.0	34.0	34.0	34.0		6.6	6.6	5.8	ST
23009	11/15/90	1047	3011.8	8825.3	11	8	4	8	17.5	17.5	17.0	34.0		34.0		5.0	6.0	5.6	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
TOMMY MUNRO

STA#	DATE MM/DD/YY	TIME	POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³	DISSOLVED OXYGEN, PPM			GEAR
			LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX	SUR	SUR	MID	MAX	
17005	11/15/90	1648	3000.3	8817.5	11	29	14	28	20.0	19.8	20.0	35.2	35.2	35.1	1.084	7.0	7.0	7.2	ST
17006	11/15/90	1910	3000.5	8819.0	11	26	12	25	21.7	21.7	21.7	35.0	35.1	35.2	1.925	7.0	6.8	6.2	ST
17007	11/15/90	2127	3000.8	8824.1	11	25	12	24	21.7	21.6	21.6	34.9	34.9	34.9	1.420	6.8	6.8	6.6	ST
17008	11/16/90	0024	2957.1	8835.0	11	24	12	23	20.1	20.0	19.9	33.8	34.8	35.0	1.402	7.0	7.0	6.9	ST
17009	11/16/90	0322	2950.1	8840.1	11	19	9	18	19.8	19.8	19.7	34.7	34.9	34.2	1.215	7.0	7.0	7.0	ST
17010	11/16/90	0531	2944.5	8845.5	11	13	6	12	19.5	19.5	19.6	34.7	34.6	34.7	1.028	6.9	6.9	6.8	ST
17011	11/16/90	0753	2951.2	8846.0	11	13	3	7	19.8	19.9	19.9	33.9	34.1	34.2	1.308	7.1	7.0	7.1	ST
17012	11/16/90	1008	2947.0	8836.7	11	22	10	20	21.4	21.5	21.8	34.3	34.7	34.2	2.430	7.6	7.5	7.2	ST
17013	11/16/90	1221	2941.7	8833.3	11	23	12	22	21.6	21.4	22.2	34.7	34.4	35.4	1.925	7.1	6.6	4.8	ST
17014	11/16/90	1432	2950.4	8822.1	11	35	17	34	20.8	20.7	20.4	34.8	34.7	36.1	1.028	7.0	6.8	5.0	ST
17015	11/16/90	1656	2948.4	8818.1	11	37	18	36	20.3	20.3	20.5	35.0	35.0	35.8	1.009	7.0	6.8	5.9	ST
17016	11/16/90	2006	2939.1	8830.4	11	36	17	35	21.9	21.2	21.8	34.6	34.7	36.3	2.448	7.3	6.6	4.4	ST
17017	11/16/90	2323	2945.0	8851.7	11	4	1	3	20.3	20.2	20.3	34.1	33.4	33.9	0.935	6.9	6.9	6.8	ST
17018	11/17/90	0306	3005.7	8833.7	11	16	8	15	18.4	18.7	18.7	33.4	33.8	33.5	0.595	7.2	7.3	7.4	ST
17019	11/17/90	0628	2958.2	8820.2	11	30	14	28	21.7	21.6	21.6	34.9	35.9	34.5	0.969	7.2	6.7	6.9	ST
17020	11/17/90	1311	3013.4	8850.0	11	8	4	7	17.6	17.5	17.9	32.6	32.7	32.6	1.327	7.6	7.6	7.6	ST
17021	11/17/90	1533	2958.1	8848.4	11	5	2	4	18.6	18.8	18.2	34.1	34.1	34.1	0.878	7.5	7.5	7.4	ST
17022	11/17/90	1727	2954.3	8835.1	11	24	12	23	19.8	19.9	19.9	35.0	35.0	35.1	2.093	7.6	7.5	7.3	ST
17023	11/17/90	2122	3011.8	8841.8	11	12	6	11	18.9	18.8	18.8	32.9	33.0	33.0	0.953	7.5	7.5	7.5	ST
17024	11/18/90	0013	3012.2	8829.1	11	7	4	6	17.3	17.2	17.2	33.0	33.1	33.0	1.234	7.1	7.1	7.1	ST

Table 2. Selected environmental parameters (cont'd.)

NMFS, SEFC, MS. LABS, PASCAGOULA FACILITY
SEAMAP ENVIRONMENTAL DATA
LUMCON PELICAN

STA#	DATE		POSITION		STAT ZONE	DEPTH (M)	SAMPLE DEPTHS (M)		TEMPERATURE, °C			SALINITY, PPT			CL, MG/M ³ SUR	DISSOLVED OXYGEN, PPM			GEAR
	MM/DD/YY	TIME	LAT	LONG			MID	MAX	SUR	MID	MAX	SUR	MID	MAX		SUR	MID	MAX	
36657	11/26/90	1450	2840.1	9029.6	14	20	10	18	22.7	22.9	23.3	32.9	34.8	35.7	1.235	8.6	6.2	3.7	ST
36658	11/26/90	1647	2831.8	9036.7	14	34	17	34	22.9	23.1	23.5	34.5	35.4	35.9	0.760	7.6	6.7	4.4	ST
36659	11/26/90	1807	2831.8	9036.6	14	34	17	34	22.9	23.1	23.5	34.5	35.4	35.9	0.760	7.6	6.7	4.4	ST
36660	11/26/90	2022	2840.5	9029.4	14	20	10	17	22.8	22.9	23.3	33.6	34.8	35.7	0.711	7.6	6.1	3.9	ST
36661	11/26/90	2346	2851.4	9045.0	14	15	8	14	22.2	22.3	22.2	32.6	32.5	32.6	1.894	8.9	9.0	8.0	ST
36662	11/27/90	0058	2852.6	9047.0	14	9	3	8	22.3	22.3	22.3	31.8	32.1	32.1	2.588	8.0	7.8	7.9	ST
36663	11/27/90	0554	2854.6	9121.1	15	11	6	11	22.1	22.1	22.1	32.7	32.7	32.7	2.230	6.5	6.4	6.4	ST
36664	11/27/90	0720	2854.5	9121.1	15	11	6	11	22.1	22.1	22.1	32.7	32.7	32.7		6.6	6.5	6.5	ST
36666	12/ 5/90	1255	2855.7	9020.2	14	16	8	16	20.5	20.7	20.6	33.0	33.2	33.2	0.815	7.6	6.3	7.0	ST
36667	12/ 5/90	1514	2900.3	9008.5	14	16	7	15	20.3	20.5	20.6	32.8	33.2	33.4	0.653	8.2	6.5	6.7	ST
36668	12/ 5/90	1644	2900.0	9000.0	14	23	11	23	19.7	20.8	22.6	32.1	33.6	33.8	0.424	7.0	6.5	5.8	PN
36669	12/ 5/90	1838	2859.9	9008.4	14	17	8	17	20.2	20.5	20.7	32.8	33.2	33.5	0.623	6.7	6.0	6.0	ST
36670	12/ 5/90	2059	2856.1	9019.9	14	16	8	16	20.6	20.7	21.0	33.3	33.3	33.7	0.538	6.5	6.2	6.2	ST
36671	12/ 5/90	2317	2842.8	9010.9	14	35	17	35	21.2	21.4	21.9	34.2	34.3	35.1	0.315	6.4	6.2	5.8	ST
36672	12/ 6/90	0350	2859.9	8934.4	13	22	9	19	19.2	20.4	21.8	32.0	33.4	34.6	0.983	6.8	5.5	5.2	ST
36673	12/ 6/90	0441	2858.6	8933.7	13	33	15	30	18.4	21.4	21.6	30.0	34.0	34.6	0.927	7.1	5.5	5.5	ST
36674	12/ 6/90	0619	2900.0	8930.0	13	14	7	14	18.5	19.9	21.1	30.8	32.4	34.2	1.217	6.6	5.9	5.1	PN
36675	12/ 6/90	0743	2900.0	8934.5	13	22	9	21	18.9	20.3	21.6	31.8	33.1	34.5	1.002	6.9	6.0	5.5	ST
36676	12/ 6/90	0834	2859.0	8934.0	13	28	13	28	19.1	21.0	21.6	22.4	33.6	34.6	1.104	7.3	5.6	5.6	ST
36677	12/ 6/90	1258	2843.0	9011.1	14	37	17	34	21.2	21.5	22.0	34.4	34.6	35.1	0.714	6.7	6.3	5.6	ST
36678	12/ 6/90	1547	2830.0	9030.0	14	38	19	38	22.0	22.0	22.2	35.3	35.3	35.5	0.532	6.5	6.2	5.7	PN
36679	12/ 6/90	2022	2837.5	9111.5	15	25	13	25	20.9	20.9	21.5	35.0	35.0	35.4	0.723	6.5	6.4	6.0	ST
36680	12/ 6/90	2308	2840.6	9124.8	15	27	13	26	21.0	20.9	21.3	34.6	34.9	35.2	0.613	6.7	6.2	6.1	ST
36681	12/ 7/90	0645	2840.1	9125.1	15	27	13	25	21.0	21.3	21.3	35.0	35.3	35.3	0.782	6.4	6.2	6.1	ST

Table 3. 1990 Spring Louisiana Trawl Survey species composition list, 18 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0277 kg (0.05 lbs) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
Peprilus burti	gulf butterfish	3605	51.1	15	83.3
Etropus crossotus	fringed flounder	2684	33.1	18	100.0
Prionotus longispinosus	bigeye searobin	2427	13.7	16	88.9
Syacium gunteri	shoal flounder	1034	16.2	16	88.9
Anchoa mitchilli	bay anchovy	613	1.9	9	50.0
Citharichthys spilopterus	bay whiff	469	5.8	11	61.1
Symphurus plagiusa	blackcheek tonguefish	407	4.2	12	66.7
Sphoeroides parvus	least puffer	378	2.8	16	88.9
Anchoa hepsetus	striped anchovy	307	5.9	7	38.9
Micropogonias undulatus	Atlantic croaker	286	4.1	4	22.2
Trachurus lathami	rough scad	272	3.5	5	27.8
Urophycis floridana	southern hake	174	8.2	8	44.4
Arius felis	hardhead catfish	170	35.4	5	27.8
Diplectrum bivittatum	dwarf sand perch	159	4.9	8	44.4
Centropristis philadelphica	rock sea bass	157	2.0	11	61.1
Synodus foetens	inshore lizardfish	146	7.2	8	44.4
Antennarius radiosus	singlespot frogfish	129	0.5	7	38.9
Cynoscion arenarius	sand seatrout	99	10.5	10	55.6
Trichiurus lepturus	Atlantic cutlassfish	87	3.2	4	22.2
Prionotus rubio	blackwing searobin	79	1.2	8	44.4
Prionotus tribulus	bighead searobin	73	1.0	11	61.1
Prionotus stearnsi	shortwing searobin	71	0.4	2	11.1
Saurida brasiliensis	largescale lizardfish	66	0.6	9	50.0
Haliutichthys aculeatus	pancake batfish	44	0.3	6	33.3
Pristipomoides aquilonaris	wenchman	40	0.5	4	22.2
Leiostomus xanthurus	spot	37	3.7	5	27.8
Bollmannia communis	ragged goby	35	0.1	3	16.7
Lepophidium breviparbe	blackedge cusk-eel	34	0.5	6	33.3
Cynoscion nothus	silver seatrout	31	1.6	3	16.7
Paralichthys lethostigma	southern flounder	25	18.0	2	11.1
Brotula barbata	bearded brotula	18	0.1	2	11.1
Ogcocephalus declivirostris	slantbrow batfish	17	0.1	4	22.2
Porichthys plectrodon	Atlantic midshipman	16	0.4	3	16.7
Scorpaena calcarata	smoothhead scorpionfish	13	0.1	1	5.6
Lutjanus campechanus	red snapper	12	0.3	1	5.6
Polydactylus octonemus	Atlantic threadfin	12	0.0	4	22.2

Table 3. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Syngnathus floridae</i>	dusky pipefish	11	0.0	1	5.6
<i>Hoplunnis macrurus</i>	freckled pike-conger	11	0.0	2	11.1
<i>Scomberomorus maculatus</i>	Spanish mackerel	11	3.1	4	22.2
<i>Stenotomus caprinus</i>	longspine porgy	10	0.0	1	5.6
<i>Bregmaceros atlanticus</i>	antenna codlet	10	0.0	2	11.1
<i>Pogonias cromis</i>	black drum	7	34.1	1	5.6
<i>Menticirrhus americanus</i>	southern kingfish	6	0.6	2	11.1
<i>Chaetodipterus faber</i>	Atlantic spadefish	4	0.0	1	5.6
<i>Priacanthus arenatus</i>	bigeye	4	0.0	1	5.6
<i>Citharichthys macrops</i>	spotted whiff	4	0.0	1	5.6
<i>Trinectes maculatus</i>	hogchoker	3	0.0	1	5.6
<i>Urophycis cirrata</i>	gulf hake	3	0.3	1	5.6
<i>Anchoviella perfasciata</i>	flat anchovy	3	0.0	1	5.6
<i>Etrumeus teres</i>	round herring	1	0.0	1	5.6
<i>Selar crumenophthalmus</i>	bigeye scad	1	0.0	1	5.6
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	1	0.0	1	5.6
<i>Sciaenops ocellatus</i>	red drum	1	6.0	1	5.6
<u>Crustaceans</u>					
<i>Trachypenaeus similis</i>	roughback shrimp	29235	81.1	14	77.8
<i>Sicyonia dorsalis</i>	lesser rock shrimp	2238	5.3	13	72.2
<i>Callinectes similis</i>	lesser blue crab	1186	14.3	18	100.0
<i>Squilla empusa</i>	mantis shrimp	1052	9.3	15	83.3
<i>Portunus gibbesii</i>	irridescent swimming crab	659	6.0	11	61.1
<i>Trachypenaeus</i> spp.	roughneck shrimps	284	1.1	1	5.6
<i>Trachypenaeus constrictus</i>	roughneck shrimp	219	0.9	2	11.1
<i>Sicyonia</i> spp.	rock shrimps	214	0.5	1	5.6
<i>Sicyonia brevirostris</i>	brown rock shrimp	158	1.2	4	22.2
<i>Squilla chydrea</i>	mantis shrimp	109	0.3	3	16.7
<i>Callinectes sapidus</i>	blue crab	101	19.5	9	50.0
<i>Penaeus duorarum</i>	pink shrimp	71	1.5	12	66.7
<i>Calappa sulcata</i>	yellow box crab	61	1.5	4	22.2
<i>Penaeus setiferus</i>	white shrimp	48	1.8	12	66.7
<i>Solenocera vioscai</i>	humpback shrimp	27	0.0	2	11.1
<i>Penaeus aztecus</i>	brown shrimp	23	0.5	6	33.3
<i>Persephona mediterranea</i>	mottled purse crab	22	0.1	1	5.6
<i>Persephona crinita</i>	pink purse crab	18	0.1	2	11.1
<i>Persephona</i> spp.	purse crabs	15	0.1	1	5.6
<i>Speocarcinus lobatus</i>	gulf squareback crab	14	0.0	1	5.6

Table 3. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Portunus spinicarpus	longspine swimming crab	10	0.0	3	16.7
Libinia spp.	spider crabs	5	0.0	2	11.1
Leiolambrus nitidus	white elbow crab	4	0.0	1	5.6
Alpheus heterochelis	big-clawed snapping shrimp	3	0.0	1	5.6
Hepatus epheliticus	calico crab	2	0.0	1	5.6
Portunus spinimanus	blotched swimming crab	1	0.0	1	5.6
<u>Others</u>					
Lolliguncula brevis	Atlantic brief squid	761	10.3	14	77.8
Loligo pealeii	longfin squid	214	4.4	11	61.1
Loligo pleii	arrow squid	47	1.8	4	22.2

Table 4a
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the 1990 Spring Louisiana Trawl Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	309.6	184.90	0.6	0.36	4	6423.7	3437.53	14.8	8.43	6	9000.0	9000.00	23.3	23.27	2
Sicyonia dorsalis	7.2	7.17	0.0	0.03	4	602.3	248.70	1.1	0.50	6	364.0	364.00	1.1	1.09	2
Callinectes similis	34.9	18.34	0.2	0.20	4	203.3	37.76	1.2	0.22	6	579.7	388.29	5.4	2.26	2
Squilla spp.	45.7	33.26	0.2	0.16	4	155.0	104.83	1.3	0.92	6	102.0	42.00	0.8	0.29	2
Trachypenaeus spp.	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	405.7	405.71	1.6	1.62	2
Trachypenaeus constrictus	143.5	136.60	0.6	0.37	4	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	2
Peprilus burti	188.5	110.52	0.9	0.61	4	944.5	634.63	10.6	7.97	6	1222.6	1194.57	23.3	22.78	2
Prionotus longispinosus	135.0	70.45	0.7	0.44	4	868.7	171.80	4.3	0.76	6	243.4	120.57	2.1	1.03	2
Etropus crossotus	49.9	21.86	0.5	0.25	4	763.7	293.48	8.6	3.37	6	416.9	288.86	5.6	3.99	2
Syacium gunteri	19.2	11.75	0.3	0.15	4	248.1	112.55	3.6	1.72	6	154.3	54.29	1.7	0.62	2
Anchoa mitchilli	60.9	49.69	0.2	0.16	4	232.2	89.45	0.7	0.28	6	12.9	12.86	0.0	0.00	2
Citharichthys spilopterus	25.3	20.58	0.3	0.23	4	114.2	43.50	1.2	0.47	6	184.0	156.00	3.2	2.87	2
Symphurus plagiusa	3.9	3.11	0.1	0.06	4	110.7	85.72	1.0	0.81	6	36.6	19.43	0.3	0.21	2
Micropogonias undulatus	212.3	195.44	3.0	2.72	4	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	2
Squid	169.3	15.33	2.7	0.48	4	238.3	78.84	4.1	1.57	6	169.4	126.57	2.4	1.77	2

Table 4b
 Statistical Zone 13
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Spring Louisiana Trawl Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	61.1	38.91	4	77.7	18.40	6	90.3	9.74	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	54.5	38.32	4	48.2	15.31	6	51.7	17.14	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	3.8	1.68	4	25.7	12.67	6	36.1	25.71	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.6	0.70	4	4.1	1.61	6	1.8	1.82	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.4	0.17	4	19.7	0.17	7	19.7	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	19.6	0.19	4	19.6	0.09	7	19.4	0.09	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.1	0.05	4	20.0	0.19	7	20.6	0.39	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	23.1	0.31	4	23.3	0.18	7	22.8	0.18	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	26.2	2.14	4	25.2	0.95	7	25.1	1.68	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	31.6	0.67	4	34.1	0.30	7	35.5	0.03	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	4.6	0.72	4	4.1	0.35	6	6.7	0.31	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	3.1	0.82	4	3.3	0.32	6	5.2	1.25	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	2.0	0.49	4	1.1	0.38	6	0.8	0.02	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.9	0.87	4	8.4	0.32	7	9.1	0.25	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.1	0.39	4	7.4	0.31	7	8.4	0.45	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.2	0.22	4	4.6	0.46	7	4.0	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 5a
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the 1990 Spring Louisiana Trawl Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	4244.3	2659.37	16.5	10.09	6
Squilla spp.	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	358.6	184.23	3.0	1.42	6
Sicyonia dorsalis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	325.6	90.45	1.1	0.30	6
Portunus gibbesii	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	314.9	93.73	3.3	0.90	6
Callinectes similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	200.4	64.31	4.9	1.48	6
Sicyonia brevisrostris	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	60.3	40.26	0.7	0.50	6
Etropus crossotus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	313.1	76.02	5.0	1.41	6
Peprilus burti	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	338.2	228.44	9.5	5.15	6
Syacium gunteri	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	213.4	79.04	4.2	1.48	6
Anchoa hepsetus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	261.1	199.67	5.1	3.96	6
Spherooides parvus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	133.3	70.40	1.0	0.52	6
Diplectrum bivittatum	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	91.6	36.78	2.8	1.04	6
Synodus foetens	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	74.0	20.61	4.3	1.53	6
Trichiurus lepturus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	64.5	42.17	2.5	1.80	6
Squid	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	79.3	40.93	1.1	0.43	6

Table 5b
 Statistical Zone 14
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Spring Louisiana Trawl Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	0.0	0.00	0	76.6	11.66	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	0.0	0.00	0	44.3	10.08	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	0.0	0.00	0	31.5	12.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.0	0.00	0	1.2	0.60	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	20.2	0.00	1	0.0	0.00	0	20.2	0.16	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	20.4	0.00	1	0.0	0.00	0	20.2	0.25	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.5	0.00	1	0.0	0.00	0	20.4	0.12	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	24.3	0.00	1	0.0	0.00	0	28.9	2.32	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	24.4	0.00	1	0.0	0.00	0	32.0	1.16	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	28.2	0.00	1	0.0	0.00	0	35.4	0.23	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	2.0	0.65	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	3.1	1.26	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.8	0.13	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.0	0.00	1	0.0	0.00	0	6.9	0.65	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	9.0	0.00	1	0.0	0.00	0	7.2	0.27	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	9.2	0.00	1	0.0	0.00	0	4.7	0.98	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 6. 1990 Summer Shrimp/Groundfish Survey species composition list, 282 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0277 kg (0.05 lbs) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
<i>Stenotomus caprinus</i>	longspine porgy	37377	724.2	193	67.0
<i>Micropogonias undulatus</i>	Atlantic croaker	37001	1146.7	92	31.9
<i>Peprilus burti</i>	gulf butterfish	30159	1054.8	158	54.9
<i>Trachurus lathamii</i>	rough scad	13387	206.4	97	33.7
<i>Upeneus parvus</i>	dwarf goatfish	12596	136.2	109	37.8
<i>Cynoscion nothus</i>	silver seatrout	11248	511.8	49	17.0
<i>Leiostomus xanthurus</i>	spot	11061	497.6	63	21.9
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	9668	308.9	91	31.6
<i>Prionotus longispinosus</i>	bigeye searobin	8700	82.3	107	37.2
<i>Centropristis philadelphica</i>	rock sea bass	7397	173.6	136	47.2
<i>Serranus atrobranchus</i>	blackear bass	6223	72.0	78	27.1
<i>Saurida brasiliensis</i>	largescale lizardfish	6007	48.7	113	39.2
<i>Diplectrum bivittatum</i>	dwarf sand perch	5960	126.5	150	52.1
<i>Engraulis eurystole</i>	silver anchovy	5364	7.6	13	4.5
<i>Etrumeus teres</i>	round herring	5174	41.9	32	11.1
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	4990	239.2	86	29.9
<i>Anchoviella</i> spp.	anchovies	4935	20.0	12	4.2
<i>Anchoa hepsetus</i>	striped anchovy	4792	67.4	65	22.6
<i>Cynoscion</i> spp.	seatrouts	4722	37.0	28	9.7
<i>Steindachneria argentea</i>	luminous hake	4673	23.0	9	3.1
<i>Synodus foetens</i>	inshore lizardfish	3510	356.0	183	63.5
<i>Cynoscion arenarius</i>	sand seatrout	3346	203.9	80	27.8
<i>Syacium gunteri</i>	shoal flounder	3128	53.6	38	13.2
<i>Anchoa mitchilli</i>	bay anchovy	3006	8.0	33	11.5
<i>Lagodon rhomboides</i>	pinfish	2914	133.7	105	36.5
<i>Prionotus stearnsi</i>	shortwing searobin	2679	25.7	68	23.6
<i>Polydactylus octonemus</i>	Atlantic threadfin	2309	56.6	42	14.6
<i>Sardinella aurita</i>	Spanish sardine	2268	16.8	22	7.6
<i>Pristipomoides aquilonaris</i>	wenchman	2037	115.7	94	32.6
<i>Syacium</i> spp.	lefteye flounders	1958	30.5	96	33.3
<i>Prionotus paralatus</i>	Mexican searobin	1896	39.8	60	20.8
<i>Etropus crossotus</i>	fringed flounder	1764	20.9	68	23.6
<i>Harengula jaguana</i>	scaled sardine	1721	66.1	42	14.6
<i>Anchoviella perfasciata</i>	flat anchovy	1450	4.4	5	1.7
<i>Lutjanus campechanus</i>	red snapper	1348	121.6	118	41.0
<i>Arius felis</i>	hardhead catfish	1165	133.8	26	9.0

Table 6. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Lepophidium brevibarbe	blackedge cusk-eel	1104	41.5	69	24.0
Sphoeroides parvus	least puffer	1035	6.7	64	22.2
Halieutichthys aculeatus	pancake batfish	949	11.7	52	18.1
Porichthys plectrodon	Atlantic midshipman	876	18.2	89	30.9
Lagocephalus laevigatus	smooth puffer	870	28.6	74	25.7
Prionotus rubio	blackwing searobin	859	10.6	38	13.2
Bagre marinus	gafttopsail catfish	844	9.0	5	1.7
Trichopsetta ventralis	sash flounder	782	23.0	31	10.8
Syacium papillosum	dusky flounder	771	25.9	36	12.5
Peprilus alepidotus	harvestfish	763	12.2	23	8.0
Bollmannia communis	ragged goby	675	5.0	25	8.7
Selene setapinnis	Atlantic moonfish	575	22.7	45	15.6
Prionotus scitulus	leopard searobin	564	6.3	16	5.6
Chaetodipterus faber	Atlantic spadefish	467	1.5	8	2.8
Scomberomorus maculatus	Spanish mackerel	420	16.5	27	9.4
Brevoortia patronus	gulf menhaden	394	14.5	13	4.5
Opisthonema oglinum	Atlantic thread herring	382	20.8	18	6.3
Bellator militaris	horned searobin	378	2.0	15	5.2
Mullus auratus	red goatfish	348	22.7	17	5.9
Prionotus tribulus	bighead searobin	334	10.9	35	12.2
Scorpaena calcarata	smoothhead scorpionfish	334	5.8	21	7.3
Synodus poeyi	offshore lizardfish	330	2.5	42	14.6
Lepophidium jeannae	mottled cusk-eel	329	8.8	12	4.2
Menticirrhus americanus	southern kingfish	317	20.0	20	6.9
Scomber japonicus	chub mackerel	299	15.7	26	9.0
Anchoa lyolepis	dusky anchovy	295	1.0	7	2.4
Monacanthus hispidus	planehead filefish	287	3.8	35	12.2
Symphurus plagiosa	blackcheek tonguefish	271	6.2	45	15.6
Decapterus punctatus	round scad	259	6.0	16	5.6
Engyophrys senta	spiny flounder	218	1.6	32	11.1
Selar crumenophthalmus	bigeye scad	217	7.5	17	5.9
Etropus cyclosquamus	shelf flounder	212	2.5	18	6.3
Citharichthys spilopterus	bay whiff	202	2.0	29	10.1
Prionotus roseus	bluespotted searobin	201	6.3	17	5.9
Brotula barbata	bearded brotula	195	37.5	38	13.2
Urophycis floridana	southern hake	171	17.4	36	12.5
Orthopristis chrysoptera	pigfish	169	10.0	14	4.9
Cyclopsetta chittendeni	Mexican flounder	138	10.6	27	9.4
Stellifer lanceolatus	star drum	132	2.4	8	2.8
Lutjanus synagris	lane snapper	128	13.3	16	5.6

Table 6. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Ancylopsetta dilecta</i>	three-eye flounder	126	6.1	31	10.8
<i>Hildebrandia flava</i>	yellow conger	125	9.2	17	5.9
<i>Sphoeroides spengleri</i>	bandtail puffer	120	2.1	7	2.4
<i>Ophidion holbrookii</i>	bank cusk-eel	118	8.4	9	3.1
<i>Caulolatilus intermedius</i>	anchor tilefish	116	12.3	24	8.3
<i>Balistes capriscus</i>	gray triggerfish	111	14.8	27	9.4
<i>Ogcocephalus</i> spp.	batfishes	108	3.2	27	9.4
<i>Eucinostomus gula</i>	silver jenny	103	3.0	17	5.9
<i>Haemulon aurolineatum</i>	tomtate	99	6.5	8	2.8
<i>Larimus fasciatus</i>	banded drum	92	3.4	8	2.8
<i>Hoplunnis macrurus</i>	freckled pike-conger	89	1.7	14	4.9
<i>Prionotus ophryas</i>	bandtail searobin	85	1.4	15	5.2
<i>Priacanthus arenatus</i>	bigeye	75	2.8	12	4.2
<i>Ophidion welshi</i>	crested cusk-eel	69	2.4	12	4.2
<i>Sphyraena guachancho</i>	guaguanche	69	8.1	23	8.0
<i>Scomberomorus cavalla</i>	king mackerel	66	6.6	9	3.1
<i>Urophycis cirrata</i>	gulf hake	56	3.9	10	3.5
<i>Anchoa nasuta</i>	longnose anchovy	50	0.2	4	1.4
<i>Gymnothorax nigromarginatus</i>	blackedge moray	45	5.9	9	3.1
<i>Centropristis ocyura</i>	bank sea bass	44	2.5	4	1.4
<i>Pristigenys alta</i>	short bigeye	44	1.4	8	2.8
<i>Symphurus diomedianus</i>	spottedfin tonguefish	44	1.1	7	2.4
<i>Gerres cinereus</i>	yellowfin mojarra	40	1.5	1	0.3
<i>Kathetostoma albigutta</i>	lancer stargazer	39	2.0	13	4.5
<i>Centropristis striata</i>	black sea bass	38	2.3	4	1.4
<i>Ancylopsetta quadrocellata</i>	ocellated flounder	38	4.3	12	4.2
<i>Pontinus longispinis</i>	longspine scorpionfish	38	0.1	3	1.0
<i>Neobythites gillii</i>	cusk-eel	32	0.2	5	1.7
<i>Citharichthys macrops</i>	spotted whiff	30	1.0	9	3.1
<i>Paralichthys lethostigma</i>	southern flounder	29	5.9	14	4.9
<i>Gymnachirus texae</i>	fringed sole	28	0.8	11	3.8
<i>Diplectrum formosum</i>	sand perch	27	3.2	6	2.1
<i>Bregmaceros atlanticus</i>	antenna codlet	26	0.0	10	3.5
<i>Lonchopisthus micrognathus</i>	swordtail jawfish	24	0.1	4	1.4
<i>Ophidion grayi</i>	blotched cusk-eel	24	2.3	6	2.1
<i>Seriola dumerili</i>	greater amberjack	23	3.1	9	3.1
<i>Bathyanthias mexicanus</i>	yellowtail bass	23	0.3	2	0.7
<i>Caranx crysos</i>	blue runner	22	5.2	4	1.4
<i>Cyclopsetta fimbriata</i>	spotfin flounder	21	2.9	5	1.7
<i>Neomerinthe hemingwayi</i>	spinycheek scorpionfish	21	3.2	4	1.4

Table 6. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Equetus spp.	drums	20	1.6	3	1.0
Raja texana	roundel skate	19	9.5	15	5.2
Trachinocephalus myops	snakefish	18	0.7	4	1.4
Opistognathus spp.	jawfishes	17	0.1	3	1.0
Scorpaena dispar	hunchback scorpionfish	16	0.8	6	2.1
Symphurus civitatus	offshore tonguefish	16	0.2	6	2.1
Ophichthus gomesi	shrimp eel	16	3.4	3	1.0
Astroscopus y-graecum	southern stargazer	15	2.0	7	2.4
Serraniculus pumilio	pygmy sea bass	15	0.1	4	1.4
Antennarius radiosus	singlespot frogfish	14	0.4	6	2.1
Trinectes maculatus	hogchoker	14	0.6	2	0.7
Mustelus canis	smooth dogfish	14	17.7	12	4.2
Rhizoprionodon terraenovae	Atlantic sharpnose shark	14	9.3	10	3.5
Echeneis naucrates	sharksucker	13	3.9	4	1.4
Ogcocephalus nasutus	shortnose batfish	12	0.1	4	1.4
Raja eglantheria	clearnose skate	9	8.3	7	2.4
Rhomboplites aurorubens	vermilion snapper	9	0.8	6	2.1
Eucinostomus argenteus	spotfin mojarra	9	0.2	5	1.7
Peristedion gracile	slender searobin	9	0.3	3	1.0
Gobiidae	gobies	9	0.0	1	0.3
Citharichthys spp.	lefteye flounders	9	0.0	1	0.3
Selene vomer	lookdown	8	0.1	3	1.0
Bellator spp.	searobins	7	0.0	2	0.7
Achirus lineatus	lined sole	7	0.2	3	1.0
Trinectes inscriptus	scrawled sole	7	0.0	2	0.7
Exocoetidae	flyingfishes	7	1.3	2	0.7
Hoplunnis diomedianus	blacktail pike-conger	7	0.1	4	1.4
Epinephelus flavolimbatus	yellowedge grouper	7	0.7	1	0.3
Narcine brasiliensis	lesser electric ray	6	4.3	2	0.7
Opsanus pardus	leopard toadfish	6	0.3	1	0.3
Chilomycterus schoepfi	striped burrfish	6	0.0	4	1.4
Sphoeroides dorsalis	marbled puffer	5	0.2	3	1.0
Equetus acuminatus	high-hat	5	0.0	2	0.7
Equetus umbrosus	cubbyu	5	0.4	3	1.0
Bairdiella chrysoura	silver perch	5	0.3	1	0.3
Rhinoptera bonasus	cownose ray	5	40.2	5	1.7
Physiculus fulvus	metallic codling	5	0.1	2	0.7
Gymnothorax saxicola	honeycomb moray	5	0.5	1	0.3
Ogcocephalus declivirostris	slantbrow batfish	5	0.0	2	0.7
Hoplunnis spp.	pike-congers	4	0.0	3	1.0

Table 6. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Gymnothorax ocellatus</i>	ocellated moray	4	0.7	1	0.3
<i>Hippocampus erectus</i>	lined seahorse	4	0.0	3	1.0
<i>Mycteroperca phenax</i>	scamp	4	0.9	1	0.3
<i>Saurida caribbaea</i>	smallscale lizardfish	4	0.0	1	0.3
<i>Pomatomus saltatrix</i>	bluefish	4	0.6	4	1.4
<i>Rypticus maculatus</i>	whitespotted soapfish	4	0.3	3	1.0
<i>Citharichthys cornutus</i>	horned whiff	4	0.1	2	0.7
<i>Etropus</i> spp.	lefteye flounders	3	0.0	2	0.7
<i>Peristedion</i> spp.	searobins	3	0.0	1	0.3
<i>Lactophrys quadricornis</i>	scrawled cowfish	3	0.1	1	0.3
<i>Paralichthys squamilentus</i>	broad flounder	3	0.2	1	0.3
<i>Caranx hippos</i>	crevalle jack	3	9.6	3	1.0
Ophidiidae	cusk-eels	3	0.0	1	0.3
<i>Echiophis punctifer</i>	snapper eel	3	0.8	1	0.3
<i>Dorosoma</i> spp.	shads	2	0.0	1	0.3
<i>Sphyrna tiburo</i>	bonnethead	2	1.5	1	0.3
<i>Sphyrna lewini</i>	scalloped hammerhead	2	1.1	2	0.7
<i>Decodon puellaris</i>	red hogfish	2	0.1	1	0.3
<i>Synagrops spinosus</i>	keelcheek bass	2	0.0	1	0.3
<i>Prionotus alatus</i>	spiny searobin	2	0.0	1	0.3
Scorpaenidae	scorpionfishes	1	0.0	1	0.3
<i>Paralichthys albigutta</i>	gulf flounder	1	0.4	1	0.3
<i>Bothus</i> spp.	left-eye flounders	1	0.0	1	0.3
<i>Histrio histrio</i>	sargassumfish	1	0.0	1	0.3
<i>Antennarius striatus</i>	striated frogfish	1	0.0	1	0.3
<i>Apogon pseudomaculatus</i>	twospot cardinalfish	1	0.0	1	0.3
<i>Hemicaranx amblyrhynchus</i>	bluntnose jack	1	0.1	1	0.3
<i>Rachycentron canadum</i>	cobia	1	0.0	1	0.3
<i>Seriola zonata</i>	banded rudderfish	1	0.1	1	0.3
<i>Lobotes surinamensis</i>	triple tail	1	0.0	1	0.3
<i>Carcharhinus limbatus</i>	blacktip shark	1	1.2	1	0.3
<i>Carcharhinus falciformis</i>	silky shark	1	9.0	1	0.3
<i>Elops saurus</i>	ladyfish	1	0.1	1	0.3
<i>Paraconger caudilimbatus</i>	margintail conger	1	0.1	1	0.3
<i>Conger oceanicus</i>	conger eel	1	10.5	1	0.3
<i>Ophichthus</i> spp.	snake eels	1	0.2	1	0.3
<i>Gymnothorax</i> spp.	morays	1	0.1	1	0.3
<i>Fistularia tabacaria</i>	bluespotted cornetfish	1	0.0	1	0.3

Table 6. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Crustaceans</u>					
<i>Penaeus aztecus</i>	brown shrimp	31089	490.8	219	76.0
<i>Trachypenaeus similis</i>	roughback shrimp	16029	79.4	67	23.3
<i>Callinectes similis</i>	lesser blue crab	12732	192.4	182	63.2
<i>Trachypenaeus</i> spp.	roughneck shrimps	10139	36.9	40	13.9
<i>Squilla empusa</i>	mantis shrimp	7883	86.7	117	40.6
<i>Sicyonia brevirostris</i>	brown rock shrimp	6661	82.8	111	38.5
<i>Portunus gibbesii</i>	irridescant swimming crab	3902	26.2	96	33.3
<i>Portunus spinicarpus</i>	longspine swimming crab	3469	24.7	67	23.3
<i>Sicyonia dorsalis</i>	lesser rock shrimp	2709	9.2	75	26.0
<i>Trachypenaeus constrictus</i>	roughneck shrimp	2194	7.8	11	3.8
<i>Callinectes sapidus</i>	blue crab	1658	97.8	81	28.1
<i>Parapenaeus politus</i>	deepwater rose shrimp	1617	3.5	4	1.4
<i>Solenocera</i> spp.	humpback shrimps	1283	5.5	28	9.7
<i>Penaeus duorarum</i>	pink shrimp	858	22.7	48	16.7
<i>Parapenaeus</i> spp.	penaeid shrimps	750	2.1	10	3.5
<i>Solenocera vioscai</i>	humpback shrimp	739	4.2	13	4.5
<i>Squilla chydrea</i>	mantis shrimp	708	6.7	29	10.1
<i>Squilla</i> spp.	mantis shrimps	507	6.2	16	5.6
<i>Penaeus setiferus</i>	white shrimp	431	18.3	38	13.2
<i>Portunus spinimanus</i>	blotched swimming crab	409	7.1	41	14.2
<i>Calappa sulcata</i>	yellow box crab	180	20.6	49	17.0
<i>Hepatus epheliticus</i>	calico crab	90	3.7	15	5.2
<i>Raninoides louisianensis</i>	gulf frog crab	57	0.4	4	1.4
<i>Xiphopenaeus kroyeri</i>	seabob	46	0.1	5	1.7
Caridea	caridean shrimps	38	0.0	3	1.0
<i>Libinia emarginata</i>	portly spider crab	37	2.9	9	3.1
<i>Libinia dubia</i>	longnose spider crab	29	6.0	8	2.8
<i>Ovalipes stephensoni</i>	coarsehand lady crab	29	0.2	9	3.1
<i>Sicyonia burkenroadi</i>	spiny rock shrimp	25	0.0	2	0.7
<i>Ovalipes floridanus</i>	Florida lady crab	16	0.5	8	2.8
<i>Anasimus latus</i>	stilt spider crab	15	0.1	6	2.1
Paguridae	right-handed hermit crabs	13	0.4	3	1.0
<i>Arenaeus cribrarius</i>	speckled swimming crab	12	0.9	5	1.7
Xanthidae	mud crabs	11	0.0	3	1.0
<i>Scyllarus chacei</i>	chace slipper lobster	10	0.5	1	0.3
<i>Myropsis quinquespinosa</i>	fivespine purse crab	10	0.1	1	0.3
<i>Ovalipes ocellatus</i>	lady crab	9	0.1	3	1.0
<i>Podocheila</i> spp.	neck crabs	7	0.0	2	0.7

Table 6. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Parthenope spp.	elbow crabs	7	0.0	3	1.0
Scyllarides nodifer	ridged slipper lobster	6	0.4	4	1.4
Persephona mediterranea	mottled purse crab	6	0.0	3	1.0
Alpheidae	snapping shrimps	6	0.0	1	0.3
Squillidae	mantis shrimps	5	0.0	1	0.3
Portunus spp.	swimming crabs	5	0.0	1	0.3
Parthenope granulata	bladetooth elbow crab	5	0.0	3	1.0
Stenorhynchus spp.	arrow crabs	4	0.0	1	0.3
Stenorhynchus seticornis	yellowline arrow crab	3	0.0	1	0.3
Parthenope serrata	sawtooth elbow crab	3	0.1	2	0.7
Sicyonia stimpsoni	eyespot rock shrimp	3	0.0	2	0.7
Metoporphaphis calcarata	false arrow crab	2	0.0	1	0.3
Scyllarus spp.	slipper lobsters	2	0.0	1	0.3
Planes minutus	gulfwed crab	1	0.0	1	0.3
Hepatus spp.	box crabs	1	0.1	1	0.3
Panopeus spp.	mud crabs	1	0.0	1	0.3
Persephona crinita	pink purse crab	1	0.0	1	0.3
Persephona spp.	purse crabs	1	0.0	1	0.3
Alpheus spp.	snapping shrimps	1	0.0	1	0.3
<u>Others</u>					
Loligo pealeii	longfin squid	16709	276.4	139	48.3
Loligo spp.	squids	7769	91.7	46	16.0
Lolliguncula brevis	Atlantic brief squid	3831	39.0	98	34.0
Loligo pleii	arrow squid	2903	66.3	15	5.2
Amusium papyraceum	paper scallop	1828	16.5	40	13.9
Renilla mulleri	short-stemmed sea pansy	1550	10.8	14	4.9
Ophiuroidea	brittlestars	608	1.0	2	0.7
Asteroidea	starfishes	426	1.9	30	10.4
Renilla spp.	sea pansies	383	1.8	12	4.2
Myopsida	squids	351	4.0	3	1.0
Mellita quinquiesperforata	five-slotted sand dollar	212	0.9	2	0.7
Luidia spp.	sea stars	132	2.0	1	0.3
Aplysia willcoxi	seahare	109	0.9	2	0.7
Clypeaster spp.	cake urchins	73	11.3	9	3.1
Luidia clathrata	sea star	54	0.7	8	2.8
Nudibranchia	sea slugs	40	0.6	7	2.4
Cidaridae	sea urchins	22	0.6	2	0.7
Aurelia spp.	jellyfishes	14	0.4	4	1.4

Table 6. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Echinoidea	echinoderms	7	0.0	1	0.3
Actiniaria spp.	sea anemones	6	0.0	1	0.3
Luidia alternata	banded luidia	4	0.2	3	1.0
Holothuroidea	sea cucumbers	4	0.2	2	0.7
Rossia spp.	bob-tailed squids	4	0.0	2	0.7
Mercenaria spp.	quahogs	4	0.0	2	0.7
Anadara spp.	ark shells	3	0.0	2	0.7
Murex fulvescens	giant eastern murex	3	0.1	1	0.3
Phalium granulatum	scotch bonnet	3	0.1	1	0.3
Neverita duplicata	shark eye	1	0.0	1	0.3
Modiolus spp.	horse mussels	1	0.0	1	0.3
Aplysia spp.	sea hares	1	0.2	1	0.3
Oliva sayana	lettered olive	1	0.0	1	0.3
Thais haemastoma	rocksnail	1	0.0	1	0.3
Caretta caretta	loggerhead turtle	1	136.5	1	0.3
Echinidae	sea urchins	1	0.0	1	0.3
Anthozoa	anthozoans	1	0.0	1	0.3

Table 7. 1990 Summer Shrimp/Groundfish Survey species composition list, 80 trawl stations, for those vessels that used a 20-ft trawl. Species with a total weight of less than 0.0277 kg (0.05 lbs) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
Leiostomus xanthurus	spot	3827	95.0	30	37.5
Micropogonias undulatus	Atlantic croaker	3075	64.5	38	47.5
Polydactylus octonemus	Atlantic threadfin	1177	28.7	26	32.5
Cynoscion nothus	silver seatrout	489	9.0	27	33.8
Cynoscion arenarius	sand seatrout	436	9.5	17	21.3
Trichiurus lepturus	Atlantic cutlassfish	367	21.2	25	31.3
Peprilus burti	gulf butterfish	331	9.3	20	25.0
Syacium gunteri	shoal flounder	320	3.0	18	22.5
Selene setapinnis	Atlantic moonfish	301	1.0	11	13.8
Lagodon rhomboides	pinfish	159	2.5	21	26.3
Chloroscombrus chrysurus	Atlantic bumper	131	2.8	18	22.5
Prionotus longispinosus	bigeye searobin	105	0.4	19	23.7
Upeneus parvus	dwarf goatfish	84	1.1	9	11.3
Larimus fasciatus	banded drum	83	2.2	14	17.5
Stellifer lanceolatus	star drum	72	1.4	8	10.0
Peprilus alepidotus	harvestfish	66	0.3	14	17.5
Menticirrhus americanus	southern kingfish	65	3.0	15	18.8
Symphurus plagiosa	blackcheek tonguefish	43	0.9	10	12.5
Anchoa hepsetus	striped anchovy	39	0.7	5	6.3
Lagocephalus laevigatus	smooth puffer	37	0.8	17	21.3
Brevoortia patronus	gulf menhaden	34	1.5	5	6.3
Arius felis	hardhead catfish	32	4.8	14	17.5
Citharichthys spilopterus	bay whiff	20	0.2	6	7.5
Prionotus rubio	blackwing searobin	18	0.2	5	6.3
Selar crumenophthalmus	bigeye scad	18	0.5	2	2.5
Etropus crossotus	fringed flounder	17	0.2	9	11.3
Bairdiella chrysoura	silver perch	16	0.5	3	3.7
Lutjanus campechanus	red snapper	15	0.4	6	7.5
Anchoa mitchilli	bay anchovy	14	0.0	8	10.0
Hippocampus erectus	lined seahorse	12	0.0	7	8.8
Monacanthus hispidus	planehead filefish	10	0.0	7	8.8
Prionotus tribulus	bighead searobin	10	0.1	7	8.8
Stenotomus caprinus	longspine porgy	9	0.0	3	3.7
Harengula jaguana	scaled sardine	9	0.2	4	5.0
Menticirrhus littoralis	gulf kingfish	6	0.3	3	3.7
Lutjanus synagris	lane snapper	5	0.2	3	3.7

Table 7. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Porichthys plectrodon</i>	Atlantic midshipman	4	0.1	3	3.7
<i>Scomberomorus maculatus</i>	Spanish mackerel	3	0.1	2	2.5
<i>Trachinotus carolinus</i>	Florida pompano	3	0.1	1	1.3
<i>Chaetodipterus faber</i>	Atlantic spadefish	3	0.1	2	2.5
<i>Orthopristis chrysoptera</i>	pigfish	3	0.0	3	3.7
<i>Dorosoma petenense</i>	threadfin shad	3	0.0	2	2.5
<i>Narcine brasiliensis</i>	lesser electric ray	2	0.4	1	1.3
<i>Trachurus lathami</i>	rough scad	2	0.0	1	1.3
<i>Menidia peninsulae</i>	tidewater silverside	2	0.0	1	1.3
<i>Diplectrum bivittatum</i>	dwarf sand perch	2	0.0	1	1.3
<i>Serraniculus pumilio</i>	pygmy sea bass	2	0.0	2	2.5
<i>Paralichthys lethostigma</i>	southern flounder	2	0.1	2	2.5
<i>Cyclopsetta chittendeni</i>	Mexican flounder	2	0.1	2	2.5
<i>Ancylopsetta quadrocellata</i>	ocellated flounder	1	0.0	1	1.3
<i>Symphurus civitatus</i>	offshore tonguefish	1	0.0	1	1.3
<i>Ogcocephalus radiatus</i>	polka-dot batfish	1	0.1	1	1.3
<i>Centropristis philadelphica</i>	rock sea bass	1	0.0	1	1.3
<i>Priacanthus arenatus</i>	bigeye	1	0.0	1	1.3
<i>Conodon nobilis</i>	barred grunt	1	0.0	1	1.3
<i>Ocyurus chrysurus</i>	yellowtail snapper	1	0.0	1	1.3
<i>Dasyatis sabina</i>	Atlantic stringray	1	0.2	1	1.3
<u>Crustaceans</u>					
<i>Penaeus aztecus</i>	brown shrimp	1860	24.7	43	53.8
<i>Callinectes similis</i>	lesser blue crab	1150	9.9	53	66.3
<i>Callinectes sapidus</i>	blue crab	118	10.1	17	21.3
<i>Trachypenaeus similis</i>	roughback shrimp	96	0.3	11	13.8
<i>Penaeus setiferus</i>	white shrimp	69	3.0	20	25.0
<i>Squilla empusa</i>	mantis shrimp	62	0.3	20	25.0
<i>Persephona mediterranea</i>	mottled purse crab	49	0.0	8	10.0
<i>Arenaeus cribrarius</i>	speckled swimming crab	47	0.7	7	8.8
<i>Portunus gibbesii</i>	irridescent swimming crab	41	0.1	23	28.8
<i>Sicyonia dorsalis</i>	lesser rock shrimp	25	0.0	3	3.7
<i>Ovalipes floridanus</i>	Florida lady crab	18	0.1	7	8.8
<i>Libinia dubia</i>	longnose spider crab	18	0.0	4	5.0
<i>Pagurus pollicaris</i>	flatclaw hermit crab	9	0.0	8	10.0
<i>Persephona crinita</i>	pink purse crab	8	0.0	7	8.8
<i>Calappa sulcata</i>	yellow box crab	6	0.6	4	5.0
<i>Squilla neglecta</i>	mantis shrimp	5	0.0	3	3.7

Table 7. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Penaeus duorarum</i>	pink shrimp	3	0.0	3	3.7
<i>Dyspanopeus texana</i>	gulf grassflat crab	3	0.0	2	2.5
<i>Hepatus epheliticus</i>	calico crab	3	0.1	2	2.5
<i>Trachypenaeus constrictus</i>	roughneck shrimp	2	0.0	1	1.3
<i>Xiphopenaeus kroyeri</i>	seabob	2	0.0	2	2.5
<i>Sicyonia brevirostris</i>	brown rock shrimp	1	0.0	1	1.3
<i>Isocheles wurdemanni</i>	surf hermit	1	0.0	1	1.3
<i>Speocarcinus lobatus</i>	gulf squareback crab	1	0.0	1	1.3
<i>Porcellana sayana</i>	spotted porcelain crab	1	0.0	1	1.3
<i>Metoporphaphis calcarata</i>	false arrow crab	1	0.0	1	1.3
<i>Portunus spinimanus</i>	blotched swimming crab	1	0.0	1	1.3
<u>Others</u>					
<i>Renilla mulleri</i>	short-stemmed sea pansy	1116	5.4	23	28.8
<i>Dactylometra quinquecirrha</i>	compass jellyfish	891	6.5	30	37.5
<i>Lolliguncula brevis</i>	Atlantic brief squid	819	12.1	42	52.5
<i>Luidia clathrata</i>	sea star	129	1.9	19	23.7
Holothuroidea	sea cucumbers	91	0.2	6	7.5
<i>Loligo pealeii</i>	longfin squid	78	1.5	10	12.5
<i>Chiropsalmus quadrumanus</i>	jellyfish	67	1.5	6	7.5
<i>Mellita quinquesperforata</i>	five-slotted sand dollar	37	0.2	3	3.7
Asteroidea	starfishes	20	0.5	6	7.5
Actinidae	sea anemones	20	0.0	7	8.8
<i>Sargassum</i> spp.	sargassum	11	0.1	11	13.8
Gorgonidae	gorgonians	8	0.0	3	3.7
<i>Neverita duplicata</i>	shark eye	6	0.0	2	2.5
<i>Luidia alternata</i>	banded luidia	5	0.2	3	3.7
<i>Astropecten duplicatus</i>	spiny beaded sea star	3	0.1	2	2.5
<i>Astropecten antillensis</i>	beaded sea star	2	0.0	2	2.5
Gracilariacea	red algae	2	0.0	2	2.5
<i>Murex fulvescens</i>	giant eastern murex	2	0.2	1	1.3
<i>Busycon perversum</i>	perverse whelk	1	0.0	1	1.3
<i>Anadara floridana</i>	cut-ribbed ark	1	0.0	1	1.3
<i>Busycotypus spiratus</i>	pearwhelk	1	0.0	1	1.3
<i>Chione clenchi</i>	Clench venus	1	0.0	1	1.3
<i>Anadara ovalis</i>	blood ark	1	0.0	1	1.3
Pennatulidae	sea pens	1	0.0	1	1.3
Polychaeta	bristleworms	1	0.0	1	1.3
<i>Stomolophus meleagris</i>	many-mouthed sea jelly	1	1.1	1	1.3

Table 7. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
Phalium granulatum	scotch bonnet	1	0.0	1	1.3
Sargassum filipendula	sargassum	1	0.0	1	1.3
Algae	algae	1	0.0	1	1.3
Brissopsis alta	heart urchin	1	0.0	1	1.3

Table 8. 1990 Summer Shrimp/Groundfish Survey species composition list, 21 trawl stations, for those vessels that used a 16-ft trawl. Species with a total weight of less than 0.0277 kg (0.05 lbs) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
Anchoa mitchilli	bay anchovy	3964	5.8	8	38.1
Anchoa nasuta	longnose anchovy	365	0.4	4	19.0
Anchoa hepsetus	striped anchovy	193	0.3	7	33.3
Cynoscion arenarius	sand seatrout	157	1.0	5	23.8
Chaetodipterus faber	Atlantic spadefish	112	0.2	7	33.3
Stellifer lanceolatus	star drum	74	0.1	2	9.5
Micropogonias undulatus	Atlantic croaker	63	0.9	7	33.3
Bagre marinus	gafftopsail catfish	44	0.4	4	19.0
Polydactylus octonemus	Atlantic threadfin	29	0.5	4	19.0
Arius felis	hardhead catfish	25	0.5	4	19.0
Cynoscion spp.	seatrouts	22	0.6	1	4.8
Sardinella aurita	Spanish sardine	19	0.0	3	14.3
Chloroscombrus chrysurus	Atlantic bumper	17	0.0	5	23.8
Leiostomus xanthurus	spot	12	0.4	3	14.3
Harengula jaguana	scaled sardine	11	0.0	2	9.5
Trichiurus lepturus	Atlantic cutlassfish	10	0.7	3	14.3
Brevoortia patronus	gulf menhaden	8	0.5	3	14.3
Scomberomorus maculatus	Spanish mackerel	6	0.2	3	14.3
Symphurus plagiusa	blackcheek tonguefish	6	0.0	2	9.5
Porichthys plectrodon	Atlantic midshipman	4	0.0	1	4.8
Peprilus alepidotus	harvestfish	4	0.0	3	14.3
Citharichthys spilopterus	bay whiff	3	0.0	1	4.8
Menticirrhus americanus	southern kingfish	3	0.2	3	14.3
Selene setapinnis	Atlantic moonfish	3	0.0	2	9.5
Caranx hippos	crevalle jack	3	0.0	1	4.8
Synodus foetens	inshore lizardfish	2	0.0	1	4.8
Syngnathus louisianae	chain pipefish	2	0.0	1	4.8
Sphoeroides parvus	least puffer	2	0.0	1	4.8
Dorosoma petenense	threadfin shad	2	0.0	1	4.8
Opisthonema oglinum	Atlantic thread herring	1	0.0	1	4.8
Monacanthus hispidus	planehead filefish	1	0.0	1	4.8
Trinectes maculatus	hogchoker	1	0.0	1	4.8
Achirus lineatus	lined sole	1	0.0	1	4.8
Etropus crossotus	fringed flounder	1	0.0	1	4.8
Prionotus tribulus	bighead searobin	1	0.0	1	4.8
Peprilus burti	gulf butterfish	1	0.0	1	4.8

Table 8. Species composition list (cont'd)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
Lagodon rhomboides	pinfish	1	0.0	1	4.8
Lutjanus synagris	lane snapper	1	0.0	1	4.8
Cynoscion nothus	silver seatrout	1	0.1	1	4.8
<u>Crustaceans</u>					
Penaeus aztecus	brown shrimp	276	1.7	9	42.9
Callinectes sapidus	blue crab	89	8.4	9	42.9
Callinectes similis	lesser blue crab	65	0.4	6	28.6
Penaeus setiferus	white shrimp	15	0.1	4	19.0
Palaemonetes spp.	shore shrimps	8	0.0	1	4.8
Hepatus epheliticus	calico crab	5	0.0	2	9.5
Portunus gibbesii	iridescent swimming crab	1	0.0	1	4.8
Trachypenaeus similis	roughback shrimp	1	0.0	1	4.8
Xiphopenaeus kroyeri	seabob	1	0.0	1	4.8
Menippe adina	Gulf stone crab	1	0.0	1	4.8
Libinia spp.	spider crabs	1	0.0	1	4.8
<u>Others</u>					
Lolliguncula brevis	Atlantic brief squid	50	0.5	4	19.0

Table 9a
 Statistical Zone 11
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	12.4	12.38	0.1	0.05	5	94.2	48.90	0.4	0.17	21	147.3	58.39	0.6	0.24	31
Portunus gibbesii	52.7	43.15	0.4	0.35	5	56.9	26.53	0.4	0.20	21	152.9	116.91	1.2	0.92	31
Callinectes similis	41.5	26.11	0.3	0.17	5	67.3	33.07	1.3	0.64	21	116.1	52.73	1.9	0.72	31
Squilla spp.	32.6	20.74	0.4	0.24	5	59.5	29.19	0.5	0.31	21	74.4	46.63	0.9	0.48	31
Penaeus aztecus	51.8	51.28	0.6	0.58	5	55.6	22.11	0.8	0.29	21	26.9	11.30	0.7	0.27	31
Parapenaeus politus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	21	0.0	0.00	0.0	0.00	31
Stenotomus caprinus	63.8	39.58	0.7	0.45	5	163.1	81.06	3.2	1.67	21	342.0	82.72	4.4	1.25	31
Peprilus burti	1368.9	853.42	17.2	10.13	5	16.4	8.21	0.4	0.21	21	50.1	23.30	1.3	0.61	31
Micropogonias undulatus	633.0	477.02	14.3	11.48	5	31.9	21.51	1.3	0.89	21	0.6	0.40	0.0	0.04	31
Saurida brasiliensis	0.0	0.00	0.0	0.00	5	6.4	4.47	0.0	0.01	21	35.5	12.83	0.3	0.08	31
Serranus atrobranchus	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	21	61.2	40.67	0.5	0.31	31
Steindachneria argentea	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	21	0.0	0.00	0.0	0.00	31
Diplectrum bivittatum	10.3	7.64	0.2	0.15	5	106.5	39.14	1.5	0.31	21	62.5	10.51	1.7	0.25	31
Etrumeus teres	3.0	3.00	0.0	0.02	5	2.9	2.95	0.0	0.03	21	113.7	88.91	1.4	1.18	31
Squid	200.3	89.64	3.0	1.34	5	383.9	199.55	3.7	1.78	21	290.9	113.68	3.7	1.58	31

Table 9a (cont'd.)
 Statistical Zone 11
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	599.1	387.69	2.2	1.37	7	20.7	10.77	0.1	0.07	6	2.8	2.81	0.0	0.02	4
Portunus gibbesii	805.1	525.38	5.0	3.72	7	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	4
Callinectes similis	219.1	180.28	2.8	2.14	7	5.2	2.71	0.0	0.01	6	9.1	8.49	0.0	0.02	4
Squilla spp.	136.6	70.96	1.5	0.73	7	17.7	7.33	0.2	0.08	6	74.6	47.59	0.9	0.47	4
Penaeus aztecus	59.6	18.30	1.6	0.58	7	56.0	18.07	2.1	0.74	6	11.1	9.26	0.6	0.50	4
Parapenaeus politus	0.0	0.00	0.0	0.00	7	8.2	8.17	0.0	0.02	6	738.7	603.47	1.6	1.26	4
Stenotomus caprinus	64.8	59.41	4.4	4.19	7	121.7	110.18	5.8	5.56	6	262.1	262.06	11.6	11.63	4
Peprilus burti	569.5	282.16	10.9	5.58	7	14.7	9.77	0.9	0.56	6	2.3	2.27	0.0	0.02	4
Micropogonias undulatus	3.4	3.43	0.2	0.23	7	448.0	249.82	24.6	13.19	6	625.6	625.59	40.2	40.19	4
Saurida brasiliensis	325.8	236.29	2.6	1.89	7	65.6	42.19	0.3	0.20	6	2.3	2.27	0.0	0.00	4
Serranus atrobranchus	347.7	106.13	3.4	0.95	7	233.8	141.35	3.9	2.38	6	260.4	140.96	5.2	2.85	4
Steindachneria argentea	0.0	0.00	0.0	0.00	7	130.8	80.83	0.6	0.30	6	775.1	509.60	5.3	3.38	4
Diplectrum bivittatum	14.6	14.57	0.7	0.74	7	16.2	16.17	0.3	0.27	6	119.5	119.55	2.4	2.44	4
Etrumeus teres	31.9	31.90	0.2	0.24	7	1.7	1.67	0.0	0.03	6	0.0	0.00	0.0	0.00	4
Squid	460.0	238.13	4.4	2.02	7	46.8	27.81	0.3	0.15	6	13.9	8.01	0.1	0.10	4

Table 9b
 Statistical Zone 11
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	56.0	18.15	5	26.5	6.86	21	33.5	5.60	31	147.8	68.14	7	71.8	16.31	6	139.5	64.62	4
Total finfish kg	47.8	19.05	5	16.2	4.88	21	20.6	3.43	31	61.6	13.53	7	67.1	15.76	6	132.4	65.06	4
Total crustacean kg	4.6	1.60	5	5.8	1.75	21	8.5	2.53	31	15.8	6.99	7	4.3	0.91	6	7.0	2.66	4
Total others kg	3.3	1.51	5	4.5	1.79	21	4.1	1.57	31	70.0	66.37	7	0.1	0.08	6	0.0	0.00	4
Surface temperature	29.8	0.24	8	29.5	0.23	20	29.3	0.15	33	29.2	0.23	5	29.3	0.33	5	29.6	0.10	4
Midwater temperature	28.5	0.56	7	27.1	0.42	20	26.1	0.32	33	23.5	0.28	5	22.9	0.68	5	21.3	0.17	4
Bottom temperature	26.5	0.89	8	25.2	0.32	20	24.7	0.36	33	22.0	0.18	5	20.6	0.61	5	18.7	0.22	4
Surface salinity	22.7	1.51	8	23.6	0.88	20	25.4	0.69	33	26.9	1.96	5	21.4	3.28	5	22.5	1.13	4
Midwater salinity	28.8	1.85	7	30.5	1.04	20	33.9	0.48	33	36.5	0.13	5	36.5	0.06	5	36.7	0.03	4
Bottom salinity	31.8	0.85	8	33.1	1.04	20	34.0	0.54	31	36.4	0.25	5	36.6	0.13	5	36.8	0.02	4
Surface chlorophyll	1.8	0.64	5	2.8	0.82	14	1.1	0.18	26	4.3	2.50	5	7.6	4.91	4	17.2	5.81	4
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	1.4	0.16	3	0.8	0.09	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.1	0.31	8	7.3	0.18	19	6.9	0.16	33	7.7	0.56	5	7.5	0.84	5	9.9	1.23	4
Midwater oxygen	5.9	0.38	7	5.4	0.28	20	5.7	0.19	32	6.5	0.44	5	5.8	0.20	5	7.8	0.73	4
Bottom oxygen	5.3	0.26	8	4.5	0.28	19	5.2	0.18	32	5.5	0.41	5	5.0	0.05	5	6.1	0.34	4

Table 10a
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	0.0	0.00	0.0	0.00	1	125.5	75.75	0.5	0.29	4	1567.4	779.12	7.5	4.17	8
Squilla spp.	0.0	0.00	0.0	0.00	1	32.7	24.86	0.2	0.16	4	324.9	134.80	2.5	1.16	8
Penaeus aztecus	968.6	0.00	9.0	0.00	1	14.5	8.97	0.1	0.11	4	137.3	56.16	3.3	1.22	8
Callinectes similis	0.0	0.00	0.0	0.00	1	42.5	31.29	0.4	0.23	4	177.9	93.57	2.5	1.25	8
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	6.4	6.43	0.0	0.00	4	68.3	38.83	0.2	0.13	8
Callinectes sapidus	1448.6	0.00	103.1	0.00	1	25.2	17.68	3.4	2.08	4	19.1	8.61	2.2	1.15	8
Prionotus longispinosus	0.0	0.00	0.0	0.00	1	2335.5	1637.58	12.2	7.08	4	1027.4	800.59	4.9	2.74	8
Centropristis philadelphia	0.0	0.00	0.0	0.00	1	1484.1	1441.27	10.4	10.11	4	427.4	182.01	4.0	2.03	8
Steindachneria argentea	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	4	157.5	157.50	0.5	0.51	8
Engraulis eurystole	0.0	0.00	0.0	0.00	1	2037.7	2037.69	5.5	5.51	4	0.0	0.00	0.0	0.00	8
Trichiurus lepturus	4.3	0.00	0.6	0.00	1	190.9	79.08	12.8	7.67	4	585.8	361.86	32.6	19.72	8
Anchoviella perfasciata	0.0	0.00	0.0	0.00	1	1447.5	1388.15	4.4	4.12	4	17.3	17.25	0.0	0.03	8
Micropogonias undulatus	3612.9	0.00	117.7	0.00	1	273.3	156.08	11.7	6.78	4	31.5	13.64	1.6	0.67	8
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	948.1	919.72	4.8	4.56	4	139.5	101.47	1.7	1.22	8
Squid	0.0	0.00	0.0	0.00	1	51.8	24.90	0.8	0.49	4	167.3	79.84	2.6	1.22	8

Table 10a (cont'd.)
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	3786.1	2200.40	18.3	9.28	3	218.0	0.00	1.7	0.00	1	0.0	0.00	0.0	0.00	0
Squilla spp.	1135.0	617.26	10.1	5.17	3	137.0	0.00	2.3	0.00	1	0.0	0.00	0.0	0.00	0
Penaeus aztecus	164.4	75.59	4.0	1.85	3	225.0	0.00	2.5	0.00	1	0.0	0.00	0.0	0.00	0
Callinectes similis	537.3	383.25	18.2	13.30	3	11.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	0
Sicyonia dorsalis	587.0	369.56	2.3	1.48	3	11.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Callinectes sapidus	108.5	82.93	6.2	3.95	3	6.0	0.00	1.1	0.00	1	0.0	0.00	0.0	0.00	0
Prionotus longispinosus	63.6	63.64	1.5	1.49	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Centropristis philadelphica	368.7	239.16	5.9	3.45	3	430.0	0.00	25.9	0.00	1	0.0	0.00	0.0	0.00	0
Steindachneria argentea	0.0	0.00	0.0	0.00	3	2151.0	0.00	8.6	0.00	1	0.0	0.00	0.0	0.00	0
Engraulis eurystole	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Trichiurus lepturus	163.1	154.97	2.1	1.82	3	46.0	0.00	5.2	0.00	1	0.0	0.00	0.0	0.00	0
Anchoviella perfasciata	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	0.0	0.00	0.0	0.00	3	29.0	0.00	2.3	0.00	1	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
Squid	71.2	49.87	0.7	0.52	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0

Table 10b
 Statistical Zone 13
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	251.3	0.00	1	112.5	19.65	4	126.7	43.89	8	106.5	27.83	3	64.5	0.00	1	0.0	0.00	0
Total finfish kg	138.3	0.00	1	106.1	19.26	4	104.1	38.08	8	43.7	3.68	3	55.5	0.00	1	0.0	0.00	0
Total crustacean kg	113.0	0.00	1	4.8	2.86	4	19.5	8.29	8	62.0	30.79	3	9.1	0.00	1	0.0	0.00	0
Total others kg	0.0	0.00	1	1.1	0.61	4	2.7	1.15	8	0.9	0.64	3	0.0	0.00	1	0.0	0.00	0
Surface temperature	30.2	0.04	2	30.6	0.12	6	30.2	0.13	8	29.9	0.38	4	30.2	0.00	1	0.0	0.00	0
Midwater temperature	30.4	0.18	2	28.9	0.12	6	25.9	0.88	8	24.5	0.44	4	22.9	0.00	1	0.0	0.00	0
Bottom temperature	29.7	0.72	2	25.0	0.21	6	23.0	0.21	8	21.2	0.05	4	19.8	0.00	1	0.0	0.00	0
Surface salinity	16.5	4.17	2	14.3	1.18	6	17.1	1.31	8	20.3	2.76	4	18.1	0.00	1	0.0	0.00	0
Midwater salinity	16.7	4.34	2	31.9	0.61	6	35.2	0.18	8	36.4	0.16	4	36.9	0.00	1	0.0	0.00	0
Bottom salinity	21.8	9.43	2	35.3	0.21	6	36.1	0.14	8	36.5	0.13	4	36.9	0.00	1	0.0	0.00	0
Surface chlorophyll	17.3	6.51	2	24.8	7.25	6	28.0	8.05	8	3.5	0.75	4	15.7	0.00	1	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	1.2	0.56	4	0.9	0.36	4	0.1	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	1.0	0.00	1	0.9	0.22	6	0.7	0.18	8	0.5	0.18	3	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.3	0.25	2	8.8	0.50	6	8.3	0.16	8	7.8	0.74	4	6.9	0.00	1	0.0	0.00	0
Midwater oxygen	7.9	1.15	2	3.6	0.34	6	3.6	0.93	8	6.7	0.58	4	5.7	0.00	1	0.0	0.00	0
Bottom oxygen	6.7	2.75	2	1.1	0.66	6	2.8	0.85	8	5.9	0.63	4	4.7	0.00	1	0.0	0.00	0

Table 11a
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	6.1	6.11	0.0	0.00	4	0.0	0.00	0.0	0.00	6	1084.0	684.92	6.1	4.11	15
Callinectes similis	579.0	381.96	3.5	2.47	4	0.9	0.56	0.0	0.04	6	235.8	90.84	5.8	2.18	15
Squilla spp.	0.6	0.56	0.0	0.00	4	19.2	18.61	0.1	0.08	6	219.4	84.82	2.4	0.96	15
Penaeus aztecus	321.1	185.17	5.4	3.72	4	5.1	2.77	0.0	0.03	6	28.6	13.40	0.5	0.24	15
Trachypenaeus constrictus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	64.8	64.76	0.3	0.33	15
Sicyonia dorsalis	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	68.8	21.78	0.2	0.07	15
Stenotomus caprinus	0.0	0.00	0.0	0.00	4	0.4	0.43	0.0	0.00	6	1998.1	637.20	16.1	5.58	15
Pepilus burti	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	305.3	228.57	8.2	5.46	15
Syacium gunteri	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	318.2	159.34	5.2	2.50	15
Centropristis philadelphica	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	149.0	59.59	0.8	0.25	15
Serranus atrobranchus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	179.7	118.89	0.8	0.50	15
Prionotus longispinosus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	209.8	76.37	2.6	1.00	15
Diplectrum bivittatum	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	6	125.1	37.42	2.8	0.60	15
Chloroscombrus chrysurus	112.8	105.54	5.4	5.25	4	81.0	50.83	4.7	2.87	6	89.2	67.69	5.0	3.77	15
Squid	574.4	530.99	8.7	8.26	4	322.9	208.93	4.4	3.30	6	416.3	151.85	7.9	2.94	15

Table 11a (cont'd.)
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	627.0	627.00	2.9	2.86	2	9.5	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Callinectes similis	36.0	36.00	0.4	0.41	2	3.2	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Squilla spp.	181.0	137.00	1.5	0.91	2	14.7	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	3
Penaeus aztecus	288.0	204.00	5.2	3.27	2	83.2	0.00	3.7	0.00	1	17.1	3.54	1.1	0.24	3
Trachypenaeus constrictus	19.0	19.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Sicyonia dorsalis	12.5	12.50	0.0	0.02	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Stenotomus caprinus	888.0	756.00	14.0	12.14	2	105.3	0.00	5.1	0.00	1	153.1	78.17	9.9	5.08	3
Peprilus burti	15.5	2.50	0.7	0.09	2	0.0	0.00	0.0	0.00	1	835.6	443.30	58.0	35.13	3
Syacium gunteri	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Centropristis philadelphica	316.5	112.50	8.2	6.32	2	69.5	0.00	6.7	0.00	1	6.0	6.00	1.0	1.00	3
Serranus atrobranchus	690.0	690.00	4.6	4.64	2	163.2	0.00	3.3	0.00	1	0.0	0.00	0.0	0.00	3
Prionotus longispinosus	27.0	27.00	0.5	0.55	2	27.4	0.00	2.1	0.00	1	5.5	3.49	0.3	0.18	3
Diplectrum bivittatum	106.5	70.50	1.4	0.02	2	0.0	0.00	0.0	0.00	1	57.1	49.63	1.1	0.94	3
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
Squid	39.0	33.00	0.4	0.41	2	3.2	0.00	0.0	0.00	1	48.7	24.98	0.3	0.27	3

Table 11b
 Statistical Zone 14
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	40.6	14.79	4	9.5	5.73	6	90.5	12.74	15	67.0	31.14	2	43.1	0.00	1	97.8	23.33	3
Total finfish kg	11.2	4.75	4	4.7	2.98	6	65.7	9.89	15	56.1	22.95	2	35.9	0.00	1	96.0	23.12	3
Total crustacean kg	20.2	13.29	4	0.2	0.20	6	17.0	6.61	15	10.9	8.18	2	6.2	0.00	1	1.2	0.33	3
Total others kg	8.3	8.31	4	4.4	3.26	6	7.7	2.94	15	0.0	0.00	2	0.5	0.00	1	0.6	0.33	3
Surface temperature	30.6	0.22	7	30.6	0.18	5	30.1	0.15	17	29.9	0.14	3	29.7	0.00	1	29.9	0.26	3
Midwater temperature	30.2	0.11	7	30.3	0.23	5	28.3	0.16	17	26.2	1.75	3	24.9	0.00	1	24.0	0.48	3
Bottom temperature	29.3	0.37	7	25.0	0.75	5	23.6	0.31	17	21.9	0.12	3	20.4	0.00	1	19.6	0.51	3
Surface salinity	21.5	1.10	7	19.6	0.93	5	20.2	0.69	17	24.3	0.87	3	28.4	0.00	1	30.7	1.40	3
Midwater salinity	24.8	0.84	7	24.3	1.45	5	35.1	0.21	17	35.8	0.13	3	36.4	0.00	1	36.5	0.08	3
Bottom salinity	27.8	1.85	7	34.3	0.52	5	36.1	0.11	17	36.4	0.26	3	36.7	0.00	1	36.8	0.04	3
Surface chlorophyll	4.7	0.85	7	8.9	1.18	5	4.4	1.59	17	1.6	0.53	3	0.4	0.00	1	0.4	0.10	3
Midwater chlorophyll	5.6	1.21	2	6.0	1.85	3	0.6	0.04	9	0.5	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	7.0	2.05	5	7.0	1.14	4	1.1	0.23	16	0.8	0.19	2	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.4	0.42	7	7.9	0.55	5	7.7	0.16	17	7.7	0.93	3	7.3	0.00	1	6.9	0.17	3
Midwater oxygen	6.6	0.17	7	6.2	0.70	5	5.4	0.39	17	5.8	0.45	3	7.7	0.00	1	7.2	0.18	3
Bottom oxygen	4.4	0.75	7	1.4	0.45	5	2.8	0.47	17	3.4	0.86	3	6.3	0.00	1	5.2	0.19	3

Table 12a
 Statistical Zone 15
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 15 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squilla spp.	2.1	1.46	0.0	0.02	4	218.2	202.80	0.9	0.75	4	216.8	119.02	2.0	1.07	7
Trachypenaeus similis	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	406.8	207.41	2.1	1.27	7
Penaeus aztecus	44.3	42.92	0.5	0.52	4	0.6	0.60	0.0	0.00	4	169.6	124.97	3.5	2.65	7
Trachypenaeus spp.	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	174.2	174.21	0.8	0.79	7
Callinectes similis	5.6	3.78	0.4	0.33	4	1.7	1.14	0.0	0.00	4	182.0	90.09	2.6	1.27	7
Portunus spinicarpus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	31.3	31.33	0.2	0.24	7
Micropogonias undulatus	217.7	217.67	2.9	2.95	4	0.0	0.00	0.0	0.00	4	1755.2	765.15	53.6	23.19	7
Stenotomus caprinus	3.5	3.50	0.0	0.02	4	1.0	1.00	0.0	0.00	4	1269.5	613.08	7.7	2.75	7
Peprilus burti	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	487.5	215.88	24.4	10.99	7
Saurida brasiliensis	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	185.4	154.01	1.7	1.39	7
Trachurus lathamii	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	94.7	75.83	2.4	1.84	7
Serranus atrobranchus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	4	97.2	97.24	0.5	0.47	7
Cynoscion nothus	0.0	0.00	0.0	0.00	4	3.0	3.00	0.0	0.00	4	138.3	122.17	9.7	8.82	7
Prionotus longispinosus	0.5	0.50	0.0	0.00	4	1.8	1.80	0.0	0.00	4	185.6	92.44	1.9	0.73	7
Squid	0.5	0.52	0.0	0.00	4	1.8	1.80	0.0	0.00	4	87.0	23.68	1.3	0.27	7

Table 12a (cont'd.)
 Statistical Zone 15
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 15 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squilla spp.	116.4	110.79	1.8	1.69	3	23.1	21.47	0.3	0.27	3	2.1	1.29	0.0	0.02	4
Trachypenaeus similis	5.3	2.91	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Penaeus aztecus	49.9	29.15	0.9	0.54	3	69.1	50.07	2.0	1.46	3	34.2	10.04	2.1	0.61	4
Trachypenaeus spp.	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Callinectes similis	16.1	1.64	0.3	0.07	3	2.7	1.75	0.0	0.02	3	8.3	8.33	0.2	0.15	4
Portunus spinicarpus	1.0	1.00	0.0	0.00	3	5.7	2.60	0.0	0.03	3	128.4	108.08	1.0	0.86	4
Micropogonias undulatus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	4.5	1.52	0.5	0.20	4
Stenotomus caprinus	29.1	13.05	0.8	0.25	3	135.5	118.24	5.0	4.18	3	342.0	114.23	17.5	5.49	4
Peprilus burti	830.3	414.01	38.2	19.31	3	40.6	33.83	3.6	3.28	3	24.2	13.40	1.3	0.68	4
Saurida brasiliensis	10.3	7.54	0.2	0.15	3	3.3	2.81	0.0	0.03	3	3.8	3.75	0.1	0.07	4
Trachurus lathamii	117.2	74.33	3.0	1.77	3	20.7	20.74	0.5	0.52	3	0.0	0.00	0.0	0.00	4
Serranus atrobranchus	22.1	18.10	0.2	0.20	3	26.4	22.78	0.4	0.33	3	100.4	54.91	1.6	0.87	4
Cynoscion nothus	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4
Prionotus longispinosus	1.0	1.00	0.1	0.08	3	2.7	1.65	0.1	0.07	3	0.0	0.00	0.0	0.00	4
Squid	28.8	22.59	0.5	0.45	3	5.0	5.00	0.0	0.03	3	7.5	5.01	0.1	0.07	4

Table 12b
 Statistical Zone 15
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	15.3	7.77	4	1.9	0.87	4	150.3	22.30	7	56.6	16.45	3	25.5	4.99	3	51.5	11.73	4
Total finfish kg	12.8	5.88	4	0.8	0.78	4	135.0	24.31	7	52.2	19.07	3	22.7	4.08	3	43.8	10.48	4
Total crustacean kg	2.8	1.87	4	0.9	0.91	4	14.1	5.74	7	3.9	3.06	3	2.3	1.58	3	4.2	1.60	4
Total others kg	0.0	0.00	4	0.0	0.00	4	1.5	0.33	7	0.5	0.51	3	0.5	0.26	3	3.1	0.56	4
Surface temperature	30.3	0.18	7	30.4	0.25	5	29.3	0.33	7	29.2	0.20	4	29.3	0.00	1	29.8	0.43	2
Midwater temperature	30.0	0.19	7	29.0	0.24	5	28.8	0.14	7	27.3	1.40	4	25.5	0.00	1	24.5	0.05	2
Bottom temperature	28.5	0.44	7	27.1	0.12	5	25.6	0.70	7	21.8	0.26	4	20.3	0.00	1	19.6	0.38	2
Surface salinity	14.1	1.99	7	18.9	1.55	5	23.2	1.32	7	21.3	1.55	4	28.0	0.00	1	24.6	4.45	2
Midwater salinity	19.4	2.94	7	29.8	1.52	5	34.4	0.67	7	35.7	0.12	4	36.3	0.00	1	36.7	0.07	2
Bottom salinity	28.0	3.50	7	33.6	1.88	5	36.4	0.11	7	36.8	0.10	4	36.7	0.00	1	37.0	0.04	2
Surface chlorophyll	7.4	1.98	6	3.8	0.51	4	1.4	0.36	7	1.4	0.42	4	0.5	0.00	1	0.6	0.28	2
Midwater chlorophyll	9.0	2.88	3	11.3	0.00	1	0.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	11.3	3.48	5	1.4	0.48	4	2.5	1.50	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.8	0.37	7	8.0	0.56	5	7.2	0.21	7	7.4	0.26	4	6.9	0.00	1	7.1	0.65	2
Midwater oxygen	6.0	0.58	7	3.7	0.53	5	5.8	0.46	7	6.7	0.19	4	7.4	0.00	1	7.1	0.40	2
Bottom oxygen	2.8	0.62	7	1.3	0.37	5	4.2	0.67	7	4.9	0.45	4	5.7	0.00	1	5.5	0.50	2

Table 13a
 Statistical Zone 16
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	3	117.8	54.59	1.1	0.50	11
<i>Penaeus aztecus</i>	69.6	43.12	0.6	0.36	5	0.0	0.00	0.0	0.00	3	81.7	33.28	1.7	0.69	11
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	5	84.6	84.62	1.0	1.05	3	45.3	18.68	0.4	0.20	11
<i>Callinectes sapidus</i>	134.2	76.41	5.0	2.41	5	13.8	13.85	0.3	0.28	3	4.3	3.63	0.3	0.24	11
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	5	70.8	70.77	0.3	0.28	3	27.0	20.08	0.2	0.15	11
<i>Solenocera vioscai</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	11
<i>Micropogonias undulatus</i>	497.1	323.76	12.6	8.34	5	1884.6	1884.62	45.3	45.35	3	376.0	333.20	8.1	6.64	11
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	3	231.1	86.87	5.1	2.27	11
<i>Peprilus burti</i>	3.1	3.14	0.1	0.10	5	0.0	0.00	0.0	0.00	3	250.8	129.36	12.0	6.50	11
<i>Engraulis eurystole</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	3	406.8	398.15	0.2	0.16	11
<i>Chloroscombrus chrysurus</i>	123.6	122.86	0.4	0.41	5	0.3	0.33	0.0	0.00	3	94.2	32.28	3.8	1.51	11
<i>Leiostomus xanthurus</i>	12.8	8.02	0.3	0.20	5	0.0	0.00	0.0	0.00	3	75.0	58.58	7.4	5.92	11
<i>Diplectrum bivittatum</i>	0.0	0.00	0.0	0.00	5	3.8	3.85	0.2	0.17	3	77.8	32.89	1.6	0.71	11
<i>Trichiurus lepturus</i>	1.2	1.20	0.0	0.03	5	0.0	0.00	0.0	0.00	3	19.6	18.19	1.6	1.60	11
Squid	14.0	8.92	0.2	0.16	5	6.9	6.92	0.2	0.17	3	237.0	100.57	3.2	1.69	11

Table 13a (cont'd.)
 Statistical Zone 16
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	114.4	43.43	1.4	0.58	5	152.3	20.67	4.7	3.51	2	0.0	0.00	0.0	0.00	2
<i>Penaeus aztecus</i>	57.1	25.28	1.8	0.83	5	54.5	15.50	2.9	0.98	2	26.6	16.58	1.6	1.07	2
<i>Squilla</i> spp.	18.2	10.20	0.3	0.15	5	10.3	1.33	0.0	0.00	2	0.0	0.00	0.0	0.00	2
<i>Callinectes sapidus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
<i>Trachypenaeus similis</i>	3.5	2.17	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
<i>Solenocera vioscai</i>	63.7	43.26	0.3	0.19	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
<i>Micropogonias undulatus</i>	1.0	1.04	0.1	0.12	5	0.0	0.00	0.0	0.00	2	5.3	5.26	0.5	0.50	2
<i>Stenotomus caprinus</i>	164.4	70.09	6.2	2.90	5	323.5	31.50	18.8	1.32	2	239.3	145.96	12.6	7.94	2
<i>Peprilus burti</i>	13.2	4.11	0.8	0.27	5	438.0	438.00	33.4	33.39	2	175.0	175.00	12.6	12.61	2
<i>Engraulis eurystole</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2
<i>Leiostomus xanthurus</i>	2.6	2.61	0.2	0.19	5	4.5	4.50	0.5	0.45	2	0.0	0.00	0.0	0.00	2
<i>Diplectrum bivittatum</i>	0.2	0.20	0.0	0.00	5	25.0	25.00	0.3	0.30	2	0.0	0.00	0.0	0.00	2
<i>Trichiurus lepturus</i>	0.0	0.00	0.0	0.00	5	141.5	141.50	11.0	10.98	2	0.0	0.00	0.0	0.00	2
Squid	146.7	112.63	1.0	0.69	5	9.0	9.00	0.1	0.09	2	2.5	2.50	0.2	0.23	2

Table 13b
 Statistical Zone 16
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	34.1	13.75	5	59.9	52.90	3	64.8	11.23	11	29.9	7.92	5	93.0	55.15	2	45.0	8.61	2
Total finfish kg	28.1	10.71	5	57.5	50.45	3	57.2	11.32	11	24.4	7.81	5	84.1	52.27	2	41.7	6.12	2
Total crustacean kg	6.0	2.95	5	2.4	2.45	3	4.1	1.51	11	4.1	1.72	5	8.1	2.80	2	1.8	1.06	2
Total others kg	0.1	0.13	5	0.0	0.00	3	3.3	1.73	11	1.2	0.62	5	0.8	0.08	2	1.8	1.06	2
Surface temperature	29.7	0.21	5	29.5	0.21	6	29.2	0.12	10	29.1	0.19	5	29.3	0.19	3	29.6	0.20	2
Midwater temperature	29.7	0.11	5	29.1	0.37	6	28.9	0.15	10	27.9	0.46	5	25.1	0.36	3	24.1	0.09	2
Bottom temperature	28.8	0.62	5	27.3	0.38	6	25.8	0.35	10	23.0	0.41	5	20.6	0.49	3	19.8	0.11	2
Surface salinity	15.7	2.75	5	22.4	0.97	6	24.8	0.57	10	25.9	0.96	5	32.6	0.71	3	32.4	1.64	2
Midwater salinity	16.4	2.83	5	28.2	1.81	6	34.0	0.59	10	35.7	0.12	5	36.4	0.12	3	36.5	0.09	2
Bottom salinity	21.8	5.54	5	33.9	1.20	6	36.3	0.12	10	36.6	0.06	5	36.8	0.05	3	36.9	0.01	2
Surface chlorophyll	11.6	5.67	5	3.0	1.31	6	1.1	0.21	10	0.8	0.08	5	0.1	0.01	2	0.1	0.01	2
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.3	0.12	2	3.5	1.08	5	0.7	0.05	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.8	0.59	5	7.2	0.19	6	7.1	0.27	10	6.8	0.13	5	6.2	0.12	3	6.2	0.25	2
Midwater oxygen	7.3	0.49	5	5.8	0.79	6	6.6	0.30	10	6.1	0.70	5	6.6	0.36	3	6.9	0.30	2
Bottom oxygen	5.0	1.13	5	3.2	0.57	6	5.5	0.37	10	7.0	0.32	5	5.8	0.32	3	5.7	0.00	2

Table 14a
 Statistical Zone 17
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	4	247.5	205.77	2.8	2.40	9
Squilla spp.	0.0	0.00	0.0	0.00	3	185.1	170.46	1.7	1.58	4	31.4	14.29	0.5	0.27	9
Penaeus aztecus	177.3	105.66	1.8	1.11	3	1.8	1.75	0.0	0.01	4	41.8	24.09	1.0	0.64	9
Callinectes similis	8.0	8.00	0.0	0.02	3	66.7	34.28	0.4	0.17	4	26.3	13.80	0.3	0.15	9
Portunus gibbesii	0.0	0.00	0.0	0.00	3	72.7	62.69	0.2	0.20	4	13.9	8.58	0.0	0.03	9
Callinectes sapidus	129.9	89.98	4.5	2.81	3	0.5	0.50	0.1	0.09	4	2.2	2.22	0.1	0.05	9
Cynoscion nothus	28.0	28.00	1.5	1.50	3	1895.1	1892.29	76.0	75.85	4	2.4	2.01	0.2	0.16	9
Micropogonias undulatus	998.1	810.48	33.6	29.19	3	580.0	567.36	15.3	15.13	4	4.6	2.22	0.3	0.16	9
Stenotomus caprinus	0.0	0.00	0.0	0.00	3	15.4	9.64	0.3	0.22	4	237.7	89.92	4.9	1.86	9
Cynoscion arenarius	1249.2	843.18	22.3	15.47	3	75.8	75.75	6.6	6.58	4	0.3	0.33	0.1	0.06	9
Trichiurus lepturus	2.0	2.00	0.1	0.14	3	257.5	257.50	17.7	17.70	4	0.0	0.00	0.0	0.00	9
Arius felis	204.5	184.27	21.1	20.28	3	86.3	85.58	9.2	9.07	4	0.0	0.00	0.0	0.00	9
Peprilus burti	17.0	17.00	0.8	0.77	3	75.8	75.75	2.5	2.53	4	33.7	15.13	2.1	0.95	9
Prionotus scitulus	0.0	0.00	0.0	0.00	3	455.4	455.36	3.7	3.65	4	17.2	10.36	0.3	0.16	9
Squid	66.1	53.04	1.2	1.03	3	19.4	8.64	0.4	0.22	4	185.1	73.47	4.4	2.44	9

Table 14a (cont'd.)
 Statistical Zone 17
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	7.7	3.68	0.1	0.07	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Penaeus aztecus</i>	4.8	3.19	0.2	0.09	2	7.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Callinectes sapidus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Cynoscion nothus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Stenotomus caprinus</i>	178.2	33.84	9.1	2.90	2	127.0	0.00	7.5	0.00	1	0.0	0.00	0.0	0.00	0
<i>Cynoscion arenarius</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Trichiurus lepturus</i>	0.0	0.00	0.0	0.00	2	3.0	0.00	0.7	0.00	1	0.0	0.00	0.0	0.00	0
<i>Arius felis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	48.1	44.88	3.8	3.61	2	72.0	0.00	5.5	0.00	1	0.0	0.00	0.0	0.00	0
<i>Prionotus scitulus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	0
<i>Squid</i>	168.7	137.74	1.8	1.05	2	41.0	0.00	0.4	0.00	1	0.0	0.00	0.0	0.00	0

Table 14b
 Statistical Zone 17
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	106.5	36.48	3	142.6	131.48	4	50.2	17.38	9	24.9	10.13	2	20.0	0.00	1	0.0	0.00	0
Total finfish kg	98.5	39.90	3	139.3	131.67	4	40.4	16.80	9	22.9	11.15	2	19.1	0.00	1	0.0	0.00	0
Total crustacean kg	6.7	3.12	3	2.4	1.96	4	5.2	3.50	9	0.2	0.23	2	0.5	0.00	1	0.0	0.00	0
Total others kg	0.9	0.91	3	0.2	0.23	4	4.5	2.42	9	1.9	1.02	2	0.5	0.00	1	0.0	0.00	0
Surface temperature	29.6	0.13	4	29.7	0.18	6	29.7	0.12	7	30.0	0.50	3	0.0	0.00	0	0.0	0.00	0
Midwater temperature	29.6	0.12	4	29.6	0.05	6	29.2	0.12	7	27.5	0.76	3	0.0	0.00	0	0.0	0.00	0
Bottom temperature	29.4	0.11	4	28.3	0.28	6	25.5	0.56	7	22.7	0.51	3	0.0	0.00	0	0.0	0.00	0
Surface salinity	16.7	1.22	4	27.3	0.72	6	27.7	0.91	7	30.3	0.21	3	0.0	0.00	0	0.0	0.00	0
Midwater salinity	18.9	1.62	4	28.1	0.51	6	31.8	0.84	7	35.5	0.44	3	0.0	0.00	0	0.0	0.00	0
Bottom salinity	21.7	1.24	4	32.4	0.59	6	36.1	0.21	7	36.7	0.13	3	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	5.7	0.83	4	0.4	0.05	6	0.5	0.15	6	0.2	0.04	3	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.8	0.00	1	3.2	2.05	4	1.0	0.28	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.6	0.41	4	6.8	0.15	6	7.2	0.44	7	6.3	0.03	3	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.5	0.59	4	6.7	0.11	6	6.2	0.39	7	6.4	0.07	3	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.2	0.37	4	2.9	0.67	6	4.7	0.53	7	6.5	0.15	3	0.0	0.00	0	0.0	0.00	0

Table 15a
 Statistical Zone 18
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	51.7	0.00	0.7	0.00	1	26.7	26.67	0.4	0.39	2	133.1	73.89	3.1	1.70	7
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	139.6	74.07	1.6	0.87	7
<i>Portunus spinicarpus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	0.4	0.43	0.0	0.00	7
<i>Trachypenaeus</i> spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	106.7	95.10	0.7	0.65	7
<i>Callinectes similis</i>	10.0	0.00	0.0	0.00	1	7.3	7.33	0.4	0.36	2	77.6	61.48	1.1	0.71	7
<i>Squilla</i> spp.	10.0	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	2	14.2	8.51	0.2	0.09	7
<i>Micropogonias undulatus</i>	6575.0	0.00	158.0	0.00	1	818.7	818.67	26.2	26.24	2	0.4	0.43	0.0	0.02	7
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	323.5	192.00	5.7	2.60	7
<i>Trachurus lathami</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	295.8	166.18	7.4	4.09	7
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	1	1319.3	303.33	57.0	8.06	2	35.9	15.48	1.9	0.90	7
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	1	122.0	122.00	4.4	4.42	2	104.5	72.23	2.1	1.39	7
<i>Prionotus paralatus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	13.2	11.01	0.1	0.05	7
<i>Upeneus parvus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	86.4	67.51	0.7	0.53	7
<i>Lagodon rhomboides</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2	24.2	7.07	1.9	0.79	7
<i>Squid</i>	10.0	0.00	0.0	0.00	1	144.0	100.00	2.8	1.21	2	594.9	272.56	8.9	4.91	7

Table 15a (cont'd.)
 Statistical Zone 18
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	162.8	94.48	4.0	2.36	6	38.8	7.81	1.7	0.49	5	0.0	0.00	0.0	0.00	0
Sicyonia brevirostris	144.5	83.81	1.5	0.85	6	21.1	16.03	0.5	0.42	5	0.0	0.00	0.0	0.00	0
Portunus spinicarpus	0.7	0.67	0.0	0.01	6	123.9	77.59	0.9	0.71	5	0.0	0.00	0.0	0.00	0
Trachypenaeus spp.	7.1	7.10	0.0	0.00	6	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Callinectes similis	16.3	10.43	0.2	0.14	6	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Squilla spp.	10.3	7.17	0.2	0.15	6	2.8	1.83	0.0	0.02	5	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	0.2	0.17	0.0	0.02	6	3.4	2.24	0.3	0.22	5	0.0	0.00	0.0	0.00	0
Stenotomus caprinus	270.5	29.06	10.8	1.06	6	256.7	62.80	13.7	3.57	5	0.0	0.00	0.0	0.00	0
Trachurus lathami	90.8	36.85	1.9	0.82	6	61.9	39.01	1.6	1.00	5	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	0.5	0.50	0.0	0.02	6	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Peprilus burti	5.8	3.04	0.3	0.16	6	237.6	103.36	14.0	8.27	5	0.0	0.00	0.0	0.00	0
Prionotus paralatus	16.8	6.66	0.3	0.15	6	154.6	67.62	4.2	1.81	5	0.0	0.00	0.0	0.00	0
Upeneus parvus	27.6	12.03	0.3	0.12	6	87.2	52.34	2.0	1.20	5	0.0	0.00	0.0	0.00	0
Lagodon rhomboides	45.7	17.29	2.7	0.98	6	68.1	60.13	3.7	3.19	5	0.0	0.00	0.0	0.00	0
Squid	123.6	35.29	1.2	0.28	6	44.7	23.66	0.9	0.26	5	0.0	0.00	0.0	0.00	0

Table 15b
 Statistical Zone 18
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	189.4	0.00	1	117.0	64.24	2	50.2	4.73	7	39.0	5.11	6	68.4	12.73	5	0.0	0.00	0
Total finfish kg	185.6	0.00	1	112.1	61.21	2	33.5	3.86	7	31.6	4.42	6	63.5	11.87	5	0.0	0.00	0
Total crustacean kg	3.8	0.00	1	1.8	1.82	2	7.8	3.65	7	6.1	3.29	6	3.7	1.26	5	0.0	0.00	0
Total others kg	0.0	0.00	1	3.0	1.21	2	8.7	4.91	7	1.2	0.28	6	1.2	0.34	5	0.0	0.00	0
Surface temperature	29.8	0.00	1	29.7	0.03	3	29.7	0.08	7	29.5	0.16	3	29.6	0.25	3	30.0	0.00	1
Midwater temperature	29.3	0.00	1	29.5	0.07	3	28.5	0.41	7	25.2	0.38	3	25.2	0.70	3	23.3	0.00	1
Bottom temperature	29.2	0.00	1	29.3	0.10	3	25.3	0.44	7	22.3	0.12	3	21.0	0.78	3	20.3	0.00	1
Surface salinity	25.2	0.00	1	29.8	0.28	3	29.5	0.38	7	30.5	0.53	3	29.7	0.26	3	36.8	0.00	1
Midwater salinity	27.0	0.00	1	30.4	0.20	3	32.1	0.85	7	35.9	0.32	3	36.0	0.26	3	36.9	0.00	1
Bottom salinity	29.6	0.00	1	31.1	0.08	3	36.1	0.19	7	36.7	0.02	3	36.8	0.06	3	36.9	0.00	1
Surface chlorophyll	2.7	0.00	1	0.2	0.02	3	0.2	0.03	6	0.2	0.02	3	0.1	0.01	3	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.4	0.00	1	6.7	0.25	3	6.7	0.07	7	6.3	0.13	3	6.6	0.07	3	6.5	0.00	1
Midwater oxygen	5.9	0.00	1	6.5	0.34	3	6.5	0.12	6	5.6	0.20	3	6.5	0.26	3	6.9	0.00	1
Bottom oxygen	6.3	0.00	1	6.2	0.15	3	5.2	0.21	6	5.9	0.42	3	6.3	0.15	3	6.6	0.00	1

Table 16a
 Statistical Zone 19
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	1	420.5	174.62	7.4	3.11	7	1260.9	437.09	17.1	5.53	12
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	1	480.5	228.01	4.0	1.89	7	300.5	183.15	3.5	2.17	12
<i>Trachypenaeus spp.</i>	0.0	0.00	0.0	0.00	1	48.0	48.00	0.1	0.10	7	329.8	172.66	1.4	0.67	12
<i>Squilla spp.</i>	0.0	0.00	0.0	0.00	1	52.2	22.58	0.6	0.31	7	67.4	24.28	0.8	0.32	12
<i>Trachypenaeus constrictus</i>	0.0	0.00	0.0	0.00	1	190.7	190.71	0.5	0.52	7	0.0	0.00	0.0	0.00	12
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	1.3	1.11	0.0	0.02	12
<i>Micropogonias undulatus</i>	4461.8	0.00	161.4	0.00	1	2624.9	1289.35	81.2	39.92	7	10.3	10.28	0.3	0.27	12
<i>Peprilus burti</i>	834.5	0.00	34.7	0.00	1	1171.1	840.59	41.5	30.68	7	380.2	172.17	9.2	4.64	12
<i>Leiostomus xanthurus</i>	27.3	0.00	0.7	0.00	1	1452.1	930.94	71.5	55.55	7	1.5	1.55	0.1	0.12	12
<i>Cynoscion spp.</i>	0.0	0.00	0.0	0.00	1	1126.2	590.04	7.9	3.82	7	14.4	5.91	0.1	0.03	12
<i>Upeneus parvus</i>	0.0	0.00	0.0	0.00	1	257.7	240.28	3.2	2.91	7	309.5	202.39	3.0	1.85	12
<i>Chloroscombrus chrysurus</i>	2416.4	0.00	37.4	0.00	1	763.6	426.81	17.2	10.24	7	43.8	30.95	1.6	1.02	12
<i>Anchoviella spp.</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7	0.4	0.36	0.0	0.00	12
<i>Cynoscion nothus</i>	632.7	0.00	32.0	0.00	1	502.5	270.87	21.4	13.11	7	3.8	2.69	0.2	0.15	12
<i>Squid</i>	0.0	0.00	0.0	0.00	1	238.3	125.08	2.8	0.84	7	420.4	145.97	8.9	3.44	12

Table 16a (cont'd.)
 Statistical Zone 19
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 30 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	403.0	263.80	9.1	5.82	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	47.4	27.33	0.4	0.22	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus</i> spp.	52.5	35.44	0.1	0.11	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squilla</i> spp.	54.0	32.22	0.9	0.55	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus constrictus</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Sicyonia brevisrostris</i>	190.6	110.07	1.6	0.94	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	131.1	100.48	3.3	2.81	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Leiostomus xanthurus</i>	3.9	2.29	0.6	0.34	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Cynoscion</i> spp.	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Upeneus parvus</i>	9.2	3.68	0.1	0.08	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Anchoviella</i> spp.	763.4	763.37	3.1	3.05	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Cynoscion nothus</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squid</i>	236.6	128.39	4.8	2.75	4	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 16b
 Statistical Zone 19
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	314.9	0.00	1	312.0	89.09	7	64.2	13.05	12	38.3	6.03	4	0.0	0.00	0	0.0	0.00	0
Total finfish kg	297.5	0.00	1	292.4	90.74	7	31.2	12.05	12	21.1	2.48	4	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	17.4	0.00	1	16.2	4.84	7	23.7	8.27	12	12.2	7.14	4	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	1	3.3	0.89	7	8.8	3.44	12	4.8	2.80	4	0.0	0.00	0	0.0	0.00	0
Surface temperature	28.3	0.00	1	28.9	0.21	11	29.0	0.16	13	29.0	0.31	4	0.0	0.00	0	0.0	0.00	0
Midwater temperature	28.3	0.00	1	28.7	0.20	11	28.3	0.16	13	27.1	0.65	4	0.0	0.00	0	0.0	0.00	0
Bottom temperature	28.3	0.00	1	26.2	0.31	11	23.9	0.23	13	22.2	0.41	4	0.0	0.00	0	0.0	0.00	0
Surface salinity	32.6	0.00	1	32.1	0.23	11	31.8	0.60	13	31.8	1.01	4	0.0	0.00	0	0.0	0.00	0
Midwater salinity	32.6	0.00	1	32.5	0.17	11	32.7	0.49	13	33.5	1.04	4	0.0	0.00	0	0.0	0.00	0
Bottom salinity	32.6	0.00	1	34.5	0.19	11	35.8	0.14	13	36.6	0.11	4	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	1.4	0.00	1	0.5	0.36	11	0.3	0.11	13	0.1	0.02	4	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	2.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.2	0.00	1	6.8	0.42	11	6.5	0.07	12	6.7	0.09	4	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.4	0.00	1	6.7	0.49	11	6.5	0.08	12	6.7	0.22	4	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.8	0.00	1	5.9	0.66	11	5.5	0.28	11	5.8	0.33	4	0.0	0.00	0	0.0	0.00	0

Table 17a
 Statistical Zone 20
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	1	143.5	138.17	1.7	1.68	5	1051.1	537.81	11.4	5.15	13
<i>Trachypenaeus</i> spp.	0.0	0.00	0.0	0.00	1	3.6	3.60	0.0	0.00	5	883.2	559.64	1.7	0.97	13
<i>Callinectes similis</i>	12.0	0.00	0.0	0.00	1	1101.9	723.82	14.0	9.73	5	87.2	25.38	1.0	0.23	13
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	1	7.2	7.20	0.0	0.00	5	1.6	1.63	0.0	0.00	13
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	1	7.2	7.20	0.1	0.05	5	44.7	22.60	0.6	0.30	13
<i>Portunus spinicarpus</i>	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	13
<i>Trachurus lathami</i>	0.0	0.00	0.0	0.00	1	1.5	1.50	0.0	0.00	5	764.0	267.94	5.4	1.68	13
<i>Upeneus parvus</i>	0.0	0.00	0.0	0.00	1	559.5	268.25	5.8	4.00	5	640.1	372.02	4.1	1.23	13
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	1	7.6	7.64	0.0	0.02	5	478.2	281.62	11.7	8.19	13
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	1	2162.5	926.94	45.1	17.57	5	31.6	31.57	0.9	0.88	13
<i>Chloroscombrus chrysurus</i>	576.0	0.00	21.5	0.00	1	105.8	20.50	3.5	0.78	5	398.0	345.84	8.9	8.08	13
<i>Anchoviella</i> spp.	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	345.5	233.46	1.0	0.75	13
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	1	636.4	363.08	12.0	7.09	5	205.5	203.88	5.9	5.81	13
<i>Sardinella aurita</i>	24.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	5	464.8	420.66	2.3	1.94	13
Squid	0.0	0.00	0.0	0.00	1	87.3	61.21	1.9	1.62	5	412.6	101.71	6.7	1.65	13

Table 17a (cont'd.)
 Statistical Zone 20
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	188.1	167.85	3.7	3.27	3	76.9	32.14	1.8	0.75	2	122.1	0.00	3.1	0.00	1
<i>Trachypenaeus</i> spp.	245.6	242.09	1.0	0.98	3	596.5	596.50	3.1	3.09	2	24.2	0.00	0.0	0.00	1
<i>Callinectes similis</i>	43.0	24.81	0.3	0.24	3	84.4	75.64	0.6	0.61	2	0.0	0.00	0.0	0.00	1
<i>Sicyonia dorsalis</i>	15.8	10.63	0.0	0.03	3	240.0	240.00	0.9	0.93	2	0.0	0.00	0.0	0.00	1
<i>Squilla</i> spp.	19.1	15.72	0.4	0.28	3	80.0	80.00	1.2	1.23	2	24.2	0.00	0.3	0.00	1
<i>Portunus spinicarpus</i>	12.4	6.35	0.1	0.04	3	67.5	67.50	0.1	0.07	2	234.7	0.00	1.6	0.00	1
<i>Trachurus lathami</i>	423.8	276.13	6.5	3.32	3	39.3	39.27	0.8	0.84	2	0.0	0.00	0.0	0.00	1
<i>Upeneus parvus</i>	34.2	14.50	0.5	0.15	3	107.8	77.23	0.9	0.34	2	4.2	0.00	0.0	0.00	1
<i>Peprilus burti</i>	322.8	276.00	10.0	8.99	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	3	1.6	1.64	0.3	0.27	2	0.0	0.00	0.0	0.00	1
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Anchoviella</i> spp.	251.4	251.37	1.7	1.68	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Sardinella aurita</i>	68.2	68.24	0.3	0.29	3	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
<i>Squid</i>	275.7	138.15	4.3	2.13	3	224.0	38.95	9.3	3.08	2	4.2	0.00	0.3	0.00	1

Table 17b
 Statistical Zone 20
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	27.3	0.00	1	105.0	26.33	5	83.0	29.37	13	42.9	8.52	3	38.0	10.21	2	45.9	0.00	1
Total finfish kg	24.5	0.00	1	83.4	23.10	5	59.7	29.59	13	32.3	11.23	3	20.6	6.22	2	40.2	0.00	1
Total crustacean kg	2.7	0.00	1	19.9	8.42	5	15.8	6.49	13	6.0	5.09	3	8.2	7.23	2	5.3	0.00	1
Total others kg	0.0	0.00	1	2.0	1.66	5	7.3	1.67	13	4.3	2.13	3	9.4	3.02	2	0.5	0.00	1
Surface temperature	27.9	0.30	2	27.9	0.07	5	28.4	0.10	13	27.9	0.47	4	29.3	0.13	3	29.8	0.28	2
Midwater temperature	27.9	0.29	2	27.8	0.07	4	27.5	0.31	13	26.7	0.82	4	24.1	0.42	3	23.3	0.02	2
Bottom temperature	27.7	0.38	2	26.3	0.65	4	24.0	0.41	13	22.0	0.33	4	21.1	0.16	3	20.0	0.84	2
Surface salinity	34.4	0.09	2	33.8	0.14	5	32.9	0.26	13	33.3	1.23	4	30.6	0.25	3	30.1	0.09	2
Midwater salinity	34.4	0.09	2	34.0	0.16	4	34.3	0.20	13	34.6	0.63	4	35.8	0.35	3	36.7	0.12	2
Bottom salinity	34.6	0.20	2	34.9	0.21	4	35.7	0.17	13	36.3	0.33	4	36.8	0.00	3	36.8	0.06	2
Surface chlorophyll	0.4	0.20	2	0.1	0.05	5	0.1	0.01	12	0.1	0.02	4	0.1	0.02	3	0.1	0.01	2
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.9	0.55	2	6.9	0.45	5	6.4	0.19	13	6.7	0.09	4	6.4	0.03	3	6.4	0.10	2
Midwater oxygen	6.7	0.70	2	6.7	0.48	5	6.4	0.22	13	6.6	0.19	4	6.9	0.09	3	7.1	0.10	2
Bottom oxygen	6.7	1.00	2	6.8	0.37	5	6.2	0.22	13	5.9	0.28	4	6.6	0.30	3	6.9	0.70	2

Table 18b
 Statistical Zone 21
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	155.5	0.00	1	113.8	24.87	5	84.7	26.63	5	15.9	3.12	5	29.4	0.00	1	31.6	0.00	1
Total finfish kg	152.7	0.00	1	98.8	26.90	5	30.1	11.44	5	10.7	2.38	5	22.2	0.00	1	25.6	0.00	1
Total crustacean kg	0.0	0.00	1	3.9	2.19	5	52.5	25.47	5	4.1	1.65	5	0.7	0.00	1	1.1	0.00	1
Total others kg	2.7	0.00	1	11.1	9.45	5	1.7	0.92	5	1.3	0.59	5	6.5	0.00	1	4.9	0.00	1
Surface temperature	26.8	0.16	3	26.8	0.37	3	27.6	0.21	7	26.5	1.53	3	28.2	0.00	1	27.8	0.62	2
Midwater temperature	26.0	0.55	3	26.2	0.66	3	25.5	0.31	7	25.3	0.98	3	23.6	0.00	1	22.1	0.28	2
Bottom temperature	25.6	0.55	3	24.4	1.19	3	22.6	0.22	7	21.4	0.25	3	20.8	0.00	1	20.6	0.18	2
Surface salinity	35.9	0.09	3	35.4	0.36	3	34.8	0.38	7	34.3	0.60	3	33.9	0.00	1	34.1	0.76	2
Midwater salinity	36.1	0.17	3	35.4	0.13	3	35.7	0.20	7	35.8	0.20	3	36.1	0.00	1	36.8	0.01	2
Bottom salinity	36.0	0.05	3	35.7	0.19	3	36.4	0.13	7	36.7	0.07	3	36.8	0.00	1	36.8	0.00	2
Surface chlorophyll	0.2	0.01	3	0.2	0.11	3	0.1	0.02	7	0.2	0.16	3	0.1	0.00	1	0.1	0.01	2
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.7	0.90	2	6.8	0.91	3	6.5	0.27	7	7.1	0.34	3	6.4	0.00	1	6.7	0.15	2
Midwater oxygen	7.7	0.90	2	6.6	0.87	3	6.7	0.28	6	8.3	1.25	2	7.0	0.00	1	7.0	0.25	2
Bottom oxygen	7.1	0.30	2	6.1	0.71	3	6.5	0.41	6	6.5	0.10	2	7.2	0.00	1	6.7	0.15	2

Table 19a
 Statistical Zone 17
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	177.0	68.76	1.9	0.79	10	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Callinectes sapidus	51.0	24.00	3.2	1.38	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Callinectes similis	18.0	15.41	0.1	0.05	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Penaeus setiferus	3.0	1.84	0.1	0.04	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Persephona mediterranea	1.8	1.28	0.0	0.00	10	1.2	1.20	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Dyspanopeus texana	0.0	0.00	0.0	0.00	10	3.6	2.40	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	540.0	246.33	9.2	4.05	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Polydactylus octonemus	225.0	118.09	3.7	1.65	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	211.2	124.27	5.0	2.75	10	2.4	2.40	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Trichiurus lepturus	146.4	66.49	8.6	3.40	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	24.0	11.70	0.5	0.24	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Leiostomus xanthurus	18.6	12.28	0.5	0.35	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Peprilus burti	1.8	1.28	0.0	0.00	10	21.6	21.60	0.7	0.71	5	0.0	0.00	0.0	0.00	0
Arius felis	8.4	4.12	1.8	1.04	10	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
Squid	12.6	8.74	0.2	0.14	10	7.2	7.20	0.1	0.11	5	0.0	0.00	0.0	0.00	0

Table 19b
 Statistical Zone 17
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	36.0	13.50	10	1.1	1.09	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	29.7	11.47	10	0.5	0.55	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	5.7	2.21	10	0.0	0.00	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.5	0.55	10	0.0	0.00	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	30.5	0.33	11	31.1	0.10	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	29.8	0.18	11	29.6	0.38	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	28.7	0.22	11	27.4	0.29	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	17.5	0.28	11	18.4	0.61	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	20.5	0.59	11	25.2	0.81	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	23.8	1.20	11	28.1	1.25	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	1.2	0.19	11	1.0	0.12	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.9	0.17	6	1.3	0.04	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.8	0.35	11	8.4	0.38	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.4	0.36	11	8.9	0.85	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.2	0.43	11	7.9	1.77	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 20a
 Statistical Zone 18
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	34.5	20.25	0.3	0.20	4	61.4	39.90	0.9	0.58	13	0.0	0.00	0.0	0.00	0
Callinectes similis	0.0	0.00	0.0	0.00	4	14.8	4.64	0.0	0.03	13	0.0	0.00	0.0	0.00	0
Callinectes sapidus	12.0	12.00	1.7	1.70	4	0.9	0.92	0.0	0.02	13	0.0	0.00	0.0	0.00	0
Squilla spp.	0.0	0.00	0.0	0.00	4	3.2	1.61	0.0	0.02	13	0.0	0.00	0.0	0.00	0
Penaeus setiferus	1.5	1.50	0.1	0.07	4	2.8	2.32	0.1	0.13	13	0.0	0.00	0.0	0.00	0
Portunus gibbesii	3.0	1.73	0.0	0.00	4	0.9	0.62	0.0	0.00	13	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	126.0	103.40	2.2	1.68	4	342.9	225.59	6.6	4.12	13	0.0	0.00	0.0	0.00	0
Leiostomus xanthurus	10.5	7.09	0.2	0.13	4	87.2	67.47	2.5	1.94	13	0.0	0.00	0.0	0.00	0
Peprilus burti	0.0	0.00	0.0	0.00	4	82.2	57.85	2.6	1.90	13	0.0	0.00	0.0	0.00	0
Cynoscion nothus	1.5	1.50	0.1	0.07	4	33.7	23.20	1.0	0.74	13	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	66.0	66.00	1.2	1.23	4	8.8	4.79	0.1	0.06	13	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	49.5	49.50	1.2	1.16	4	4.6	3.20	0.2	0.16	13	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	39.0	39.00	0.7	0.68	4	2.8	2.32	0.1	0.06	13	0.0	0.00	0.0	0.00	0
Polydactylus octonemus	9.0	5.74	0.2	0.13	4	12.0	8.81	0.5	0.40	13	0.0	0.00	0.0	0.00	0
Squid	66.0	40.84	1.0	0.64	4	72.9	50.14	0.8	0.47	13	0.0	0.00	0.0	0.00	0

Table 20b
 Statistical Zone 18
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	11.6	7.25	4	17.2	8.68	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	8.9	5.38	4	14.5	7.84	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.0	2.05	4	0.8	0.57	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.7	0.68	4	1.3	0.59	13	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	28.9	0.26	6	28.9	0.21	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	28.2	0.33	6	28.2	0.18	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.4	0.63	6	27.7	0.35	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	27.6	1.62	6	28.4	0.31	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	28.3	1.75	6	29.3	0.49	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	29.7	1.51	6	32.2	0.53	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	1.2	0.48	6	0.5	0.09	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.5	0.72	6	6.0	0.06	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.2	0.96	6	5.8	0.10	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	4.7	1.40	6	5.0	0.48	11	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 21a
 Statistical Zone 19
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	16.5	10.21	0.1	0.08	4	572.4	192.62	8.6	2.95	10	188.0	71.11	2.7	1.23	3
Callinectes similis	223.5	205.89	1.8	1.66	4	117.0	36.04	0.7	0.24	10	80.0	12.17	0.6	0.18	3
Trachypenaeus similis	0.0	0.00	0.0	0.00	4	34.2	13.83	0.1	0.06	10	40.0	24.33	0.1	0.09	3
Arenaeus cribrarius	51.0	20.27	0.5	0.37	4	0.0	0.00	0.0	0.00	10	0.0	0.00	0.0	0.00	3
Squilla spp.	4.5	4.50	0.1	0.07	4	24.0	5.59	0.1	0.04	10	10.0	4.00	0.0	0.00	3
Penaeus setiferus	33.0	31.03	1.4	1.27	4	1.2	0.80	0.1	0.08	10	0.0	0.00	0.0	0.00	3
Leiostomus xanthurus	64.5	23.41	1.2	0.28	4	1512.0	1505.34	40.7	40.48	10	0.0	0.00	0.0	0.00	3
Polydactylus octonemus	184.5	123.75	5.5	4.03	4	367.2	247.28	10.1	6.50	10	0.0	0.00	0.0	0.00	3
Micropogonias undulatus	46.5	26.99	1.9	1.47	4	270.0	230.19	7.7	5.83	10	2.0	2.00	0.1	0.09	3
Cynoscion nothus	52.5	11.32	1.2	0.23	4	171.6	65.37	2.7	0.92	10	116.0	98.06	1.6	1.37	3
Peprilus burti	1.5	1.50	0.0	0.00	4	25.8	15.31	0.7	0.49	10	100.0	82.66	2.5	2.02	3
Trichiurus lepturus	0.0	0.00	0.0	0.00	4	49.8	31.93	3.0	2.01	10	8.0	4.00	0.5	0.24	3
Prionotus longispinosus	0.0	0.00	0.0	0.00	4	40.2	19.60	0.2	0.11	10	22.0	13.11	0.1	0.09	3
Upeneus parvus	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	10	122.0	122.00	1.9	1.91	3
Squid	622.5	578.67	9.0	8.19	4	56.4	19.33	1.1	0.44	10	164.0	71.19	2.5	1.03	3

Table 21b
 Statistical Zone 19
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	40.2	8.58	4	79.1	53.49	10	17.3	9.23	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	15.0	4.24	4	66.5	54.54	10	10.0	8.67	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	7.5	3.76	4	9.5	3.28	10	3.6	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	17.7	8.73	4	3.3	1.34	10	2.7	1.57	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	29.6	0.36	4	28.3	0.17	11	28.6	0.35	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	29.4	0.37	4	27.5	0.17	11	27.9	0.05	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.9	0.49	4	24.8	0.40	11	25.0	1.55	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	30.1	0.47	4	29.3	0.49	11	30.7	0.48	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	30.9	0.53	4	30.2	0.58	11	30.7	0.45	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	33.0	0.54	4	32.9	0.60	11	31.4	0.13	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.4	0.30	2	0.2	0.06	10	0.6	0.26	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.7	0.44	4	6.2	0.04	11	6.0	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.6	0.39	4	6.2	0.07	11	6.1	0.10	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.3	0.45	4	3.6	0.58	11	4.0	2.20	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 22a
 Statistical Zone 20
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	136.5	130.52	1.2	1.23	4	276.9	98.89	2.6	1.05	7	195.0	27.00	2.0	0.24	4
Penaeus aztecus	12.0	8.49	0.1	0.07	4	27.4	11.25	0.2	0.11	7	361.5	282.78	4.2	3.26	4
Penaeus setiferus	18.0	11.49	0.8	0.52	4	9.4	1.21	0.4	0.06	7	0.0	0.00	0.0	0.00	4
Trachypenaeus similis	0.0	0.00	0.0	0.00	4	4.3	4.29	0.0	0.00	7	21.0	14.18	0.1	0.07	4
Squilla spp.	3.0	1.73	0.0	0.00	4	4.3	3.39	0.0	0.04	7	4.5	4.50	0.0	0.00	4
Arenaeus cribrarius	12.0	8.12	0.3	0.34	4	0.0	0.00	0.0	0.00	7	0.0	0.00	0.0	0.00	4
Leiostomus xanthurus	264.0	210.04	6.4	5.14	4	657.4	141.28	12.1	3.14	7	103.5	97.59	2.0	1.80	4
Micropogonias undulatus	108.0	62.35	2.2	1.26	4	324.9	112.85	6.6	2.47	7	564.0	272.37	14.2	6.79	4
Syacium gunteri	0.0	0.00	0.0	0.00	4	27.4	19.94	0.2	0.15	7	295.5	129.79	2.7	1.26	4
Lagodon rhomboides	33.0	13.53	0.6	0.30	4	72.9	36.76	1.0	0.48	7	1.5	1.50	0.1	0.07	4
Menticirrhus americanus	13.5	9.60	0.5	0.30	4	39.4	18.14	1.9	0.90	7	1.5	1.50	0.1	0.07	4
Peprilus burti	0.0	0.00	0.0	0.00	4	1.7	1.11	0.0	0.00	7	54.0	36.58	0.8	0.46	4
Chloroscombrus chrysurus	19.5	8.96	0.3	0.17	4	18.9	8.33	0.2	0.09	7	4.5	4.50	0.1	0.07	4
Symphurus plagiusa	0.0	0.00	0.0	0.00	4	23.1	10.09	0.5	0.23	7	10.5	4.50	0.3	0.11	4
Squid	1.5	1.50	0.0	0.00	4	30.9	15.68	0.8	0.56	7	43.5	14.77	1.0	0.32	4

Table 22b
 Statistical Zone 20
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	15.0	8.80	4	30.4	5.78	7	32.0	10.23	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	10.9	6.77	4	24.5	5.32	7	21.1	6.99	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	2.7	1.93	4	4.7	1.29	7	6.1	3.41	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.7	0.68	4	1.9	0.98	7	4.8	2.05	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	28.3	0.13	4	28.0	0.14	7	28.2	0.15	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	28.1	0.09	4	27.4	0.06	7	26.9	0.35	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.7	0.37	4	25.9	0.50	7	24.2	0.25	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	32.6	0.49	4	31.8	0.70	7	31.5	1.07	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	32.5	0.48	4	32.5	0.45	7	32.8	0.59	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	32.9	0.32	4	33.6	0.27	7	34.1	0.24	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.4	0.02	4	0.1	0.01	5	0.1	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.0	0.10	4	6.1	0.11	7	6.1	0.09	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.1	0.11	4	6.2	0.11	7	6.1	0.14	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.0	0.20	4	4.9	0.43	7	4.3	0.29	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 23a
 Statistical Zone 21
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	0.0	0.00	0.0	0.00	1	37.3	13.52	0.5	0.16	9	194.0	149.09	1.7	1.45	3
Penaeus aztecus	0.0	0.00	0.0	0.00	1	4.0	2.00	0.0	0.00	9	82.0	67.20	0.9	0.78	3
Persephona mediterranea	0.0	0.00	0.0	0.00	1	0.7	0.67	0.0	0.00	9	78.0	78.00	0.0	0.00	3
Sicyonia dorsalis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	50.0	29.05	0.1	0.09	3
Portunus gibbesii	0.0	0.00	0.0	0.00	1	5.3	2.33	0.0	0.03	9	2.0	2.00	0.0	0.00	3
Ovalipes floridanus	0.0	0.00	0.0	0.00	1	4.7	3.43	0.0	0.03	9	0.0	0.00	0.0	0.00	3
Syacium gunteri	6.0	0.00	0.0	0.00	1	4.7	2.79	0.0	0.03	9	62.0	20.88	0.9	0.18	3
Upeneus parvus	0.0	0.00	0.0	0.00	1	2.7	2.03	0.0	0.03	9	32.0	17.78	0.3	0.16	3
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	18.0	12.00	0.1	0.09	3
Leiostomus xanthurus	0.0	0.00	0.0	0.00	1	5.3	3.67	0.1	0.06	9	0.0	0.00	0.0	0.00	3
Prionotus longispinosus	0.0	0.00	0.0	0.00	1	4.7	2.79	0.0	0.00	9	0.0	0.00	0.0	0.00	3
Lutjanus campechanus	0.0	0.00	0.0	0.00	1	4.7	3.97	0.1	0.09	9	0.0	0.00	0.0	0.00	3
Selene setapinnis	0.0	0.00	0.0	0.00	1	3.3	3.33	0.0	0.00	9	0.0	0.00	0.0	0.00	3
Trichiurus lepturus	0.0	0.00	0.0	0.00	1	3.3	2.26	0.0	0.00	9	0.0	0.00	0.0	0.00	3
Squid	0.0	0.00	0.0	0.00	1	4.7	2.79	0.0	0.03	9	4.0	4.00	0.0	0.00	3

Table 23b
 Statistical Zone 21
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	1	1.5	0.66	9	5.5	2.73	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	1	0.0	0.00	9	1.8	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	1	0.3	0.30	9	2.7	2.73	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	1	0.6	0.61	9	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	25.9	0.15	2	26.5	0.18	8	26.1	0.19	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	24.6	0.30	2	24.9	0.30	8	25.4	0.15	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	24.2	0.50	2	23.9	0.50	8	21.8	0.12	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	35.7	0.01	2	35.4	0.12	8	34.9	0.04	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	35.7	0.00	1	35.5	0.09	8	35.3	0.19	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	35.8	0.07	2	35.6	0.06	8	35.9	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.3	0.03	2	0.2	0.03	8	0.4	0.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	12.6	0.20	2	11.3	1.15	8	6.0	0.12	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	12.8	0.10	2	11.2	1.10	8	6.1	0.03	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	12.5	0.50	2	10.9	1.01	8	6.2	0.15	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 24a
 Statistical Zone 22
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 22 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	120.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	1	6.0	0.00	0.0	0.00	1
Penaeus setiferus	60.0	0.00	2.5	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Callinectes similis	36.0	0.00	0.3	0.00	1	6.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	1
Arenaeus cribrarius	30.0	0.00	0.8	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Callinectes sapidus	0.0	0.00	0.0	0.00	1	6.0	0.00	0.8	0.00	1	0.0	0.00	0.0	0.00	1
Selene setapinnis	1710.0	0.00	5.5	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	210.0	0.00	3.5	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Leiostomus xanthurus	102.0	0.00	1.4	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Prionotus rubio	78.0	0.00	1.1	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Lagodon rhomboides	66.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Larimus fasciatus	48.0	0.00	0.8	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Polydactylus octonemus	48.0	0.00	1.1	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1
Syacium gunteri	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1	42.0	0.00	0.3	0.00	1
Squid	12.0	0.00	0.3	0.00	1	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	1

Table 24b
 Statistical Zone 22
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	21.8	0.00	1	0.0	0.00	1	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	16.4	0.00	1	0.0	0.00	1	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	5.5	0.00	1	0.0	0.00	1	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	1	0.0	0.00	1	0.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	26.9	0.00	1	25.4	0.00	1	25.8	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	26.8	0.00	1	25.0	0.00	1	22.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	26.5	0.00	1	22.3	0.00	1	22.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	35.6	0.00	1	35.2	0.00	1	35.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	35.6	0.00	1	35.4	0.00	1	35.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	35.4	0.00	1	35.8	0.00	1	35.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	2.2	0.00	1	0.3	0.00	1	0.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	5.7	0.00	1	6.0	0.00	1	6.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	5.5	0.00	1	6.1	0.00	1	6.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.4	0.00	1	6.0	0.00	1	5.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 25a
 Statistical Zone 11
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Hepatus epheliticus	10.0	5.29	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Menippe adina	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	2.0	2.00	0.4	0.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Libinia spp.	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	18.0	18.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Citharichthys spilopterus	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Synodus foetens	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus tribulus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Lutjanus synagris	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Achirus lineatus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Monacanthus hispidus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 25b
 Statistical Zone 11
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	31.2	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	27.7	1.75	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	22.3	0.21	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	30.9	4.09	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	10.7	0.39	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	10.1	0.85	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	2.5	0.27	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 26a
 Statistical Zone 12
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 12 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 26b
 Statistical Zone 12
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	30.5	0.24	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	28.5	1.67	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	16.8	1.72	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	25.2	5.02	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	10.2	0.50	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.0	0.59	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.0	1.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 27a
 Statistical Zone 13
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	82.0	41.62	0.6	0.40	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	38.0	22.54	6.3	3.55	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus setiferus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	1916.0	1209.04	2.1	1.16	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa nasuta	476.0	446.34	0.5	0.55	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	304.0	235.01	0.4	0.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Sardinella aurita	38.0	29.05	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Arius felis	28.0	28.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Leiostomus xanthurus	12.0	12.00	0.5	0.45	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Scomberomorus maculatus	10.0	5.29	0.4	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Brevoortia patronus	10.0	10.00	1.0	1.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 27b
 Statistical Zone 13
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	12.7	3.64	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	5.5	1.57	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	7.3	3.96	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	31.5	0.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	31.6	0.23	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	13.4	0.29	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	16.1	1.31	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	29.4	1.29	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.8	0.38	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.7	1.09	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 28a
 Statistical Zone 14
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	36.0	22.98	0.4	0.26	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	26.0	17.71	3.5	2.83	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	3.0	2.05	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	2215.0	2067.49	3.4	3.14	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa nasuta	127.0	106.87	0.1	0.14	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Polydactylus octonemus	24.0	24.00	0.4	0.36	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion spp.	22.0	22.00	0.6	0.59	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	21.0	15.78	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	13.0	8.68	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trichiurus lepturus	9.0	6.88	0.7	0.58	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Harengula jaguana	7.0	7.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	8.0	8.00	0.1	0.14	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 28b
 Statistical Zone 14
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	9.1	4.15	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	5.5	3.52	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	3.2	2.67	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	30.6	0.17	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	30.4	0.30	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	16.3	1.96	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	19.5	3.16	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	8.6	1.51	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.0	0.32	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.2	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 29a
 Statistical Zone 16
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	160.0	160.00	0.4	0.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	28.0	28.00	0.5	0.45	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus setiferus	22.0	22.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Palaemonetes spp.	16.0	16.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trachypenaeus similis	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	994.0	994.00	2.3	2.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	140.0	140.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	16.0	8.00	0.4	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	14.0	14.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chaetodipterus faber	14.0	7.21	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	8.0	5.29	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Bagre marinus	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Trinectes maculatus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 29b
 Statistical Zone 16
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	3.6	3.64	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	2.73	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.9	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	30.9	0.33	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	29.8	0.39	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	16.1	5.67	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	19.0	7.41	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	16.5	5.41	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.1	0.18	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	5.5	1.11	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 30a
 Statistical Zone 17
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	238.0	123.22	1.6	0.83	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes similis	120.0	102.24	0.8	0.42	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	58.0	43.86	2.7	1.37	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus setiferus	6.0	3.46	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Xiphopenaeus kroyeri	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	588.0	376.73	0.4	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chaetodipterus faber	204.0	198.03	0.5	0.45	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	172.0	97.02	1.6	0.94	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	148.0	116.57	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	90.0	87.02	1.1	1.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Bagre marinus	70.0	36.06	0.6	0.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	26.0	26.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	8.0	8.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	78.0	40.84	0.8	0.42	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 30b
 Statistical Zone 17
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Summer Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	11.8	6.36	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	5.5	3.15	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	5.5	2.73	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	30.7	0.26	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	30.1	0.12	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	21.6	0.55	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	24.4	1.71	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	9.8	4.74	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	5.5	0.61	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	2.8	0.77	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 31. 1990 Fall Shrimp/Groundfish Survey species composition list, 315 trawl stations, for those vessels that used a 40-ft trawl. Species with a total weight of less than 0.0277 kg (0.05 lbs) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
<u>Finfishes</u>					
Micropogonias undulatus	Atlantic croaker	46475	2644.2	211	66.8
Chloroscombrus chrysurus	Atlantic bumper	40506	740.8	152	48.1
Stenotomus caprinus	longspine porgy	22478	847.0	184	58.2
Peprilus burti	gulf butterfish	22131	1444.8	146	46.2
Leiostomus xanthurus	spot	9188	798.6	146	46.2
Serranus atrobranchus	blackear bass	8226	86.7	86	27.2
Trachurus lathami	rough scad	7181	309.7	77	24.4
Arius felis	hardhead catfish	4757	777.5	68	21.5
Synodus foetens	inshore lizardfish	4736	625.9	246	77.8
Prionotus longispinosus	bigeye searobin	4491	136.5	150	47.5
Diplectrum bivittatum	dwarf sand perch	4256	73.9	146	46.2
Upeneus parvus	dwarf goatfish	4143	108.6	127	40.2
Cynoscion nothus	silver seatrout	3964	195.4	110	34.8
Centropristis philadelphica	rock sea bass	3183	118.5	175	55.4
Trichiurus lepturus	Atlantic cutlassfish	2849	177.1	89	28.2
Syacium gunteri	shoal flounder	2559	51.5	71	22.5
Lagodon rhomboides	pinfish	2520	165.5	141	44.6
Lutjanus campechanus	red snapper	2514	117.5	190	60.1
Cynoscion arenarius	sand seatrout	2258	281.8	155	49.1
Anchoa hepsetus	striped anchovy	1841	25.5	71	22.5
Sphoeroides parvus	least puffer	1837	14.7	96	30.4
Pristipomoides aquilonaris	wenchman	1806	68.0	78	24.7
Prionotus paralatus	Mexican searobin	1698	63.7	58	18.4
Syacium spp.	lefteye flounders	1693	28.8	72	22.8
Prionotus stearnsi	shortwing searobin	1622	18.0	46	14.6
Cynoscion spp.	seatrouts	1566	5.5	21	6.6
Saurida brasiliensis	largescale lizardfish	1468	9.2	98	31.0
Rhomboplites aurorubens	vermillion snapper	1399	51.5	11	3.5
Etropus crossotus	fringed flounder	1380	23.6	89	28.2
Lepophidium brevibarbe	blackedge cusk-eel	1318	53.1	74	23.4
Harengula jaguana	scaled sardine	1053	45.2	66	20.9
Decapterus punctatus	round scad	973	24.6	12	3.8
Polydactylus octonemus	Atlantic threadfin	924	64.1	68	21.5
Prionotus rubio	blackwing searobin	733	19.1	53	16.8
Opisthonema oglinum	Atlantic thread herring	678	23.3	60	19.0
Trichopsetta ventralis	sash flounder	568	15.1	43	13.6

Table 31. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Porichthys plectrodon</i>	Atlantic midshipman	529	9.6	84	26.6
<i>Lagocephalus laevigatus</i>	smooth puffer	499	78.4	82	25.9
<i>Eucinostomus gula</i>	silver jenny	491	11.7	68	21.5
<i>Orthopristis chrysoptera</i>	pigfish	474	37.8	58	18.4
<i>Citharichthys spilopterus</i>	bay whiff	474	8.1	62	19.6
<i>Synodus poeyi</i>	offshore lizardfish	469	2.9	43	13.6
<i>Anchoa mitchilli</i>	bay anchovy	429	0.5	16	5.1
<i>Chaetodipterus faber</i>	Atlantic spadefish	417	22.7	93	29.4
<i>Halieutichthys aculeatus</i>	pancake batfish	401	3.5	64	20.3
<i>Caranx crysos</i>	blue runner	380	36.5	71	22.5
<i>Sardinella aurita</i>	Spanish sardine	376	10.2	21	6.6
<i>Mullus auratus</i>	red goatfish	326	25.6	22	7.0
<i>Scorpaena calcarata</i>	smoothhead scorpionfish	284	4.4	26	8.2
<i>Bollmannia communis</i>	ragged goby	259	1.3	21	6.6
<i>Haemulon aurolineatum</i>	tomtate	258	11.4	14	4.4
<i>Selene setapinnis</i>	Atlantic moonfish	243	18.2	34	10.8
<i>Etropus cyclosquamus</i>	shelf flounder	229	2.9	15	4.7
<i>Scomber japonicus</i>	chub mackerel	206	14.6	14	4.4
<i>Hildebrandia flava</i>	yellow conger	206	14.7	36	11.4
<i>Pontinus longispinis</i>	longspine scorpionfish	204	3.9	7	2.2
<i>Eucinostomus argenteus</i>	spotfin mojarra	201	4.9	12	3.8
<i>Cyclopsetta chittendeni</i>	Mexican flounder	199	21.1	49	15.5
<i>Symphurus plagiusa</i>	blackcheek tonguefish	196	4.3	46	14.6
<i>Lutjanus synagris</i>	lane snapper	193	14.5	50	15.8
<i>Steindachneria argentea</i>	luminous hake	192	0.6	5	1.6
<i>Centropristis ocyura</i>	bank sea bass	184	4.6	13	4.1
<i>Bellator militaris</i>	horned searobin	166	2.1	19	6.0
<i>Syacium papillosum</i>	dusky flounder	162	7.4	20	6.3
<i>Brotula barbata</i>	bearded brotula	158	18.0	38	12.0
<i>Menticirrhus americanus</i>	southern kingfish	156	18.2	26	8.2
<i>Anchoa</i> spp.	anchovies	130	0.1	4	1.3
<i>Brevoortia patronus</i>	gulf menhaden	129	15.3	25	7.9
<i>Prionotus tribulus</i>	bighead searobin	127	7.5	31	9.8
<i>Sphyræna guachancho</i>	guaguanche	118	16.5	23	7.3
<i>Selene vomer</i>	lookdown	107	9.5	12	3.8
<i>Etrumeus teres</i>	round herring	107	3.0	16	5.1
<i>Equetus</i> spp.	drums	106	10.7	7	2.2
<i>Lepophidium jeannae</i>	mottled cusk-eel	96	4.7	7	2.2
<i>Balistes capriscus</i>	gray triggerfish	94	14.4	41	13.0
<i>Paralichthys lethostigma</i>	southern flounder	87	31.2	41	13.0

Table 31. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Selar crumenophthalmus</i>	bigeye scad	83	7.0	19	6.0
<i>Priacanthus arenatus</i>	bigeye	71	11.7	15	4.7
<i>Ophidion holbrooki</i>	bank cusk-eel	68	6.6	4	1.3
<i>Equetus umbrosus</i>	cubbyu	68	2.6	6	1.9
<i>Diplectrum formosum</i>	sand perch	66	6.3	20	6.3
<i>Stellifer lanceolatus</i>	star drum	64	0.5	6	1.9
<i>Monacanthus hispidus</i>	planehead filefish	61	1.4	10	3.2
<i>Ancylopsetta dilecta</i>	three-eye flounder	60	2.8	12	3.8
<i>Scomberomorus cavalla</i>	king mackerel	60	21.4	21	6.6
<i>Peprilus alepidotus</i>	harvestfish	58	4.8	18	5.7
<i>Hoplunnis macrurus</i>	freckled pike-conger	55	1.8	22	7.0
<i>Ancylopsetta quadrocellata</i>	ocellated flounder	54	11.1	21	6.6
<i>Lepophidium</i> spp.	cusk-eels	53	1.5	8	2.5
<i>Prionotus scitulus</i>	leopard searobin	48	1.5	8	2.5
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	48	46.6	24	7.6
<i>Gymnothorax nigromarginatus</i>	blackedge moray	47	5.5	15	4.7
<i>Caulolatilus intermedius</i>	anchor tilefish	47	7.9	17	5.4
<i>Ogcocephalus</i> spp.	batfishes	47	3.9	21	6.6
<i>Bairdiella chrysoura</i>	silver perch	46	2.3	3	0.9
<i>Ophidion welshi</i>	crested cusk-eel	45	1.9	21	6.6
<i>Raja texana</i>	roundel skate	45	13.8	17	5.4
<i>Urophycis floridana</i>	southern hake	43	5.9	11	3.5
<i>Bathyanthias mexicanus</i>	yellowtail bass	41	0.2	4	1.3
<i>Prionotus ophryas</i>	bandtail searobin	40	1.2	22	7.0
<i>Prionotus roseus</i>	bluespotted searobin	38	0.9	5	1.6
<i>Scomberomorus maculatus</i>	Spanish mackerel	38	11.7	22	7.0
<i>Caranx hippos</i>	crevalle jack	38	3.6	7	2.2
<i>Engyophrys senta</i>	spiny flounder	36	0.0	10	3.2
<i>Narcine brasiliensis</i>	lesser electric ray	31	9.1	5	1.6
<i>Scorpaena brasiliensis</i>	barbfish	30	1.5	2	0.6
<i>Prionotus</i> spp.	searobins	29	0.2	7	2.2
<i>Seriola dumerili</i>	greater amberjack	29	12.2	6	1.9
<i>Urophycis cirrata</i>	gulf hake	28	2.1	1	0.3
<i>Achirus lineatus</i>	lined sole	28	0.2	4	1.3
<i>Rachycentron canadum</i>	cobia	26	14.0	9	2.8
<i>Bagre marinus</i>	gafftopsail catfish	25	3.5	8	2.5
<i>Sphoeroides dorsalis</i>	marbled puffer	23	1.0	10	3.2
<i>Gymnachirus texae</i>	fringed sole	22	0.5	9	2.8
<i>Kathetostoma albigutta</i>	lancer stargazer	22	1.0	6	1.9
<i>Echeneis naucrates</i>	sharksucker	21	4.9	5	1.6

Table 31. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Decodon puellaris</i>	red hogfish	20	0.9	3	0.9
<i>Dasyatis sabina</i>	Atlantic stingray	17	12.5	6	1.9
<i>Trachinocephalus myops</i>	snakefish	16	1.0	5	1.6
<i>Pomatomus saltatrix</i>	bluefish	16	6.6	6	1.9
<i>Aluterus schoepfi</i>	orange filefish	16	3.3	7	2.2
<i>Larimus fasciatus</i>	banded drum	15	0.9	3	0.9
<i>Anchoa lyolepis</i>	dusky anchovy	15	0.0	1	0.3
<i>Sphyrna tiburo</i>	bonnethead	15	22.5	7	2.2
<i>Symphurus diemedianus</i>	spottedfin tonguefish	14	0.3	5	1.6
<i>Neomerinthe hemingwayi</i>	spinycheek scorpionfish	12	6.7	5	1.6
<i>Peristedion gracile</i>	slender searobin	11	0.5	3	0.9
<i>Equetus acuminatus</i>	high-hat	11	0.4	2	0.6
<i>Citharichthys macrops</i>	spotted whiff	11	0.3	8	2.5
<i>Ogcocephalus declivirostris</i>	slantbrow batfish	11	0.0	4	1.3
<i>Sphyrna borealis</i>	northern sennet	11	1.2	2	0.6
<i>Caulolatilus microps</i>	blueline tilefish	10	1.2	2	0.6
<i>Hemicarax amblyrhynchus</i>	bluntnose jack	10	0.5	1	0.3
<i>Raja</i> spp.	skates	10	0.5	1	0.3
<i>Antennarius radiatus</i>	singlespot frogfish	10	0.0	4	1.3
<i>Etropus</i> spp.	lefteye flounders	10	0.0	5	1.6
<i>Neobythites gillii</i>	cuskeel	10	0.2	3	0.9
<i>Calamus bajonado</i>	jolthead porgy	8	0.2	1	0.3
<i>Symphurus civitatus</i>	offshore tonguefish	8	0.1	2	0.6
<i>Pagrus pagrus</i>	red porgy	7	1.5	2	0.6
<i>Gobionellus hastatus</i>	sharptail goby	7	0.0	2	0.6
<i>Pogonias cromis</i>	black drum	6	14.7	3	0.9
<i>Paralichthys albigutta</i>	gulf flounder	6	2.0	6	1.9
<i>Mustelus norrisi</i>	Florida smoothhound	6	37.9	6	1.9
<i>Dasyatis americana</i>	southern stingray	5	8.7	4	1.3
<i>Oligoplites saurus</i>	leatherjack	5	0.5	1	0.3
<i>Trachinotus carolinus</i>	Florida pompano	5	1.1	3	0.9
<i>Remora remora</i>	remora	5	2.2	4	1.3
<i>Symphurus</i> spp.	tonguefishes	5	0.1	3	0.9
<i>Trinectes maculatus</i>	hogchoker	5	0.0	2	0.6
<i>Lactophrys quadricornis</i>	scrawled cowfish	5	0.7	3	0.9
<i>Prionotus carolinus</i>	northern searobin	5	0.1	2	0.6
<i>Ophidion grayi</i>	blotched cuskeel	4	0.4	3	0.9
<i>Chilomycterus schoepfi</i>	striped burrfish	4	1.8	4	1.3
<i>Serraniculus pumilio</i>	pygmy sea bass	4	0.0	4	1.3
<i>Epinephelus flavolimbatus</i>	yellowedge grouper	3	0.5	3	0.9

Table 31. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Urophycis regia</i>	spotted hake	3	0.3	1	0.3
<i>Hippocampus</i> spp.	seahorses	3	0.0	1	0.3
<i>Hoplunnis</i> spp.	pike-congers	3	0.1	2	0.6
<i>Synodus intermedius</i>	sand diver	3	0.0	1	0.3
<i>Ophichthus rex</i>	king snake eel	3	5.0	2	0.6
<i>Dasyatis say</i>	bluntnose stingray	3	1.9	2	0.6
<i>Mustelus canis</i>	smooth dogfish	3	6.4	3	0.9
<i>Antennarius striatus</i>	striated frogfish	3	0.5	1	0.3
<i>Sphoeroides nephelus</i>	southern puffer	3	0.0	1	0.3
<i>Sphoeroides spengleri</i>	bandtail puffer	3	0.0	1	0.3
<i>Cyclopsetta fimbriata</i>	spotfin flounder	3	0.2	1	0.3
<i>Sciaenops ocellatus</i>	red drum	3	14.9	3	0.9
<i>Menticirrhus littoralis</i>	gulf kingfish	3	0.5	2	0.6
<i>Astroscopus y-graecum</i>	southern stargazer	2	0.1	1	0.3
<i>Hemipteronotus novacula</i>	pearly razorfish	2	0.3	1	0.3
<i>Scorpaena dispar</i>	hunchback scorpionfish	2	0.0	1	0.3
<i>Bellator egretta</i>	streamer searobin	2	0.0	1	0.3
<i>Bothus robinis</i>	twospot flounder	2	0.0	1	0.3
<i>Bothus</i> spp.	left-eye flounders	2	0.0	2	0.6
<i>Carcharhinus acronotus</i>	blacknose shark	2	4.7	2	0.6
<i>Squatina dumeril</i>	Atlantic angel shark	2	10.5	1	0.3
<i>Anchoa nasuta</i>	longnose anchovy	2	0.0	1	0.3
<i>Ophichthus gomesi</i>	shrimp eel	2	0.2	1	0.3
<i>Gymnothorax saxicola</i>	honeycomb moray	2	0.1	2	0.6
<i>Ophichthus puncticeps</i>	palespotted eel	1	0.1	1	0.3
Congridae	conger eels	1	0.1	1	0.3
<i>Echiophis mordax</i>	snapper eel	1	1.6	1	0.3
<i>Syngnathus</i> spp.	pipefishes	1	0.0	1	0.3
<i>Mugil curema</i>	white mullet	1	0.0	1	0.3
<i>Mugil cephalus</i>	striped mullet	1	0.3	1	0.3
<i>Bregmaceros atlanticus</i>	antenna codlet	1	0.0	1	0.3
<i>Epinephelus guttatus</i>	red hind	1	0.3	1	0.3
<i>Sphyræna</i> spp.	barracudas	1	0.0	1	0.3
<i>Rypticus maculatus</i>	whitespotted soapfish	1	0.1	1	0.3
<i>Serranus phoebe</i>	tattler	1	0.2	1	0.3
<i>Pristigenys alta</i>	short bigeye	1	0.1	1	0.3
<i>Lutjanus griseus</i>	grey snapper	1	0.0	1	0.3
<i>Paralichthys squamilentus</i>	broad flounder	1	1.3	1	0.3
<i>Etropus microstomus</i>	smallmouth flounder	1	0.0	1	0.3
<i>Monacanthus ciliatus</i>	fringed filefish	1	0.1	1	0.3

Table 31. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Cantherhines macrocerus</i>	whitespotted filefish	1	0.1	1	0.3
<i>Scorpaena</i> spp.	scorpionfishes	1	0.0	1	0.3
<i>Gobioides broussoneti</i>	violet goby	1	0.0	1	0.3
Brotulidae	cusks-eels	1	0.0	1	0.3
<i>Hypsoblennius hentz</i>	feather blenny	1	0.0	1	0.3
<i>Lonchopisthus micrognathus</i>	swordtail jawfish	1	0.0	1	0.3
<i>Calamus nodosus</i>	knobbed porgy	1	0.3	1	0.3
<u>Crustaceans</u>					
<i>Penaeus aztecus</i>	brown shrimp	10663	259.5	243	76.9
<i>Callinectes similis</i>	lesser blue crab	10589	128.9	185	58.5
<i>Portunus gibbesii</i>	iridescent swimming crab	9351	56.8	152	48.1
<i>Trachypenaeus similis</i>	roughback shrimp	3647	11.4	58	18.4
<i>Sicyonia brevirostris</i>	brown rock shrimp	3244	46.3	86	27.2
<i>Penaeus setiferus</i>	white shrimp	2506	54.0	99	31.3
<i>Squilla empusa</i>	mantis shrimp	2090	21.0	104	32.9
<i>Sicyonia dorsalis</i>	lesser rock shrimp	2009	3.5	59	18.7
<i>Trachypenaeus</i> spp.	roughneck shrimps	1764	4.7	49	15.5
<i>Solenocera</i> spp.	humpback shrimps	903	5.1	40	12.7
<i>Penaeus duorarum</i>	pink shrimp	861	20.1	67	21.2
<i>Portunus spinicarpus</i>	longspine swimming crab	756	8.2	45	14.2
<i>Squilla chydrea</i>	mantis shrimp	725	9.3	43	13.6
<i>Parapenaeus</i> spp.	penaeid shrimps	663	1.7	7	2.2
<i>Trachypenaeus constrictus</i>	roughneck shrimp	564	1.5	13	4.1
<i>Squilla</i> spp.	mantis shrimps	224	3.4	12	3.8
<i>Portunus spinimanus</i>	blotched swimming crab	192	2.7	31	9.8
<i>Calappa sulcata</i>	yellow box crab	115	20.7	48	15.2
<i>Callinectes sapidus</i>	blue crab	102	14.8	21	6.6
Portunidae	swimming crabs	52	2.7	3	0.9
<i>Raninoides louisianensis</i>	gulf frog crab	48	0.4	10	3.2
<i>Libinia emarginata</i>	portly spider crab	42	12.4	8	2.5
<i>Hepatus epheliticus</i>	calico crab	26	1.4	7	2.2
<i>Anasimus latus</i>	stilt spider crab	24	0.2	9	2.8
<i>Petrochirus diogenes</i>	giant hermit crab	15	9.0	1	0.3
Xanthidae	mud crabs	11	0.1	4	1.3
<i>Plesionika</i> spp.	pandalid shrimps	11	0.0	2	0.6
<i>Scyllarus chacei</i>	chace slipper lobster	9	0.0	2	0.6
<i>Parapenaeus politus</i>	deepwater rose shrimp	8	0.0	1	0.3
<i>Libinia dubia</i>	longnose spider crab	7	1.8	5	1.6

Table 31. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Sicyonia burkenroadi</i>	spiny rock shrimp	7	0.0	1	0.3
<i>Stenorhynchus seticornis</i>	yellowline arrow crab	6	0.0	4	1.3
<i>Arenaeus cribrarius</i>	speckled swimming crab	6	0.2	3	0.9
<i>Parthenope</i> spp.	elbow crabs	5	0.0	3	0.9
<i>Pagurus</i> spp.	right-handed hermit crabs	4	0.0	2	0.6
Paguridae	right-handed hermit crabs	4	0.1	3	0.9
<i>Persephona mediterranea</i>	mottled purse crab	4	0.0	2	0.6
<i>Menippe adina</i>	Gulf stone crab	3	0.0	1	0.3
<i>Ovalipes stephensoni</i>	coarsehand lady crab	3	0.1	1	0.3
<i>Scyllarides nodifer</i>	ridged slipper lobster	3	0.5	1	0.3
<i>Porcellana</i> spp.	porcelain crabs	3	0.0	1	0.3
<i>Scyllarus</i> spp.	slipper lobsters	2	0.0	1	0.3
Majidae	spider crabs	2	0.0	1	0.3
<i>Persephona</i> spp.	purse crabs	2	0.0	1	0.3
<i>Myropsis quinquespinosa</i>	fivespine purse crab	2	0.0	1	0.3
<i>Iliacantha liodactylus</i>	purse crab	1	0.0	1	0.3
<i>Persephona crinita</i>	pink purse crab	1	0.0	1	0.3
<i>Hexapanopeus</i> spp.	mud crabs	1	0.0	1	0.3
<i>Ovalipes</i> spp.	lady crabs	1	0.0	1	0.3
<i>Calappa</i> spp.	box crabs	1	0.1	1	0.3
<i>Calappa flammea</i>	flame box crab	1	0.3	1	0.3
<i>Leiolambrus nitidus</i>	white elbow crab	1	0.0	1	0.3
<i>Xiphopenaeus kroyeri</i>	seabob	1	0.0	1	0.3
<u>Others</u>					
<i>Loligo pealeii</i>	longfin squid	2698	39.4	117	37.0
<i>Loligo</i> spp.	squids	1951	16.0	52	16.5
<i>Amusium papyraceum</i>	paper scallop	1192	17.4	42	13.3
<i>Lolliguncula brevis</i>	Atlantic brief squid	1064	12.1	56	17.7
<i>Mellita quinquiesperforata</i>	five-slotted sand dollar	189	3.5	7	2.2
Asteroidea	starfishes	127	0.9	28	8.9
<i>Loligo pleii</i>	arrow squid	125	3.2	9	2.8
<i>Aurelia</i> spp.	jellyfishes	96	26.0	27	8.5
<i>Luidia clathrata</i>	sea star	41	0.5	2	0.6
<i>Clypeaster</i> spp.	cake urchins	40	6.7	8	2.5
<i>Aurelia aurita</i>	moon jellyfish	32	12.7	3	0.9
<i>Pitar cordatus</i>	Schwengel's pitar	26	0.7	4	1.3
<i>Tellina</i> spp.	tellin shells	22	0.0	1	0.3
<i>Stomolophus meleagris</i>	many-mouthed sea jelly	14	7.6	4	1.3

Table 31. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY OF OCCURRENCE
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
Myopsida	squids	12	0.0	1	0.3
Tagelus spp.	tagelus	11	0.1	1	0.3
Octopus spp.	octopuses	10	0.1	1	0.3
Argopecten gibbus	calico scallop	8	0.0	3	0.9
Porifera	sponges	8	8.2	1	0.3
Ophioderma brevispinum	short-spined brittle star	7	0.0	1	0.3
Anadara baughmani	Baughman's ark	7	0.2	3	0.9
Octopodidae	octopuses	7	4.3	1	0.3
Rossia spp.	bob-tailed squids	4	0.0	1	0.3
Sconsia striata	royal bonnet	4	0.1	1	0.3
Conus spp.	cone shells	3	0.0	1	0.3
Turridae	slit shells	3	0.0	1	0.3
Echinoidea	echinoderms	3	0.3	1	0.3
Chrysaora quinquecirrha	sea nettle	3	0.3	1	0.3
Arbacia spp.	sea urchins	3	0.0	1	0.3
Beroidea	comb jellies	2	0.4	1	0.3
Limulus polyphemus	horseshoe crab	2	4.1	1	0.3
Zoobotryon pelluc	sauerkraut grass	2	4.6	2	0.6
Pelecypoda	bivalve mollusks	2	0.1	1	0.3
Fasciolaria spp.	tulip shells	2	0.0	2	0.6
Octopus vulgaris	common Atlantic octopus	2	1.0	2	0.6
Aequipecten spp.	scallops	1	0.0	1	0.3
Pleuroploca gigantea	horse conch	1	1.7	1	0.3
Busycon perversum	perverse whelk	1	0.6	1	0.3
Arcidae	ark shells	1	0.0	1	0.3
Ophioderma spp.	brittle stars	1	0.0	1	0.3
Stomolophus spp.	many-mouthed sea jellies	1	0.2	1	0.3
Tunicata	tunicates	1	0.0	1	0.3
Eucidaris tribuloides	slate-pencil urchin	1	0.0	1	0.3

Table 32. 1990 Fall Shrimp/Groundfish Survey species composition list, 80 trawl stations, for those vessels that used a 20-ft trawl. Species with a total weight of less than 0.0277 kg (0.05 lbs) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
<i>Chloroscombrus chrysurus</i>	Atlantic bumper	196	1.2	25	31.3
<i>Syacium gunteri</i>	shoal flounder	195	4.5	26	32.5
<i>Stellifer lanceolatus</i>	star drum	122	1.5	12	15.0
<i>Cynoscion nothus</i>	silver seatrout	116	0.7	24	30.0
<i>Cynoscion arenarius</i>	sand seatrout	93	2.2	26	32.5
<i>Peprilus alepidotus</i>	harvestfish	73	0.4	15	18.8
<i>Symphurus plagiosa</i>	blackcheek tonguefish	62	1.0	20	25.0
<i>Polydactylus octonemus</i>	Atlantic threadfin	43	2.2	10	12.5
<i>Lutjanus synagris</i>	lane snapper	39	1.1	1	1.3
<i>Peprilus burti</i>	gulf butterfish	32	1.5	12	15.0
<i>Etropus crossotus</i>	fringed flounder	30	0.5	18	22.5
<i>Prionotus tribulus</i>	bighead searobin	25	0.1	16	20.0
<i>Arius felis</i>	hardhead catfish	24	1.1	6	7.5
<i>Harengula jaguana</i>	scaled sardine	22	0.5	7	8.8
<i>Menticirrhus americanus</i>	southern kingfish	18	1.1	10	12.5
<i>Chaetodipterus faber</i>	Atlantic spadefish	18	0.1	9	11.3
<i>Hemicaranx amblyrhynchus</i>	bluntnose jack	15	0.2	5	6.3
<i>Centropristis philadelphica</i>	rock sea bass	14	0.2	5	6.3
<i>Orthopristis chrysoptera</i>	pigfish	13	0.6	7	8.8
<i>Lagodon rhomboides</i>	pinfish	12	0.2	5	6.3
<i>Synodus foetens</i>	inshore lizardfish	12	1.0	9	11.3
<i>Larimus fasciatus</i>	banded drum	11	0.0	4	5.0
<i>Sphoeroides parvus</i>	least puffer	11	0.0	11	13.8
<i>Citharichthys spilopterus</i>	bay whiff	10	0.2	7	8.8
<i>Prionotus longispinosus</i>	bigeye searobin	6	0.2	5	6.3
<i>Lutjanus campechanus</i>	red snapper	6	0.0	6	7.5
<i>Micropogonias undulatus</i>	Atlantic croaker	5	0.2	4	5.0
<i>Anchoa mitchilli</i>	bay anchovy	5	0.0	4	5.0
<i>Anchoa hepsetus</i>	striped anchovy	5	0.0	4	5.0
<i>Brevoortia patronus</i>	gulf menhaden	5	0.4	4	5.0
<i>Sardinella aurita</i>	Spanish sardine	4	0.2	3	3.7
<i>Selene setapinnis</i>	Atlantic moonfish	4	0.0	3	3.7
<i>Leiostomus xanthurus</i>	spot	4	0.2	3	3.7
<i>Anchoa nasuta</i>	longnose anchovy	3	0.0	1	1.3
<i>Dorosoma petenense</i>	threadfin shad	3	0.0	2	2.5
<i>Opisthonema oglinum</i>	Atlantic thread herring	2	0.0	2	2.5

Table 32. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Serraniculus pumilio</i>	pygmy sea bass	2	0.0	2	2.5
<i>Eucinostomus argenteus</i>	spotfin mojarra	2	0.0	2	2.5
<i>Trichiurus lepturus</i>	Atlantic cutlassfish	2	0.1	2	2.5
<i>Aluterus schoepfi</i>	orange filefish	2	0.2	1	1.3
<i>Ancylosetta quadrocellata</i>	ocellated flounder	2	0.1	1	1.3
<i>Ogcocephalus radiatus</i>	polka-dot batfish	2	0.0	2	2.5
<i>Haliutichthys aculeatus</i>	pancake batfish	1	0.0	1	1.3
<i>Ogcocephalus pantostictus</i>	spotted batfish	1	0.0	1	1.3
<i>Porichthys plectrodon</i>	Atlantic midshipman	1	0.0	1	1.3
<i>Trinectes maculatus</i>	hogchoker	1	0.0	1	1.3
<i>Achirus lineatus</i>	lined sole	1	0.0	1	1.3
<i>Symphurus parvus</i>	pygmy tonguefish	1	0.0	1	1.3
<i>Bollmannia communis</i>	ragged goby	1	0.0	1	1.3
<i>Prionotus rubio</i>	blackwing searobin	1	0.0	1	1.3
<i>Ophidion welshi</i>	crested cusk-eel	1	0.0	1	1.3
<i>Menticirrhus littoralis</i>	gulf kingfish	1	0.1	1	1.3
Carangidae	jacks	1	0.0	1	1.3
<i>Trachurus lathamii</i>	rough scad	1	0.0	1	1.3
<i>Selene vomer</i>	lookdown	1	0.0	1	1.3
<i>Diplectrum bivittatum</i>	dwarf sand perch	1	0.0	1	1.3
<i>Etrumeus teres</i>	round herring	1	0.0	1	1.3
<i>Dasyatis sabina</i>	Atlantic stringray	1	0.2	1	1.3
<u>Crustaceans</u>					
<i>Portunus gibbesii</i>	iridescent swimming crab	369	1.1	39	48.7
<i>Penaeus setiferus</i>	white shrimp	282	2.8	33	41.3
<i>Callinectes similis</i>	lesser blue crab	238	1.1	33	41.3
<i>Xiphopenaeus kroyeri</i>	seabob	156	0.7	2	2.5
<i>Squilla empusa</i>	mantis shrimp	111	1.2	20	25.0
<i>Trachypenaeus similis</i>	roughback shrimp	81	0.2	13	16.3
<i>Penaeus aztecus</i>	brown shrimp	57	0.5	16	20.0
<i>Sicyonia dorsalis</i>	lesser rock shrimp	39	0.0	20	25.0
<i>Penaeus duorarum</i>	pink shrimp	30	0.3	10	12.5
<i>Pagurus pollicaris</i>	flatclaw hermit crab	26	0.4	17	21.3
<i>Portunus spinimanus</i>	blotched swimming crab	25	0.1	10	12.5
<i>Trachypenaeus constrictus</i>	roughneck shrimp	15	0.0	3	3.7
<i>Calappa sulcata</i>	yellow box crab	9	0.2	4	5.0
<i>Metoporphaphis calcarata</i>	false arrow crab	7	0.0	5	6.3
<i>Arenaeus cribrarius</i>	speckled swimming crab	7	0.1	4	5.0

Table 32. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Libinia dubia</i>	longnose spider crab	6	0.0	5	6.3
<i>Portunus sayi</i>	sargassum swimming crab	6	0.0	3	3.7
<i>Persephona crinita</i>	pink purse crab	5	0.0	4	5.0
<i>Dromidia antillensis</i>	hairy sponge crab	5	0.0	3	3.7
<i>Persephona mediterranea</i>	mottled purse crab	3	0.0	3	3.7
<i>Petrochirus diogenes</i>	giant hermit crab	3	0.0	3	3.7
<i>Callinectes sapidus</i>	blue crab	2	0.0	2	2.5
<i>Sicyonia brevirostris</i>	brown rock shrimp	2	0.0	2	2.5
Paguridae	right-handed hermit crabs	2	0.0	2	2.5
<i>Speocarcinus lobatus</i>	gulf squareback crab	2	0.0	1	1.3
<i>Hepatus epheliticus</i>	calico crab	2	0.0	2	2.5
<i>Parthenope serrata</i>	sawtooth elbow crab	1	0.0	1	1.3
<i>Porcellana sayana</i>	spotted porcelain crab	1	0.0	1	1.3
<i>Pagurus longicarpus</i>	longwrist hermit crab	1	0.0	1	1.3
<i>Dyspanopeus texana</i>	gulf grassflat crab	1	0.0	1	1.3
<i>Ovalipes floridanus</i>	Florida lady crab	1	0.0	1	1.3
<i>Stenorhynchus seticornis</i>	yellowline arrow crab	1	0.0	1	1.3
<i>Podocheila sidneyi</i>	shortfinger neck crab	1	0.0	1	1.3
<i>Libinia emarginata</i>	portly spider crab	1	0.0	1	1.3
Xanthidae	mud crabs	1	0.0	1	1.3
<u>Others</u>					
<i>Lolliguncula brevis</i>	Atlantic brief squid	478	5.3	40	50.0
<i>Luidia clathrata</i>	sea star	164	1.9	24	30.0
<i>Loligo pealeii</i>	longfin squid	94	1.0	18	22.5
<i>Stomolophus meleagris</i>	many-mouthed sea jelly	79	14.4	16	20.0
<i>Renilla mulleri</i>	short-stemmed sea pansy	61	0.1	8	10.0
Asteroidea	starfishes	46	0.7	6	7.5
<i>Nassarius vibex</i>	bruised nassa	34	0.0	1	1.3
Actinidae	sea anemones	33	0.0	13	16.3
<i>Dactylometra quinquecirrha</i>	compass jellyfish	19	0.3	11	13.8
Gorgonidae	gorgonians	10	0.0	3	3.7
Algae	algae	9	0.4	9	11.3
<i>Brissopsis alta</i>	heart urchin	8	0.0	1	1.3
<i>Cantharus cancellarius</i>	cancellate cantharus	8	0.0	5	6.3
<i>Neverita duplicata</i>	shark eye	8	0.1	5	6.3
Hydroidae	hydras	5	0.7	5	6.3
<i>Astropecten antillensis</i>	beaded sea star	3	0.0	3	3.7
<i>Murex fulvescens</i>	giant eastern murex	3	0.4	3	3.7

Table 32. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<i>Anadara floridana</i>	cut-ribbed ark	3	0.0	1	1.3
<i>Anadara ovalis</i>	blood ark	2	0.0	2	2.5
<i>Busycon perversum</i>	perverse whelk	2	0.0	2	2.5
<i>Luidia alternata</i>	banded luidia	2	0.0	2	2.5
<i>Astropecten duplicatus</i>	spiny beaded sea star	2	0.0	2	2.5
<i>Aurelia aurita</i>	moon jellyfish	2	0.5	2	2.5
<i>Loligo pleii</i>	arrow squid	1	0.0	1	1.3
<i>Chiropsalmus quadrumanus</i>	jellyfish	1	0.0	1	1.3
<i>Polychaeta</i>	bristleworms	1	0.0	1	1.3
<i>Chione clenchi</i>	Clench venus	1	0.0	1	1.3
<i>Armina tigrina</i>	tiger armina	1	0.0	1	1.3
Gracilariacea	red algae	1	0.3	1	1.3

Table 33. 1990 Fall Shrimp/Groundfish Survey species composition list, 21 trawl stations, for those vessels that used a 16-ft trawl. Species with a total weight of less than 0.0277 kg (0.05 lbs) are indicated on table as 0.0 kg.

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER CAUGHT	TOTAL WEIGHT CAUGHT (KG)	NUMBER OF TOWS WHERE CAUGHT	% FREQUENCY OF OCCURRENCE
<u>Finfishes</u>					
Anchoa mitchilli	bay anchovy	1396	1.3	6	28.6
Peprilus burti	gulf butterfish	131	4.8	6	28.6
Chloroscombrus chrysurus	Atlantic bumper	66	0.2	7	33.3
Anchoa hepsetus	striped anchovy	56	0.0	4	19.0
Menticirrhus americanus	southern kingfish	30	0.0	7	33.3
Anchoa nasuta	longnose anchovy	29	0.0	2	9.5
Cynoscion arenarius	sand seatrout	28	0.3	7	33.3
Lagodon rhomboides	pinfish	23	0.4	2	9.5
Larimus fasciatus	banded drum	15	0.0	6	28.6
Etropus crossotus	fringed flounder	11	0.1	3	14.3
Hemicaranx amblyrhynchus	bluntnose jack	8	0.0	1	4.8
Micropogonias undulatus	Atlantic croaker	7	0.1	3	14.3
Chaetodipterus faber	Atlantic spadefish	5	0.2	2	9.5
Prionotus tribulus	bighead searobin	5	0.0	3	14.3
Sphoeroides parvus	least puffer	5	0.0	1	4.8
Synodus foetens	inshore lizardfish	5	0.4	4	19.0
Stellifer lanceolatus	star drum	3	0.0	2	9.5
Cynoscion nothus	silver seatrout	3	0.0	3	14.3
Trinectes maculatus	hogchoker	2	0.0	2	9.5
Achirus lineatus	lined sole	1	0.0	1	4.8
Symphurus plagiusa	blackcheek tonguefish	1	0.0	1	4.8
Peprilus alepidotus	harvestfish	1	0.0	1	4.8
Trichiurus lepturus	Atlantic cutlassfish	1	0.1	1	4.8
Sphyraena guachancho	guaguanche	1	0.0	1	4.8
Opisthonema oglinum	Atlantic thread herring	1	0.0	1	4.8
Harengula jaguana	scaled sardine	1	0.0	1	4.8
Porichthys plectrodon	Atlantic midshipman	1	0.0	1	4.8
Chilomycterus schoepfi	striped burrfish	1	0.1	1	4.8
<u>Crustaceans</u>					
Penaeus setiferus	white shrimp	174	0.7	7	33.3
Callinectes sapidus	blue crab	15	0.4	2	9.5
Penaeus aztecus	brown shrimp	12	0.0	2	9.5
Callinectes similis	lesser blue crab	10	0.0	6	28.6
Trachypenaeus constrictus	roughneck shrimp	6	0.0	1	4.8

Table 33. Species composition list (cont'd.)

GENUS/SPECIES	COMMON NAME	TOTAL NUMBER	TOTAL WEIGHT	NUMBER OF	% FREQUENCY
		CAUGHT	CAUGHT (KG)	TOWS WHERE CAUGHT	
Trachypenaeus similis	roughback shrimp	5	0.0	2	9.5
Penaeus duorarum	pink shrimp	2	0.0	1	4.8
Portunus gibbesii	iridescent swimming crab	2	0.0	2	9.5
Sicyonia dorsalis	lesser rock shrimp	2	0.0	2	9.5
Hexapanopeus paulensis	knobbed mud crab	1	0.0	1	4.8
Arenaeus cribrarius	speckled swimming crab	1	0.0	1	4.8
Libinia emarginata	portly spider crab	1	0.0	1	4.8
Ovalipes floridanus	Florida lady crab	1	0.0	1	4.8
Xiphopenaeus kroyeri	seabob	1	0.0	1	4.8
<u>Others</u>					
Loligo pealeii	longfin squid	124	1.0	3	14.3
Lolliguncula brevis	Atlantic brief squid	83	0.3	12	57.1

Table 34a
 Statistical Zone 11
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	5.0	5.00	0.1	0.09	6	29.9	10.07	0.5	0.18	15	37.2	12.35	1.2	0.45	27
Callinectes similis	26.8	15.60	0.9	0.46	6	103.4	65.99	1.8	1.05	15	40.1	15.24	1.4	0.62	27
Portunus gibbesii	57.0	33.53	0.4	0.23	6	52.2	15.29	0.5	0.19	15	32.9	7.57	0.5	0.14	27
Parapenaeus spp.	0.0	0.00	0.0	0.00	6	16.5	14.05	0.0	0.04	15	0.0	0.00	0.0	0.00	27
Squilla spp.	54.1	51.60	1.1	1.08	6	19.2	9.96	0.3	0.12	15	5.3	2.73	0.1	0.03	27
Trachypenaeus similis	19.0	19.00	0.1	0.09	6	54.8	34.44	0.2	0.10	15	14.5	7.60	0.0	0.02	27
Peprilus burti	237.5	237.50	12.1	12.13	6	1.8	1.23	0.1	0.13	15	488.5	326.49	33.9	22.42	27
Micropogonias undulatus	39.5	26.21	1.5	0.95	6	478.8	189.77	17.4	6.57	15	317.8	128.71	18.6	7.09	27
Leiostomus xanthurus	2.4	2.35	0.1	0.13	6	3.8	2.20	0.4	0.28	15	205.4	93.87	19.7	9.62	27
Chloroscombrus chrysurus	3.5	2.50	0.0	0.03	6	7.5	3.32	0.1	0.08	15	377.1	251.88	7.6	3.98	27
Serranus atrobranchus	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	15	32.9	19.48	0.3	0.18	27
Trachurus lathami	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	15	61.1	43.43	3.0	2.14	27
Arius felis	427.9	413.52	29.4	26.24	6	118.1	70.23	21.9	13.98	15	3.5	3.27	1.2	1.10	27
Rhomboplites aurorubens	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	15	49.1	48.54	1.5	1.50	27
Squid	124.9	39.52	1.2	0.50	6	42.5	13.46	0.6	0.21	15	72.6	20.35	1.4	0.51	27

Table 34a (cont'd.)
 Statistical Zone 11
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	48.8	16.44	1.6	0.64	8	72.7	27.83	3.5	1.40	4	96.0	28.31	3.2	1.46	5
<i>Callinectes similis</i>	16.5	8.91	0.6	0.36	8	0.0	0.00	0.0	0.00	4	15.2	15.16	0.1	0.11	5
<i>Portunus gibbesii</i>	3.3	1.67	0.1	0.05	8	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	5
<i>Parapenaeus spp.</i>	0.4	0.38	0.0	0.00	8	0.0	0.00	0.0	0.00	4	390.1	297.86	1.1	0.73	5
<i>Squilla spp.</i>	42.8	20.44	0.7	0.37	8	27.0	21.20	0.3	0.27	4	9.8	6.24	0.1	0.10	5
<i>Trachypenaeus similis</i>	6.5	5.53	0.0	0.02	8	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	5
<i>Peprilus burti</i>	445.6	293.05	33.6	21.88	8	0.4	0.41	0.1	0.06	4	67.8	57.60	5.7	5.07	5
<i>Micropogonias undulatus</i>	8.1	4.31	0.6	0.37	8	1.3	0.82	0.2	0.09	4	0.0	0.00	0.0	0.00	5
<i>Leiostomus xanthurus</i>	274.0	227.01	6.5	2.17	8	155.6	106.50	18.6	12.35	4	47.2	22.19	6.3	2.61	5
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	8	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	5
<i>Serranus atrobranchus</i>	200.5	98.90	2.7	1.51	8	123.2	86.39	1.7	1.18	4	292.0	85.03	5.9	2.12	5
<i>Trachurus lathami</i>	25.0	17.84	1.1	0.75	8	0.4	0.37	0.0	0.02	4	14.7	11.62	0.8	0.71	5
<i>Arius felis</i>	0.0	0.00	0.0	0.00	8	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	5
<i>Rhomboplites aurorubens</i>	0.0	0.00	0.0	0.00	8	1.1	1.10	0.1	0.07	4	11.6	9.19	0.9	0.82	5
<i>Squid</i>	7.8	5.20	0.1	0.05	8	4.4	4.39	0.0	0.00	4	4.8	4.80	0.0	0.00	5

Table 34b
 Statistical Zone 11
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	85.6	32.52	6	70.7	19.58	15	129.2	31.43	27	73.1	20.35	8	48.9	15.57	4	93.8	11.20	5
Total finfish kg	61.7	31.97	6	63.7	19.23	15	122.3	31.24	27	67.5	20.33	8	43.5	15.02	4	84.7	11.41	5
Total crustacean kg	3.7	2.23	6	5.8	1.48	15	4.9	1.31	27	5.5	2.49	8	5.4	2.43	4	8.8	2.02	5
Total others kg	20.1	10.13	6	1.5	0.52	15	1.9	0.54	27	0.1	0.08	8	0.0	0.00	4	0.3	0.30	5
Surface temperature	17.8	0.55	7	19.0	0.62	10	21.2	0.23	25	22.5	0.10	6	23.2	0.20	4	21.8	0.74	5
Midwater temperature	17.7	0.52	7	19.0	0.51	10	21.3	0.24	25	22.8	0.06	6	23.3	0.20	4	23.4	0.32	5
Bottom temperature	17.7	0.52	7	19.2	0.46	10	21.5	0.22	25	22.3	0.19	6	21.8	0.36	4	20.5	0.21	5
Surface salinity	33.6	0.26	6	33.9	0.27	7	34.6	0.19	23	35.0	0.18	6	35.7	0.06	4	31.3	2.57	5
Midwater salinity	33.4	0.26	5	34.1	0.25	7	34.9	0.14	23	35.2	0.12	6	35.7	0.12	4	35.8	0.20	4
Bottom salinity	33.6	0.27	6	33.9	0.25	7	34.8	0.60	23	36.0	0.15	6	35.9	0.29	4	35.7	0.33	4
Surface chlorophyll	1.1	0.11	4	1.2	0.33	7	1.4	0.15	23	2.0	0.40	6	0.4	0.14	4	1.5	0.60	5
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.6	0.00	1
Surface oxygen	6.4	0.47	7	6.7	0.30	10	7.1	0.11	26	7.2	0.08	6	6.8	0.15	4	7.1	0.22	5
Midwater oxygen	7.0	0.21	7	6.9	0.22	10	6.7	0.15	26	6.9	0.13	6	6.7	0.03	4	6.2	0.38	4
Bottom oxygen	6.6	0.30	7	6.8	0.22	10	6.1	0.21	26	4.9	0.38	6	5.9	0.19	4	5.7	0.30	4

Table 35a
 Statistical Zone 12
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 12 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	577.5	0.00	3.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus spp.</i>	125.0	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squilla spp.</i>	97.5	0.00	0.8	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Sicyonia dorsalis</i>	65.0	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Penaeus setiferus</i>	30.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Portunus gibbesii</i>	30.0	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Cynoscion spp.</i>	387.5	0.00	1.3	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Anchoa hepsetus</i>	375.0	0.00	2.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Opisthonema oglinum</i>	237.5	0.00	1.0	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Achirus lineatus</i>	47.5	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Symphurus plagiusa</i>	25.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trichiurus lepturus</i>	17.5	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Menticirrhus americanus</i>	12.5	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Cynoscion arenarius</i>	10.0	0.00	0.2	0.00	1	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 35b
 Statistical Zone 12
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	18.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	12.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	4.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.4	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	19.2	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.3	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	24.9	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	27.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	31.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	1.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	9.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	8.1	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 36a
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	0	14.4	14.40	0.2	0.22	5	1618.0	1456.51	5.5	2.56	13
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	0	229.8	227.56	0.6	0.60	5	653.3	405.51	4.4	3.42	13
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	0	66.9	61.35	0.6	0.48	5	132.8	40.97	1.5	0.45	13
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	0	0.4	0.44	0.0	0.00	5	189.6	83.58	0.7	0.27	13
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	0	70.8	38.47	0.9	0.43	5	137.8	45.67	2.5	0.77	13
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	5	159.8	82.14	0.2	0.11	13
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	0	4.4	1.26	0.3	0.12	5	1081.3	593.36	66.0	36.47	13
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	0	3.1	2.60	0.1	0.06	5	306.8	153.62	6.0	2.65	13
<i>Cynoscion nothus</i>	0.0	0.00	0.0	0.00	0	2.0	1.26	0.2	0.12	5	520.0	331.19	6.3	2.44	13
<i>Trichiurus lepturus</i>	0.0	0.00	0.0	0.00	0	23.3	23.33	0.3	0.27	5	159.3	83.98	7.6	5.05	13
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	0	719.5	503.87	10.2	7.03	5	25.7	14.06	0.5	0.23	13
<i>Cynoscion spp.</i>	0.0	0.00	0.0	0.00	0	489.6	489.60	1.3	1.31	5	185.4	122.21	1.0	0.88	13
<i>Arius felis</i>	0.0	0.00	0.0	0.00	0	300.7	299.83	7.9	7.79	5	7.5	6.19	2.5	1.99	13
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	0	3.6	3.60	0.5	0.49	5	19.9	11.47	1.9	1.04	13
<i>Squid</i>	0.0	0.00	0.0	0.00	0	37.5	24.25	0.4	0.19	5	45.9	18.18	0.4	0.12	13

Table 36a (cont'd.)
 Statistical Zone 13
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	4.7	1.53	0.2	0.06	3	54.0	0.00	0.8	0.00	1	12.9	12.86	0.3	0.26	3
<i>Portunus gibbesii</i>	8.1	8.09	0.0	0.04	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Penaeus aztecus</i>	225.7	67.07	3.7	1.12	3	80.0	0.00	1.8	0.00	1	55.2	20.99	1.6	0.70	3
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	44.3	44.29	0.1	0.06	3
<i>Penaeus setiferus</i>	50.7	34.33	1.6	1.10	3	1.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Micropogonias undulatus</i>	638.4	634.40	38.5	38.14	3	5.0	0.00	0.5	0.00	1	0.0	0.00	0.0	0.00	3
<i>Stenotomus caprinus</i>	114.6	113.77	2.6	2.60	3	33.0	0.00	0.6	0.00	1	14.3	14.29	0.3	0.26	3
<i>Cynoscion nothus</i>	8.5	4.85	2.7	2.59	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Trichiurus lepturus</i>	482.2	317.09	12.9	6.46	3	5.0	0.00	0.0	0.00	1	46.6	31.27	1.9	1.78	3
<i>Chloroscombrus chrysurus</i>	4.0	4.00	0.2	0.18	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Cynoscion spp.</i>	16.2	16.17	0.1	0.06	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Arius felis</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	3
<i>Leiostomus xanthurus</i>	53.5	51.12	5.4	5.10	3	363.0	0.00	44.5	0.00	1	25.3	23.80	2.9	2.46	3
<i>Squid</i>	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	1	8.7	4.08	0.3	0.17	3

Table 36b
 Statistical Zone 13
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	36.8	9.28	5	126.2	35.77	13	82.4	50.80	3	77.3	0.00	1	51.6	5.10	3
Total finfish kg	0.0	0.00	0	34.8	8.95	5	108.9	37.94	13	75.8	49.16	3	74.1	0.00	1	47.8	7.11	3
Total crustacean kg	0.0	0.00	0	2.0	1.59	5	16.6	6.10	13	5.4	2.24	3	3.2	0.00	1	3.6	2.12	3
Total others kg	0.0	0.00	0	0.0	0.00	5	0.6	0.30	13	0.2	0.25	3	0.0	0.00	1	1.0	0.56	3
Surface temperature	0.0	0.00	0	23.0	1.57	6	22.7	1.04	13	22.3	0.44	3	23.7	0.00	1	23.9	0.00	1
Midwater temperature	0.0	0.00	0	23.4	1.41	6	23.9	0.94	13	24.5	0.52	3	23.7	0.00	1	25.6	0.00	1
Bottom temperature	0.0	0.00	0	24.3	1.16	6	24.6	0.73	13	23.5	0.88	3	20.7	0.00	1	20.9	0.00	1
Surface salinity	0.0	0.00	0	29.3	1.07	6	29.2	0.78	13	32.3	0.83	3	35.8	0.00	1	34.2	0.00	1
Midwater salinity	0.0	0.00	0	29.9	1.23	6	33.1	0.48	13	35.7	0.46	3	35.8	0.00	1	36.0	0.00	1
Bottom salinity	0.0	0.00	0	31.6	1.59	6	34.9	0.25	13	36.3	0.09	3	36.7	0.00	1	36.6	0.00	1
Surface chlorophyll	0.0	0.00	0	21.2	13.16	6	5.1	2.98	13	1.1	0.67	3	1.7	0.00	1	1.3	0.00	1
Midwater chlorophyll	0.0	0.00	0	35.4	17.32	3	1.9	0.71	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	18.7	14.20	6	1.7	0.61	12	0.9	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.2	0.28	6	7.3	0.22	13	7.3	0.43	3	7.0	0.00	1	6.7	0.00	1
Midwater oxygen	0.0	0.00	0	6.7	0.42	6	6.1	0.26	13	6.0	0.57	3	6.4	0.00	1	6.3	0.00	1
Bottom oxygen	0.0	0.00	0	5.8	0.29	6	4.9	0.30	13	4.9	0.41	3	4.4	0.00	1	5.8	0.00	1

Table 37a
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus gibbesii	336.1	311.26	3.1	3.03	4	381.0	348.07	1.0	0.76	12	187.7	79.33	1.6	0.58	16
Callinectes similis	157.5	146.02	1.2	1.08	4	247.0	151.85	2.3	1.55	12	114.7	39.77	2.6	1.03	16
Penaeus aztecus	91.6	63.39	1.1	0.78	4	41.2	15.00	0.4	0.16	12	76.6	32.98	1.5	0.60	16
Penaeus setiferus	21.9	20.11	0.4	0.31	4	146.5	53.80	1.9	0.69	12	2.0	1.45	0.0	0.02	16
Squilla spp.	9.9	9.03	0.0	0.00	4	30.7	27.91	0.2	0.21	12	63.4	38.53	0.7	0.46	16
Trachypenaeus similis	394.9	377.69	0.9	0.83	4	18.8	9.73	0.0	0.02	12	7.1	6.17	0.0	0.01	16
Micropogonias undulatus	2631.6	2609.17	173.7	172.23	4	533.8	318.47	33.6	19.85	12	1937.4	517.72	98.0	26.25	16
Stenotomus caprinus	0.0	0.00	0.0	0.00	4	1.5	1.21	0.0	0.01	12	344.5	84.80	7.2	1.90	16
Prionotus longispinosus	36.5	35.55	0.2	0.20	4	12.4	8.52	0.5	0.34	12	359.4	101.06	8.0	2.40	16
Trichiurus lepturus	20.5	20.53	0.1	0.11	4	59.5	31.77	4.0	3.02	12	119.4	44.03	10.2	5.36	16
Cynoscion nothus	140.3	139.39	0.4	0.36	4	22.8	9.43	0.4	0.17	12	57.7	19.73	4.7	1.68	16
Synodus foetens	26.8	11.05	0.8	0.65	4	4.6	2.58	0.2	0.13	12	80.7	33.23	11.0	4.54	16
Chloroscombrus chrysurus	6.5	3.75	0.3	0.19	4	71.1	41.34	2.1	1.00	12	17.2	9.33	0.9	0.47	16
Leiostomus xanthurus	52.1	52.11	4.2	4.16	4	32.4	18.65	3.5	2.23	12	22.6	8.18	2.4	0.89	16
Squid	91.8	86.47	0.9	0.84	4	16.6	6.99	0.1	0.04	12	49.7	21.06	0.4	0.30	16

Table 37a (cont'd.)
 Statistical Zone 14
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus gibbesii	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Callinectes similis	9.5	0.50	0.2	0.20	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Penaeus aztecus	112.0	63.00	4.7	1.89	2	36.6	15.51	1.5	0.71	2	19.1	0.00	1.1	0.00	1
Penaeus setiferus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Squilla spp.	2.0	2.00	0.0	0.00	2	1.6	1.58	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Trachypenaeus similis	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Micropogonias undulatus	197.0	68.00	13.9	3.14	2	9.5	9.47	1.1	1.15	2	0.0	0.00	0.0	0.00	1
Stenotomus caprinus	532.0	218.00	11.3	3.73	2	104.1	53.81	2.5	0.69	2	57.3	0.00	3.0	0.00	1
Prionotus longispinosus	11.0	6.00	0.5	0.09	2	8.7	8.68	0.5	0.47	2	0.0	0.00	0.0	0.00	1
Trichiurus lepturus	0.0	0.00	0.0	0.00	2	3.2	3.24	0.3	0.33	2	16.4	0.00	1.4	0.00	1
Cynoscion nothus	2.5	2.50	0.2	0.23	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Synodus foetens	31.0	1.00	8.0	2.43	2	21.4	11.71	2.9	0.76	2	32.7	0.00	6.8	0.00	1
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1
Leiostomus xanthurus	24.0	4.00	3.6	0.61	2	9.5	7.87	1.2	0.86	2	0.0	0.00	0.0	0.00	1
Squid	0.0	0.00	0.0	0.00	2	0.8	0.81	0.0	0.00	2	27.3	0.00	0.1	0.00	1

Table 37b
 Statistical Zone 14
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	226.4	196.80	4	62.6	24.87	12	163.7	30.49	16	62.5	12.50	2	31.7	1.51	2	23.6	0.00	1
Total finfish kg	208.4	191.10	4	55.2	22.15	12	155.8	29.73	16	57.3	10.91	2	29.8	1.85	2	22.3	0.00	1
Total crustacean kg	8.7	4.86	4	7.0	3.34	12	7.5	1.91	16	5.2	1.59	2	1.4	0.71	2	1.2	0.00	1
Total others kg	8.9	8.05	4	0.3	0.19	12	0.4	0.29	16	0.0	0.00	2	0.0	0.00	2	0.0	0.00	1
Surface temperature	24.6	2.04	4	23.5	1.03	12	24.5	0.79	17	23.3	1.32	2	25.0	0.25	2	25.2	0.00	1
Midwater temperature	24.7	2.04	4	23.6	1.00	12	25.0	0.70	17	23.4	1.36	2	25.1	0.26	2	25.0	0.00	1
Bottom temperature	24.7	2.05	4	23.7	0.99	12	25.1	0.57	17	23.4	1.22	2	22.8	0.21	2	21.1	0.00	1
Surface salinity	29.6	1.18	4	32.2	0.30	12	33.4	0.29	17	35.4	0.07	2	35.8	0.01	2	35.8	0.00	1
Midwater salinity	29.6	1.22	4	32.4	0.31	12	34.7	0.23	17	35.5	0.19	2	35.9	0.07	2	36.0	0.00	1
Bottom salinity	30.0	1.04	4	32.8	0.30	12	35.3	0.22	17	36.0	0.45	2	36.6	0.02	2	36.6	0.00	1
Surface chlorophyll	2.2	0.63	4	1.2	0.25	10	1.4	0.36	16	0.4	0.13	2	2.0	1.65	2	1.9	0.00	1
Midwater chlorophyll	2.4	1.02	3	1.2	0.31	7	1.3	0.50	12	0.6	0.00	1	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.7	2.25	4	1.4	0.29	10	1.1	0.18	16	0.4	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.9	0.48	4	7.1	0.31	12	7.1	0.14	17	6.5	0.00	2	6.5	0.05	2	6.2	0.00	1
Midwater oxygen	7.5	0.46	4	6.6	0.28	12	6.3	0.08	17	6.3	0.05	2	6.3	0.10	2	6.1	0.00	1
Bottom oxygen	6.9	0.39	4	6.1	0.41	12	5.2	0.21	17	5.3	0.45	2	5.3	0.10	2	5.0	0.00	1

Table 38a
 Statistical Zone 15
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 15 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Portunus gibbesii</i>	10.8	5.56	0.1	0.06	3	165.7	72.00	0.9	0.39	9	292.3	107.15	1.5	0.55	13
<i>Trachypenaeus similis</i>	2.0	2.00	0.0	0.00	3	52.6	32.11	0.1	0.09	9	235.6	138.26	0.7	0.40	13
<i>Penaeus aztecus</i>	45.1	42.11	0.7	0.61	3	95.5	66.87	0.9	0.67	9	179.4	50.53	3.2	0.72	13
<i>Callinectes similis</i>	19.4	13.58	0.2	0.12	3	71.3	25.76	0.6	0.21	9	170.4	65.56	1.7	0.48	13
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	3	2.9	1.92	0.0	0.00	9	140.6	98.15	0.2	0.14	13
<i>Squilla</i> spp.	1.3	1.33	0.0	0.00	3	31.4	17.24	0.2	0.11	9	22.4	10.69	0.1	0.06	13
<i>Chloroscombrus chrysurus</i>	123.5	60.77	2.2	1.19	3	538.8	437.74	9.1	5.64	9	1419.1	1400.18	21.5	21.03	13
<i>Micropogonias undulatus</i>	2.9	1.45	0.2	0.12	3	36.7	29.03	2.6	2.17	9	1147.4	335.11	66.6	18.81	13
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	3	0.2	0.21	0.0	0.01	9	265.1	156.49	4.6	2.51	13
<i>Arius felis</i>	135.4	135.38	32.9	32.87	3	176.5	81.24	40.2	18.86	9	12.5	10.31	2.9	2.46	13
<i>Serranus atrobranchus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	13
<i>Prionotus longispinosus</i>	0.7	0.67	0.0	0.00	3	22.9	13.19	0.6	0.46	9	102.5	33.32	2.8	0.99	13
<i>Cynoscion nothus</i>	53.8	53.85	7.4	7.41	3	14.6	6.10	0.2	0.12	9	103.7	30.36	7.1	2.69	13
<i>Peprilus burti</i>	15.4	15.38	1.3	1.26	3	5.4	3.67	0.4	0.29	9	25.8	7.54	1.6	0.51	13
<i>Squid</i>	17.7	7.97	0.1	0.06	3	23.8	13.24	0.3	0.20	9	5.4	3.18	0.2	0.16	13

Table 38a (cont'd.)
 Statistical Zone 15
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 15 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	2	2.9	0.00	0.1	0.00	1	1.0	0.98	0.0	0.00	7
<i>Trachypenaeus similis</i>	2.6	2.65	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7
<i>Penaeus aztecus</i>	6.5	4.07	0.1	0.08	2	28.6	0.00	1.6	0.00	1	24.5	7.88	1.4	0.51	7
<i>Callinectes similis</i>	23.5	10.03	0.7	0.45	2	5.7	0.00	0.1	0.00	1	1.2	0.86	0.0	0.01	7
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7
<i>Squilla</i> spp.	2.6	2.65	0.0	0.04	2	17.1	0.00	0.1	0.00	1	0.2	0.16	0.0	0.00	7
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7
<i>Micropogonias undulatus</i>	1246.4	1008.87	57.3	42.10	2	14.3	0.00	0.9	0.00	1	0.0	0.00	0.0	0.00	7
<i>Stenotomus caprinus</i>	102.3	45.95	1.6	0.04	2	230.0	0.00	8.6	0.00	1	200.4	32.97	10.5	1.59	7
<i>Arius felis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	7
<i>Serranus atrobranchus</i>	0.0	0.00	0.0	0.00	2	270.0	0.00	2.3	0.00	1	134.4	69.63	1.4	0.48	7
<i>Prionotus longispinosus</i>	14.1	14.12	0.3	0.28	2	14.3	0.00	0.9	0.00	1	6.4	2.05	0.5	0.16	7
<i>Cynoscion nothus</i>	3.9	1.42	0.4	0.17	2	0.0	0.00	0.0	0.00	1	0.2	0.24	0.0	0.04	7
<i>Peprilus burti</i>	47.8	47.76	3.4	3.42	2	2.9	0.00	0.3	0.00	1	65.0	40.68	5.0	3.28	7
<i>Squid</i>	3.1	3.06	0.0	0.03	2	0.0	0.00	0.0	0.00	1	15.9	5.94	0.3	0.17	7

Table 38b
 Statistical Zone 15
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	53.3	41.63	3	60.0	19.80	9	139.8	22.40	13	73.3	42.17	2	38.3	0.00	1	50.6	6.20	7
Total finfish kg	50.2	42.24	3	55.5	19.44	9	130.9	23.36	13	72.7	42.05	2	35.7	0.00	1	47.4	6.20	7
Total crustacean kg	3.1	1.17	3	4.1	1.25	9	8.4	1.99	13	0.8	0.80	2	1.9	0.00	1	1.9	0.66	7
Total others kg	0.0	0.00	3	0.3	0.21	9	0.8	0.46	13	0.0	0.00	2	0.0	0.00	1	1.7	0.71	7
Surface temperature	28.3	0.01	3	24.9	0.93	10	23.3	0.39	13	24.8	0.02	2	25.2	0.13	3	25.5	0.08	6
Midwater temperature	28.1	0.17	3	24.8	0.92	10	23.6	0.44	13	24.8	0.00	2	25.3	0.11	3	25.4	0.17	6
Bottom temperature	28.1	0.19	3	25.1	0.95	10	24.0	0.45	13	25.7	0.13	2	23.0	0.56	3	21.2	0.27	6
Surface salinity	27.5	0.17	3	30.5	0.68	10	34.0	0.27	13	35.5	0.04	2	35.9	0.20	3	36.0	0.08	6
Midwater salinity	27.6	0.14	3	30.9	0.57	10	34.6	0.31	13	35.5	0.03	2	36.1	0.02	3	36.3	0.05	6
Bottom salinity	27.6	0.24	3	31.2	1.04	10	35.2	0.26	13	36.1	0.12	2	36.6	0.04	3	36.6	0.01	6
Surface chlorophyll	2.0	0.61	3	2.8	0.43	8	2.8	1.28	13	3.4	2.61	2	0.2	0.07	3	0.4	0.34	6
Midwater chlorophyll	3.4	1.39	3	4.0	2.09	4	0.7	0.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	3.9	1.30	3	10.5	6.20	8	1.6	0.44	11	0.6	0.00	1	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.3	0.23	3	7.2	0.21	10	6.8	0.08	13	7.0	0.05	2	6.7	0.20	3	7.0	0.22	6
Midwater oxygen	7.2	0.35	3	6.7	0.11	10	6.6	0.10	13	6.9	0.05	2	6.5	0.23	3	6.6	0.09	6
Bottom oxygen	7.4	0.48	3	5.0	0.74	10	6.2	0.10	13	6.7	0.05	2	5.7	0.35	3	5.2	0.17	6

Table 39a
 Statistical Zone 16
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	0	94.8	26.07	1.1	0.28	8	154.4	68.14	2.6	1.13	13
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	0	136.0	53.51	0.9	0.31	8	63.0	26.02	2.0	1.39	13
<i>Sicyonia brevirostris</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	8	5.2	4.43	0.1	0.06	13
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	0	141.5	48.32	0.5	0.14	8	24.4	10.84	0.1	0.04	13
<i>Squilla</i> spp.	0.0	0.00	0.0	0.00	0	87.4	56.22	0.7	0.44	8	13.2	6.06	0.2	0.07	13
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	0	66.7	15.30	2.0	0.65	8	0.0	0.00	0.0	0.00	13
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	0	1.7	1.70	0.0	0.03	8	489.3	144.44	21.6	7.88	13
<i>Micropogonias undulatus</i>	0.0	0.00	0.0	0.00	0	617.2	582.82	30.0	27.98	8	303.4	105.73	17.3	5.62	13
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	0	703.8	603.79	34.2	28.97	8	60.7	35.66	3.9	2.16	13
<i>Leiostomus xanthurus</i>	0.0	0.00	0.0	0.00	0	5.0	3.98	0.5	0.40	8	81.6	40.26	9.0	4.41	13
<i>Cynoscion nothus</i>	0.0	0.00	0.0	0.00	0	92.2	53.67	5.3	3.17	8	43.1	16.00	3.7	1.39	13
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	0	95.3	74.88	1.4	1.07	8	38.5	29.79	0.9	0.61	13
<i>Synodus foetens</i>	0.0	0.00	0.0	0.00	0	2.9	1.25	0.1	0.07	8	39.6	10.85	6.1	1.60	13
<i>Serranus atrobranchus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	8	1.2	1.15	0.0	0.01	13
<i>Squid</i>	0.0	0.00	0.0	0.00	0	13.0	6.14	0.2	0.10	8	2.5	1.23	0.0	0.01	13

Table 39a (cont'd.)
 Statistical Zone 16
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	75.5	31.94	3.3	1.05	3	0.0	0.00	0.0	0.00	0	61.0	0.00	3.2	0.00	1
<i>Callinectes similis</i>	4.7	2.60	0.2	0.08	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Sicyonia brevirostris</i>	339.3	206.54	4.7	2.74	3	0.0	0.00	0.0	0.00	0	13.0	0.00	0.1	0.00	1
<i>Portunus gibbesii</i>	1.7	1.67	0.0	0.02	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Squilla</i> spp.	14.0	7.00	0.2	0.15	3	0.0	0.00	0.0	0.00	0	22.0	0.00	0.2	0.00	1
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Stenotomus caprinus</i>	363.5	144.01	16.8	7.24	3	0.0	0.00	0.0	0.00	0	143.0	0.00	3.6	0.00	1
<i>Micropogonias undulatus</i>	9.3	5.21	1.2	0.61	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Peprilus burti</i>	275.2	275.24	16.1	16.08	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Leiostomus xanthurus</i>	150.2	72.45	13.7	6.51	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Cynoscion nothus</i>	23.5	19.15	2.4	2.10	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Chloroscombrus chrysurus</i>	11.0	10.95	1.0	0.95	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1
<i>Synodus foetens</i>	45.0	7.27	5.3	0.98	3	0.0	0.00	0.0	0.00	0	4.0	0.00	0.5	0.00	1
<i>Serranus atrobranchus</i>	109.0	62.08	0.9	0.50	3	0.0	0.00	0.0	0.00	0	166.0	0.00	1.8	0.00	1
<i>Squid</i>	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	1

Table 39b
 Statistical Zone 16
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	90.6	39.39	8	84.4	14.37	13	94.3	36.63	3	0.0	0.00	0	35.0	0.00	1
Total finfish kg	0.0	0.00	0	84.9	39.93	8	79.0	13.61	13	85.5	40.50	3	0.0	0.00	0	30.5	0.00	1
Total crustacean kg	0.0	0.00	0	5.3	1.22	8	5.1	2.35	13	8.8	3.92	3	0.0	0.00	0	4.1	0.00	1
Total others kg	0.0	0.00	0	0.4	0.17	8	0.3	0.31	13	0.0	0.00	3	0.0	0.00	0	0.9	0.00	1
Surface temperature	0.0	0.00	0	22.4	0.25	7	23.8	0.21	11	24.5	0.13	4	0.0	0.00	0	25.3	0.00	1
Midwater temperature	0.0	0.00	0	22.5	0.26	7	24.1	0.09	11	24.7	0.20	4	0.0	0.00	0	23.8	0.00	1
Bottom temperature	0.0	0.00	0	22.6	0.31	7	25.2	0.25	11	25.1	0.38	4	0.0	0.00	0	20.4	0.00	1
Surface salinity	0.0	0.00	0	29.4	0.61	7	32.9	0.34	11	33.9	0.20	4	0.0	0.00	0	35.4	0.00	1
Midwater salinity	0.0	0.00	0	29.7	0.55	7	33.5	0.18	11	34.3	0.22	4	0.0	0.00	0	36.4	0.00	1
Bottom salinity	0.0	0.00	0	30.3	0.60	7	34.9	0.27	11	36.1	0.12	4	0.0	0.00	0	36.5	0.00	1
Surface chlorophyll	0.0	0.00	0	2.1	0.28	7	4.9	1.60	11	0.7	0.44	4	0.0	0.00	0	1.4	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	2.1	0.31	7	11.6	5.20	10	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.2	0.12	7	6.9	0.09	11	6.5	0.10	4	0.0	0.00	0	6.4	0.00	1
Midwater oxygen	0.0	0.00	0	7.1	0.16	6	6.7	0.12	11	6.2	0.18	4	0.0	0.00	0	5.4	0.00	1
Bottom oxygen	0.0	0.00	0	6.8	0.21	7	4.9	0.60	11	3.9	0.45	4	0.0	0.00	0	4.8	0.00	1

Table 40a
 Statistical Zone 17
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm or greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Sicyonia brevirostris	0.0	0.00	0.0	0.00	0	3.4	2.47	0.0	0.02	7	47.0	46.37	0.3	0.28	11
Penaeus aztecus	0.0	0.00	0.0	0.00	0	68.2	43.50	1.9	1.14	7	4.1	2.89	0.1	0.04	11
Trachypenaeus constrictus	0.0	0.00	0.0	0.00	0	30.9	30.86	0.1	0.05	7	0.0	0.00	0.0	0.00	11
Portunus spinicarpus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	7	0.1	0.12	0.0	0.00	11
Callinectes similis	0.0	0.00	0.0	0.00	0	22.9	10.35	0.5	0.33	7	3.4	1.40	0.1	0.03	11
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	19.2	19.25	0.1	0.12	7	0.0	0.00	0.0	0.00	11
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	131.2	101.37	2.5	1.95	7	1115.8	794.37	17.3	11.51	11
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	5.1	3.88	0.2	0.14	7	87.9	36.83	4.3	2.05	11
Trachurus lathami	0.0	0.00	0.0	0.00	0	1.2	1.22	0.2	0.19	7	59.4	59.17	3.2	3.21	11
Peprilus burti	0.0	0.00	0.0	0.00	0	39.4	34.35	2.2	1.88	7	79.1	46.95	4.5	2.64	11
Arius felis	0.0	0.00	0.0	0.00	0	106.1	87.69	22.2	17.70	7	84.5	82.45	21.5	21.11	11
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	147.2	103.13	9.2	6.49	7	44.0	22.86	3.1	1.28	11
Serranus atrobranchus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	7	0.1	0.12	0.0	0.00	11
Synodus foetens	0.0	0.00	0.0	0.00	0	13.8	8.15	1.2	0.69	7	35.5	15.29	5.1	1.66	11
Squid	0.0	0.00	0.0	0.00	0	42.8	20.69	0.3	0.16	7	21.0	11.67	0.2	0.08	11

Table 40a (cont'd.)
 Statistical Zone 17
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm or greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Sicyonia brevirostris</i>	73.6	50.26	1.1	0.83	4	36.2	24.98	0.6	0.43	8	0.0	0.00	0.0	0.00	0
<i>Penaeus aztecus</i>	42.8	25.04	2.0	1.08	4	35.7	12.79	1.8	0.59	8	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus constrictus</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	8	0.0	0.00	0.0	0.00	0
<i>Portunus spinicarpus</i>	2.2	2.22	0.0	0.03	4	34.5	23.89	0.3	0.21	8	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	1.3	1.28	0.0	0.03	4	0.3	0.34	0.0	0.00	8	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus spp.</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	8	0.0	0.00	0.0	0.00	0
<i>Chloroscombrus chrysurus</i>	1.0	0.98	0.2	0.18	4	2.6	1.44	0.3	0.18	8	0.0	0.00	0.0	0.00	0
<i>Stenotomus caprinus</i>	569.8	69.32	29.1	4.10	4	430.7	105.09	18.1	5.72	8	0.0	0.00	0.0	0.00	0
<i>Trachurus lathami</i>	31.8	18.99	1.8	0.97	4	336.2	240.90	11.3	7.43	8	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	273.9	169.22	16.5	10.20	4	96.8	35.76	7.8	2.63	8	0.0	0.00	0.0	0.00	0
<i>Arius felis</i>	0.0	0.00	0.0	0.00	4	0.0	0.00	0.0	0.00	8	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	13.7	5.13	1.9	0.70	4	0.0	0.00	0.0	0.00	8	0.0	0.00	0.0	0.00	0
<i>Serranus atrobranchus</i>	58.5	46.15	0.3	0.25	4	143.3	96.49	1.0	0.71	8	0.0	0.00	0.0	0.00	0
<i>Synodus foetens</i>	46.0	14.67	7.0	2.13	4	61.5	15.28	9.9	2.34	8	0.0	0.00	0.0	0.00	0
<i>Squid</i>	4.5	3.33	0.1	0.05	4	31.0	11.58	0.3	0.17	8	0.0	0.00	0.0	0.00	0

Table 40b
 Statistical Zone 17
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm or greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	65.4	25.13	7	81.1	30.32	11	118.7	10.08	4	72.9	12.76	8	0.0	0.00	0
Total finfish kg	0.0	0.00	0	61.5	24.26	7	80.4	30.46	11	115.0	11.15	4	67.0	12.29	8	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	3.4	1.44	7	0.6	0.38	11	3.4	1.81	4	3.3	0.86	8	0.0	0.00	0
Total others kg	0.0	0.00	0	0.6	0.35	7	0.1	0.09	11	0.1	0.15	4	2.8	1.57	8	0.0	0.00	0
Surface temperature	0.0	0.00	0	22.5	0.26	5	24.4	0.31	7	25.2	0.30	3	25.4	0.10	4	0.0	0.00	0
Midwater temperature	0.0	0.00	0	22.5	0.26	5	24.5	0.27	7	25.4	0.23	3	25.7	0.15	4	0.0	0.00	0
Bottom temperature	0.0	0.00	0	22.6	0.27	5	24.7	0.29	7	25.3	0.08	3	23.1	0.99	4	0.0	0.00	0
Surface salinity	0.0	0.00	0	31.5	0.49	5	34.1	0.36	7	34.9	0.50	3	35.3	0.06	4	0.0	0.00	0
Midwater salinity	0.0	0.00	0	31.9	0.54	5	34.3	0.34	7	35.2	0.31	3	35.5	0.13	4	0.0	0.00	0
Bottom salinity	0.0	0.00	0	32.0	0.55	5	34.5	0.34	7	35.5	0.23	3	36.3	0.17	4	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	2.0	1.36	5	1.2	0.47	7	0.4	0.20	3	0.4	0.22	4	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.6	0.11	4	2.2	1.02	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.1	0.27	5	7.0	0.33	7	6.1	0.07	3	6.2	0.12	4	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.2	0.25	5	6.7	0.11	7	6.1	0.09	3	5.8	0.18	4	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	7.1	0.27	5	6.6	0.19	7	5.9	0.13	3	4.9	0.26	4	0.0	0.00	0

Table 41a
 Statistical Zone 18
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	540.0	0.00	2.5	0.00	1	108.8	93.99	1.6	1.52	5	3.3	2.62	0.1	0.06	6
Sicyonia brevis	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	1.1	0.89	0.0	0.00	6
Portunus spinicarpus	24.0	0.00	0.0	0.00	1	8.2	4.75	0.0	0.03	5	0.0	0.00	0.0	0.00	6
Trachypenaeus similis	624.0	0.00	0.0	0.00	1	5.1	4.16	0.0	0.00	5	0.0	0.00	0.0	0.00	6
Penaeus setiferus	270.0	0.00	3.5	0.00	1	24.8	8.76	0.7	0.29	5	0.0	0.00	0.0	0.00	6
Callinectes similis	0.0	0.00	0.0	0.00	1	17.7	17.01	0.2	0.13	5	1.4	0.69	0.0	0.02	6
Stenotomus caprinus	0.0	0.00	0.0	0.00	1	0.7	0.73	0.0	0.03	5	29.8	13.47	0.8	0.35	6
Chloroscombrus chrysurus	96.0	0.00	0.0	0.00	1	13.5	6.99	0.1	0.06	5	756.1	639.86	13.7	10.95	6
Leiostomus xanthurus	0.0	0.00	0.0	0.00	1	6.1	5.46	0.6	0.56	5	18.6	18.10	1.8	1.69	6
Micropogonias undulatus	0.0	0.00	0.0	0.00	1	334.5	332.64	20.8	20.66	5	69.4	52.85	5.8	4.27	6
Upeneus parvus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	5	195.1	119.21	4.7	2.96	6
Peprilus burti	0.0	0.00	0.0	0.00	1	14.8	12.76	0.6	0.55	5	48.6	47.28	3.0	2.97	6
Synodus foetens	0.0	0.00	0.0	0.00	1	19.1	6.95	1.2	0.36	5	46.0	8.20	5.6	1.45	6
Trachurus lathami	0.0	0.00	0.0	0.00	1	3.6	3.64	0.1	0.15	5	0.2	0.17	0.0	0.01	6
Squid	552.0	0.00	2.5	0.00	1	138.9	74.54	1.9	0.95	5	3.1	1.84	0.2	0.12	6

Table 41a (cont'd.)
 Statistical Zone 18
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 40 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	18.3	10.60	0.9	0.54	5	32.7	17.11	1.4	0.76	5	0.0	0.00	0.0	0.00	0
<i>Sicyonia brevirostris</i>	69.7	58.89	1.1	0.90	5	22.4	14.30	0.3	0.23	5	0.0	0.00	0.0	0.00	0
<i>Portunus spinicarpus</i>	1.0	1.00	0.0	0.02	5	45.1	42.76	0.3	0.33	5	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus similis</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
<i>Penaeus setiferus</i>	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	3.2	2.33	0.1	0.09	5	2.4	2.40	0.1	0.07	5	0.0	0.00	0.0	0.00	0
<i>Stenotomus caprinus</i>	254.6	80.26	13.5	4.34	5	189.3	71.24	11.2	5.43	5	0.0	0.00	0.0	0.00	0
<i>Chloroscombrus chrysurus</i>	15.5	7.75	1.0	0.51	5	0.0	0.00	0.0	0.00	5	0.0	0.00	0.0	0.00	0
<i>Leiostomus xanthurus</i>	117.4	113.44	14.5	13.81	5	146.2	146.16	17.4	17.41	5	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	3.0	1.64	0.4	0.20	5	0.7	0.72	0.1	0.07	5	0.0	0.00	0.0	0.00	0
<i>Upeneus parvus</i>	46.1	22.74	1.2	0.52	5	77.1	45.34	1.6	0.99	5	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	99.4	79.23	5.8	4.43	5	1.6	1.60	0.1	0.10	5	0.0	0.00	0.0	0.00	0
<i>Synodus foetens</i>	54.7	14.19	9.3	2.71	5	36.4	14.53	6.0	2.06	5	0.0	0.00	0.0	0.00	0
<i>Trachurus lathami</i>	22.3	19.21	1.0	0.74	5	149.2	100.85	5.8	4.18	5	0.0	0.00	0.0	0.00	0
<i>Squid</i>	39.2	18.63	0.2	0.11	5	9.8	7.55	0.5	0.33	5	0.0	0.00	0.0	0.00	0

Table 41b
 Statistical Zone 18
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 40 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	16.4	0.00	1	40.0	24.40	5	48.7	17.68	6	62.6	27.83	5	63.8	14.53	5	0.0	0.00	0
Total finfish kg	0.0	0.00	1	33.7	23.57	5	47.7	17.89	6	59.7	28.19	5	59.8	15.15	5	0.0	0.00	0
Total crustacean kg	5.5	0.00	1	2.5	1.84	5	0.1	0.14	6	2.4	1.71	5	2.2	1.27	5	0.0	0.00	0
Total others kg	8.2	0.00	1	3.8	1.75	5	0.7	0.42	6	0.0	0.00	5	2.1	1.19	5	0.0	0.00	0
Surface temperature	21.4	0.00	1	22.1	0.45	5	23.8	0.49	6	25.9	0.02	3	26.7	0.26	2	25.5	0.00	1
Midwater temperature	21.4	0.00	1	22.5	0.41	5	24.5	0.37	6	25.9	0.02	3	26.6	0.14	2	26.1	0.00	1
Bottom temperature	21.4	0.00	1	23.5	0.28	5	25.0	0.26	6	24.6	0.64	3	22.3	0.36	2	21.0	0.00	1
Surface salinity	27.1	0.00	1	29.5	1.11	5	32.8	0.77	6	35.7	0.10	3	35.9	0.04	2	35.1	0.00	1
Midwater salinity	27.3	0.00	1	30.4	0.94	5	34.0	0.56	6	35.8	0.08	3	35.9	0.03	2	36.1	0.00	1
Bottom salinity	27.4	0.00	1	31.9	0.67	5	34.8	0.29	6	36.3	0.17	3	36.5	0.10	2	36.5	0.00	1
Surface chlorophyll	0.7	0.00	1	2.5	0.91	5	0.5	0.32	6	0.1	0.03	3	1.2	1.10	2	0.1	0.00	1
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.9	0.00	1	8.0	0.27	5	7.4	0.11	6	7.1	0.60	3	6.1	0.50	2	7.9	0.00	1
Midwater oxygen	8.0	0.00	1	7.8	0.41	4	7.1	0.05	6	7.1	0.80	3	6.0	0.40	2	7.8	0.00	1
Bottom oxygen	0.0	0.00	0	6.9	0.13	4	6.9	0.10	6	7.4	0.78	3	4.9	0.60	2	6.9	0.00	1

Table 42a
 Statistical Zone 19
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm or greater than 30 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	0.0	0.00	0.0	0.00	0	169.9	58.14	2.7	1.13	6	66.5	16.44	1.8	0.43	13
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	221.8	87.00	0.6	0.24	6	9.1	3.95	0.0	0.01	13
Squilla spp.	0.0	0.00	0.0	0.00	0	91.8	39.89	1.0	0.51	6	9.2	2.93	0.1	0.03	13
Portunus gibbesii	0.0	0.00	0.0	0.00	0	87.2	32.53	0.4	0.21	6	6.2	2.70	0.0	0.02	13
Sicyonia brevirostris	0.0	0.00	0.0	0.00	0	4.0	4.00	0.0	0.05	6	0.5	0.39	0.0	0.01	13
Callinectes similis	0.0	0.00	0.0	0.00	0	16.2	8.29	0.2	0.10	6	5.4	1.95	0.1	0.05	13
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	121.4	57.95	0.7	0.30	6	497.5	319.39	11.1	5.40	13
Diplectrum bivittatum	0.0	0.00	0.0	0.00	0	25.0	25.00	0.5	0.45	6	229.1	61.77	2.6	0.59	13
Upeneus parvus	0.0	0.00	0.0	0.00	0	1.5	1.50	0.0	0.05	6	42.4	16.41	1.0	0.33	13
Serranus atrobranchus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	6	1.3	0.99	0.0	0.02	13
Micropogonias undulatus	0.0	0.00	0.0	0.00	0	14.7	10.50	1.0	0.68	6	38.2	6.17	2.8	0.47	13
Peprilus burti	0.0	0.00	0.0	0.00	0	8.7	6.15	0.4	0.28	6	32.3	18.27	1.7	0.98	13
Lutjanus campechanus	0.0	0.00	0.0	0.00	0	39.7	36.48	0.9	0.78	6	36.9	4.93	0.6	0.11	13
Lagodon rhomboides	0.0	0.00	0.0	0.00	0	1.1	0.72	0.1	0.07	6	19.4	8.62	0.8	0.32	13
Squid	0.0	0.00	0.0	0.00	0	69.1	24.20	0.6	0.26	6	17.2	5.53	0.2	0.06	13

Table 42a (cont'd.)
 Statistical Zone 19
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm or greater than 30 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	66.5	18.88	2.8	0.72	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus</i> spp.	5.6	3.44	0.0	0.01	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squilla</i> spp.	15.7	7.66	0.3	0.15	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Portunus gibbesii</i>	0.7	0.47	0.0	0.03	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Sicyonia brevirostris</i>	21.2	15.96	0.4	0.25	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	10.2	6.07	0.2	0.15	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Chloroscombrus chrysurus</i>	33.3	22.06	2.0	1.18	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Diplectrum bivittatum</i>	70.1	44.29	0.6	0.28	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Upeneus parvus</i>	81.4	41.08	1.8	0.71	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Serranus atrobranchus</i>	112.0	52.04	1.1	0.38	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	28.4	12.67	2.0	0.82	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	19.5	11.65	1.1	0.70	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Lutjanus campechanus</i>	10.7	2.90	0.3	0.11	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Lagodon rhomboides</i>	19.2	6.89	1.1	0.42	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squid</i>	23.0	17.68	0.2	0.10	7	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 42b
 Statistical Zone 19
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm or greater than 30 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	28.0	8.15	6	29.4	5.20	13	23.2	3.38	7	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	17.2	6.44	6	26.8	5.47	13	19.2	3.42	7	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	6.8	2.74	6	2.6	0.62	13	3.8	1.03	7	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	3.8	3.02	6	0.1	0.09	13	0.2	0.11	7	0.0	0.00	0	0.0	0.00	0
Surface temperature	23.6	0.00	1	23.2	0.43	6	25.5	0.23	12	26.4	0.04	4	0.0	0.00	0	0.0	0.00	0
Midwater temperature	23.7	0.00	1	23.5	0.42	6	25.6	0.19	12	26.5	0.06	4	0.0	0.00	0	0.0	0.00	0
Bottom temperature	23.7	0.00	1	23.7	0.40	6	25.9	0.16	12	26.4	0.11	4	0.0	0.00	0	0.0	0.00	0
Surface salinity	31.0	1.91	2	29.8	0.37	6	34.1	0.29	12	35.0	0.15	4	0.0	0.00	0	0.0	0.00	0
Midwater salinity	29.4	0.00	1	30.2	0.62	6	34.4	0.21	12	35.6	0.16	4	0.0	0.00	0	0.0	0.00	0
Bottom salinity	29.4	0.00	1	30.7	0.71	6	34.8	0.16	12	35.7	0.19	4	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	6.0	5.61	2	0.7	0.15	6	1.1	0.38	12	0.9	0.55	4	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.6	0.05	2	7.0	0.17	6	6.6	0.15	12	6.8	0.23	4	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	6.4	0.00	1	6.8	0.22	6	6.5	0.13	12	6.7	0.27	4	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.3	0.00	1	6.6	0.17	6	6.3	0.12	12	6.5	0.34	4	0.0	0.00	0	0.0	0.00	0

Table 43a
 Statistical Zone 20
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	0.0	0.00	0.0	0.00	0	9.5	9.52	0.2	0.17	3	147.1	121.44	1.7	1.20	10
Trachypenaeus spp.	0.0	0.00	0.0	0.00	0	139.7	119.33	0.1	0.13	3	18.0	12.14	0.0	0.02	10
Callinectes similis	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	2.1	1.13	0.1	0.05	10
Penaeus setiferus	0.0	0.00	0.0	0.00	0	3.8	3.81	0.0	0.04	3	21.2	10.66	0.8	0.45	10
Squilla spp.	0.0	0.00	0.0	0.00	0	7.7	5.02	0.0	0.04	3	6.2	4.63	0.0	0.03	10
Portunus gibbesii	0.0	0.00	0.0	0.00	0	19.0	19.05	0.1	0.09	3	11.9	11.24	0.0	0.03	10
Chloroscombrus chrysurus	0.0	0.00	0.0	0.00	0	66.4	34.40	2.0	1.06	3	880.4	274.24	21.1	6.30	10
Serranus atrobranchus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	7.4	7.37	0.1	0.07	10
Stenotomus caprinus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	1.3	0.75	0.0	0.03	10
Prionotus paralatus	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	10
Peprilus burti	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	86.2	42.84	3.2	1.62	10
Pristipomoides aquilonaris	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	10
Diplectrum bivittatum	0.0	0.00	0.0	0.00	0	21.9	15.00	0.1	0.09	3	82.4	43.71	0.7	0.36	10
Upeneus parvus	0.0	0.00	0.0	0.00	0	0.8	0.80	0.0	0.00	3	42.7	17.46	1.2	0.44	10
Squid	0.0	0.00	0.0	0.00	0	190.6	33.77	1.4	0.88	3	125.8	38.10	0.8	0.24	10

Table 43a (cont'd.)
 Statistical Zone 20
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 5 fm.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	35.5	31.54	1.2	1.17	2	66.6	15.99	2.6	0.60	3	19.3	2.64	1.3	0.20	3
Trachypenaeus spp.	0.0	0.00	0.0	0.00	2	1.1	1.11	0.0	0.00	3	0.0	0.00	0.0	0.00	3
Callinectes similis	70.3	67.70	1.7	1.61	2	21.2	13.64	0.4	0.35	3	0.0	0.00	0.0	0.00	3
Penaeus setiferus	4.0	4.00	0.3	0.25	2	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3
Squilla spp.	13.0	13.00	0.5	0.50	2	5.6	5.56	0.2	0.20	3	8.1	0.96	0.0	0.03	3
Portunus gibbesii	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3
Chloroscombrus chrysurus	62.6	62.61	2.5	2.55	2	0.0	0.00	0.0	0.00	3	5.7	2.96	0.2	0.18	3
Serranus atrobranchus	96.8	90.24	1.2	1.13	2	325.9	243.27	2.7	1.58	3	178.1	35.32	3.2	0.92	3
Stenotomus caprinus	15.0	11.04	0.2	0.17	2	134.6	60.07	6.2	3.75	3	230.4	34.17	12.8	1.91	3
Prionotus paralatus	0.0	0.00	0.0	0.00	2	24.9	17.21	0.9	0.78	3	310.7	46.82	12.2	0.86	3
Peprilus burti	44.5	41.54	2.5	2.39	2	24.0	24.00	1.8	1.77	3	8.1	0.96	0.8	0.11	3
Pristipomoides aquilonaris	5.0	5.00	0.0	0.05	2	81.4	79.31	0.5	0.31	3	187.5	90.51	15.5	9.48	3
Diplectrum bivittatum	2.6	2.61	0.0	0.03	2	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	3
Upeneus parvus	27.6	11.57	0.7	0.37	2	26.7	13.22	0.9	0.26	3	18.0	11.72	0.6	0.34	3
Squid	202.2	202.17	1.2	1.19	2	18.5	12.76	1.1	0.62	3	4.8	4.85	0.2	0.25	3

Table 43b
 Statistical Zone 20
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	36.5	10.07	3	38.4	7.27	10	25.7	7.92	2	31.2	3.59	3	71.3	12.92	3
Total finfish kg	0.0	0.00	0	33.1	9.49	3	34.7	8.06	10	20.6	5.77	2	25.4	3.36	3	67.3	14.59	3
Total crustacean kg	0.0	0.00	0	2.2	1.15	3	2.8	1.47	10	3.9	3.86	2	3.7	1.24	3	1.7	0.46	3
Total others kg	0.0	0.00	0	1.5	0.95	3	1.0	0.25	10	1.2	1.19	2	2.7	0.18	3	2.0	1.02	3
Surface temperature	26.7	0.00	1	26.3	0.06	3	26.4	0.06	10	27.4	0.02	2	27.6	0.13	2	27.3	0.18	2
Midwater temperature	26.7	0.00	1	26.3	0.09	3	26.5	0.08	10	27.5	0.10	2	27.7	0.05	2	27.3	0.17	2
Bottom temperature	26.8	0.00	1	26.2	0.20	3	26.6	0.10	10	27.7	0.05	2	24.0	1.17	2	20.7	0.05	2
Surface salinity	34.9	0.00	1	33.9	0.04	3	33.7	0.14	10	35.4	0.08	2	35.9	0.01	2	35.8	0.10	2
Midwater salinity	34.9	0.00	1	33.9	0.07	3	34.1	0.18	10	35.5	0.04	2	36.0	0.08	2	35.9	0.06	2
Bottom salinity	35.0	0.00	1	34.1	0.15	3	34.4	0.18	10	36.0	0.07	2	36.4	0.09	2	36.6	0.06	2
Surface chlorophyll	40.0	0.00	1	1.1	0.25	3	0.8	0.36	10	0.2	0.14	2	0.1	0.04	2	0.1	0.01	2
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.9	0.00	1	6.7	0.09	3	7.1	0.22	10	7.0	0.00	2	6.9	0.15	2	6.0	0.05	2
Midwater oxygen	7.9	0.00	1	6.7	0.10	2	7.1	0.22	10	6.9	0.05	2	6.9	0.00	2	6.0	0.05	2
Bottom oxygen	7.8	0.00	1	6.6	0.25	3	6.9	0.21	10	6.7	0.20	2	6.7	0.75	2	5.0	0.45	2

Table 44a
 Statistical Zone 21
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	2	36.6	22.19	0.7	0.41	6	121.5	42.68	2.7	1.01	10
<i>Trachypenaeus spp.</i>	39.0	39.00	0.0	0.00	2	32.3	31.79	0.0	0.03	6	78.9	30.66	0.1	0.05	10
<i>Penaeus duorarum</i>	0.0	0.00	0.0	0.00	2	26.9	26.88	0.5	0.51	6	138.9	72.14	2.2	0.88	10
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	2	1.3	1.25	0.0	0.00	6	4.7	3.86	0.0	0.02	10
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	10.0	3.26	0.2	0.09	10
<i>Solenocera spp.</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	0.0	0.00	0.0	0.00	10
<i>Chloroscombrus chrysurus</i>	339.0	333.00	13.0	12.95	2	1319.4	1259.85	17.0	14.97	6	202.3	131.33	4.9	3.50	10
<i>Serranus atrobranchus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	4.6	2.87	0.1	0.06	10
<i>Upeneus parvus</i>	0.0	0.00	0.0	0.00	2	114.3	63.38	1.9	1.14	6	125.6	49.60	2.1	0.81	10
<i>Trachurus lathamii</i>	0.0	0.00	0.0	0.00	2	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	10
<i>Peprilus burti</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	0.6	0.60	0.2	0.19	10
<i>Centropristis philadelphica</i>	15.0	15.00	0.0	0.00	2	1.5	0.94	0.0	0.00	6	50.3	19.64	0.5	0.18	10
<i>Stenotomus caprinus</i>	0.0	0.00	0.0	0.00	2	0.0	0.00	0.0	0.00	6	6.2	2.49	0.1	0.06	10
<i>Diplectrum bivittatum</i>	0.0	0.00	0.0	0.00	2	27.3	19.48	0.2	0.19	6	66.6	13.57	0.6	0.12	10
<i>Squid</i>	57.0	15.00	0.3	0.27	2	315.0	163.19	1.6	1.01	6	46.0	22.24	0.2	0.13	10

Table 44a (cont'd.)
 Statistical Zone 21
 40-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken.

SPECIES	21-30 FM					31-40 FM					>40 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus aztecus</i>	38.2	10.25	1.3	0.34	7	110.9	0.00	3.9	0.00	1	13.0	1.02	0.5	0.10	2
<i>Trachypenaeus</i> spp.	23.7	11.08	0.1	0.07	7	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Penaeus duorarum</i>	1.3	0.87	0.0	0.01	7	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Sicyonia dorsalis</i>	43.4	21.46	0.1	0.07	7	0.0	0.00	0.0	0.00	1	2.2	2.18	0.0	0.00	2
<i>Callinectes similis</i>	27.6	11.99	0.7	0.27	7	13.6	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	2
<i>Solenocera</i> spp.	17.5	8.75	0.1	0.04	7	18.1	0.00	0.1	0.00	1	0.0	0.00	0.0	0.00	2
<i>Chloroscombrus chrysurus</i>	54.2	52.93	1.9	1.80	7	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
<i>Serranus atrobranchus</i>	244.2	108.50	1.6	0.66	7	493.6	0.00	4.5	0.00	1	9.5	0.74	0.1	0.03	2
<i>Upeneus parvus</i>	71.5	32.87	1.2	0.55	7	10.2	0.00	0.3	0.00	1	51.0	12.82	1.5	0.57	2
<i>Trachurus lathamii</i>	85.5	59.22	1.4	1.04	7	2.3	0.00	0.0	0.00	1	155.7	70.14	4.1	1.55	2
<i>Peprilus burti</i>	27.5	17.90	1.7	1.23	7	0.0	0.00	0.0	0.00	1	147.3	147.27	10.2	10.21	2
<i>Centropristis philadelphica</i>	38.1	16.50	0.4	0.13	7	66.8	0.00	0.8	0.00	1	1.7	0.45	0.4	0.26	2
<i>Stenotomus caprinus</i>	19.6	5.44	0.4	0.16	7	95.1	0.00	1.9	0.00	1	51.1	6.36	2.4	0.80	2
<i>Diplectrum bivittatum</i>	10.0	4.19	0.3	0.16	7	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	2
Squid	54.4	32.53	0.2	0.11	7	7.9	0.00	0.5	0.00	1	15.0	3.53	0.5	0.39	2

Table 44b
 Statistical Zone 21
 40-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	24.5	10.91	2	32.0	15.71	6	32.7	6.02	10	23.0	3.71	7	23.7	0.00	1	37.0	15.55	2
Total finfish kg	21.8	10.91	2	27.6	16.38	6	26.4	6.25	10	20.4	4.18	7	16.0	0.00	1	35.7	15.38	2
Total crustacean kg	0.0	0.00	2	2.1	1.67	6	6.0	1.24	10	2.4	0.67	7	6.2	0.00	1	0.5	0.04	2
Total others kg	0.0	0.00	2	1.1	0.89	6	0.2	0.18	10	0.2	0.12	7	1.5	0.00	1	0.8	0.21	2
Surface temperature	26.8	0.11	2	27.0	0.05	7	27.3	0.08	9	27.7	0.14	5	27.6	0.00	1	27.7	0.05	3
Midwater temperature	26.8	0.11	2	26.9	0.05	7	27.2	0.09	9	27.7	0.10	5	27.7	0.00	1	27.7	0.07	3
Bottom temperature	26.8	0.11	2	26.9	0.06	7	27.1	0.09	9	27.4	0.19	5	25.7	0.00	1	21.0	1.09	3
Surface salinity	36.2	0.20	2	35.8	0.18	7	35.9	0.12	9	35.9	0.29	5	36.2	0.00	1	36.1	0.08	3
Midwater salinity	36.2	0.21	2	35.8	0.19	7	36.0	0.12	9	35.9	0.24	5	36.3	0.00	1	36.3	0.03	3
Bottom salinity	36.2	0.21	2	35.8	0.18	7	36.0	0.12	9	35.9	0.20	5	36.3	0.00	1	36.5	0.01	3
Surface chlorophyll	2.3	1.64	2	13.1	5.75	6	2.3	1.05	9	2.2	0.78	5	0.2	0.00	1	1.7	1.21	3
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	6.2	0.20	2	7.0	0.22	7	7.0	0.17	9	6.5	0.19	5	6.8	0.00	1	6.8	0.06	3
Midwater oxygen	6.2	0.00	2	6.9	0.21	7	6.9	0.17	9	6.6	0.15	4	6.8	0.00	1	6.9	0.09	3
Bottom oxygen	6.2	0.05	2	6.9	0.16	7	6.5	0.14	8	6.2	0.20	5	6.5	0.00	1	6.0	0.32	3

Table 45a
 Statistical Zone 17
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Xiphopenaeus kroyeri	93.0	93.00	0.4	0.44	10	1.5	1.50	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Portunus gibbesii	46.2	14.91	0.1	0.07	10	93.0	44.53	0.3	0.17	4	0.0	0.00	0.0	0.00	0
Penaeus setiferus	54.0	20.34	0.4	0.18	10	22.5	11.32	0.3	0.11	4	0.0	0.00	0.0	0.00	0
Callinectes similis	7.2	2.80	0.0	0.03	10	118.5	58.81	0.7	0.39	4	0.0	0.00	0.0	0.00	0
Squilla spp.	3.6	2.40	0.0	0.03	10	34.5	21.96	0.3	0.19	4	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	5.4	2.09	0.1	0.04	10	7.5	4.50	0.1	0.07	4	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	40.8	19.22	0.2	0.15	10	31.5	27.65	0.1	0.14	4	0.0	0.00	0.0	0.00	0
Peprilus alepidotus	30.0	10.51	0.2	0.08	10	3.0	3.00	0.0	0.00	4	0.0	0.00	0.0	0.00	0
Cynoscion nothus	7.2	4.27	0.0	0.00	10	40.5	15.37	0.1	0.07	4	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	12.6	4.69	0.2	0.15	10	24.0	8.83	1.0	0.45	4	0.0	0.00	0.0	0.00	0
Symphurus plagiusa	4.8	3.07	0.1	0.06	10	22.5	11.32	0.3	0.17	4	0.0	0.00	0.0	0.00	0
Chaetodipterus faber	7.2	3.44	0.0	0.03	10	7.5	5.68	0.1	0.07	4	0.0	0.00	0.0	0.00	0
Prionotus tribulus	4.8	1.96	0.0	0.00	10	6.0	2.45	0.1	0.07	4	0.0	0.00	0.0	0.00	0
Etropus crossotus	0.6	0.60	0.0	0.00	10	9.0	7.14	0.1	0.14	4	0.0	0.00	0.0	0.00	0
Squid	96.6	40.73	1.1	0.46	10	129.0	92.09	1.6	1.04	4	0.0	0.00	0.0	0.00	0

Table 45b
 Statistical Zone 17
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	6.0	1.06	10	6.1	0.68	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.8	0.42	10	2.0	0.68	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.8	0.58	10	1.4	0.79	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	2.7	1.08	10	1.4	1.36	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.6	0.38	11	20.2	0.66	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	19.6	0.37	11	19.6	0.68	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.5	0.36	11	19.7	0.65	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	26.7	0.16	11	27.6	1.08	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	27.0	0.31	10	28.5	0.53	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	27.4	0.41	9	29.8	0.14	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	9.4	0.44	11	8.7	0.32	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	9.6	0.53	11	9.7	1.27	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	11.4	0.70	11	9.7	1.32	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 46a
 Statistical Zone 18
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 18 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 10 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	62.0	44.46	0.5	0.35	9	16.7	13.18	0.2	0.15	9	0.0	0.00	0.0	0.00	0
Callinectes similis	36.0	33.03	0.2	0.15	9	15.3	13.16	0.1	0.06	9	0.0	0.00	0.0	0.00	0
Portunus gibbesii	34.0	26.66	0.1	0.12	9	10.7	9.94	0.1	0.06	9	0.0	0.00	0.0	0.00	0
Squilla spp.	22.0	21.26	0.2	0.24	9	20.0	12.65	0.3	0.19	9	0.0	0.00	0.0	0.00	0
Pagurus pollicaris	2.0	1.41	0.0	0.03	9	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	0
Callinectes sapidus	0.0	0.00	0.0	0.00	9	0.7	0.67	0.0	0.00	9	0.0	0.00	0.0	0.00	0
Cynoscion nothus	11.3	7.03	0.1	0.04	9	9.3	4.26	0.0	0.00	9	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	15.3	7.69	0.2	0.18	9	2.7	1.45	0.1	0.04	9	0.0	0.00	0.0	0.00	0
Peprilus alepidotus	4.7	2.60	0.0	0.00	9	8.7	6.49	0.0	0.03	9	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	6.7	4.84	0.1	0.04	9	5.3	3.38	0.0	0.03	9	0.0	0.00	0.0	0.00	0
Arius felis	10.7	10.67	0.1	0.12	9	0.0	0.00	0.0	0.00	9	0.0	0.00	0.0	0.00	0
Peprilus burti	0.7	0.67	0.0	0.03	9	9.3	5.84	0.5	0.30	9	0.0	0.00	0.0	0.00	0
Hemicaranx amblyrhynchus	1.3	0.88	0.0	0.00	9	5.3	5.33	0.1	0.09	9	0.0	0.00	0.0	0.00	0
Polydactylus octonemus	1.3	0.88	0.1	0.04	9	2.7	1.45	0.2	0.09	9	0.0	0.00	0.0	0.00	0
Squid	75.3	23.37	1.0	0.38	9	51.3	23.07	0.5	0.19	9	0.0	0.00	0.0	0.00	0

Table 46b
 Statistical Zone 18
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 10 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	5.2	2.15	9	4.8	3.21	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.6	0.40	9	0.6	0.40	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.9	0.91	9	0.6	0.61	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	3.3	1.42	9	3.6	2.98	9	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	20.1	0.25	10	20.0	0.27	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	20.0	0.25	10	19.8	0.36	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.1	0.37	10	20.5	0.42	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	27.8	0.22	10	28.3	0.16	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	28.1	0.37	10	29.7	0.44	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	28.6	0.36	10	30.8	0.48	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	9.2	0.56	10	7.7	0.30	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	9.9	0.78	10	8.7	0.65	7	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	10.3	0.87	10	8.6	0.92	8	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 47a
 Statistical Zone 19
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 19 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Portunus gibbesii	84.0	48.50	0.3	0.16	3	54.8	39.01	0.1	0.10	8	25.0	12.43	0.1	0.06	6
Trachypenaeus similis	8.0	8.00	0.0	0.00	3	26.3	17.64	0.1	0.04	8	29.0	20.92	0.1	0.09	6
Callinectes similis	72.0	63.21	0.3	0.27	3	8.3	4.08	0.0	0.03	8	13.0	7.17	0.0	0.05	6
Penaeus setiferus	60.0	51.26	0.8	0.69	3	17.3	12.65	0.3	0.20	8	3.0	1.34	0.0	0.05	6
Penaeus aztecus	2.0	2.00	0.0	0.00	3	12.8	7.30	0.1	0.09	8	14.0	8.85	0.1	0.09	6
Sicyonia dorsalis	0.0	0.00	0.0	0.00	3	7.5	3.35	0.0	0.00	8	11.0	3.61	0.0	0.00	6
Chloroscombrus chrysurus	4.0	2.00	0.1	0.09	3	80.3	38.30	0.3	0.14	8	14.0	12.84	0.1	0.14	6
Syacium gunteri	0.0	0.00	0.0	0.00	3	9.0	4.09	0.3	0.18	8	80.0	20.36	1.4	0.39	6
Cynoscion nothus	28.0	28.00	0.1	0.09	3	9.8	8.92	0.0	0.03	8	13.0	8.54	0.4	0.18	6
Lutjanus synagris	0.0	0.00	0.0	0.00	3	29.3	29.25	0.9	0.85	8	0.0	0.00	0.0	0.00	6
Stellifer lanceolatus	8.0	8.00	0.1	0.09	3	21.8	17.85	0.7	0.46	8	0.0	0.00	0.0	0.00	6
Symphurus plagiusa	10.0	5.29	0.2	0.09	3	7.5	7.50	0.1	0.14	8	11.0	4.49	0.1	0.09	6
Cynoscion arenarius	2.0	2.00	0.2	0.18	3	15.8	13.27	0.0	0.03	8	4.0	2.53	0.4	0.23	6
Centropristis philadelphica	0.0	0.00	0.0	0.00	3	0.0	0.00	0.0	0.00	8	12.0	8.63	0.2	0.13	6
Squid	4.0	4.00	0.0	0.00	3	21.8	10.26	0.2	0.10	8	25.0	7.81	0.2	0.13	6

Table 47b
 Statistical Zone 19
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	8.2	6.86	3	5.1	1.58	8	7.3	0.91	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	1.8	0.91	3	3.1	1.41	8	5.0	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	1.8	1.82	3	1.0	0.72	8	0.5	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	4.5	4.55	3	0.7	0.45	8	0.9	0.57	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	21.2	0.84	4	21.4	0.29	8	21.3	0.28	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	20.9	0.85	4	21.2	0.42	8	21.1	0.32	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.8	0.88	4	22.0	0.60	8	21.5	0.65	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	29.8	0.37	4	29.6	0.12	8	31.4	0.68	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	30.2	0.20	4	30.3	0.40	8	32.8	0.34	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	30.2	0.19	4	31.9	0.71	8	33.3	0.47	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	8.5	0.93	4	7.8	0.39	8	9.2	0.52	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	8.6	0.96	4	7.7	0.38	8	9.1	0.54	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	8.5	0.90	4	7.2	0.55	8	8.9	0.73	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 48a
 Statistical Zone 20
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 20 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus aztecus	0.0	0.00	0.0	0.00	1	0.7	0.67	0.0	0.00	9	20.4	10.32	0.2	0.11	5
Calappa sulcata	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	9.6	6.73	0.2	0.22	5
Portunus gibbesii	0.0	0.00	0.0	0.00	1	2.0	1.41	0.0	0.00	9	6.0	2.68	0.0	0.00	5
Callinectes similis	0.0	0.00	0.0	0.00	1	0.7	0.67	0.0	0.00	9	2.4	1.47	0.0	0.00	5
Pagurus pollicaris	0.0	0.00	0.0	0.00	1	0.7	0.67	0.0	0.00	9	1.2	1.20	0.0	0.00	5
Persephona crinita	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	2.4	2.40	0.0	0.00	5
Syacium gunteri	0.0	0.00	0.0	0.00	1	17.3	13.84	0.6	0.48	9	54.0	16.21	1.5	0.44	5
Chloroscombrus chrysurus	30.0	0.00	0.0	0.00	1	13.3	9.04	0.1	0.04	9	16.8	10.29	0.1	0.07	5
Polydactylus octonemus	0.0	0.00	0.0	0.00	1	0.0	0.00	0.0	0.00	9	40.8	26.11	2.1	1.32	5
Symphurus plagiusa	0.0	0.00	0.0	0.00	1	2.0	1.41	0.1	0.04	9	9.6	5.88	0.1	0.07	5
Lagodon rhomboides	0.0	0.00	0.0	0.00	1	2.7	2.67	0.1	0.06	9	7.2	5.82	0.2	0.16	5
Cynoscion nothus	0.0	0.00	0.0	0.00	1	1.3	0.88	0.0	0.00	9	4.8	3.50	0.1	0.11	5
Etropus crossotus	0.0	0.00	0.0	0.00	1	3.3	1.45	0.1	0.04	9	1.2	1.20	0.0	0.00	5
Lutjanus campechanus	0.0	0.00	0.0	0.00	1	1.3	0.88	0.0	0.00	9	3.6	1.47	0.1	0.05	5
Squid	0.0	0.00	0.0	0.00	1	24.7	11.68	0.2	0.12	9	40.8	19.85	0.4	0.16	5

Table 48b
 Statistical Zone 20
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	1	3.9	0.92	9	7.1	1.64	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	1	1.8	0.79	9	5.5	1.72	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	1	0.0	0.00	9	0.0	0.00	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	1	1.2	0.48	9	0.5	0.55	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	21.9	0.75	2	22.3	0.33	9	22.5	0.34	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	21.9	0.85	2	22.3	0.31	9	22.3	0.32	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	21.8	0.90	2	22.3	0.30	9	22.5	0.28	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	31.2	0.33	2	31.5	0.20	8	32.6	0.47	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	31.3	0.33	2	31.7	0.21	9	32.6	0.42	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	31.3	0.49	2	31.8	0.26	9	33.2	0.49	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.1	0.45	2	6.8	0.15	9	7.1	0.29	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.1	0.45	2	6.6	0.08	9	6.6	0.12	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	7.1	0.35	2	6.6	0.08	9	6.4	0.06	4	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 49a
 Statistical Zone 21
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 21 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus duorarum</i>	0.0	0.00	0.0	0.00	0	20.3	7.17	0.2	0.11	8	0.0	0.00	0.0	0.00	6
<i>Portunus spinimanus</i>	0.0	0.00	0.0	0.00	0	12.8	4.73	0.1	0.07	8	7.0	3.92	0.0	0.00	6
<i>Portunus gibbesii</i>	0.0	0.00	0.0	0.00	0	9.8	4.93	0.0	0.00	8	2.0	1.26	0.0	0.00	6
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	4.5	2.47	0.0	0.00	8	3.0	2.05	0.0	0.00	6
<i>Callinectes similis</i>	0.0	0.00	0.0	0.00	0	5.3	3.83	0.0	0.03	8	0.0	0.00	0.0	0.00	6
<i>Penaeus aztecus</i>	0.0	0.00	0.0	0.00	0	4.5	2.95	0.0	0.03	8	0.0	0.00	0.0	0.00	6
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	8	25.0	8.54	0.5	0.17	6
<i>Harengula jaguana</i>	0.0	0.00	0.0	0.00	0	12.8	4.60	0.3	0.09	8	0.0	0.00	0.0	0.00	6
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	0	9.0	3.76	0.2	0.09	8	2.0	1.26	0.0	0.00	6
<i>Chloroscombrus chrysurus</i>	0.0	0.00	0.0	0.00	0	10.5	7.24	0.2	0.11	8	0.0	0.00	0.0	0.00	6
<i>Prionotus longispinosus</i>	0.0	0.00	0.0	0.00	0	3.0	1.60	0.0	0.00	8	0.0	0.00	0.0	0.00	6
<i>Sardinella aurita</i>	0.0	0.00	0.0	0.00	0	3.0	1.60	0.1	0.07	8	0.0	0.00	0.0	0.00	6
<i>Orthopristis chrysoptera</i>	0.0	0.00	0.0	0.00	0	1.5	0.98	0.0	0.03	8	0.0	0.00	0.0	0.00	6
<i>Sphoeroides parvus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	8	1.0	1.00	0.0	0.00	6
<i>Squid</i>	0.0	0.00	0.0	0.00	0	4.5	2.95	0.0	0.03	8	2.0	1.26	0.0	0.00	6

Table 49b
 Statistical Zone 21
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	1.0	0.50	8	1.4	0.61	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	0.3	0.34	8	0.0	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	0.3	0.34	8	0.0	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.0	0.00	8	0.5	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	22.8	0.90	2	23.8	0.04	7	21.9	0.04	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	22.9	1.05	2	23.9	0.04	7	21.8	0.04	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	23.1	1.25	2	24.3	0.02	7	21.6	0.06	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	33.7	0.58	2	34.2	0.09	7	33.2	0.04	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	33.9	0.78	2	34.8	0.11	6	33.3	0.08	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	34.5	1.25	2	35.6	0.06	7	33.3	0.09	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	7.2	0.55	2	6.6	0.08	7	7.4	0.04	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	7.1	0.65	2	6.4	0.08	7	7.4	0.10	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	6.7	1.25	2	6.0	0.15	7	7.4	0.09	5	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 50a
 Statistical Zone 22
 20-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 22 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Dromidia antillensis</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	9.0	9.00	0.0	0.00	2
<i>Metoporphaphis calcarata</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	6.0	6.00	0.0	0.00	2
<i>Portunus spinimanus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.0	0.00	2
<i>Petrochirus diogenes</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.0	0.00	2
<i>Sicyonia dorsalis</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.0	0.00	2
<i>Syacium gunteri</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	21.0	15.00	0.3	0.27	2
<i>Etropus crossotus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	6.0	0.00	0.1	0.14	2
<i>Spherooides parvus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.0	0.00	2
<i>Ogcocephalus radiatus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.0	0.00	2
<i>Lutjanus campechanus</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.0	0.00	2
<i>Serraniculus pumilio</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.1	0.14	2
<i>Squid</i>	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0	3.0	3.00	0.0	0.00	2

Table 50b
 Statistical Zone 22
 20-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths less than 10 fm or greater than 20 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	0	0.0	0.00	0	2.7	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	0	0.0	0.00	0	0.0	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	0	0.0	0.00	0	0.0	0.00	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	0	0.0	0.00	0	1.4	1.36	2	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	0.0	0.00	0	21.8	0.00	1	22.0	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	21.7	0.00	1	21.9	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	0.0	0.00	0	21.6	0.00	1	21.7	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	0.0	0.00	0	33.2	0.00	1	33.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	33.3	0.00	1	33.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	0.0	0.00	0	33.4	0.00	1	33.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	7.5	0.00	1	7.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	7.6	0.00	1	7.6	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	7.8	0.00	1	7.5	0.00	1	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 51a
 Statistical Zone 11
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 11 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Callinectes similis</i>	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus similis</i>	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Lagodon rhomboides</i>	46.0	37.36	0.7	0.60	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	20.0	20.00	0.8	0.82	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Etropus crossotus</i>	12.0	12.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Prionotus tribulus</i>	4.0	4.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Synodus foetens</i>	4.0	2.00	0.7	0.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trinectes maculatus</i>	4.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Achirus lineatus</i>	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Chilomycterus schoepfi</i>	2.0	2.00	0.2	0.18	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Squid</i>	18.0	12.49	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 51b
 Statistical Zone 11
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	1.8	1.82	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	1.8	1.82	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.5	0.06	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.5	0.12	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	35.3	0.09	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	35.4	0.18	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.7	0.14	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 52a
 Statistical Zone 12
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 12 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Menticirrhus americanus	14.0	8.72	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	14.0	7.21	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 52b
 Statistical Zone 12
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	20.5	0.20	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.5	0.17	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	30.0	0.68	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	30.2	0.69	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 53a
 Statistical Zone 13
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 13 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Callinectes similis	10.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus setiferus	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	504.0	331.11	0.5	0.33	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus burti	16.0	16.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Spherooides parvus	10.0	10.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa nasuta	8.0	8.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion nothus	4.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus fasciatus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	10.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 53b
 Statistical Zone 13
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.9	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.9	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	20.9	0.15	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	21.3	0.55	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	28.2	0.15	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	28.8	0.72	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	1.9	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 54a
 Statistical Zone 14
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 14 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	49.0	47.81	0.2	0.18	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Callinectes sapidus	11.0	11.00	0.2	0.23	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus aztecus	7.0	7.00	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Penaeus duorarum	2.0	2.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Hexapanopeus paulensis	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Ovalipes floridanus	1.0	1.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	124.0	124.00	0.1	0.14	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa hepsetus	54.0	47.17	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa nasuta	25.0	25.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Menticirrhus americanus	22.0	11.24	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Larimus fasciatus	14.0	7.04	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Etropus crossotus	5.0	3.26	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	4.0	4.00	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Prionotus tribulus	3.0	2.05	0.0	0.00	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	48.0	27.76	0.0	0.05	6	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 54b
 Statistical Zone 14
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	0.5	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	0.0	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.5	0.45	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	20.7	0.49	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	20.4	0.44	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	28.5	1.38	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	28.4	1.33	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	4.6	1.24	6	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 55a
 Statistical Zone 16
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 16 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
<i>Penaeus setiferus</i>	234.0	228.03	1.0	0.87	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Penaeus aztecus</i>	10.0	10.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Callinectes sapidus</i>	8.0	8.00	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Trachypenaeus similis</i>	6.0	6.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Callinectes similis</i>	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Anchoa mitchilli</i>	1720.0	1714.00	1.5	1.55	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Chloroscombrus chrysurus</i>	110.0	64.09	0.4	0.24	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Cynoscion arenarius</i>	24.0	12.49	0.5	0.55	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Peprilus burti</i>	22.0	22.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Hemicaranx amblyrhynchus</i>	16.0	16.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Micropogonias undulatus</i>	10.0	10.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Chaetodipterus faber</i>	8.0	8.00	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
<i>Stellifer lanceolatus</i>	4.0	4.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	28.0	22.27	0.3	0.27	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 55b
 Statistical Zone 16
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	3.6	1.82	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	2.7	1.57	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.9	0.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	19.3	0.92	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	19.9	1.39	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	20.3	5.07	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	21.4	5.79	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	5.8	0.71	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

Table 56a
 Statistical Zone 17
 16-ft trawls

Summary of dominate organisms taken in shrimp statistical zone 17 during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. The mean number (NUM) of organisms per hour, the standard error of the mean (SEM) for numbers, the mean weight in kg per hour, the SEM of weight and the number (n) of samples taken. No trawl samples were taken in depths greater than 5 fm.

SPECIES	0- 5 FM					6-10 FM					11-20 FM				
	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Penaeus setiferus	12.0	9.17	0.1	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Portunus gibbesii	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Anchoa mitchilli	320.0	320.00	0.4	0.36	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Cynoscion arenarius	26.0	20.30	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Chloroscombrus chrysurus	4.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Micropogonias undulatus	4.0	2.00	0.2	0.09	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Peprilus alepidotus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Harengula jaguana	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Stellifer lanceolatus	2.0	2.00	0.0	0.00	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0
Squid	248.0	212.71	1.9	1.77	3	0.0	0.00	0.0	0.00	0	0.0	0.00	0.0	0.00	0

Table 56b
 Statistical Zone 17
 16-ft trawls

Summary of the mean total catch and environmental data (X), the standard error of the mean (SEM) and the number of samples taken (n) during the 1990 Fall Shrimp/Groundfish Survey by depth stratum. Catch values in kg per hour, temperature in °C, salinity in ppt, chlorophyll in mg/m³, and oxygen in ppm. No trawl samples were taken in depths greater than 5 fm.

Environmental category	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n	X	SEM	n
Total catch kg	10.9	10.91	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total finfish kg	9.1	9.09	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total crustacean kg	0.0	0.00	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Total others kg	1.8	1.82	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface temperature	18.6	0.42	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater temperature	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom temperature	18.6	0.42	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface salinity	26.2	0.27	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater salinity	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom salinity	26.2	0.27	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface chlorophyll	5.8	0.71	3	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom chlorophyll	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Surface oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Midwater oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0
Bottom oxygen	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0	0.0	0.00	0

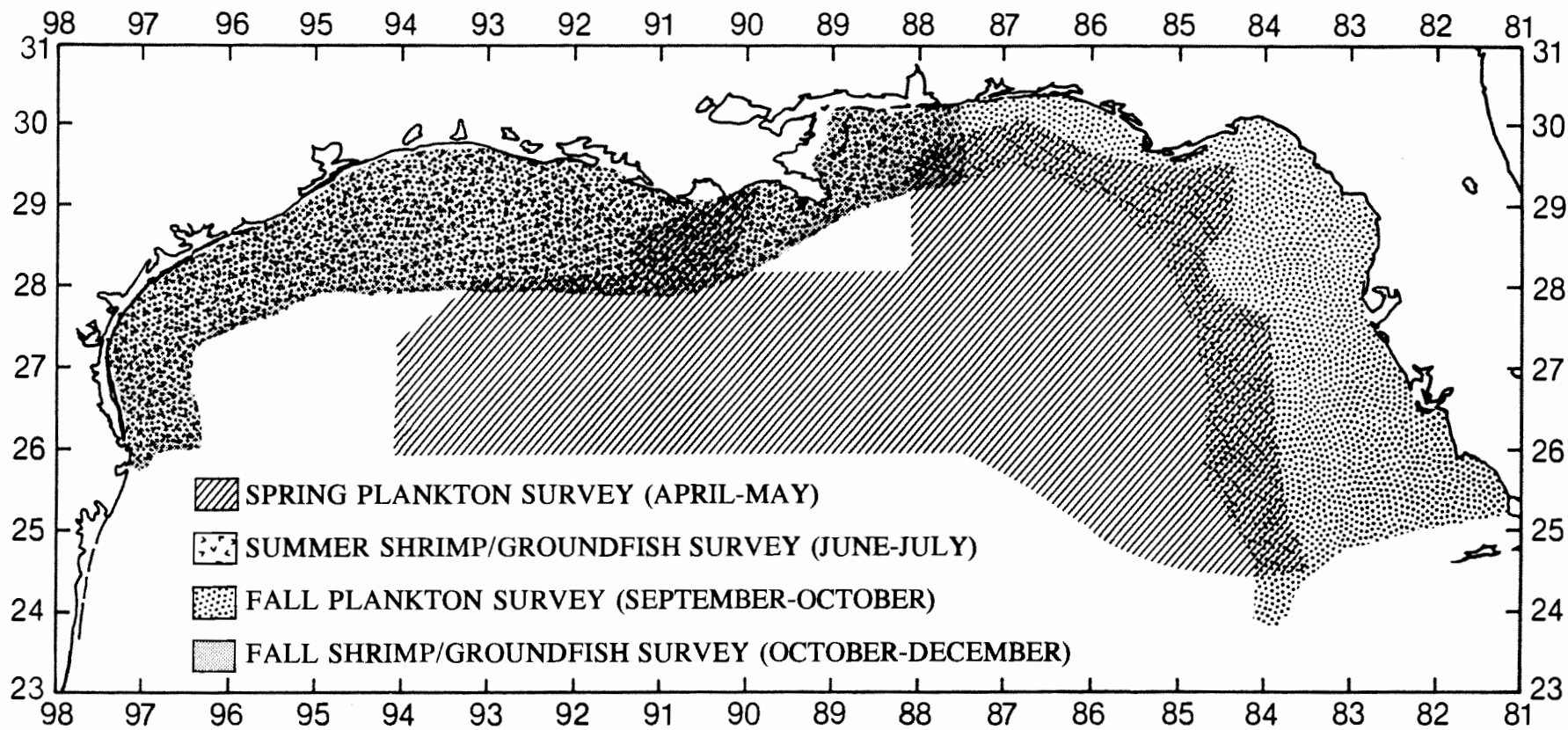


Figure 1. 1990 SEAMAP Surveys, Gulf of Mexico.

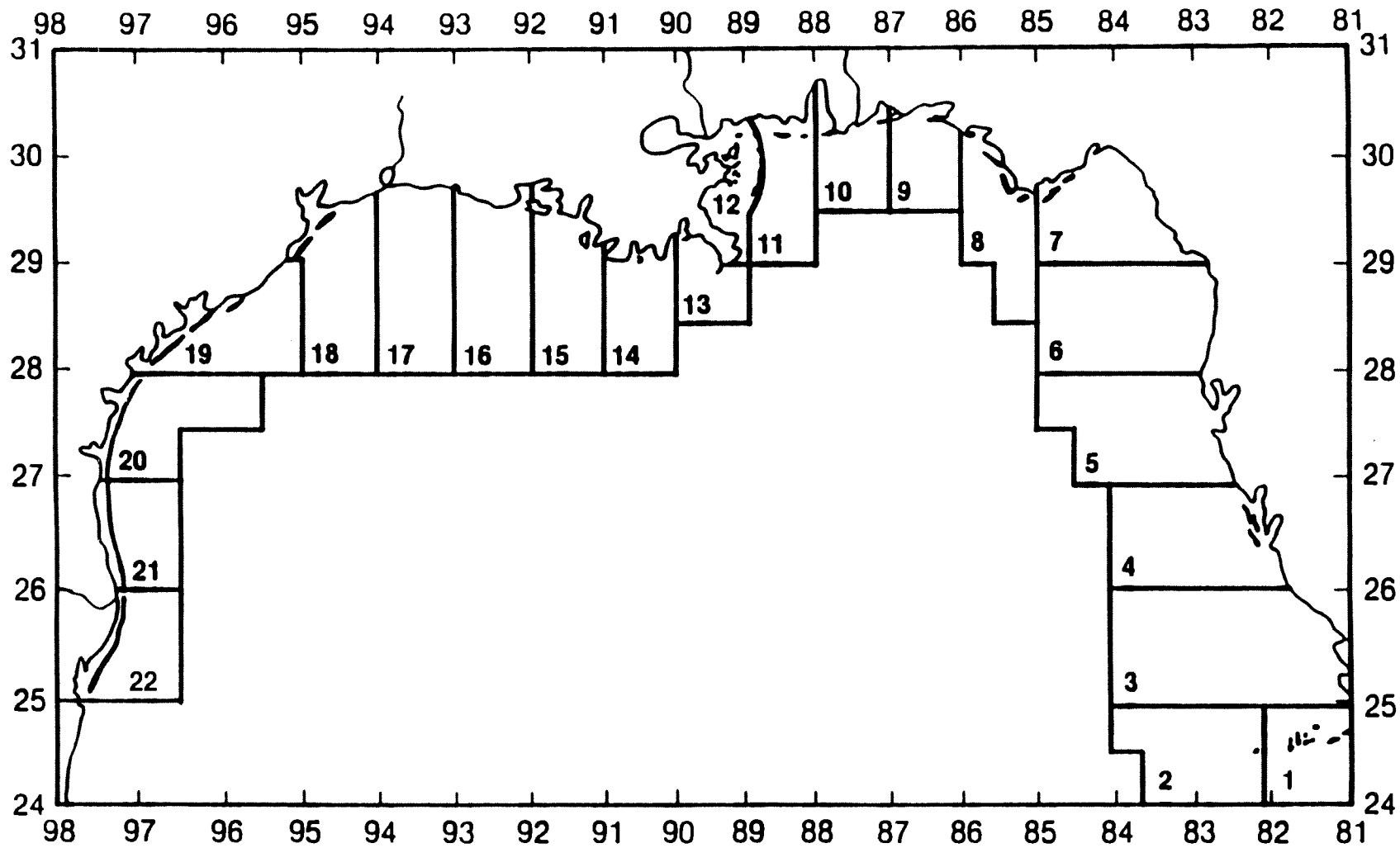


Figure 2. Statistical zones for shrimp in the Gulf of Mexico.

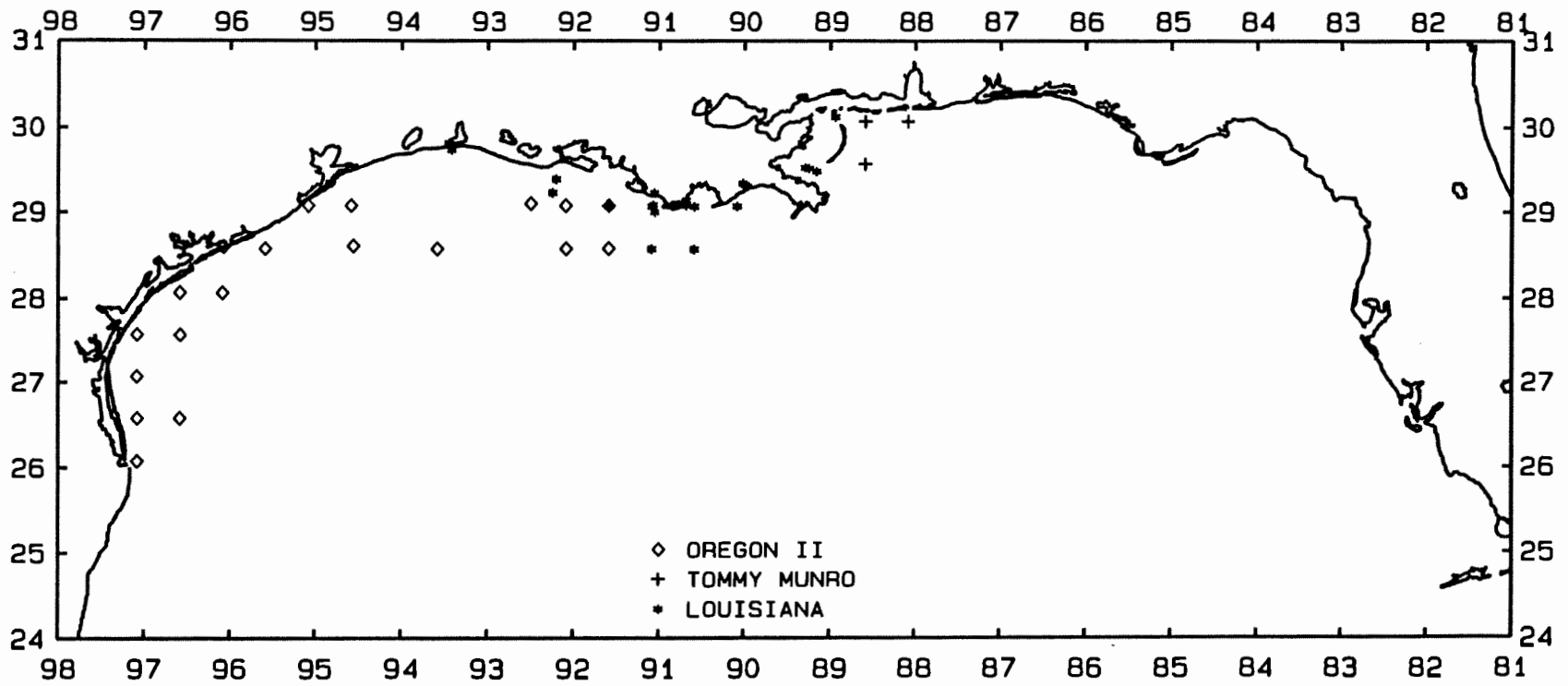


Figure 4. Locations of plankton stations during 1990 Summer Shrimp/Groundfish Survey.

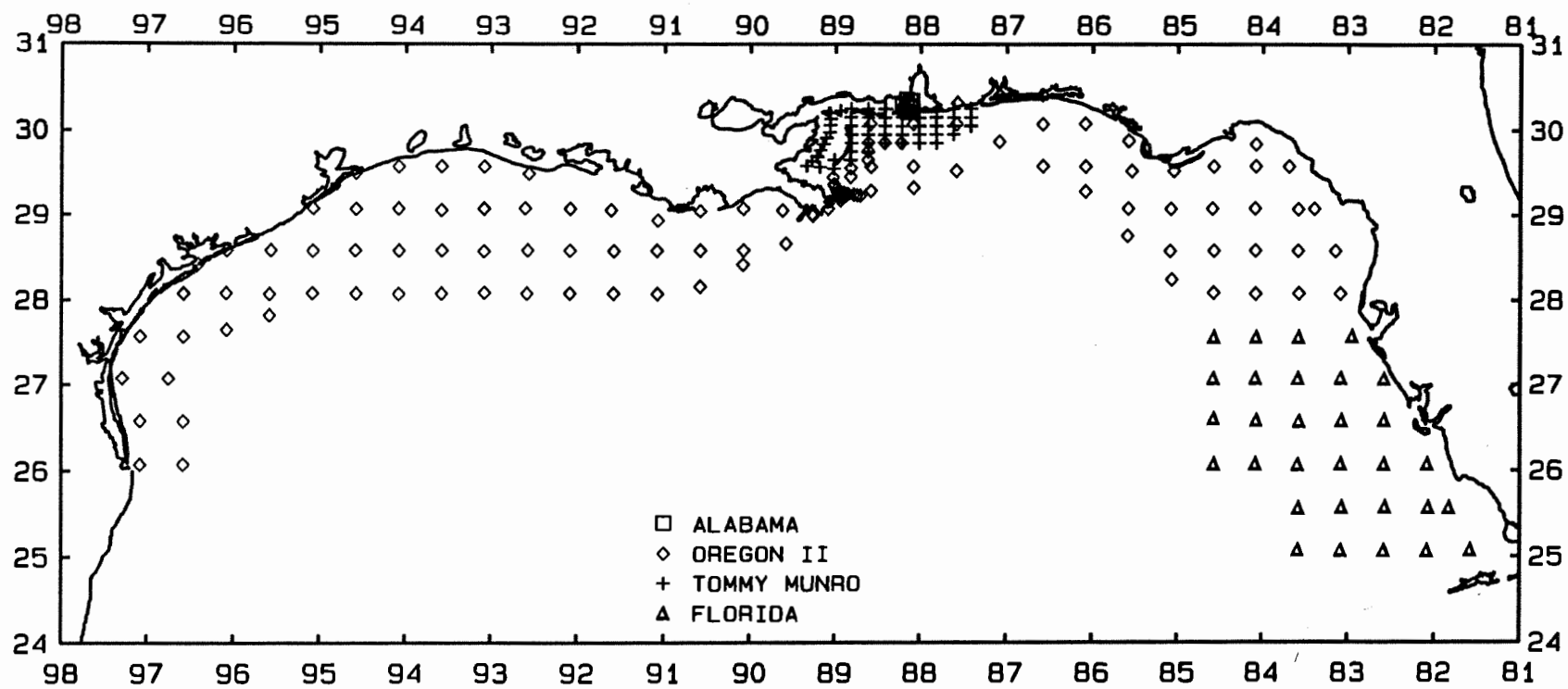


Figure 5. Locations of plankton and environmental stations during 1990 Fall Plankton Survey.

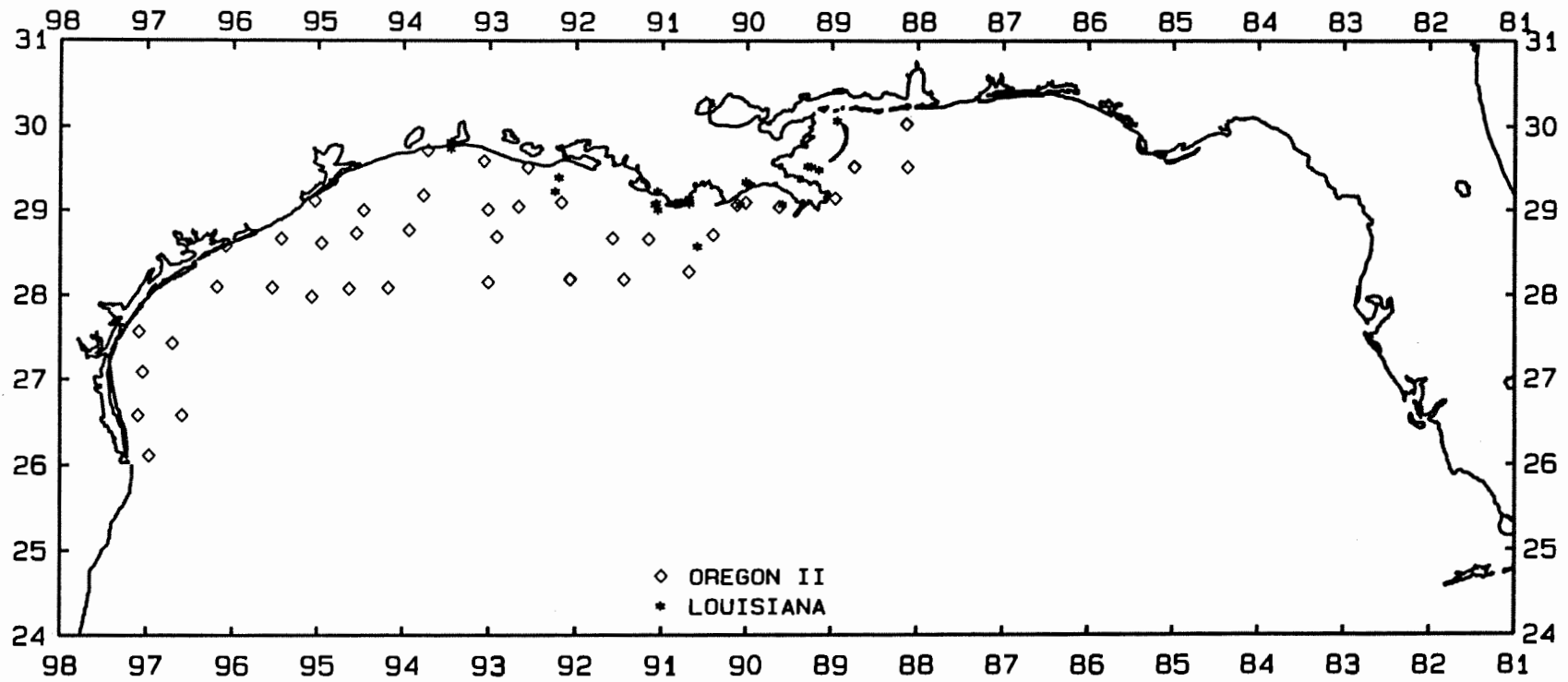


Figure 6. Locations of plankton stations during 1990 Fall Shrimp/Groundfish Survey.

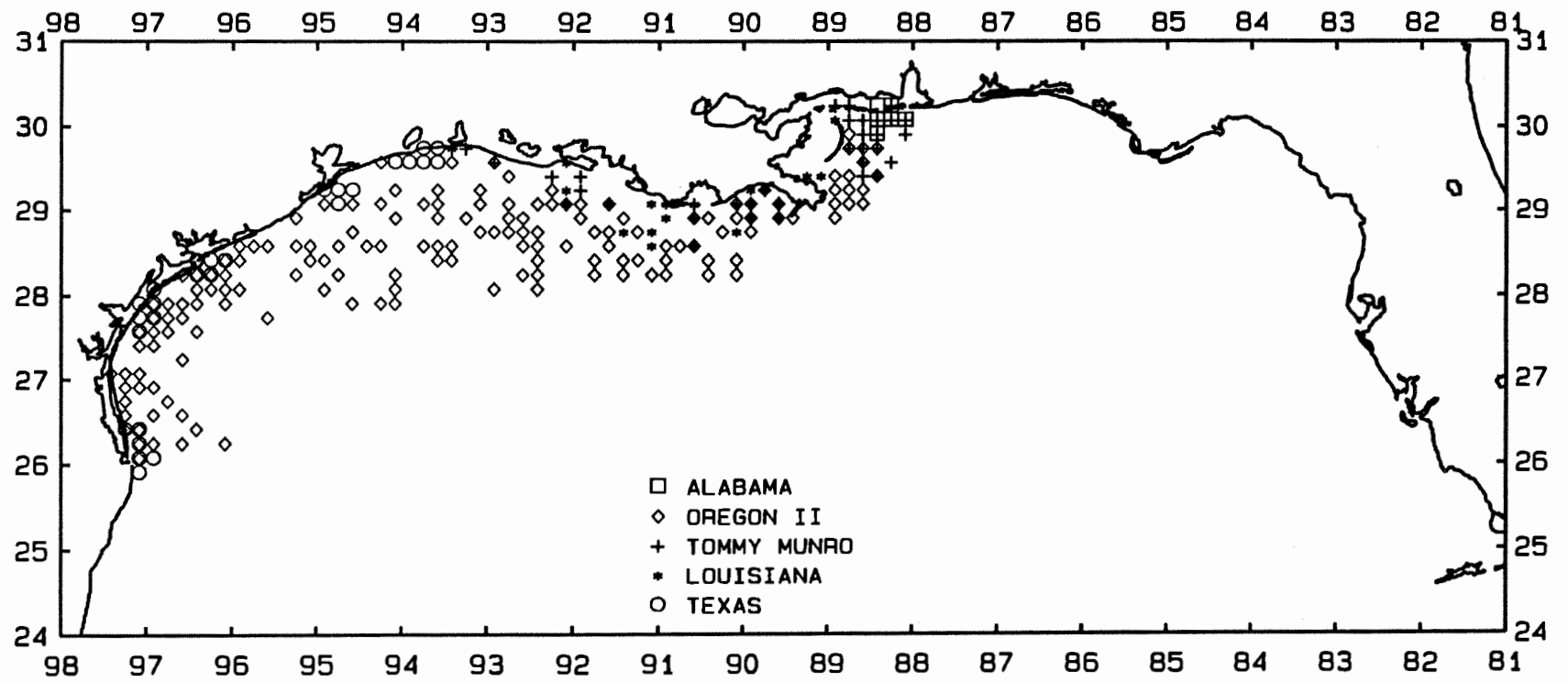


Figure 7. Locations of 1990 Summer Shrimp/Groundfish environmental stations, summarized by 10-minute squares.

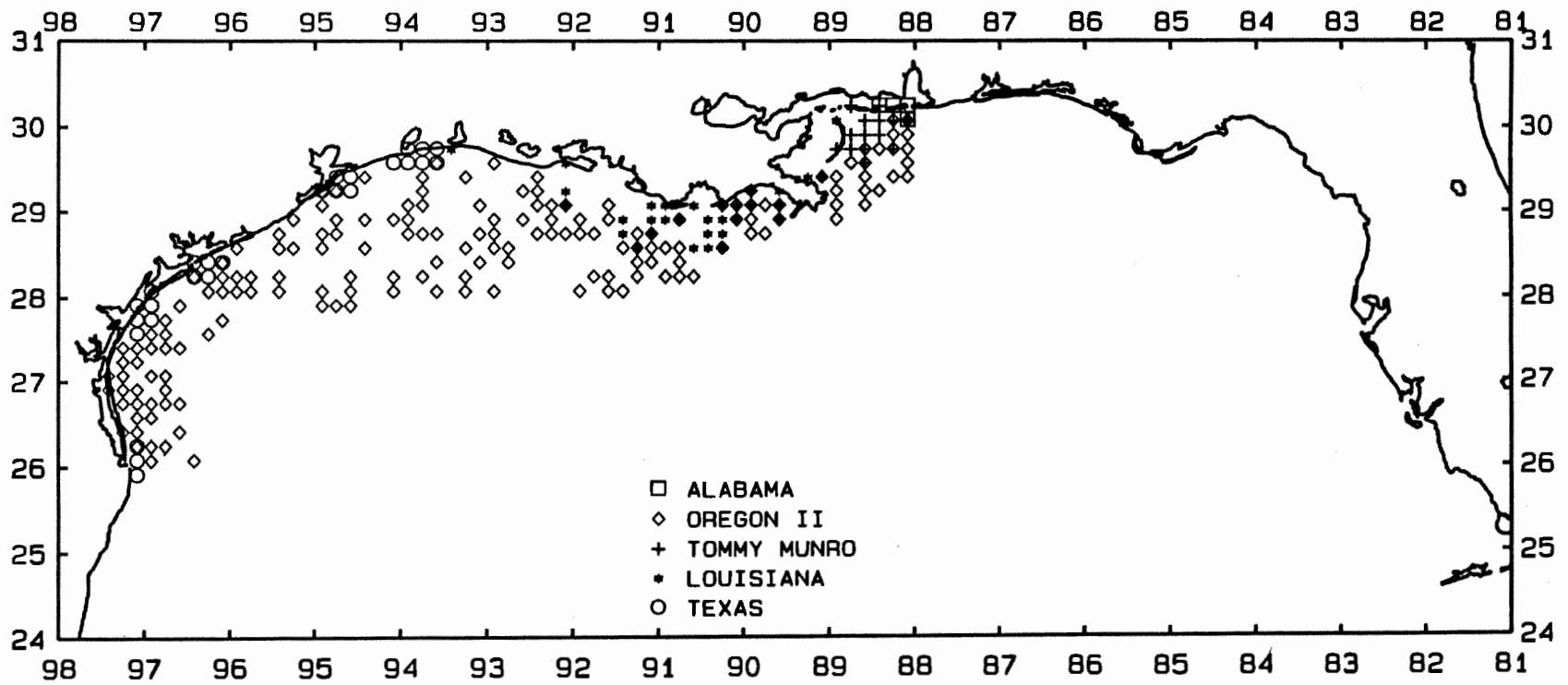


Figure 8. Locations of 1990 Fall Shrimp/Groundfish Survey environmental stations, summarized by 10-minute squares.

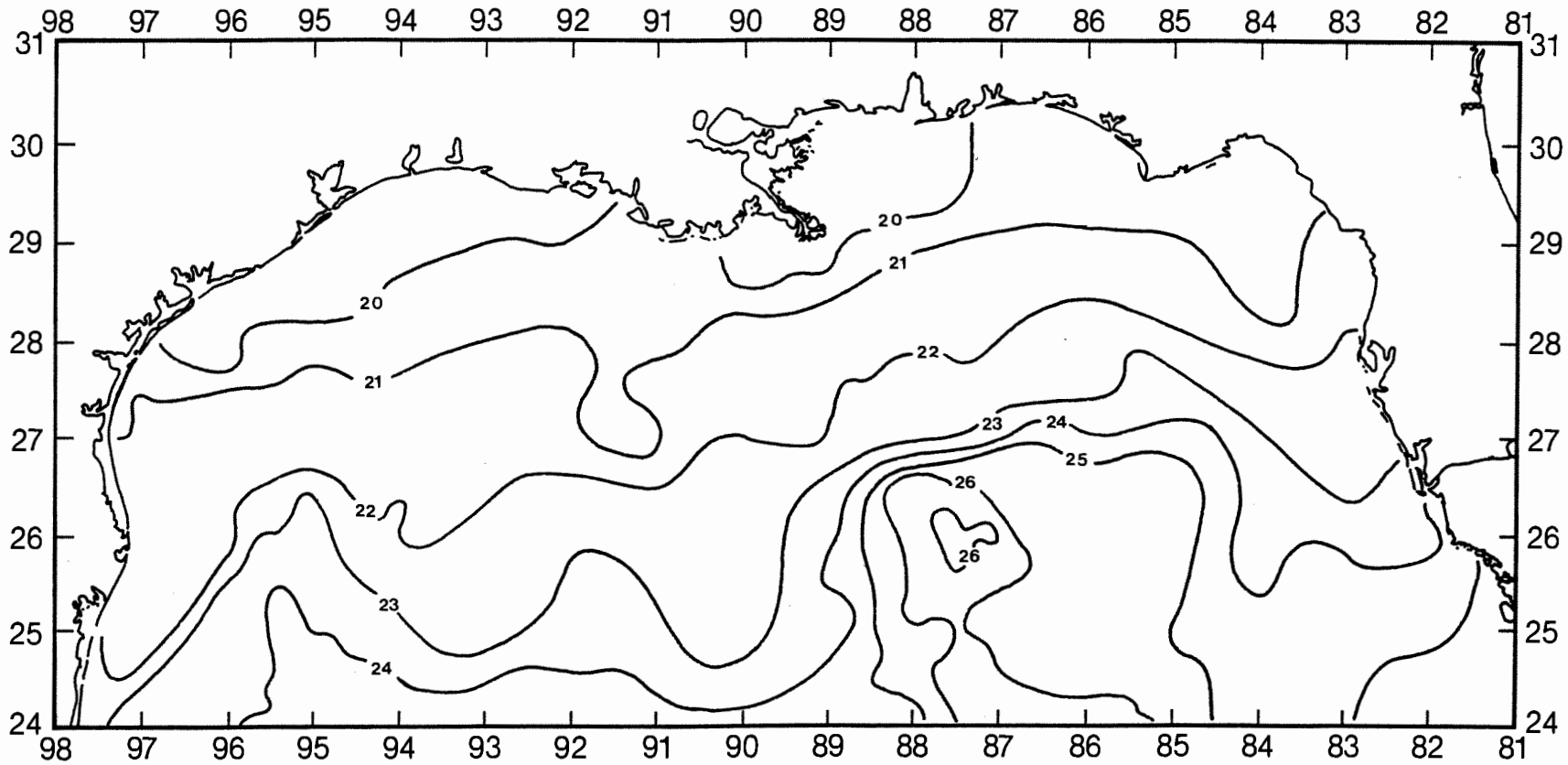


Figure 9. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, April 14, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

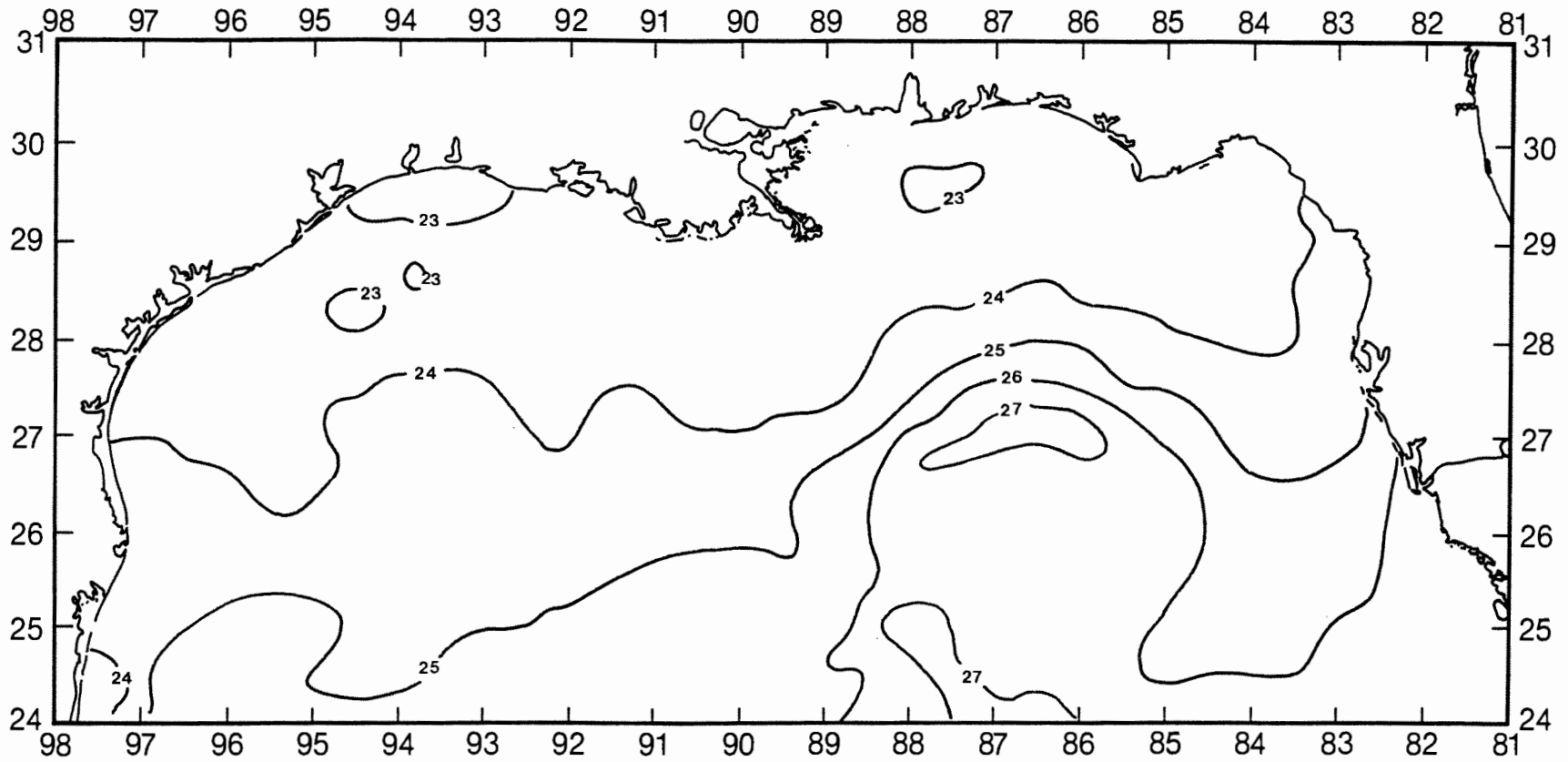


Figure 10. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, May 12, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

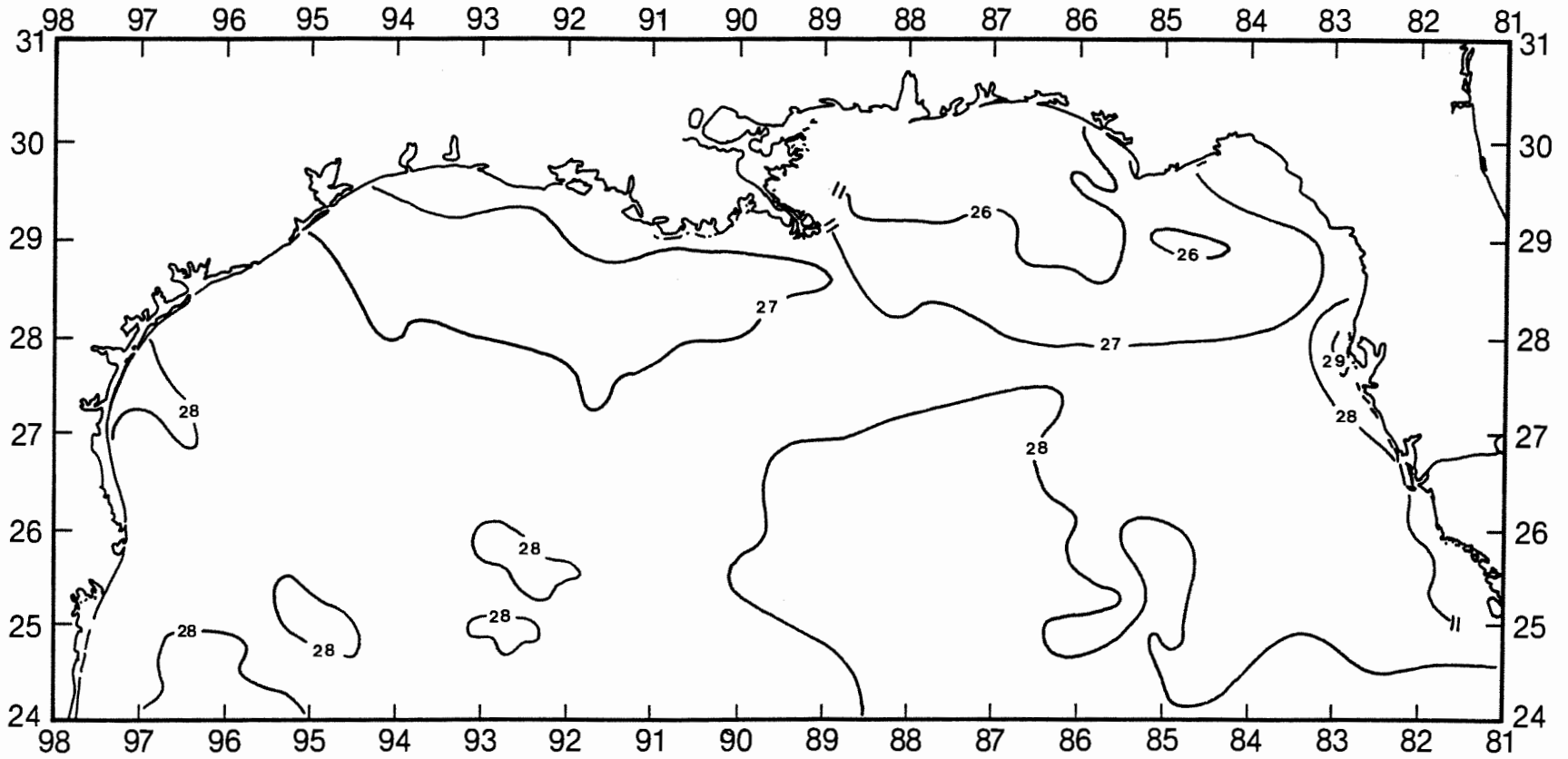


Figure 11. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, June 2, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

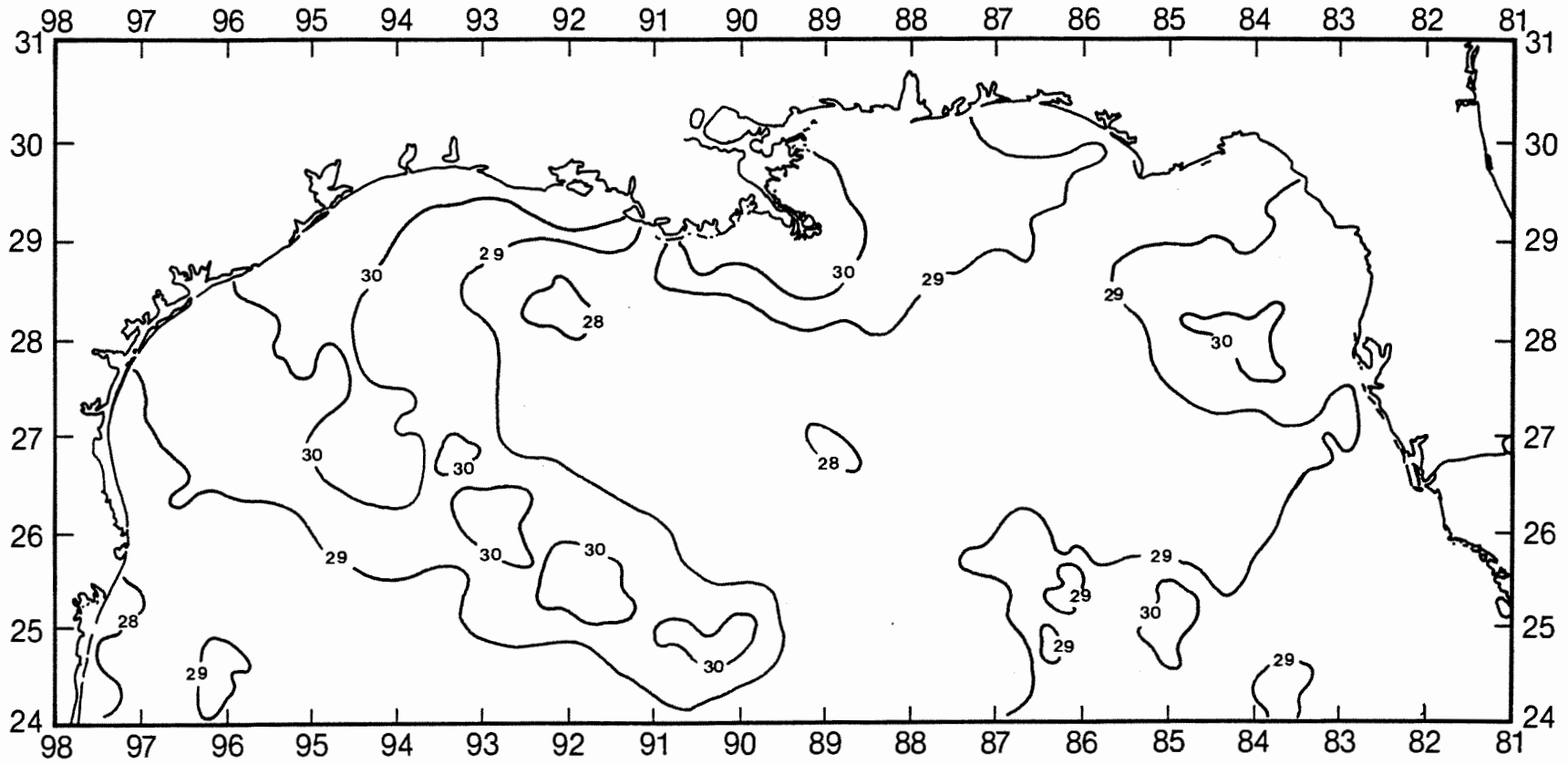


Figure 12. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, July 7, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

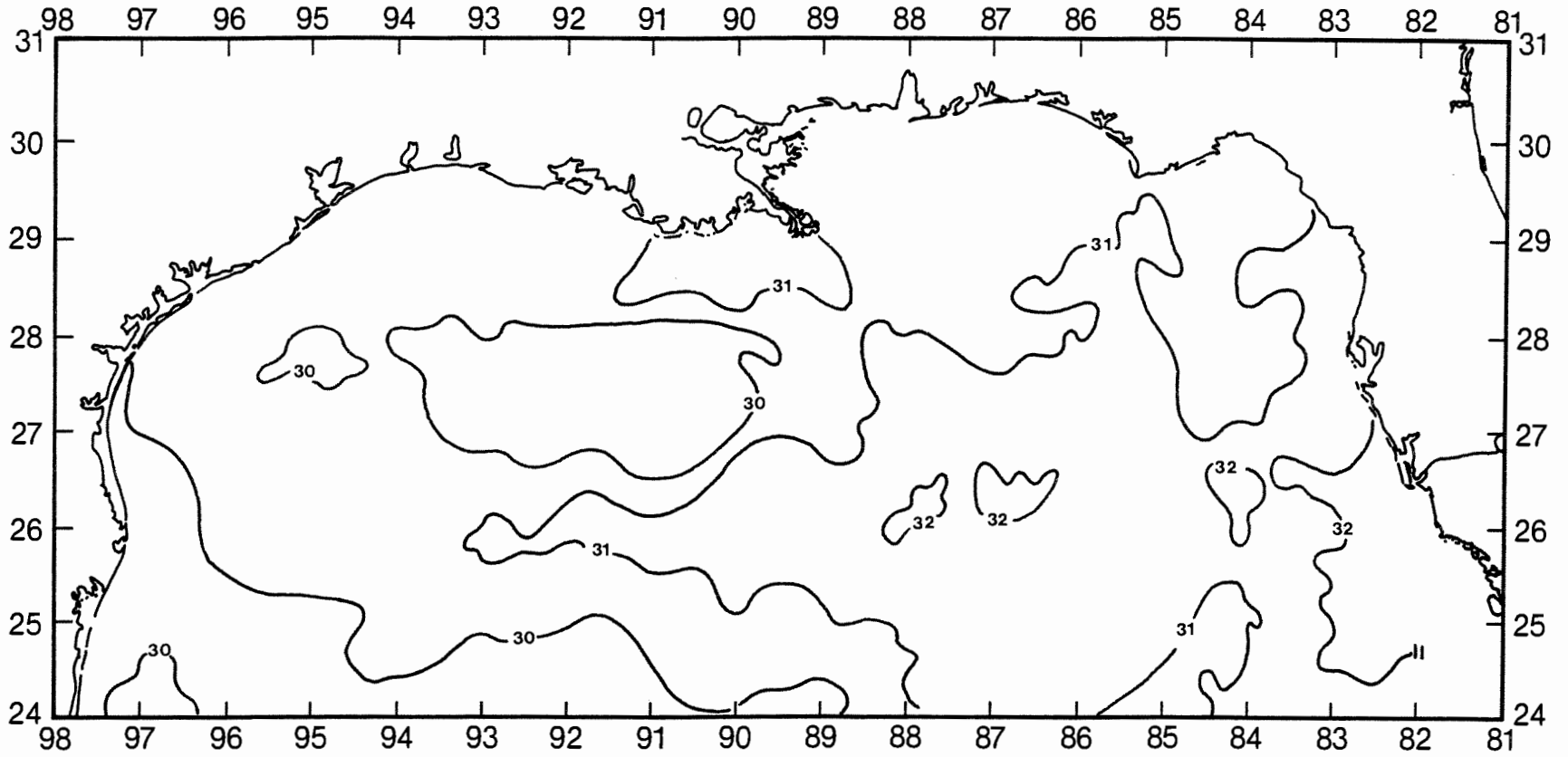


Figure 13. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, August 11, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

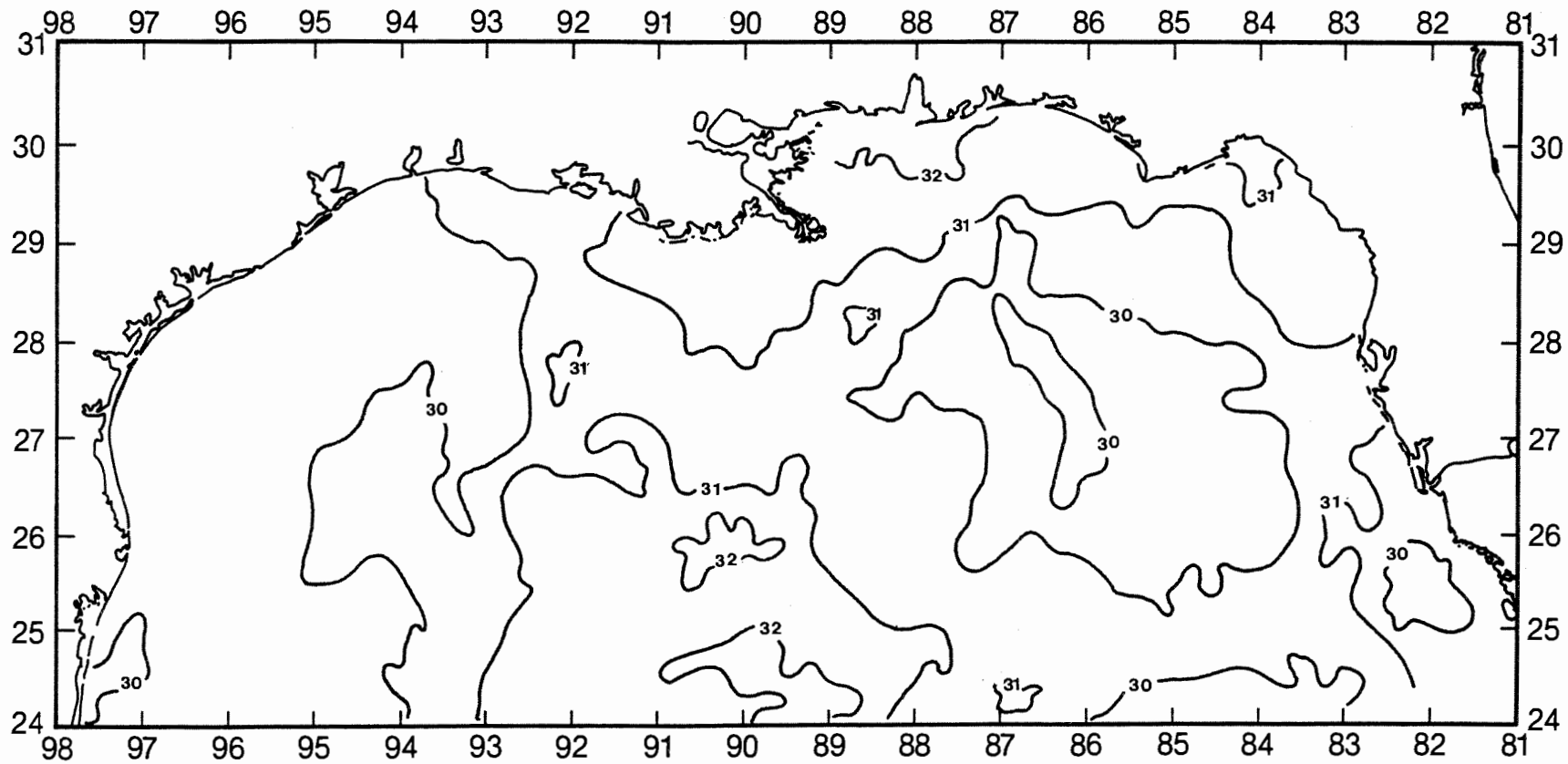


Figure 14. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, September 16, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

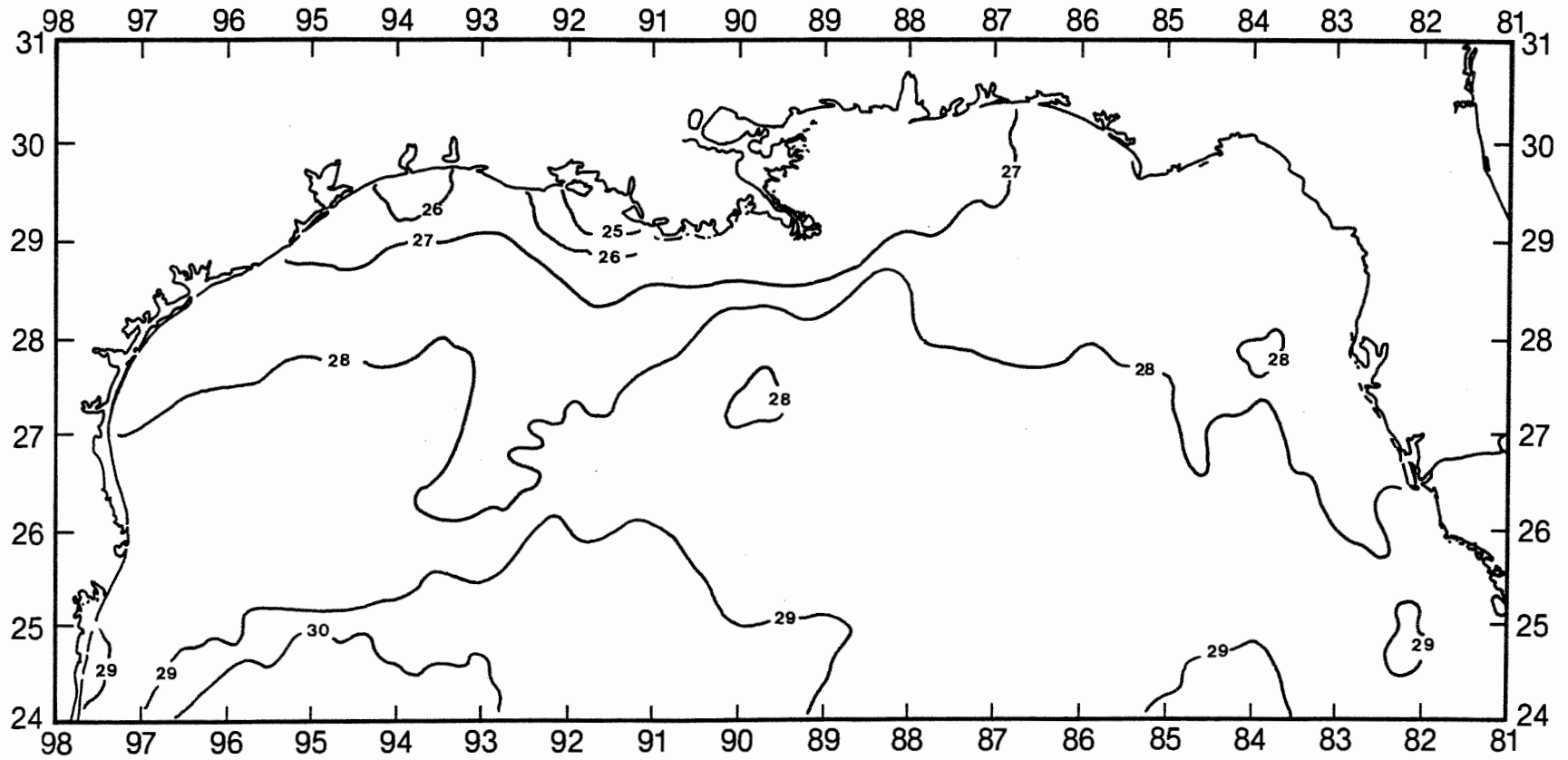


Figure 15. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, October 14, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

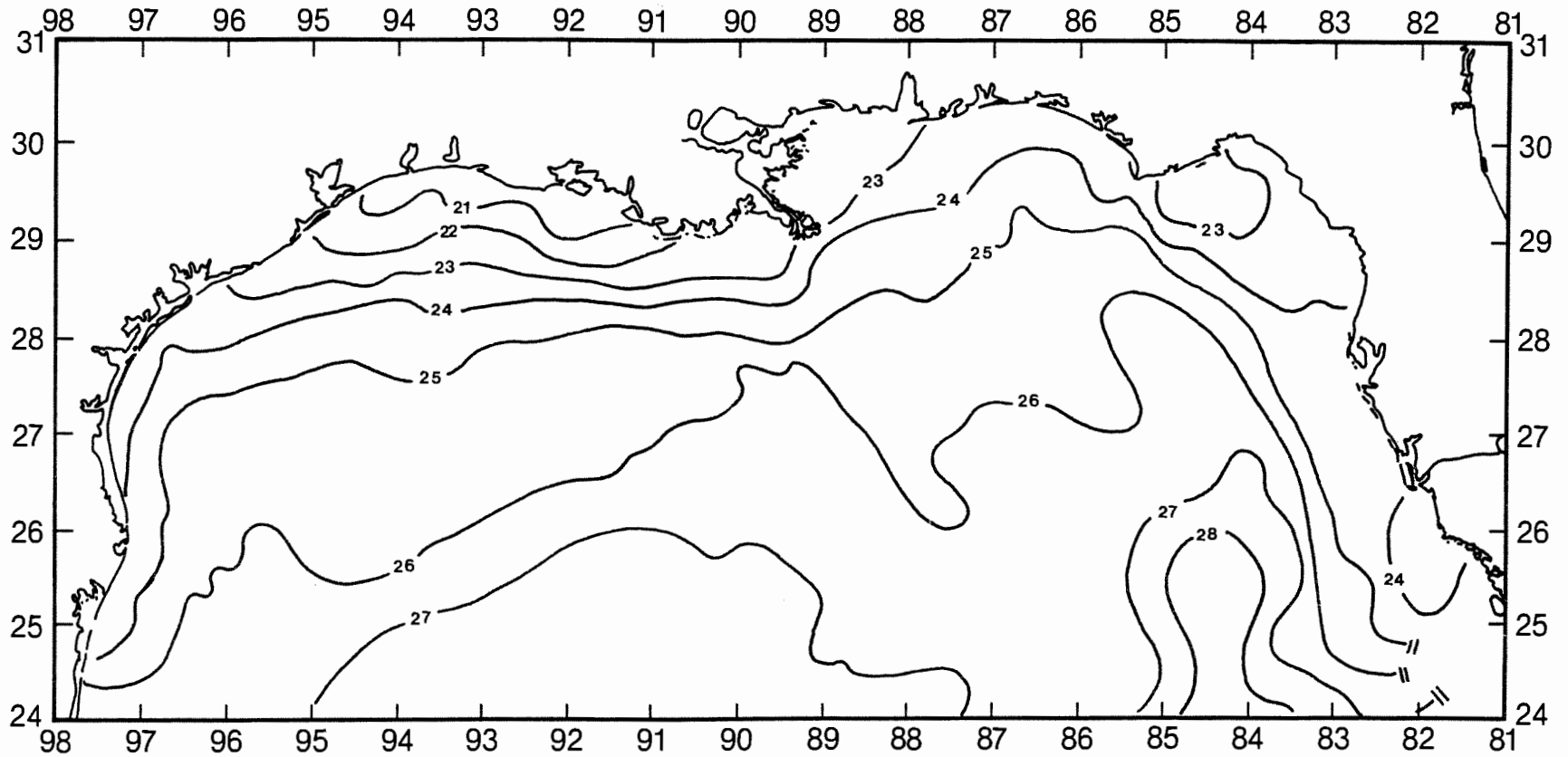


Figure 16. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, November 11, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

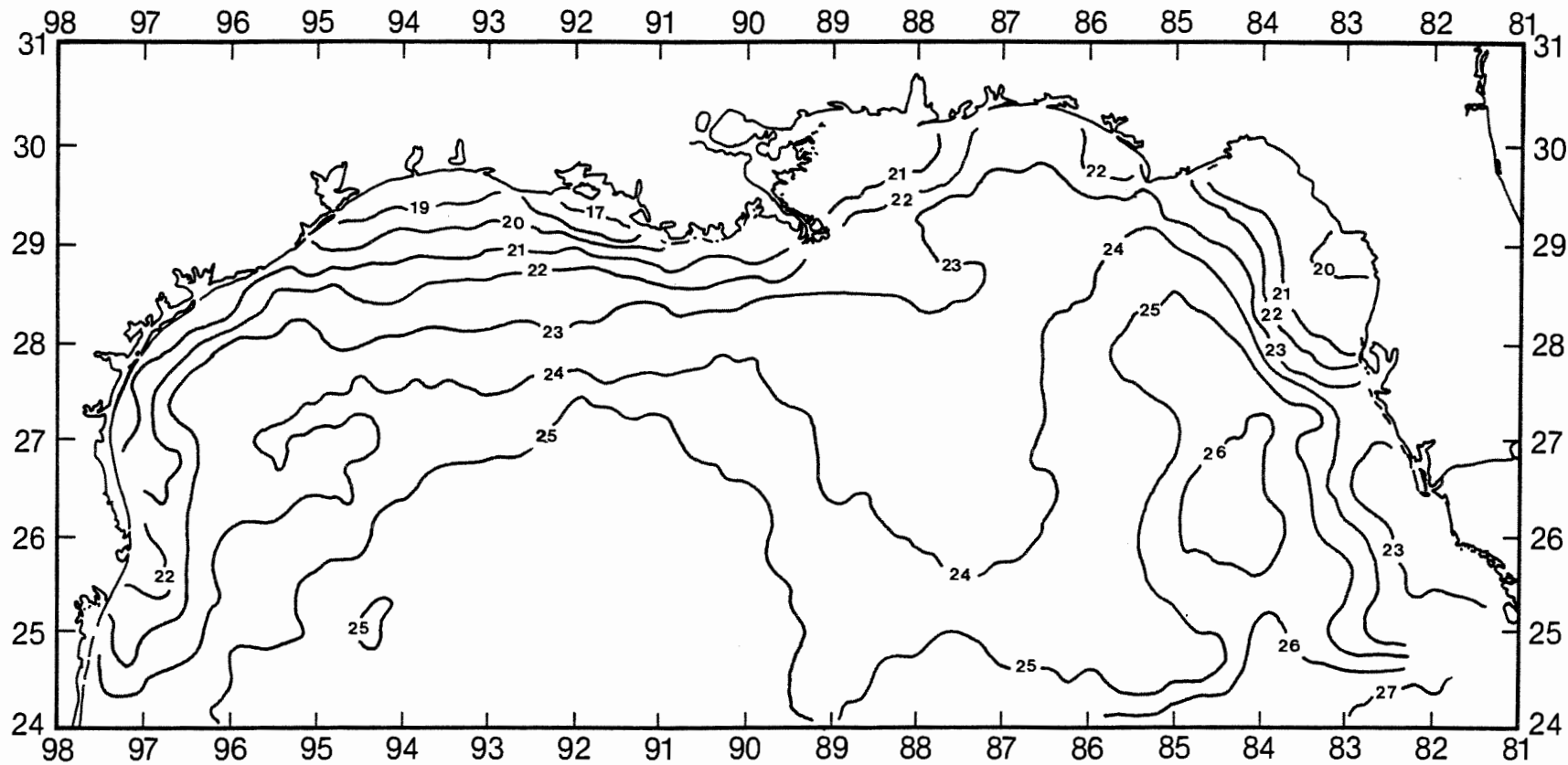


Figure 17. Satellite measurement of surface temperature (°C) in the Gulf of Mexico, December 19, 1990 (modified from NWS/NESS Sea Surface Thermal Analysis).

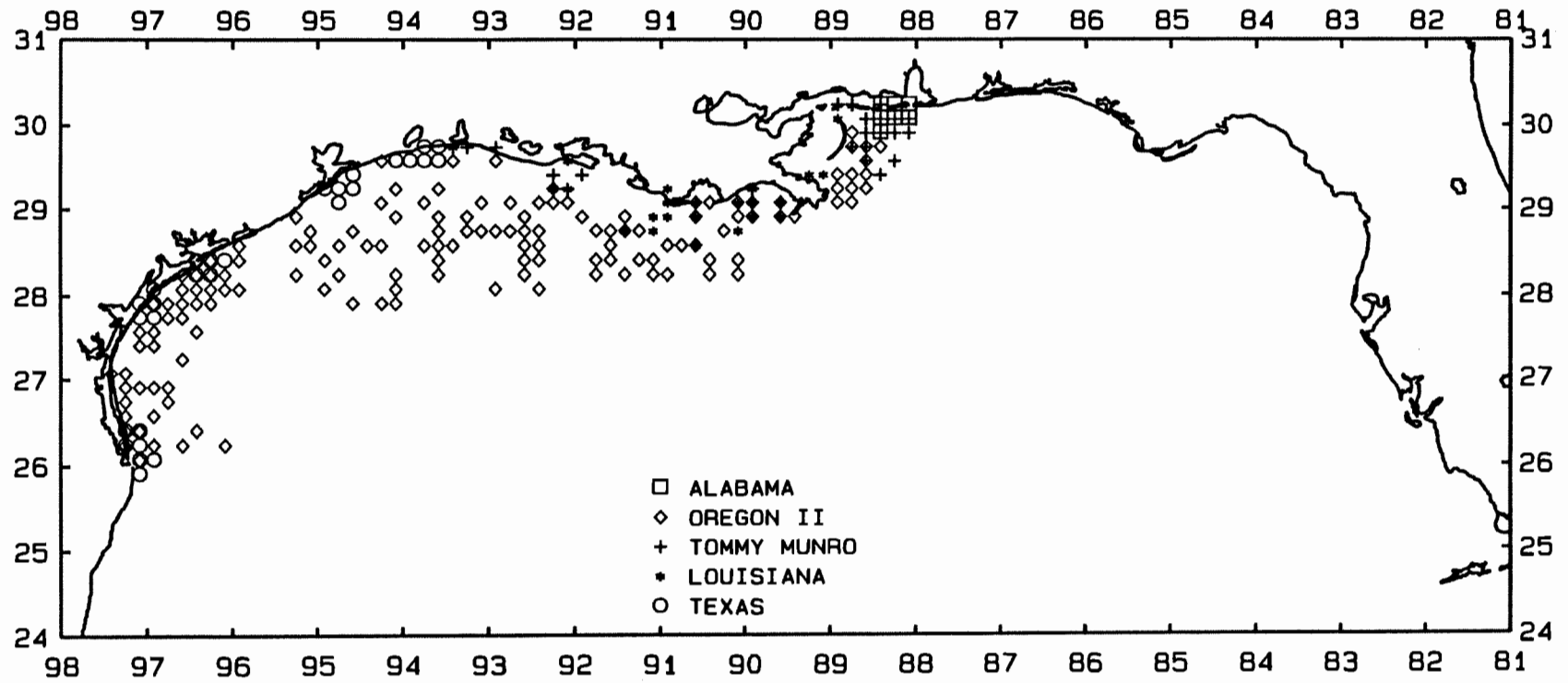


Figure 18. Locations of 1990 Summer Shrimp/Groundfish trawl stations, summarized by 10-minute squares.

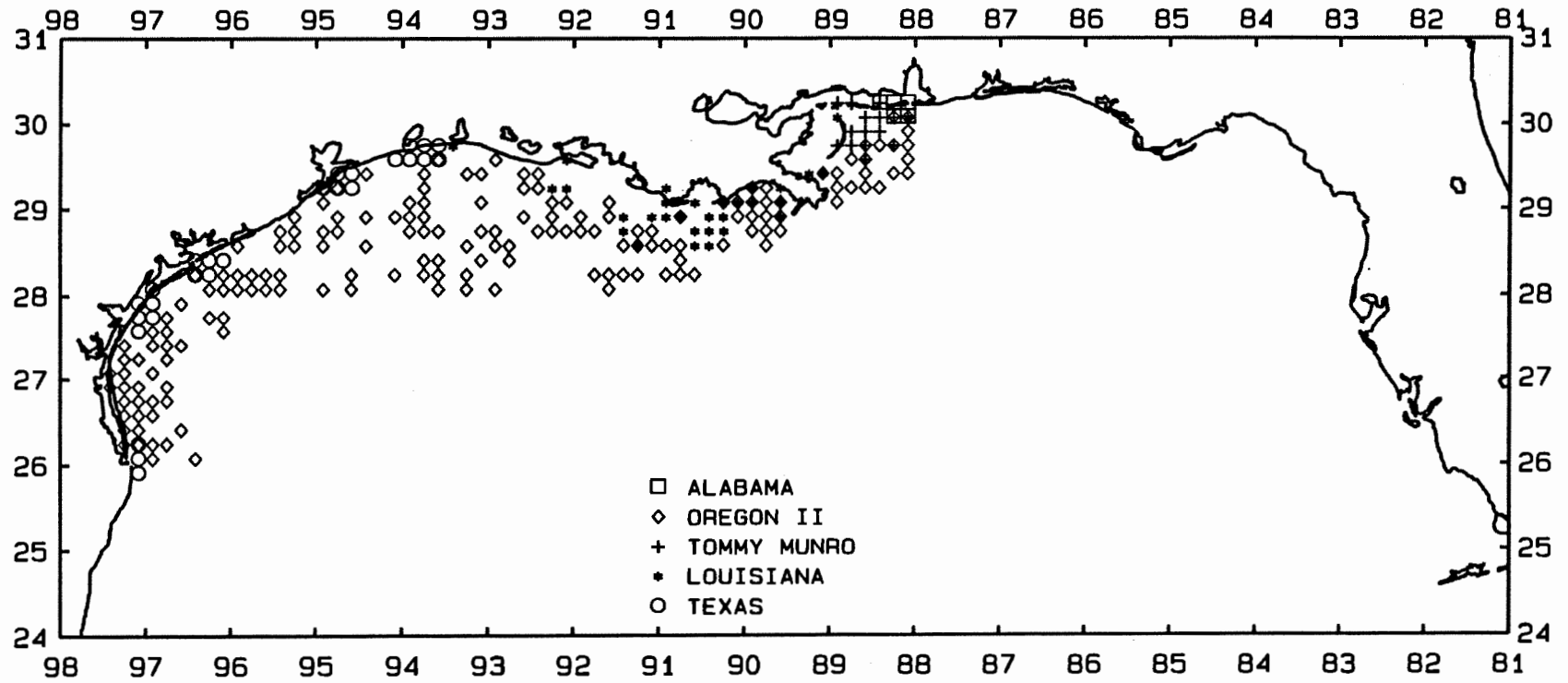


Figure 19. Locations of 1990 Fall Shrimp/Groundfish trawl stations, summarized by 10-minute squares.

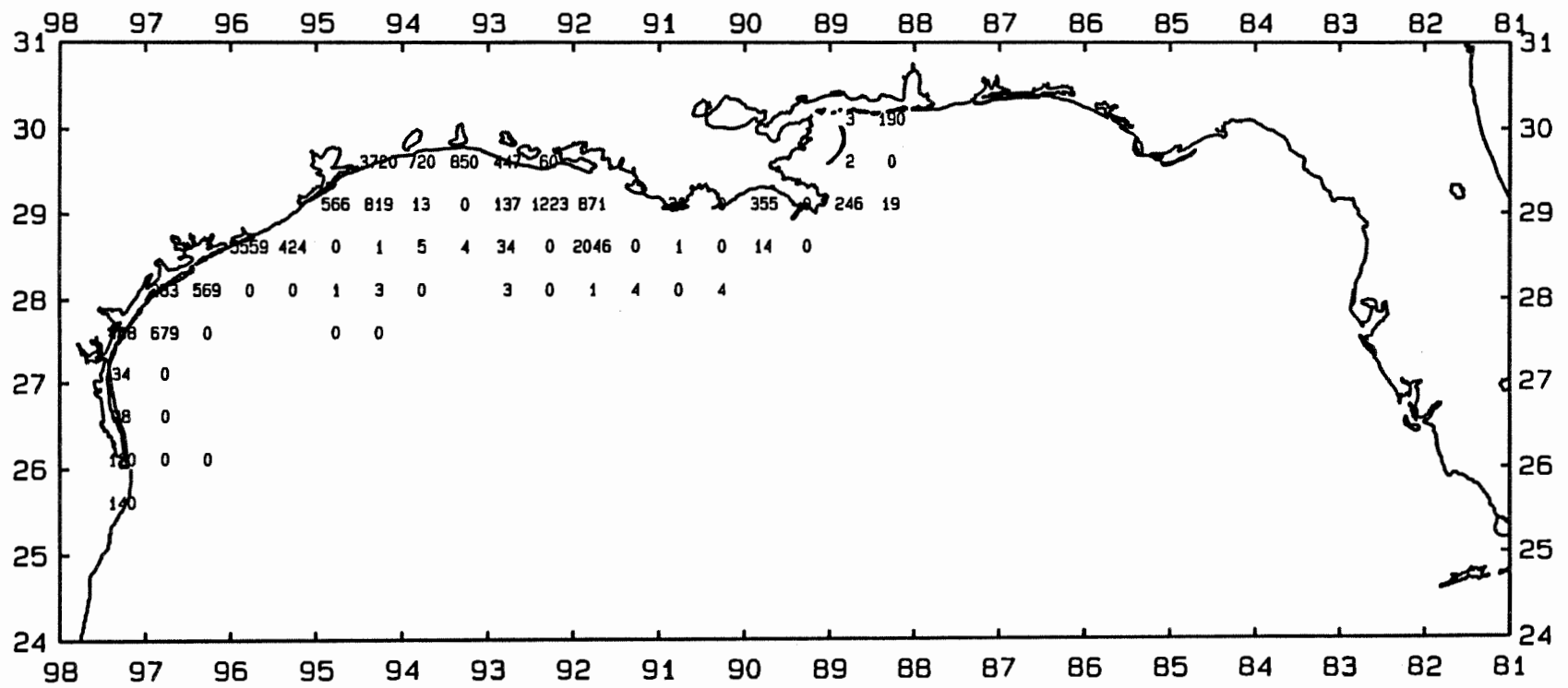


Figure 20. Atlantic croaker, *Micropogonias undulatus*, number/hour for June-July 1990.

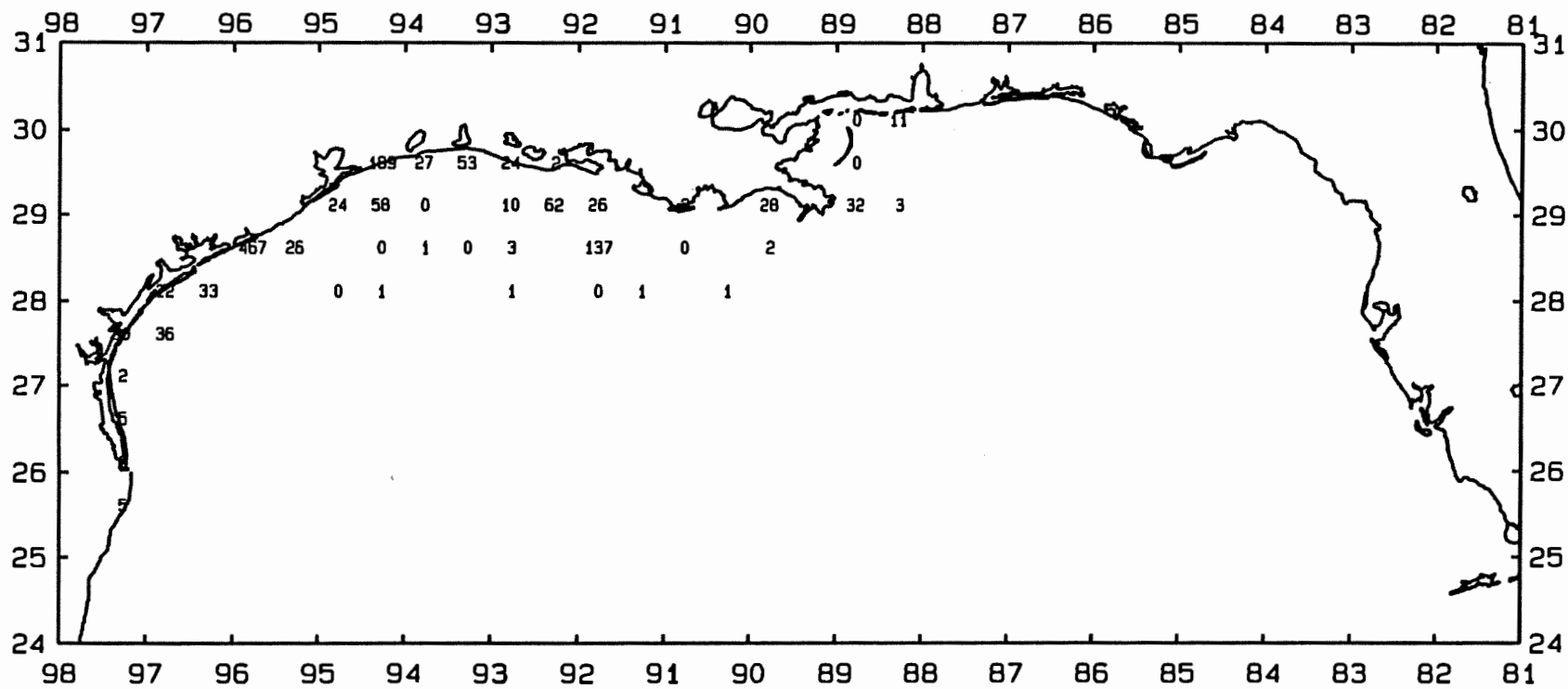


Figure 21. Atlantic croaker, *Micropogonias undulatus*, lb/hour for June-July 1990.

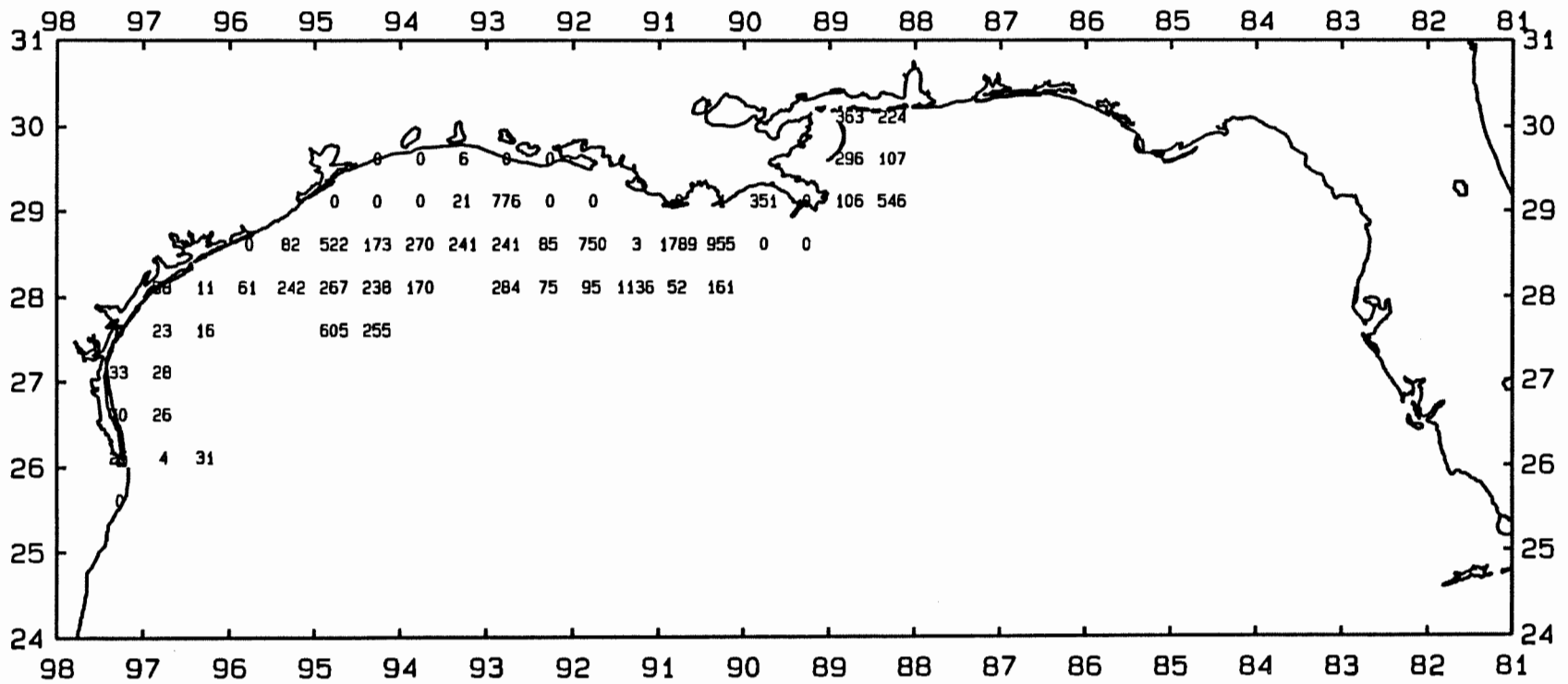


Figure 22. Longspine pogy, *Stenotomus caprinus*, number/hour for June-July 1990.

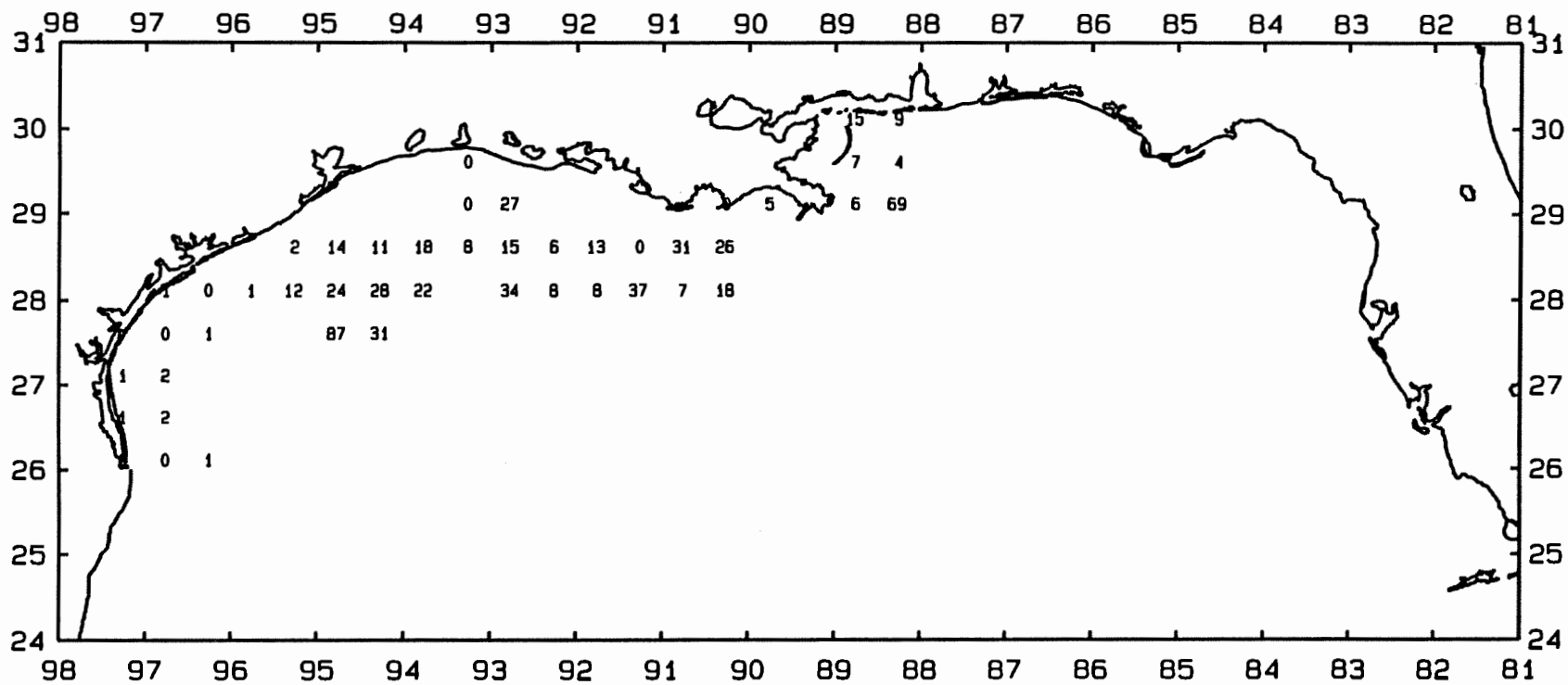


Figure 23. Longspine pogy, *Stenotomus caprinus*, lb/hour for June-July 1990.

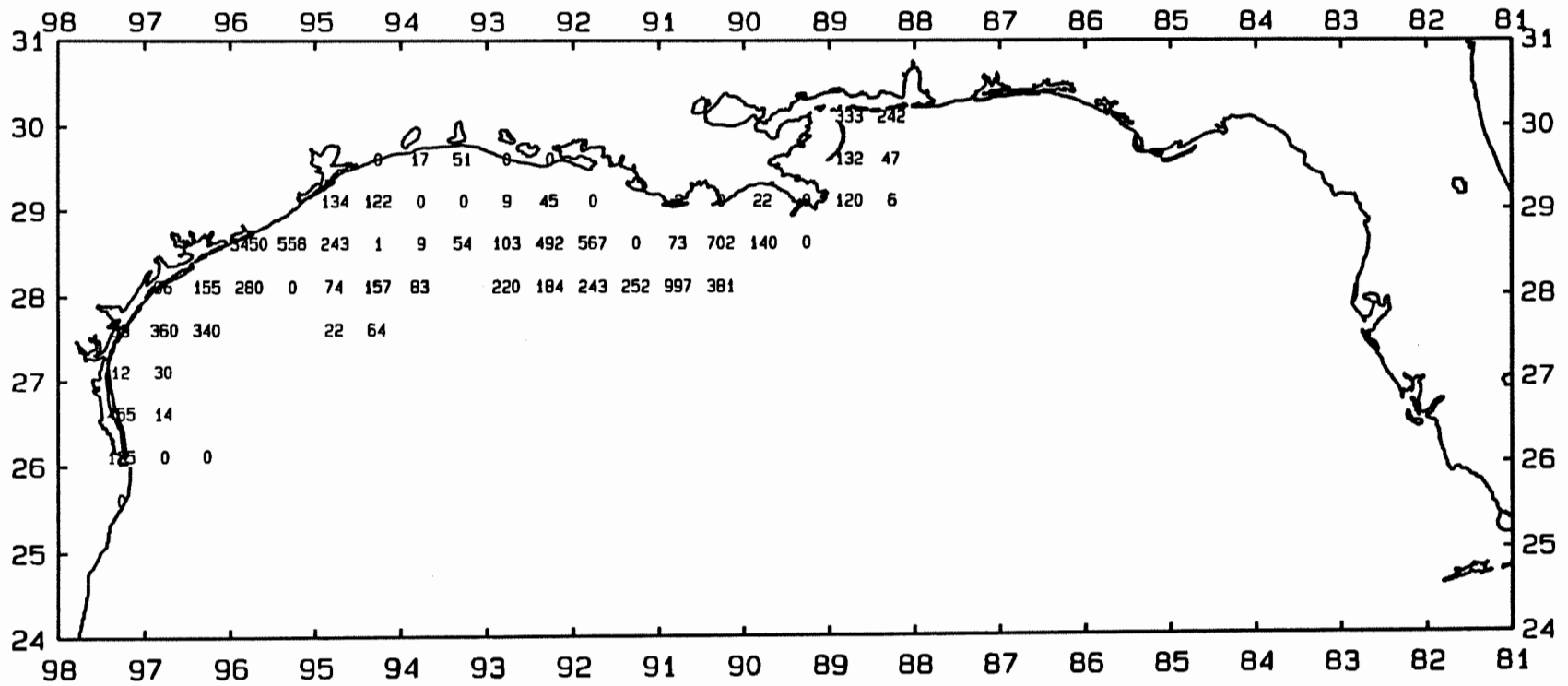


Figure 24. Gulf butterfish, *Peprilus burti*, number/hour for June-July 1990.

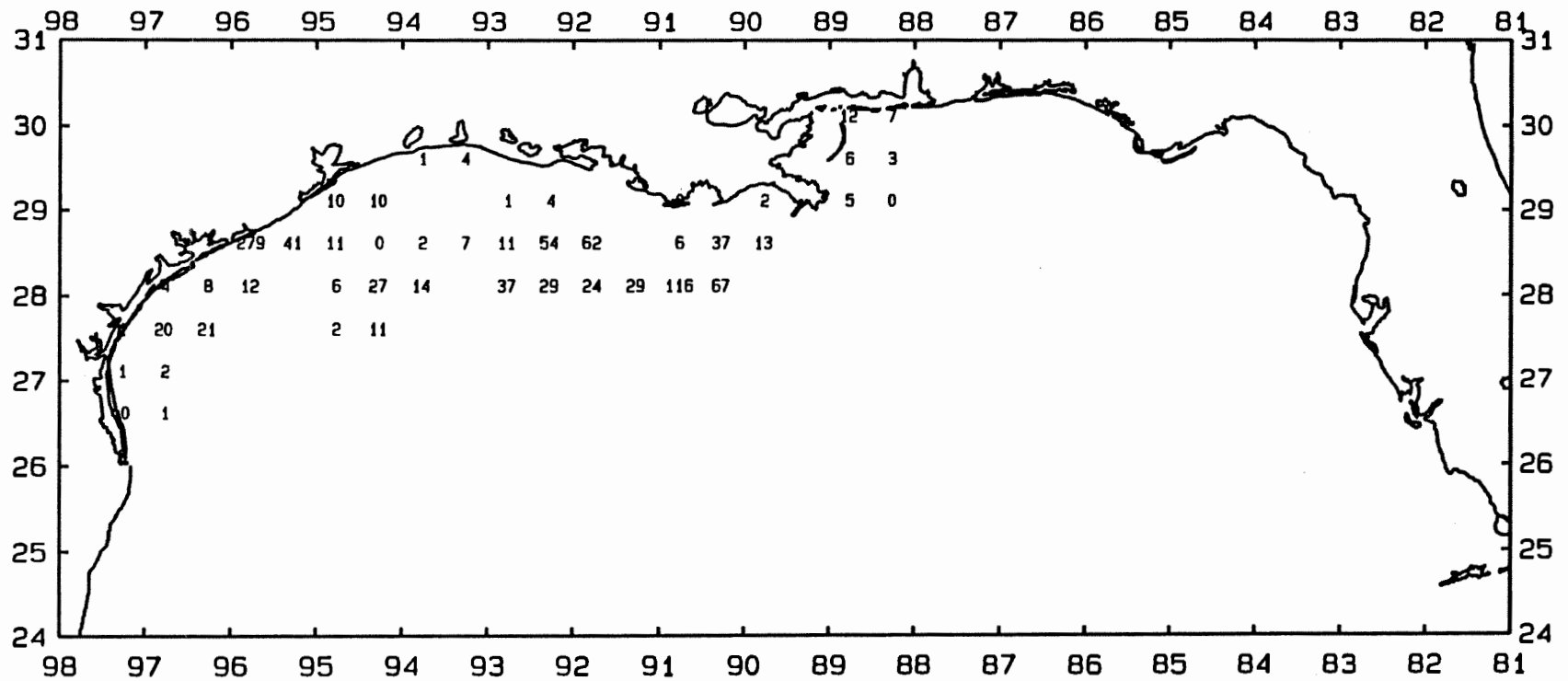


Figure 25. Gulf butterfish, *Peprilus burti*, lb/hour for June-July 1990.

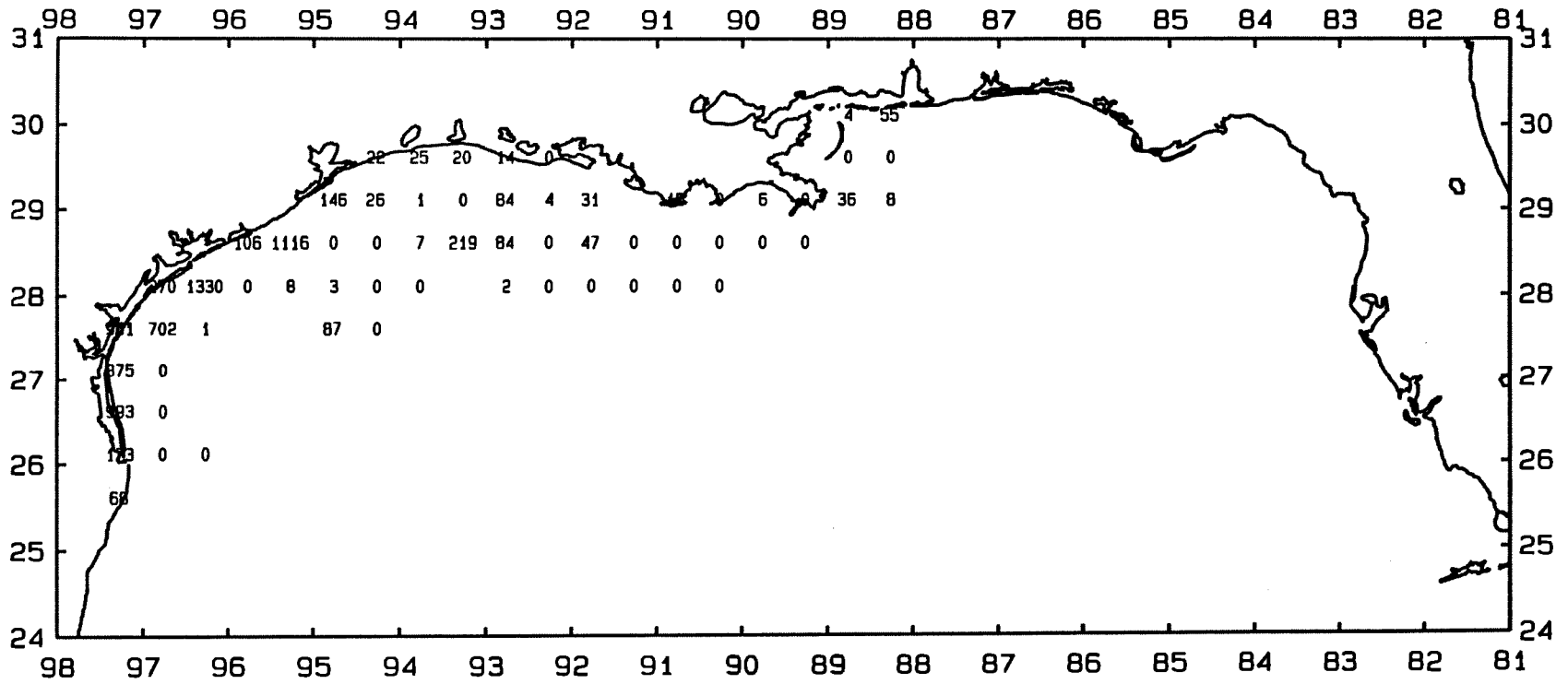


Figure 26. Spot, *Leiosomus xanthurus*, number/hour for June-July 1990.

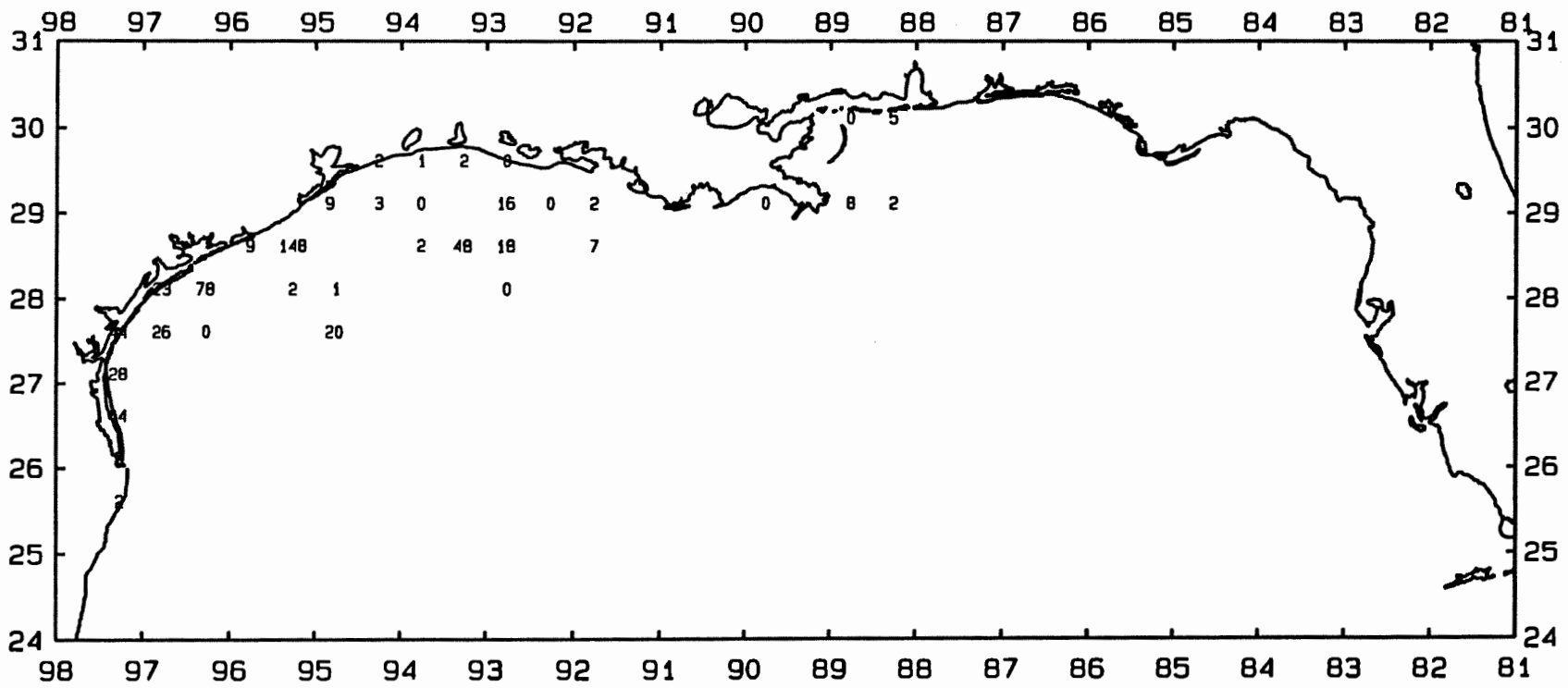


Figure 27. Spot, *Leiostomus xanthurus*, lb/hour for June-July 1990.

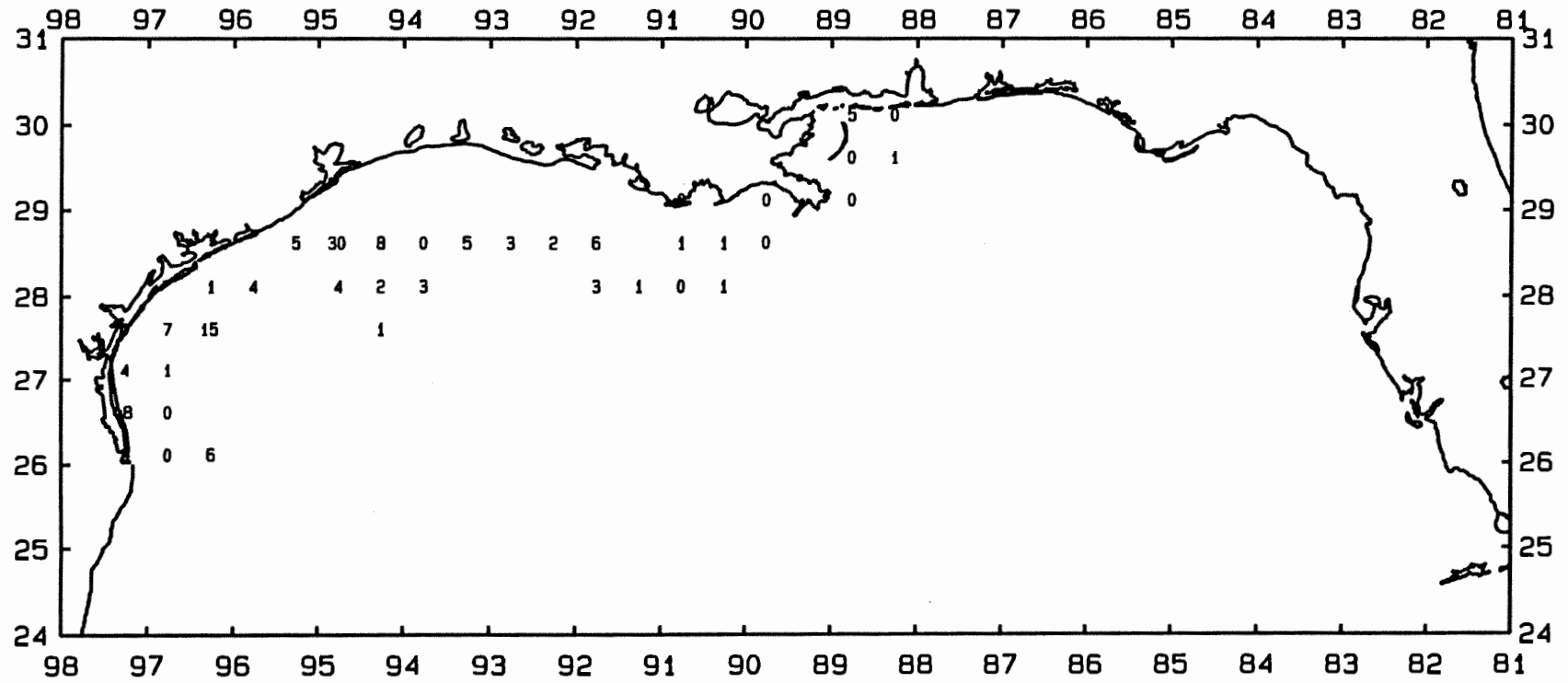


Figure 29. Rough scad, *Trachurus lathami*, 1b/hour for June-July 1990.

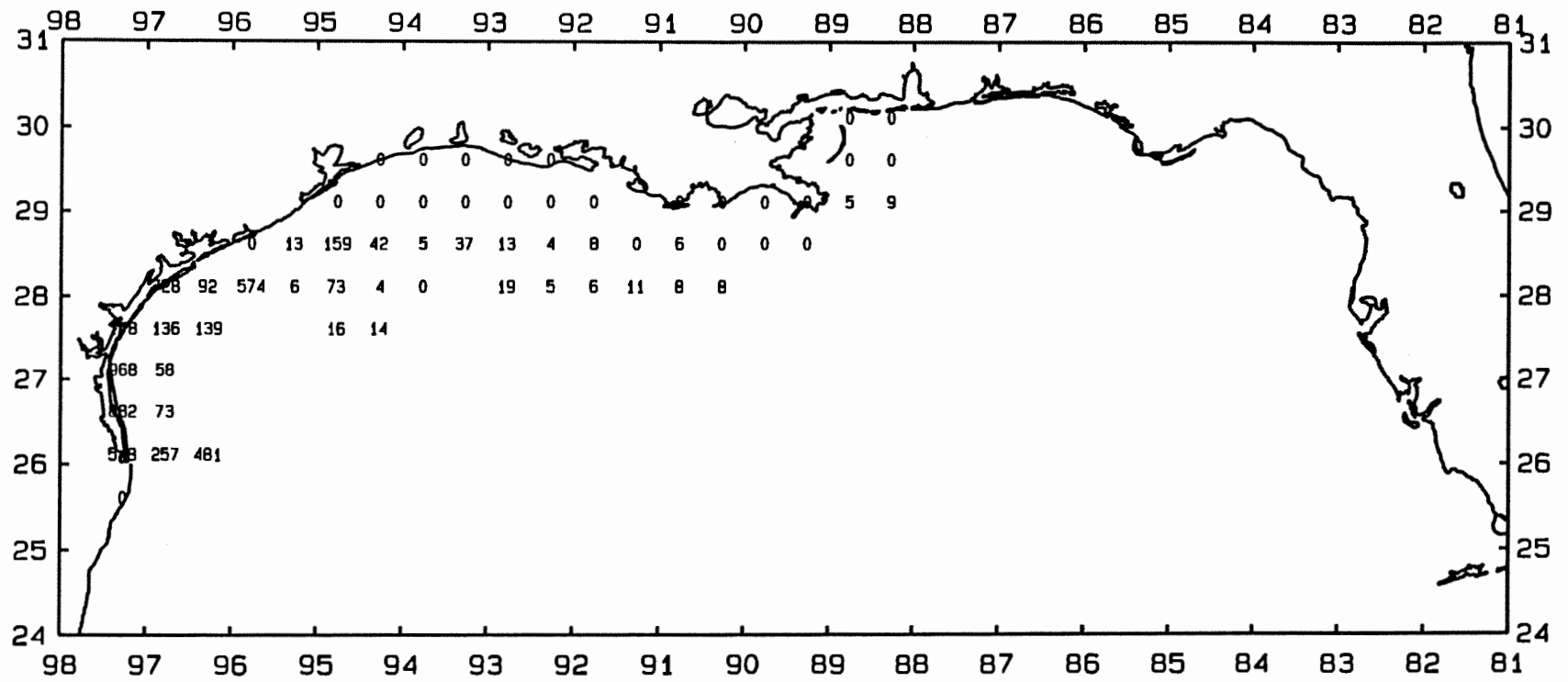


Figure 30. Dwarf goatfish, *Upeneus parvus*, number/hour for June-July 1990.

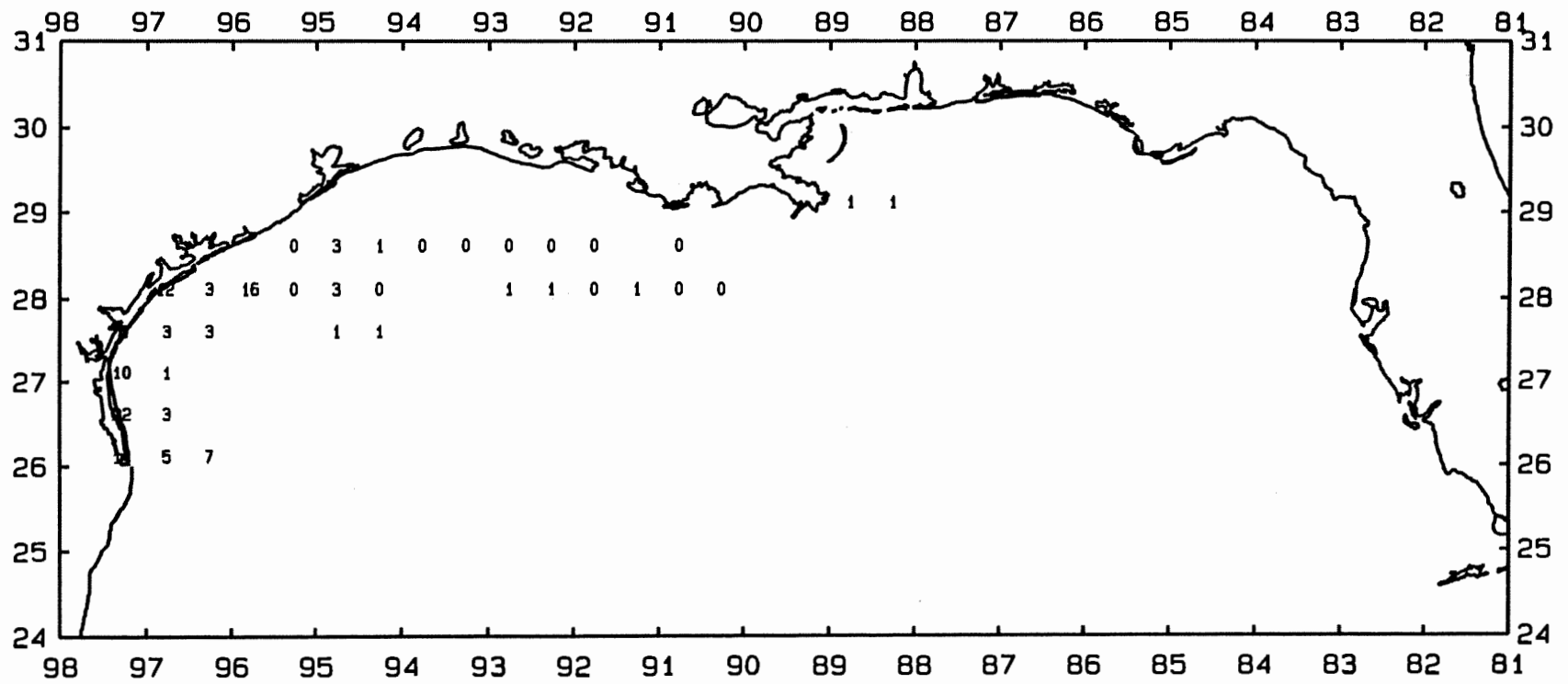


Figure 31. Dwarf goatfish, *Upeneus parvus*, lb/hour for June-July 1990.

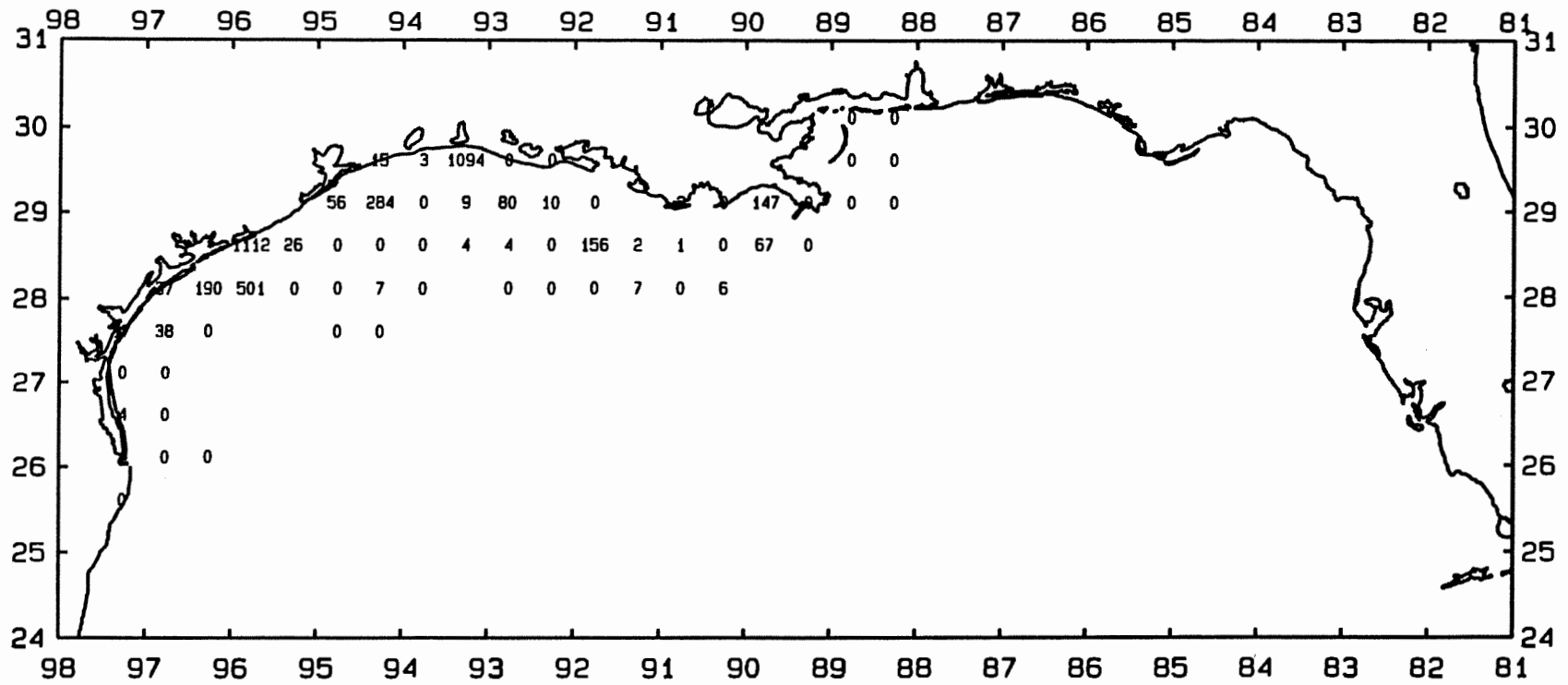


Figure 32. Silver seatrout, *Cynoscion nothus*, number/hour for June-July 1990.

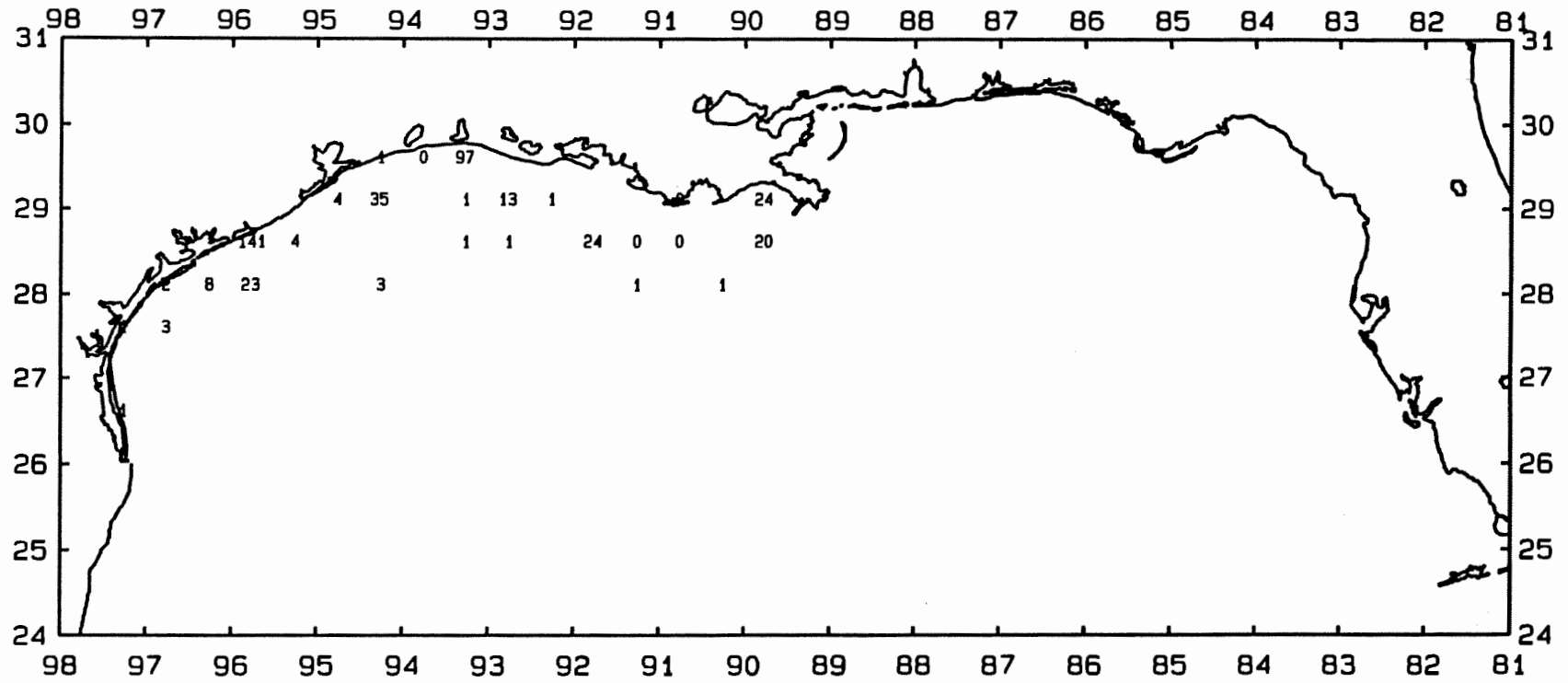


Figure 33. Silver seatrout, Cynoscion nothus, lb/hour for June-July 1990.

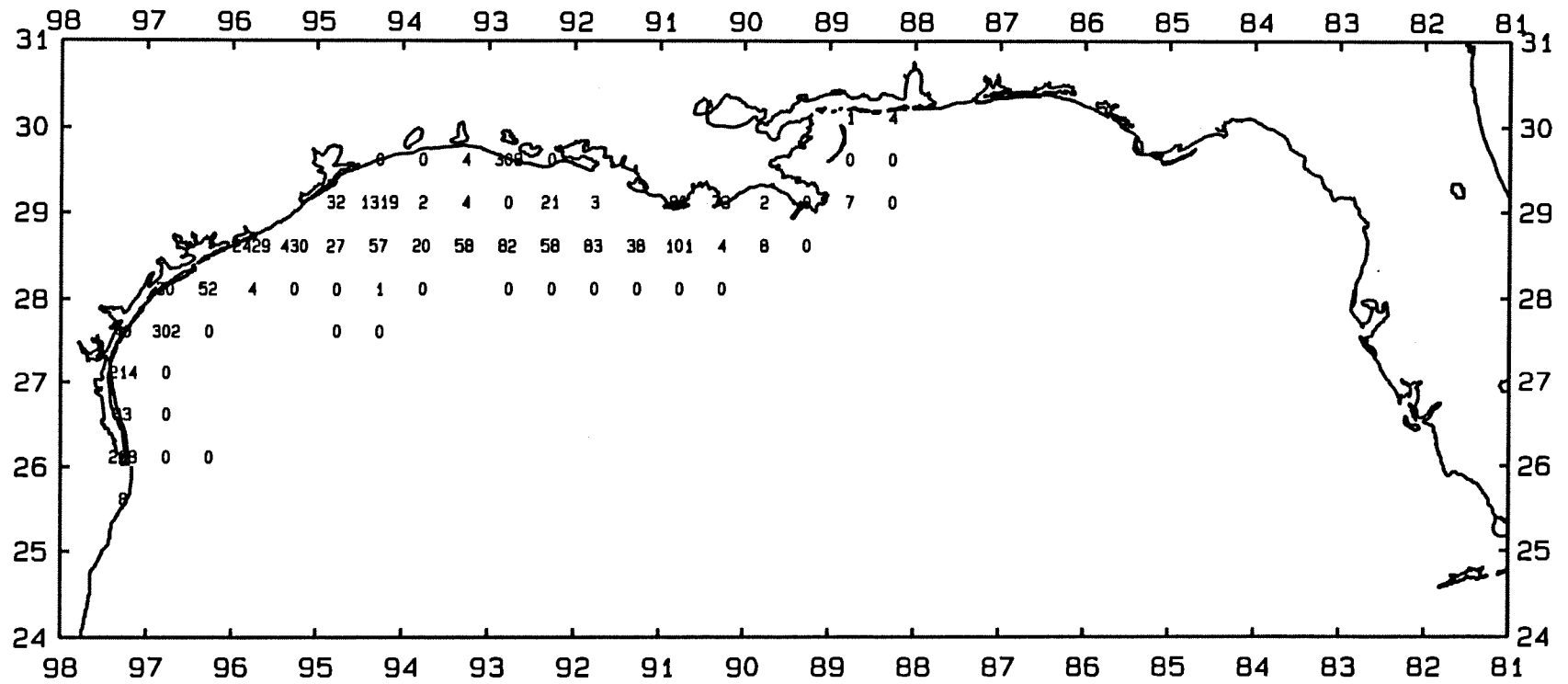


Figure 34. Atlantic bumper, *Chloroscombus chrysurus*, number/hour for June-July 1990.

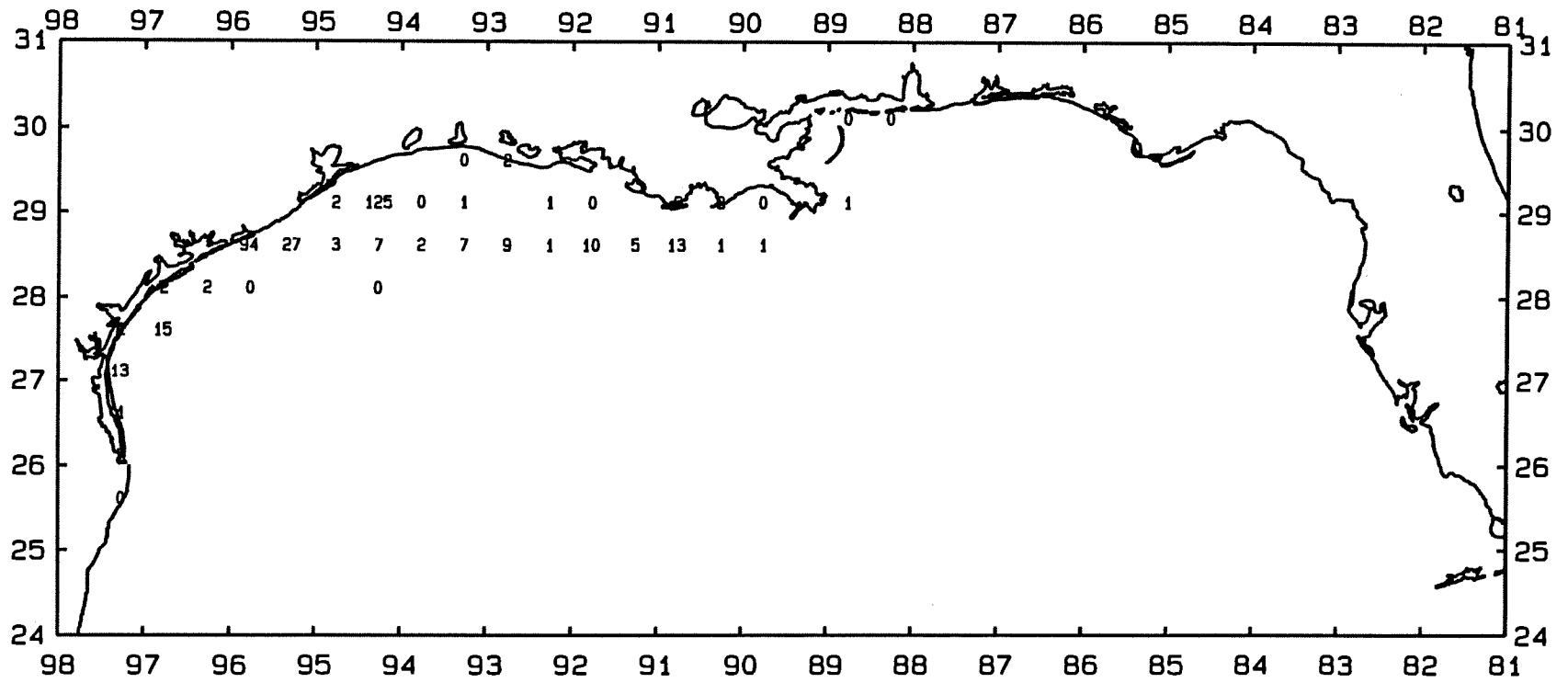


Figure 35. Atlantic bumper, *Chloroscombrus chrysurus*, lb/hour for June-July 1990.

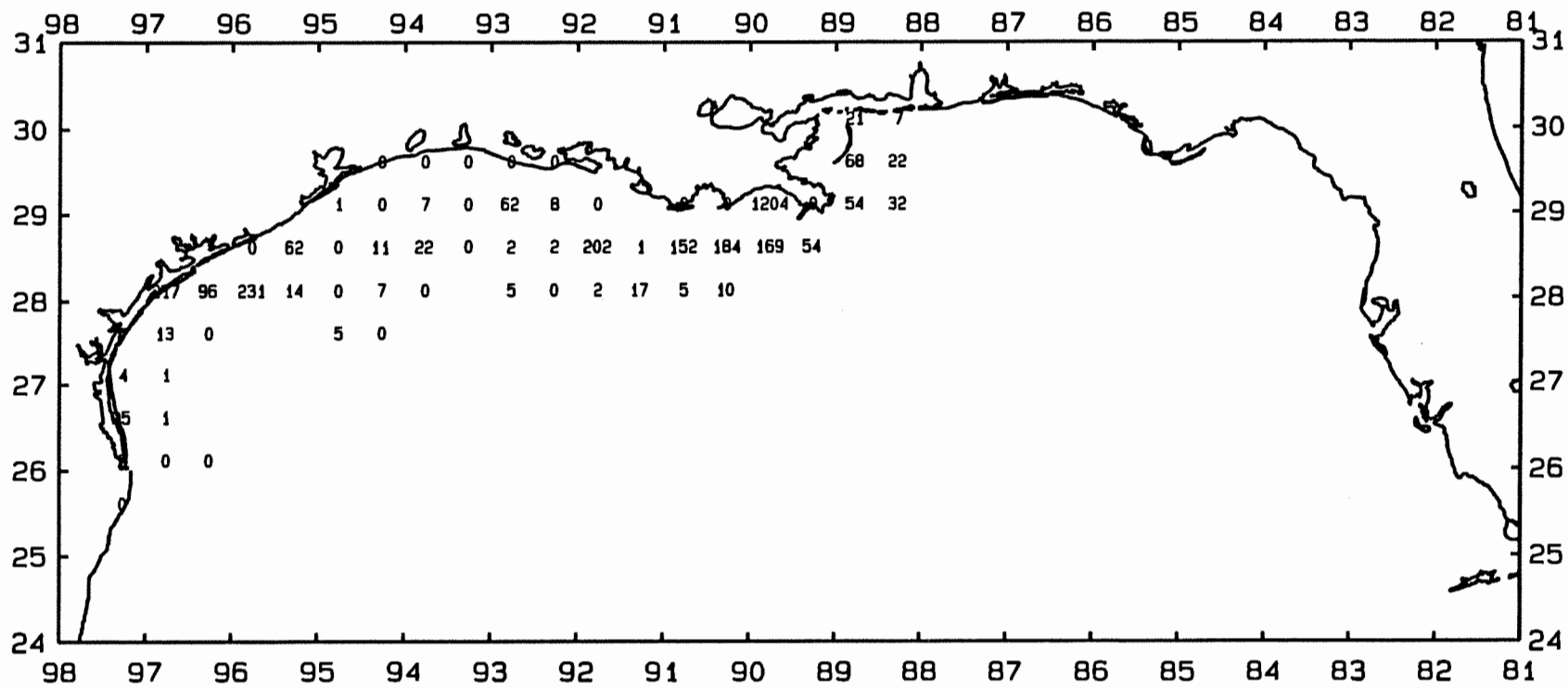


Figure 36. Bigeye searobin, *Prionotus longispinosus*, number/hour for June-July 1990.

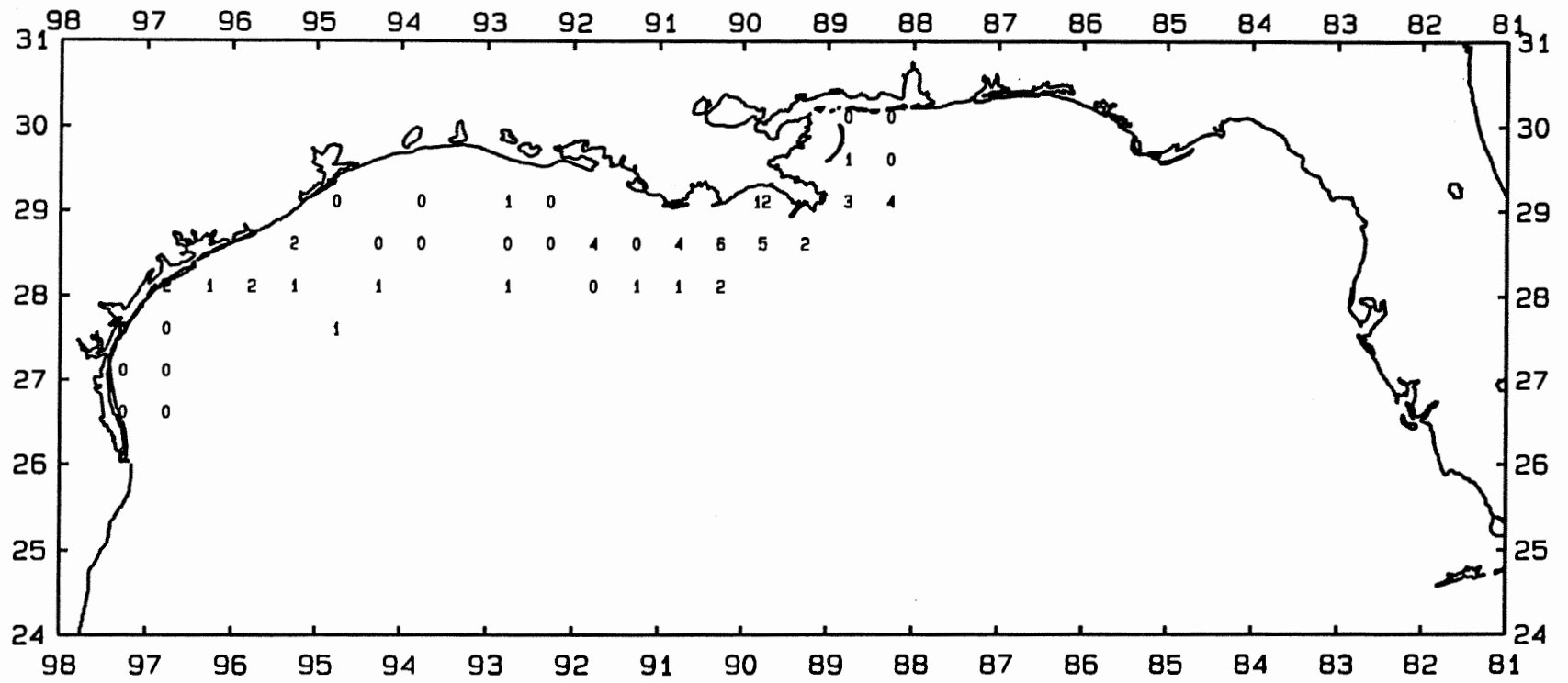


Figure 37. Bigeye searobin, *Prionotus longispinosus*, lb/hour for June-July 1990.

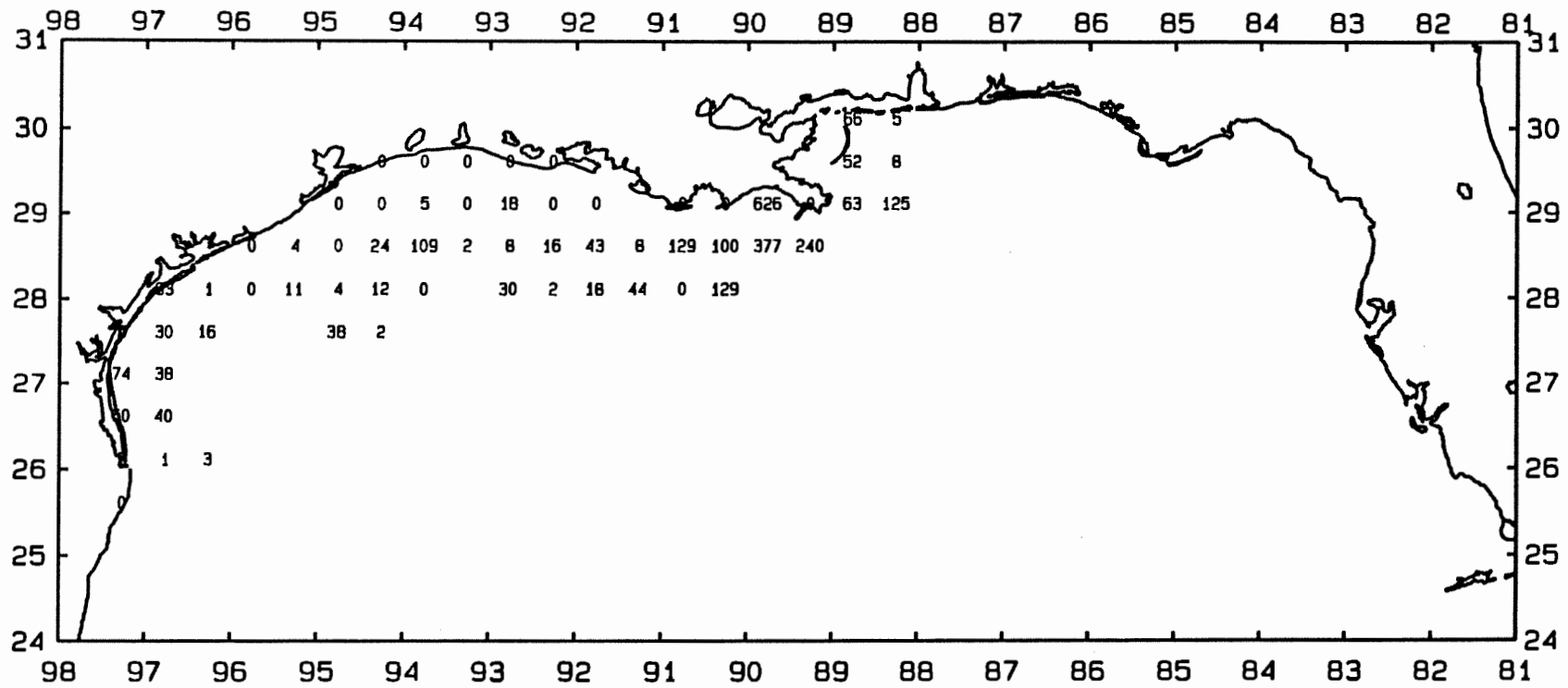


Figure 38. Rock seabass, *Centropristis philadelphica*, number/hour for June-July 1990.

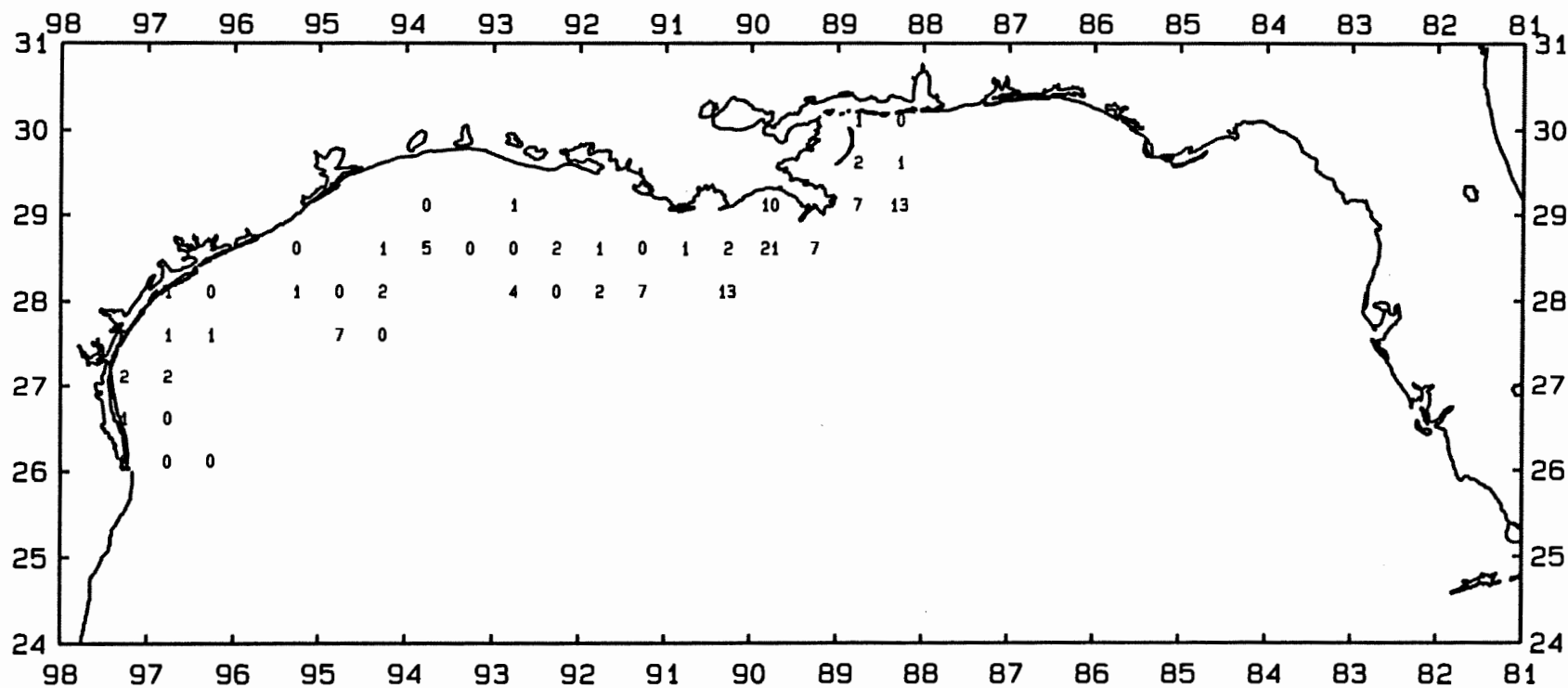


Figure 39. Rock seabass, *Centropristis philadelphica*, lb/hour for June-July 1990.

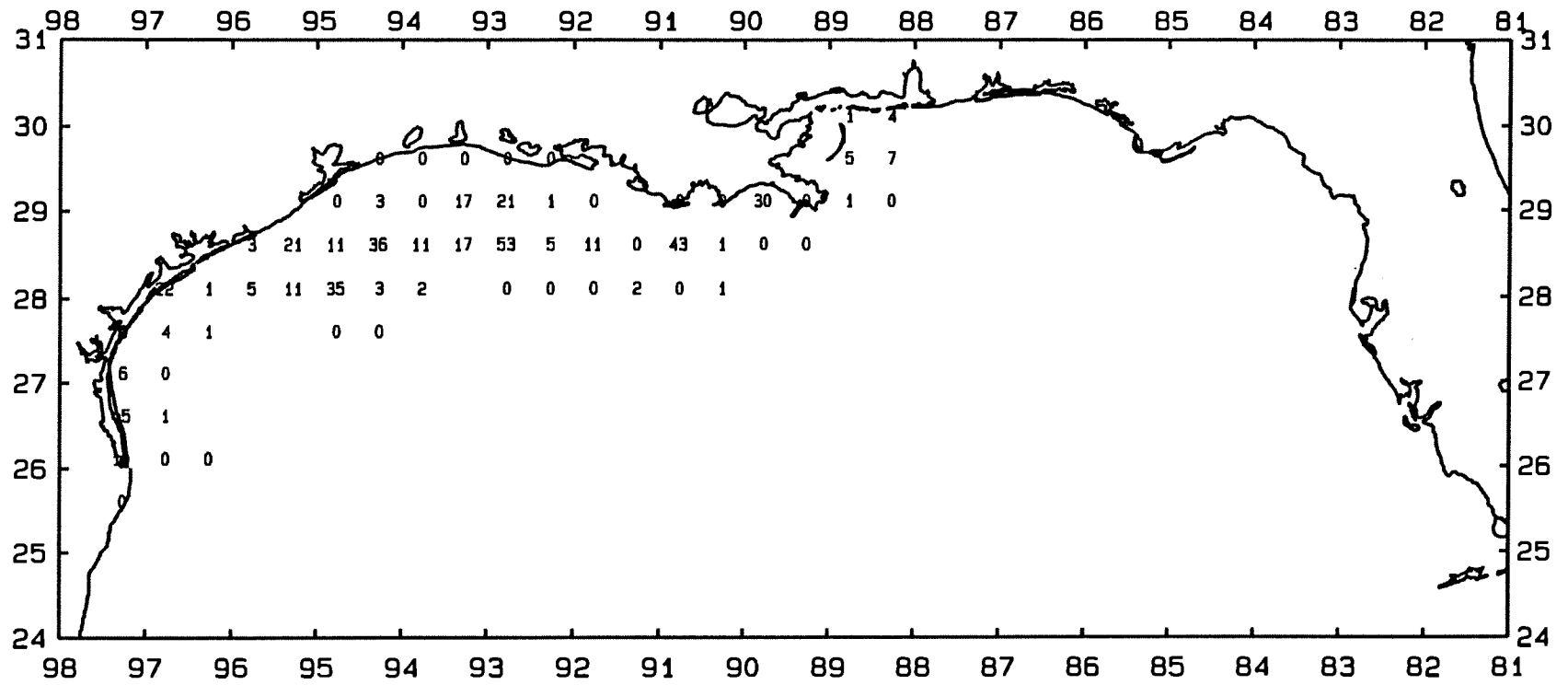


Figure 40. Red snapper, *Lutjanus campechanus*, number/hour for June-July 1990.

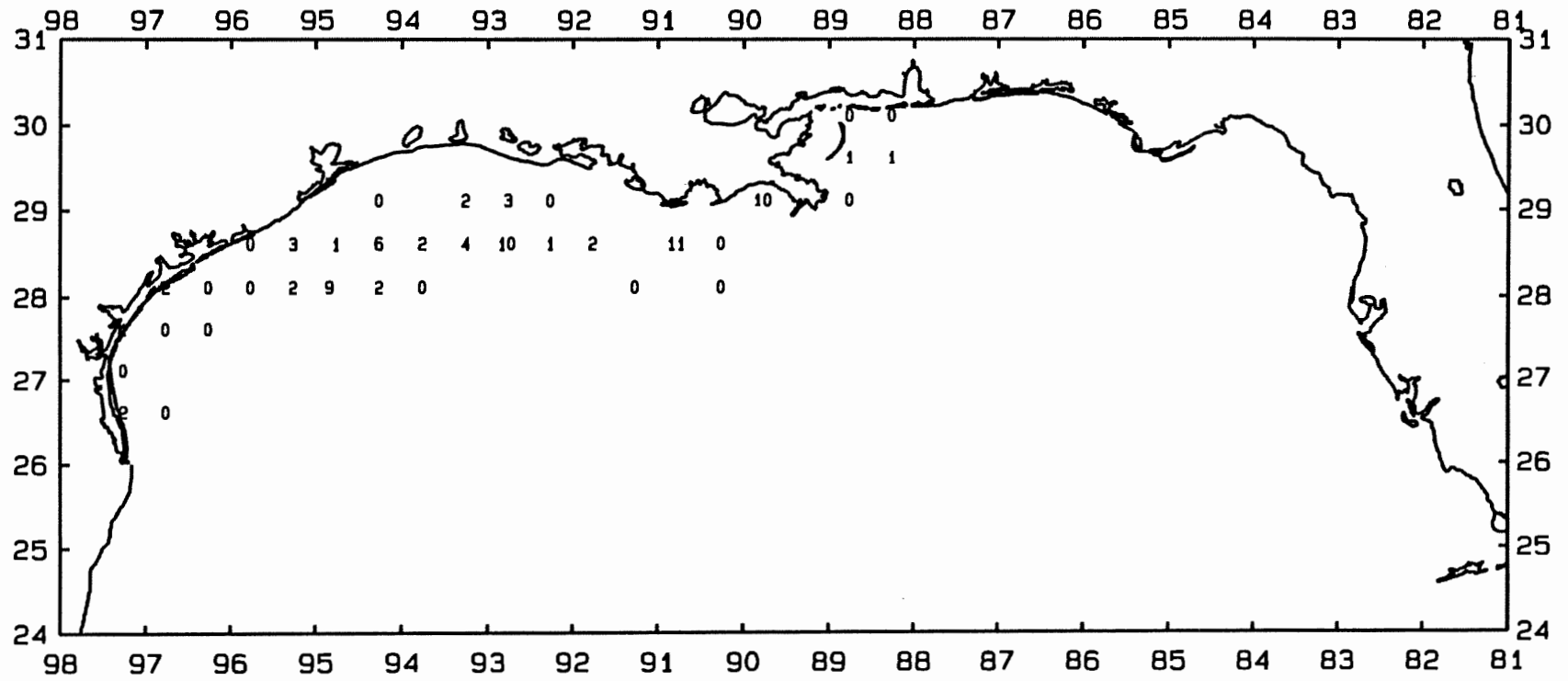


Figure 41. Red snapper, Lutjanus campechanus, lb/hour for June-July 1990.

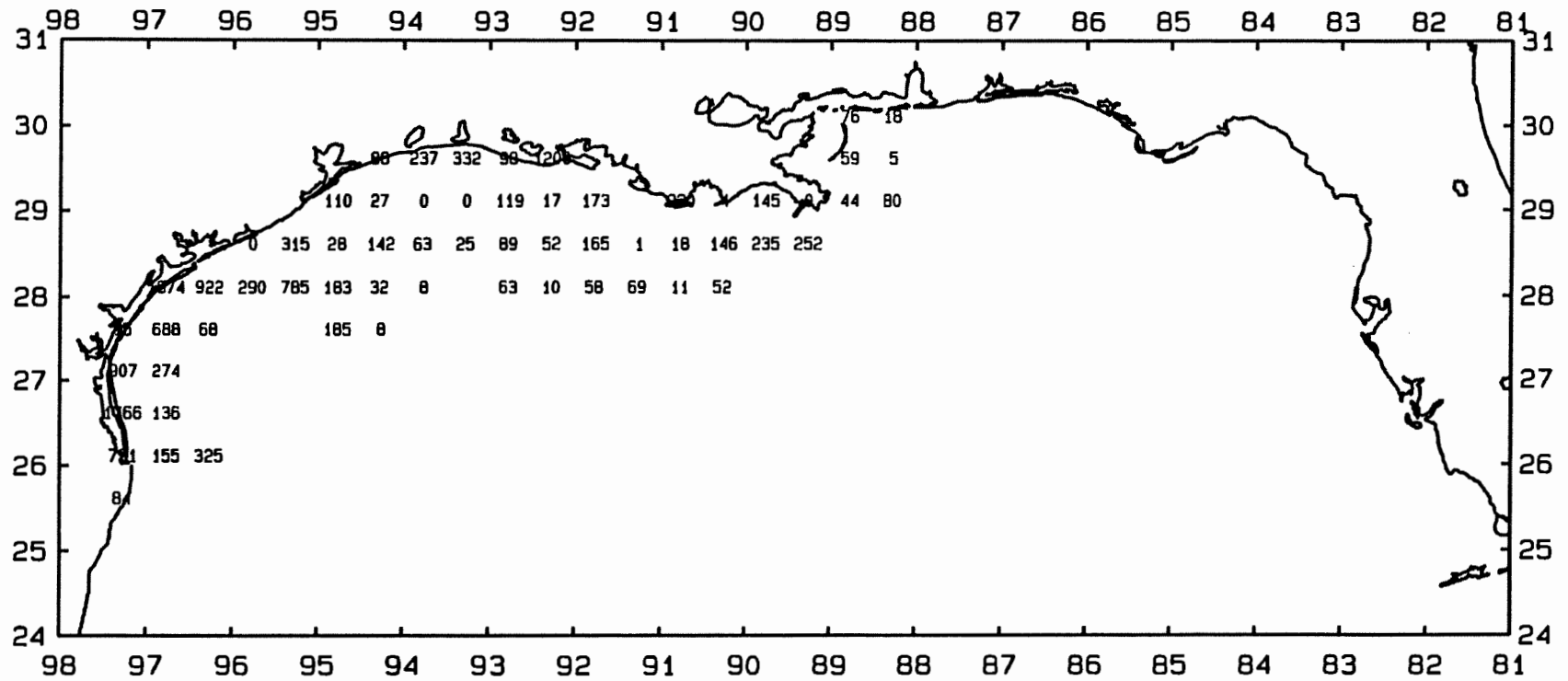


Figure 42. Brown shrimp, *Penaeus aztecus*, number/hour for June-July 1990.

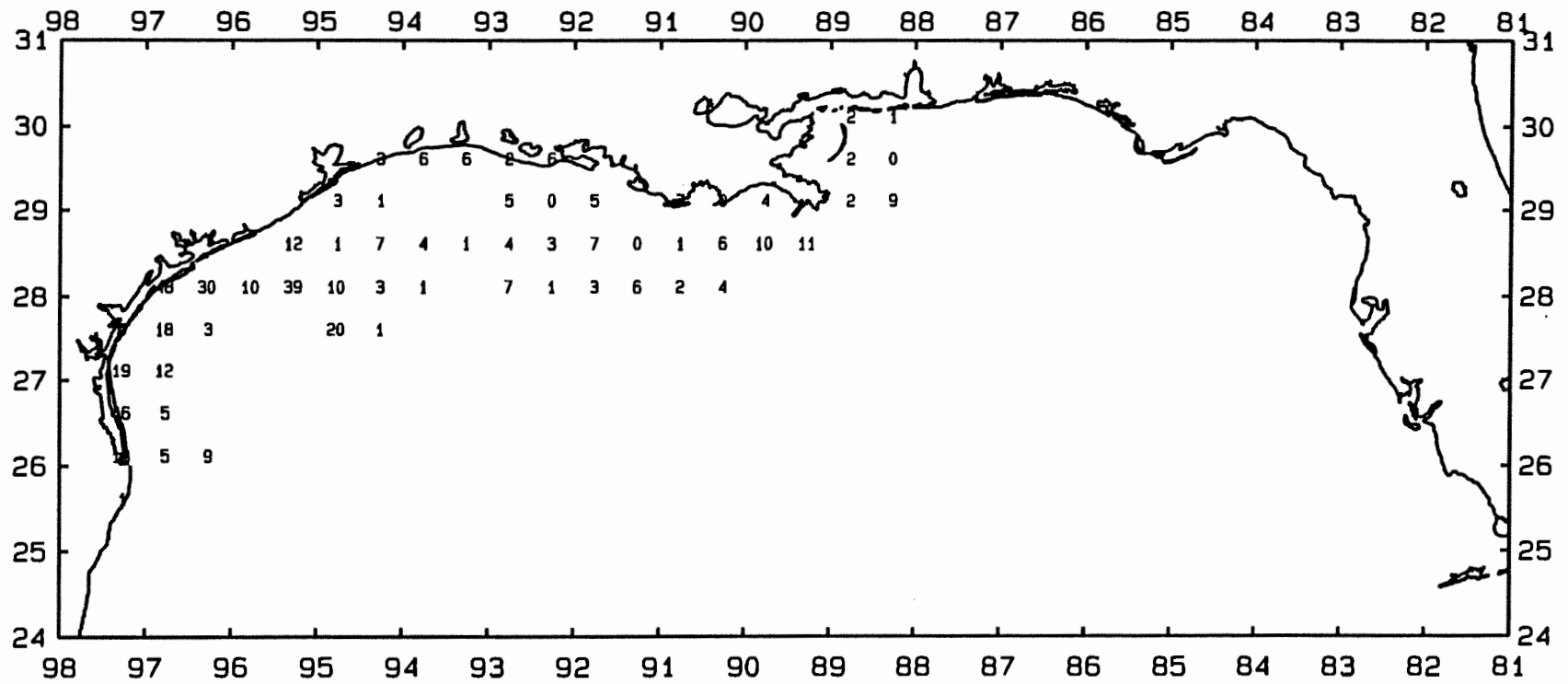


Figure 43. Brown shrimp, *Penaeus aztecus*, 1b/hour for June-July 1990.

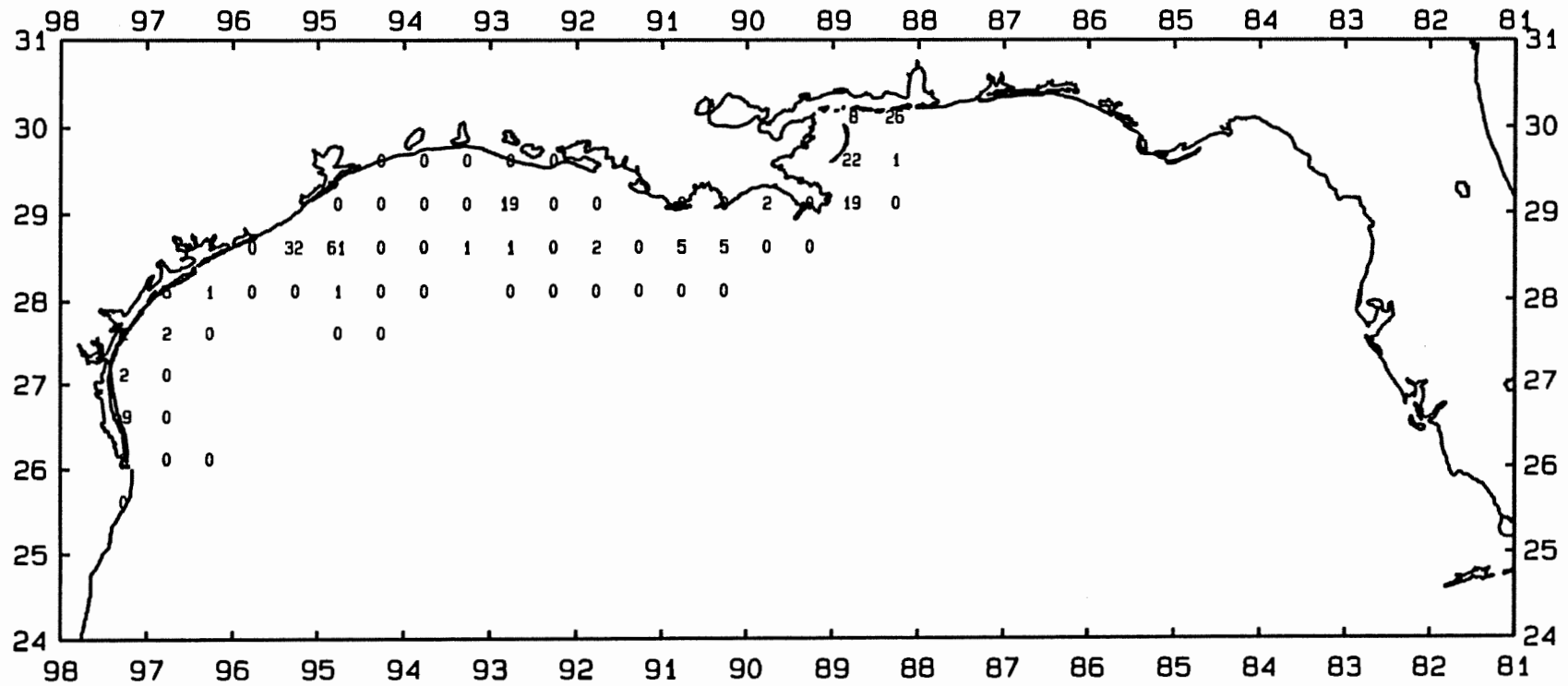


Figure 44. Pink shrimp, *Penaeus duorarum*, number/hour for June-July 1990.

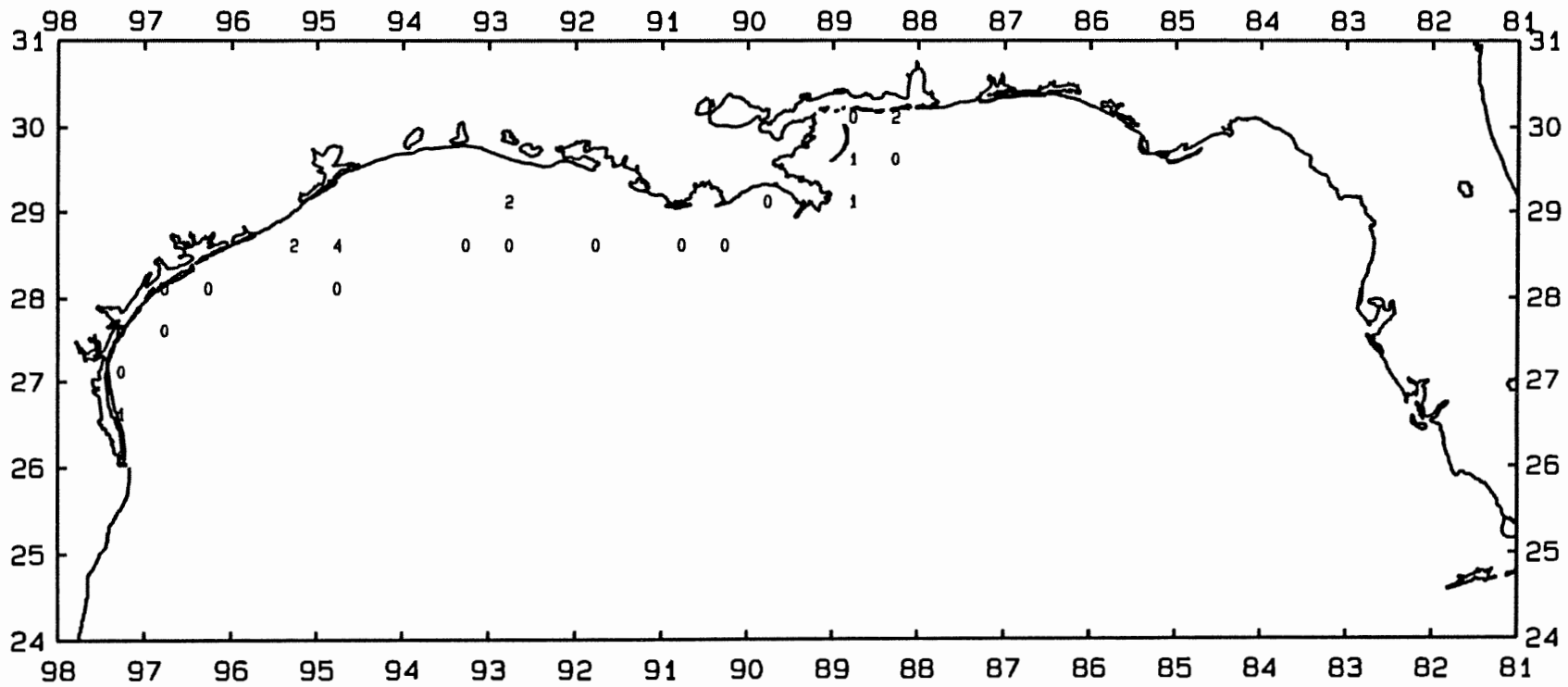


Figure 45. Pink shrimp, *Penaeus duorarum*, lb/hour for June-July 1990.

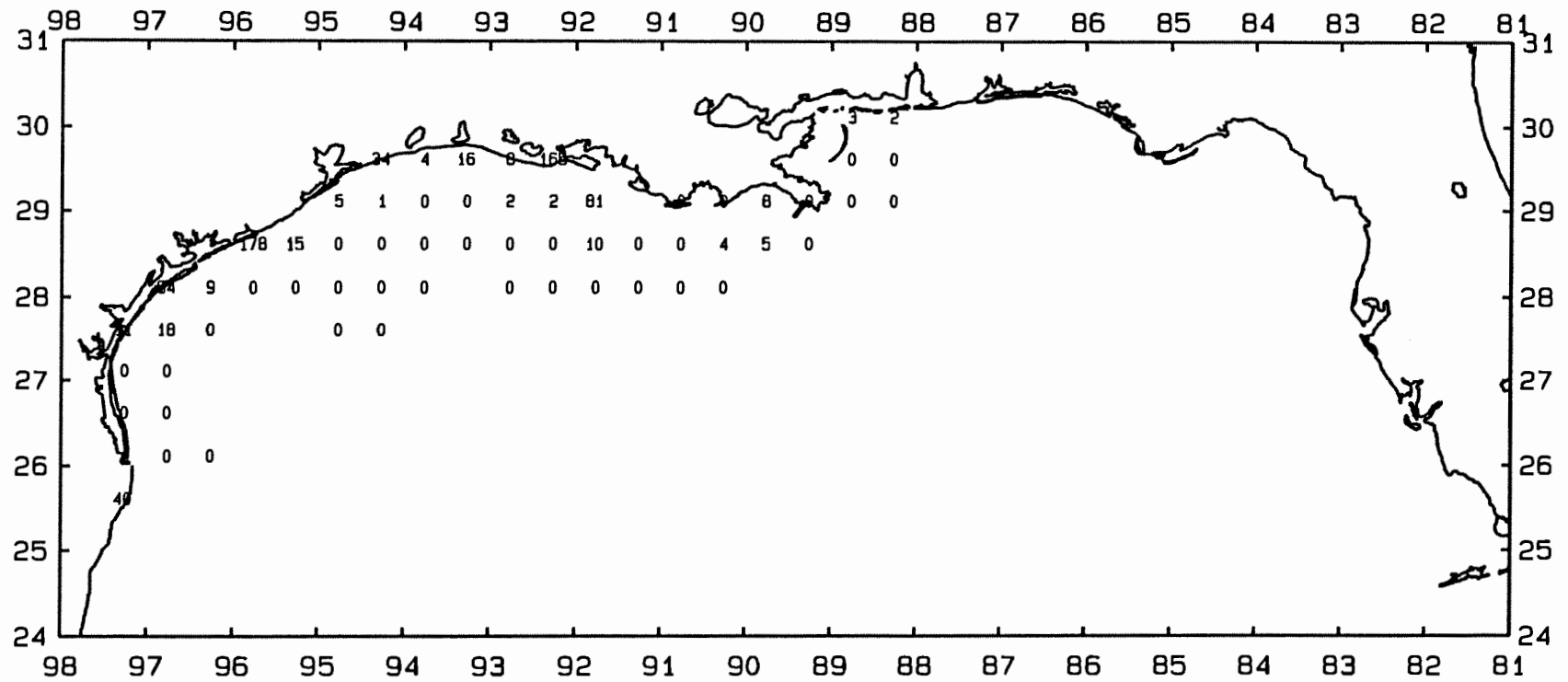


Figure 46. White shrimp, *Penaeus setiferus*, number/hour for June-July 1990.

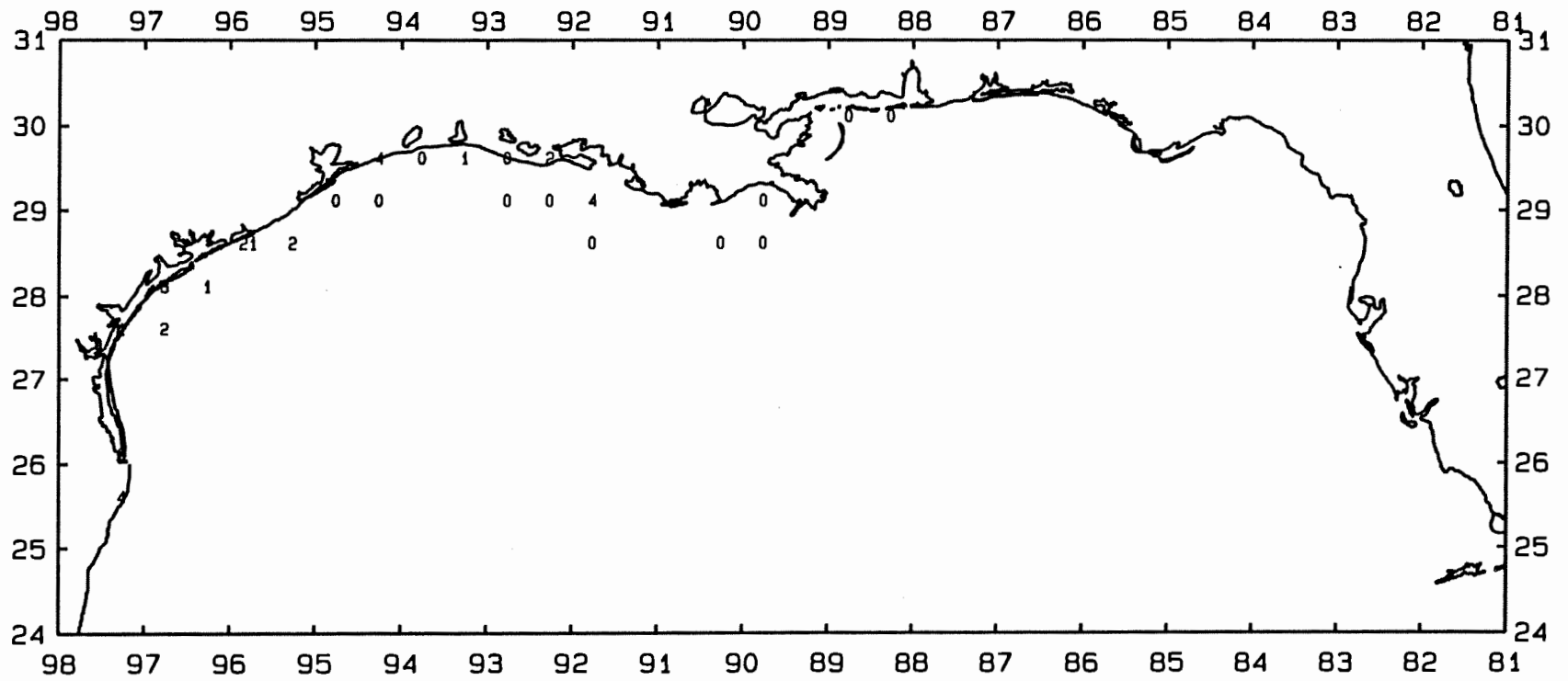


Figure 47. White shrimp, *Penaeus setiferus*, lb/hour for June-July 1990.

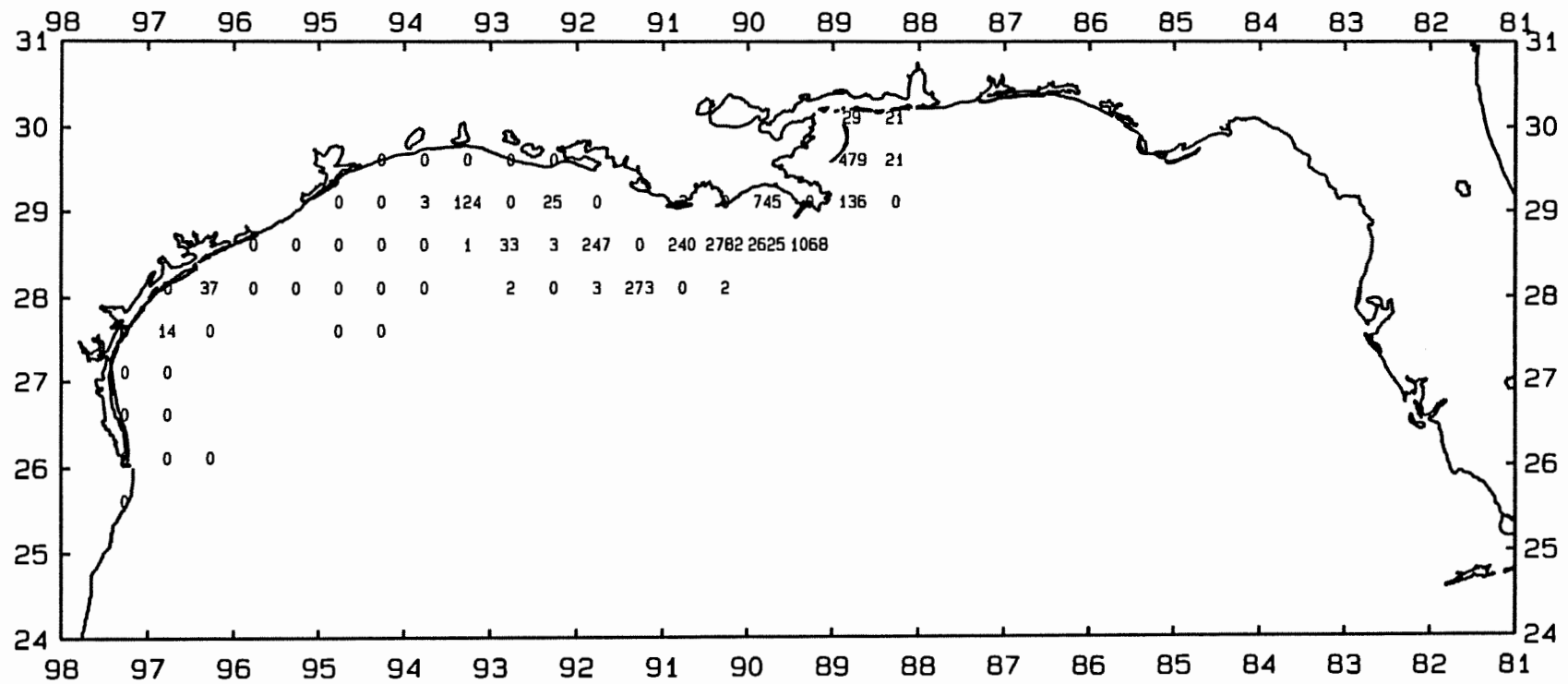


Figure 48. Roughback shrimp, *Trachypenaeus similis*, number/hour for June-July 1990.

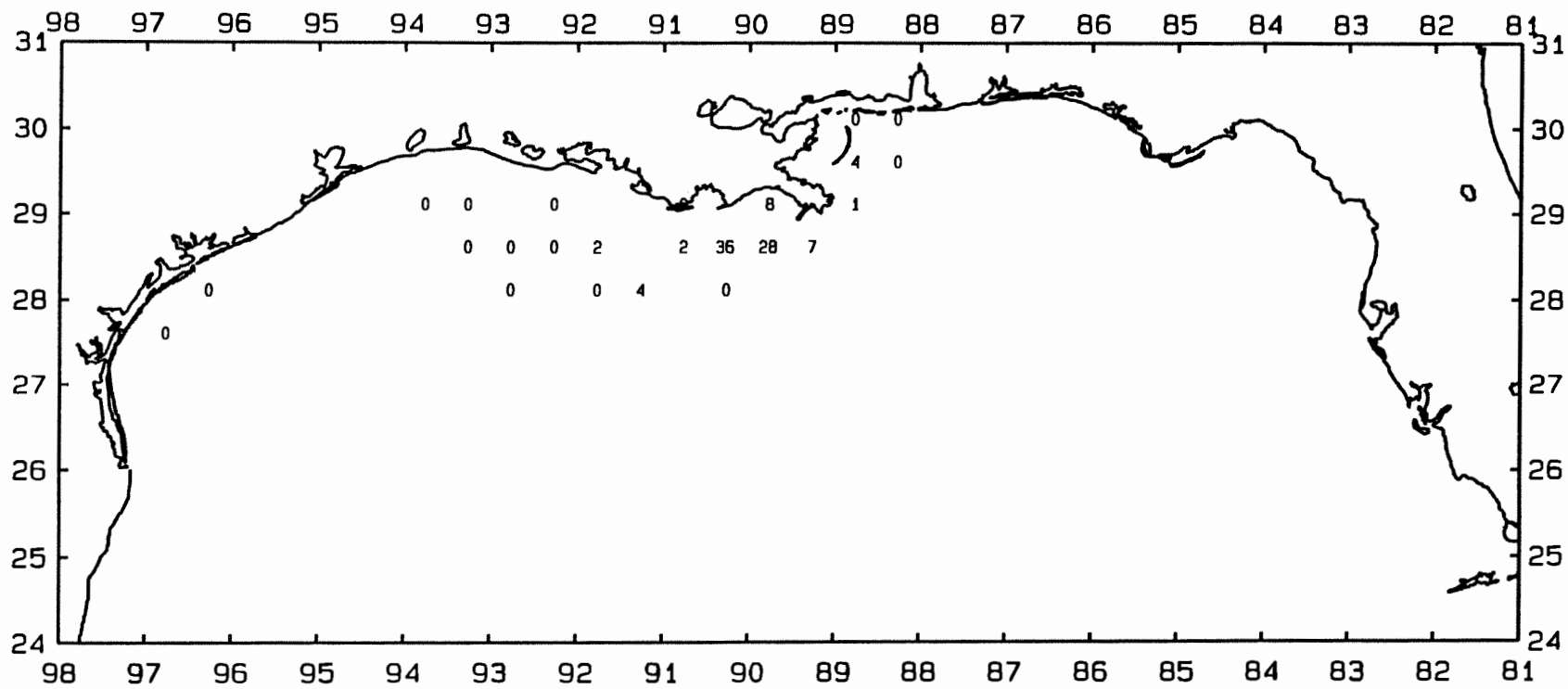


Figure 49. Roughback shrimp, *Trachypenaeus similis*, lb/hour for June-July 1990.

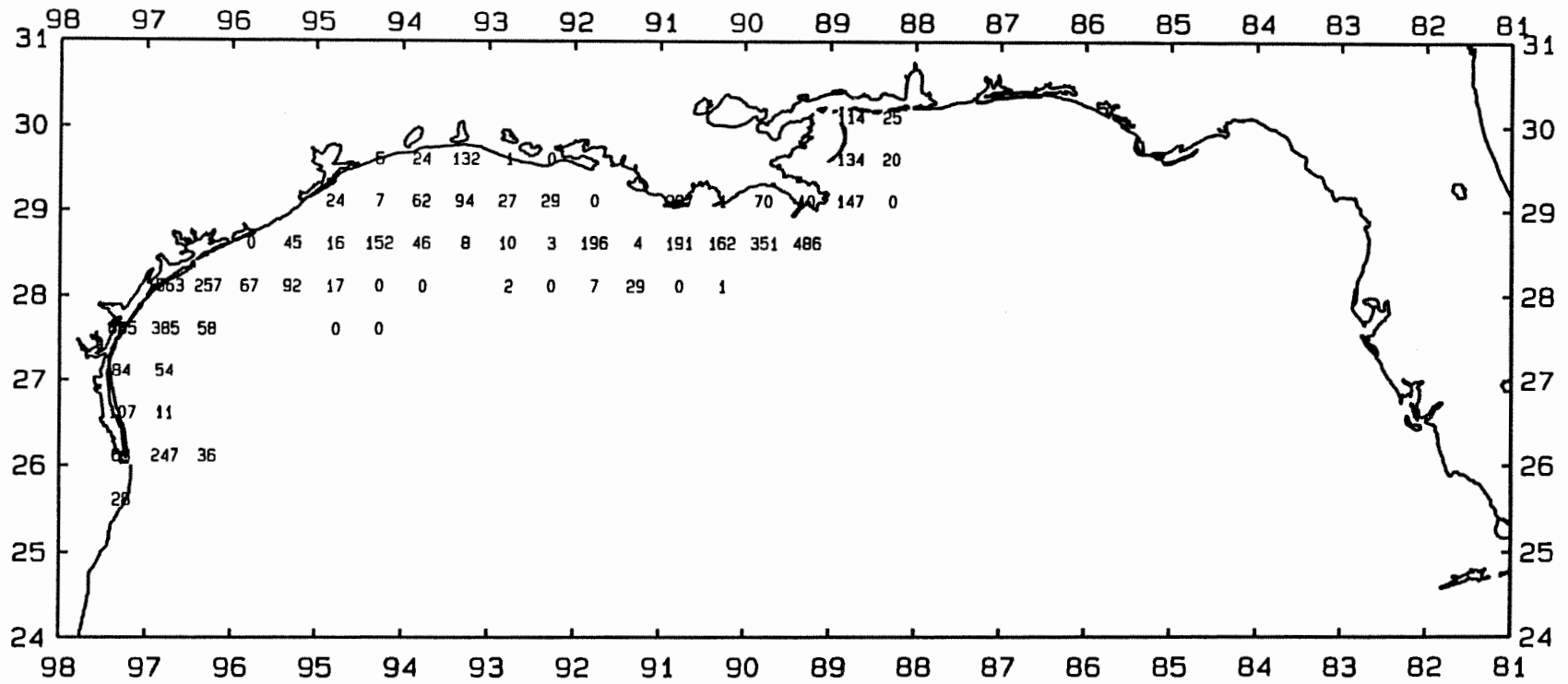


Figure 50. Lesser blue crab, *Callinectes similis*, number/hour for June-July 1990.

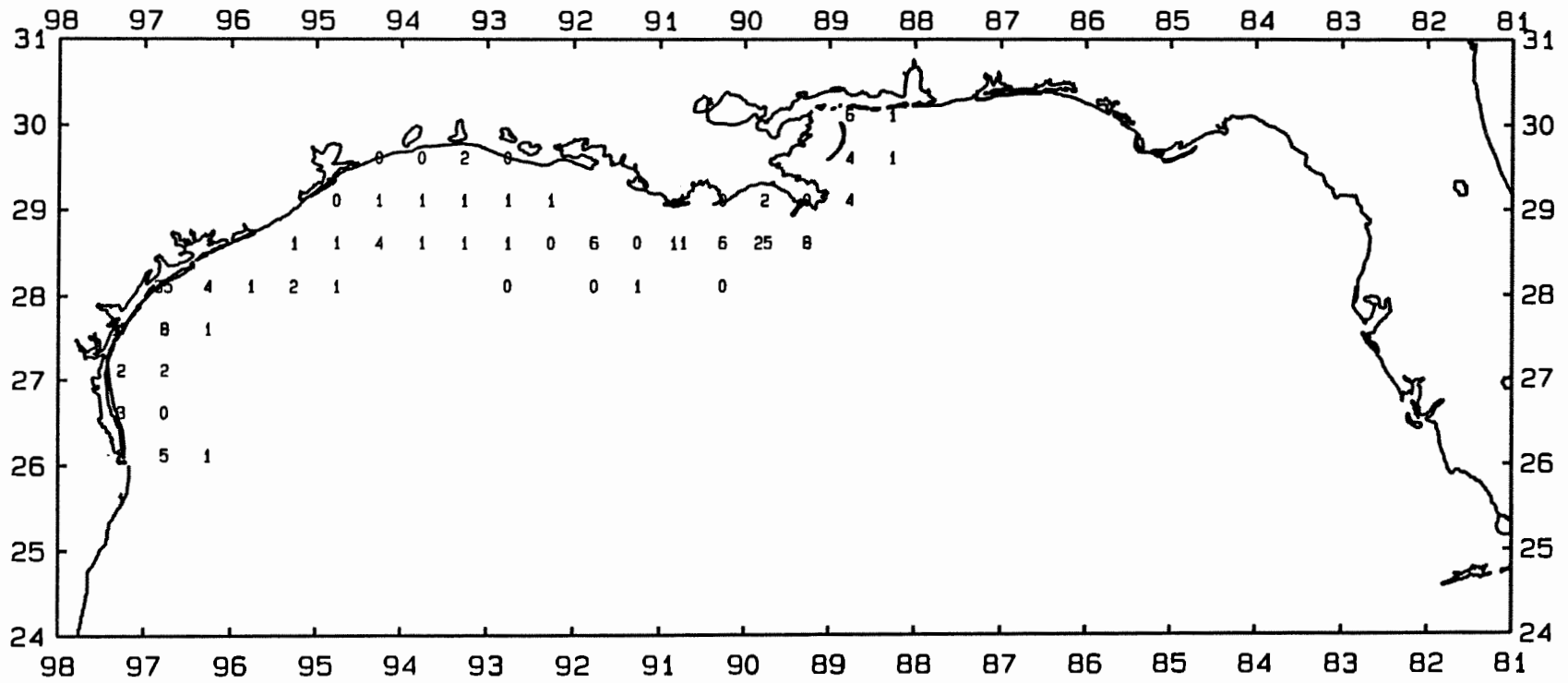


Figure 51. Lesser blue crab, *Callinectes similis*, lb/hour for June-July 1990.

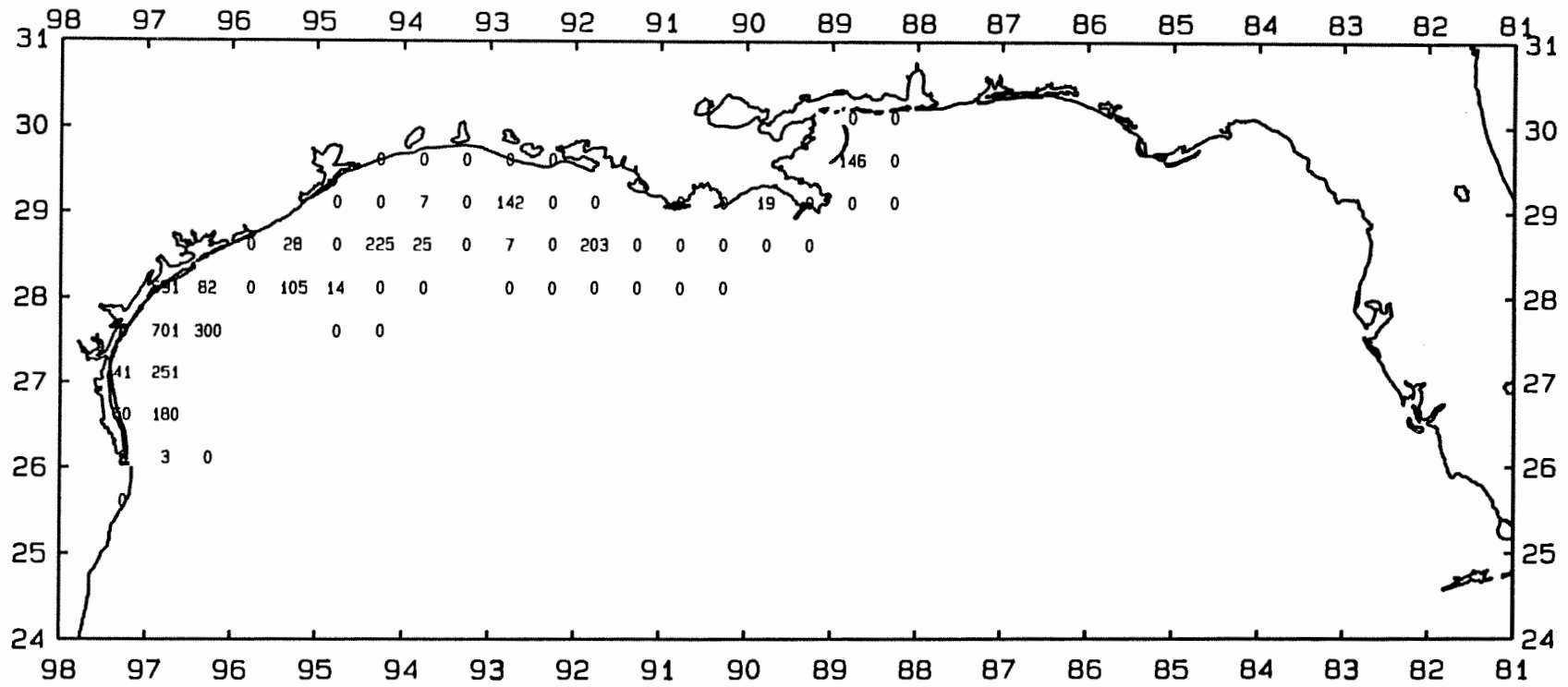


Figure 52. Roughneck shrimp, *Trachypenaeus* spp., number/hour for June-July 1990.

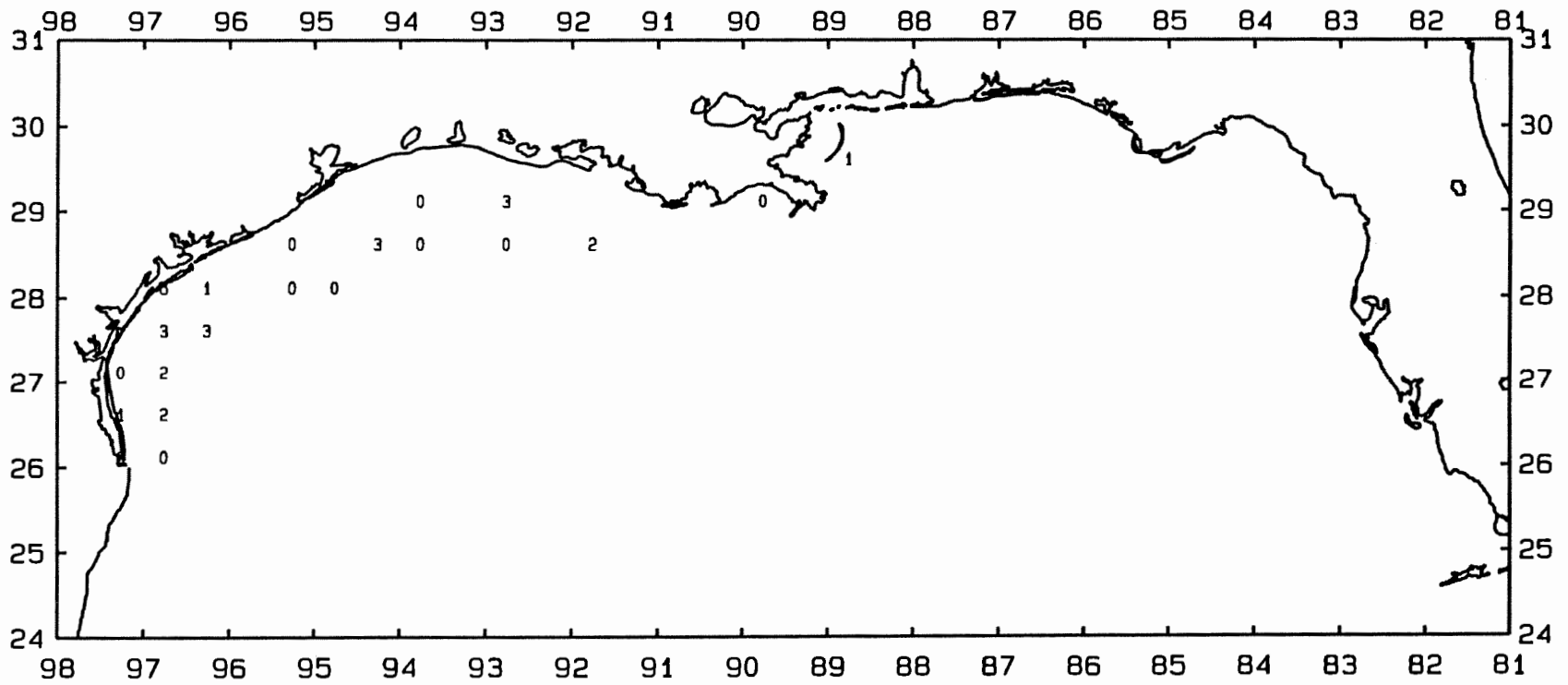


Figure 53. Roughneck shrimp, *Trachypenaeus* spp., lb/hour for June-July 1990.

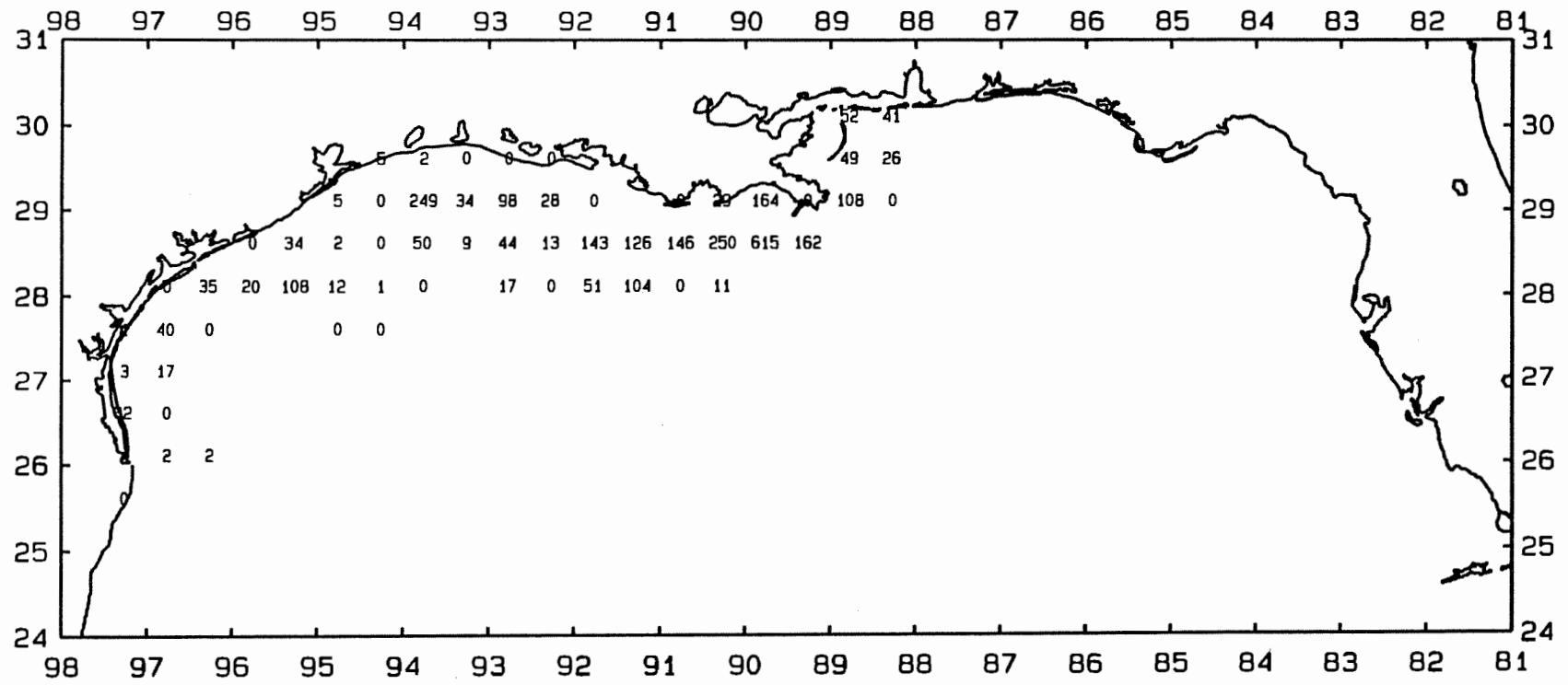


Figure 54. Mantis shrimp, *Squilla empusa*, number/hour for June-July 1990.

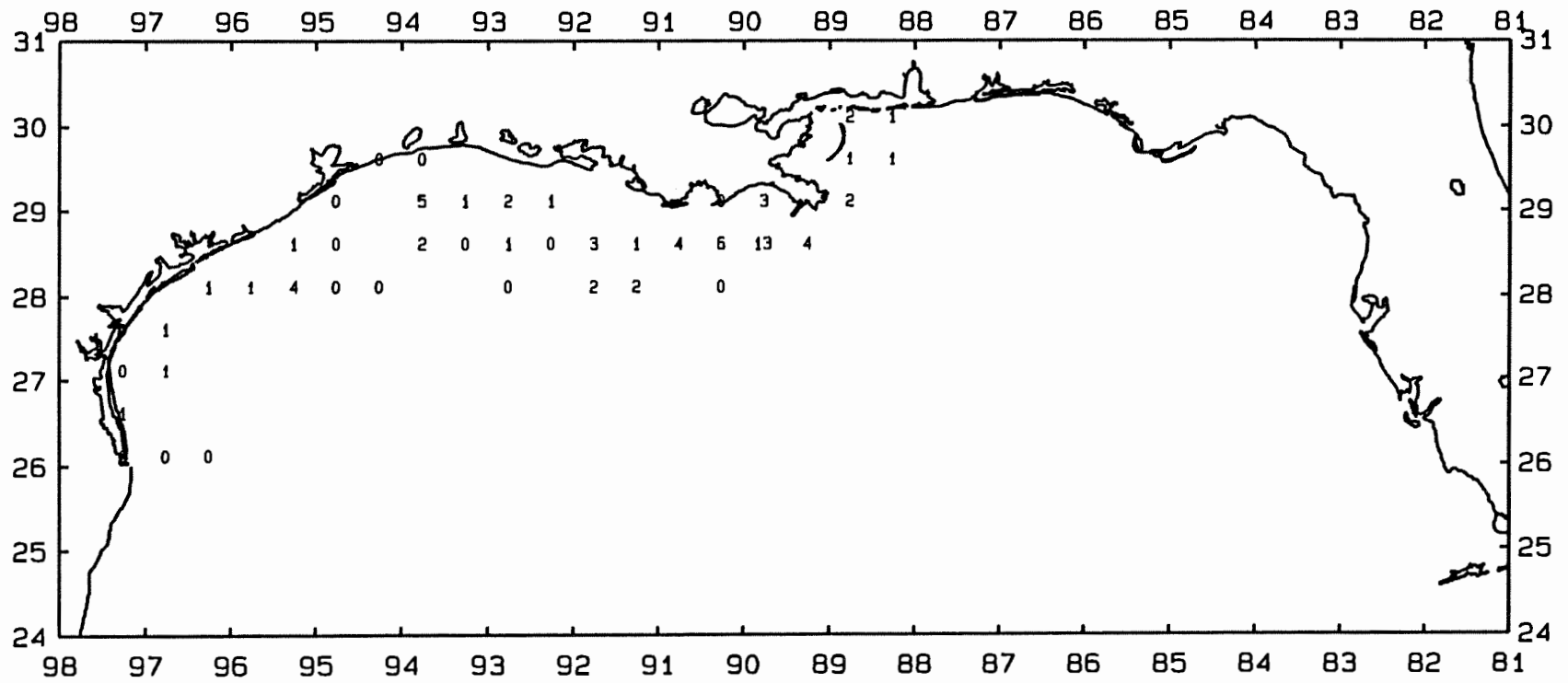


Figure 55. Mantis shrimp, *Squilla empusa*, lb/hour for June-July 1990.

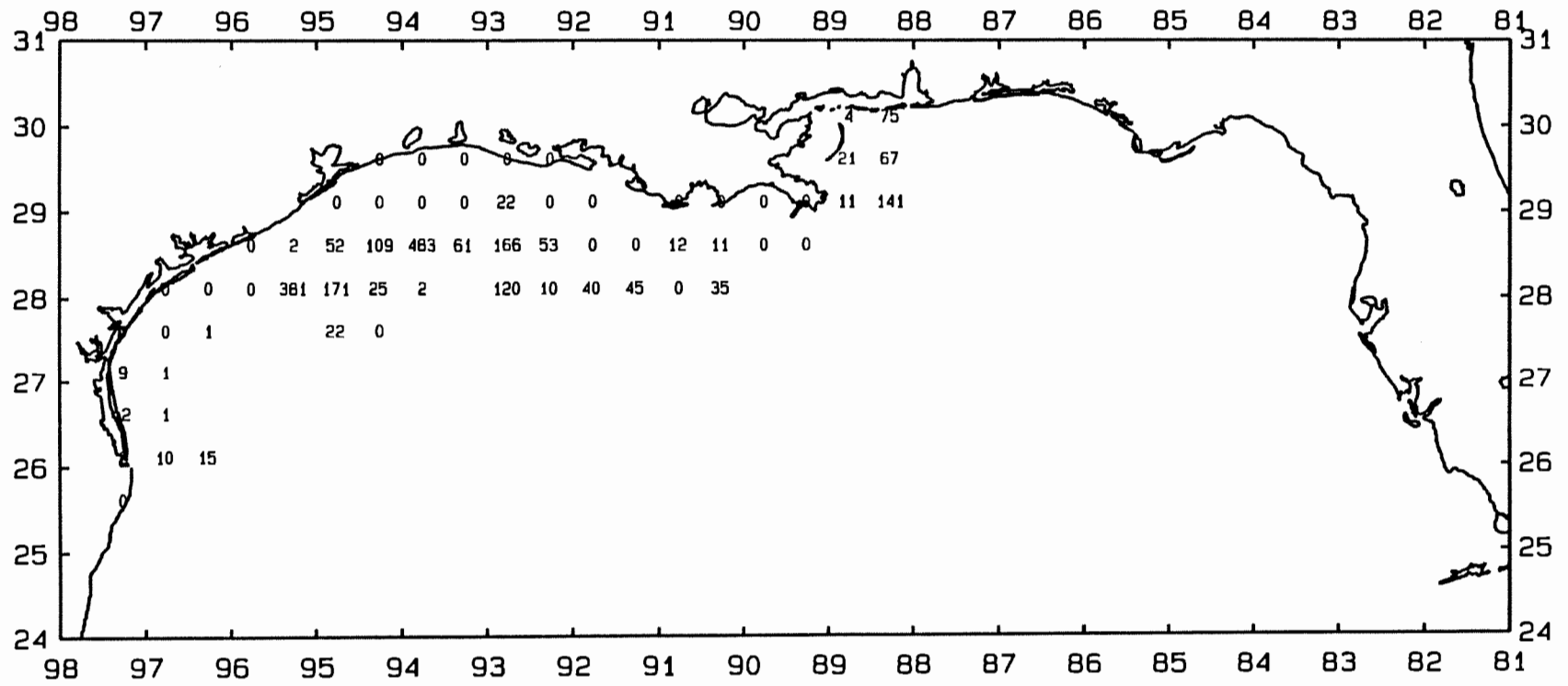


Figure 56. Brown rock shrimp, *Sicyonia brevirostris*, number/hour for June-July 1990.

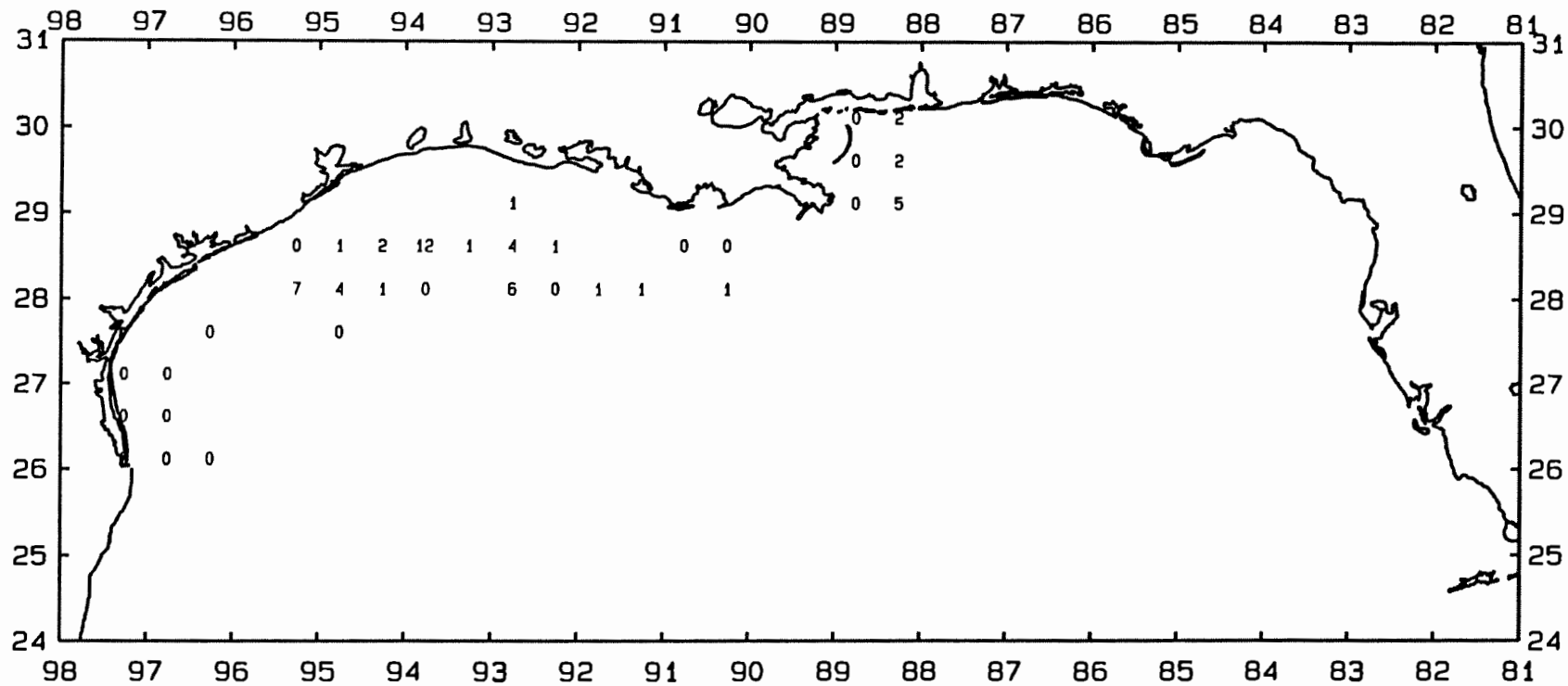


Figure 57. Brown rock shrimp, *Sicyonia brevirostris*, lb/hour for June-July 1990.

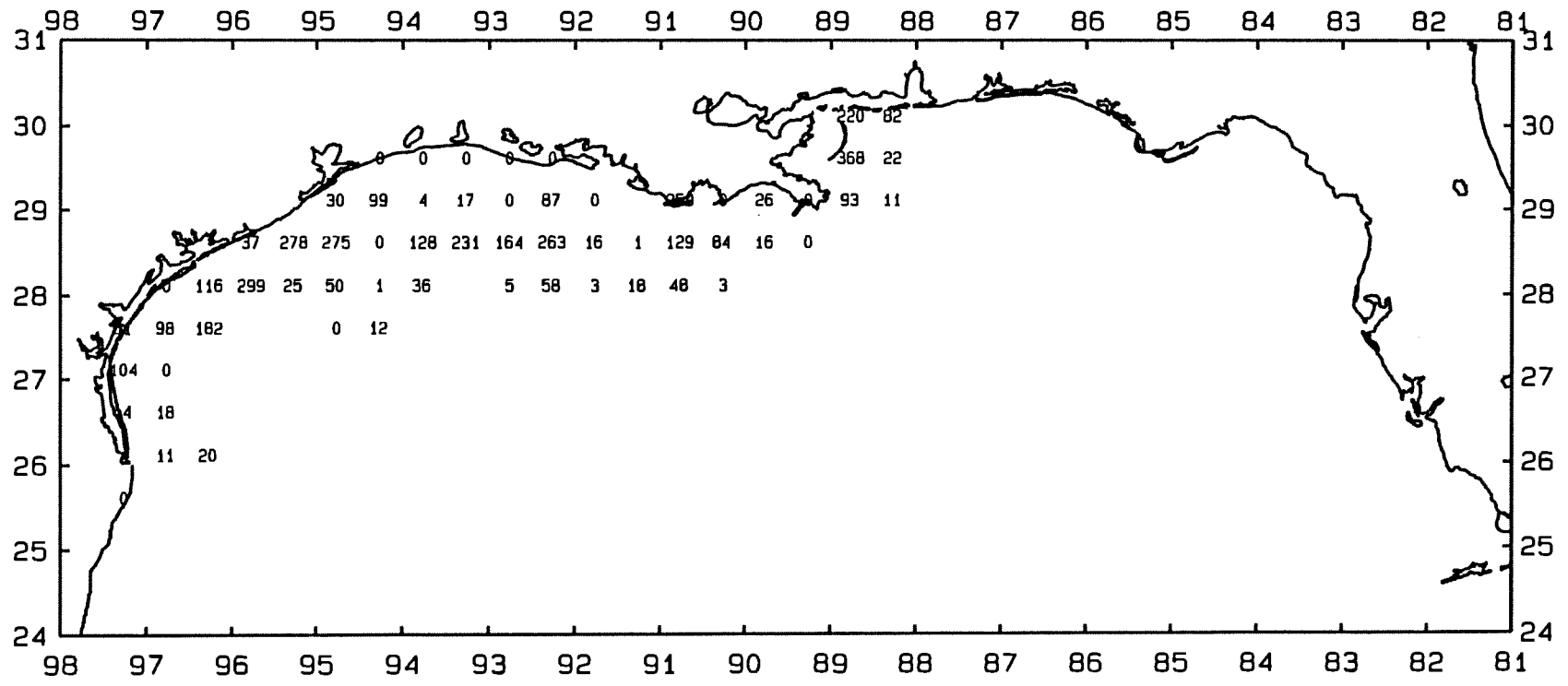


Figure 58. Longfin squid, *Loligo pealeii*, number/hour for June-July 1990.

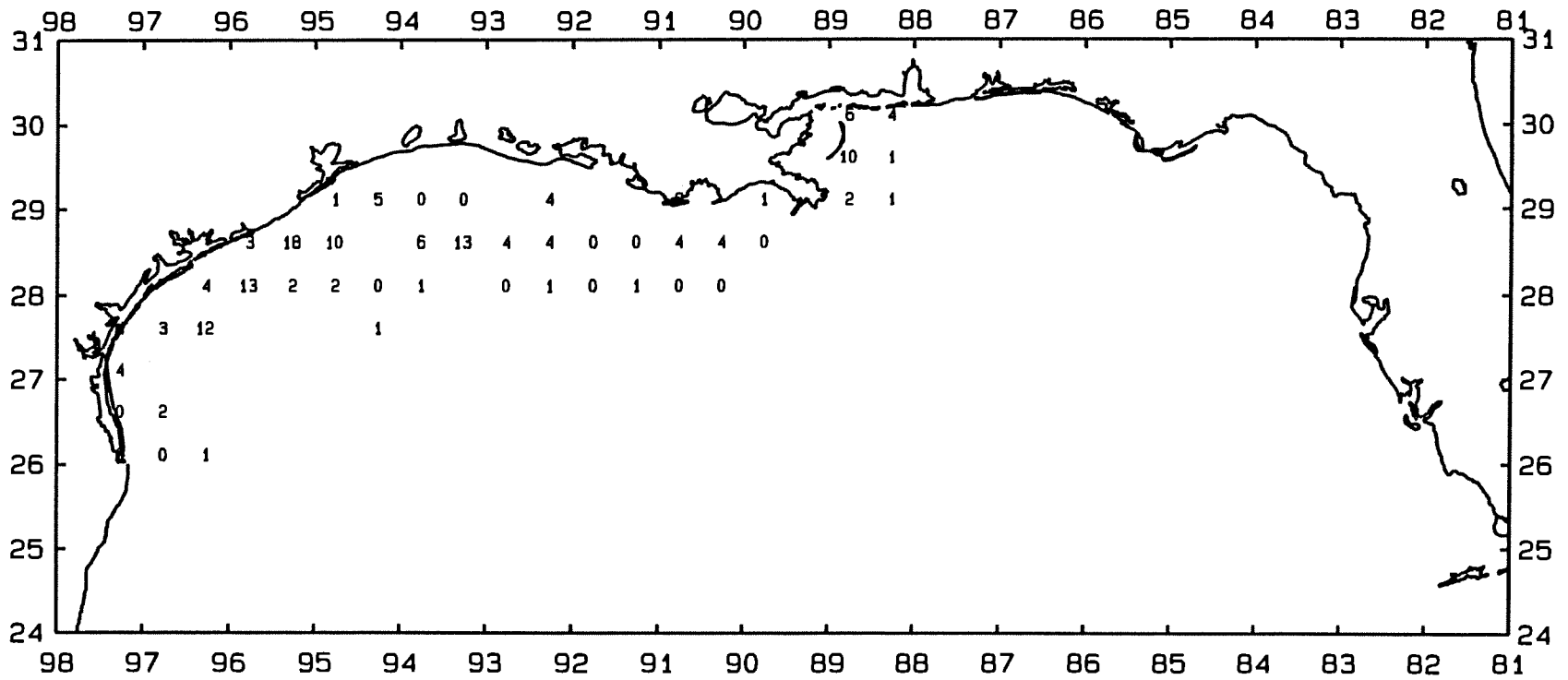


Figure 59. Longfin squid, *Loligo pealeii*, lb/hour for June-July 1990.

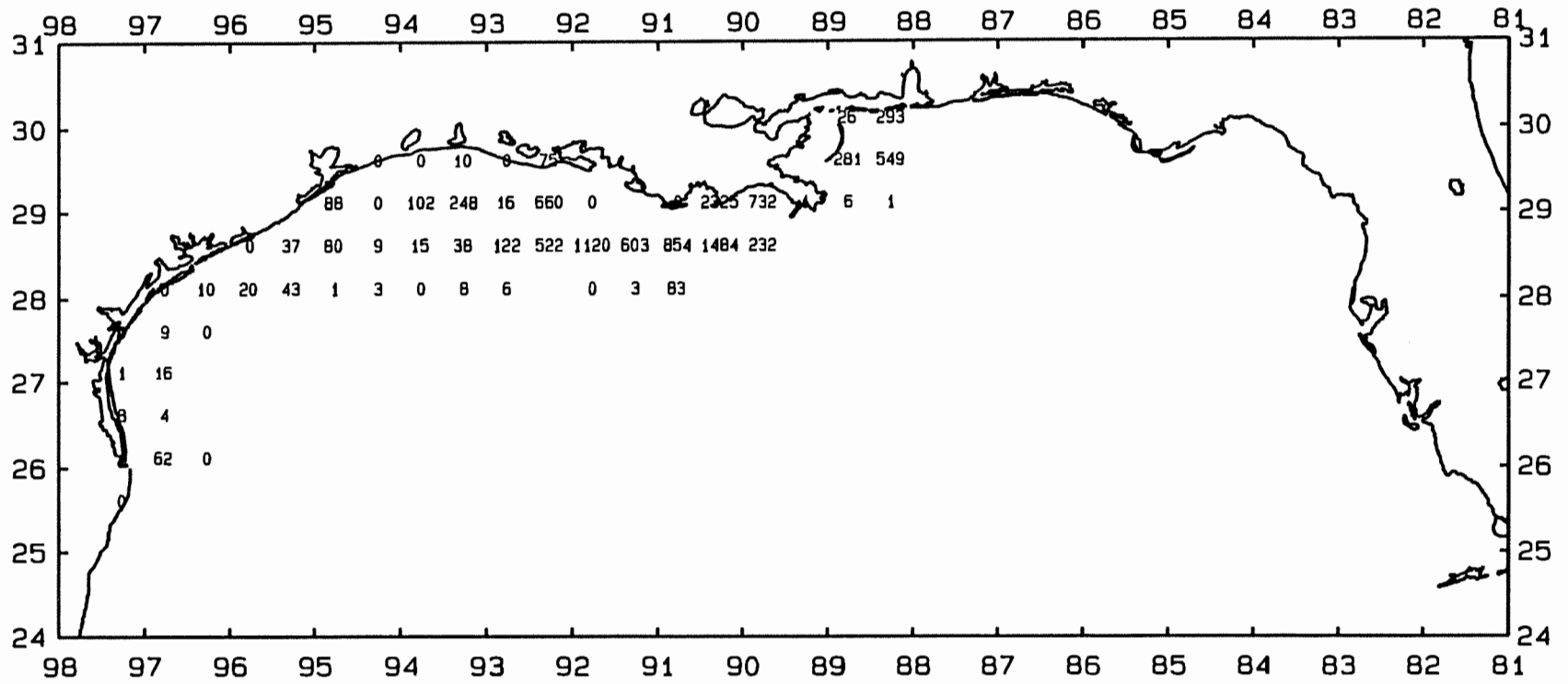


Figure 60. Atlantic croaker, *Micropogonias undulatus*, number/hour for October-December 1990.

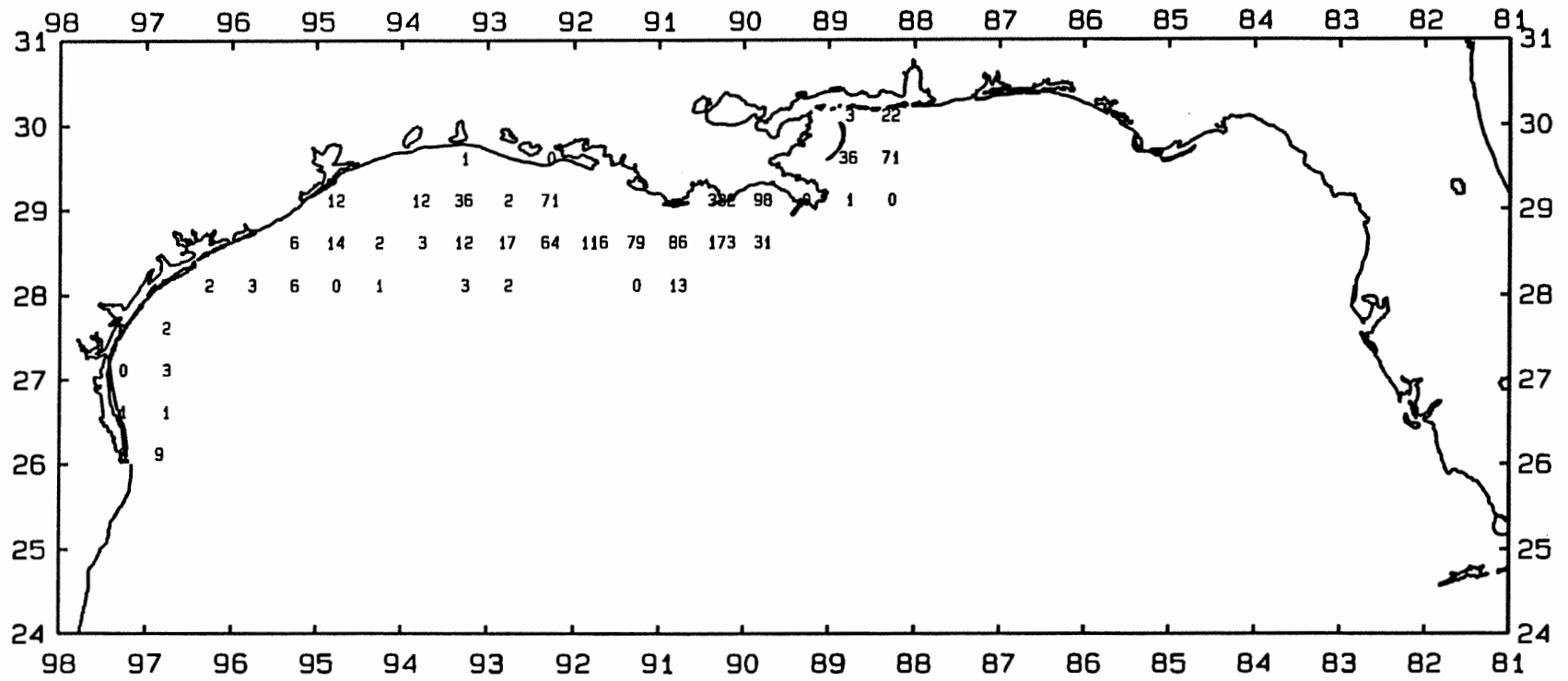


Figure 61. Atlantic croaker, *Micropogonias undulatus*, lb/hour for October-December 1990.

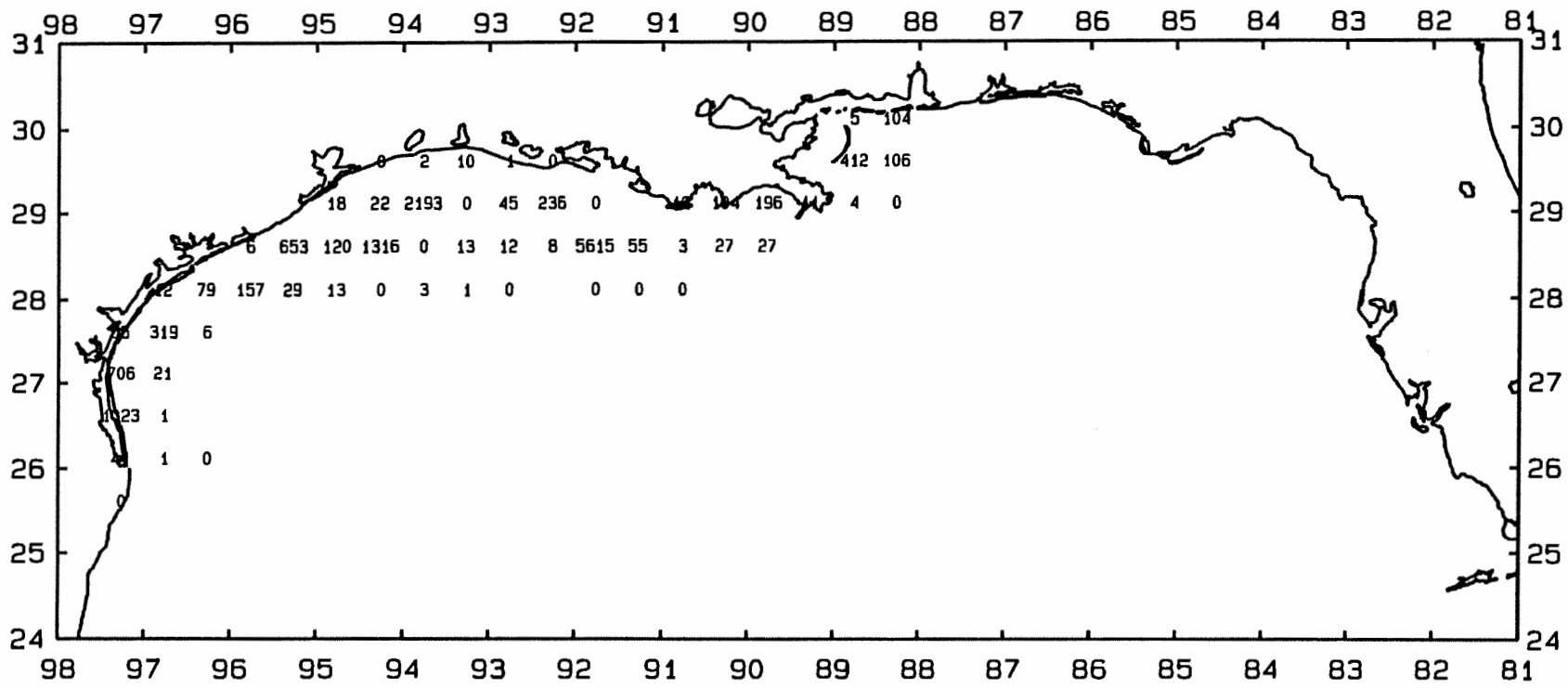


Figure 62. Atlantic bumper, *Chloroscombrus chrysurus*, number/hour for October-December 1990.

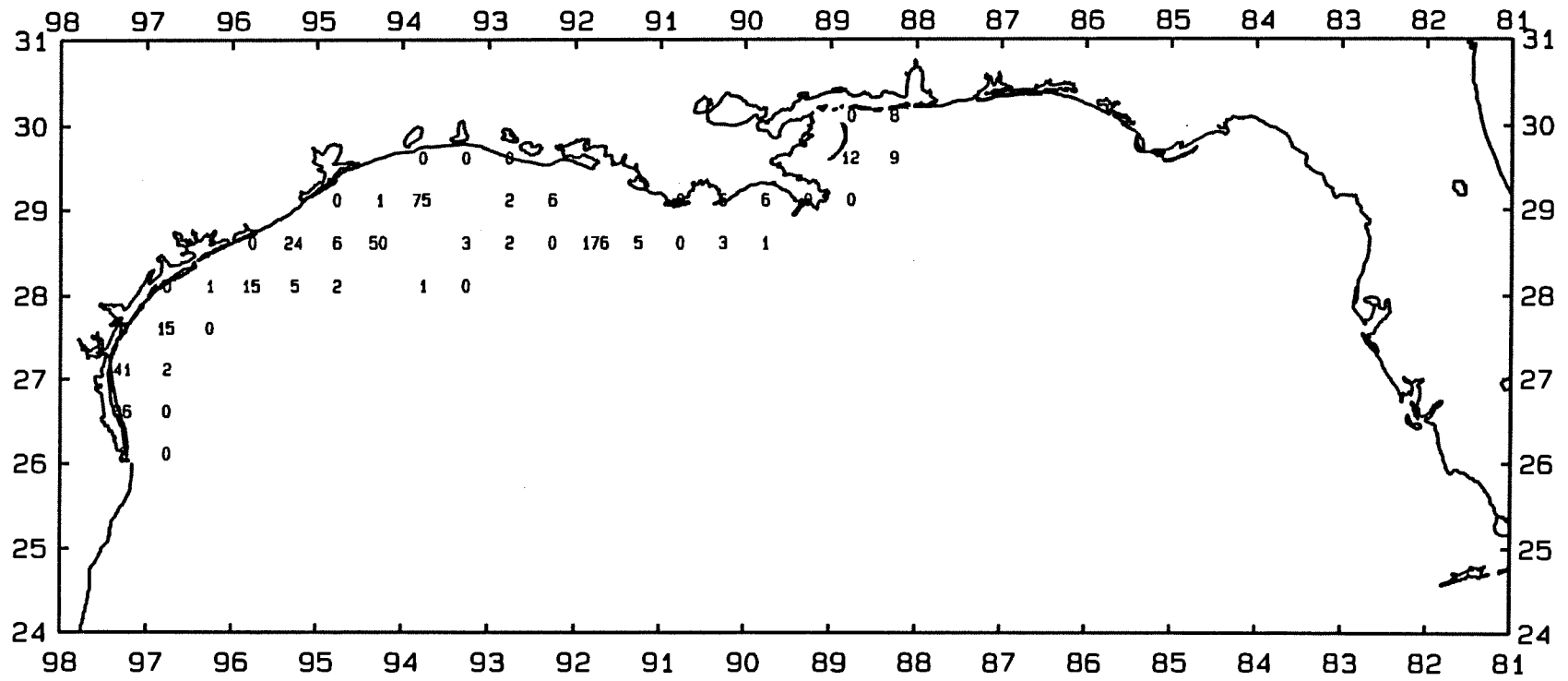


Figure 63. Atlantic bumper, *Chloroscombrus chrysurus*, lb/hour for October-December 1990.

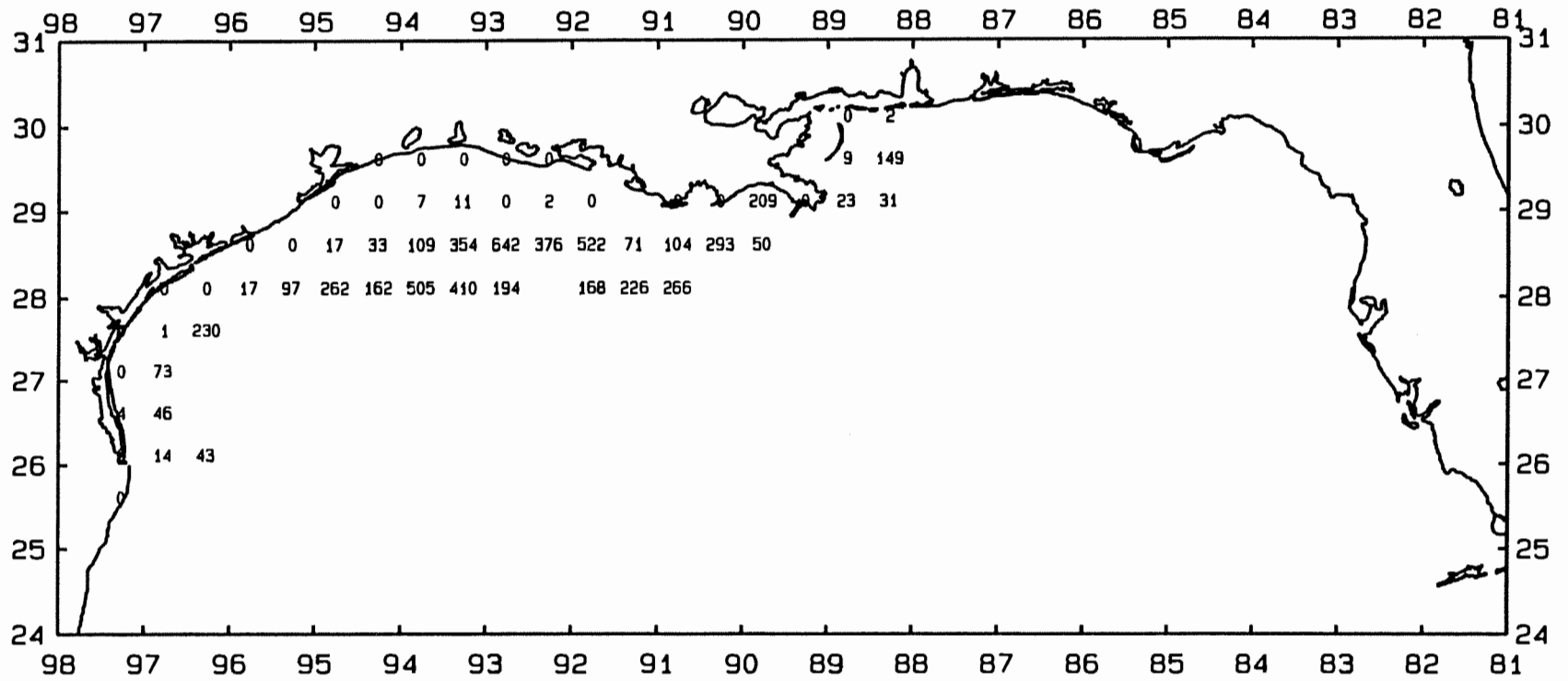


Figure 64. Longspine pogy, *Stenotomus caprinus*, number/hour for October-December 1990.

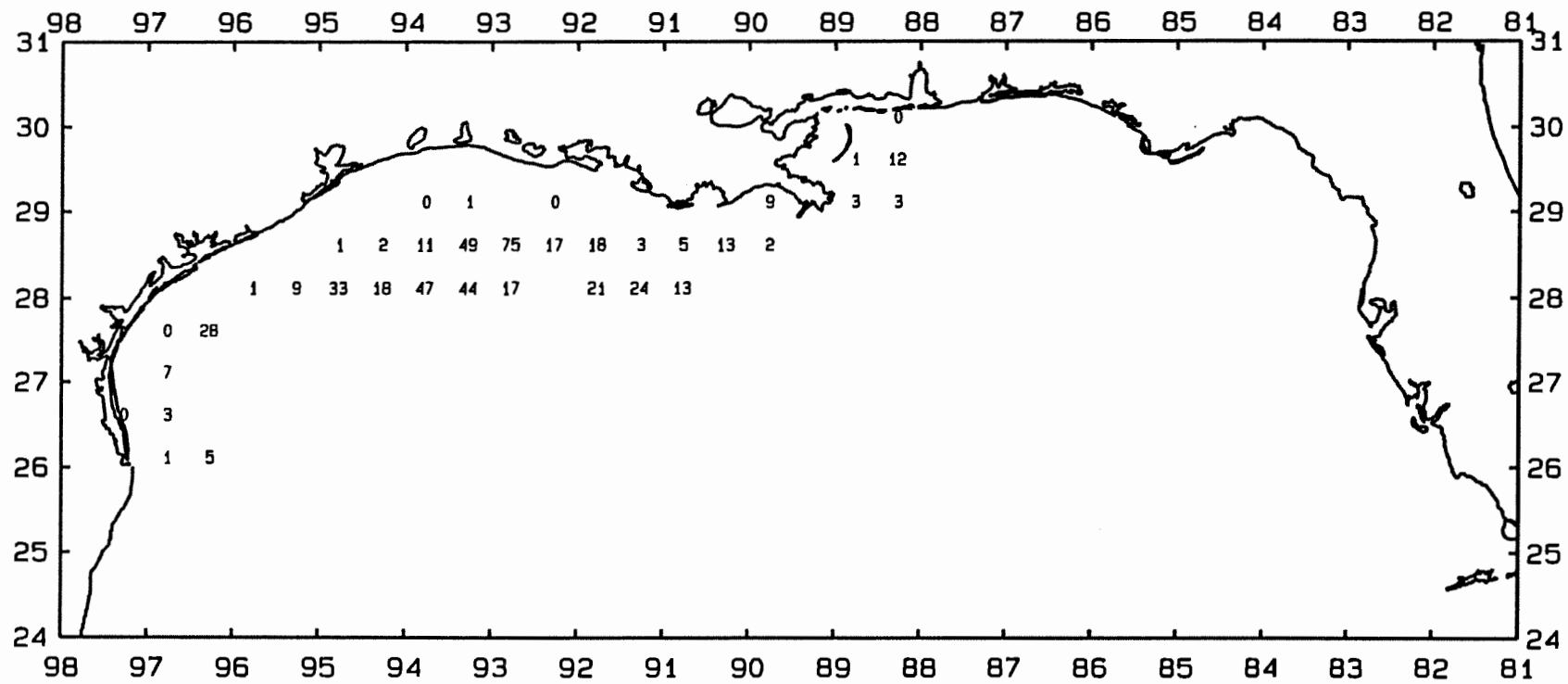


Figure 65. Longspine pogy, *Stenotomus caprinus*, lb/hour for October-December 1990.

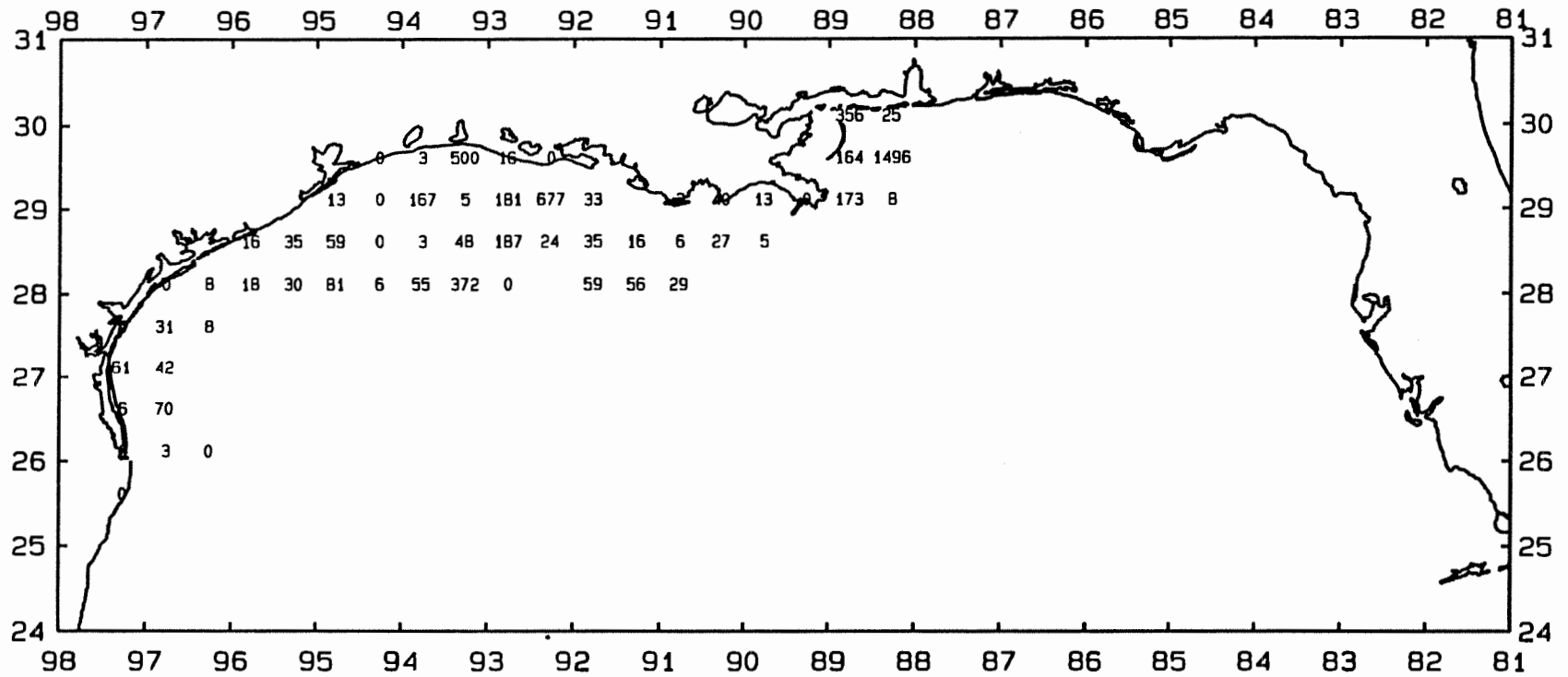


Figure 66. Gulf butterfish, *Peprilus burti*, number/hour for October-December 1990.

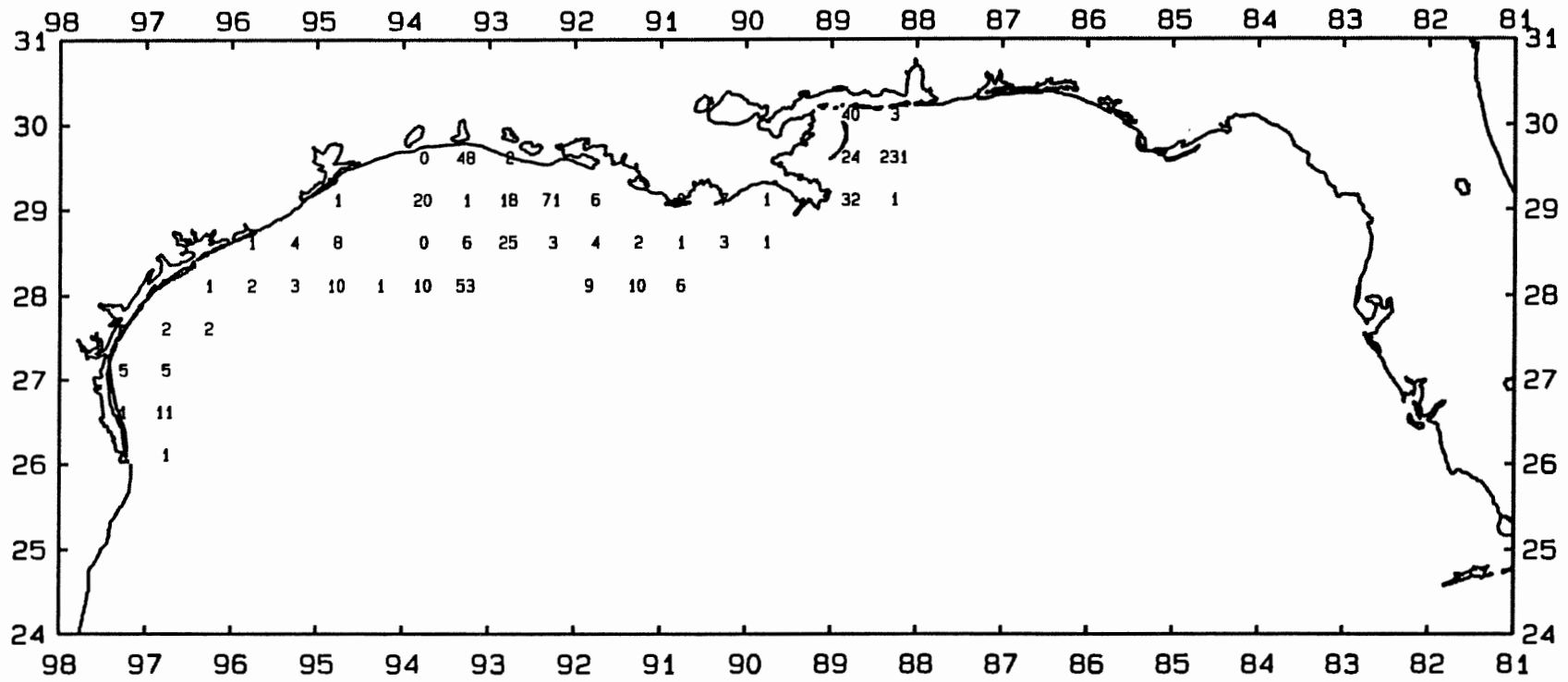


Figure 67. Gulf butterfish, *Peprilus burti*, lb/hour for October-December 1990.

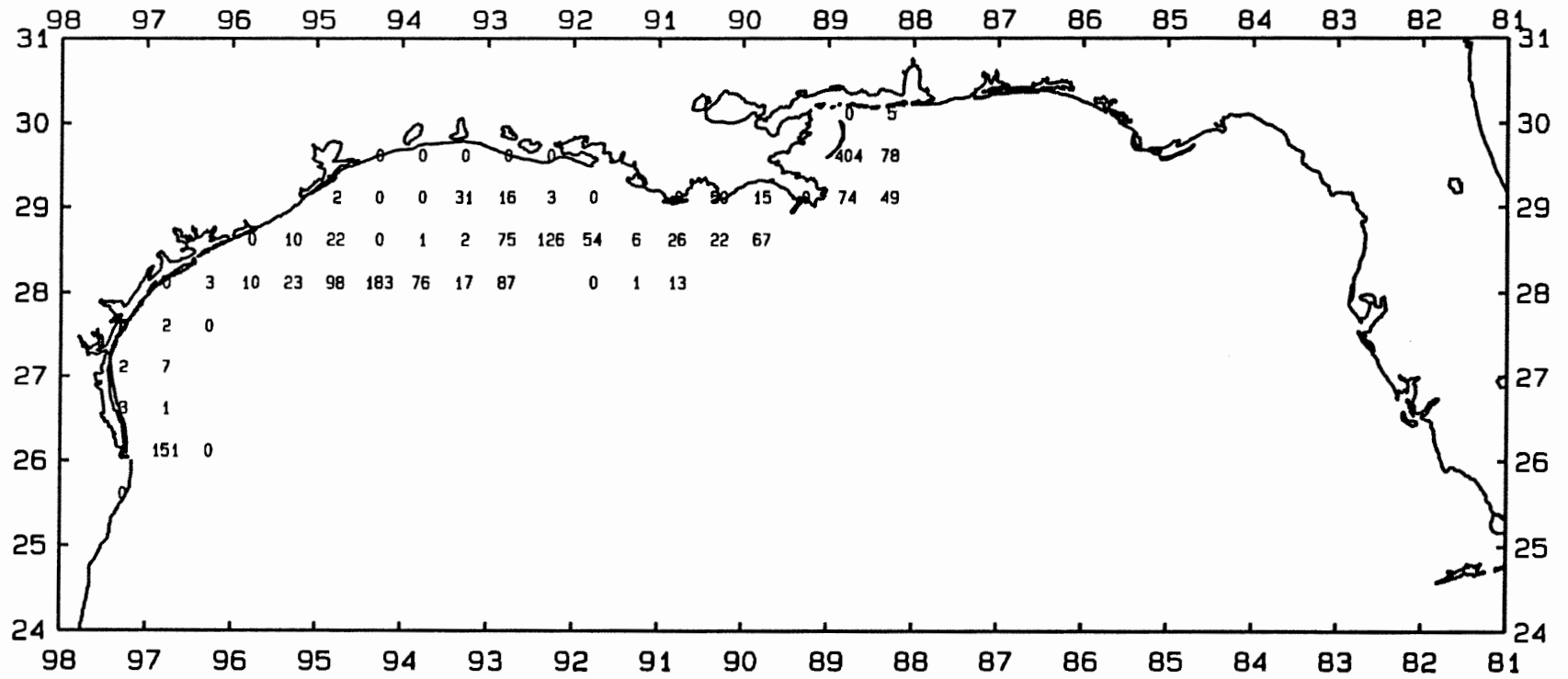


Figure 68. Spot, *Leiosomus xanthurus*, number/hour for October-December 1990.

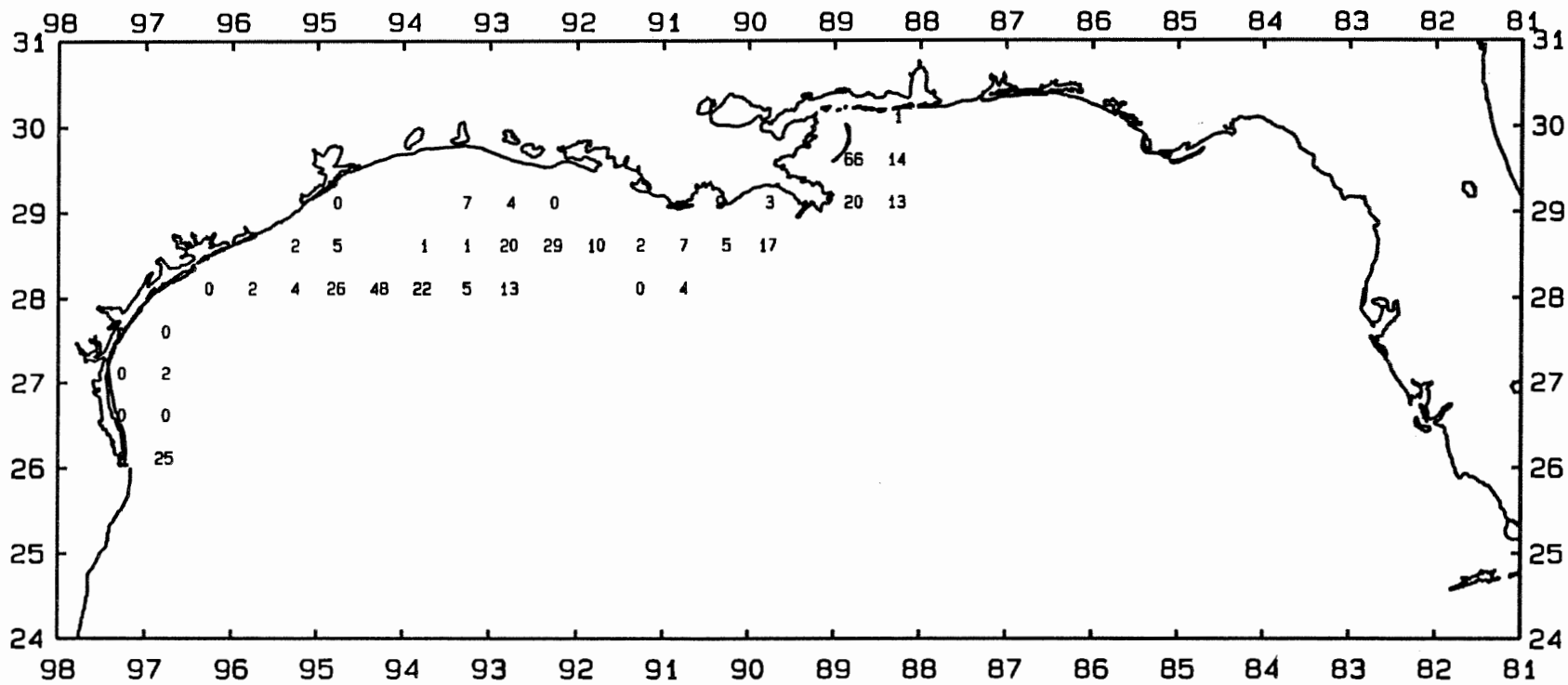


Figure 69. Spot, Leiostomus xanthurus, lb/hour for October-December 1990.

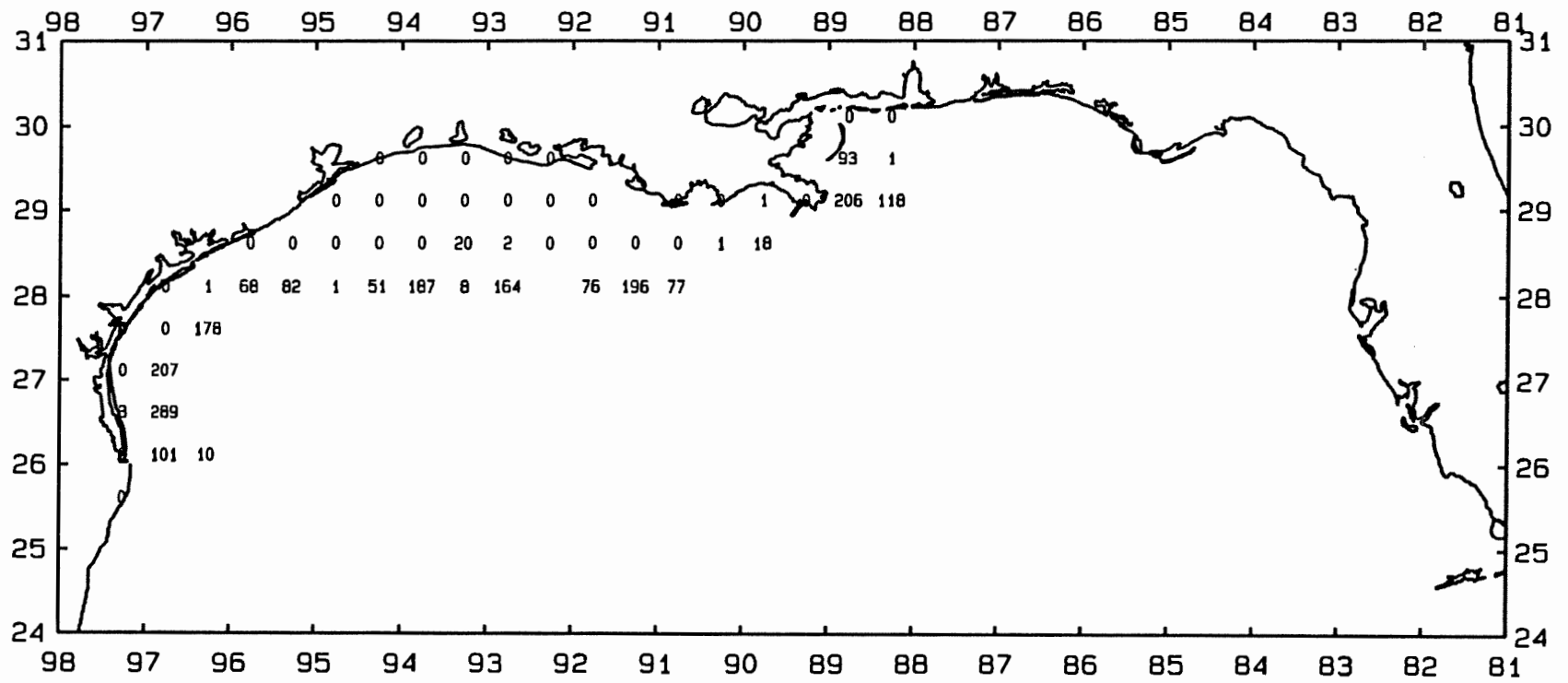


Figure 70. Blackear bass, *Serranus atrobranchus*, number/hour for October-December 1990.

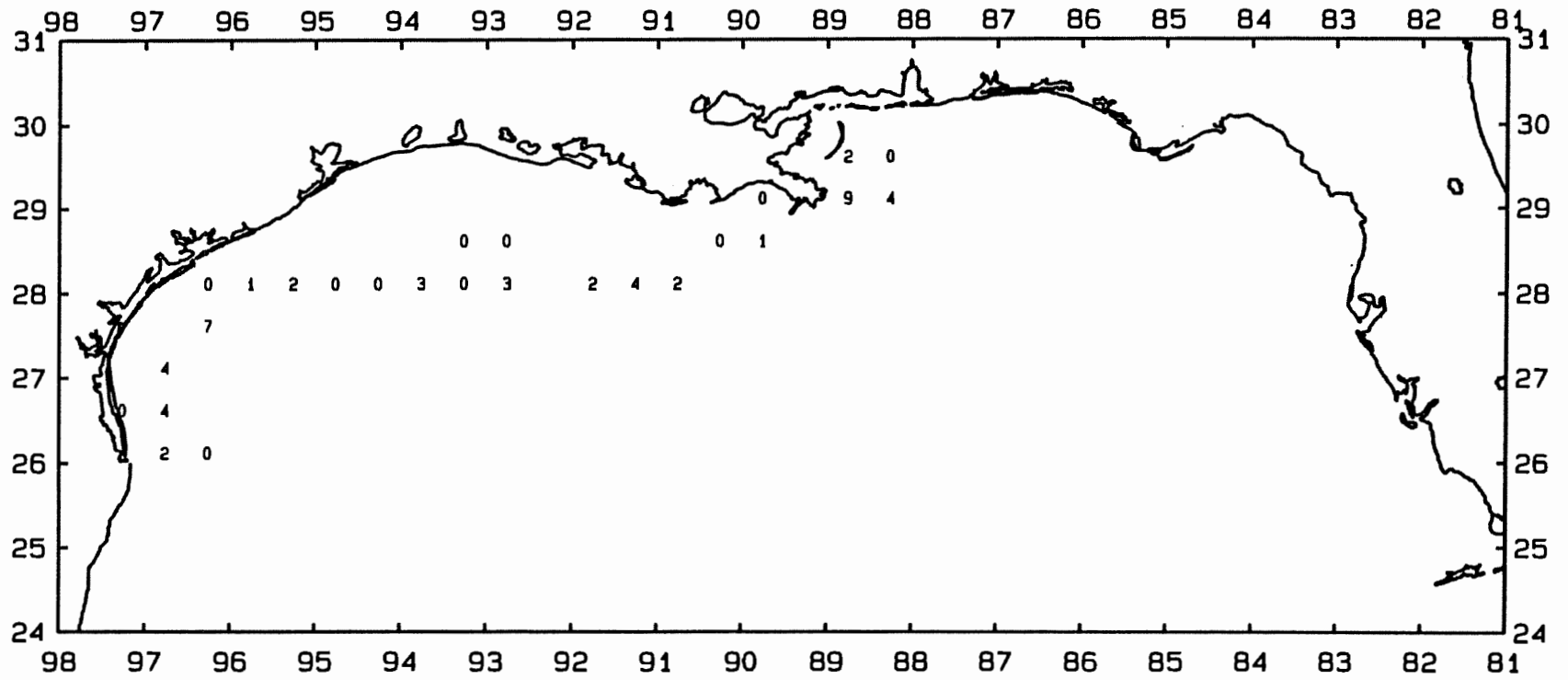


Figure 71. Blackear bass, *Serranus atrobranchus*, lb/hour for October-December 1990.

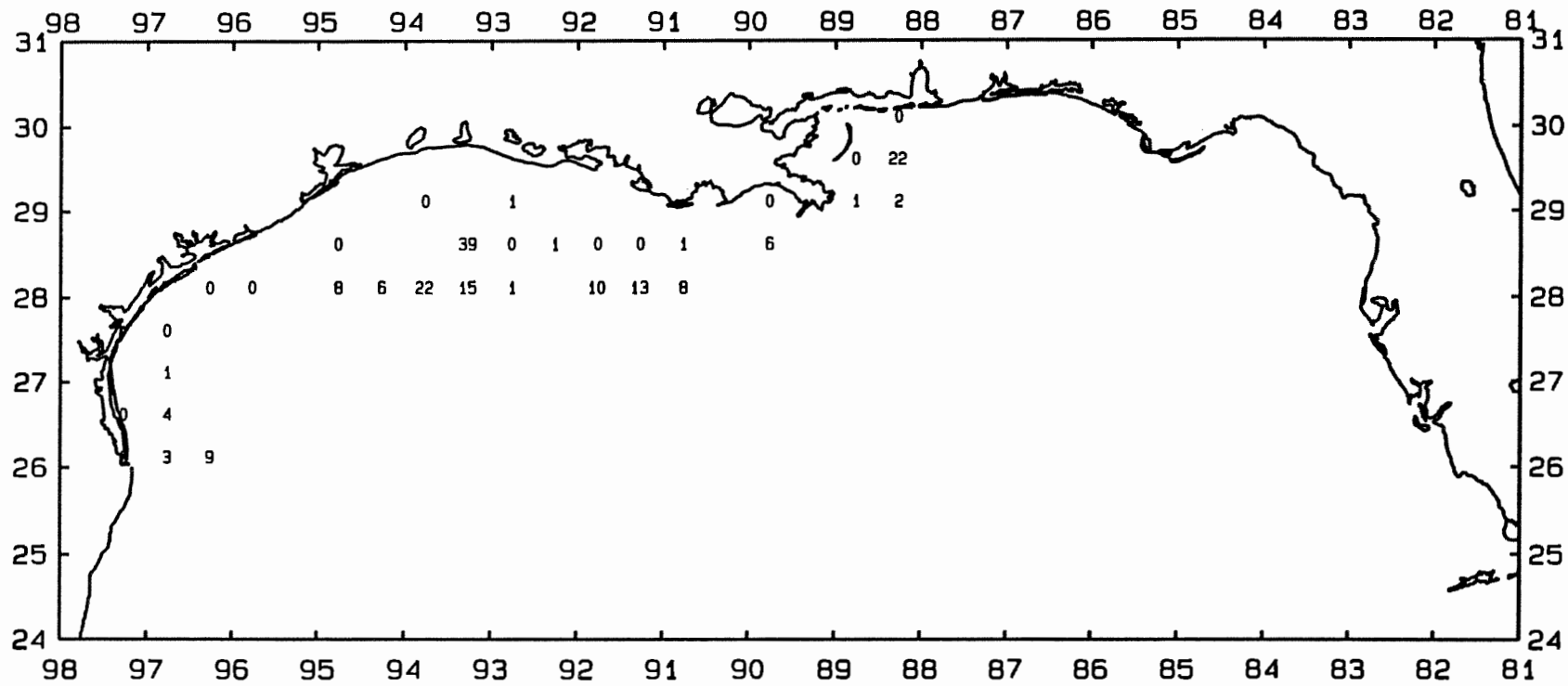


Figure 73. Rough scad, *Trachurus lathami*, lb/hour for October-December 1990.

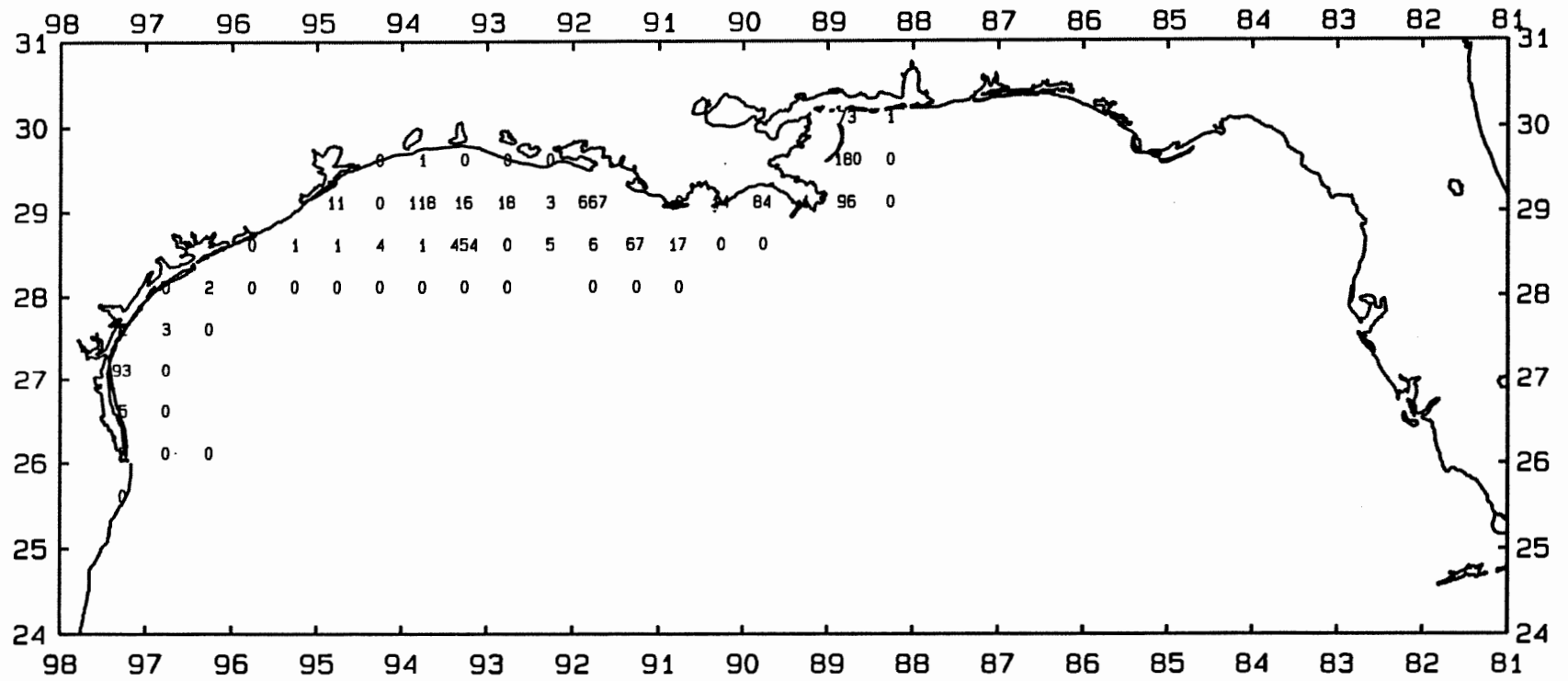


Figure 74. Hardhead catfish, *Arius felis*, number/hour for October-December 1990.

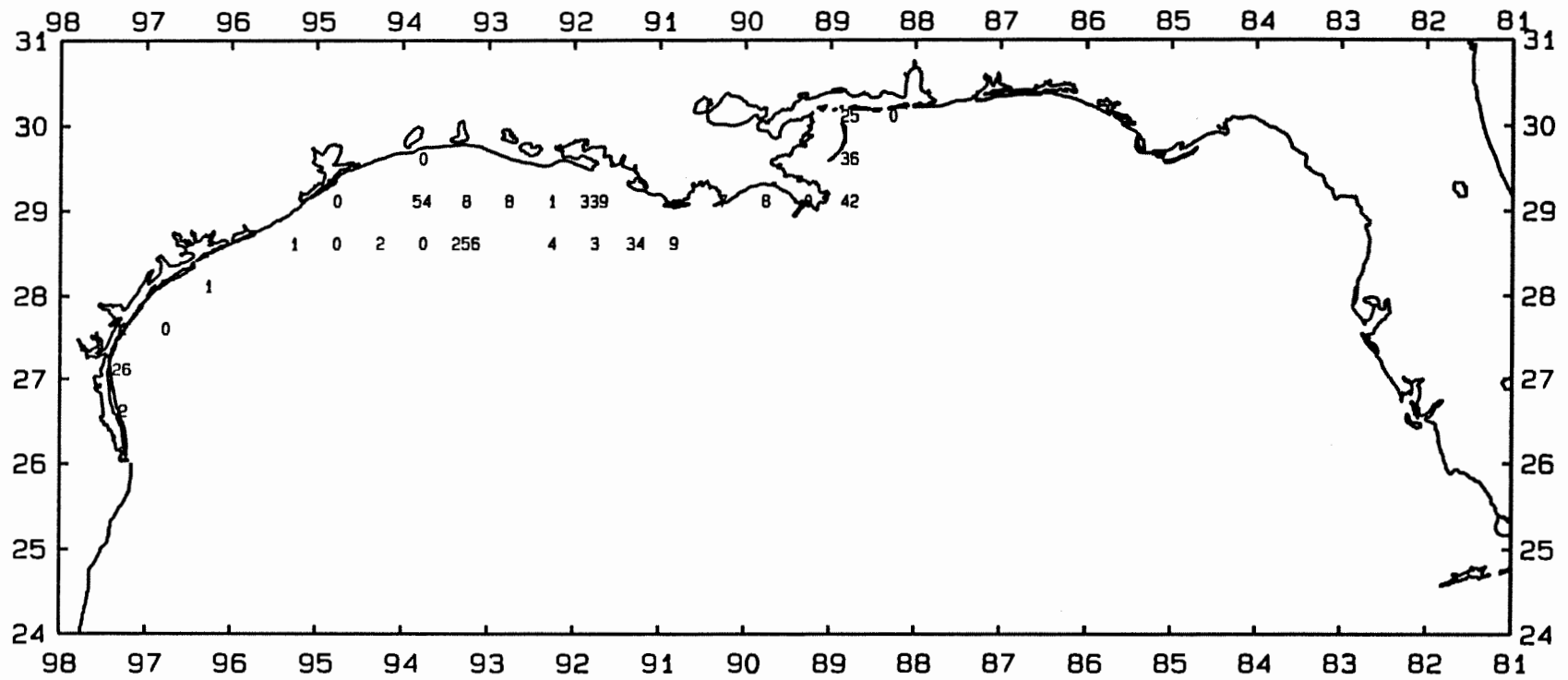


Figure 75. Hardhead catfish, *Arius felis*, lb/hour for October-December 1990.

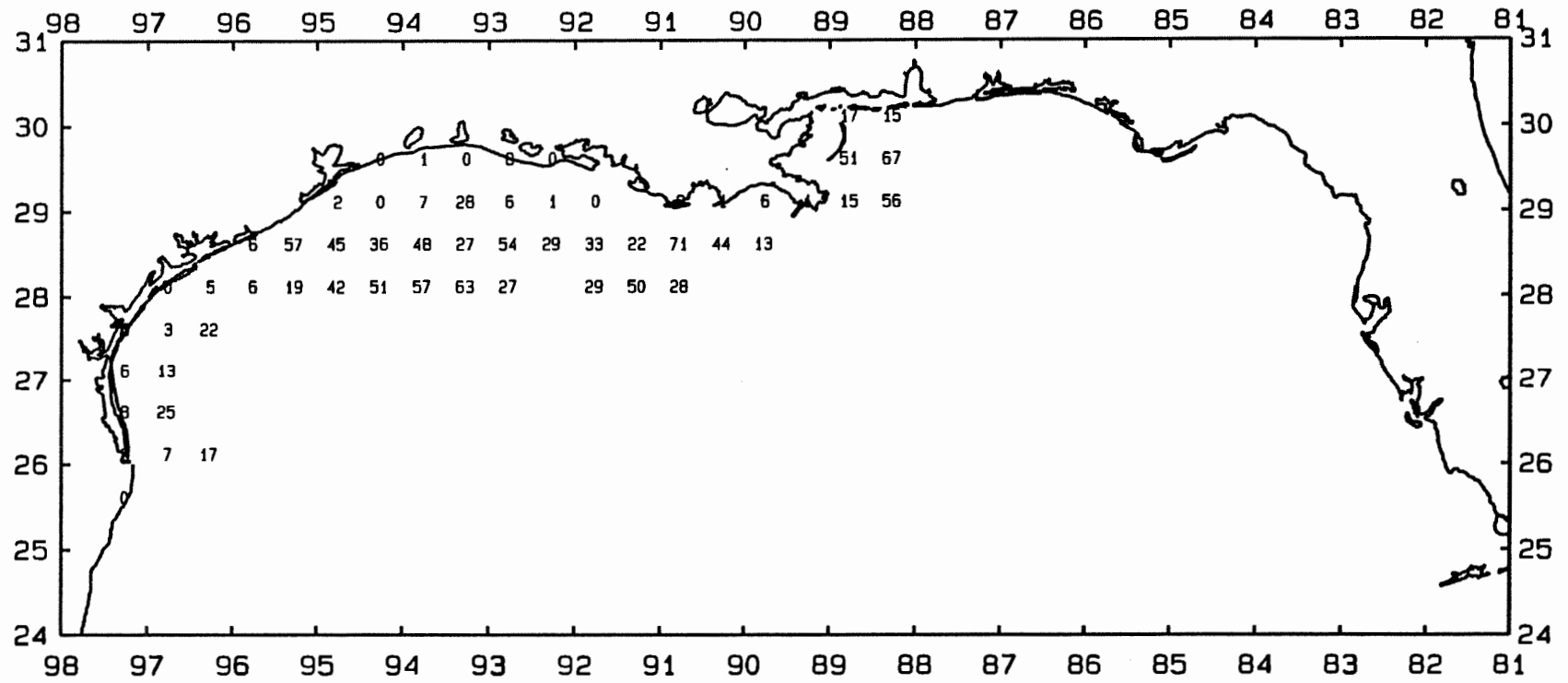


Figure 76. Dwarf sand perch, *Synodus foetens*, number/hour for October-December 1990.

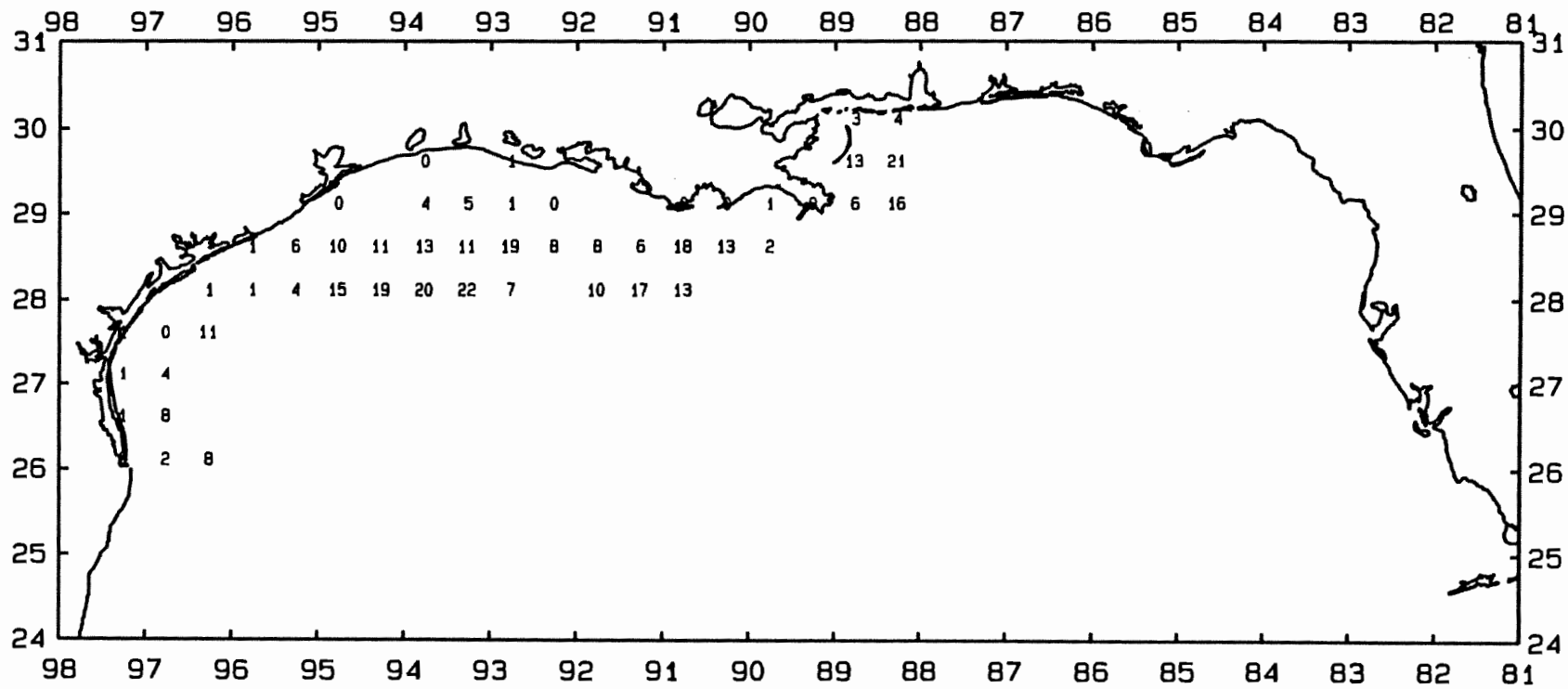


Figure 77. Dwarf sand perch, *Synodus foetens*, lb/hour for October-December 1990.

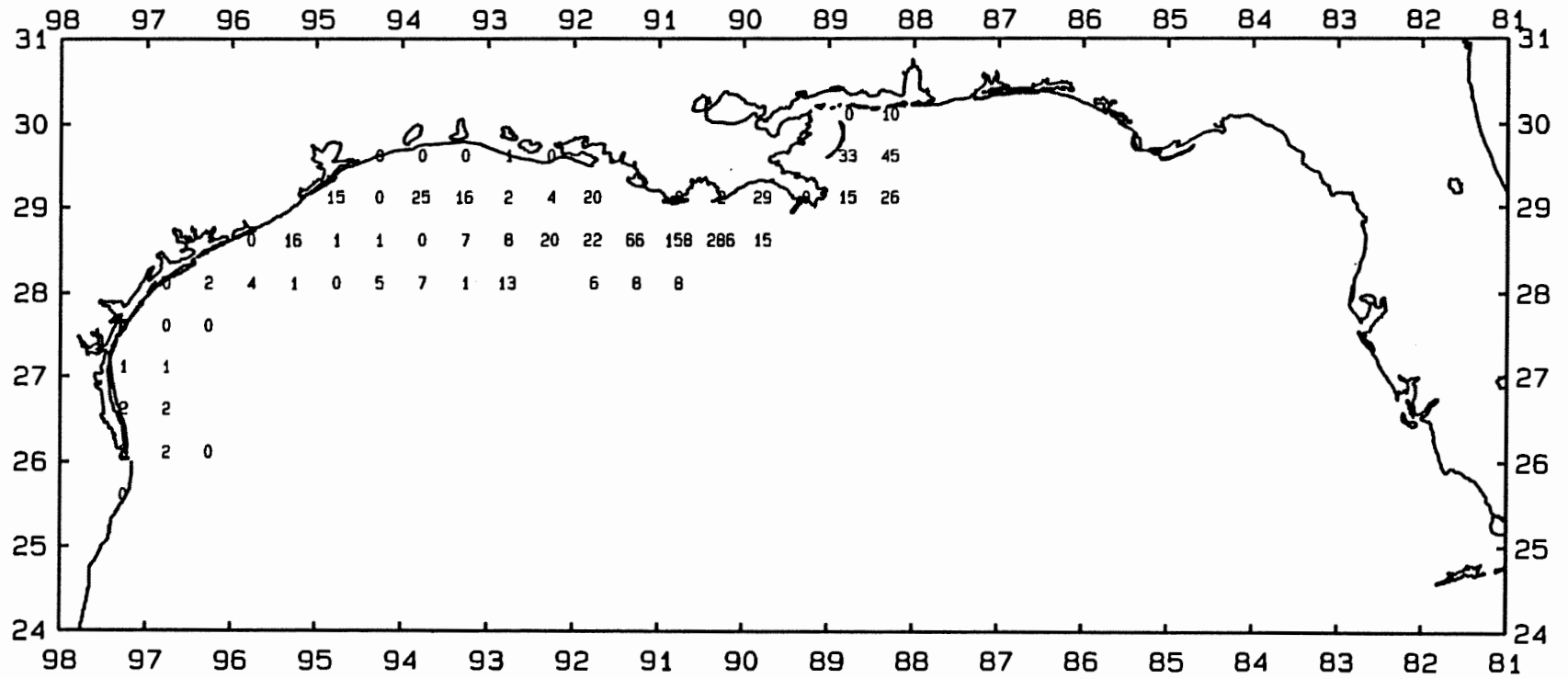


Figure 78. Bigeye searobin, *Prionotus longispinosus*, number/hour for October-December 1990.

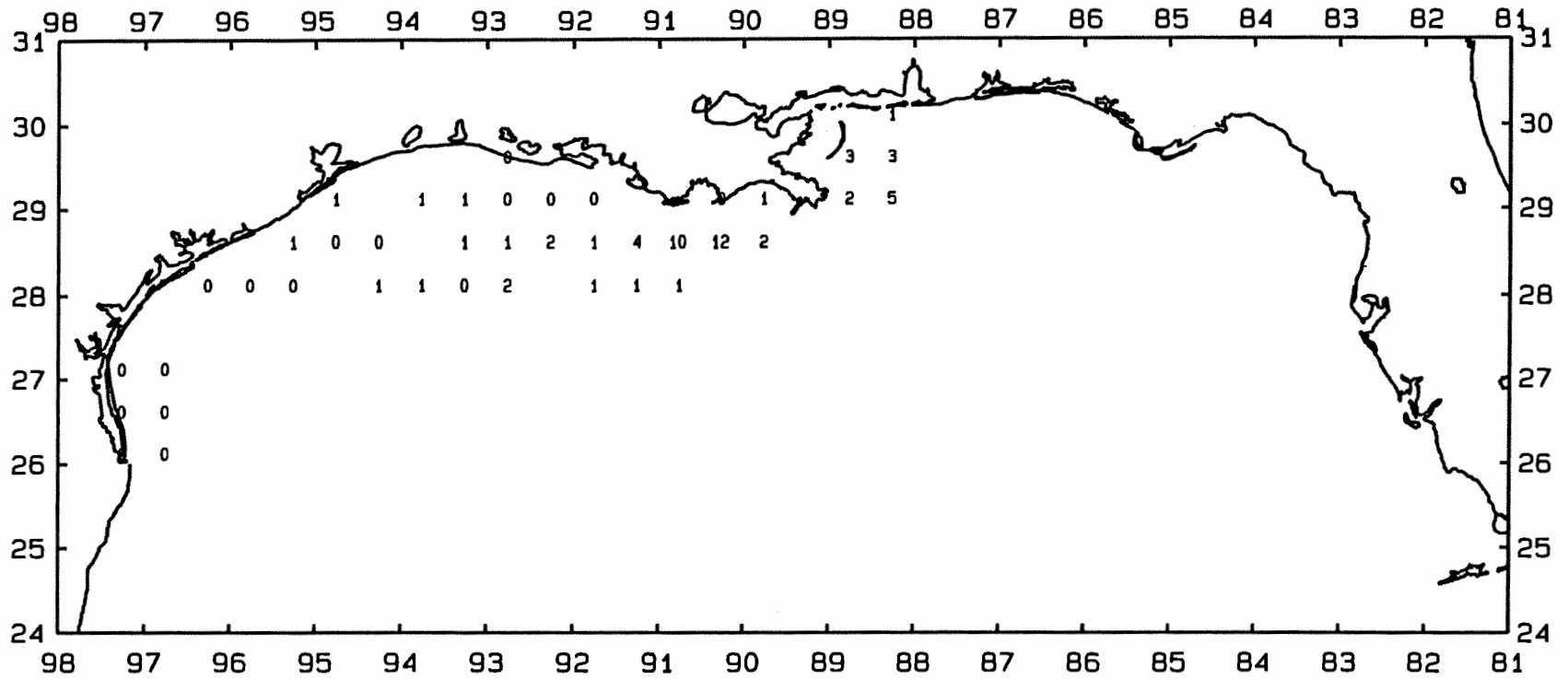


Figure 79. Bigeye searobin, *Prionotus longispinosus*, lb/hour for October-December 1990.

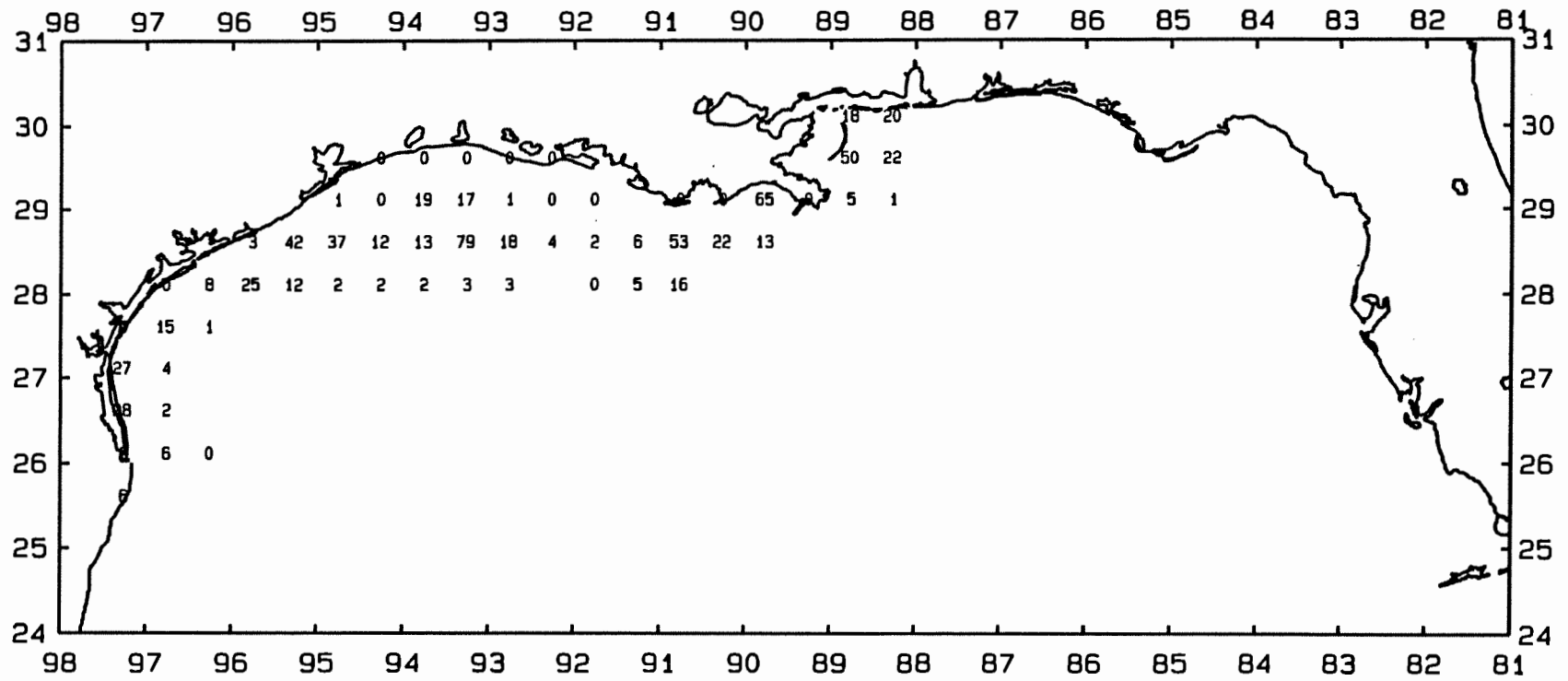


Figure 80. Red snapper, *Lutjanus campechanus*, number/hour for October-December 1990.

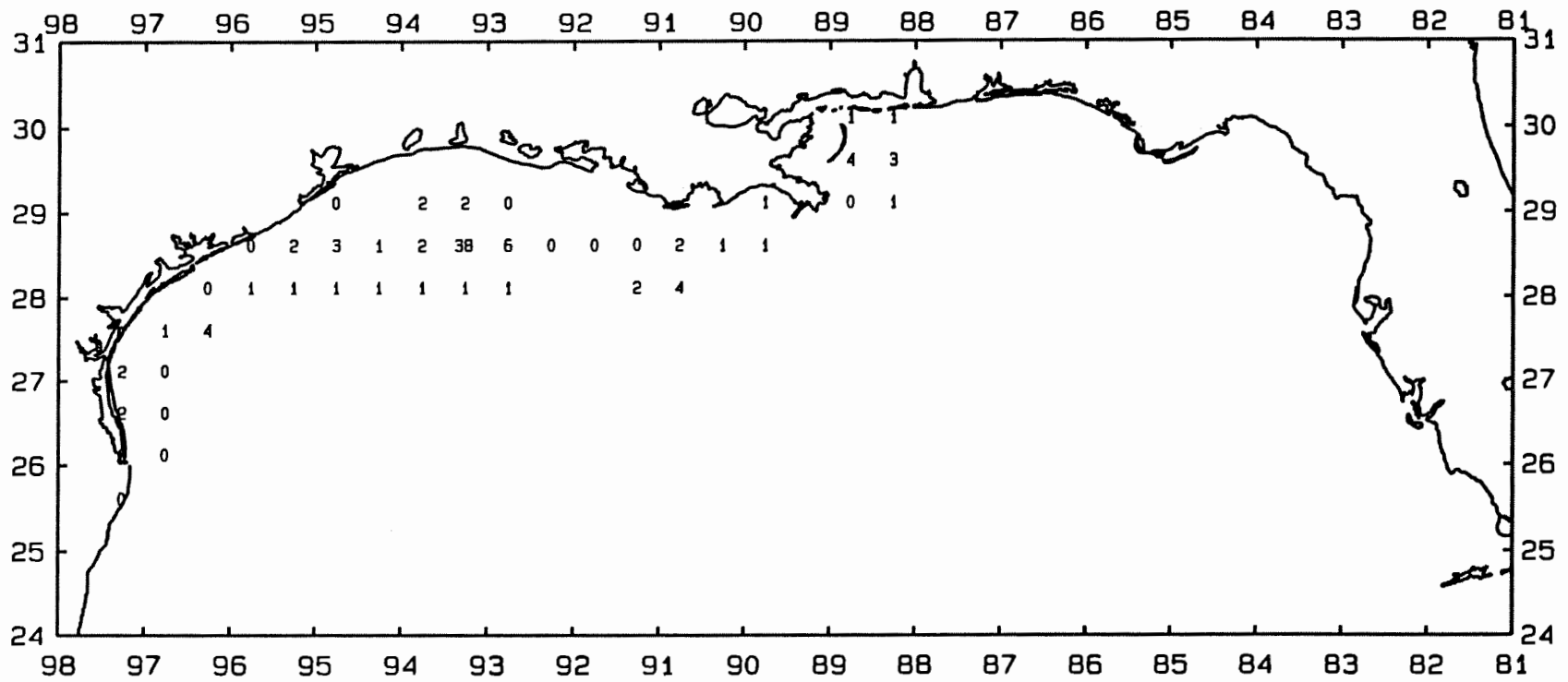


Figure 81. Red snapper, Lutjanus campechanus, lb/hour for October-December 1990.

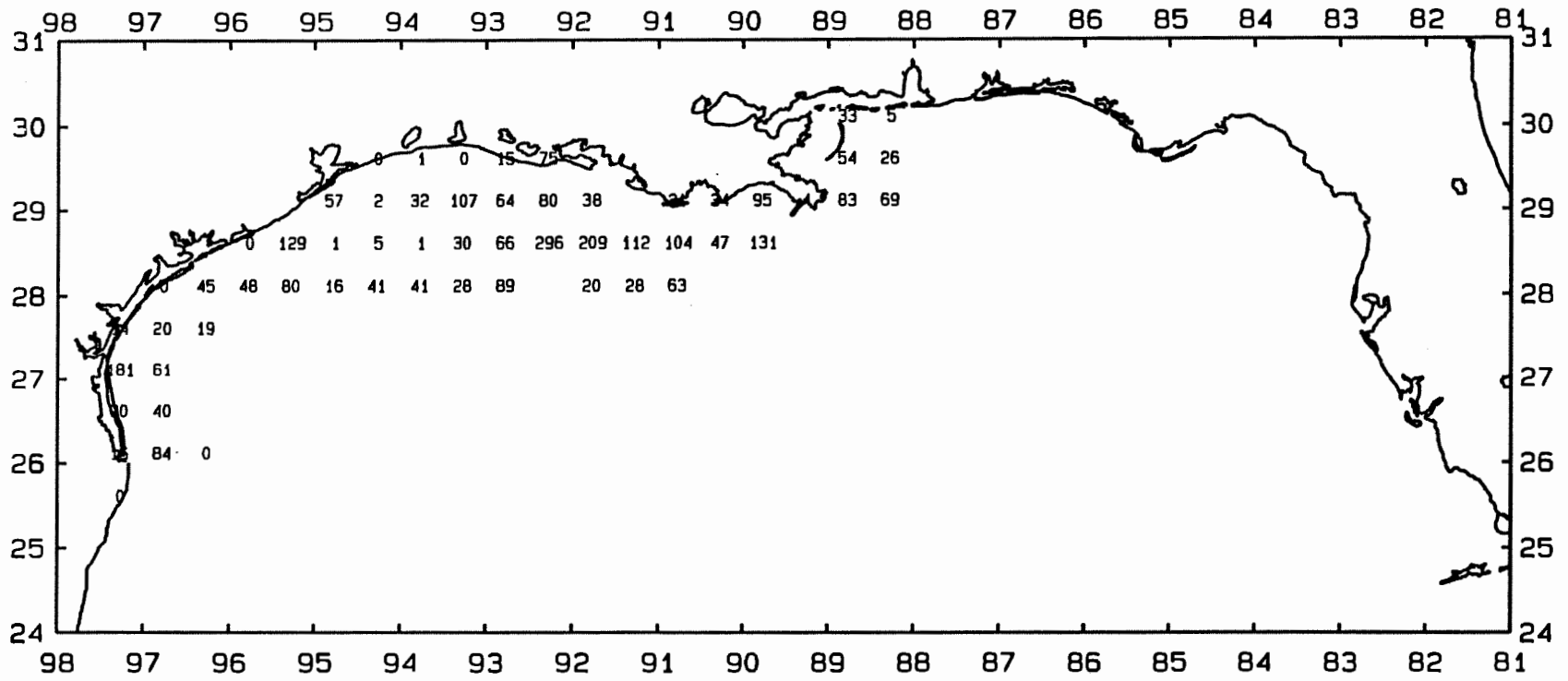


Figure 82. Brown shrimp, *Penaeus aztecus*, number/hour for October-December 1990.

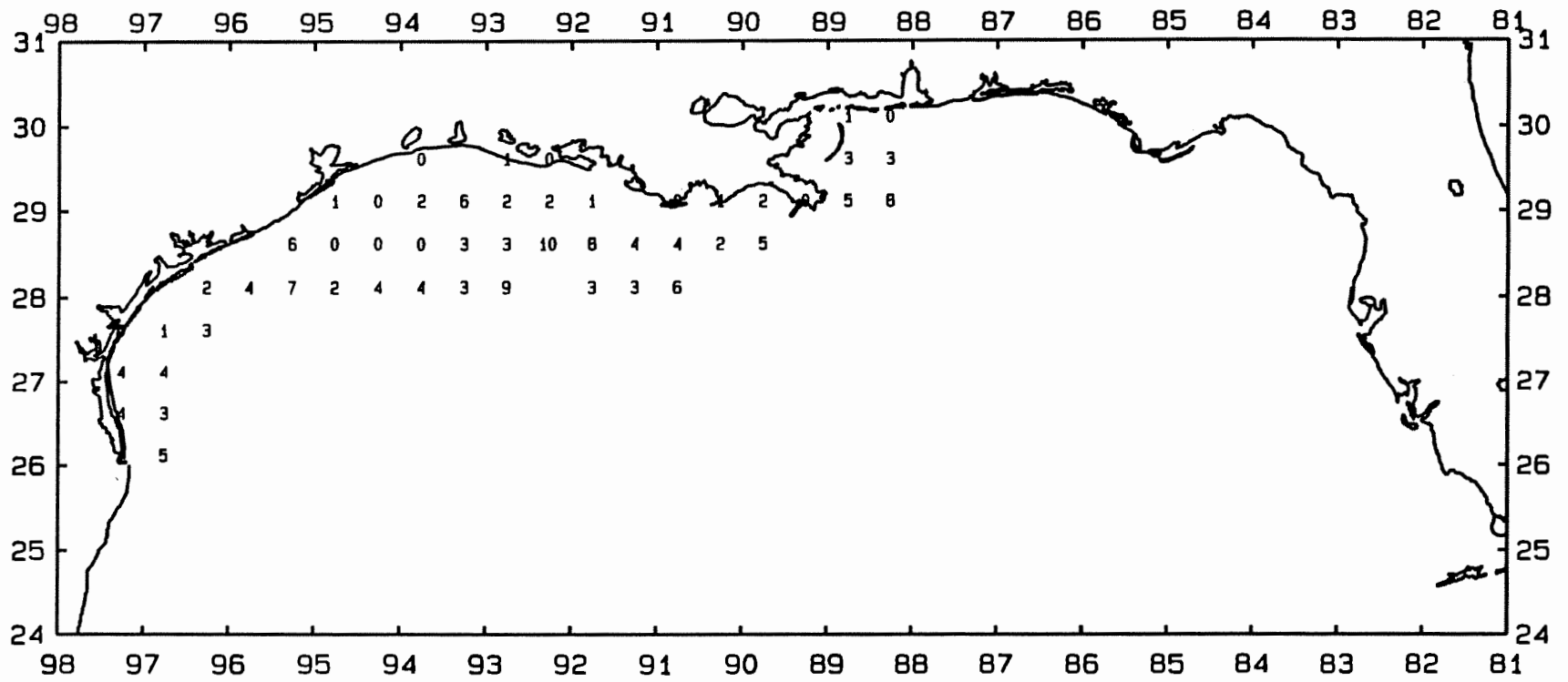


Figure 83. Brown shrimp, *Penaeus aztecus*, lb/hour for October-December 1990.

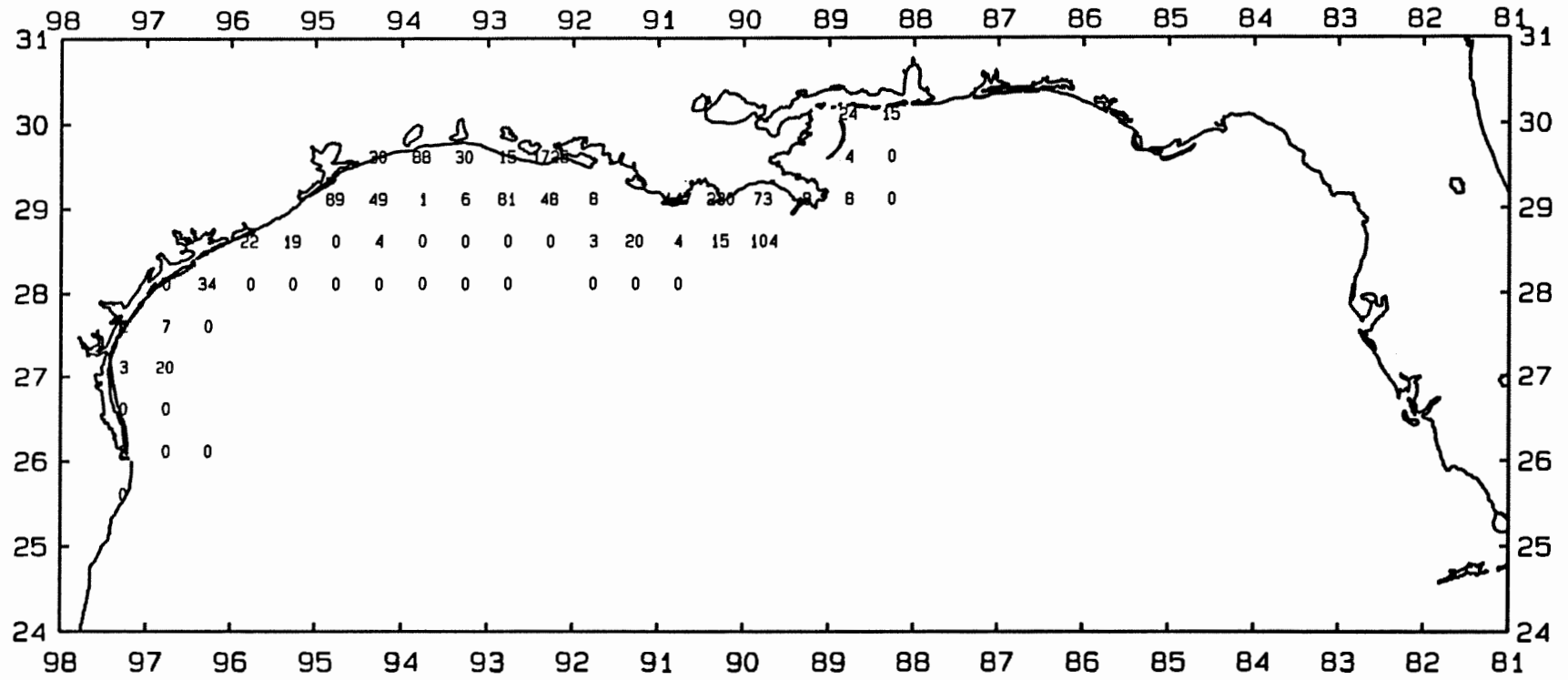


Figure 84. White shrimp, Penaeus setiferus, number/hour for October-December 1990.

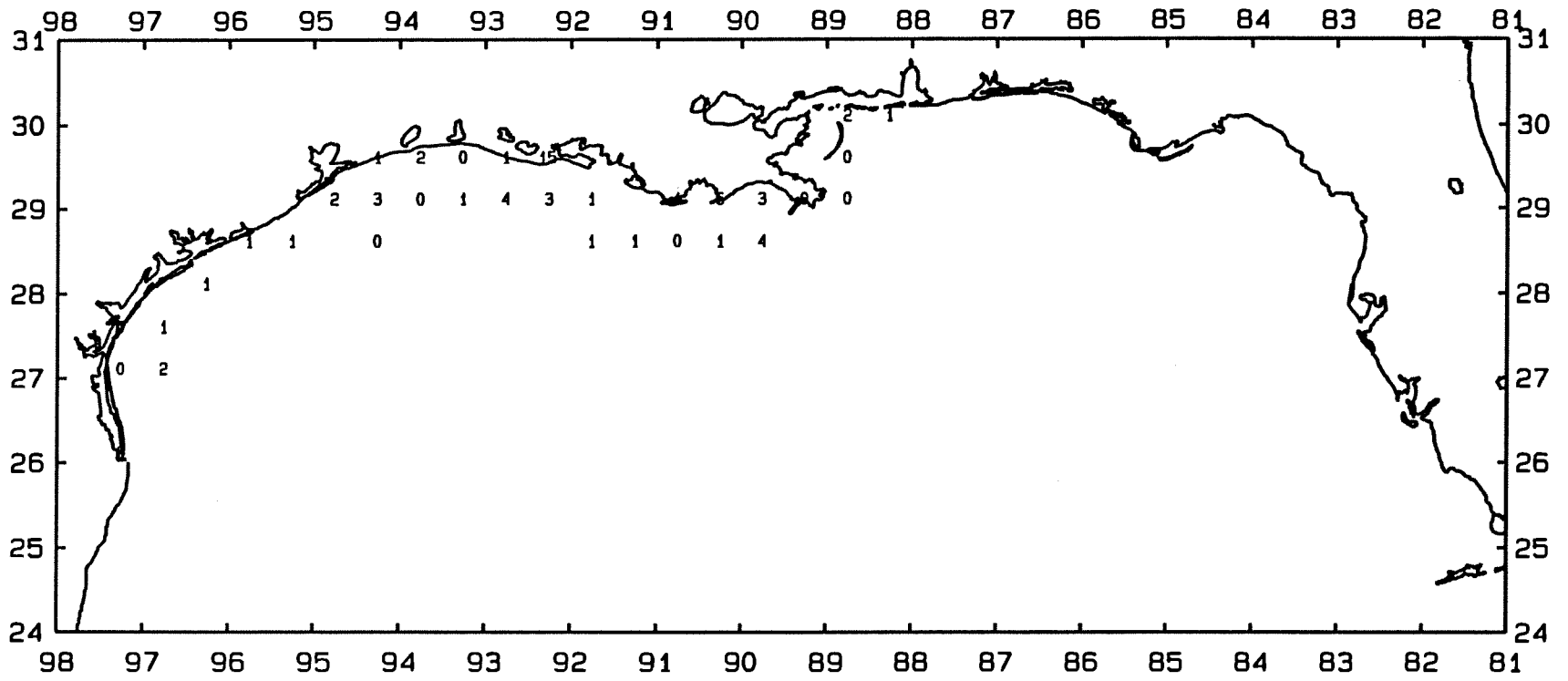


Figure 85. White shrimp, *Penaeus setiferus*, lb/hour for October-December 1990.

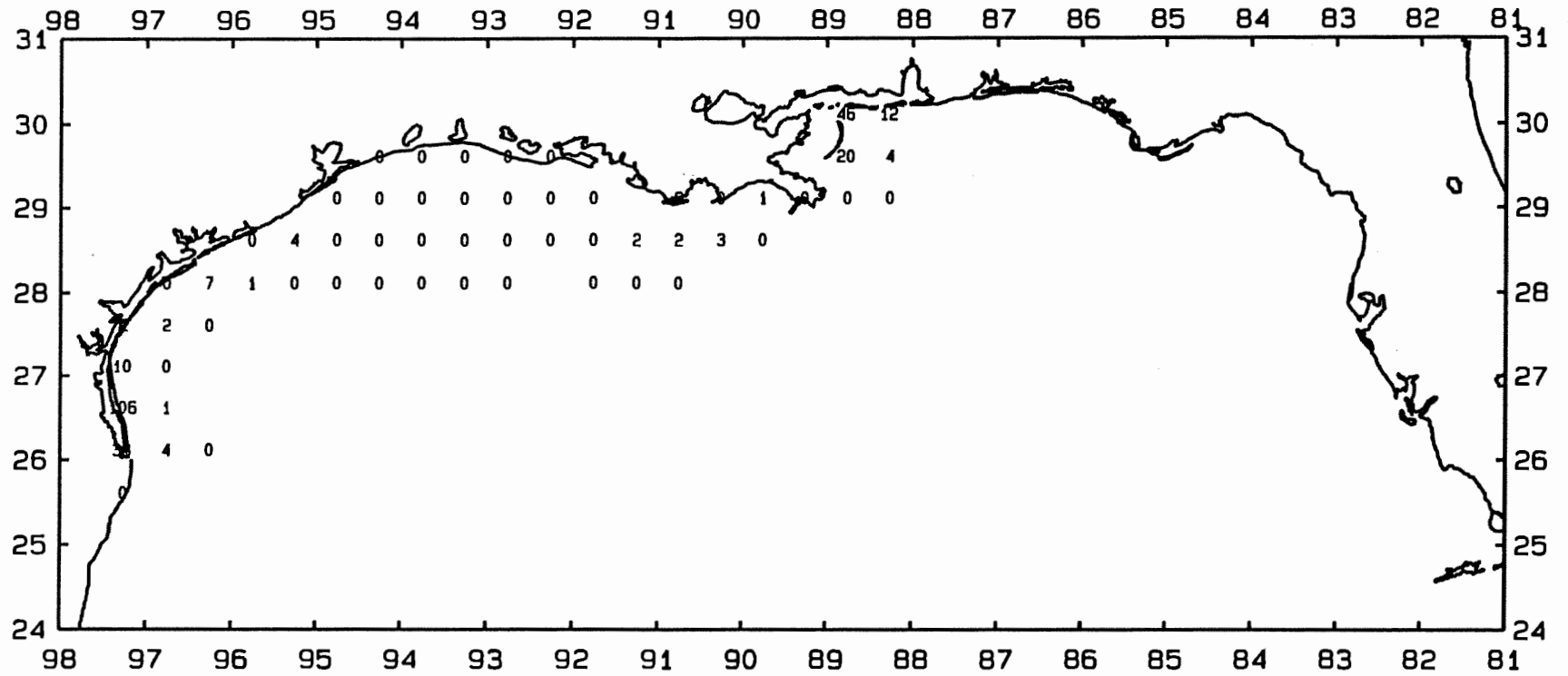


Figure 86. Pink shrimp, *Penaeus duorarum*, number/hour for October-December 1990.

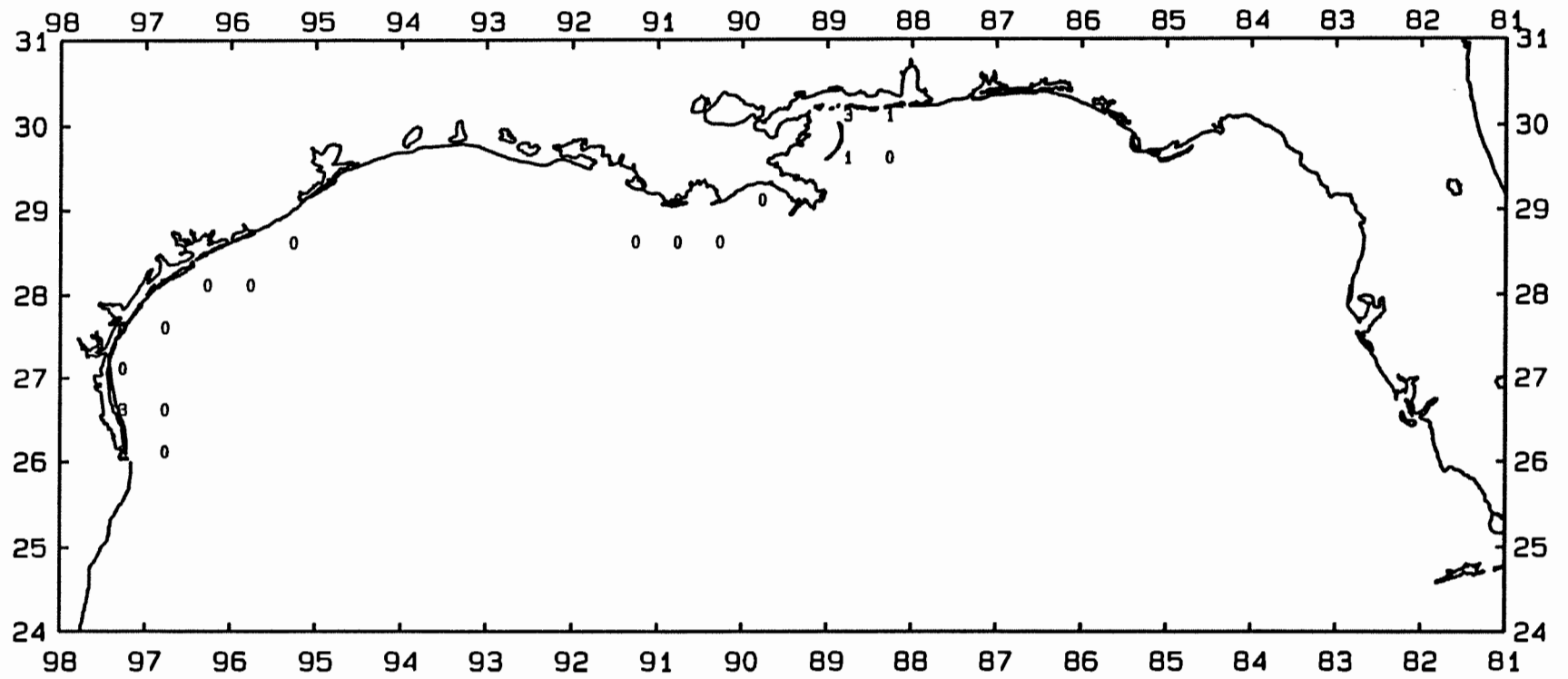


Figure 87. Pink shrimp, *Penaeus duorarum*, lb/hour for October-December 1990.

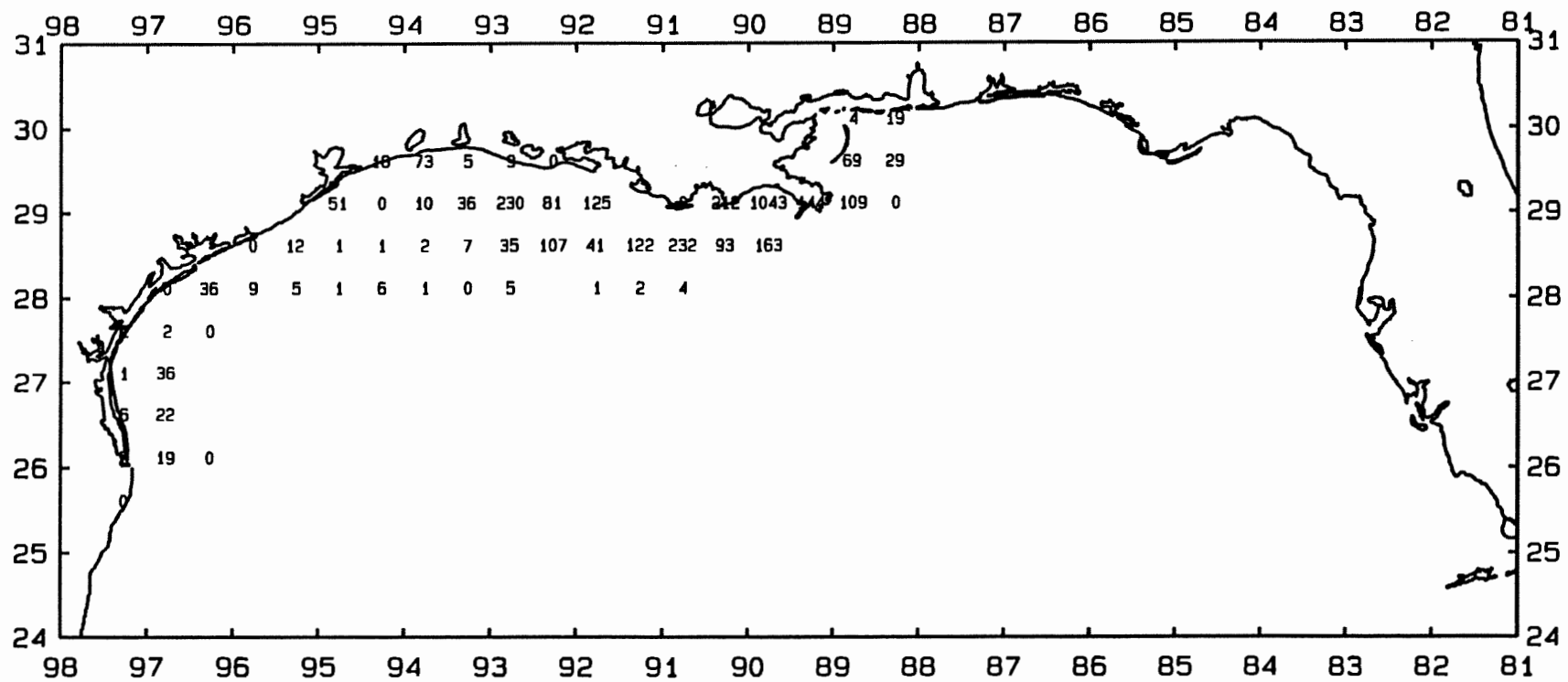


Figure 88. Lesser blue crab, *Callinectes similis*, number/hour for October-December 1990.

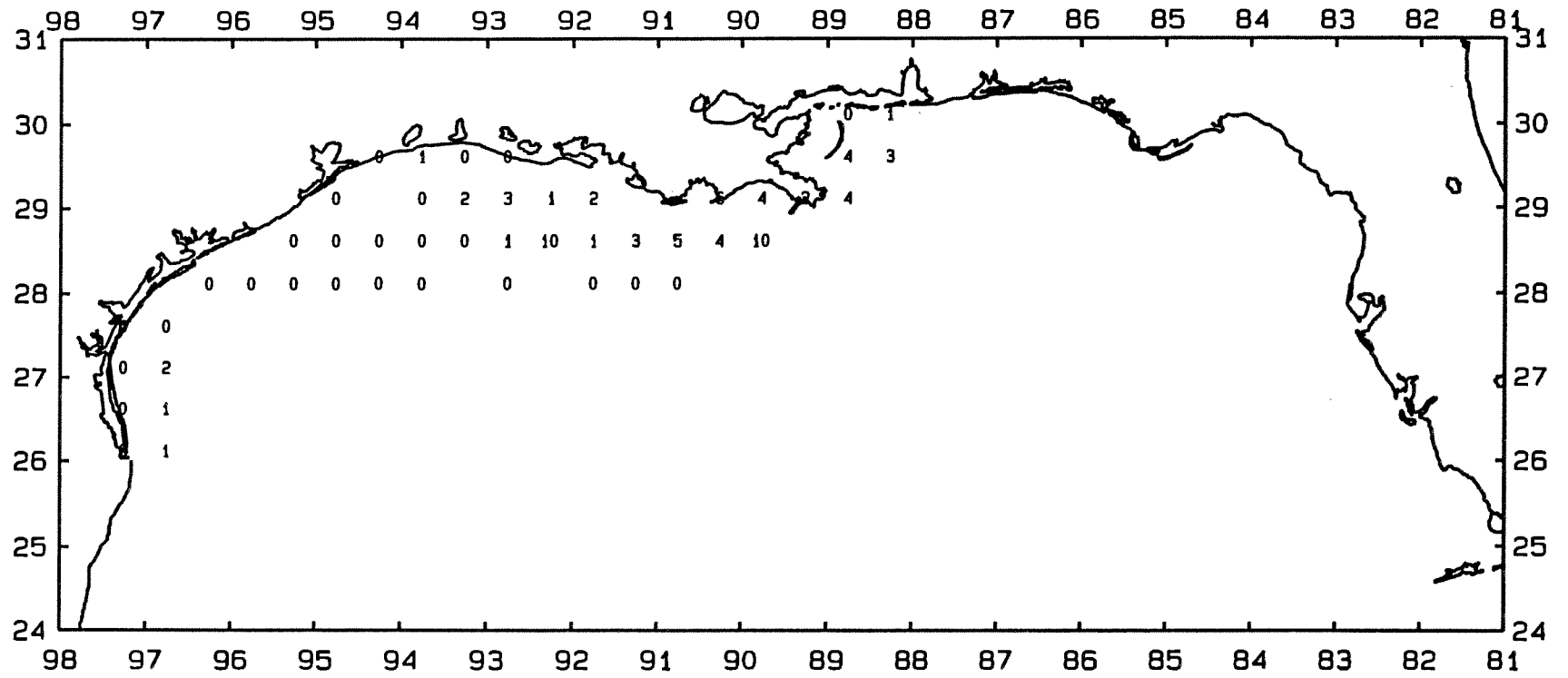


Figure 89. Lesser blue crab, *Callinectes similis*, lb/hour for October-December 1990.

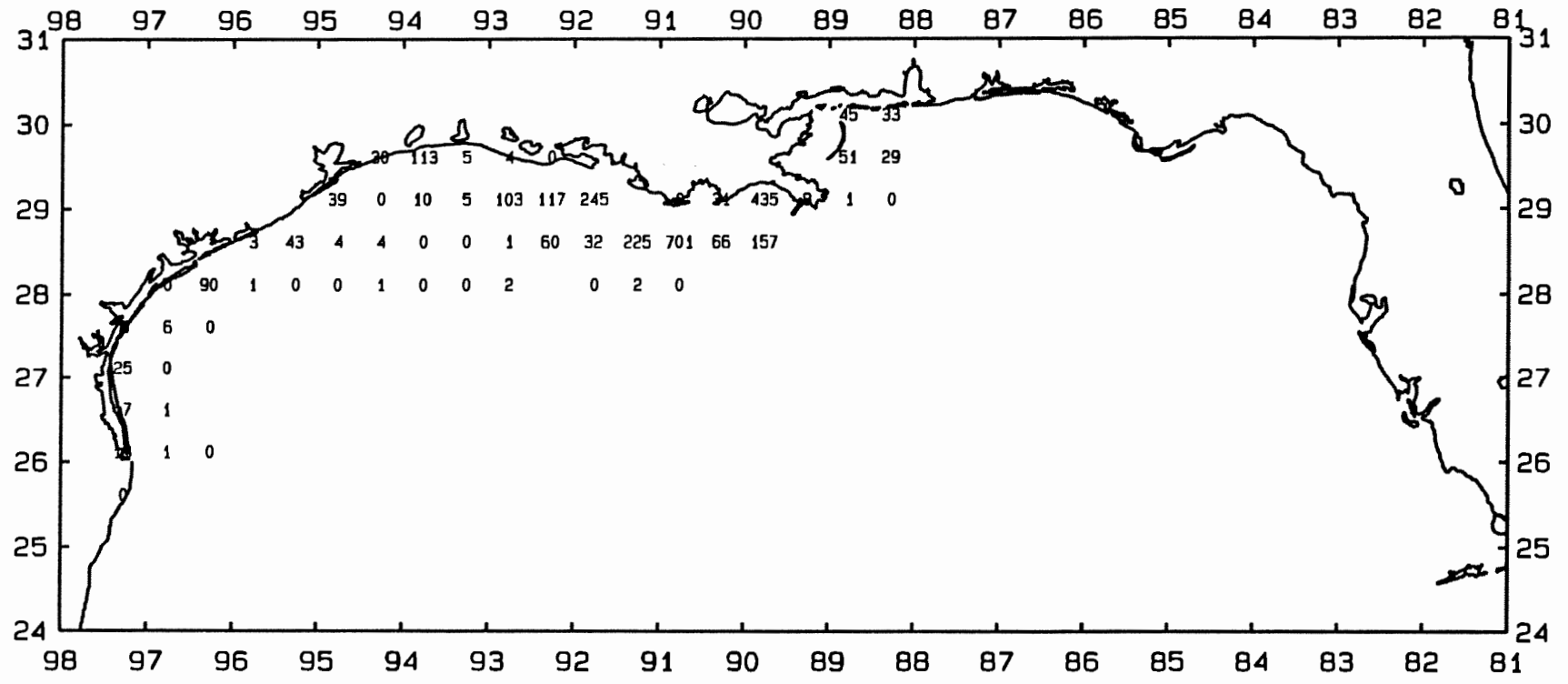


Figure 90. Iridescent swimming crab, *Portunus gibbesii*, number/hour for October-December 1990.

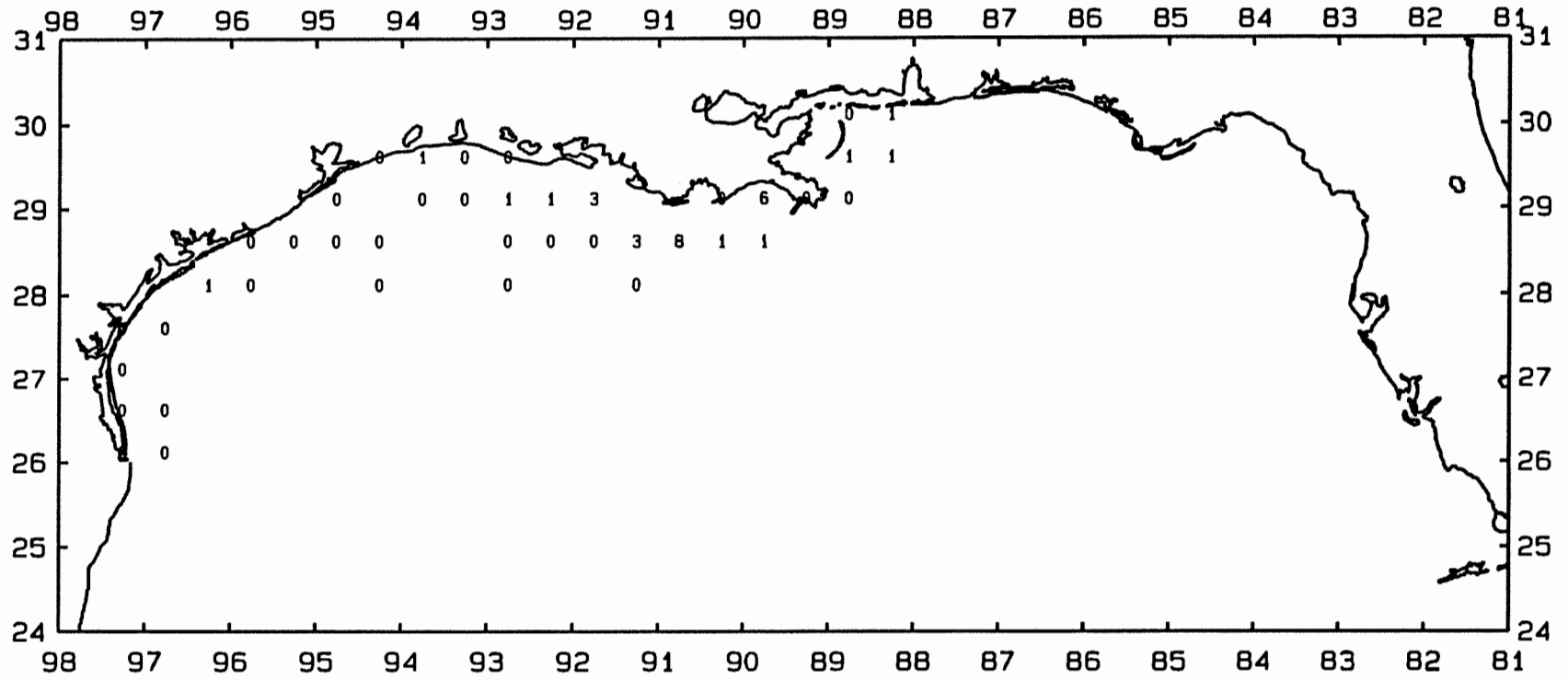


Figure 91. Irridescent swimming crab, *Portunus gibbesii*, lb/hour for October-December 1990.

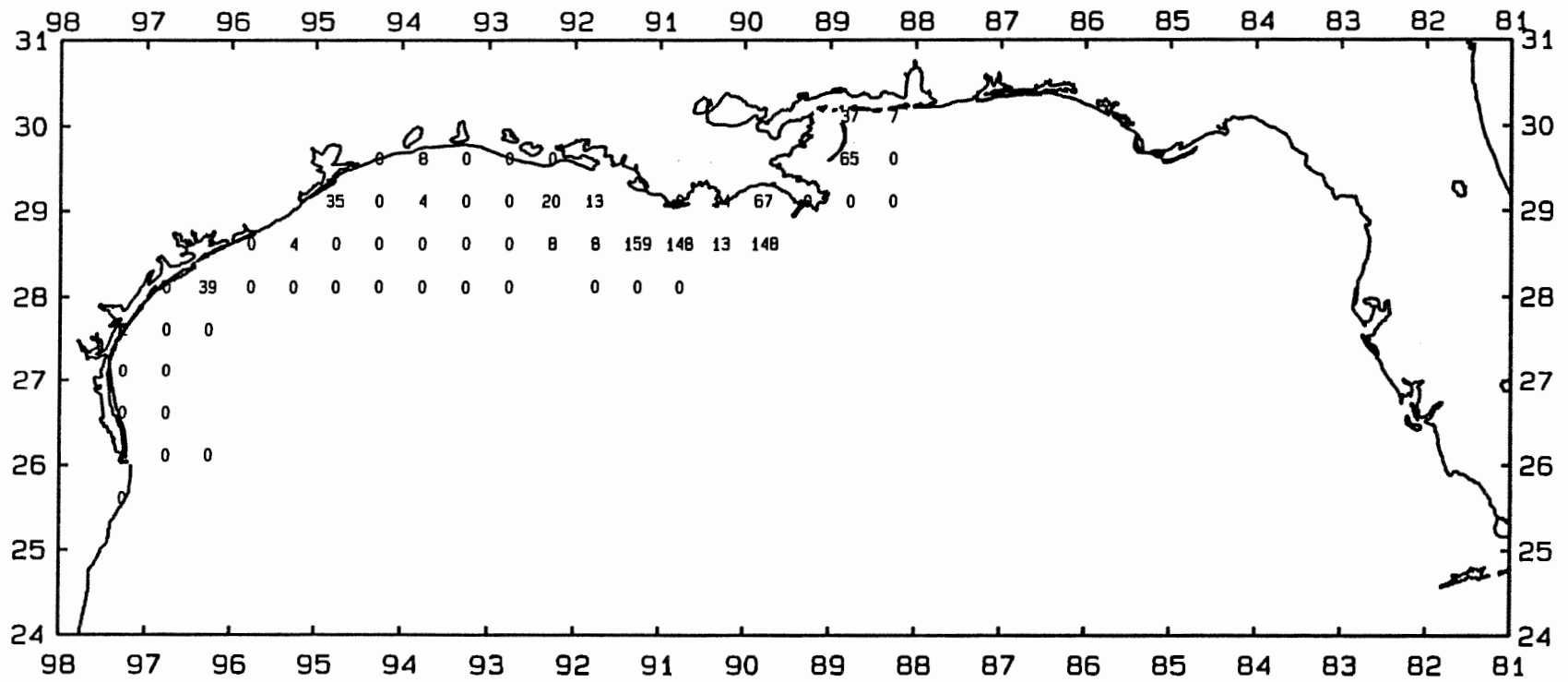


Figure 92. Roughback shrimp, *Trachypenaeus similis*, number/hour for October-December 1990.

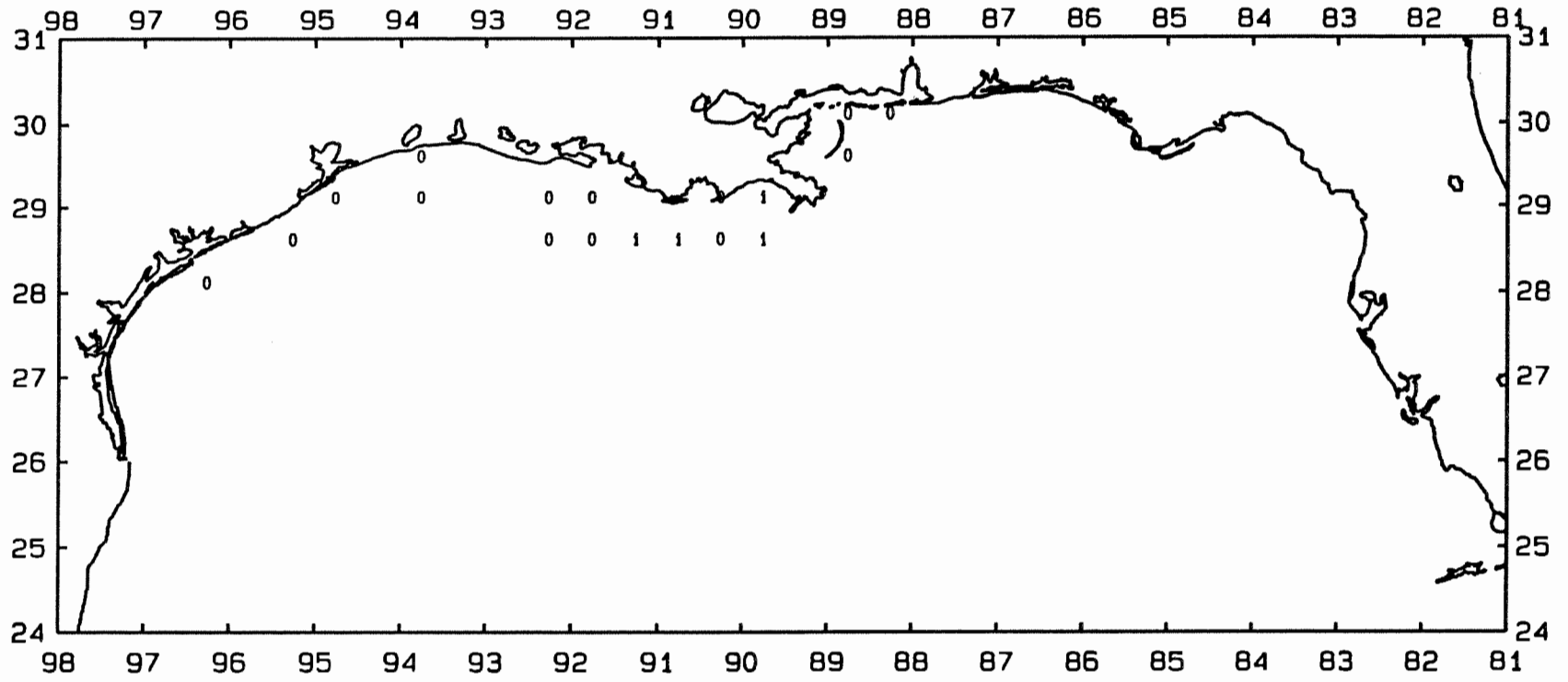


Figure 93. Roughback shrimp, *Trachypenaeus similis*, lb/hour for October-December 1990.

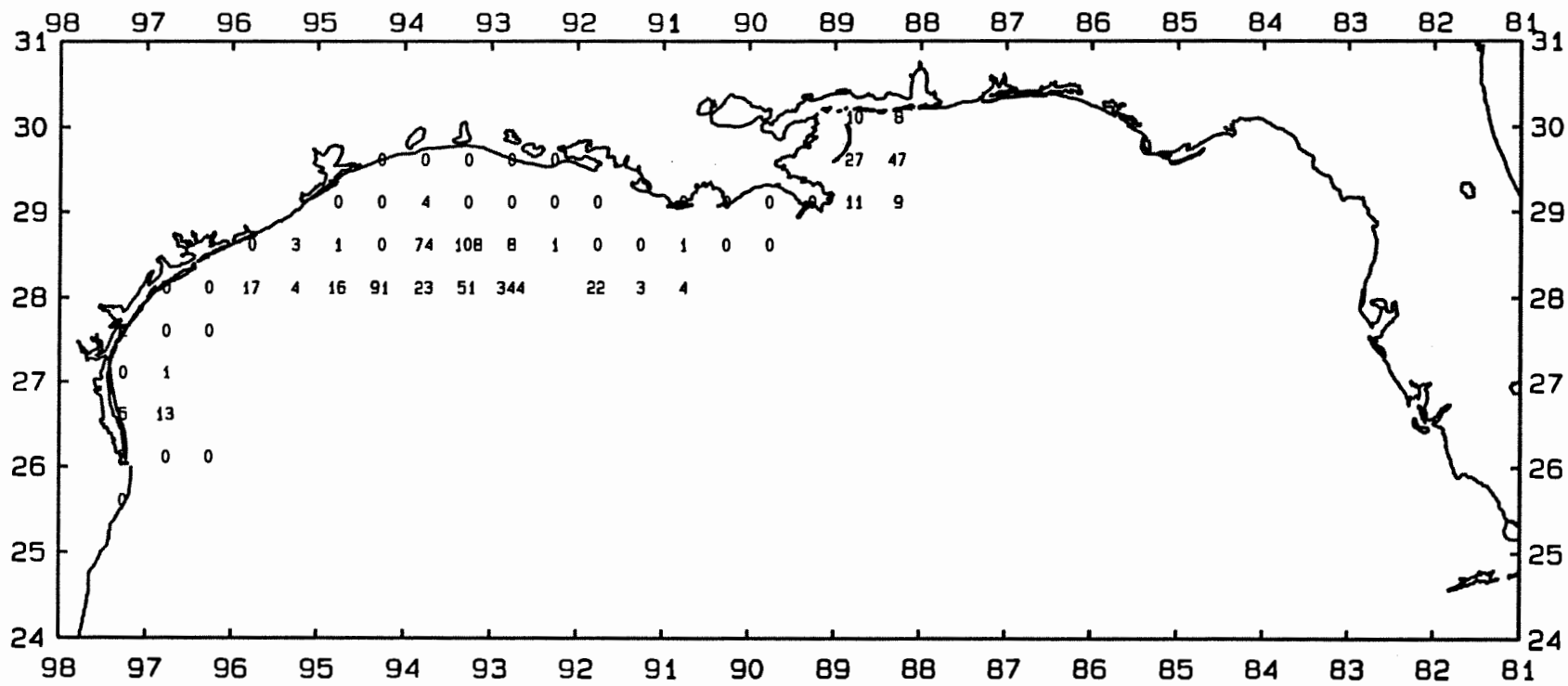


Figure 94. Brown rock shrimp, *Sicyonia brevirostris*, number/hour for October-December 1990.

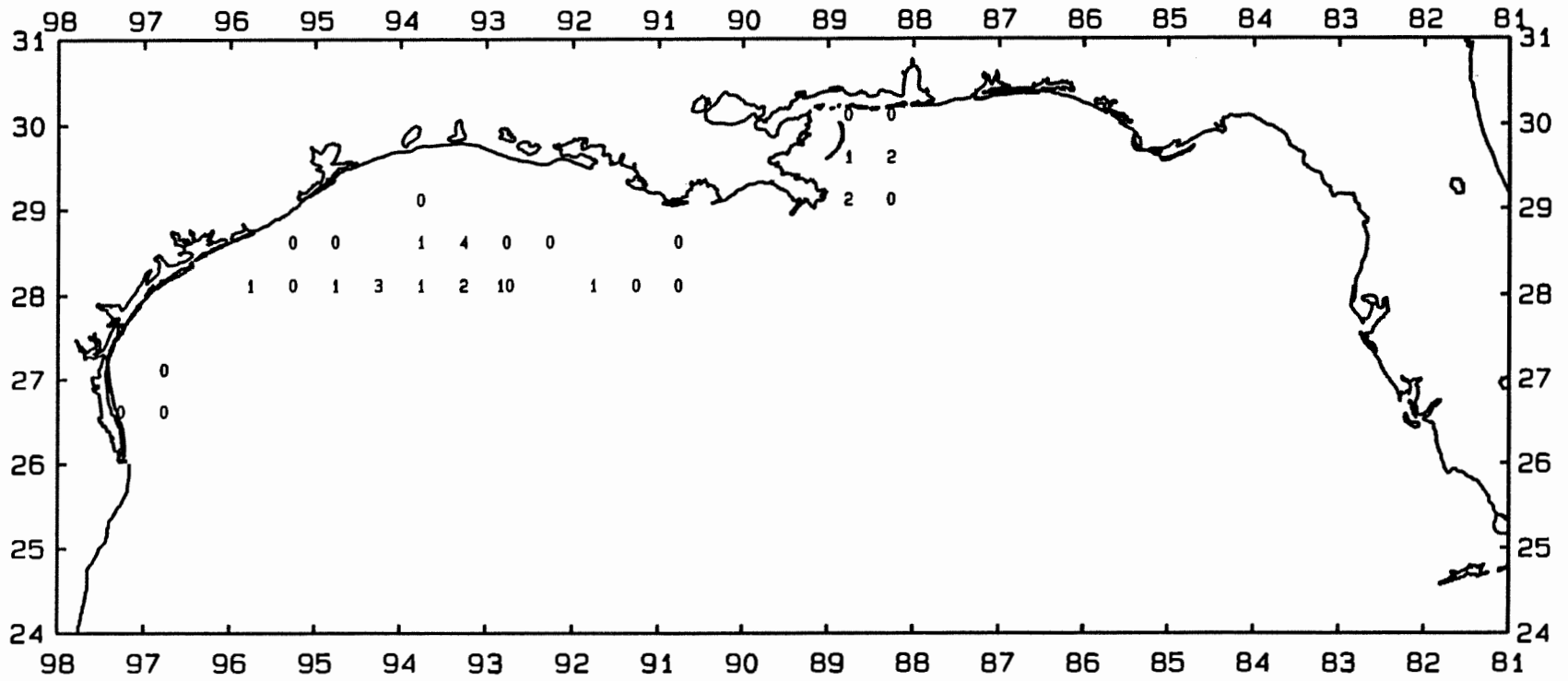


Figure 95. Brown rock shrimp, *Sicyonia brevirostris*, number/hour for October-December 1990.

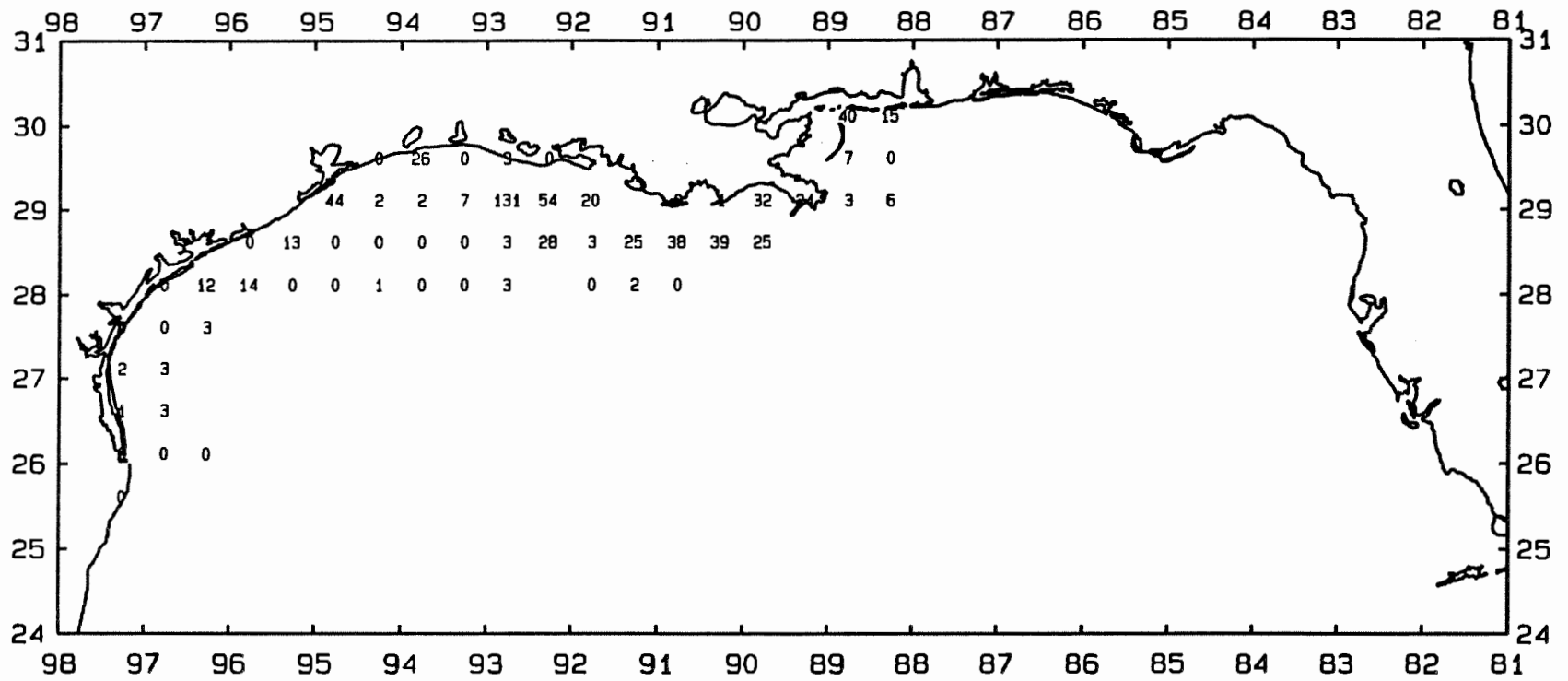


Figure 96. Mantis shrimp, *Squilla empusa*, number/hour for October-December 1990.

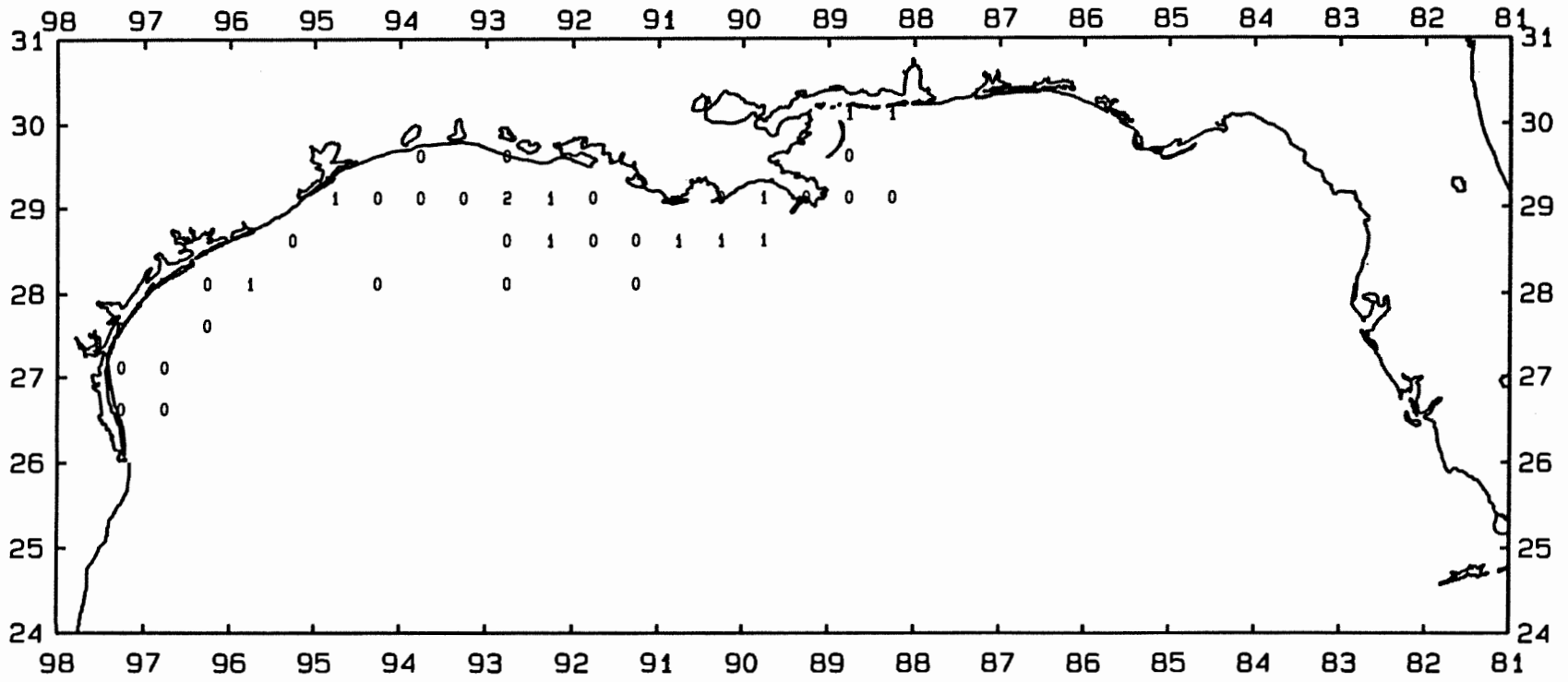


Figure 97. Mantis shrimp, *Squilla empusa*, lb/hour for October-December 1990.

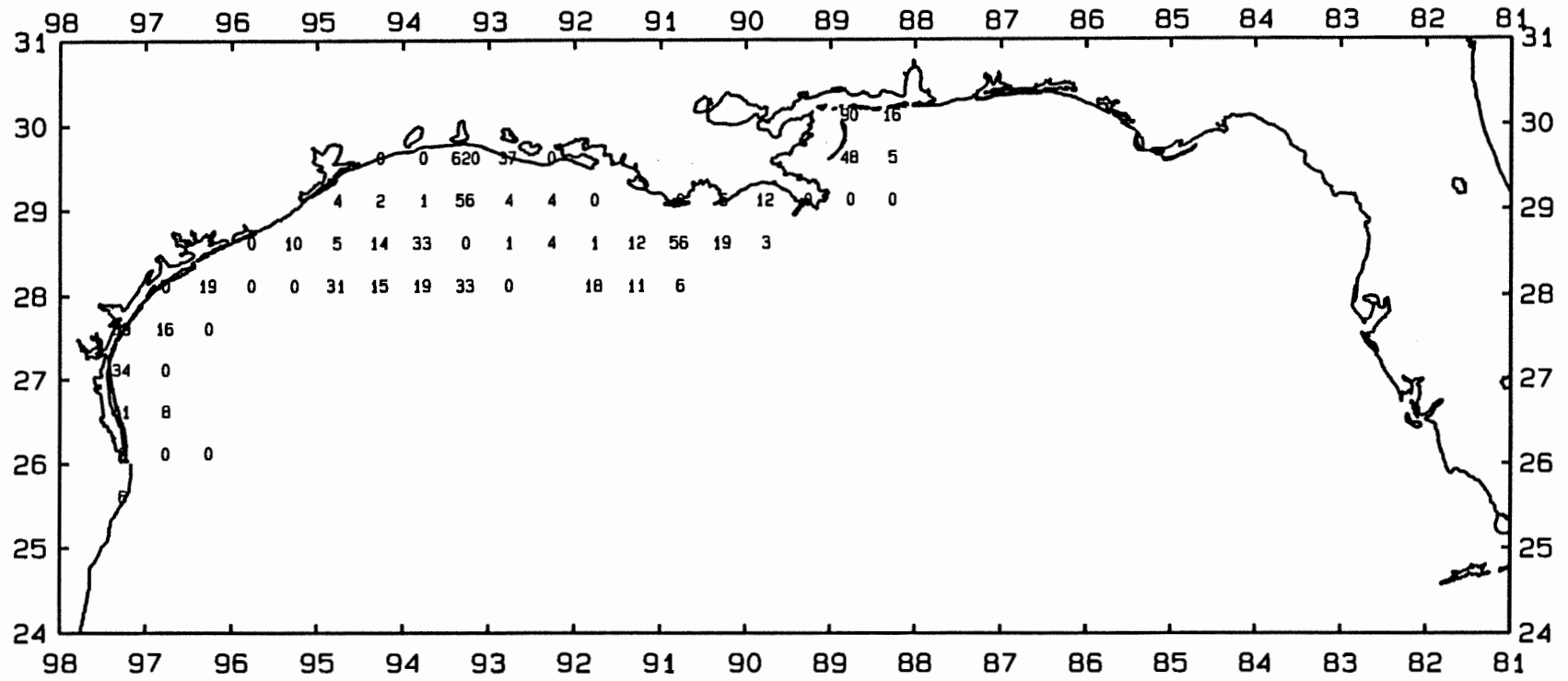


Figure 98. Longfin squid, *Loligo pealeii*, number/hour for October-December 1990.

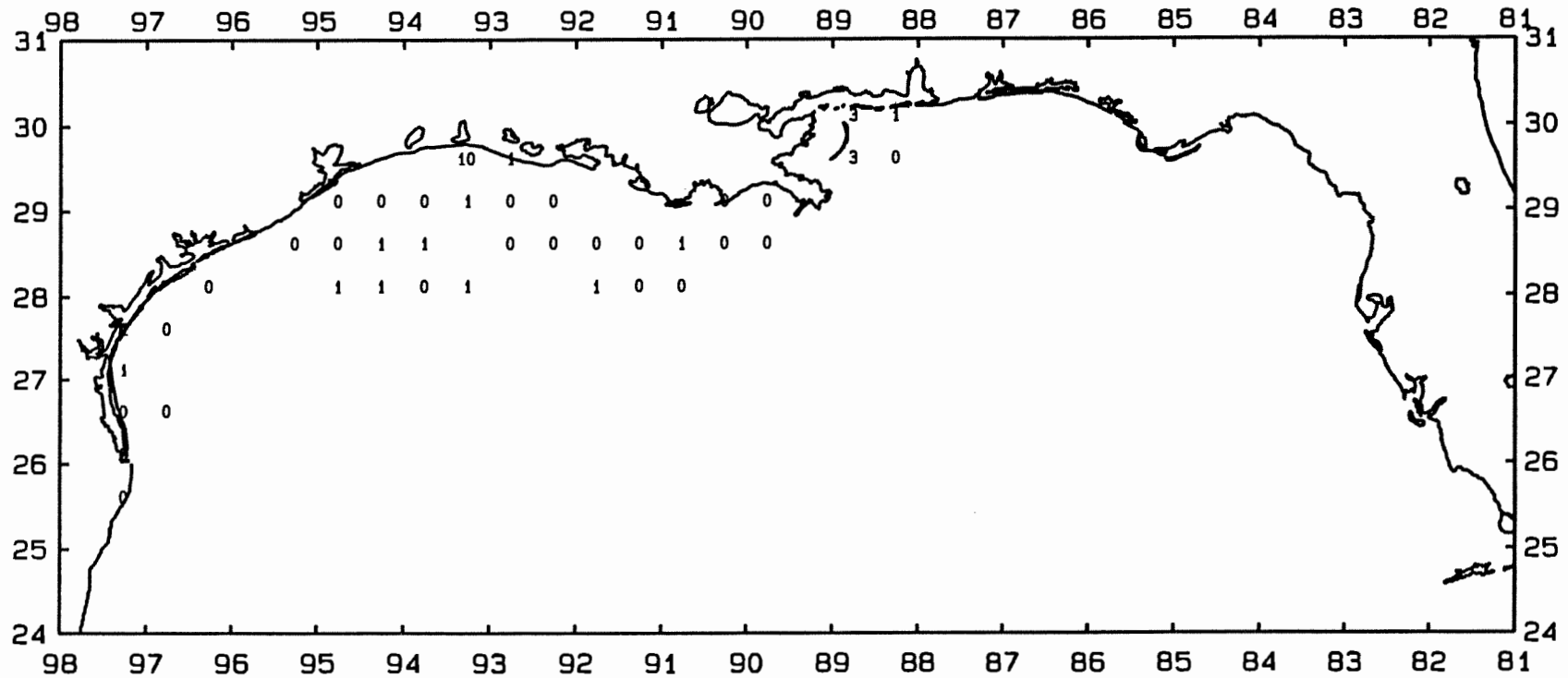


Figure 99. Longfin squid, *Loligo pealeii*, lb/hour for October-December 1990.

LITERATURE CITED

- Atlantic States Marine Fisheries Commission. 1990. SEAMAP Management Plan: 1990-1995. Washington, DC: ASMFC. 56 p.
- Center for Wetland Resources. 1980. Management plan and final environmental impact statement for the shrimp fishery of the Gulf of Mexico, United States waters. Louisiana State Univ., Baton Rouge, Louisiana. 185 p.
- Eldridge, P.J. 1988. The Southeast Area Monitoring and Assessment Program (SEAMAP): A state-federal-university program for collection, management and dissemination of fishery-independent data and information in the southeast United States. *Mar. Fish. Rev.* 50(2): 29-39.
- Jeffrey, S.W. and G.F. Humphrey. 1975. New spectrophotometric equations for determining chlorophylls a, b, c₁ and c₂ in higher plants, algae and natural phytoplankton. *Biochem. Physiol. Pflanz* 167: 191-194.
- Klima, E.F., J.M. Nance and S.E. Denton and F.J. Patella. 1991. Executive summary of the 1990 Texas closure. NOAA Tech. Mem., NMFS-SEFC-281.
- Kramer, D., M.J. Kalin, E.G. Stevens, J.R. Thrailkill and J.R. Zweifel. 1972. Collecting and processing data on fish eggs and larvae in the California Current region. NOAA Technical Report. NMFS Circular 370. 38 p.
- Leming, T.D. and W.E. Stuntz. 1984. Zones of coastal hypoxia revealed by satellite scanning have implications for strategic fishing. *Nature*, 310 (5973): 131-138.
- McGowan, M.F. and W.J. Richards. 1986. Distribution and abundance of bluefin tuna (*Thunnus thynnus*) larvae in the Gulf of Mexico in 1982 and 1983 with estimates of the biomass and population size of the spawning stock from 1977, 1978, and 1981-1983. International Commission for the Conservation of Atlantic Tunas. Collective Volume of Scientific Papers. 24:182-195.
- Nichols, S. 1982. Impacts of the 1981 and 1982 Texas closure on brown shrimp yields. NOAA, NMFS-SEFC. 44 p.
- Nichols, S. 1984. Impacts of the 1982 and 1983 closure of the Texas FCZ on brown shrimp yields. Report to the Gulf of Mexico Fishery Management Council.
- Nichols, S. and J.R. Poffenberger. 1987. Analysis of alternative closures for improving brown shrimp yield in the Gulf of Mexico. Report to the Gulf of Mexico Fishery Management Council.
- Posgay, J.A. and R.R. Marak. 1980. The MARMAP bongo zooplankton samplers. *J. Northw. Atl. Fish. Sci.* 1: 9-99.
- Sanders, N.J., P.A. Thompson and T. Van Devender. 1990a. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1986. Gulf States Marine Fisheries Commission. No. 20. 328 p.
- Sanders, N.J., P.A. Thompson and D.M. Donaldson. 1990b. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1987. Gulf States Marine Fisheries Commission. No. 21. 337 p.
- Sanders, N.J., D. Donaldson and P.A. Thompson. 1991a. SEAMAP environmental and biological atlas of the Gulf of Mexico 1988. Gulf States Marine Fisheries Commission. No. 23. 320 p.
- Sanders, N.J., D. Donaldson and P.A. Thompson. 1991b. SEAMAP environmental and biological atlas of the Gulf of Mexico 1989. Gulf States Marine Fisheries Commission. No. 25. 318 p.
- Sherman, K., R. Lasker, W. Richards and A.W. Kendall, Jr. 1983. Ichthyoplankton and fish recruitment studies in large marine ecosystems. *Mar. Fish. Rev.* 45 (10, 11, 12): 1-25.
- Smith, P.E. and S.L. Richardson, eds. 1977. Standard techniques for pelagic fish egg and larva surveys. FAO Fish. Tech. Paper 175. 100 p.
- Southeast Area Monitoring and Assessment Program (SEAMAP) Strategic Plan. 1981. Report to the Gulf States Marine Fisheries Commission. 50 p.
- Strickland, J.D.H. and T.R. Parsons. 1972. A practical handbook of seawater analysis. Ottawa: Fish. Res. Bd. Can. 310 p.
- Stuntz, W.E., C.E. Bryan, K. Savastano, R.S. Waller and P.A. Thompson. 1985. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1982. Gulf States Marine Fisheries Commission. 145 p.

LITERATURE CITED

- Thompson, P.A. and N. Bane. 1986a. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1983. Gulf States Marine Fisheries Commission. No. 13. 179 p.
- Thompson, P.A. and N. Bane. 1986b. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1984. Gulf States Marine Fisheries Commission. No. 15. 171 p.
- Thompson, P.A., T. Van Devender and N.J. Sanders, Jr. 1988. SEAMAP environmental and biological atlas of the Gulf of Mexico, 1985. Gulf States Marine Fisheries Commission. No. 17. 338 p.

