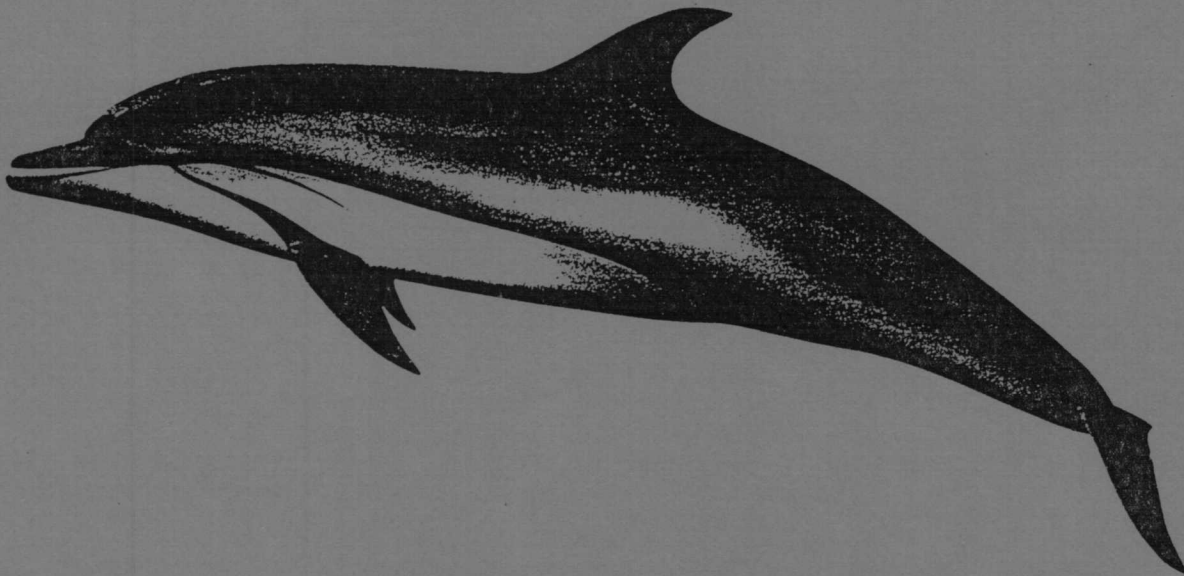


MARINE MAMMALS AND BIRDS IN THE
NORTHWESTERN GULF OF MEXICO:
GULFCET CRUISES 01-07
APRIL 1992-DECEMBER 1993



Technical Report 94-04-T of the Department of Marine Biology
Texas A&M University at Galveston, Texas

Prepared for the Mineral Management Service by the Data
Management Office of the GulfCet project, under contract number
14-35-0001-30619

April 1994

G.S. Fargion,
Technical Editor

R.W. Davis,
Program Manager, GulfCet

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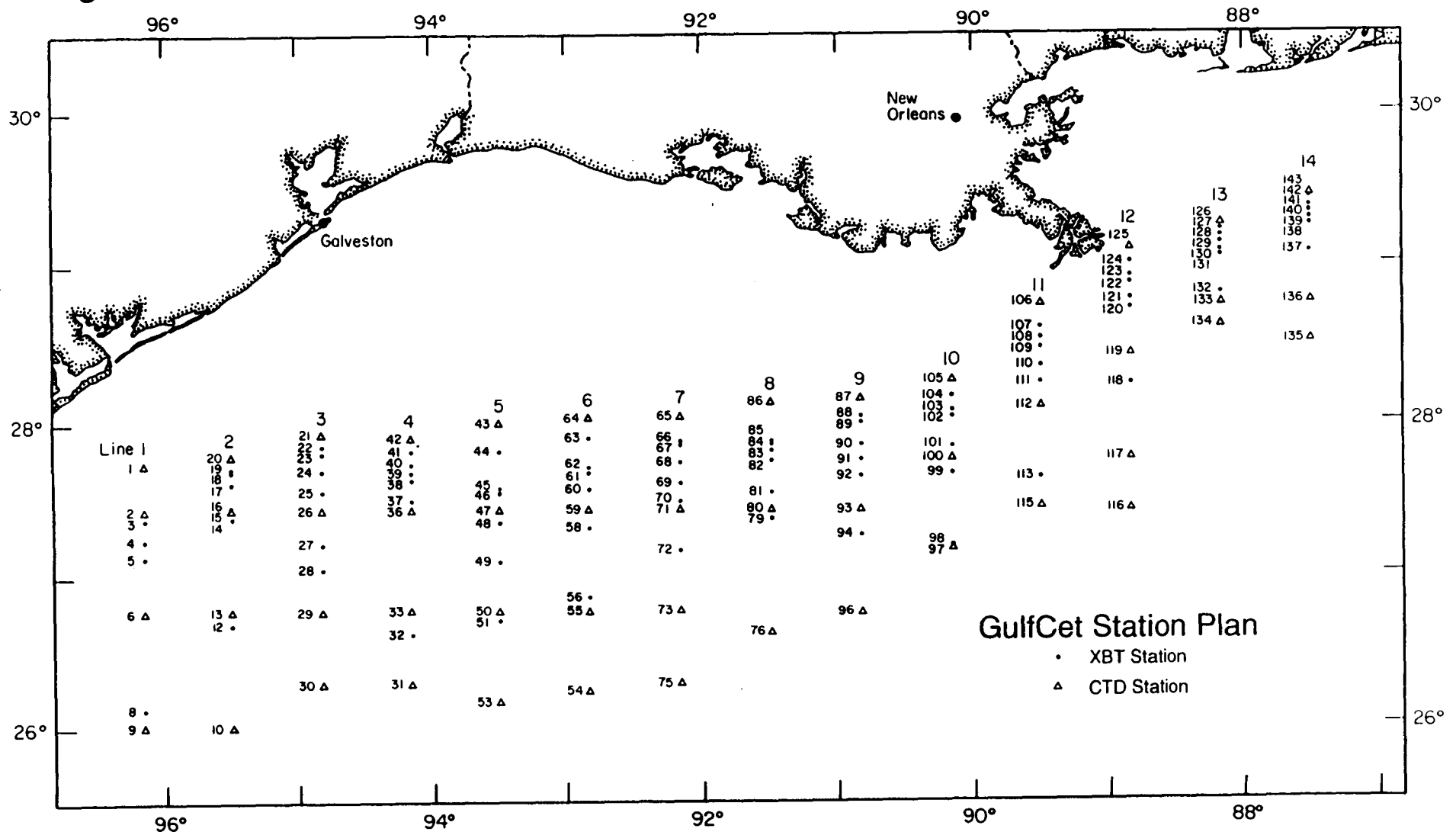
Recommended Format for Citation:

Fargion, G.S., and R.W. Davis, eds. 1994. *Marine Mammals and Birds in the Northwestern Gulf of Mexico: GulfCet Cruises 01-07*. Technical Report 94-04-T. Galveston, Texas: Texas A&M University at Galveston.

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Figure 1. GulfCet Station Plan: XBT and CTD Stations



INTRODUCTION

The data presented in this report were collected to satisfy, in part, the objectives of Mineral Management Service (MMS) contract number 14-35-0001-30619, "Distribution and Abundance of Marine Mammals in the North-Central and Western Gulf of Mexico". This program includes aerial, acoustic, visual, hydrographic, and remote sensing surveys, as well as a sperm whale tagging and tracking program. The program involves the combined efforts of Texas A&M University at Galveston (TAMUG), Texas Institute of Oceanography (TIO), Texas A&M University at College Station (TAMU), the National Marine Fisheries Service (NMFS) at the Southeast Fisheries Science Center, and Oregon State University's Hatfield Marine Science Center. This MMS program, named GulfCet, is designed to ascertain the distribution, abundance, seasonality, and movement patterns of cetaceans along the continental slope from the Florida-Alabama border to the Texas-Mexico border between the 100 and 2000 meter isobaths.

The GulfCet program participated in a total of seven TAMU sponsored cruises, one cruise per season, for two of the three years of the contract period. Figure 1 details the cruise plan followed for all of the TAMU cruises. Following a cruise plan evaluation, track lines one and two were eventually dropped from the station plan. Marine mammal data were collected on all seven GulfCet cruises, while bird data were recorded from cruises three through six only. The first GulfCet cruise was aboard the University of Texas at Austin's ship, R/V *Longhorn*, and the remaining six cruises were aboard the Louisiana Universities Marine Consortium (LUMCON) ship, R/V *Pelican*.

Requests for data should be sent to the Minerals Management Service at the Gulf of Mexico Regional OCS Office in New Orleans, or via Dr. Giulietta Fargion, GulfCet DMO, TAMUG, Galveston, Texas, (OMNET/ G. Fargion). The data in this report are available in digital form.

STANDARD PROCEDURES

This report presents shipboard marine mammal observation data collected during seven cruises. Shipboard bird sighting data were collected only during four of these cruises. Approximately 29 species of cetaceans have previously been located in the Gulf of Mexico (GOM) (Schmidly, 1981). Some of these species are historically rare, or have become so as a result of human activities. The GOM is an area of intense human activity, especially in regard to ship traffic and exploration by the petroleum industry. The GOM is an important flyway for migratory birds, and as such, the season during which the bird observations took place will have an impact on which land birds were sighted. The term 'sighting' is used to refer to the number of times animals were observed, with no reference given to the actual number of animals seen at each sighting opportunity.

Marine Mammals

Survey procedures closely followed those developed by the NMFS's Southwest Fisheries Science Center in 1991 for their shipboard based observers. Visual sighting data were collected by two teams of three observers each during daylight hours (sunrise to sunset), weather permitting (i.e., no rain, and <5 Beaufort sea state), and at a ship speed of approximately seven knots/hour. Data collected under these conditions and while the ship was within the study area were considered to be "on-effort." During daylight hours when survey effort was suspended due to poor weather, at least one observer was stationed on the bridge to record "off effort" sightings which could be used for determining species distribution and estimating herd size. Off-effort observations were also those made anytime the vessel stopped (e.g., at a CTD station), or deviated from the track line (to close on an animal).

Each team had at least two members experienced in shipboard marine mammal observation and identification techniques. Two observers searched for marine mammals using high-power (25 x 150), large format "Bigeye" Fujinon binoculars mounted on port and starboard pedestals on the ship's flying bridge. The third observer recorded data and maintained a search of the area near the track line with 7x handheld binoculars. This ensured that sightings close to the ship would not be missed.

Each primary observer searched a 100° swathe, from 90° (abeam) on their side of the ship to 10° past the bow on the opposite side. Thus, the total primary search path was 180° with a 20° overlap centered at the bow. Observers rotated positions every 30 minutes to avoid fatigue. The team personnel rotated every two hours.

Sighting data were recorded on standardized forms developed by the NMFS. Information collected included: species identification, herd-size, perpendicular sighting distance, and any data on environmental conditions (e.g., Beaufort sea state, sun position, etc.) which could affect the observers' ability to sight animals. When animals were sighted, the high, low, and best estimates of school size were made. All observers were allowed to discuss species identification and animal behavior, and a consensus was entered on the standard forms. Ancillary data included behavior and associated animals. Species identifications were validated when possible by photographing the school at close range using 35 mm and video cameras.

Birds

A bird observer was on board for four of seven GulfCet cruises, cruises 03-06. The bird observer collected data using the strip transect method, and data were collected continuously during daylight hours. Data include on-effort as well as off-effort sightings. On-effort observations were defined in the same manner as for the marine mammal data collection. Bird observations were usually possible even when marine mammal observations had been discontinued (up to Beaufort 6, in light rain and fog), so on-effort times will not necessarily coincide. Track line data were recorded at the beginning and end of each line, and included information on position, weather, sea state, and other ambient conditions.

The methods described by Tasker et al. (1984) and Ballance (1992) were used as a guide for the 300 m strip transect protocol that was followed for bird observations on the GulfCet cruises. When on-effort, the observer used glare and salt spray on the windows of the wheel house as indicators of which side of the ship was best to use for the 300 m transect strip. Sighting effort was then concentrated on the area from the bow to the beam of the ship out to a distance of 300 m. All birds seen within 300 m of the ship in this 90° arc were identified and recorded. Birds observed outside this area were also recorded, but this information will be used for distribution and not density calculations. With the exception of cruise 03, the distance from the bird to the observer was estimated using the Heineman range finder (Heineman 1981) with the modification suggested by Ballance (1992). On cruise 03 the distance was visually estimated. Sighting data included time, latitude, longitude, species, number of individuals, distance of bird to ship, behavior of bird, association with other birds, age and sex of the bird (if this data could be determined), and other comments of the observer concerning the sighting.

TABULATED DATA

The species and quantitative data are listed by cruise. *Surfer*TM software was used to plot the effort maps as well as all the distribution maps. The latitude and longitudes were extracted from LUMCON's continuously recording shipboard system when not noted on the field data sheets. The maps of effort show the amount of time spent on-effort plotted over the GulfCet cruise transect. No type of data corrections were made.

Marine Mammals

The 'best' numerical estimate was used to plot all marine mammal data. The summary section presents a map of all marine mammal sightings encountered over the seven cruises. Also included in this section are maps showing the total number of sightings for four of the most common species: *Physeter macrocephalus* (Sperm whale), *Tursiops truncatus* (Atlantic bottlenose dolphin), *Stenella attenuata* (Pantropical spotted dolphin), and *Stenella frontalis* (Atlantic spotted dolphin). These animals show distinct water depth preferences, as is clearly shown in these figures. The scientific and common names of all the marine mammals observed on the GulfCet cruises are found in the Appendix.

Birds

A distribution map is presented for each cruise of all the seabird and non-seabird sightings. The distributions of individual bird species as well as groups of several bird species are shown. A listing of the species found in each of these bird groups is found in the Appendix. A reference list of the scientific and common names for all the bird species encountered may also be found in the Appendix. The total number of bird sightings seen during the four cruises is shown in the summary section.

LITERATURE CITED

- Ballance, L. 1992. *Instruction manual: 1992 eastern tropical Pacific seabird survey*. La Jolla, California: Southwest Fisheries Center, National Marine Fisheries Service.
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- Surfer™, version 4.*, computer software. Golden, Colorado: Golden Software, Inc.
- Tasker, M. L., P. H. Jones, T. Dixon, and B. F. Blake. 1984. *Counting seabirds at sea from ships: a review of methods employed and a suggestion for a standardized approach*. Auk 101:567-577.

PERSONNEL

GulfCet Cruise 01 Personnel

Ship's Captain:

Donald Gibson, R/V *Longhorn*

Chief Scientist:

- 1) Bernd Würsig
- 2) Randall Davis
- 3) Jeff Norris

TAMUG, GulfCet PI, Deputy Program Manager, Professor
TAMUG, GulfCet Program Manager, TAMUG Dept. Head
TAMU, Research Associate

Marine Mammal Observers:

Vic Cockcroft
Tom Jefferson
Randy Clark
Spencer Lynn
Anna Forest
Kathleen Dudzinski
Linda May
Claire Graham
Dagmar Fertl

Visiting Scientist
TAMU, Graduate Student, Team Leader
TAMU, Graduate Student
TAMUG, Marine Technician
TAMUG, Graduate Student
TAMU, Graduate Student
TAMU, Graduate Student
Intern
TAMU, Graduate Student

GulfCet Cruise 02 Personnel

Ship's Captain:

Chris Riffe, R/V *Pelican*

Chief Scientist:

Robert Benson

TAMU, GulfCet PI, Professor

Marine Mammal Observers:

Tom Jefferson
Dagmar Fertl
Shane Kanatous
Bill Stevens
Lisa De Los Santos
Adam Grundt

TAMU, Graduate Student, Team Leader
TAMU, Graduate Student
TAMU, Graduate Student
TAMUG, Marine Technician
TAMUG, Student
TAMUG, Intern

GulfCet Cruise 03 Personnel

Ship's Captain:

Chris Riffe, R/V *Pelican*

Chief Scientist:

Jeff Norris TAMU, Research Associate

Marine Mammal Observers:

Tom Jefferson TAMU, Graduate Student, Team Leader
David Weller TAMU, Graduate Student
Tod Tenbrick TAMU, Graduate Student
Bill Stevens TAMUG, Marine Technician
Lisa De Los Santos TAMUG, Student
Scott Benson NMFS Volunteer

Bird Observer:

Ronnie Carroll Volunteer

GulfCet Cruise 04 Personnel

Ship's Captain:

Chris Riffe, R/V *Pelican*

Chief Scientist:

Giulietta Fargion TAMUG, GulfCet PI, Research Associate Specialist

Marine Mammal Observers:

Tom Jefferson TAMU, Graduate Student, Team Leader
Toni Frohof TAMU, Graduate Student
Bill Stevens TAMUG, Marine Technician
Stefan Bräger Volunteer
Spencer Lynn TAMU, Graduate Student
David Weller TAMU, Graduate Student

Bird Observer:

Dwight Peake Volunteer, M.D.

GulfCet Cruise 05 Personnel

Ship's Captain:

Chris Riffe, R/V *Pelican*

Chief Scientist:

Jeff Norris TAMU, Research Associate

Marine Mammal Observers:

Tom Jefferson	TAMU, Graduate Student, Team Leader
Laura Sharp	Intern
Brian Wilson	TAMUG, Student
David Weller	TAMU, Graduate Student
Andy Schiro	Volunteer
Bill Stevens	TAMUG, Marine Technician

Bird Observer:

Ronnie Carroll	Volunteer
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GulfCet Cruise 06 Personnel

Ship's Captain:

Chris Riffe, R/V *Pelican*

Chief Scientist:

Bernd Würsig	TAMUG, Professor, Deputy Program Manager, PI
--------------	--

Marine Mammal Observers:

Tom Jefferson	TAMU, Graduate Student, Team Leader
Stefan Bräger	Volunteer
Spencer Lynn	TAMU, Graduate Student
David Weller	TAMU, Graduate Student
Lisa de los Santos	TAMUG, Student
Luis Montaña	Volunteer

Bird Observer:

Dwight Peake	Volunteer, M.D.
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GulfCet Cruise 07 Personnel

Ship's Captain:

Chris Riffe, R/V *Pelican*

Chief Scientist:

Jeff Norris	TAMU, Research Associate
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Marine Mammal Observers:

Tom Jefferson	TAMU, Graduate Student, Team Leader
David Weller	TAMU, Graduate Student
Bill Stevens	Volunteer
Andy Schiro	Volunteer

Kathleen Dudzinski
Natalie Clauss

TAMU, Graduate Student
TAMU, Student

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Ted Engelhardt
Dwight Peake

TAMUG, Programmer
TAMUG, Clerk
Volunteer, M.D.

Report Writing and Quality Assurance:

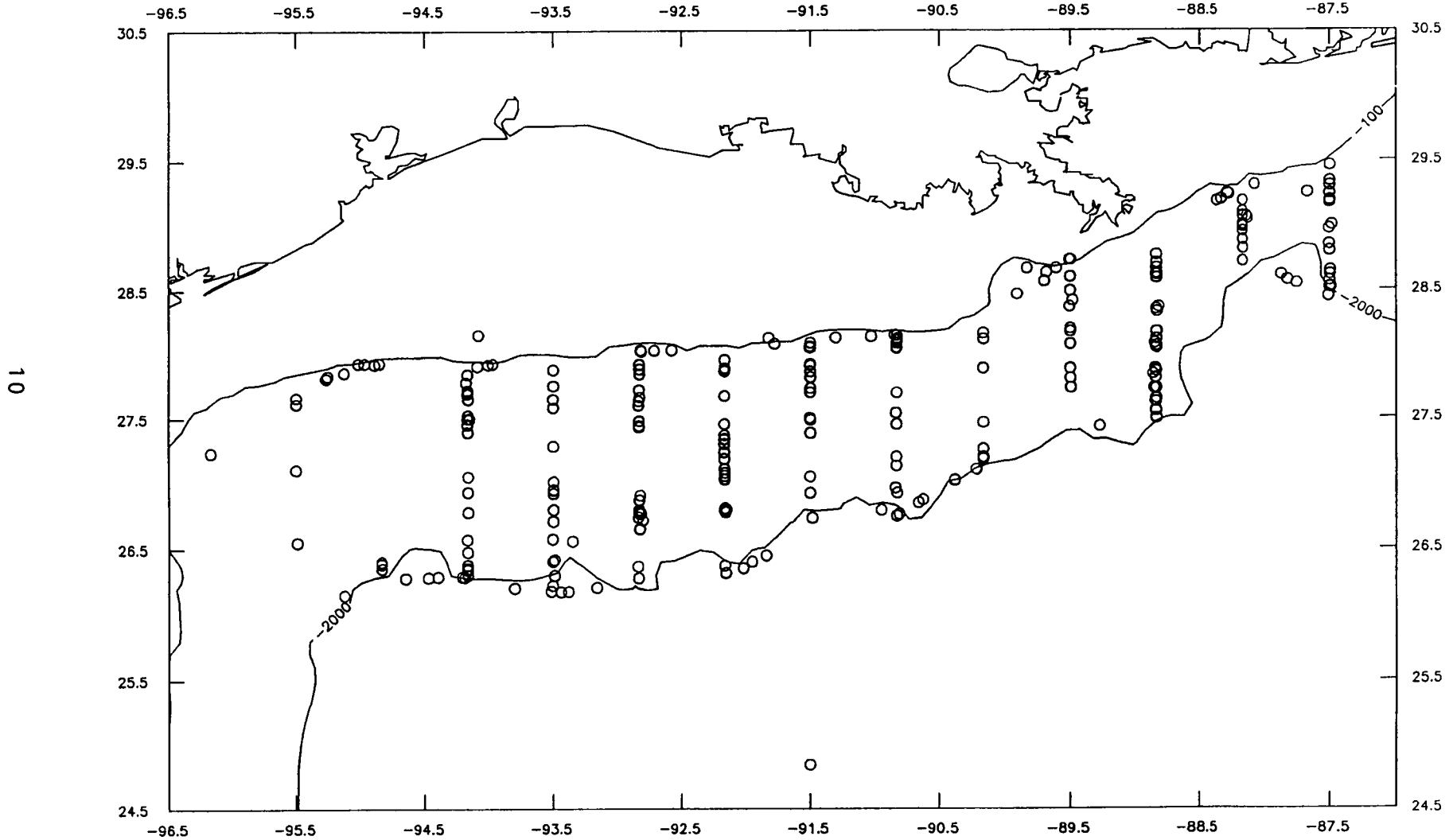
Giulietta Fargion
Dwight Peake
Cheryl Schroeder

TAMUG, GulfCet PI, Research Associate Specialist
Volunteer, M.D.
TAMUG, Student

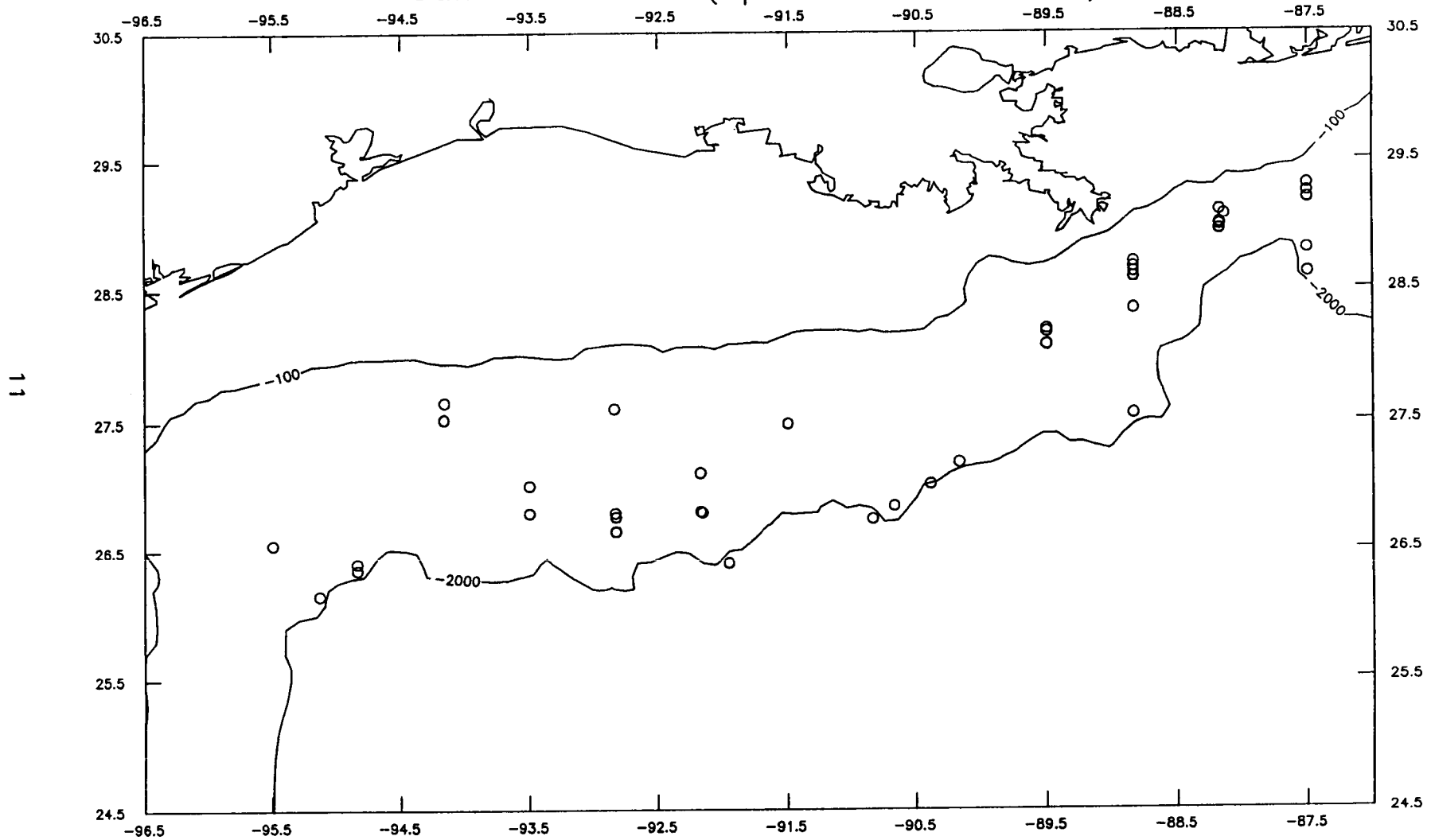
SUMMARY

Total Marine Mammal Sightings : 274

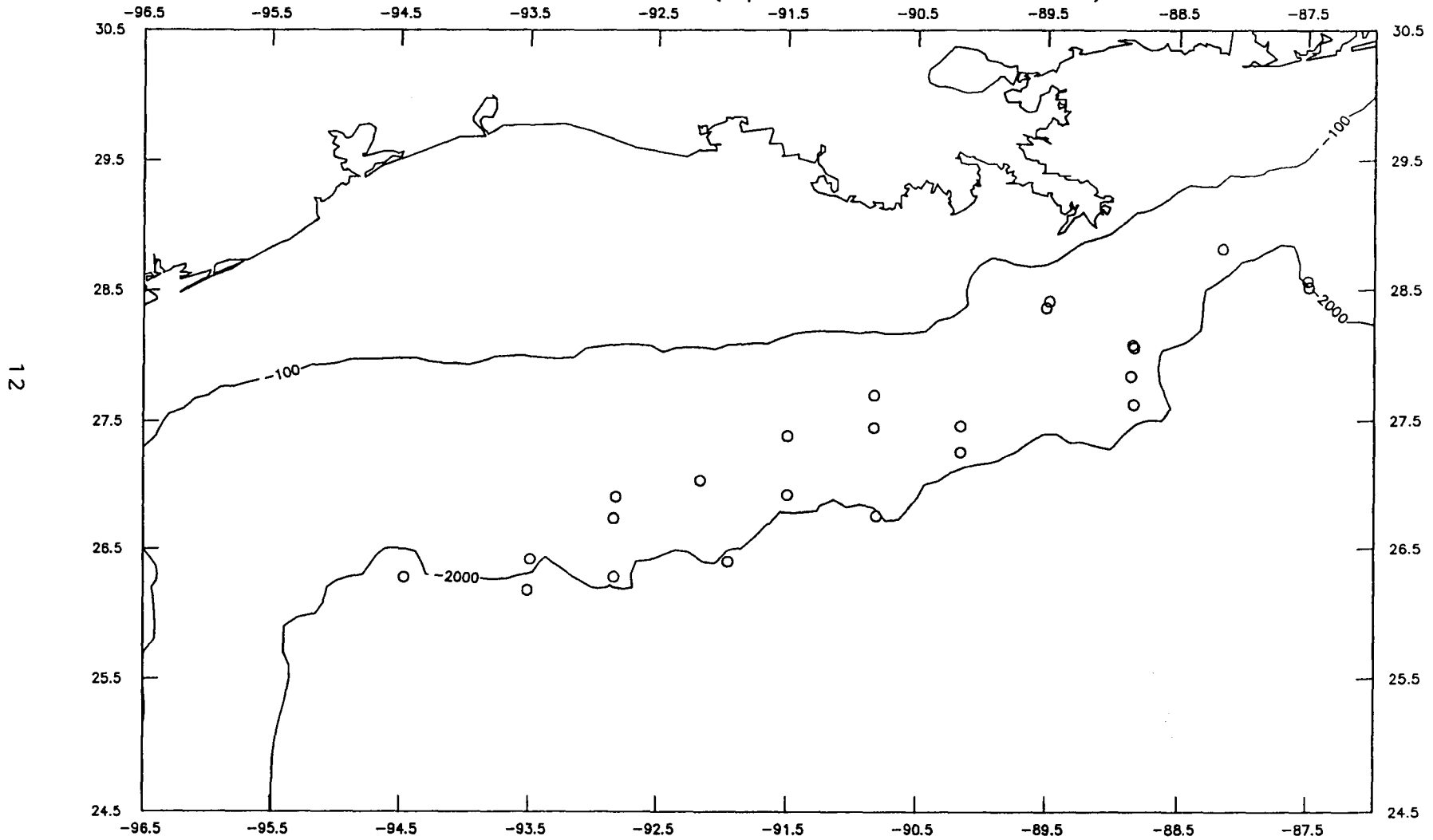
GulfCet 01-07 (Apr. 92 - Dec 93)



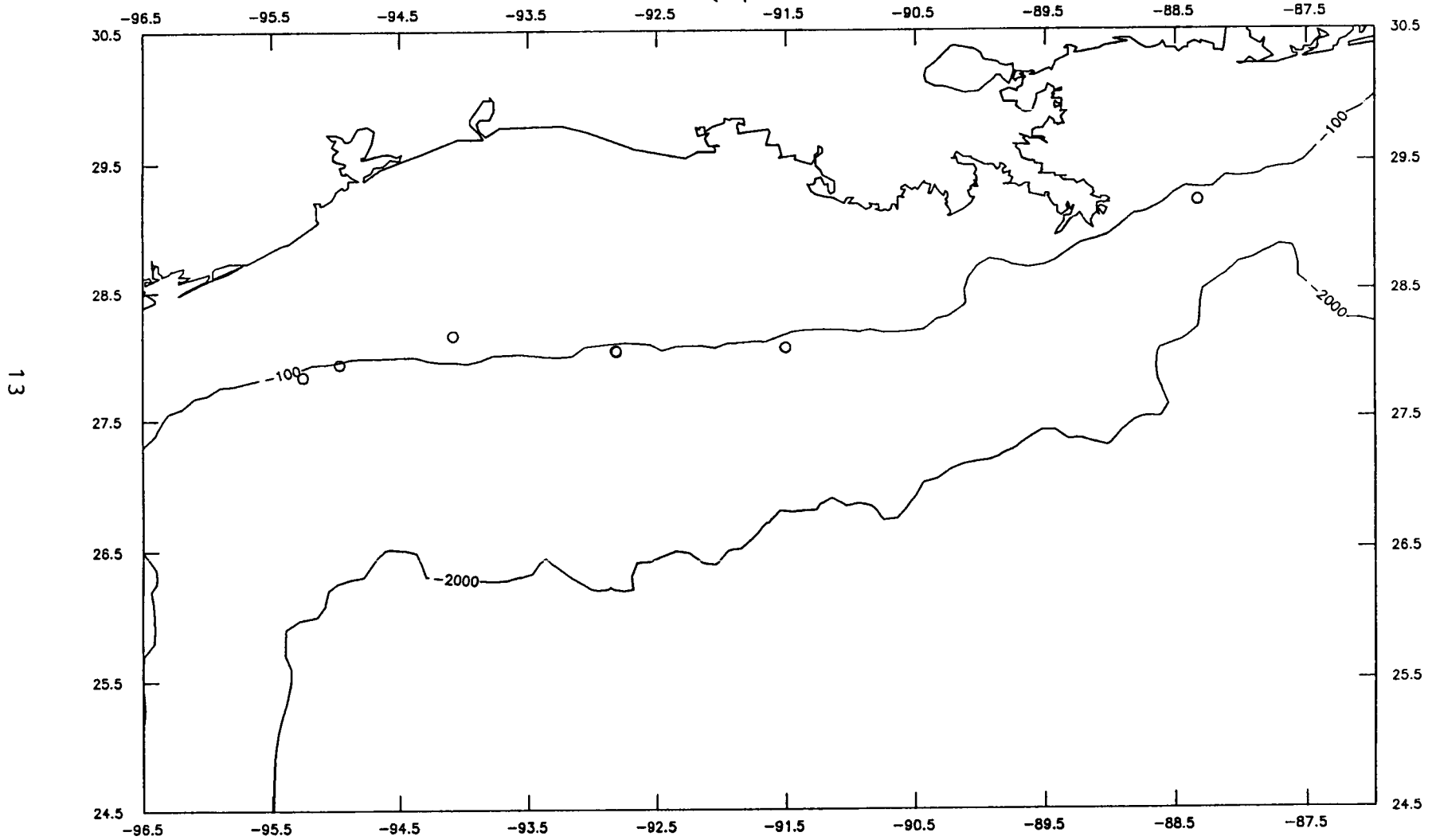
Total *P. macrocephalus* Sightings : 40
GulfCet 01-07 (Apr. 92 - Dec. 93)



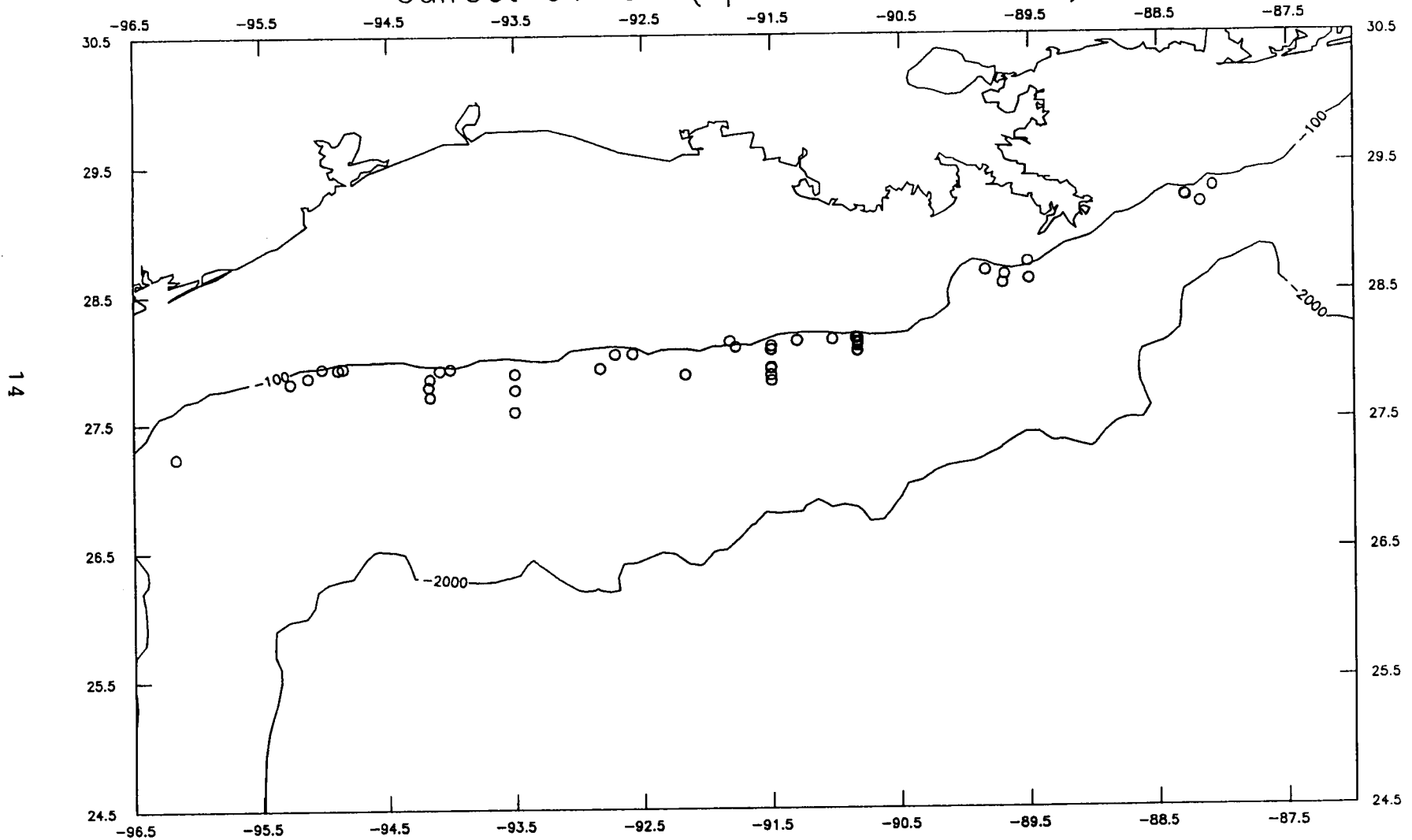
Total *S. attenuata* Sightings : 26
GulfCet 01-07 (Apr. 92 - Dec. 93)



Total *S. frontalis* Sightings : 7
GulfCet 01-07 (Apr. 92 - Dec. 93)



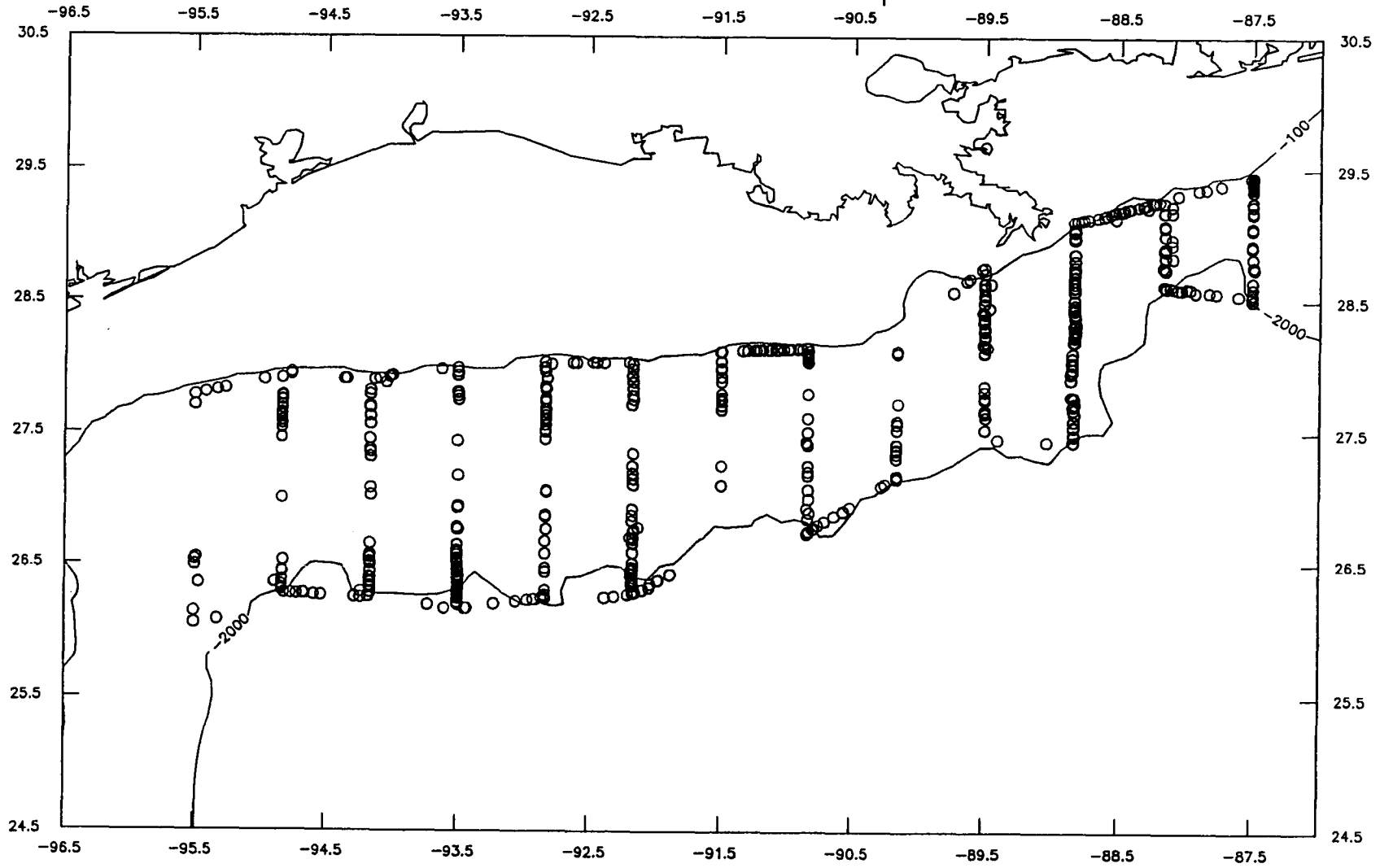
Total *T. truncatus* Sightings : 44
GulfCet 01-07 (Apr. 92 - Dec. 93)



Total Bird Sightings : 741

GulfCet 03-06 : Nov. 92 - Sept. 93

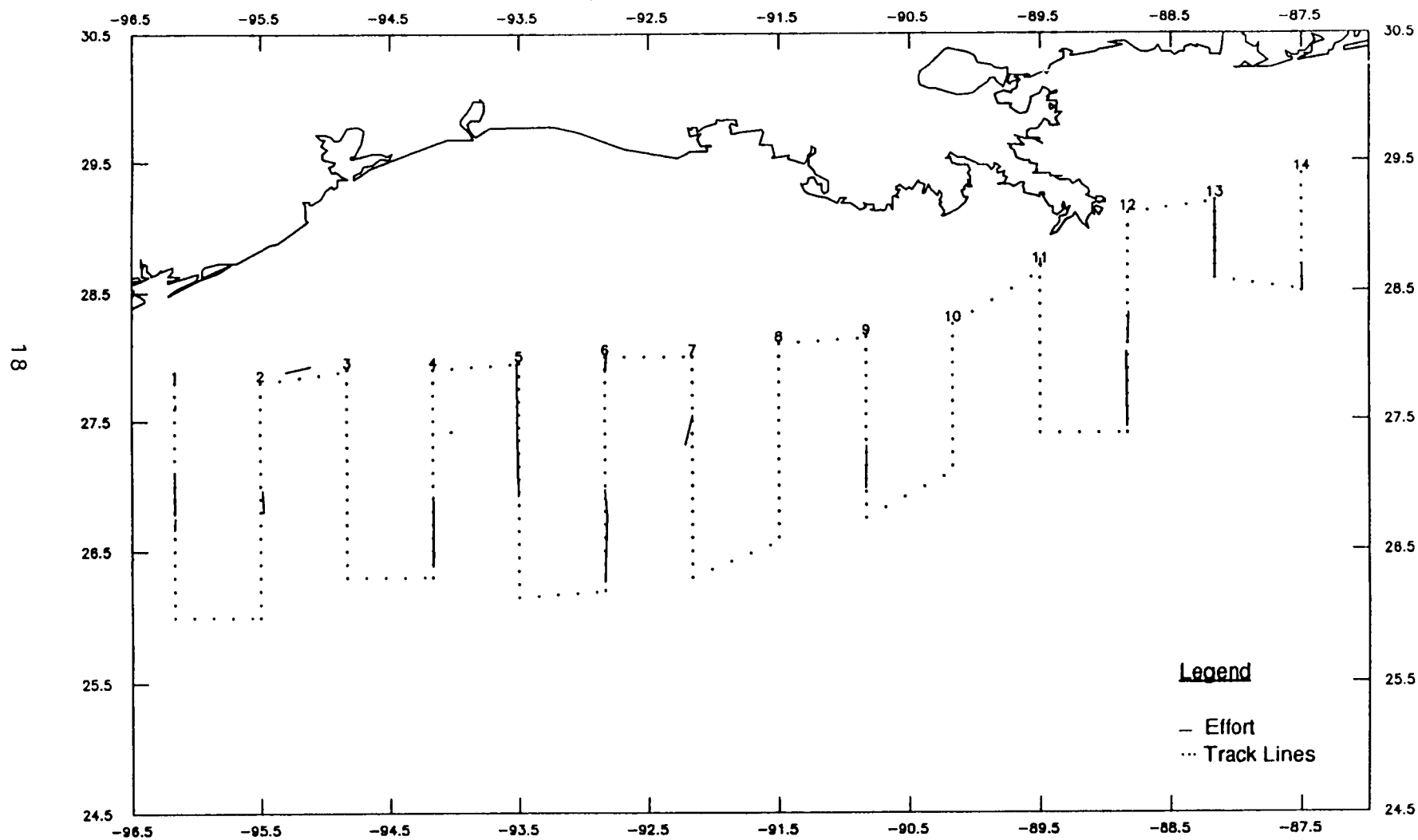
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GULFCET CRUISE 01:

- MAP OF MARINE MAMMAL VISUAL EFFORT AND TRACK LINES SURVEYED
 - MARINE MAMMAL VISUAL DATA
- DISTRIBUTION MAP OF TOTAL MARINE MAMMAL SIGHTINGS
- INDIVIDUAL MARINE MAMMAL SPECIES DISTRIBUTION MAPS

Visual Effort & Track Lines Surveyed GulfCet Cruise 01

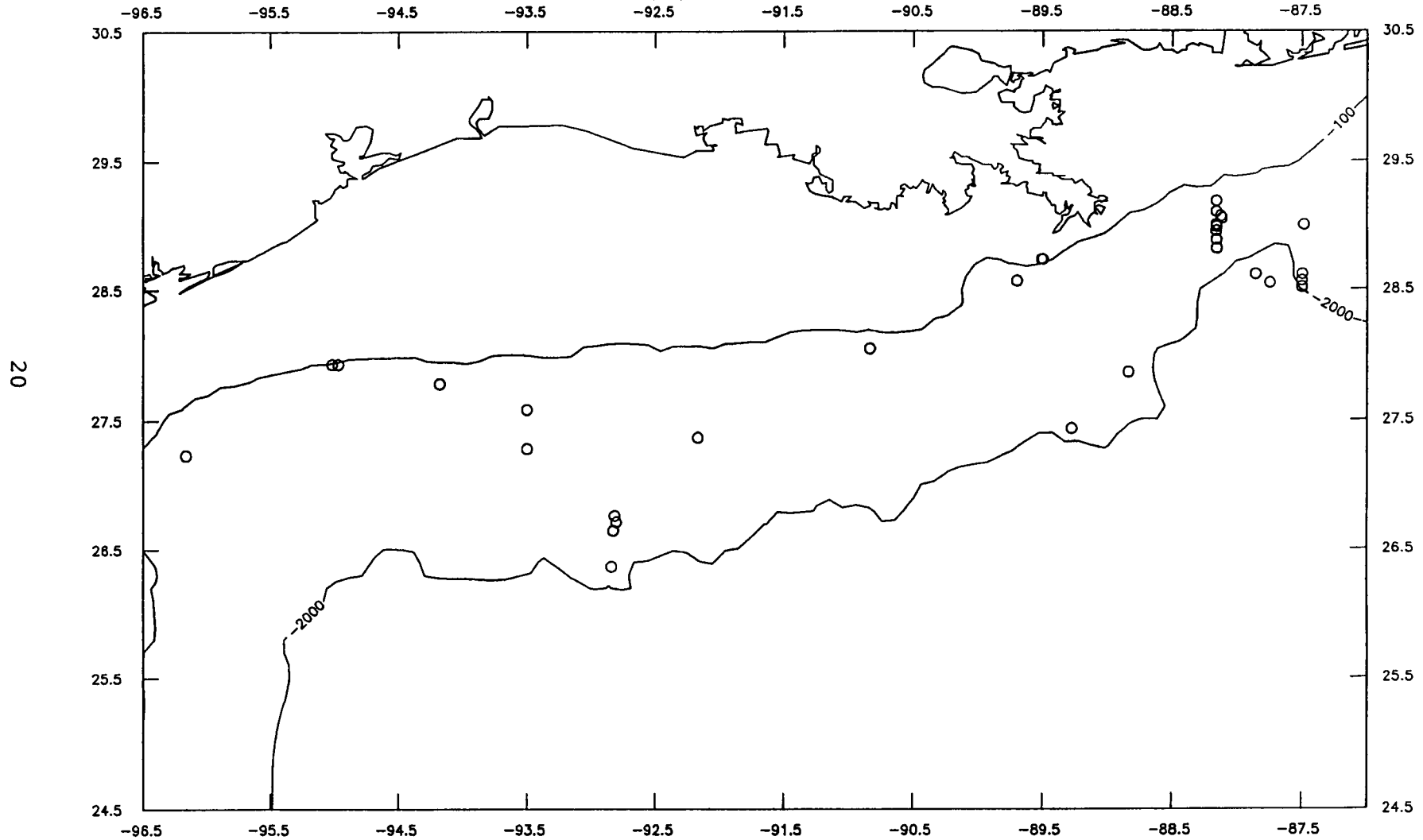


Cruise 01 Marine Mammal Visual Data

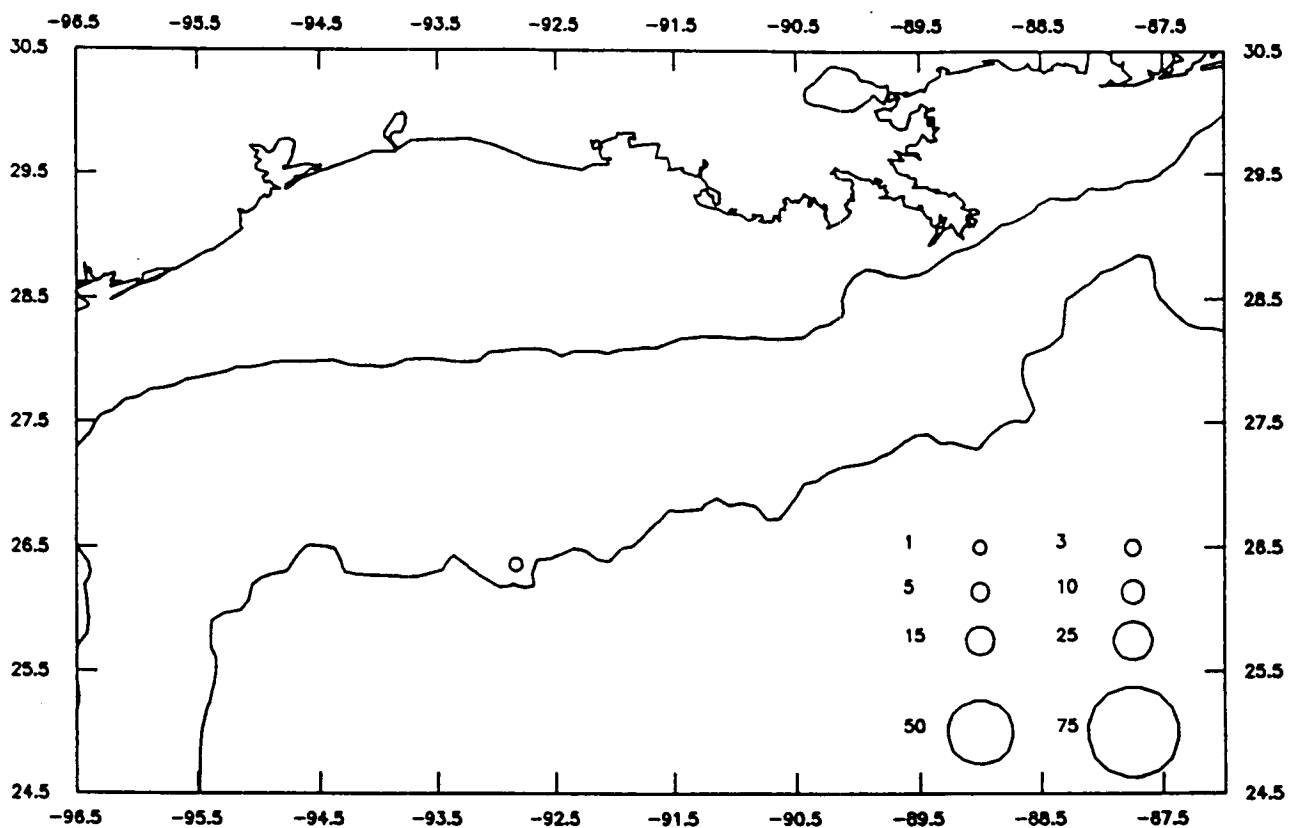
Date	Time	Species	Latitude	Longitude	Best	High	Low
4/15/92	1247	<i>Tursiops truncatus</i>	27° 14'	96° 10'	5	5	5
4/17/92	0910	<i>Tursiops truncatus</i>	27° 56'	95° 01'	1	1	1
4/17/92	0920	<i>Stenella frontalis</i>	27° 56'	94° 58'	40	50	30
4/20/92	1635	<i>Tursiops truncatus</i>	27° 47'	94° 11'	4	8	4
4/23/92	1153	<i>Tursiops truncatus</i>	27° 35'	93° 30'	3	3	3
4/23/92	1528	<i>Stenella sp.</i>	27° 17'	93° 30'	80	100	50
4/24/92	1253	<i>Grampus griseus</i>	26° 22'	92° 50'	1	3	1
4/24/92	1533	<i>Physeter macrocephalus</i>	26° 39'	92° 50'	2	2	1
4/24/92	1602	Unid. dolphin	26° 43'	92° 48'	40	50	30
4/24/92	1735	<i>Kogia sp.</i>	26° 46'	92° 49'	5	5	2
4/25/92	1912	<i>Stenella clymene</i>	27° 22'	92° 10'	40	50	30
4/27/92	0926	<i>Tursiops truncatus</i>	28° 03'	90° 50'	3	3	3
4/28/92	1736	<i>Tursiops truncatus</i>	28° 34'	89° 42'	3	5	2
4/28/92	1904	<i>Tursiops truncatus</i>	28° 44'	89° 31'	1	1	1
4/28/92	1910	Unid. dolphin	28° 44'	89° 30'	4	4	4
4/29/92	0825	Unid. dolphin	27° 26'	89° 17'	20	30	10
4/29/92	1520	Unid. cetacean	27° 52'	88° 50'	1	1	1
4/30/92	0727	<i>Tursiops truncatus</i>	29° 11'	88° 10'	200	250	150
4/30/92	0823	<i>Physeter macrocephalus</i>	29° 06'	88° 10'	3	4	2
4/30/92	0830	<i>Physeter macrocephalus</i>	29° 04'	88° 08'	6	8	6
4/30/92	0854	Unid. dolphin	29° 03'	88° 07'	100	150	80
4/30/92	1054	<i>Physeter macrocephalus</i>	29° 00'	88° 10'	1	1	1
4/30/92	1102	<i>Physeter macrocephalus</i>	28° 59'	88° 10'	1	1	1
4/30/92	1126	<i>Physeter macrocephalus</i>	28° 57'	88° 10'	5	5	4
4/30/92	1158	Unid. dolphin	28° 53'	88° 10'	25	30	20
					3	5	2
4/30/92	1240	<i>Stenella attenuata</i>	28° 49'	88° 10'	60	70	50
4/30/92	1258	Unid. dolphin	28° 49'	88° 10'	3	3	3
4/30/92	1610	Unid. dolphin	28° 37'	87° 52'	1	1	1
4/30/92	1645	Unid. dolphin	28° 33'	87° 45'	1	1	1
4/30/92	1814	<i>Stenella attenuata</i> with Unid. dolphin	28° 31'	87° 30'		200	100
4/30/92	1838	<i>Stenella attenuata</i>	28° 34'	87° 30'	30	40	20
4/30/92	1850	<i>Stenella attenuata</i>	28° 34'	87° 30'	50	60	30
4/30/92	1911	<i>Physeter macrocephalus</i>	28° 37'	87° 30'	3	4	2
4/30/92	1935	<i>Kogia sp.</i>	28° 60'	87° 29'	4	4	3
4/30/92	1940	Unid small whale	28° 60'	87° 29'	1	1	1

Total Marine Mammal Sightings : 36

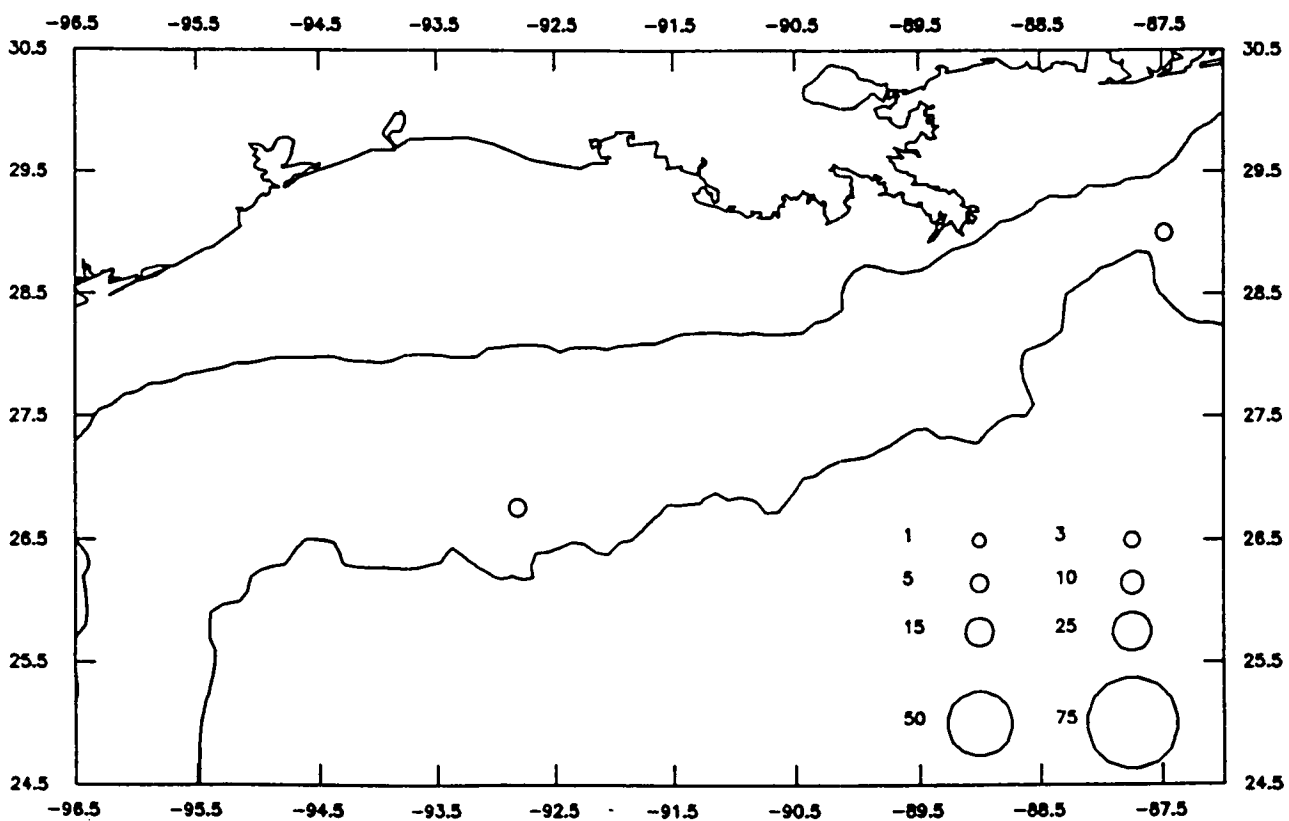
GulfCet 01 (4/15 - 5/1/1992)



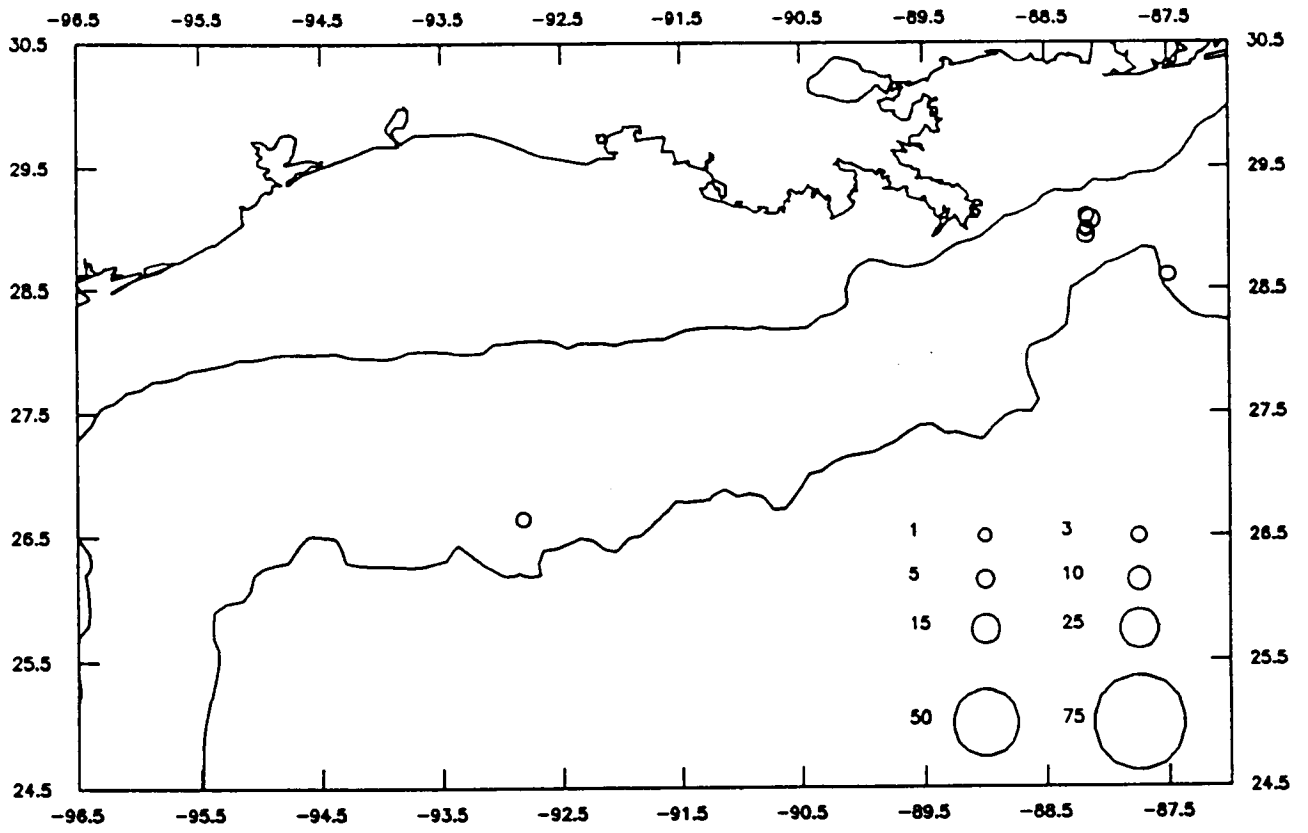
Grampus griseus Sighting: 1



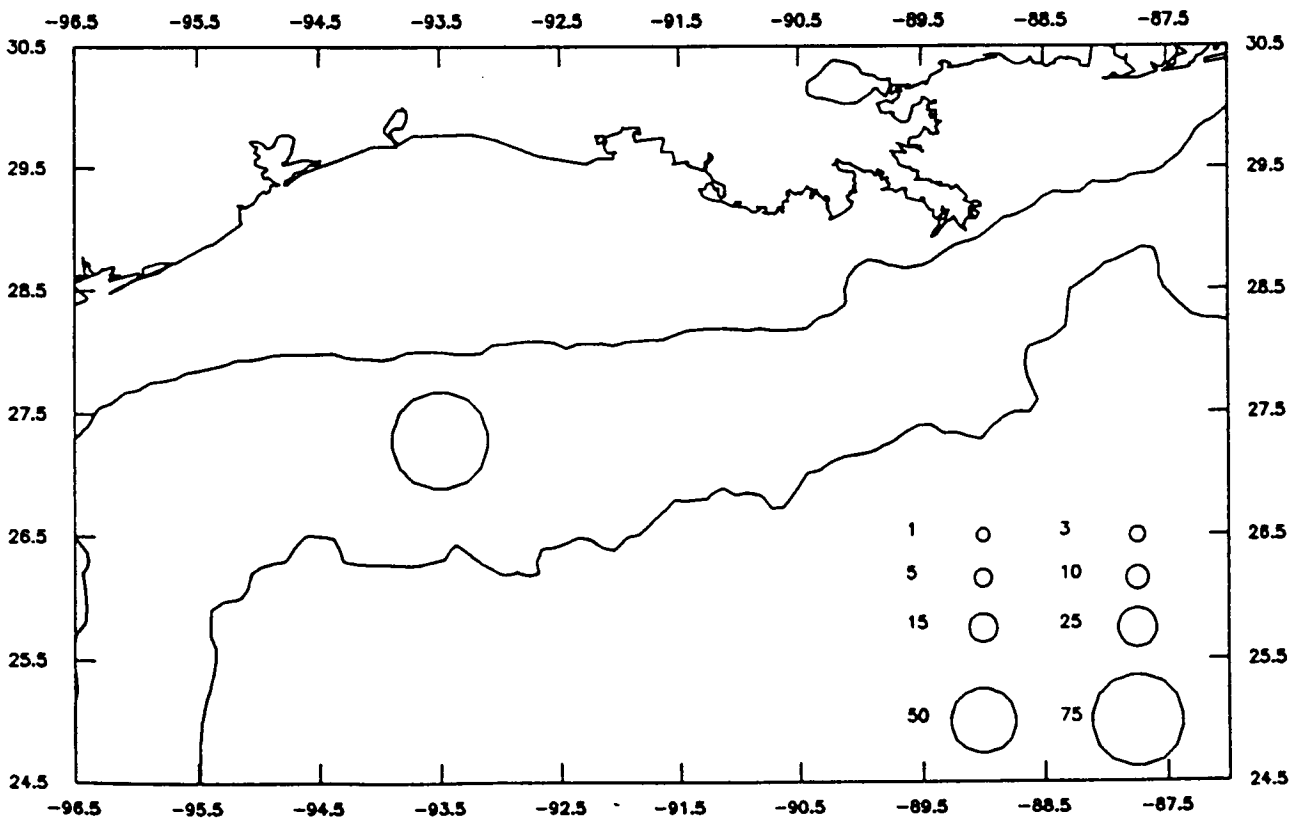
Kogia sp. Sightings: 2



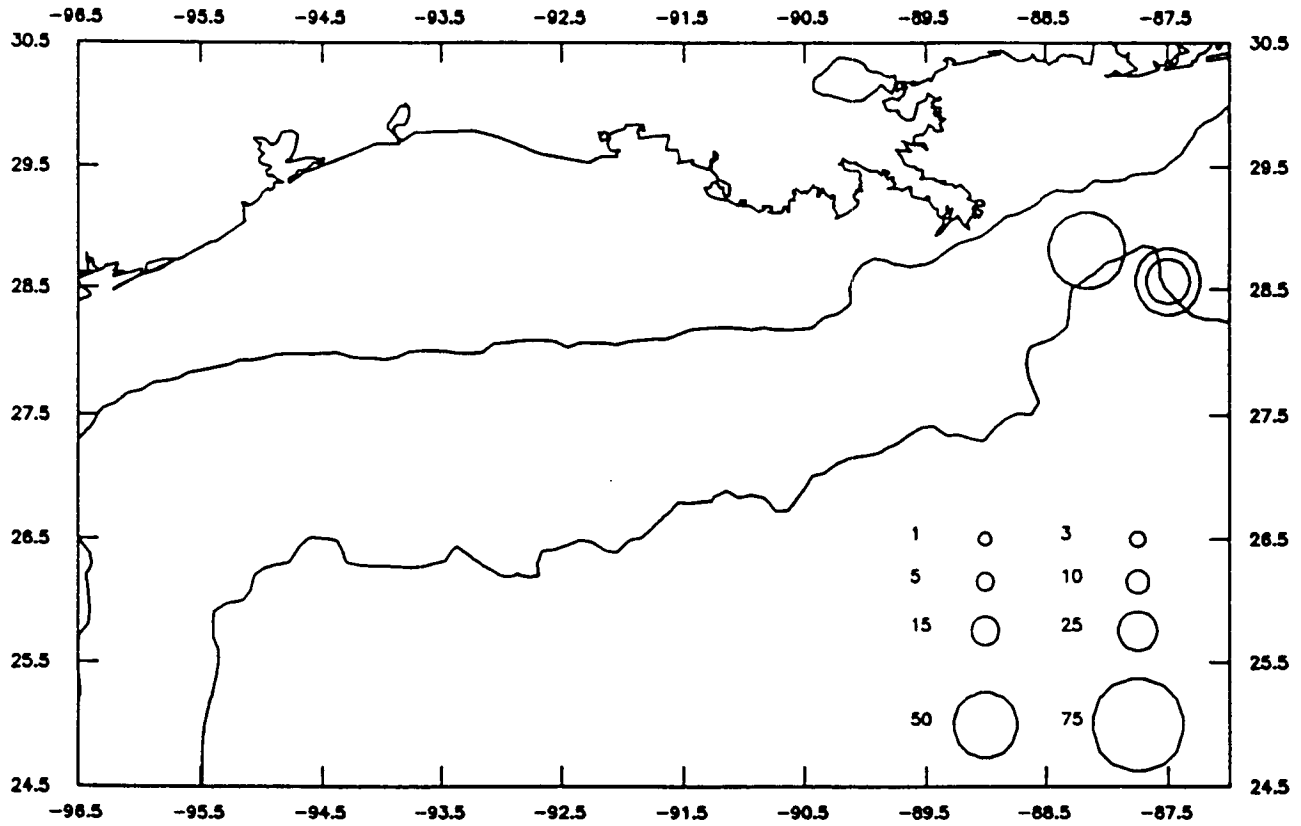
Physeter macrocephalus Sightings: 7



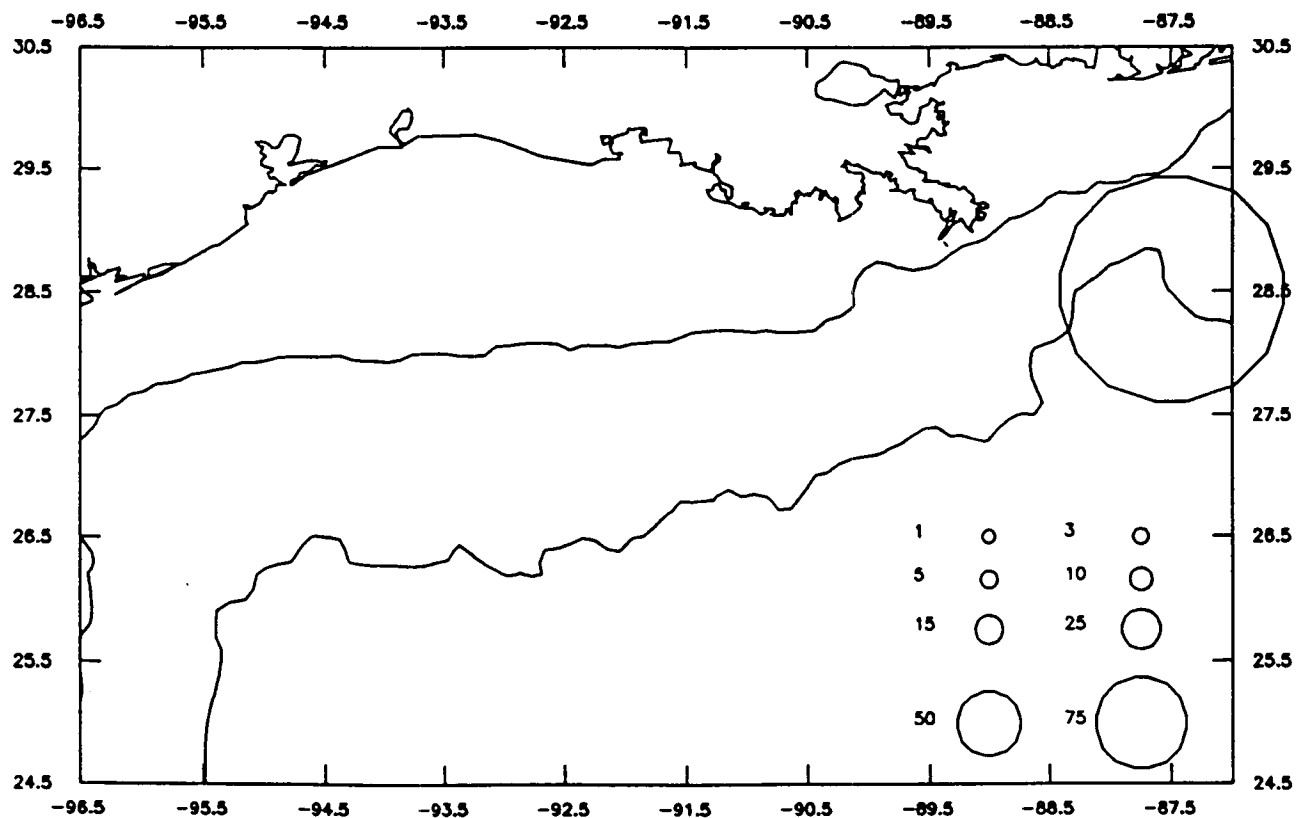
Stenella sp. Sighting: 1



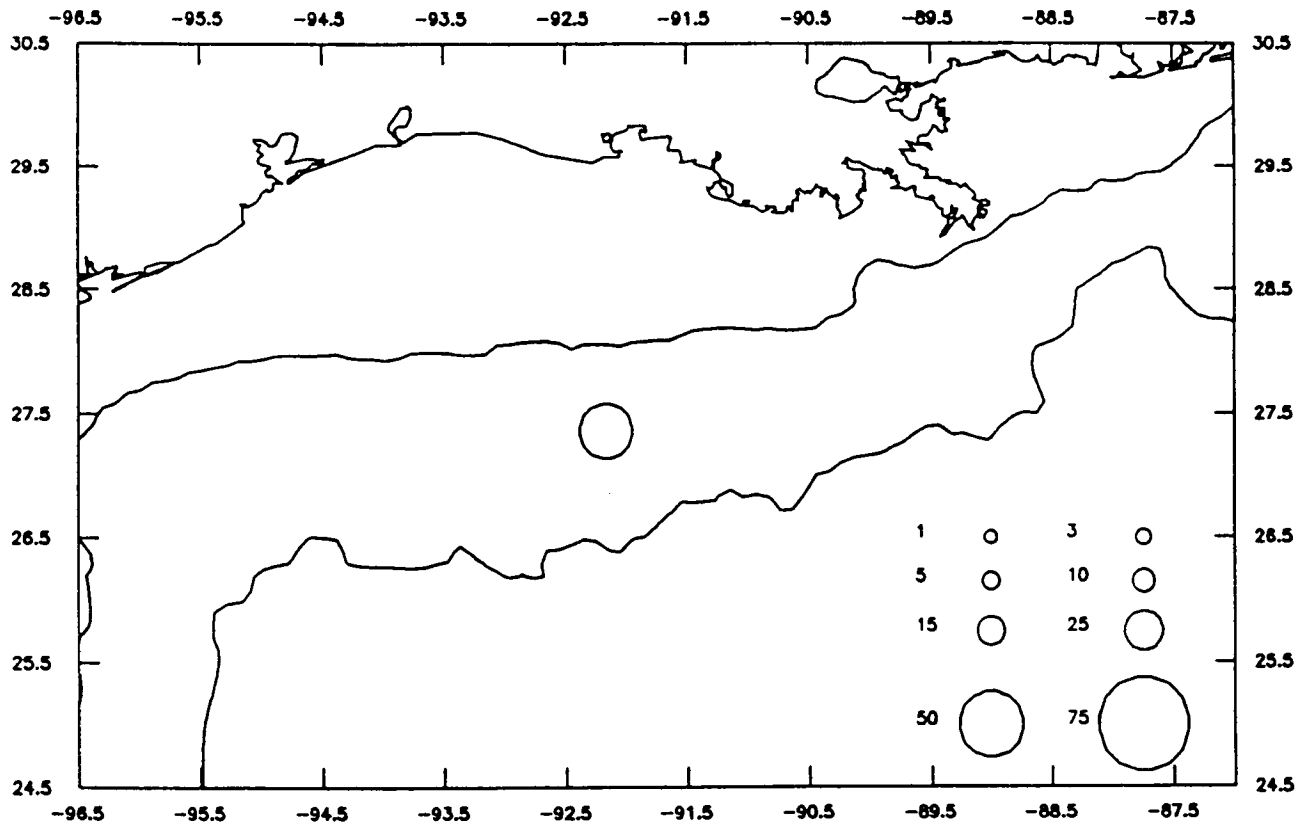
Stenella attenuata Sightings: 3



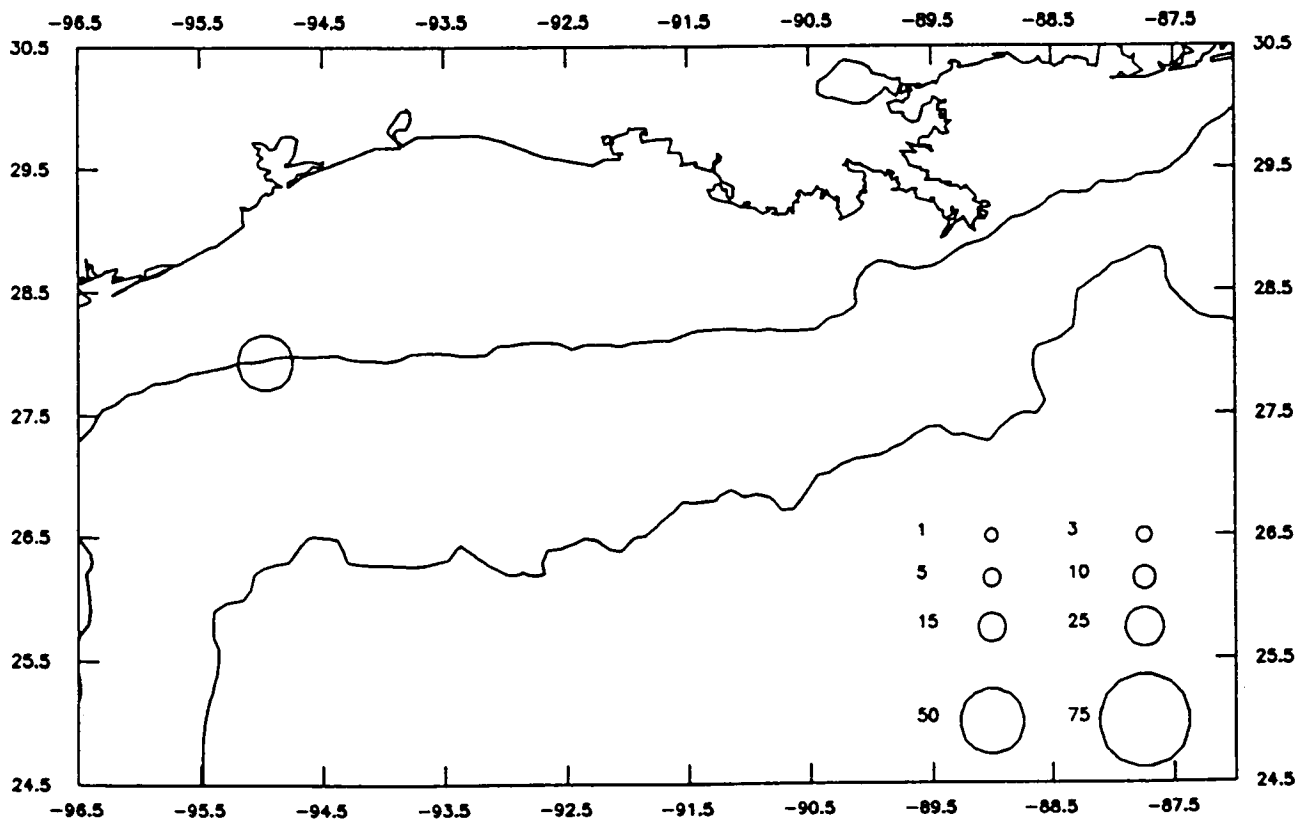
Stenella attenuata with UNID Dolphin Sightings: 1



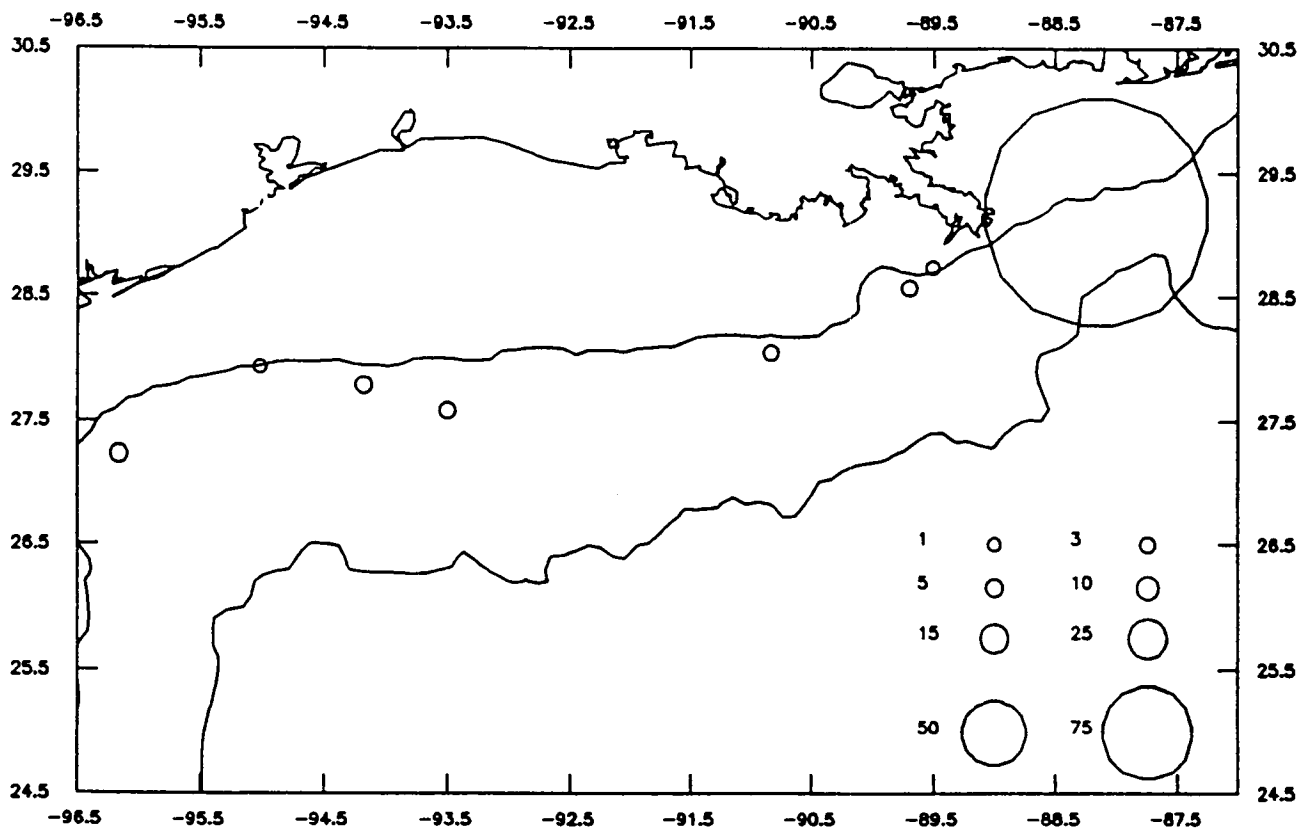
Stenella clymene Sighting: 1



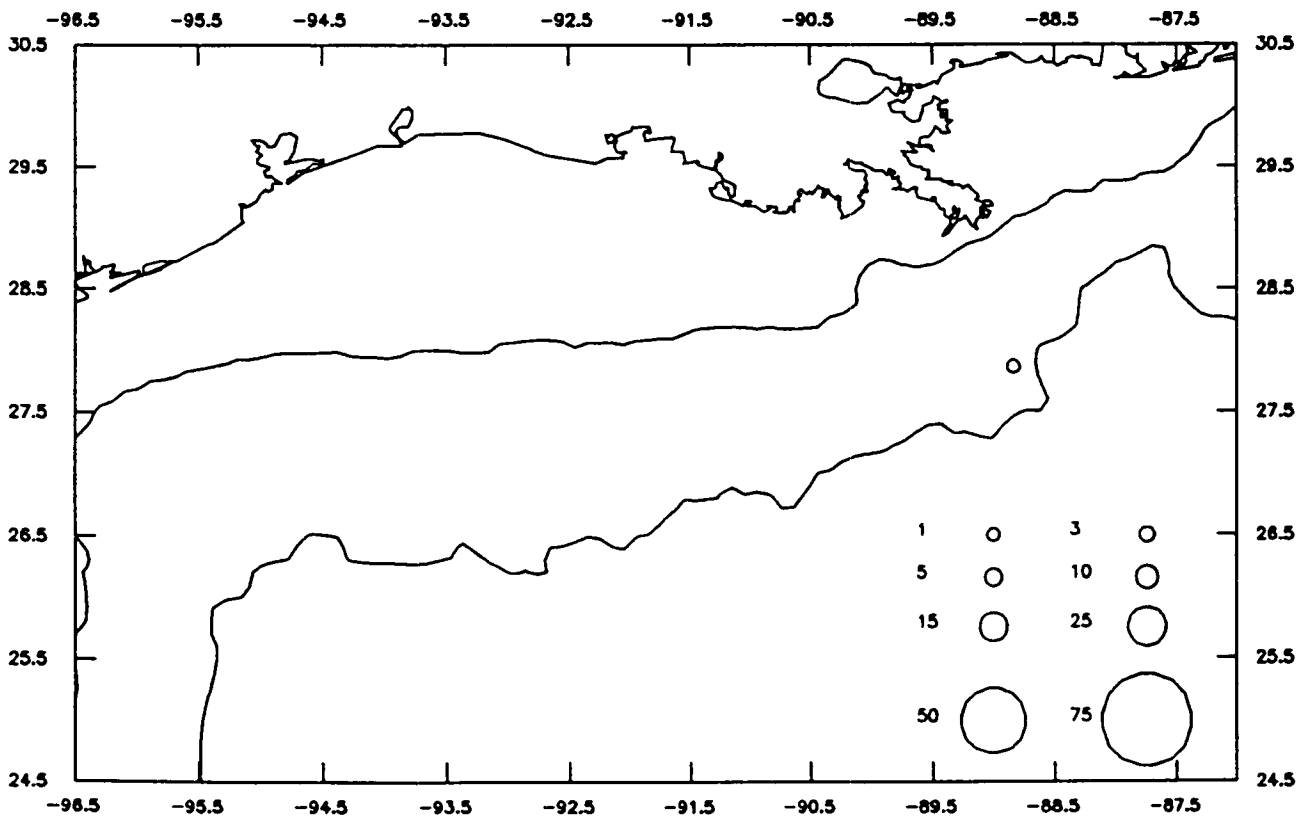
Stenella frontalis Sighting: 1



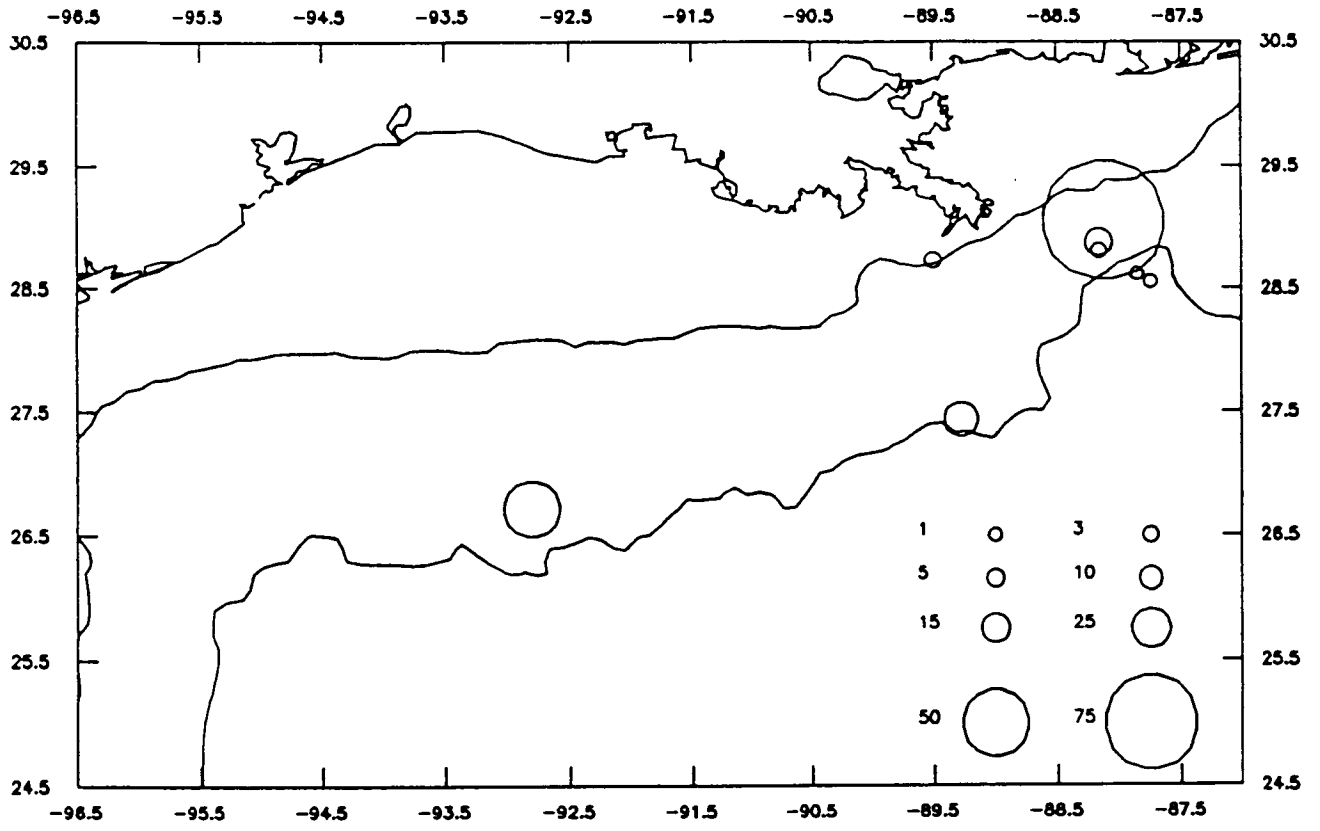
Tursiops truncatus Sightings: 8



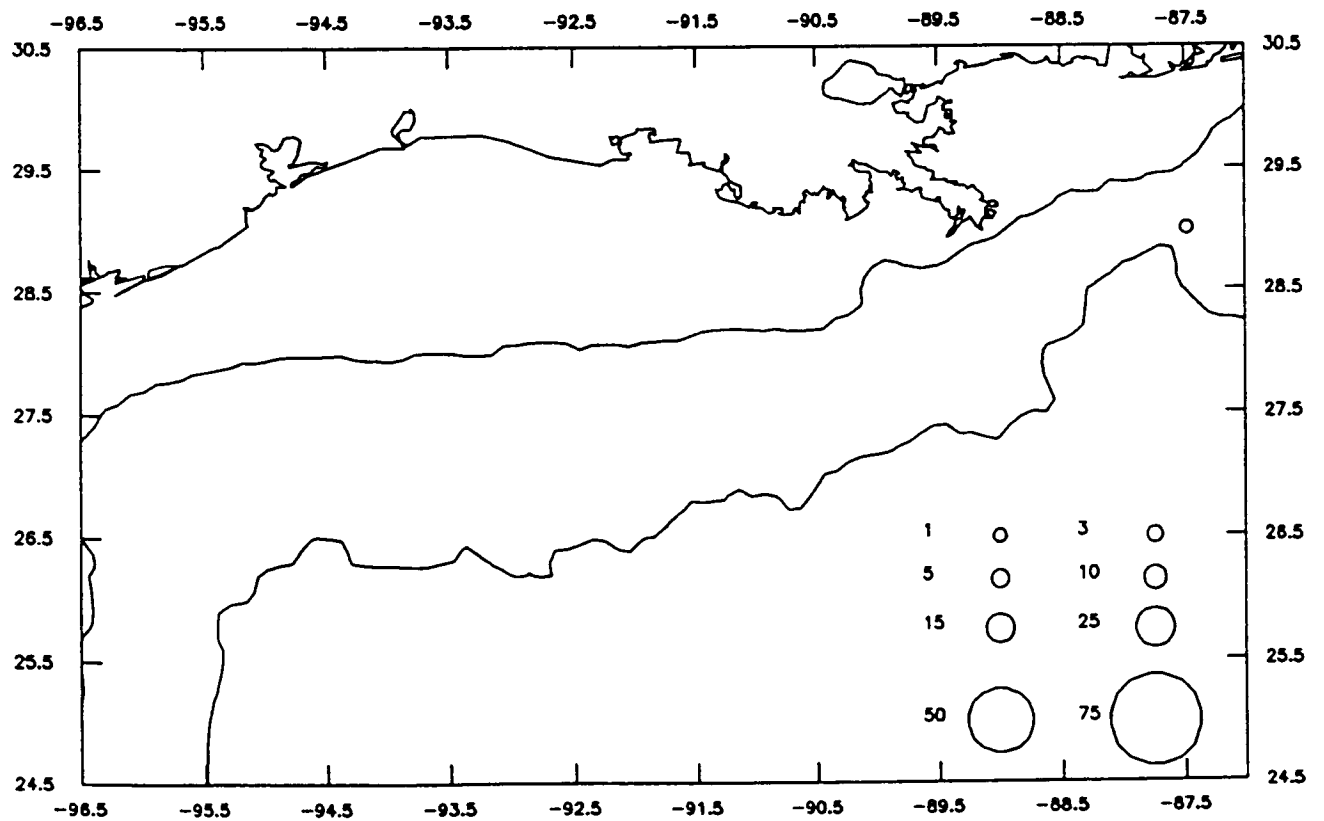
UNID Cetacean Sighting: 1



UNID Dolphin Sightings: 8



UNID Small Whale Sighting: 1

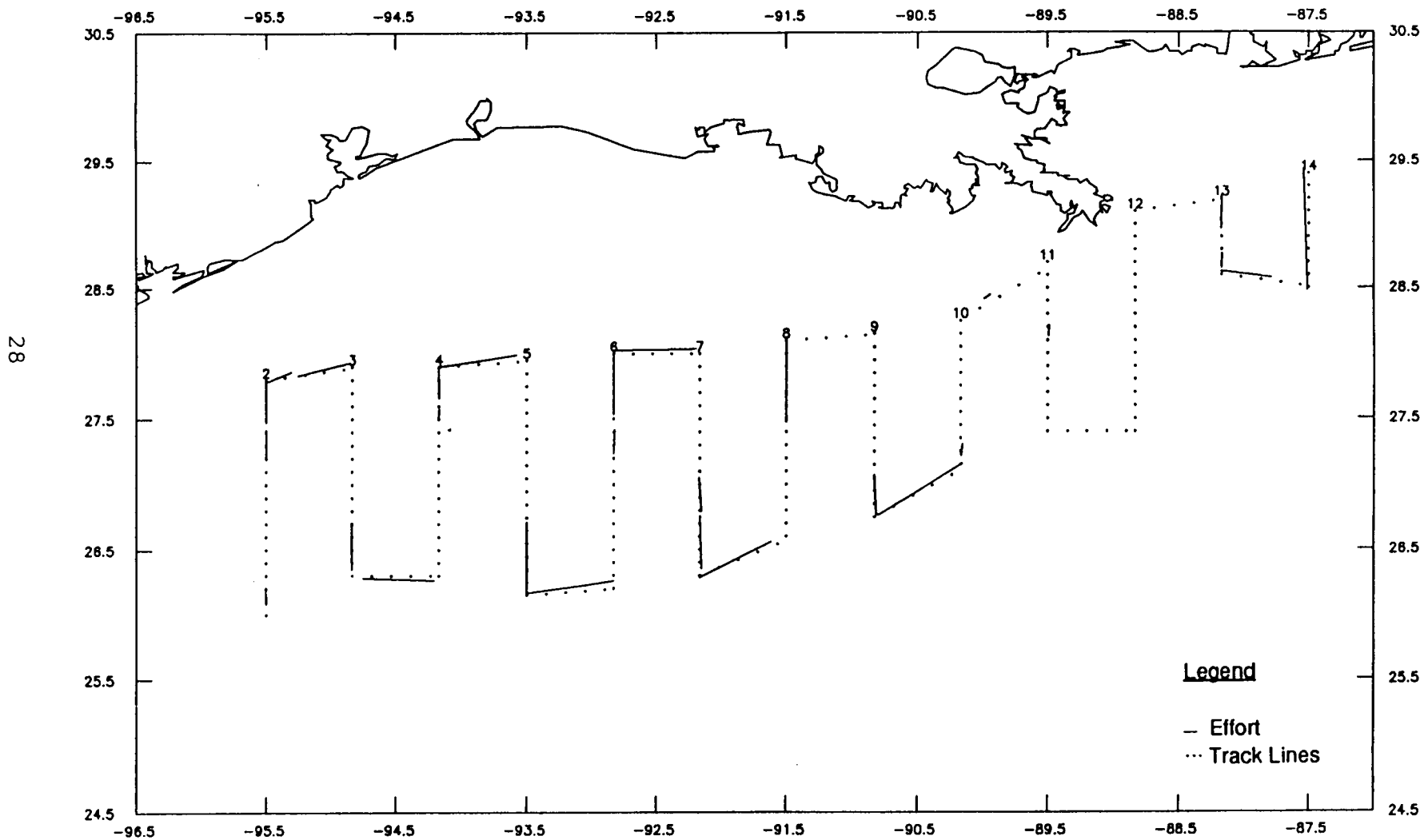


GULFCET CRUISE 02:

- MAP OF MARINE MAMMAL VISUAL EFFORT AND TRACK LINES SURVEYED
- MARINE MAMMAL VISUAL DATA
- DISTRIBUTION MAP OF TOTAL MARINE MAMMAL SIGHTINGS
- INDIVIDUAL MARINE MAMMAL SPECIES DISTRIBUTION MAPS

Visual Effort & Track Lines Surveyed

GulfCet Cruise 02



Cruise 02 Marine Mammal Visual Data

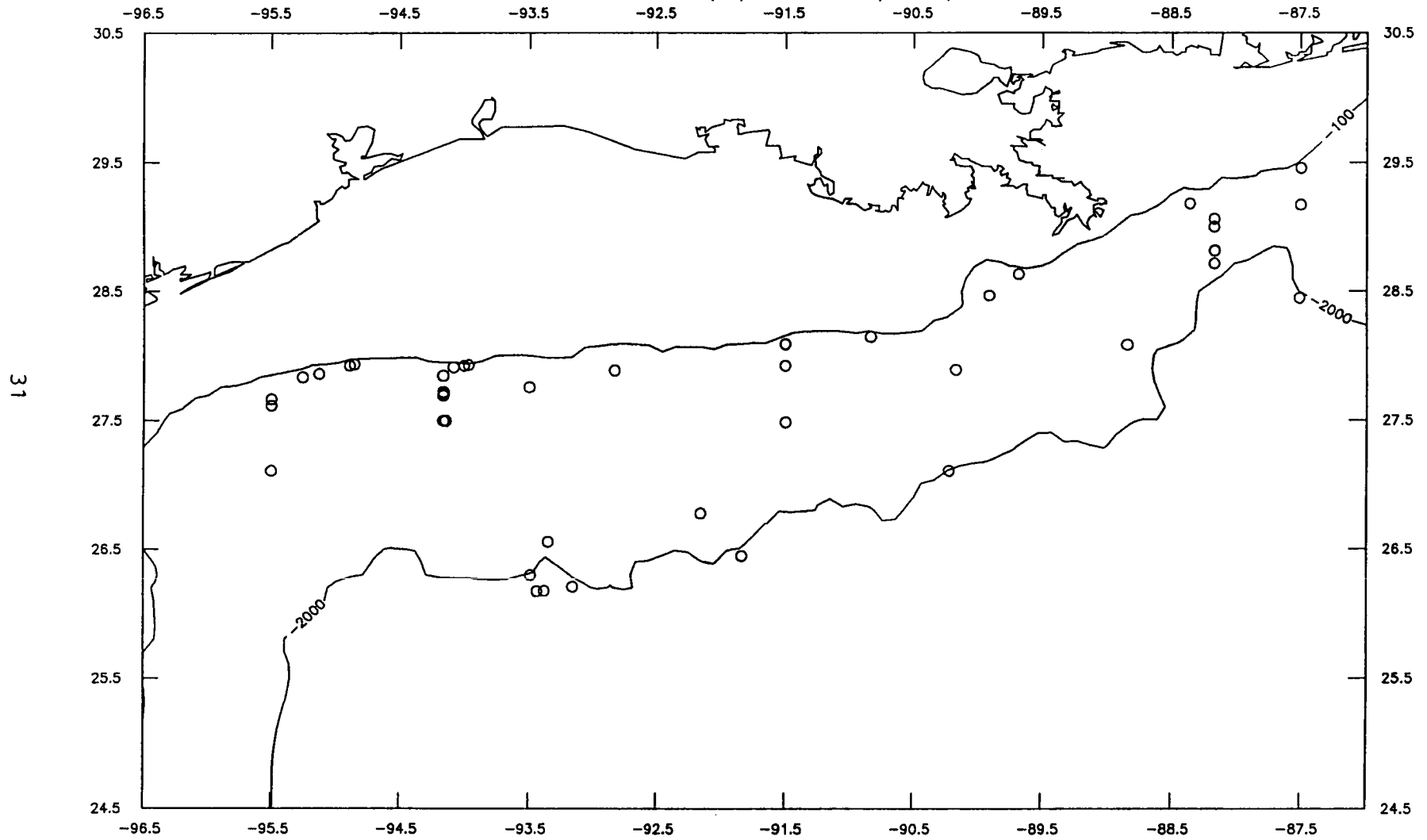
Date	Time	Species	Latitude	Longitude	Best	High	Low
8/11/92	1032	Unid. small whale	29° 11'	88° 22'	1	1	1
8/11/92	1540	Unid. dolphin	28° 27'	87° 31'	8	12	6
8/11/92	1608	Unid. dolphin	29° 27'	87° 30'	3	3	3
8/11/92	1852	Unid. dolphin	29° 10'	87° 30'	3	3	3
8/12/92	1223	<i>Stenella attenuata</i> with <i>Stenella longirostris</i>	28° 43'	88° 10'	50 60 40 30	60 120 55 38	45 40 22 20
8/12/92	1442	<i>Stenella attenuata</i>	28° 49'	88° 10'	12 6 24	18 8 30	10 6 14
8/12/92	1616	<i>Stenella coeruleoalba</i>	29° 00'	88° 10'	5 5 4	6 6 6	4 3 3
8/12/92	1656	<i>Stenella sp.</i>	29° 04'	88° 10'	1	1	1
8/13/92	1152	<i>Stenella attenuata</i>	28° 05'	88° 51'	8	10	7
8/14/92	1654	<i>Tursiops truncatus</i>	28° 38'	89° 41'	1	1	1
8/14/92	1830	Unid. dolphin	28° 28'	89° 55'	1	2	1
8/15/92	0019	<i>Stenella sp.</i>	27° 54'	90° 10'	13	13	8
8/15/92	1020	<i>Mesoplodon sp.</i>	27° 06'	90° 13'	7	7	7
8/16/92	0753	<i>Tursiops truncatus</i>	28° 09'	90° 50'	4	4	4
8/16/92	1317	<i>Tursiops truncatus</i>	28° 05'	91° 30'	2	2	2
8/16/92	1452	<i>Tursiops truncatus</i>	27° 55'	91° 30'	4	5	4
8/16/92	1927	<i>Physeter macrocephalus</i>	27° 29'	91° 30'	9	9	8
8/17/92	0835	Unid. small whale	26° 27'	91° 50'	2 5	3 6	2 4
8/17/92	1710	<i>Mesoplodon sp.</i>	26° 47'	92° 09'	2	2	2
8/18/92	1217	Unid. dolphin	27° 53'	92° 50'	1	1	1
8/19/92	1010	<i>Peponocephala electra</i>	26° 12'	93° 09'	250	300	225
8/19/92	1202	Unid. beaked whale	26° 11'	93° 23'	1 1 1	2 2 2	1 1 1
8/19/92	1223	Unid. beaked whale	26° 10'	93° 26'	3 3	4 3	3 3
8/19/92	1520	<i>Stenella attenuata</i> or <i>Pseudorca crassidens</i>	26° 18'	93° 29'	8 12	12 15	6 8

Cruise 02 Marine Mammal Visual Data

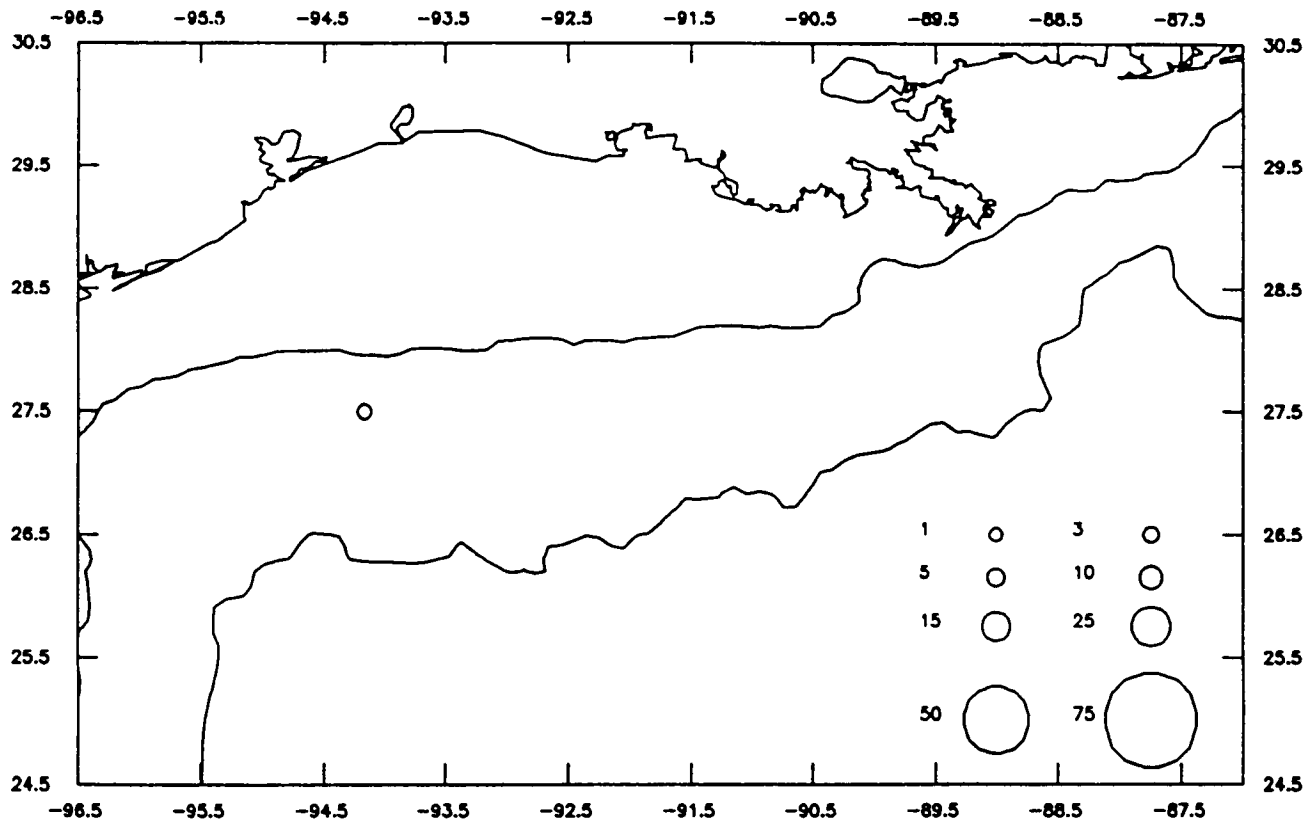
Date	Time	Species	Latitude	Longitude	Best	High	Low
8/19/92	1809	Unid. dolphin	26° 33'	93° 21'	4	6	3
8/20/92	0755	<i>Tursiops truncatus</i>	27° 45'	93° 30'	5	7	4
					5	7	4
					25	30	20
					25	30	20
8/20/92	1324	Unid. dolphin	27° 56'	93° 58'	3	4	2
8/20/92	1335	<i>Tursiops truncatus</i>	27° 55'	94° 00'	2	2	2
8/20/92	1347	<i>Tursiops truncatus</i>	27° 55'	94° 05'	4	4	4
8/20/92	1533	<i>Tursiops truncatus</i>	27° 51'	94° 10'	2	2	2
8/20/92	1639	Unid. dolphin	27° 43'	94° 10'	2	3	2
8/20/92	1647	<i>Tursiops truncatus</i>	27° 42'	94° 10'	2	2	2
8/20/92	1653	<i>Stenella attenuata</i> with <i>Tursiops truncatus</i> with Unid. cetacean	27° 42'	94° 10'	120	200	60
8/20/92	1907	<i>Kogia or Ziphius sp.</i>	27° 30'	94° 10'	3	2	2
					2	2	2
8/20/92	1912	<i>Stenella coeruleoalba</i>	27° 30'	94° 09'	80	80	50
					50	70	40
					80	90	60
					80	80	
8/20/92	1955	Unid. beaked whale	27° 30'	94° 09'	5	5	4
8/22/92	0728	<i>Tursiops truncatus</i>	27° 56'	94° 51'	3	3	3
					4	5	4
					8	10	5
8/22/92	0743	<i>Tursiops truncatus</i>	27° 56'	94° 53'	3	3	3
8/22/92	0910	<i>Tursiops truncatus</i>	27° 52'	95° 08'	4	4	4
8/22/92	0959	<i>Stenella frontalis</i>	27° 50'	95° 15'	55	75	45
8/22/92	1404	<i>T. truncatus</i> or <i>S. frontalis</i>	27° 40'	95° 30'	14	18	12
8/22/92	1443	Unid. dolphin	27° 37'	95° 30'	7	10	6
					5	6	3
8/22/92	2045	Unid. dolphin	27° 06'	95° 30'	3	4	2

Total Marine Mammal Sightings : 46

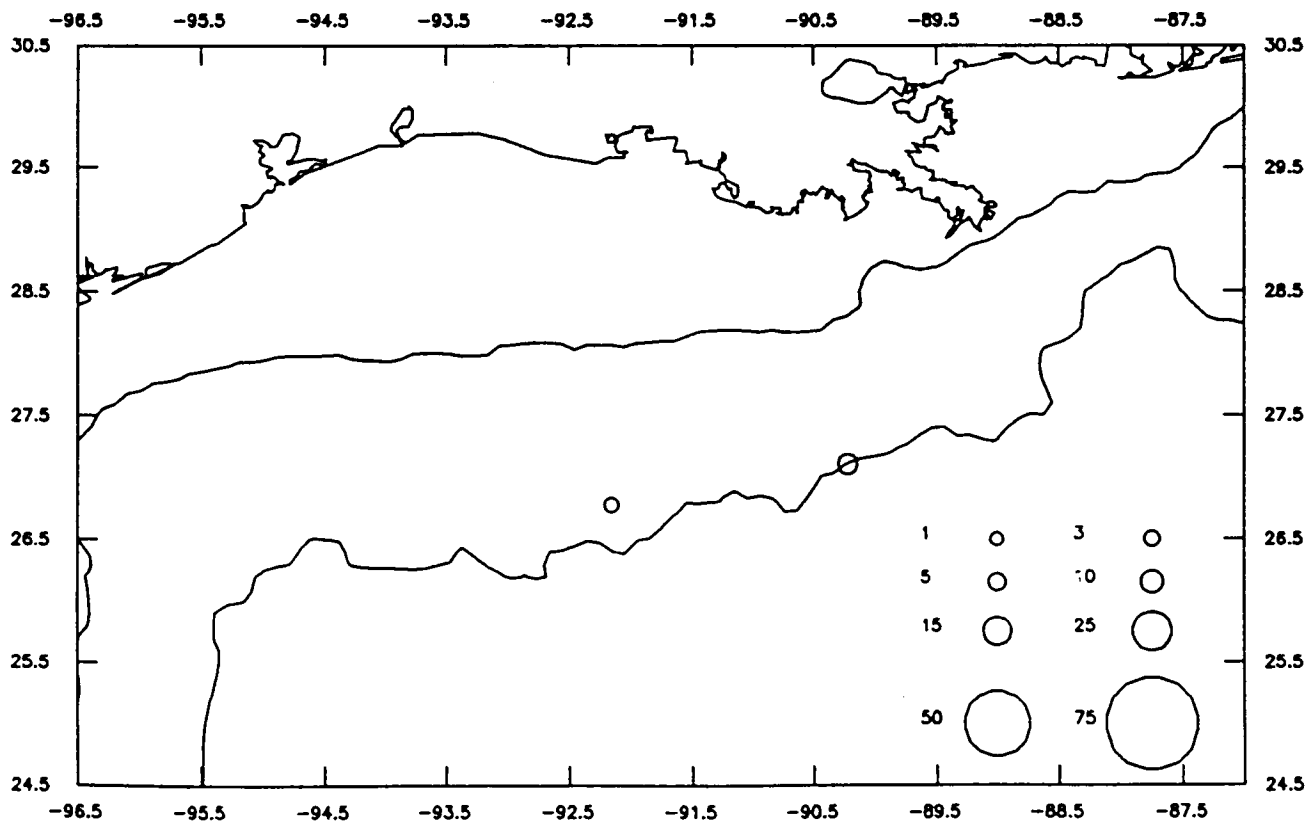
GulfCet 02 (8/10-24/92)



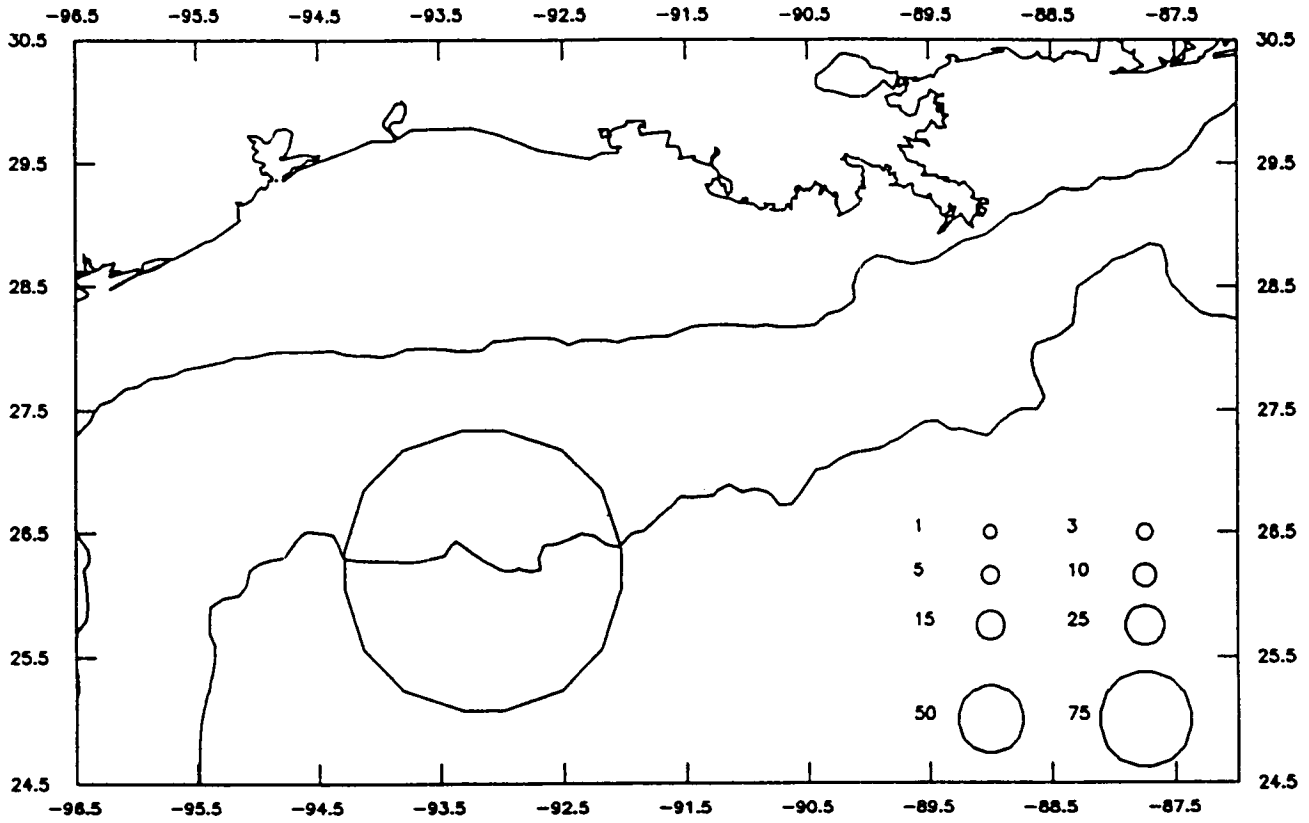
Kogia or *Ziphius* sp. Sighting: 1



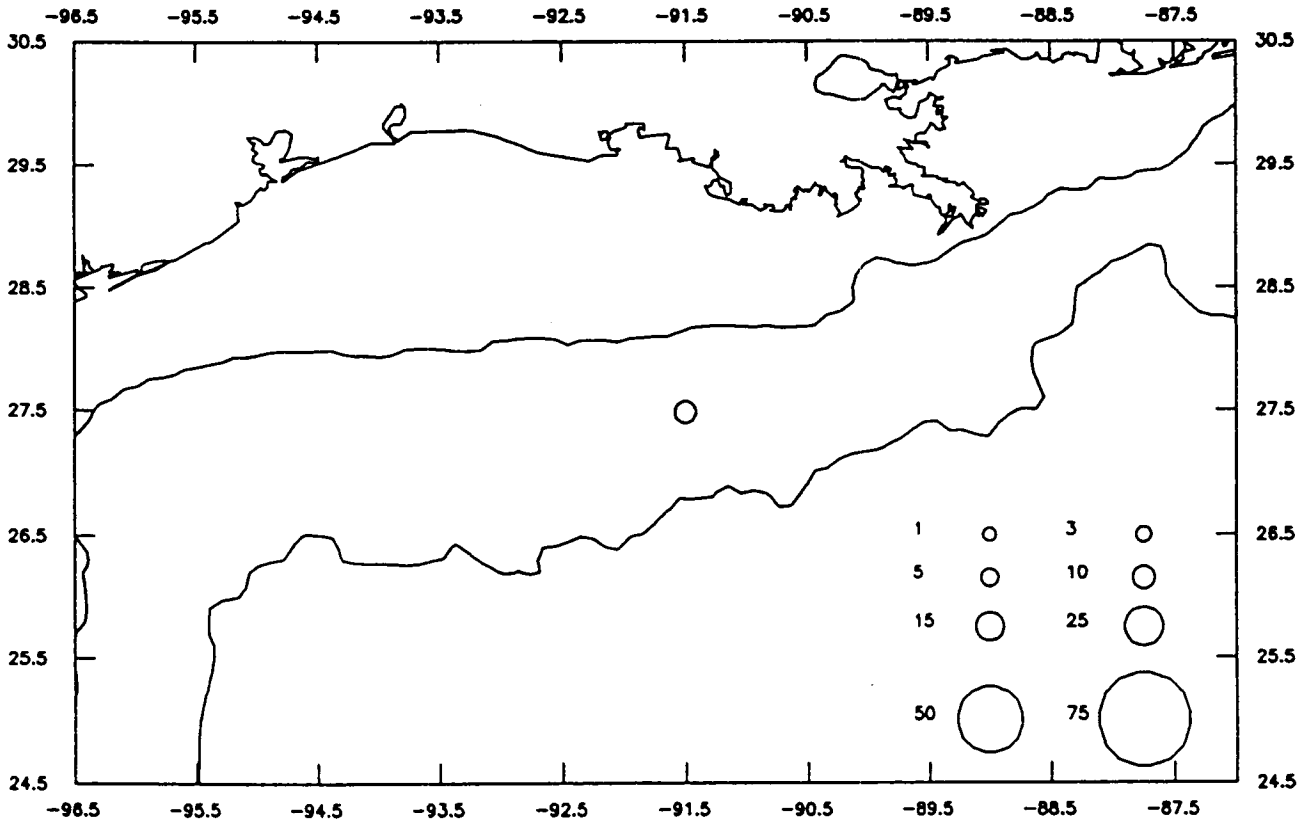
Mesoplodon sp. Sightings: 2



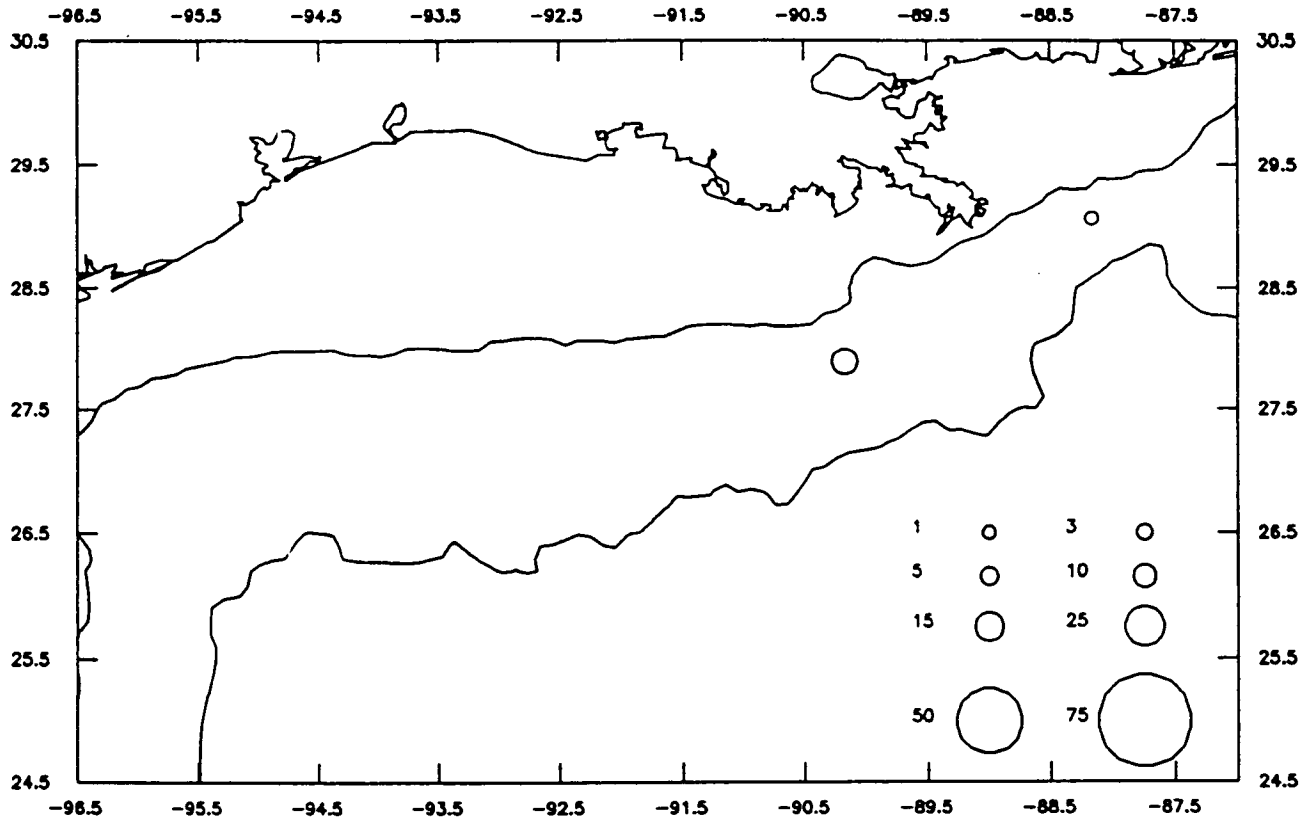
Peponocephala electra Sightings: 1



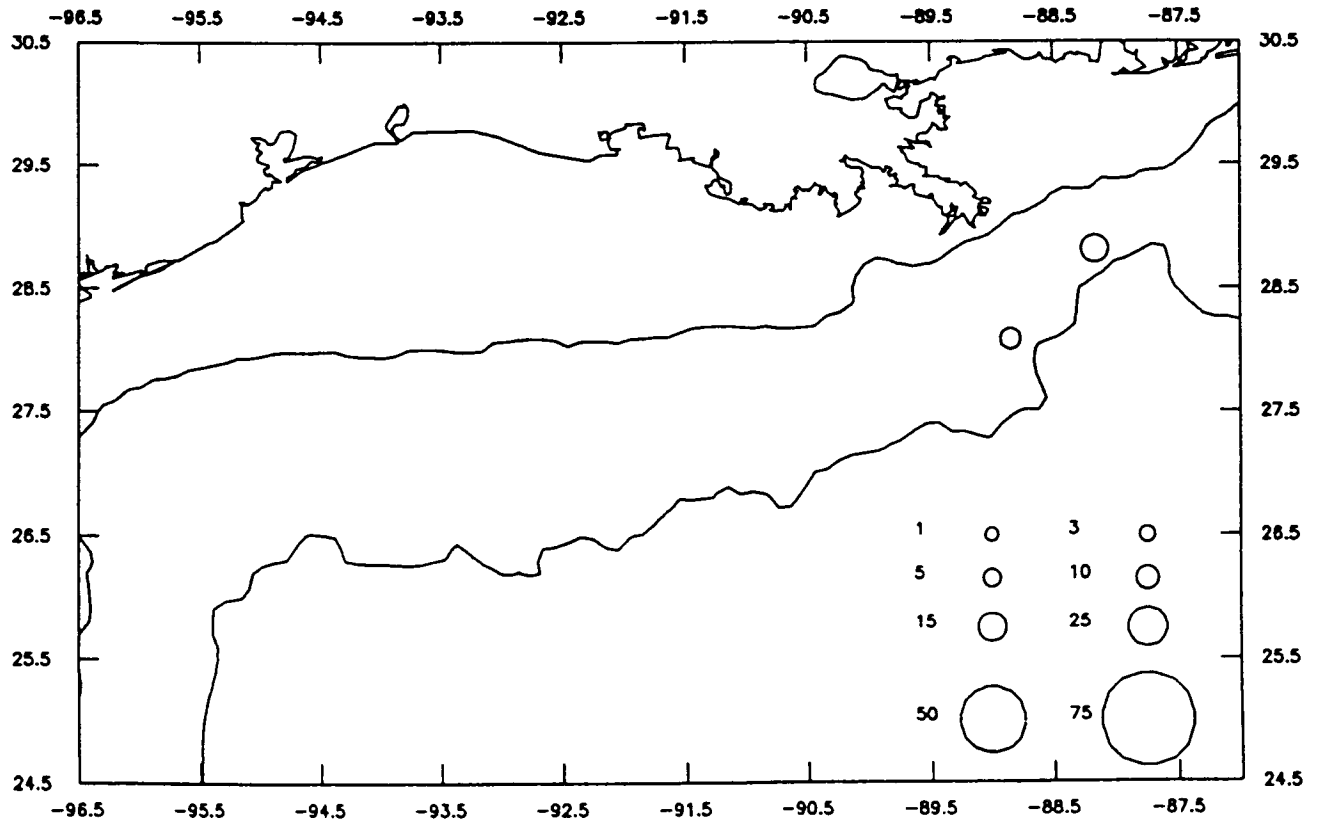
Physeter macrocephalus Sighting: 1



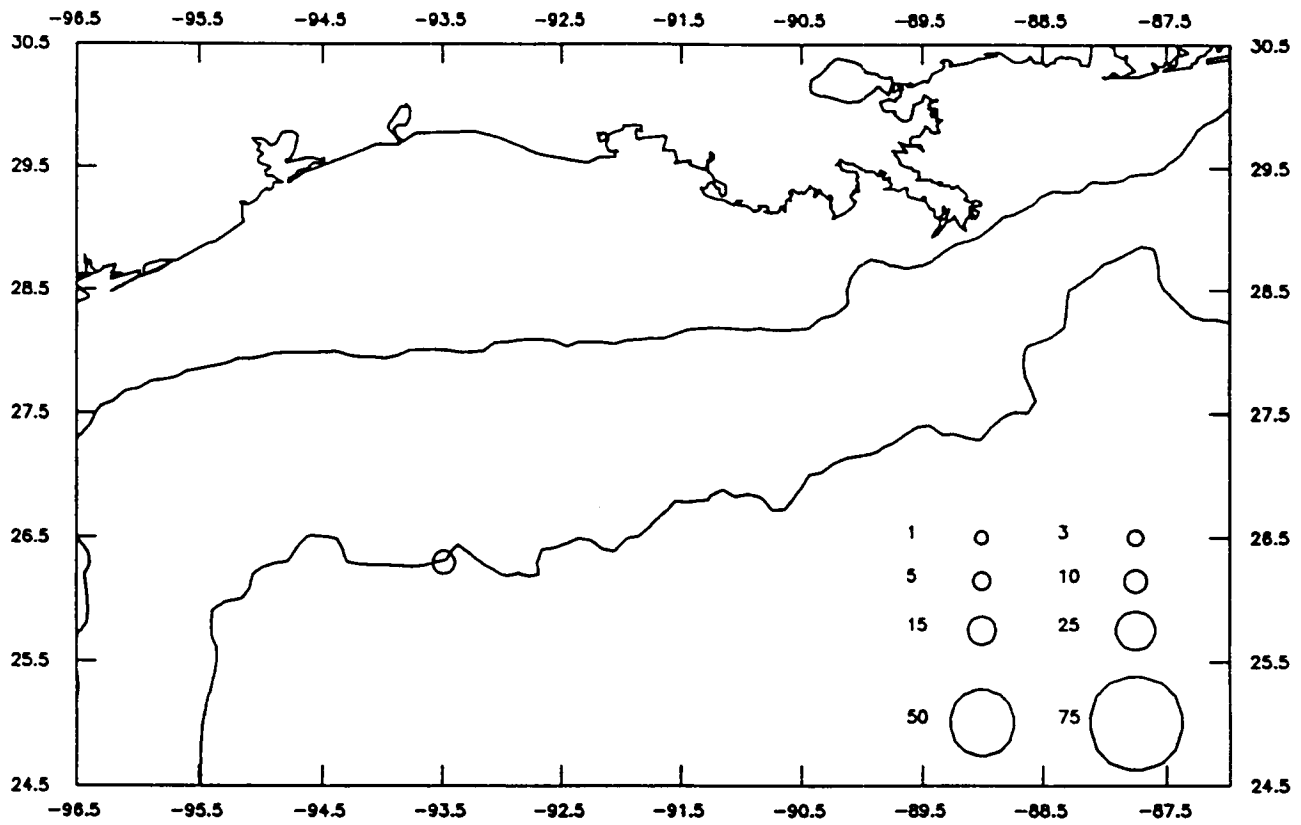
Stenella sp. Sightings: 2



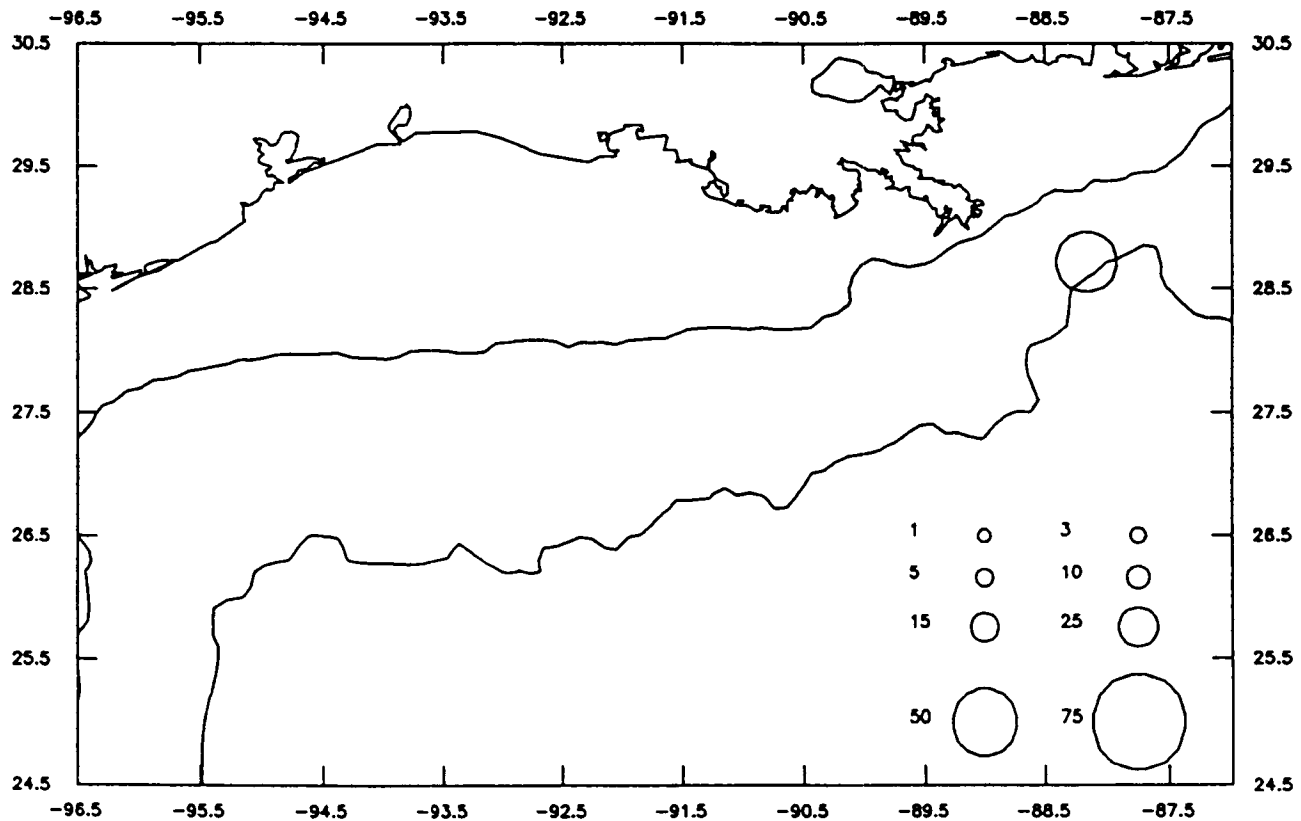
Stenella attenuata Sightings: 2



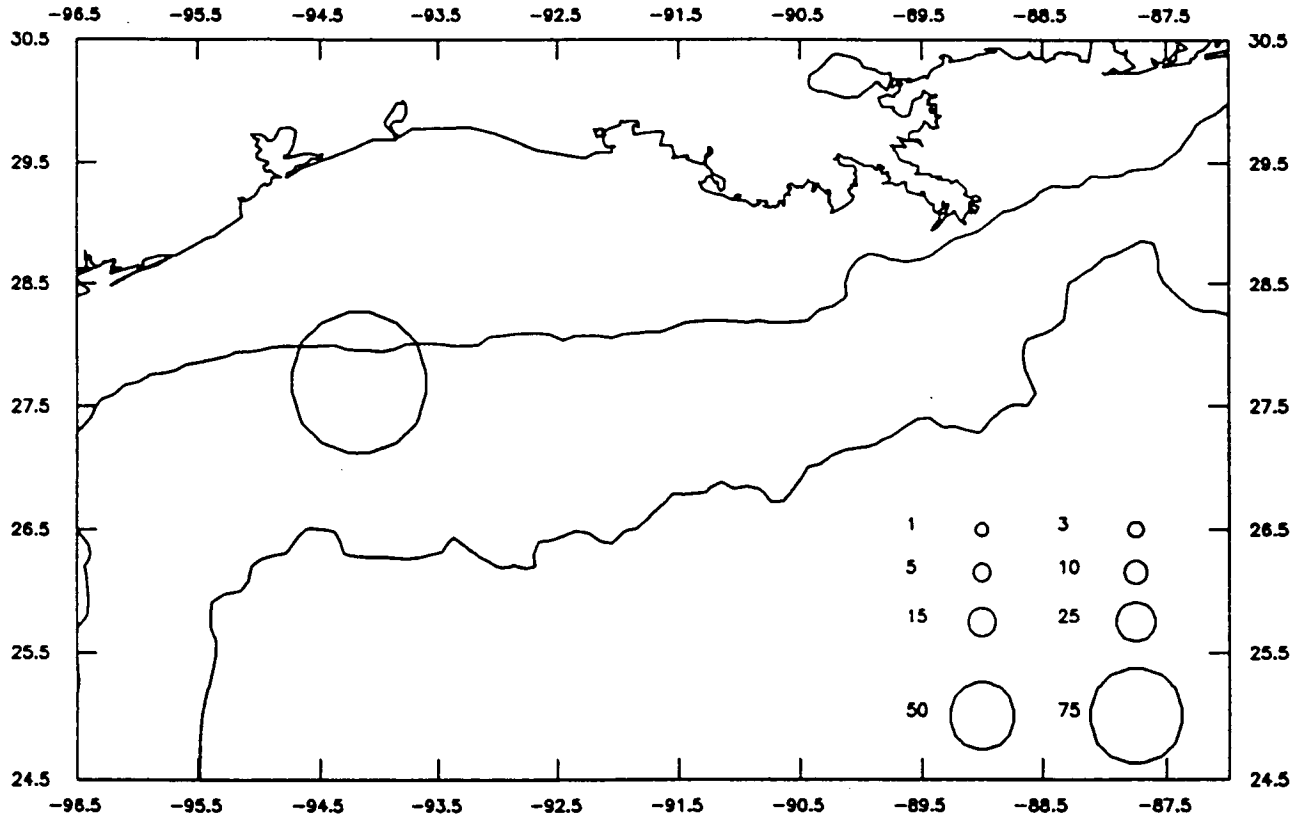
Stenella attenuata or *Pseudorca crassidens* Sighting: 1



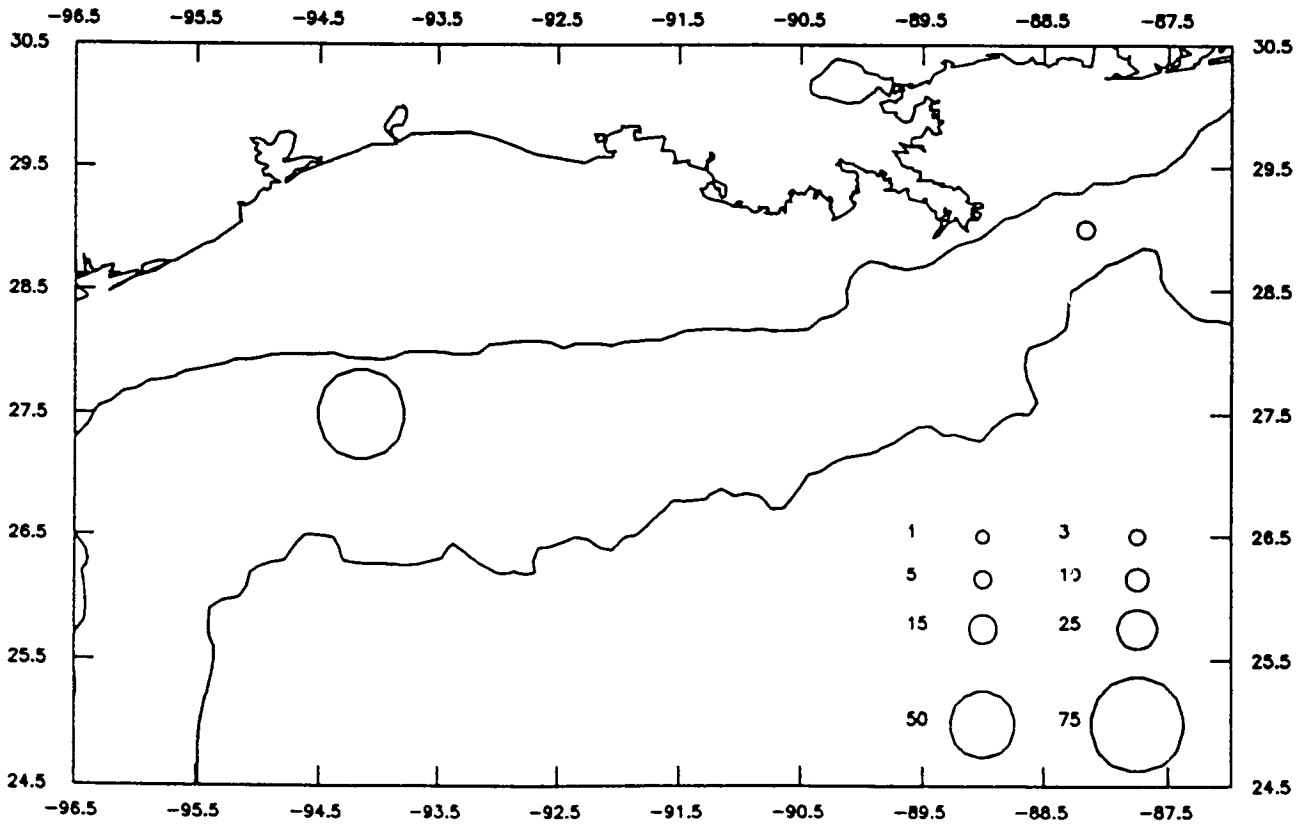
Stenella attenuata with *Stenella longirostris* Sightings: 1



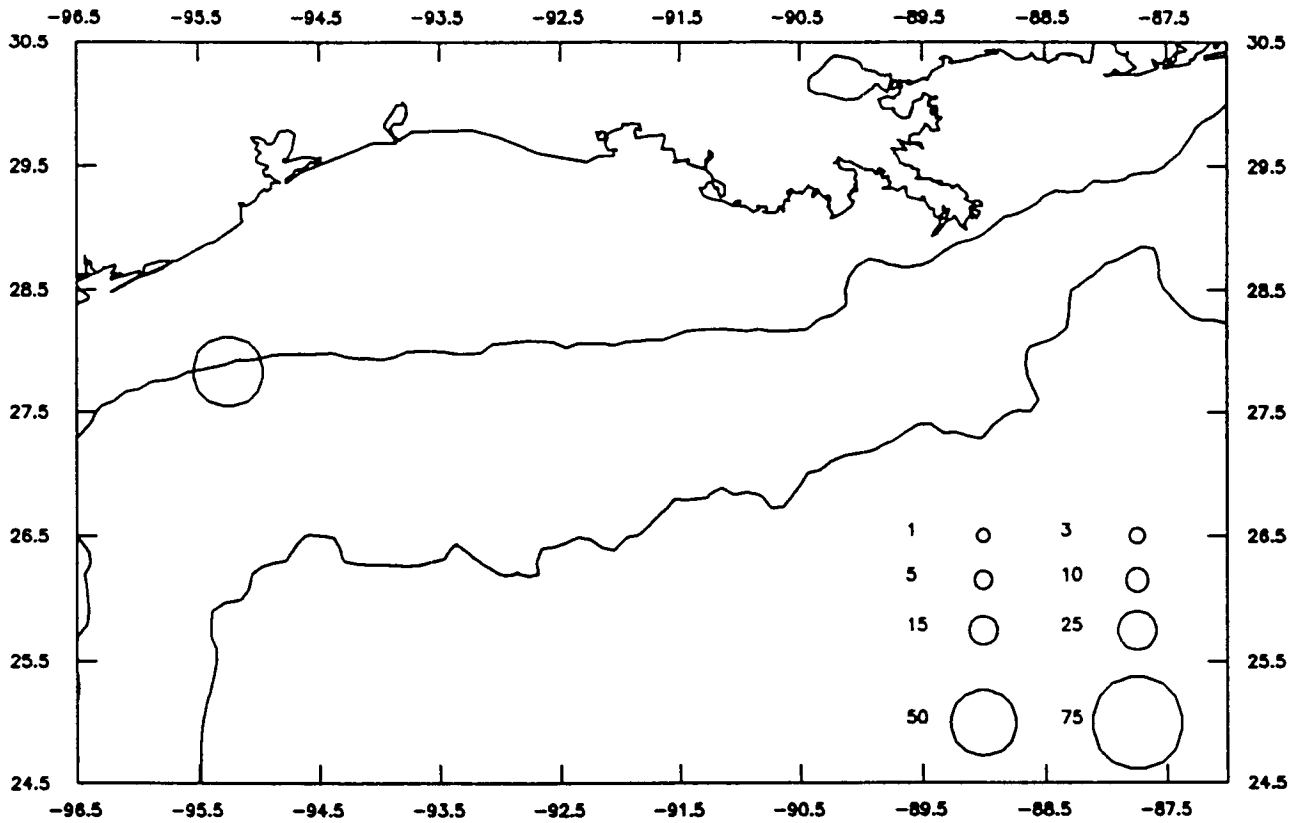
Stenella attenuata with *Tursiops truncatus* with UNID Cetacean Sightings: 1



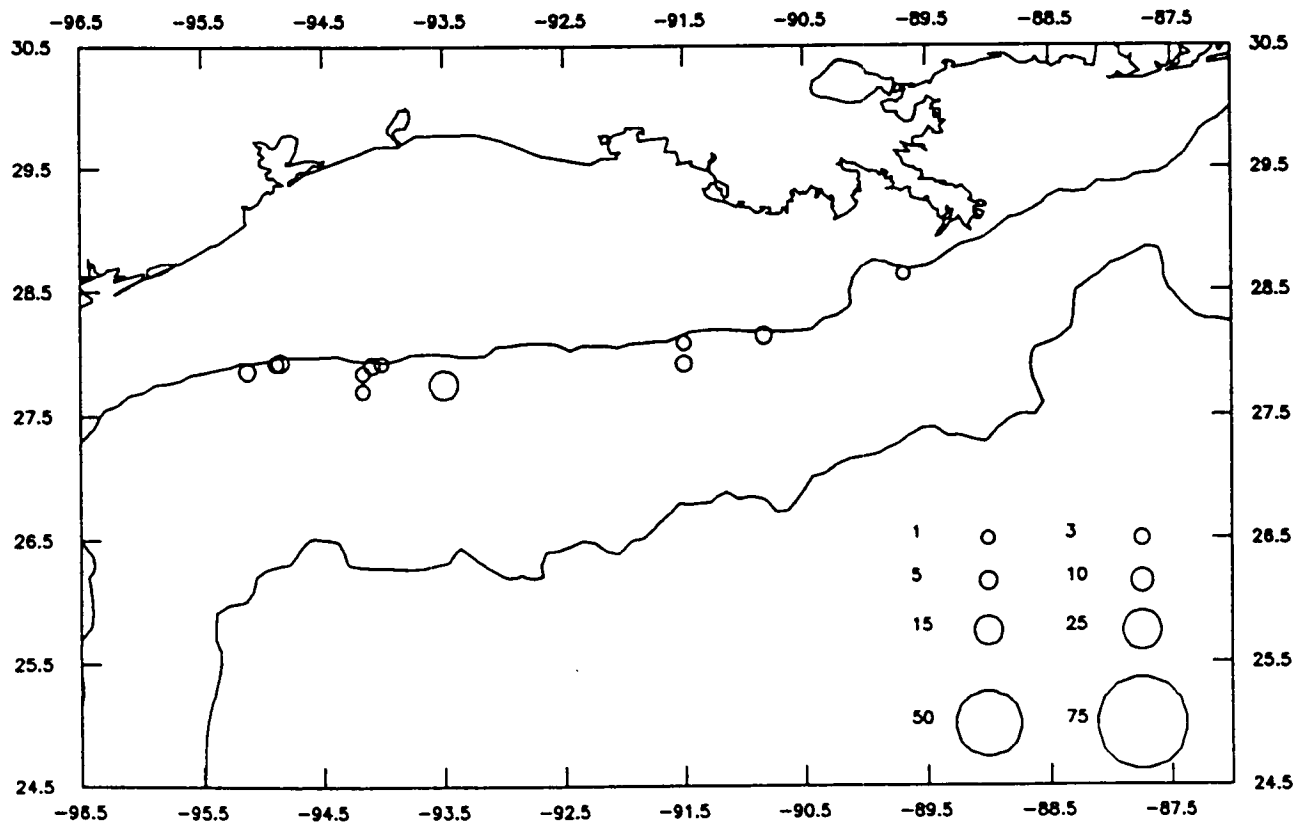
Stenella coeruleoalba Sightings: 2



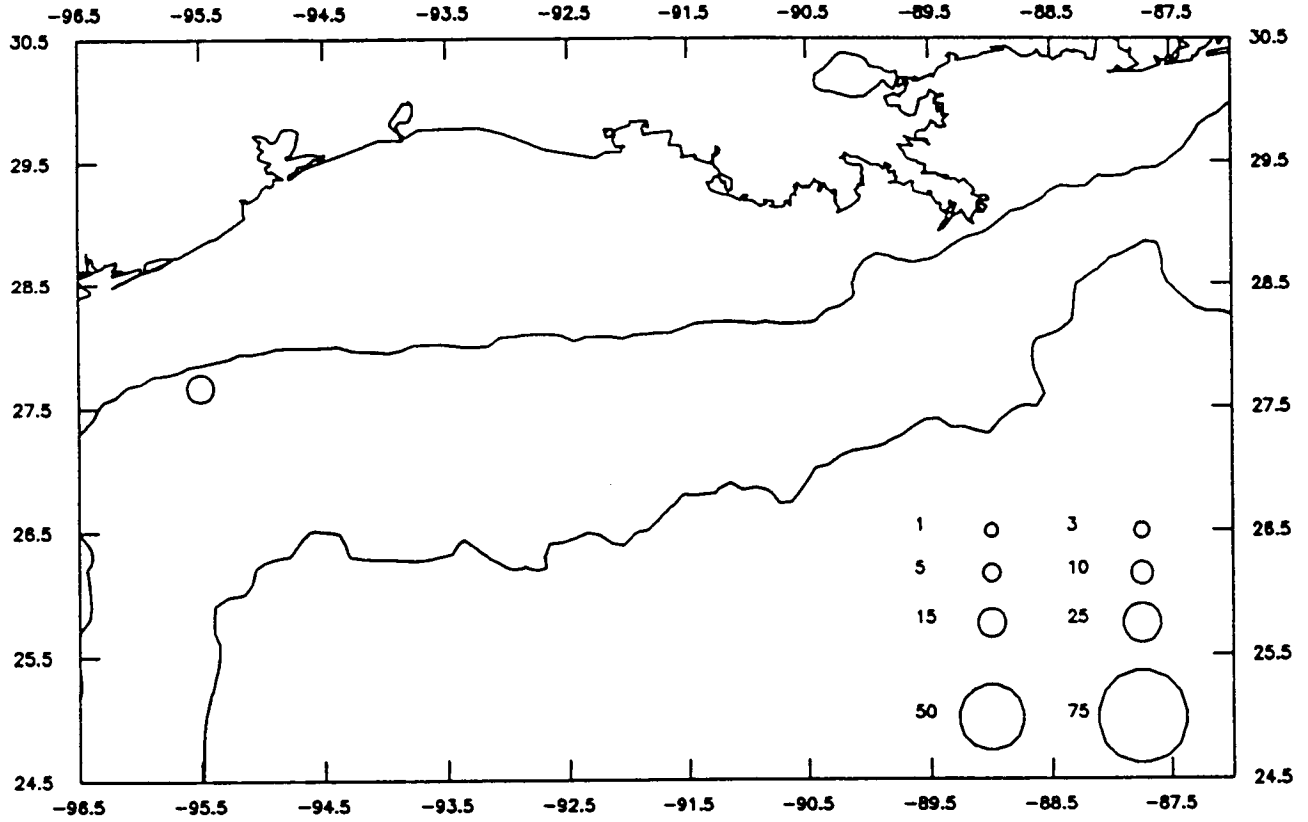
Stenella frontalis Sightings: 1



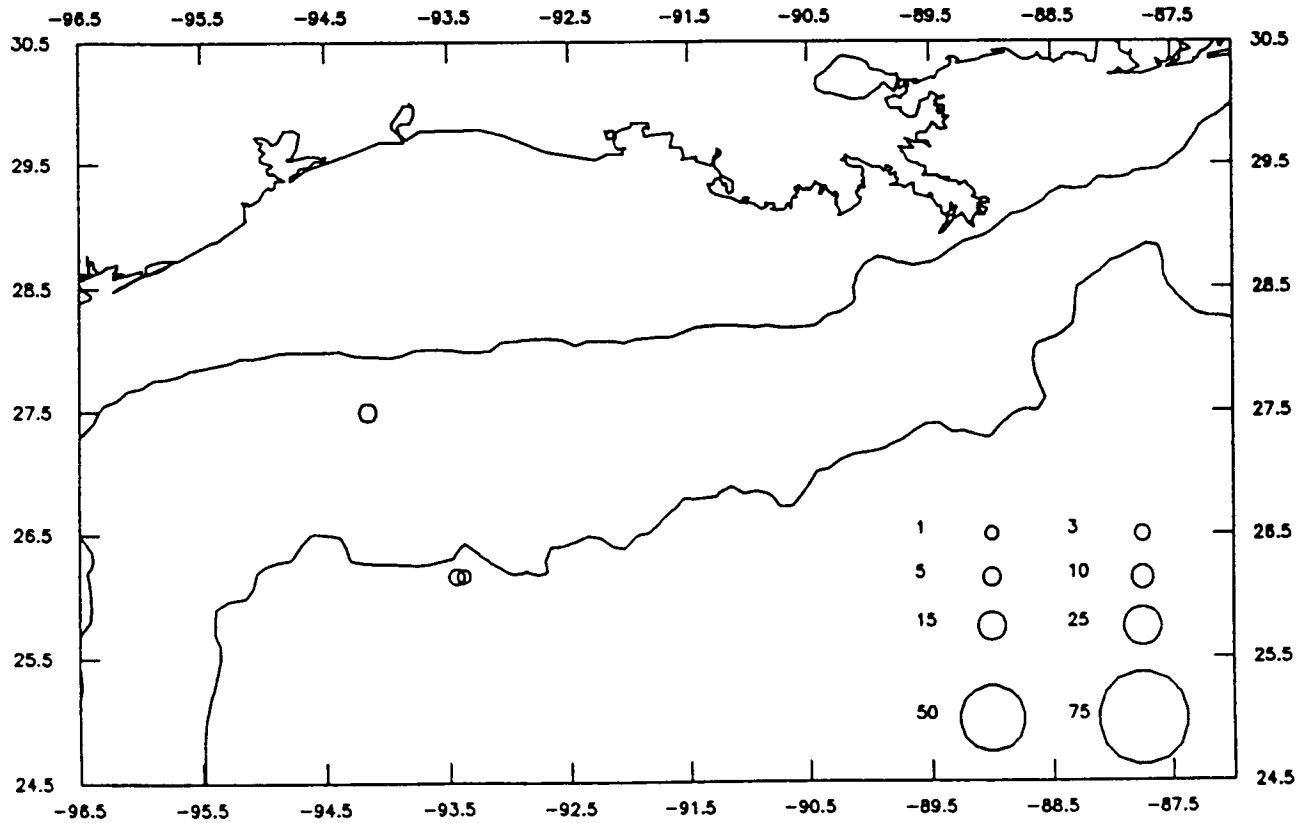
Tursiops truncatus Sightings: 12



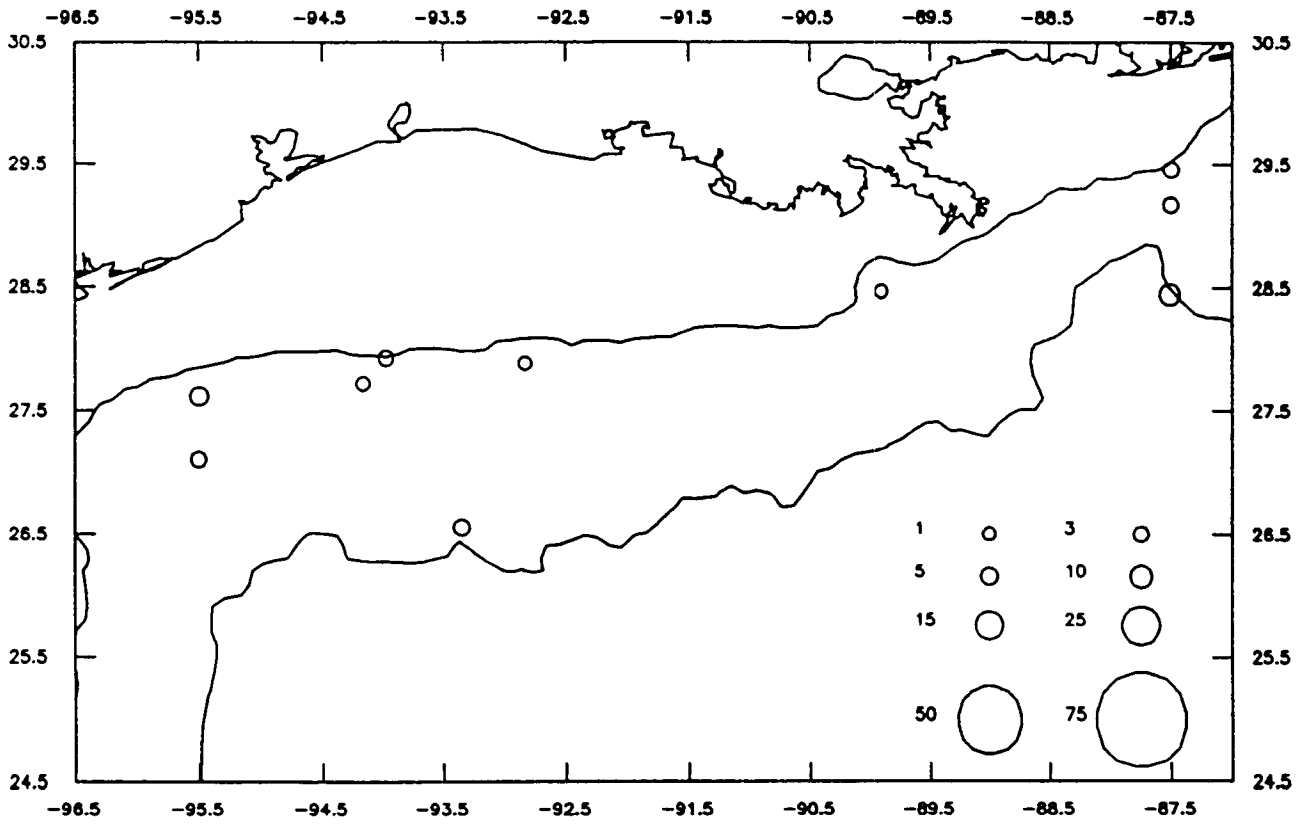
Tursiops truncatus or *Stenella frontalis* Sighting: 1



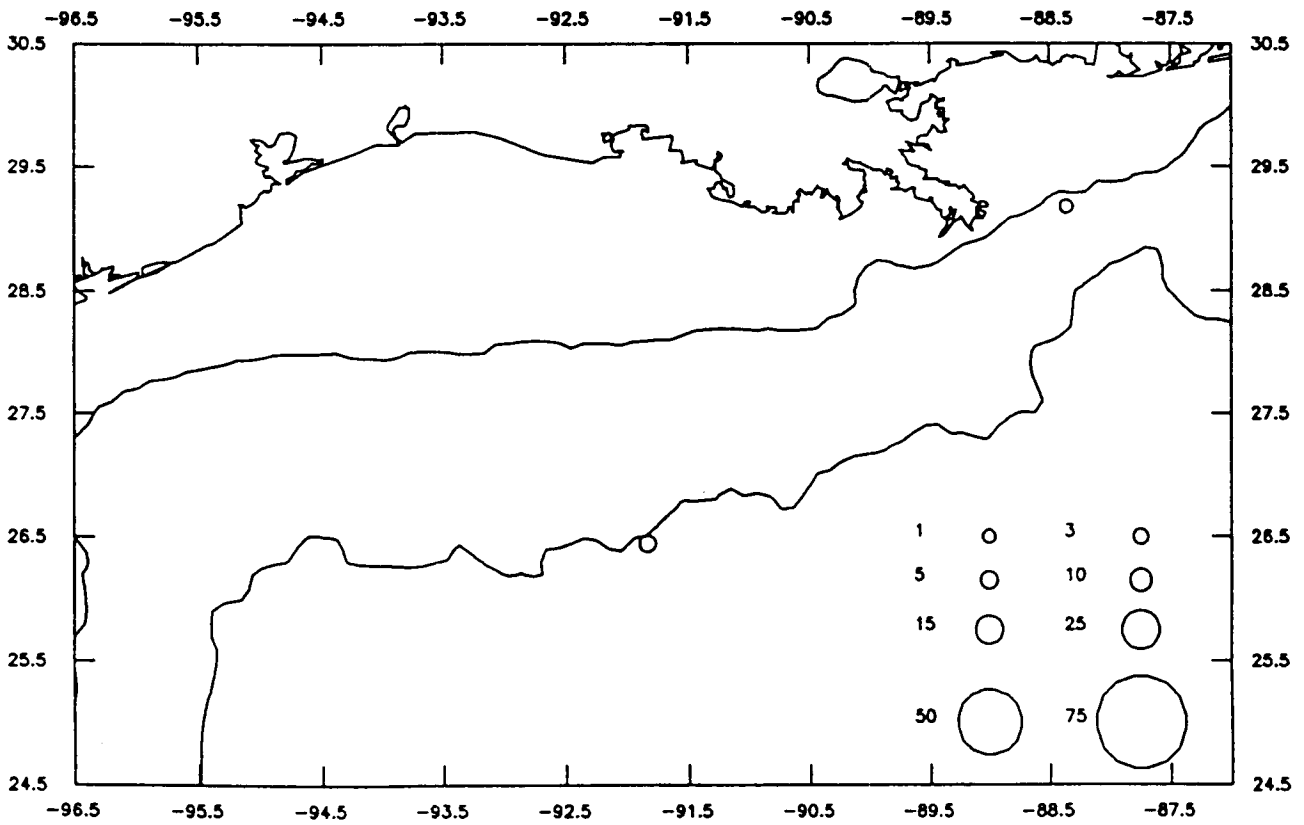
UNID Beaked Whale Sightings: 3



UNID Dolphin Sightings: 10



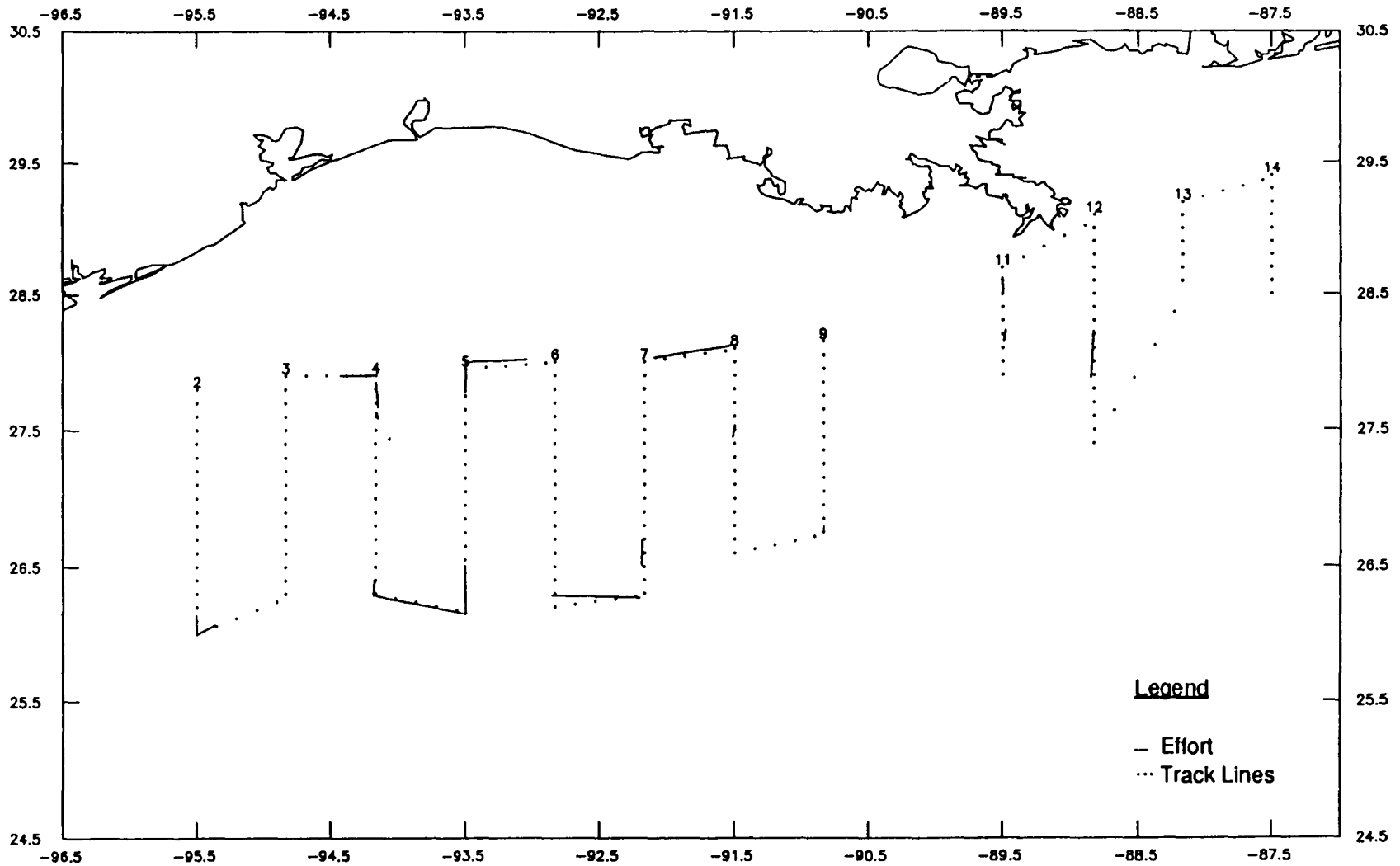
UNID Small Whale Sightings: 2



GULFCET CRUISE 03:

- MAP OF MARINE MAMMAL VISUAL EFFORT AND TRACK LINES SURVEYED
 - MARINE MAMMAL VISUAL DATA
 - DISTRIBUTION MAP OF TOTAL MARINE MAMMAL SIGHTINGS
- INDIVIDUAL MARINE MAMMAL SPECIES DISTRIBUTION MAPS
 - MAP OF BIRD EFFORT AND TRACK LINES SURVEYED
 - BIRD DATA
 - DISTRIBUTION MAP OF TOTAL BIRD SIGHTINGS
- INDIVIDUAL BIRD SPECIES AND BIRD GROUP DISTRIBUTION MAPS

Visual Effort & Track Lines Surveyed GulfCet Cruise 03



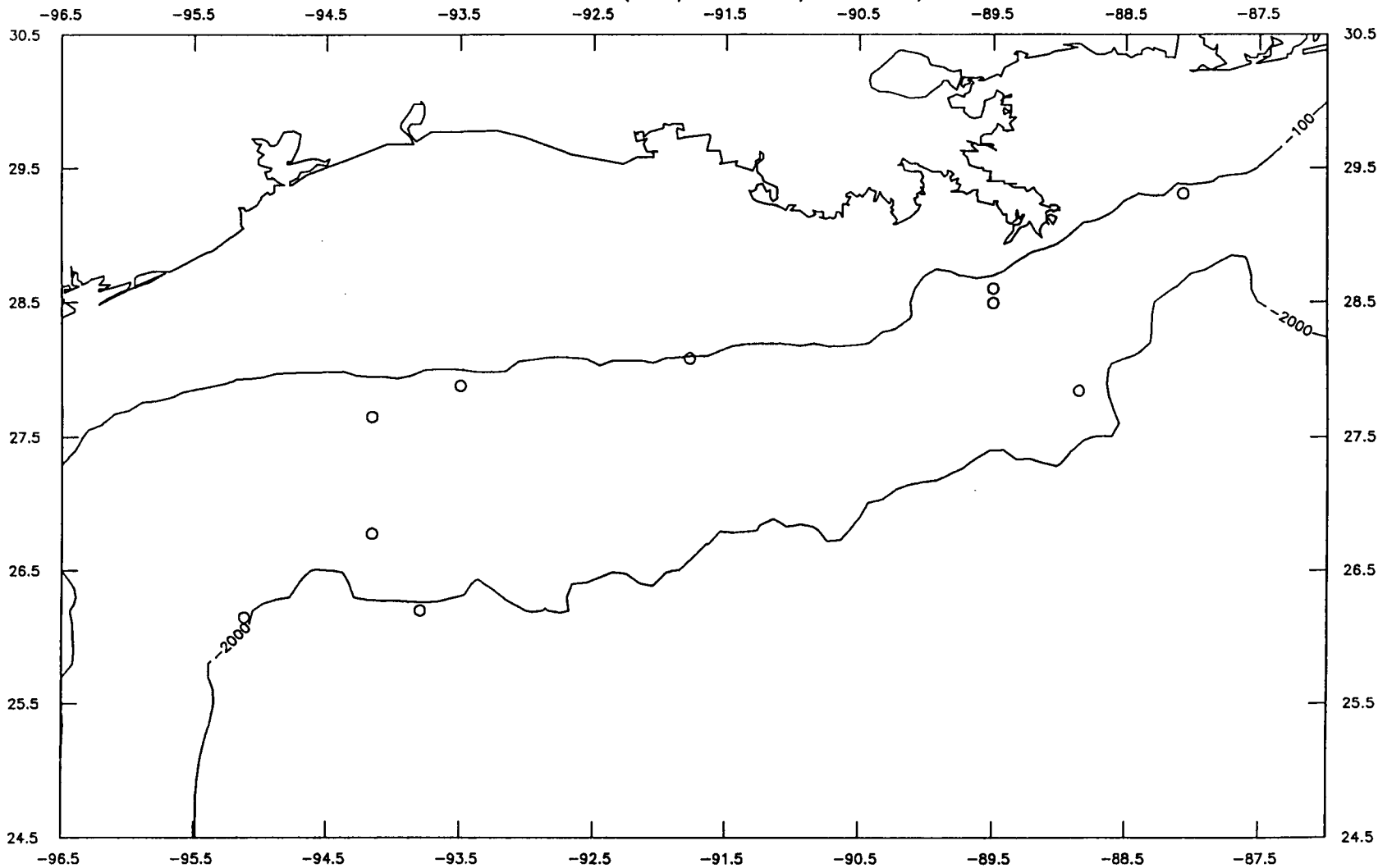
Cruise 03 Marine Mammal Visual Data

Date	Time	Species	Latitude	Longitude	Best	High	Low
11/10/92	0840	<i>Tursiops truncatus</i>	29° 19'	88° 04'	25	30	20
					20	25	20
11/10/92	0938	<i>Stenella attenuata</i>	27° 51'	88° 51'	12	14	11
11/12/92	0650	<i>Tursiops truncatus</i>	28° 36'	89° 30'	15	20	12
11/12/92	0740	<i>Stenella bredanensis</i>	28° 30'	89° 30'	12	15	10
11/15/92	1506	<i>Tursiops truncatus</i>	28° 05'	91° 47'	2	2	2
11/17/92	1621	<i>Tursiops truncatus</i>	27° 53'	93° 30'	20	18	15
11/18/92	1225	Unid. beaked whale	26° 12'	93° 48'	1	3	1
11/18/92	2213	<i>Stenella sp.</i>	26° 47'	94° 10'	5	5	5
11/19/92	1022	<i>Physeter macrocephalus</i>	27° 39'	94° 10'	1	1	1
					1	2	1
					1	1	1
11/20/92	1232	<i>Physeter macrocephalus</i>	26° 09'	95° 07'	1	1	1

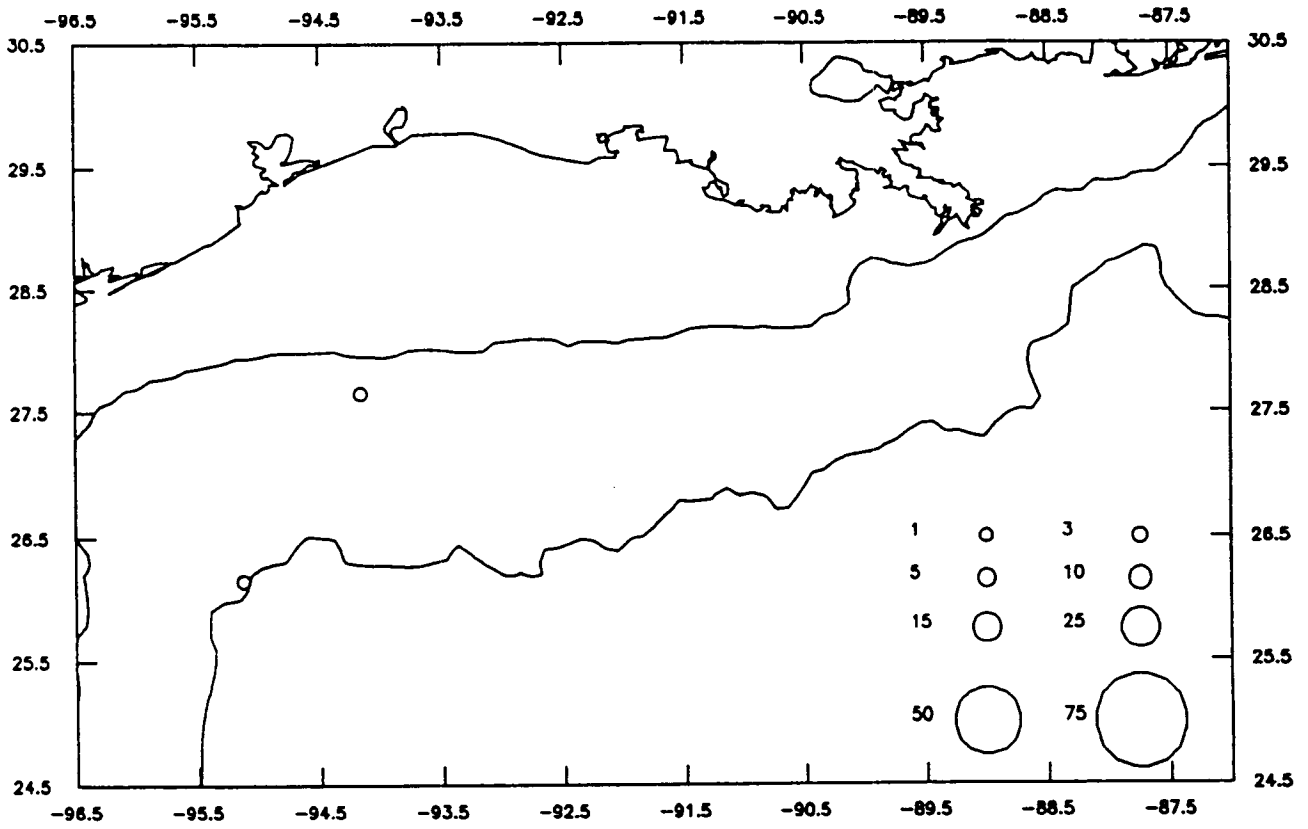
Total Marine Mammal Sightings : 10

GulfCet 03 (11/8-22/1992)

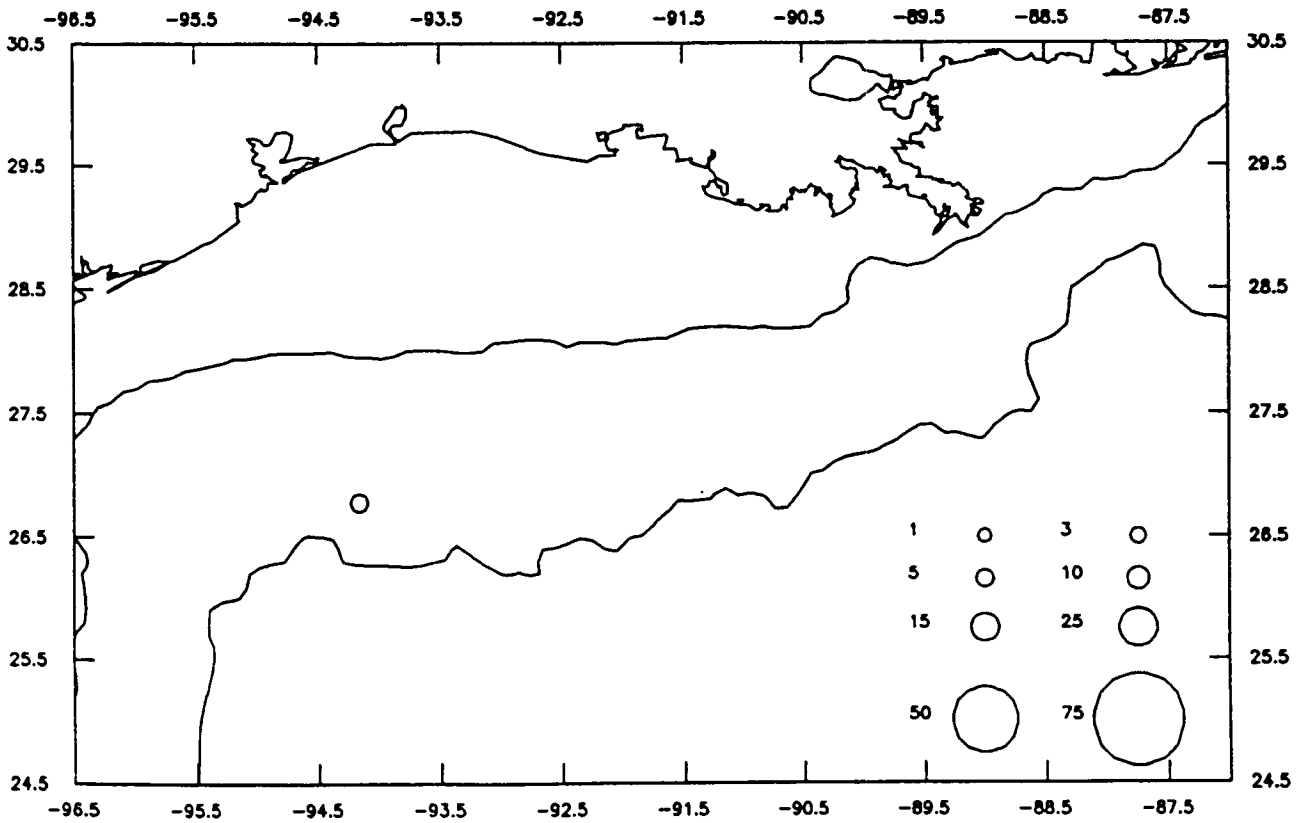
44



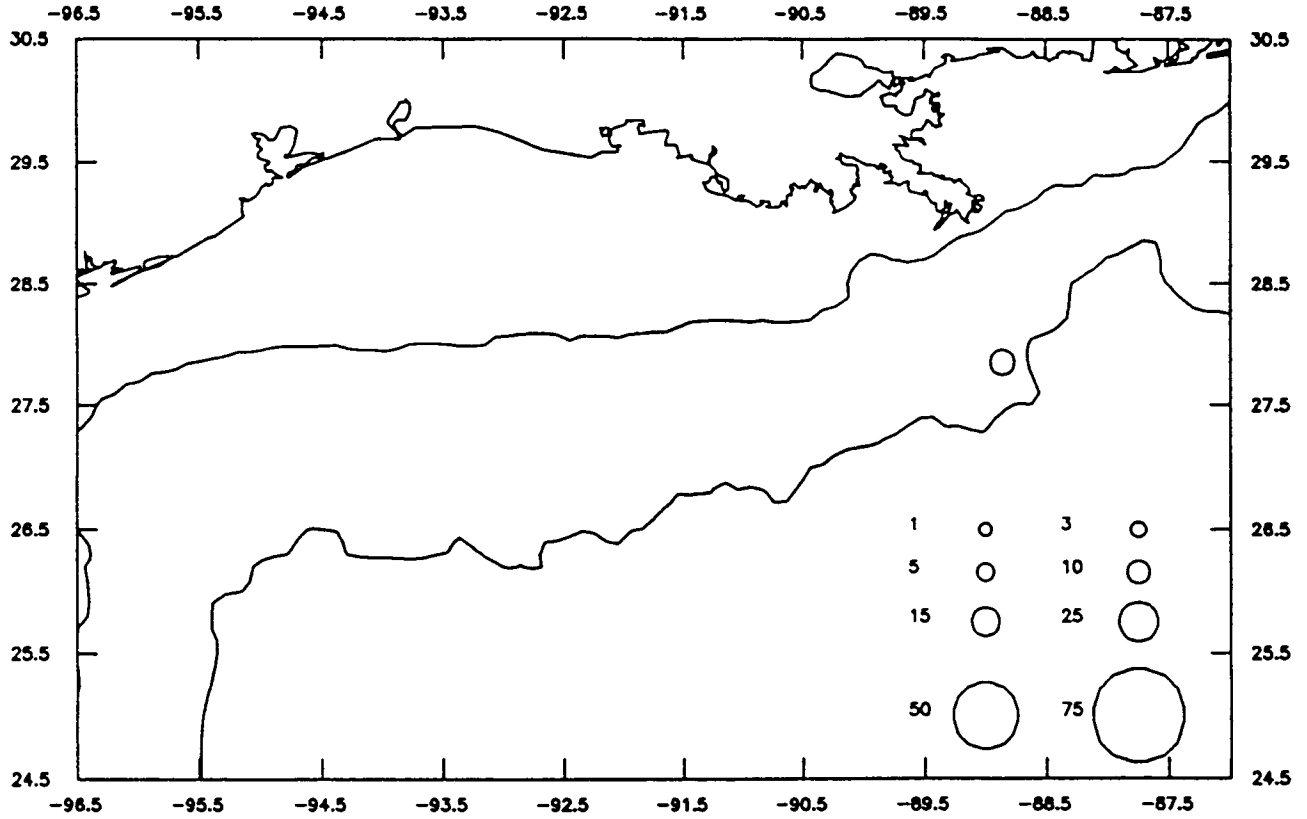
Physeter macrocephalus Sightings: 2



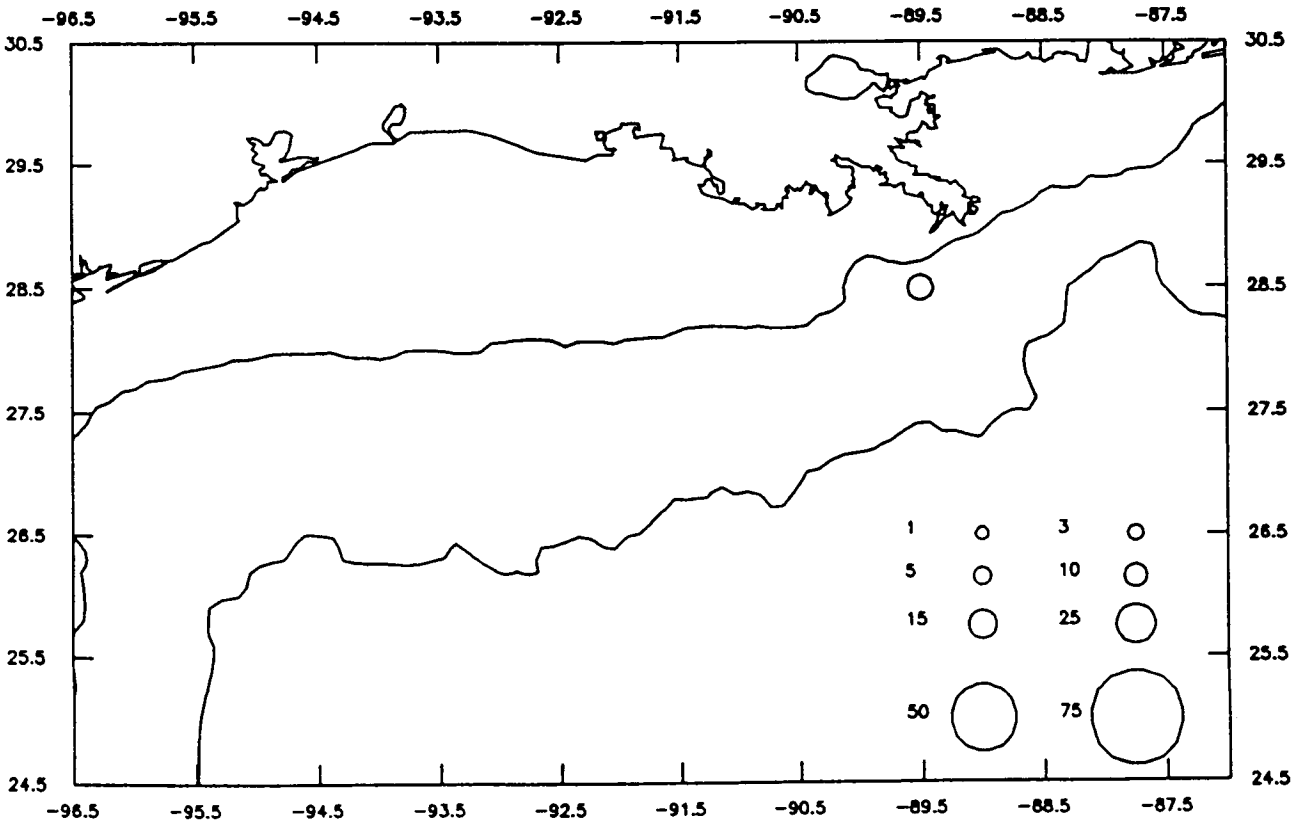
Stenella sp. Sighting: 1



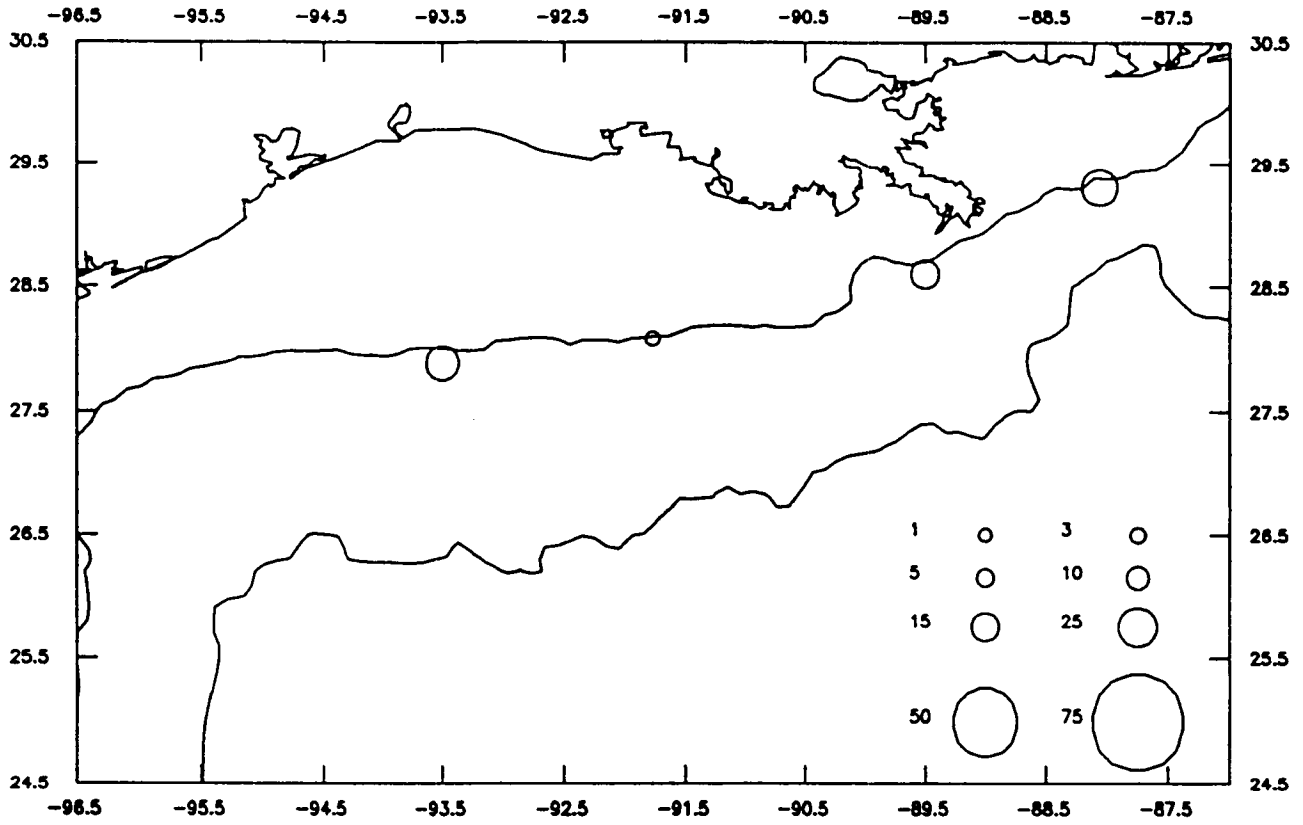
Stenella attenuata Sighting: 1



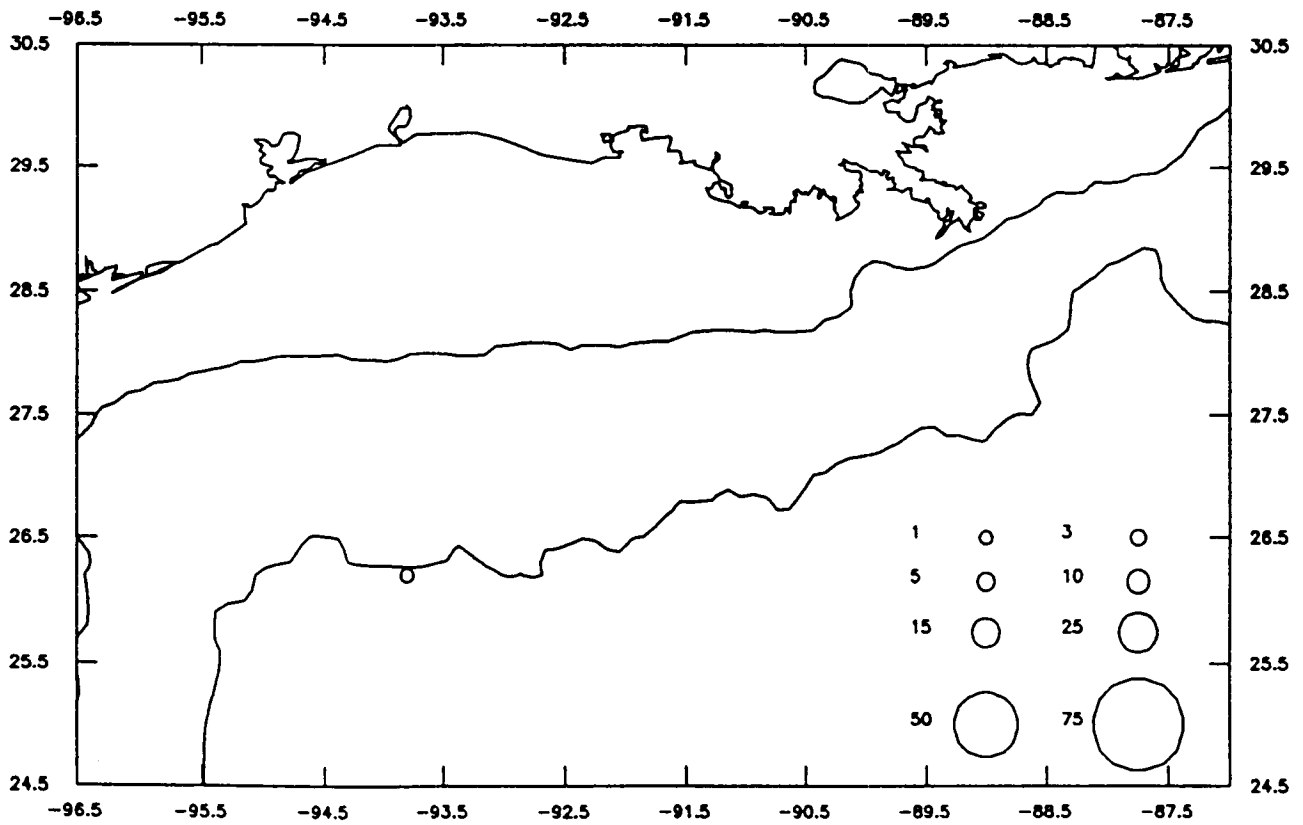
Stenella bredanensis Sighting: 1



Tursiops truncatus Sightings: 4

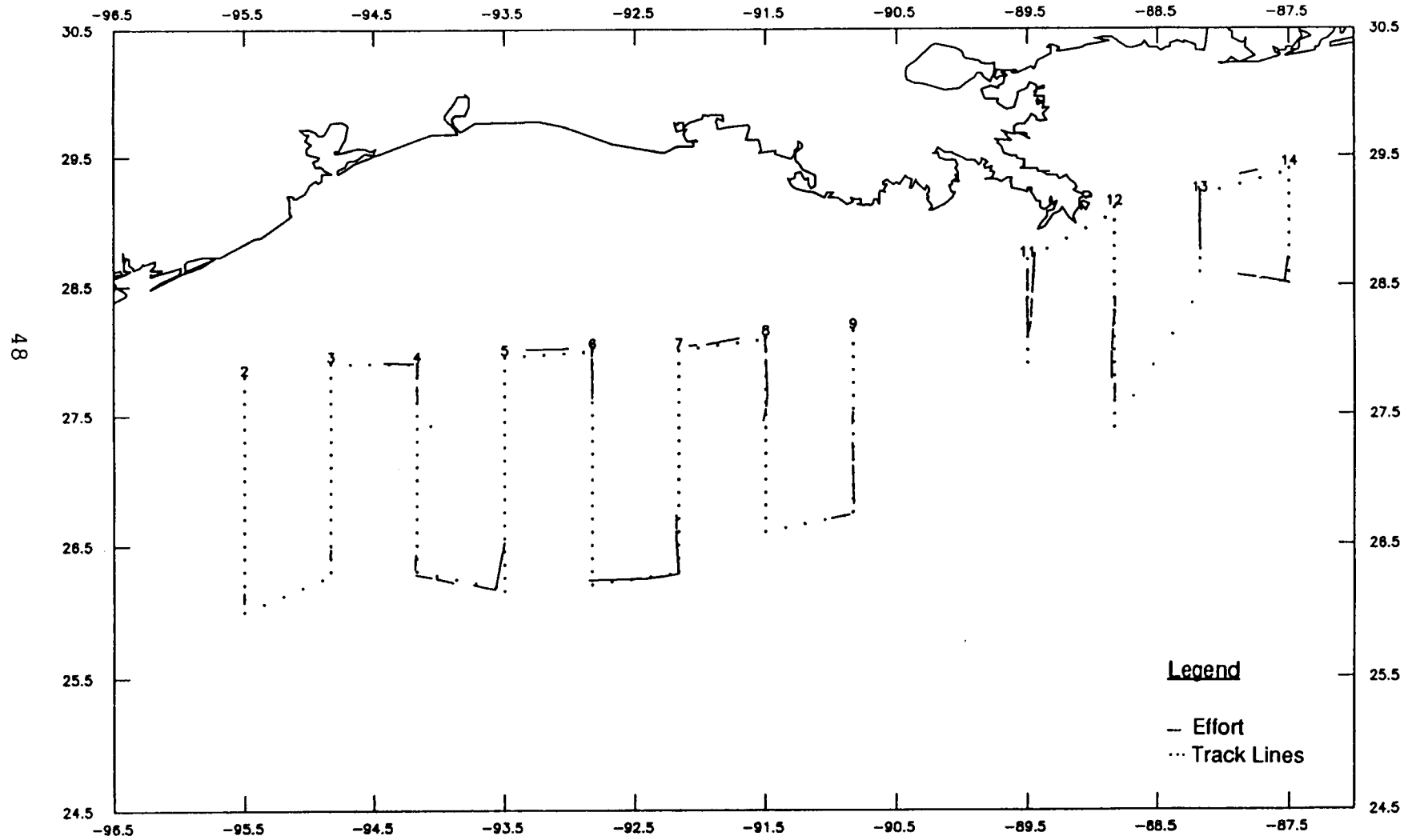


UNID Beaked Whale Sighting: 1



Bird Effort & Track Lines Surveyed

GulfCet Cruise 03



Cruise 03 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
09-Nov-92	1051	<i>Sula bassanus</i>	28°34.27	87° 49.60	1	12-Nov-92	0702	<i>Stercorarius sp.</i>	28° 32.87	89° 29.99	1
09-Nov-92	1052	<i>Sula bassanus</i>	28°34.27	87° 49.60	2	12-Nov-92	0732	Unid. Bird	28° 31.03	89° 29.87	1
09-Nov-92	1119	<i>Stercorarius sp.</i>	28°33.79	87° 46.19	1	12-Nov-92	0906	<i>Sterna anaethetus</i>	28° 21.24	89° 30.20	1
10-Nov-92	0642	<i>Stercorarius sp.</i>	29°22.93	87° 44.23	3	12-Nov-92	0950	<i>Stercorarius pomarinus</i>	28° 17.16	89° 30.10	1
10-Nov-92	0725	<i>Falco sparverius</i>	29°21.29	87° 51.27	1	12-Nov-92	1029	<i>Stercorarius sp.</i>	28° 13.45	89° 30.00	2
10-Nov-92	0746	<i>Larus argentatus</i>	29°20.83	87° 54.82	1	12-Nov-92	1029	<i>Stercorarius pomarinus</i>	28° 13.45	89° 30.00	1
10-Nov-92	0843	<i>Larus argentatus</i>	29°18.51	88° 04.16	1	12-Nov-92	1129	<i>Stercorarius pomarinus</i>	28° 06.86	89° 29.98	1
10-Nov-92	0843	<i>Stercorarius sp.</i>	29°18.51	88° 04.16	2	12-Nov-92	1327	<i>Stercorarius sp.</i>	28° 09.36	89° 28.90	18
10-Nov-92	1036	<i>Stercorarius sp.</i>	29°14.92	88° 10.39	1	12-Nov-92	1327	<i>Sula dactyltra</i>	28° 09.36	89° 28.90	3
10-Nov-92	1055	<i>Ardea herodias</i>	29°13.56	88° 06.71	1	12-Nov-92	1327	<i>Stercorarius pomarinus</i>	28° 09.36	89° 28.90	2
10-Nov-92	1125	<i>Sula dactyltra</i>	29°10.65	88° 06.71	1	12-Nov-92	1502	<i>Stercorarius pomarinus</i>	28° 27.00	89° 27.93	1
10-Nov-92	1125	<i>Sulid sp.</i>	29°10.65	88° 06.71	1	12-Nov-92	1615	<i>Sterna sp.(White-bk)</i>	28° 38.11	89° 27.34	2
10-Nov-92	1348	<i>Calonectris diomedea</i>	28°58.45	88° 06.83	1	14-Nov-92	0618	<i>Stercorarius sp.</i>	27° 30.47	90° 50.03	1
10-Nov-92	1433	<i>Puffinus sp.</i>	28°53.64	88° 10.41	1	14-Nov-92	0730	<i>Stercorarius sp.</i>	27° 25.70	90° 50.65	4
10-Nov-92	1450	<i>Stercorarius sp.</i>	28°56.00	88° 06.84	1	14-Nov-92	0900	Unid. Passerine			1
10-Nov-92	1450	<i>Stercorarius pomarinus</i>	28°56.00	88° 06.84	1	14-Nov-92	1054	<i>Puffinus lherminieri</i>	27° 12.30	90° 50.09	1
10-Nov-92	1518	<i>Sula dactyltra</i>	28°49.99	88° 06.50	1	14-Nov-92	1108	<i>Stercorarius sp.</i>	27° 10.59	90° 50.09	1
10-Nov-92	1653	<i>Stercorarius sp.</i>	28°45.85	88° 10.98	1	14-Nov-92	1108	<i>Stercorarius pomarinus</i>	27° 10.59	90° 50.09	1
11-Nov-92	0636	<i>Stercorarius sp.</i>	27° 38.96	88° 49.88	1	14-Nov-92	1209	<i>Stercorarius pomarinus</i>	27° 04.15	90° 50.04	1
11-Nov-92	0715	<i>Stercorarius sp.</i>	27° 43.07	88° 49.87	1	14-Nov-92	1249	<i>Stercorarius sp.</i>	26° 59.92	90° 49.81	1
11-Nov-92	0722	<i>Stercorarius pomarinus</i>	27° 43.68	88° 49.87	1	14-Nov-92	1344	<i>Stercorarius sp.</i>	26° 53.72	90° 49.34	1
11-Nov-92	0758	<i>Stercorarius pomarinus</i>	27° 46.28	88° 50.21	1	14-Nov-92	1543	<i>Stercorarius pomarinus</i>	26° 44.15	90° 50.48	1
11-Nov-92	0849	<i>Sterna sandvicensis</i>	27° 46.62	88° 51.20	1	14-Nov-92	1609	<i>Stercorarius sp.</i>	26° 44.15	90° 50.48	2
11-Nov-92	1002	<i>Larus atricilla</i>	27° 57.27	88° 51.45	1	14-Nov-92	1645	<i>Puffinus sp.</i>			2
11-Nov-92	1002	<i>Stercorarius pomarinus</i>	27° 57.27	88° 51.45	1	14-Nov-92	1645	<i>Sterna sp.(Lg. dark-bk)</i>			2
11-Nov-92	1018	<i>Stercorarius sp.</i>	27° 54.62	88° 51.46	1	15-Nov-92	0711	<i>Stercorarius sp.</i>			1
11-Nov-92	1018	<i>Stercorarius sp.</i>	27° 54.62	88° 51.46	2	15-Nov-92	0837	Unid. Bird			1
11-Nov-92	1054	Unid. Storm-Petrel	27° 58.29	88° 51.26	2	15-Nov-92	0954	<i>Stercorarius pomarinus</i>	27° 44.88	91° 29.83	1
11-Nov-92	1134	<i>Stercorarius sp.</i>	28° 02.39	88° 50.94	1	15-Nov-92	1201	<i>Stercorarius pomarinus</i>	27° 59.44	91° 29.90	1
11-Nov-92	1135	<i>Stercorarius pomarinus</i>	28° 02.39	88° 50.94	1	15-Nov-92	1309	<i>Larus argentatus</i>	28° 07.28	91° 30.05	1
11-Nov-92	1155	<i>Sula dactyltra</i>	28° 04.57	88° 50.80	1	15-Nov-92	1333	<i>Stercorarius pomarinus</i>	28° 07.24	91° 30.59	1
11-Nov-92	1155	<i>Stercorarius pomarinus</i>	28° 04.57	88° 50.80	2	15-Nov-92	1602	<i>Mimus polyglottos</i>			1
11-Nov-92	1155	<i>Puffinus sp.</i>	28° 04.57	88° 50.80	1	15-Nov-92	1659	<i>Stercorarius sp.</i>			1
11-Nov-92	1216	<i>Stercorarius sp.</i>	28° 06.67	88° 50.68	1	16-Nov-92	0718	<i>Stercorarius sp.</i>	26° 42.00	92° 11.21	1
11-Nov-92	1315	Unid. Storm-Petrel	28° 12.00	88° 50.00	3	16-Nov-92	0718	<i>Stercorarius pomarinus</i>	26° 42.00	92° 11.21	1
11-Nov-92	1328	<i>Stercorarius sp.</i>	28° 13.90	88° 50.13	1	16-Nov-92	0815	<i>Larus atricilla</i>			1
11-Nov-92	1357	<i>Puffinus sp.</i>	28° 16.86	88° 49.81	1	16-Nov-92	0920	<i>Puffinus lherminieri</i>			1
11-Nov-92	1426	Unid. Passerine	28° 19.79	88° 49.68	1	16-Nov-92	0922	<i>Puffinus sp.</i>			2
11-Nov-92	1456	<i>Calonectris diomedea</i>	28° 22.80	88° 49.67	1	16-Nov-92	0932	<i>Stercorarius sp.</i>	26° 26.96	92° 10.94	1
11-Nov-92	1511	<i>Stercorarius pomarinus</i>	28° 24.49	88° 49.76	1	16-Nov-92	0942	<i>Stercorarius sp.</i>	26° 25.62	92° 10.89	5
11-Nov-92	1558	<i>Stercorarius sp.</i>	28° 26.12	88° 50.34	1	16-Nov-92	0955	<i>Puffinus lherminieri</i>	26° 25.03	92° 10.86	2

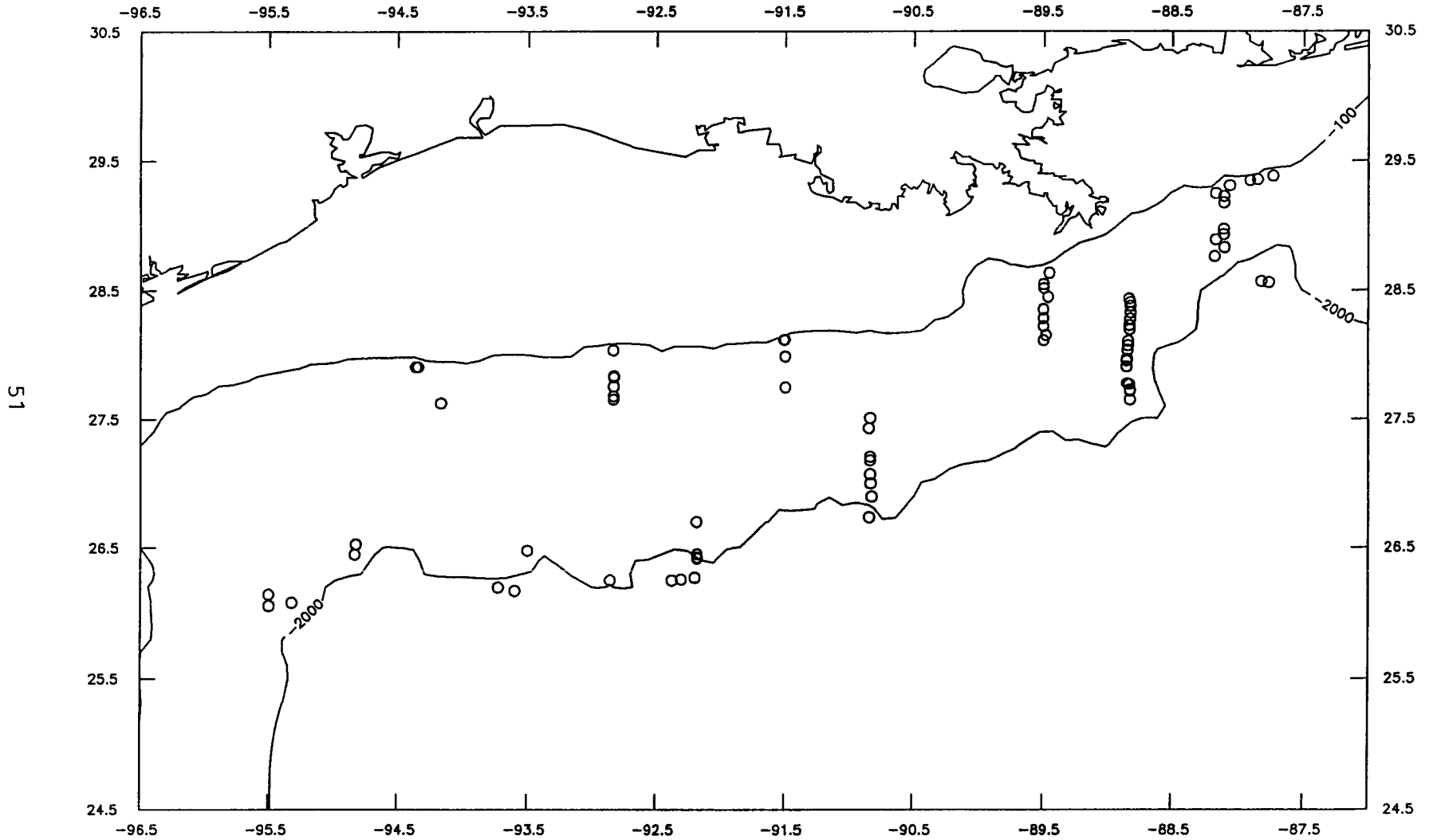
Obs.= Number Observed

Cruise 03 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.
16-Nov-92	1216	<i>Stercorarius sp.</i>	26° 16.15	92° 11.98	3
16-Nov-92	1252	<i>Puffinus lherminieri</i>	26° 15.34	92° 18.35	1
16-Nov-92	1315	<i>Stercorarius pomarinus</i>	26° 14.94	92° 22.68	1
16-Nov-92	1458	<i>Stercorarius sp.</i>			1
16-Nov-92	1655	<i>Stercorarius pomarinus</i>	26° 14.96	92° 51.59	1
17-Nov-92	0657	<i>Stercorarius pomarinus</i>	27° 39.09	92° 50.07	1
17-Nov-92	0711	<i>Stercorarius sp.</i>	27° 40.70	92° 50.11	1
17-Nov-92	0753	<i>Puffinus lherminieri</i>	27° 45.32	92° 49.96	1
17-Nov-92	0831	<i>Stercorarius sp.</i>	27° 49.52	92° 49.84	1
17-Nov-92	0838	<i>Stercorarius pomarinus</i>	27° 50.23	92° 49.81	1
17-Nov-92	1117	<i>Stercorarius pomarinus</i>	28° 02.27	92° 50.18	1
18-Nov-92	0650	<i>Stercorarius sp.</i>	26° 28.63	93° 30.05	1
18-Nov-92	0650	<i>Puffinus sp.</i>	26° 28.63	93° 30.05	1
18-Nov-92	0716	<i>Stercorarius sp.</i>			1
18-Nov-92	0723	<i>Sterna sp.(White-bk)</i>			1
18-Nov-92	0731	<i>Stercorarius sp.</i>			3
18-Nov-92	1110	<i>Stercorarius sp.</i>	26° 10.16	93° 35.92	2
18-Nov-92	1159	<i>Sula dactvitra</i>	26° 11.72	93° 43.57	1
18-Nov-92	1642	<i>Stercorarius sp.</i>			1
18-Nov-92	1739	Unid. Swallow			1
19-Nov-92	0702	<i>Stercorarius sp.</i>	27° 37.49	94° 09.85	1
19-Nov-92	1130	<i>Puffinus lherminieri</i>	27° 54.51	94° 20.59	3
19-Nov-92	1136	Unid. Large Shearwater	27° 54.52	94° 21.67	2
20-Nov-92	0717	Unid. Shearwater	26° 31.61	94° 49.51	1
20-Nov-92	0727	<i>Phaethon lepturus</i>	26° 31.79	94° 49.48	1
20-Nov-92	0801	<i>Stercorarius sp.</i>	26° 26.98	94° 50.08	1
20-Nov-92	1402	<i>Puffinus sp.</i>	26° 04.85	95° 19.53	2
20-Nov-92	1630	<i>Stercorarius sp.</i>	26° 03.38	95° 30.11	1
20-Nov-92	1630	<i>Larus atricilla</i>	26° 03.38	95° 30.11	1
20-Nov-92	1732	<i>Stelgidopteryx serripenni</i>	26° 08.57	95° 30.18	1
20-Nov-92	1732	<i>Puffinus sp.</i>	26° 08.57	95° 30.18	1

Total Bird Sightings : 97

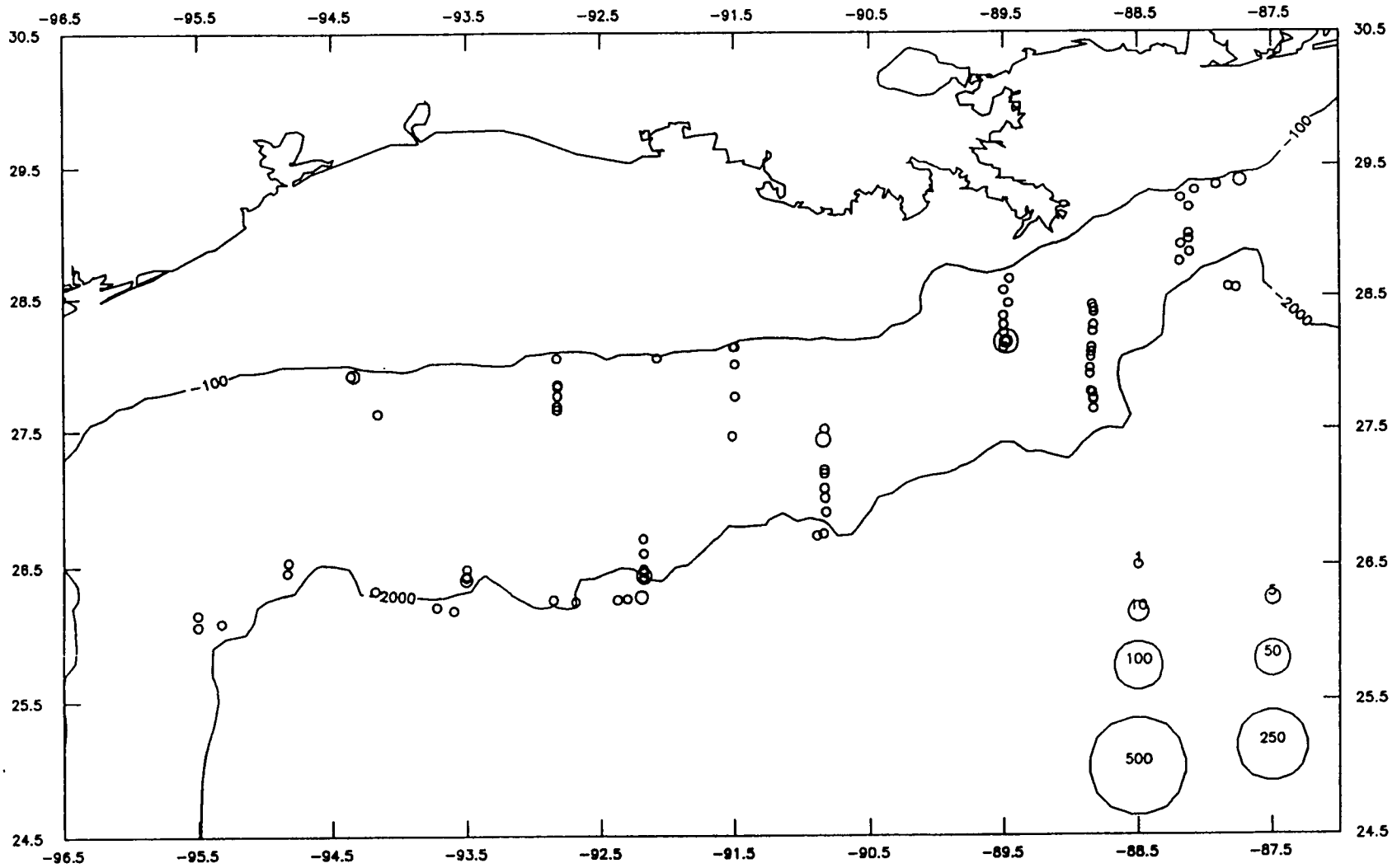
GulfCet 03 (11/8-22/92)



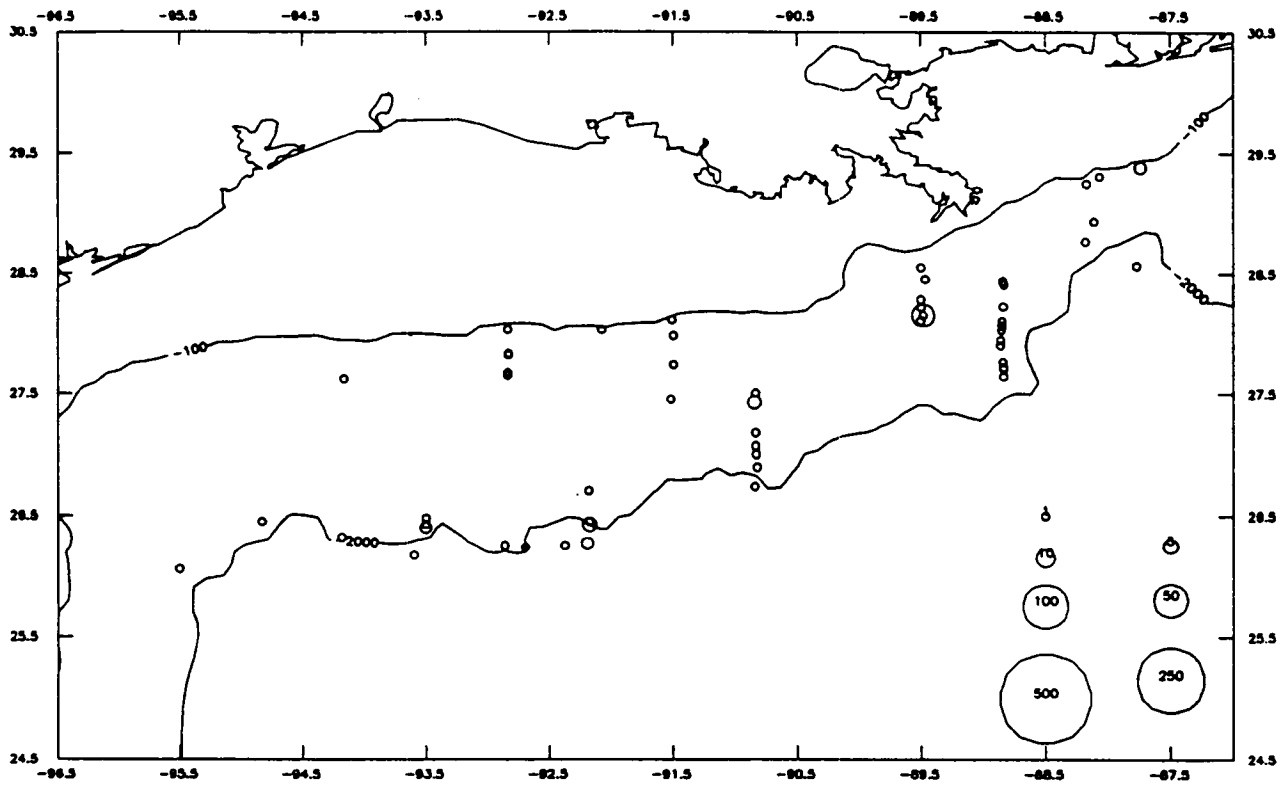
TOTAL SEABIRD SIGHTINGS: 112

GulfCet 03: 11/8-22/92

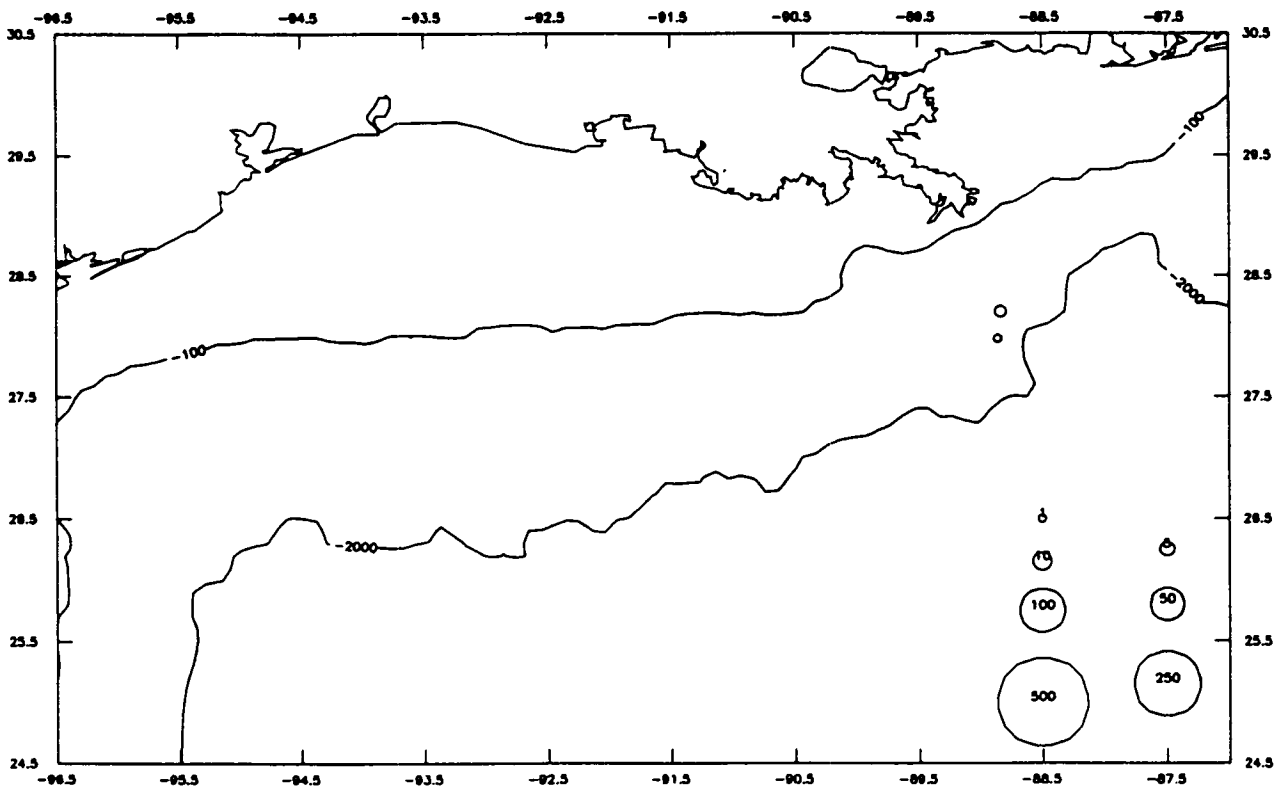
52



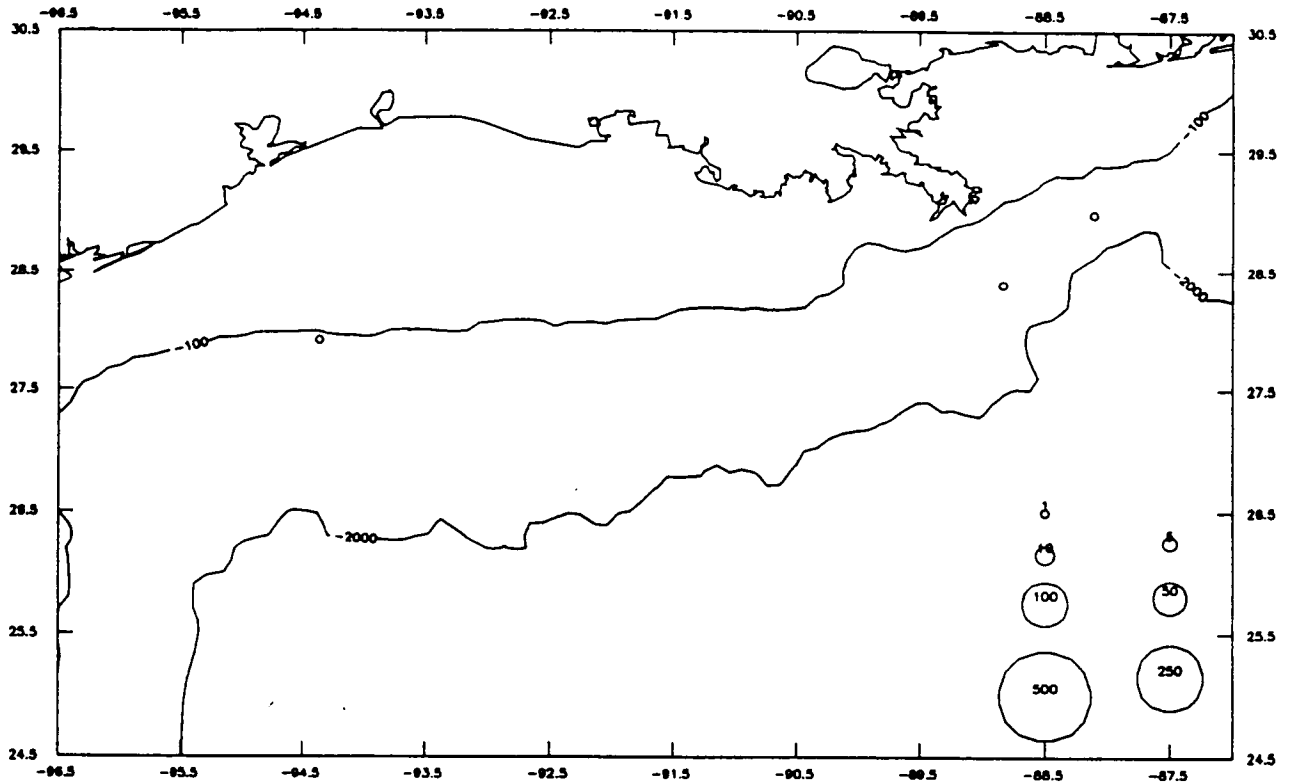
Stercorarius pomarinus and *Stercorarius* spp. Sightings: 67



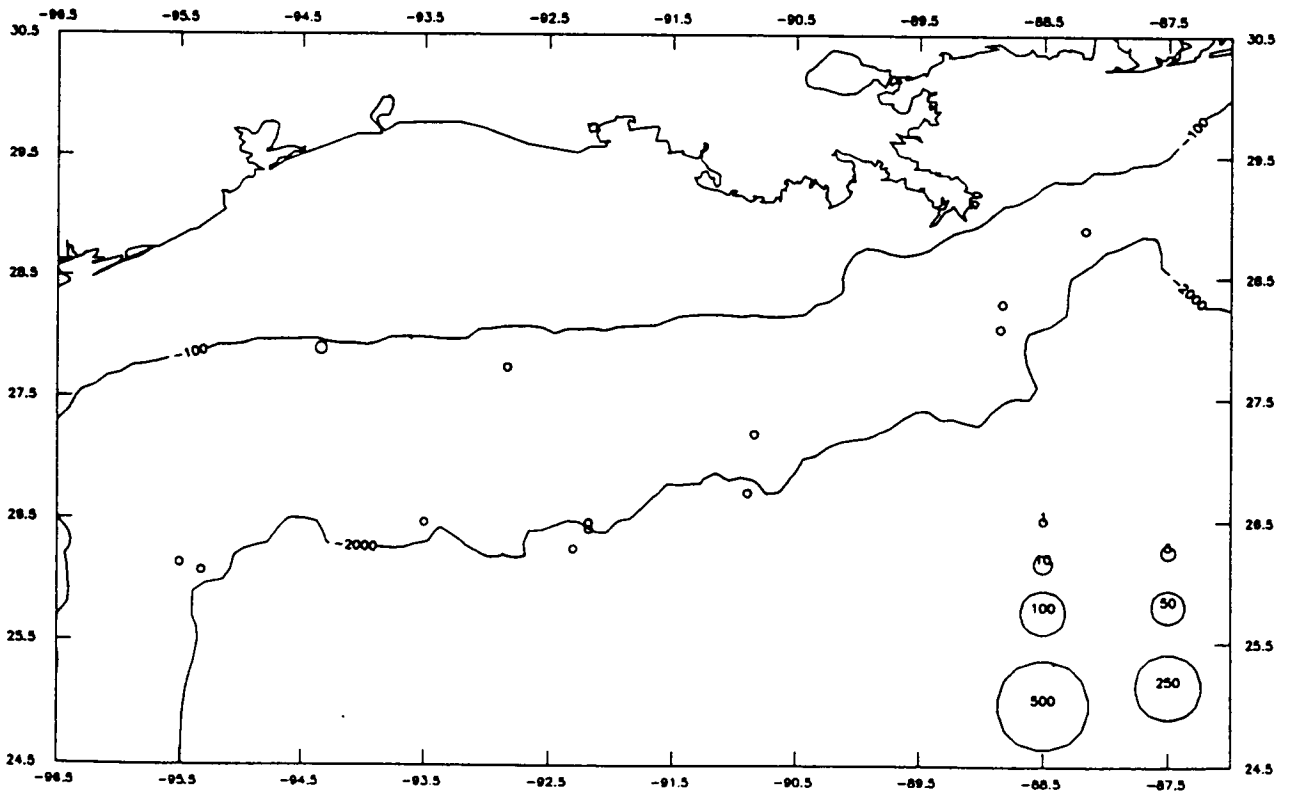
Storm-petrel spp. Sightings: 2



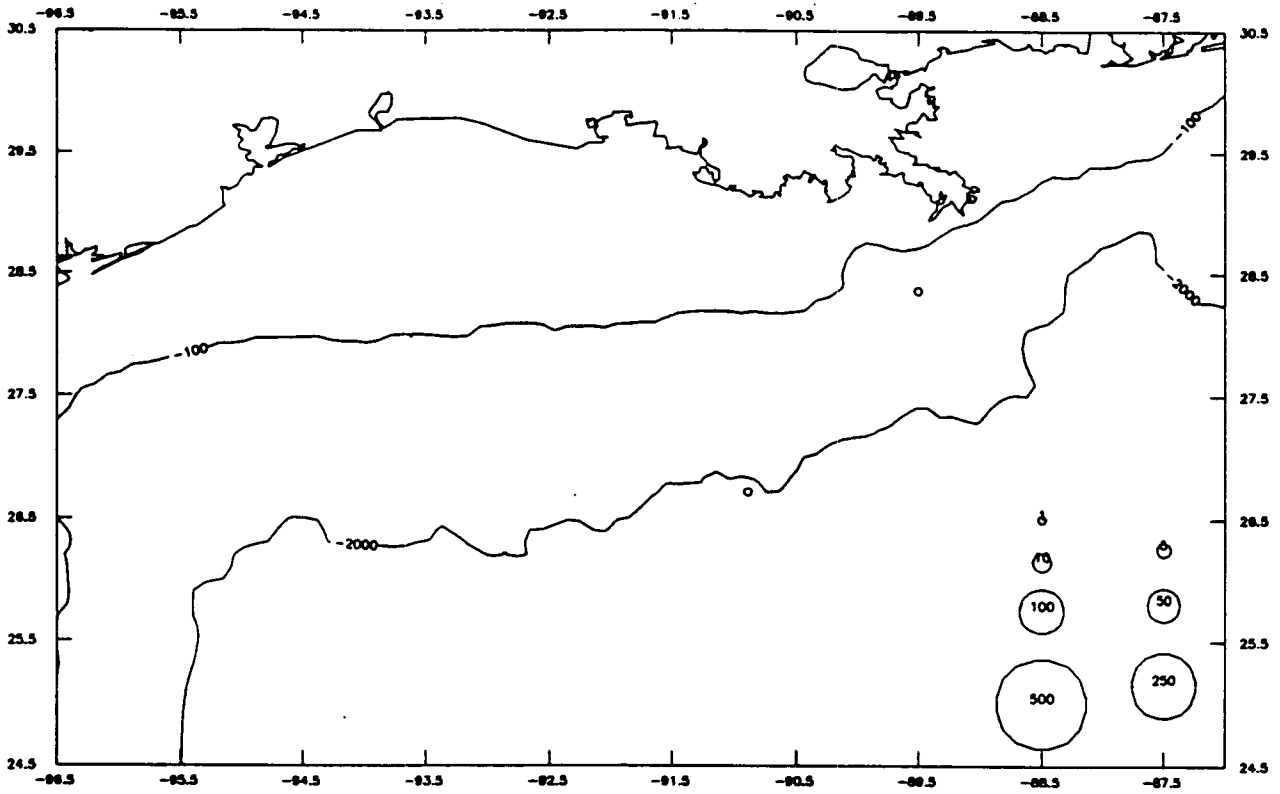
Calonectris diomedea and UNID Large Shearwater sp. Sightings: 4



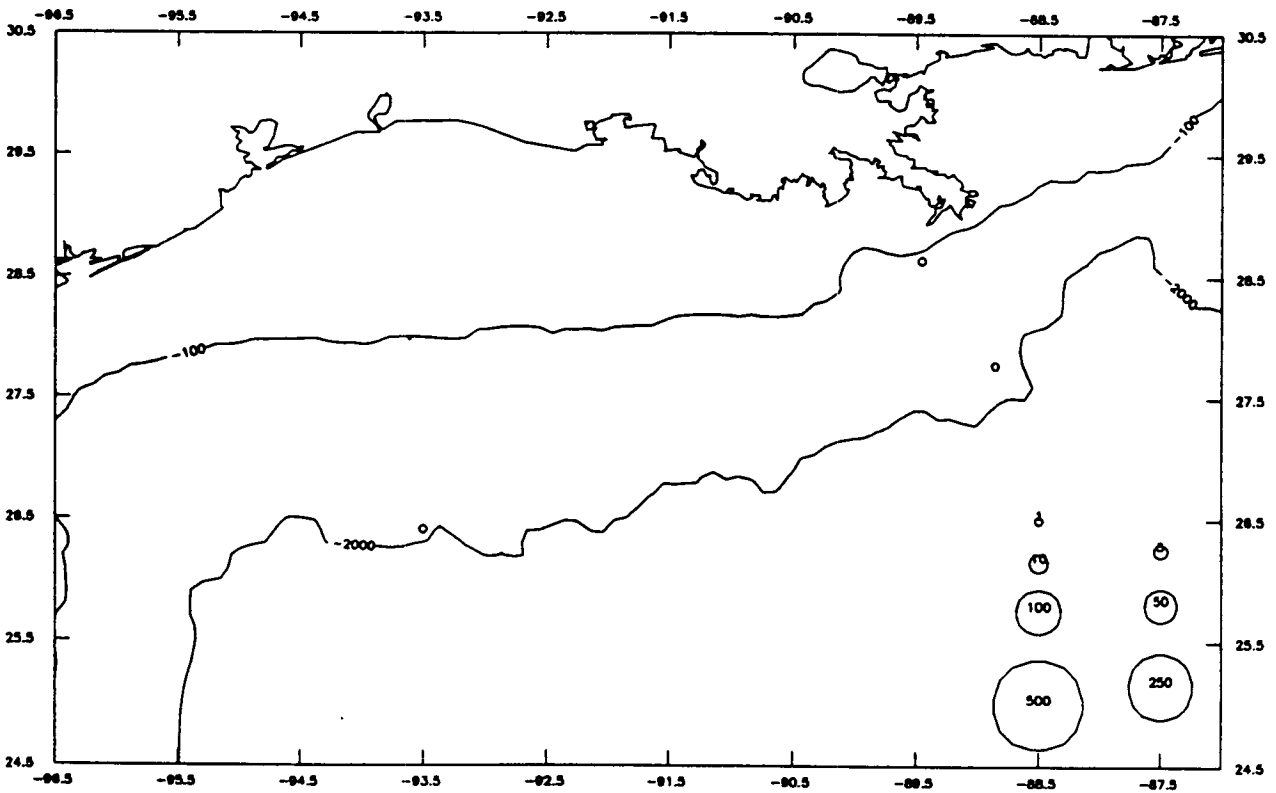
Puffinus lhermineri and UNID *Puffinus* spp. Sightings: 17



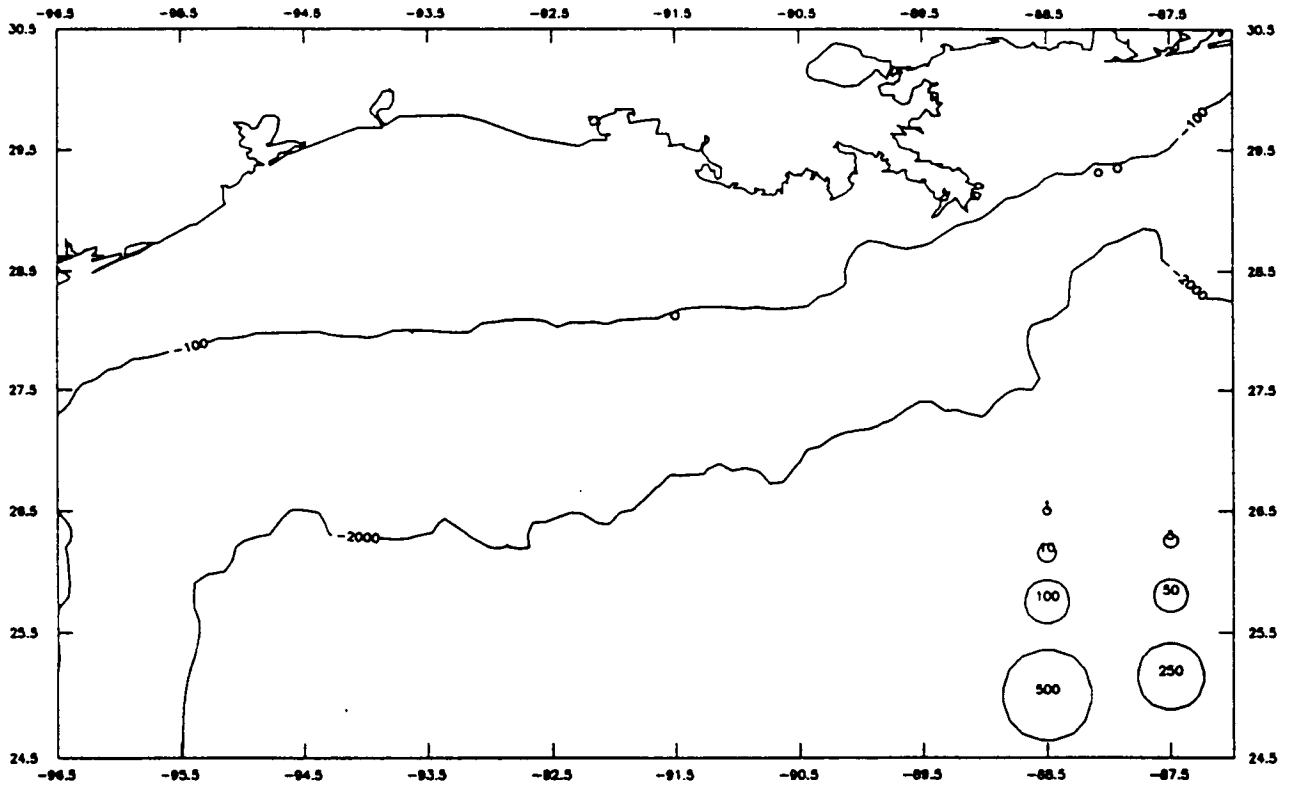
UNID *Sterna* spp. (Dark-backed) Sightings: 2



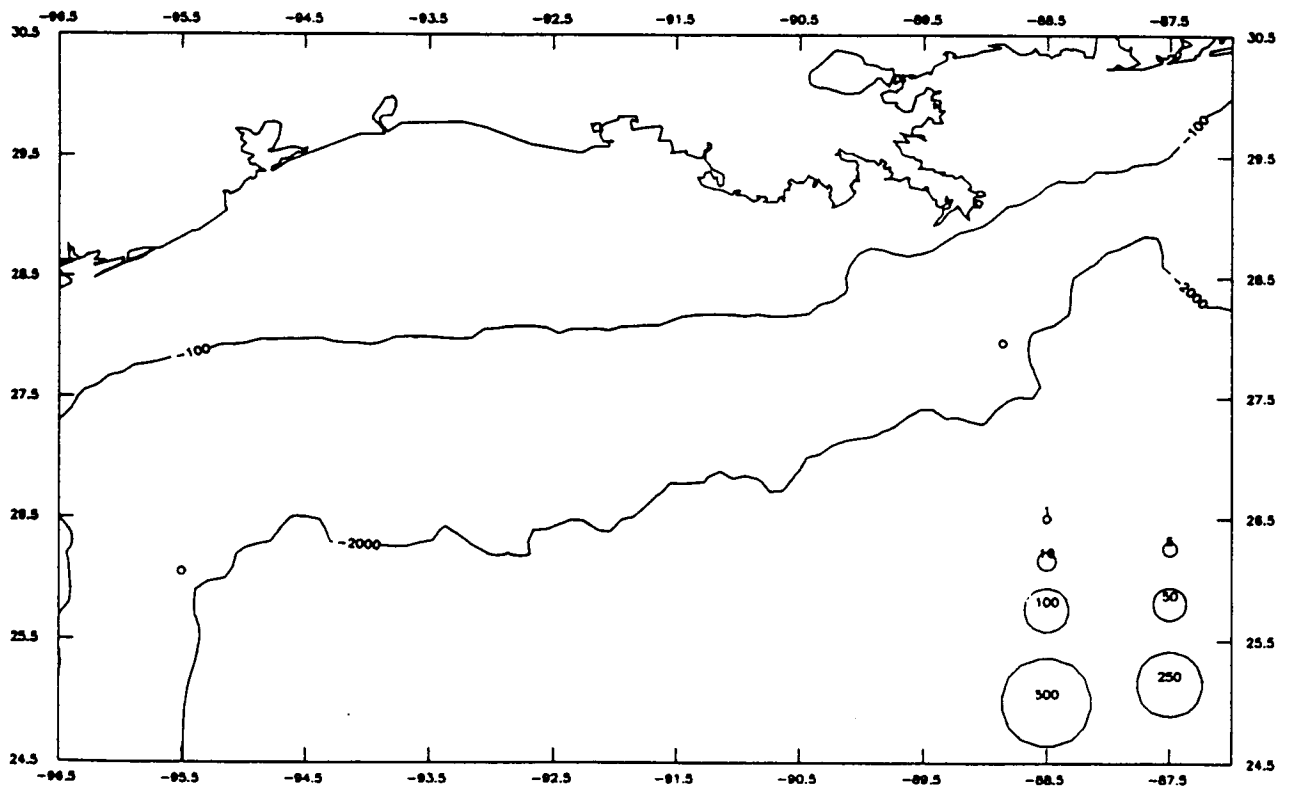
Sterna spp. (White-backed) Sightings: 3



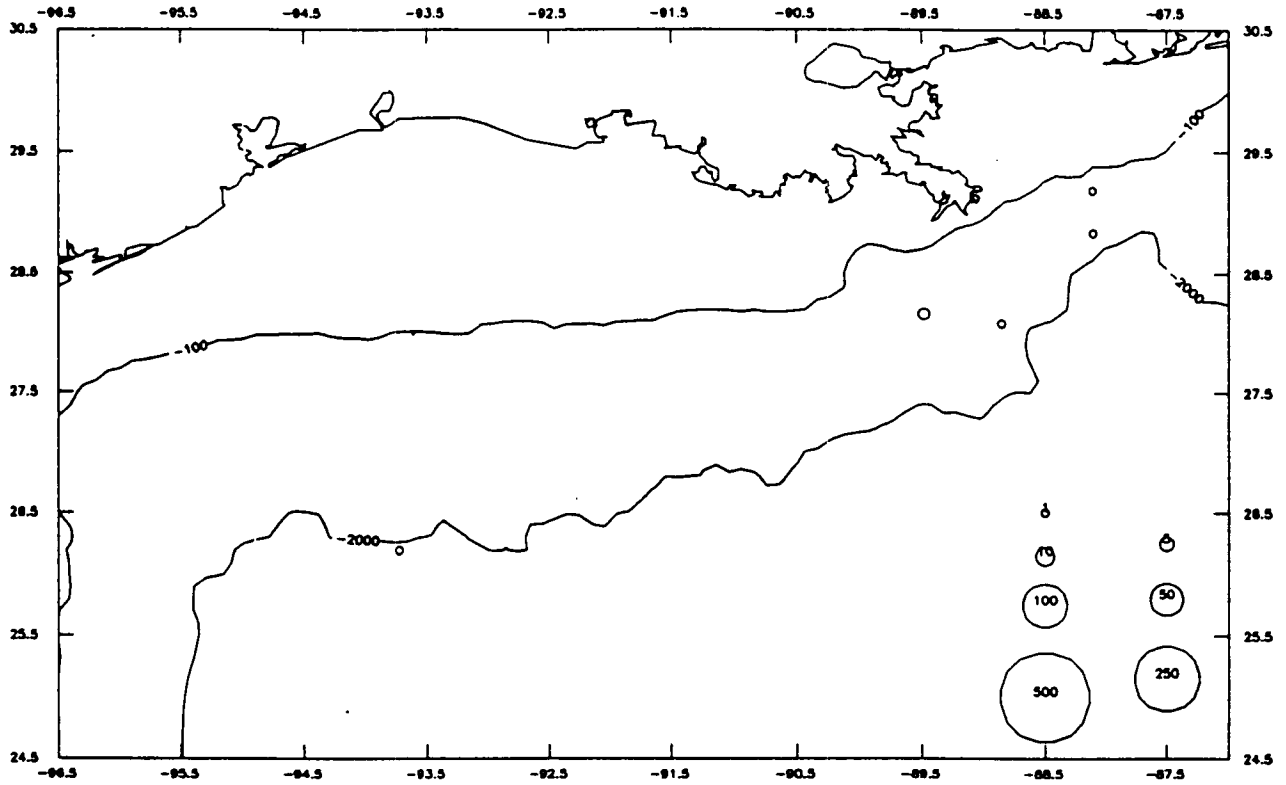
Larus argentatus Sightings: 3



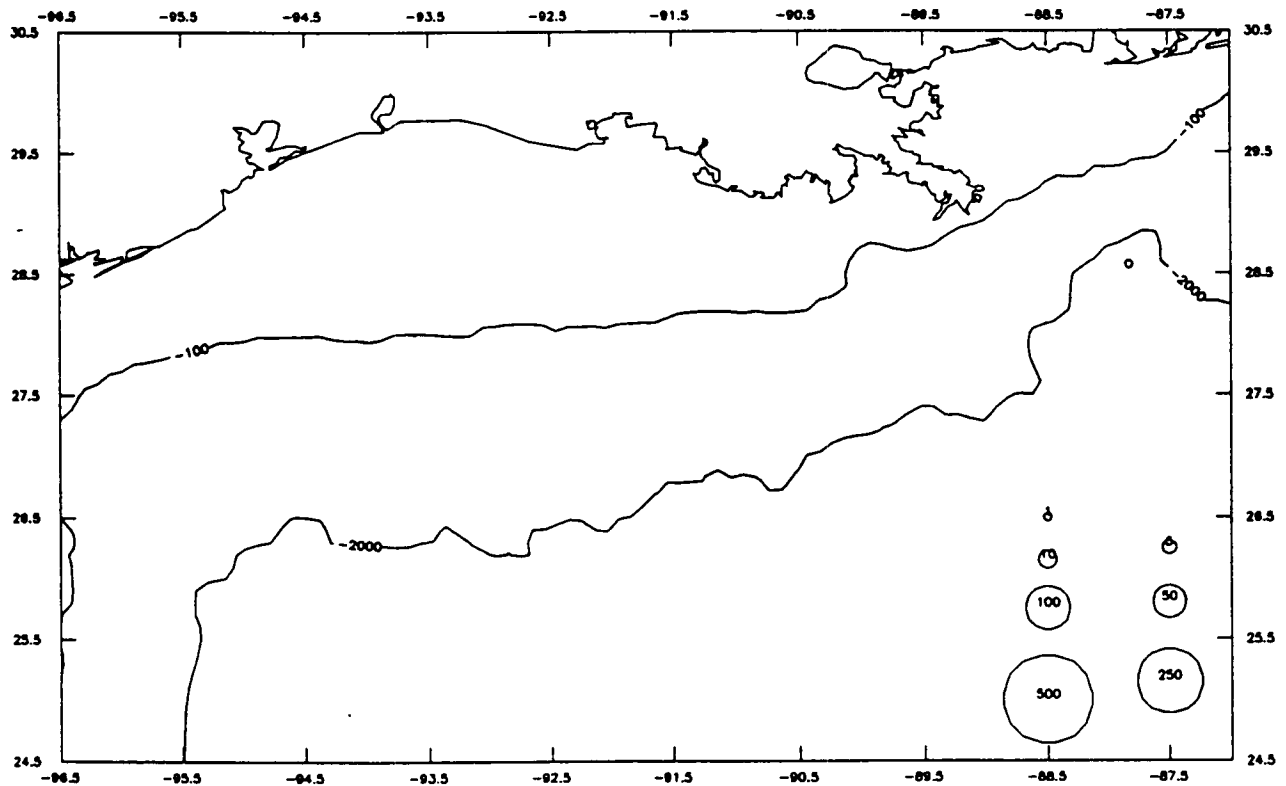
Larus atricilla Sightings: 3



Sula dactyltra Sightings: 5

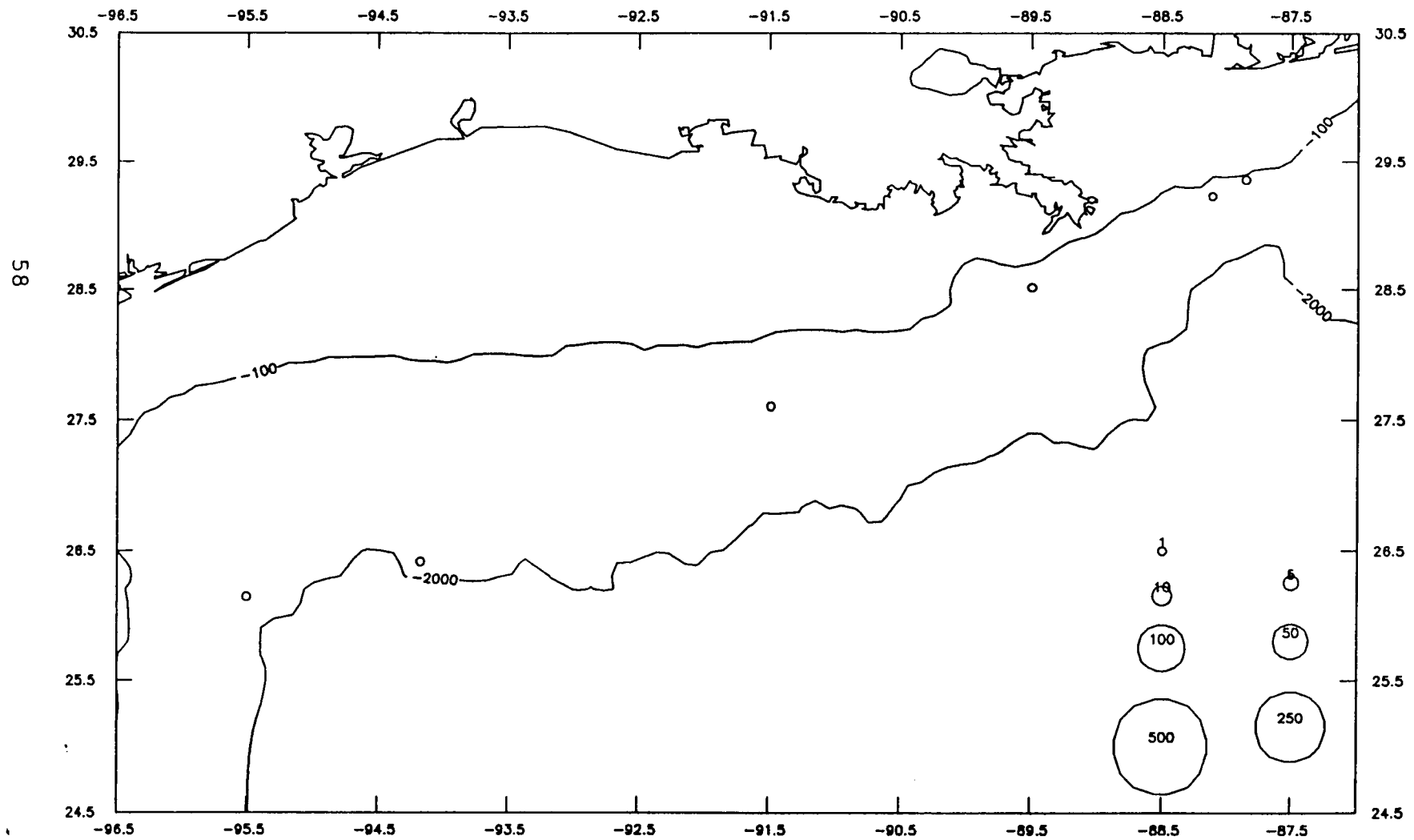


Sula bassanus Sightings: 2

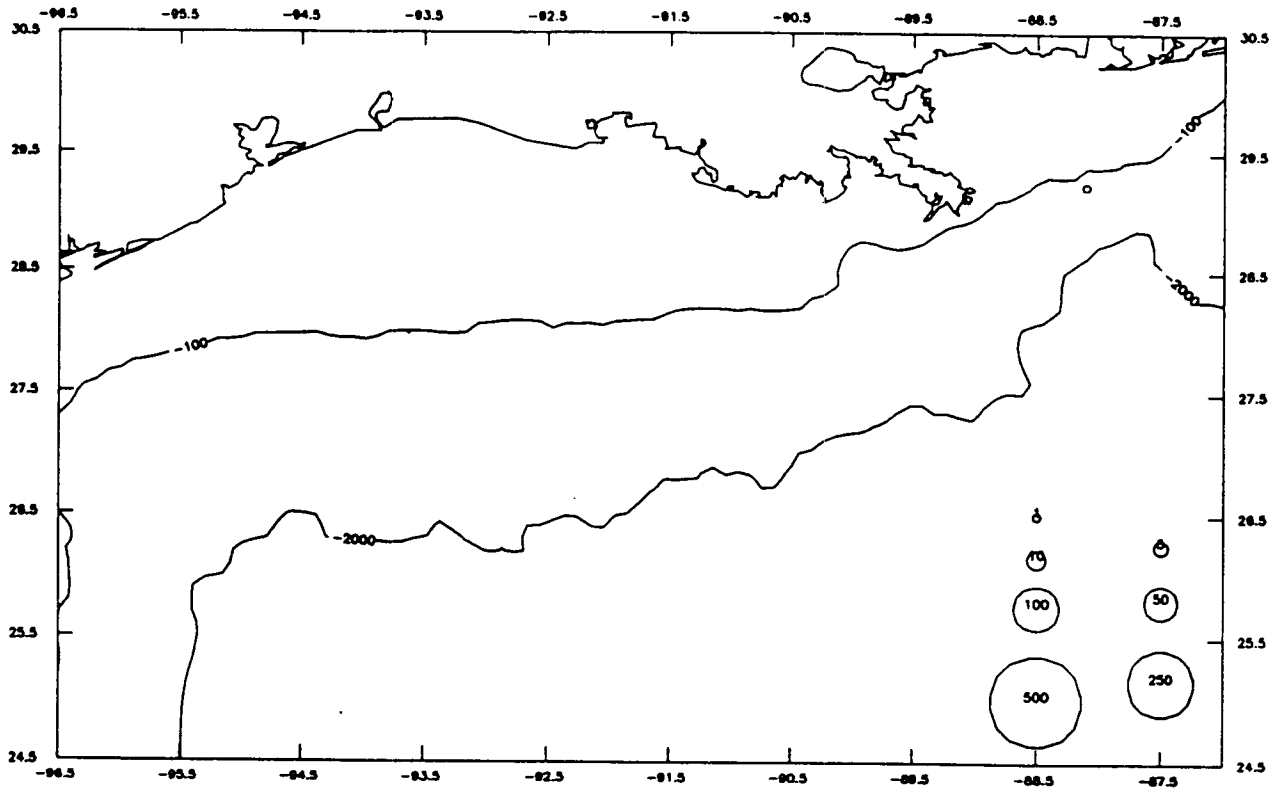


TOTAL NON-SEABIRD SIGHTINGS: 7

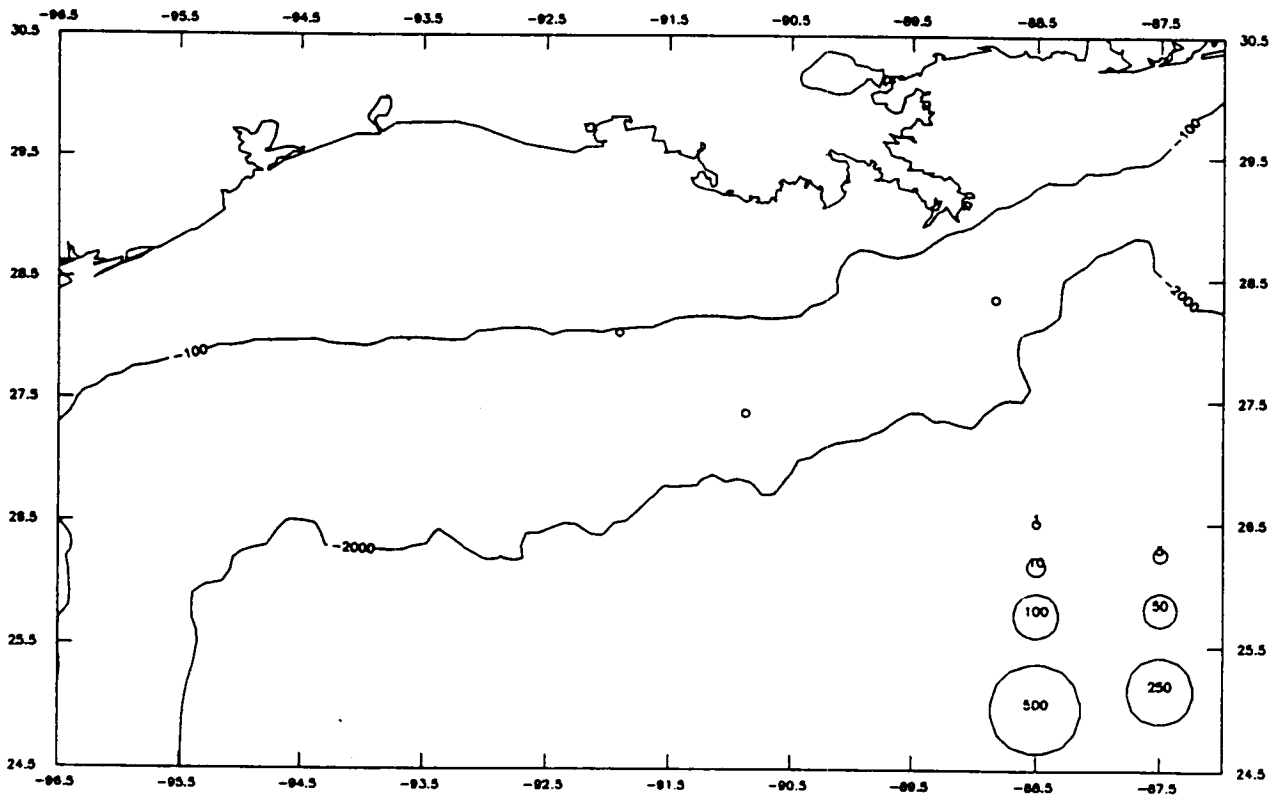
GulfCet 03 11/8-22/92



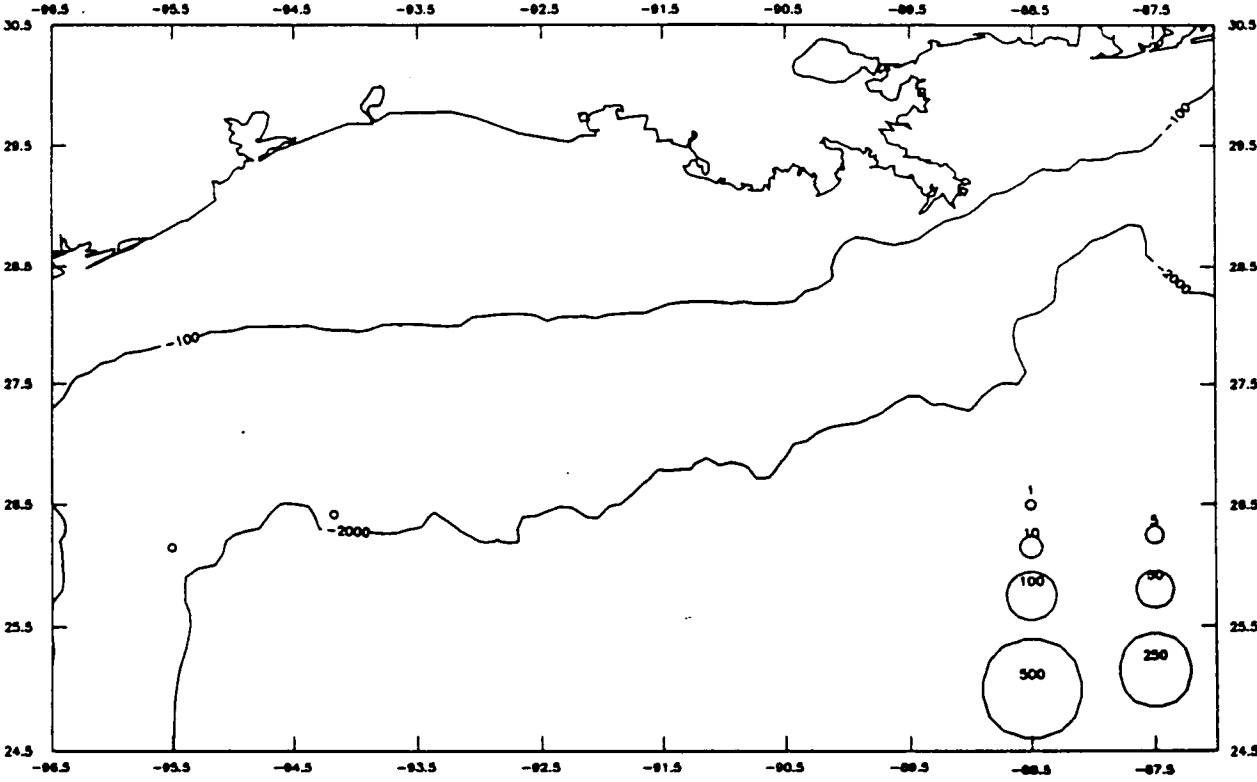
Heron/Egret spp. Sightings: 1



Passerine spp. Sightings: 3



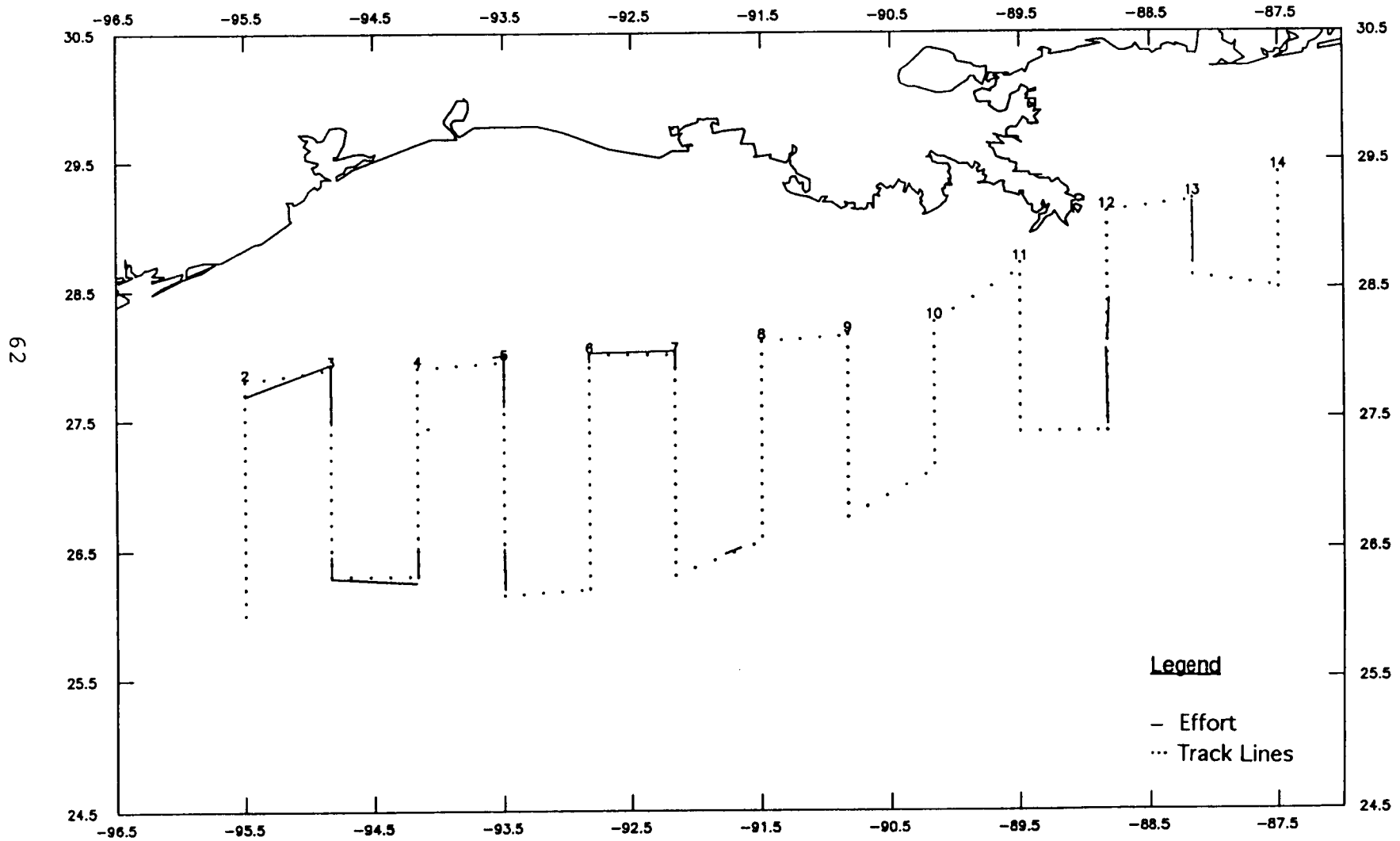
Swallow spp. Sightings: 2



GULFCET CRUISE 04:

- MAP OF MARINE MAMMAL VISUAL EFFORT AND TRACK LINES SURVEYED
 - MARINE MAMMAL VISUAL DATA
 - DISTRIBUTION MAP OF TOTAL MARINE MAMMAL SIGHTINGS
- INDIVIDUAL MARINE MAMMAL SPECIES DISTRIBUTION MAPS
 - MAP OF BIRD EFFORT AND TRACK LINES SURVEYED
 - BIRD DATA
 - DISTRIBUTION MAP OF TOTAL BIRD SIGHTINGS
- INDIVIDUAL BIRD SPECIES AND BIRD GROUP DISTRIBUTION MAPS

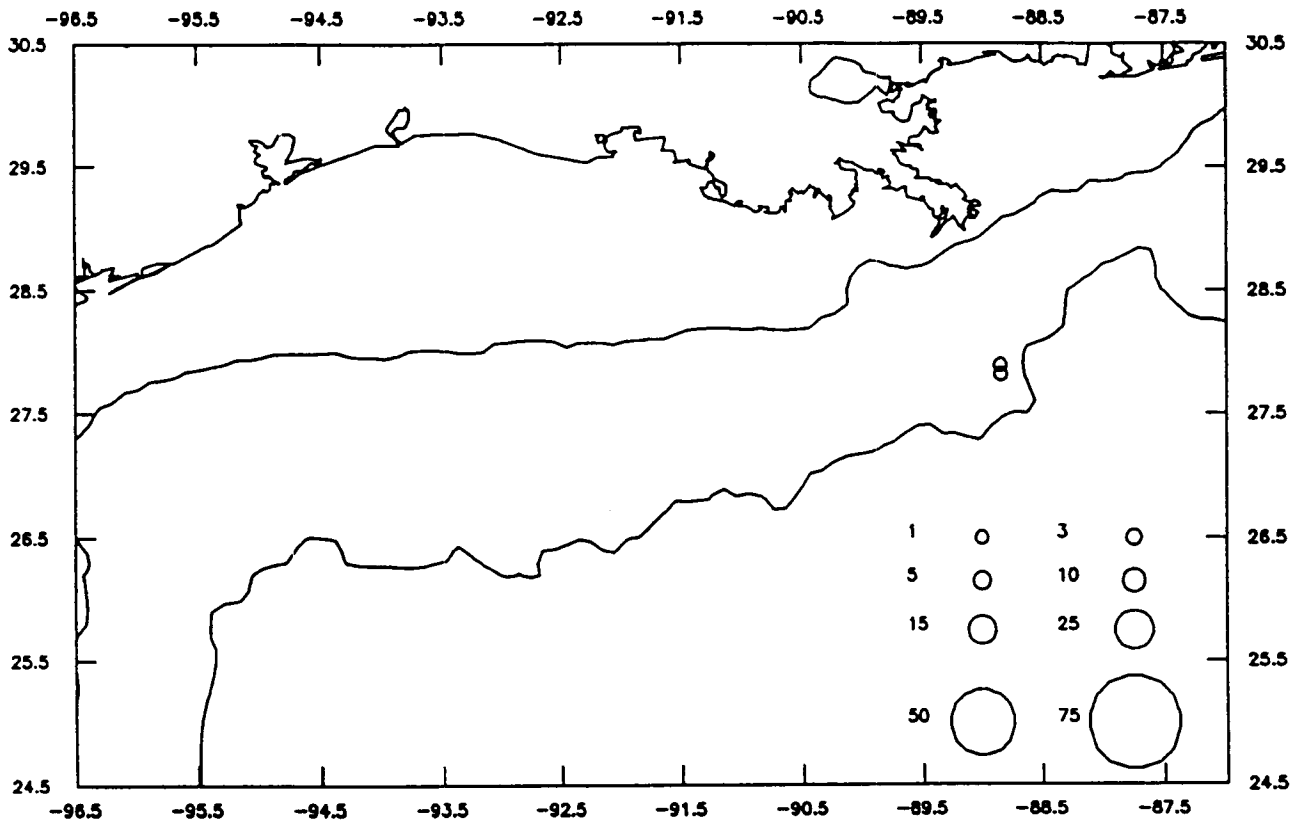
Visual Effort & Track Lines Surveyed GulfCet Cruise 04



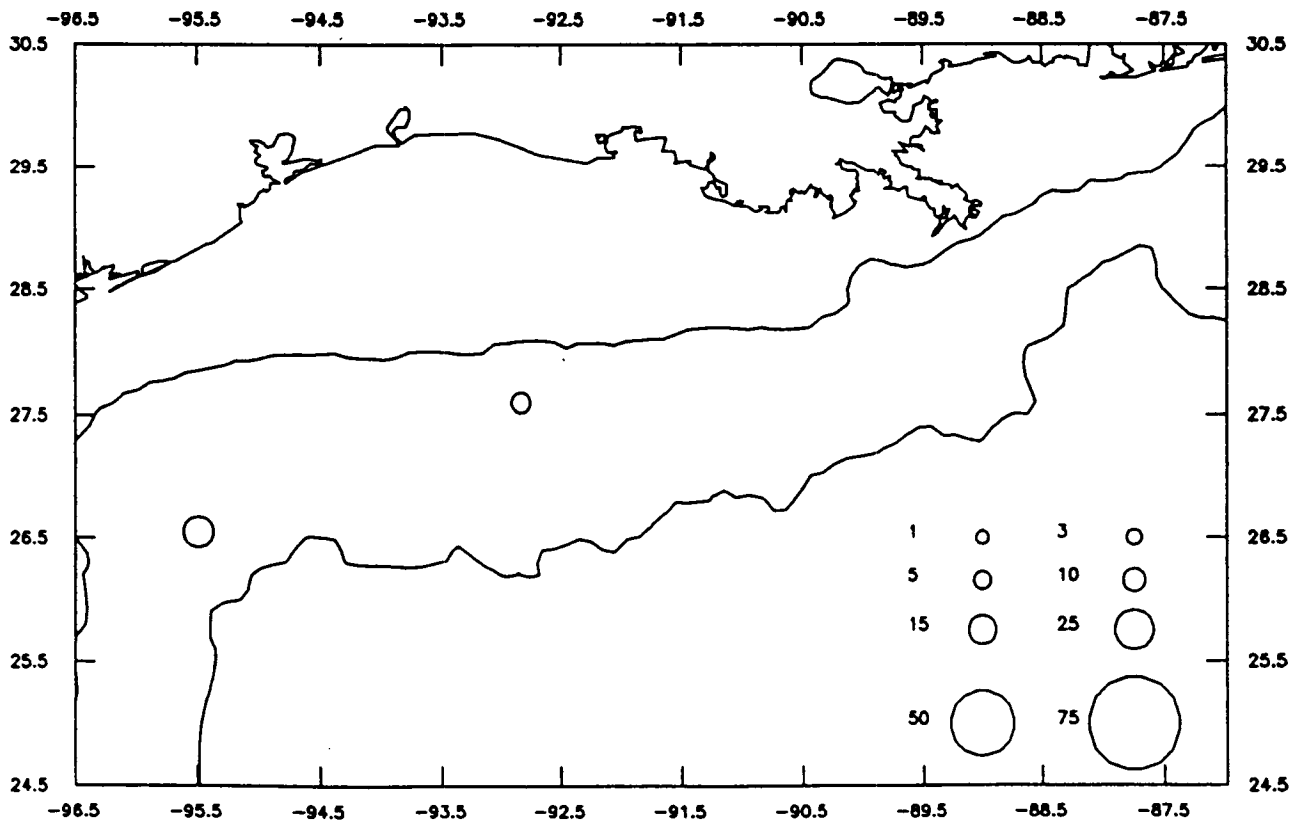
Cruise 04 Marine Mammal Visual Data

Date	Time	Species	Latitude	Longitude	Best	High	Low
2/15/93	1342	Unid. dolphin	28° 40'	89° 37'	2	2	2
2/16/93	0653	<i>Stenella attenuata</i>	27° 28'	90° 10'	20	25	15
					24	24	24
2/16/93	1228	Unid. beaked whale	27° 01'	90° 23'	1	1	1
					2	2	2
2/16/93	1530	<i>Stenella attenuata</i>	26° 46'	90° 49'	8	10	6
2/18/93	0132	<i>Stenella attenuata</i>	26° 55'	91° 30'	8	10	2
2/19/93	1651	<i>Physeter macrocephalus</i>	27° 36'	92° 50'	7	9	6
					7	10	12
					7	10	5
							4
2/20/93	1428	<i>Stenella attenuata</i>	26° 11'	93° 31'	4	5	4
2/20/93	1716	<i>Stenella attenuata</i>	26° 25'	93° 29'	25	30	22
					15	20	12
					24	31	19
2/23/93	1444	<i>Stenella frontalis</i> with <i>Tursiops truncatus</i>	27° 49'	95° 16'	8	10	7
					6	10	6
					10	12	10
2/24/93	0712	<i>Physeter macrocephalus</i>	26° 33'	95° 29'	16	22	14
					18	25	11

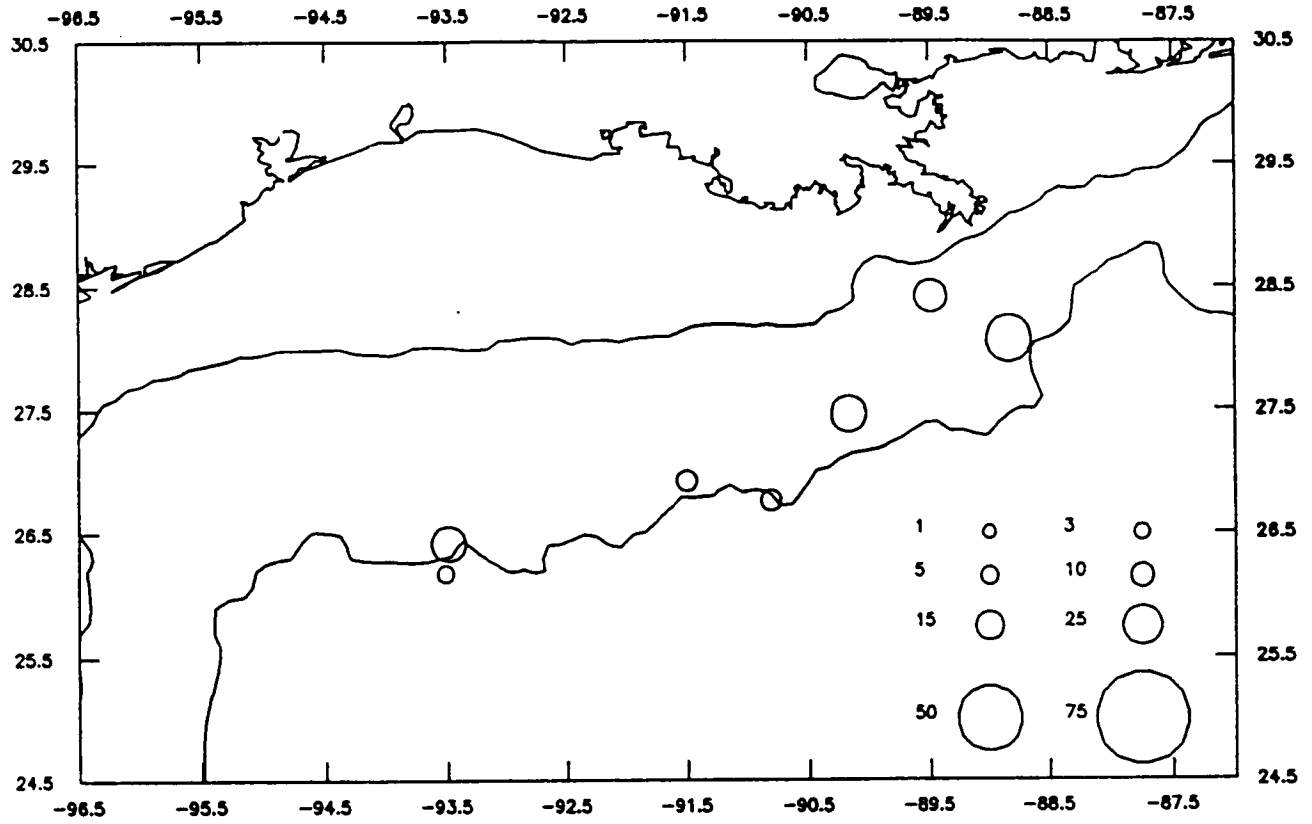
Kogia breviceps Sightings: 2



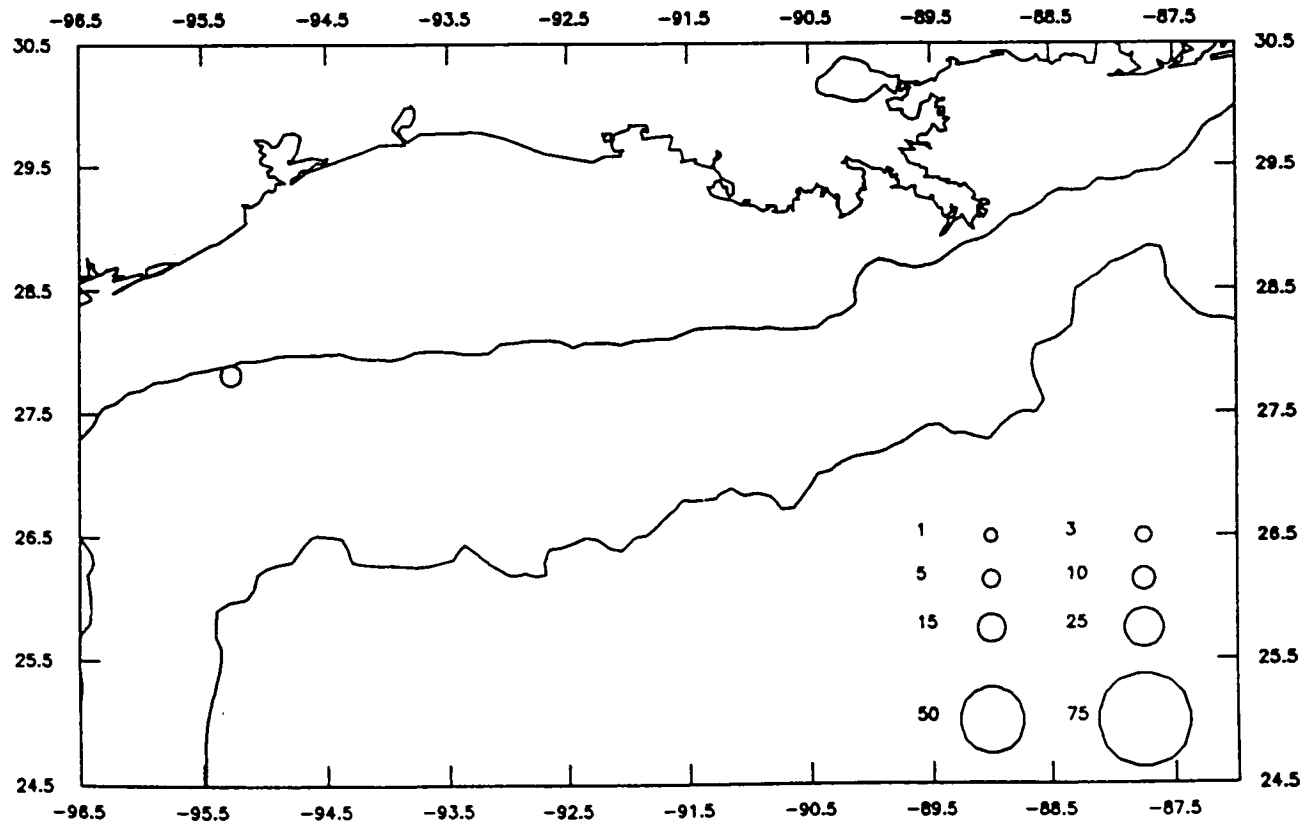
Physeter macrocephalus Sightings: 2



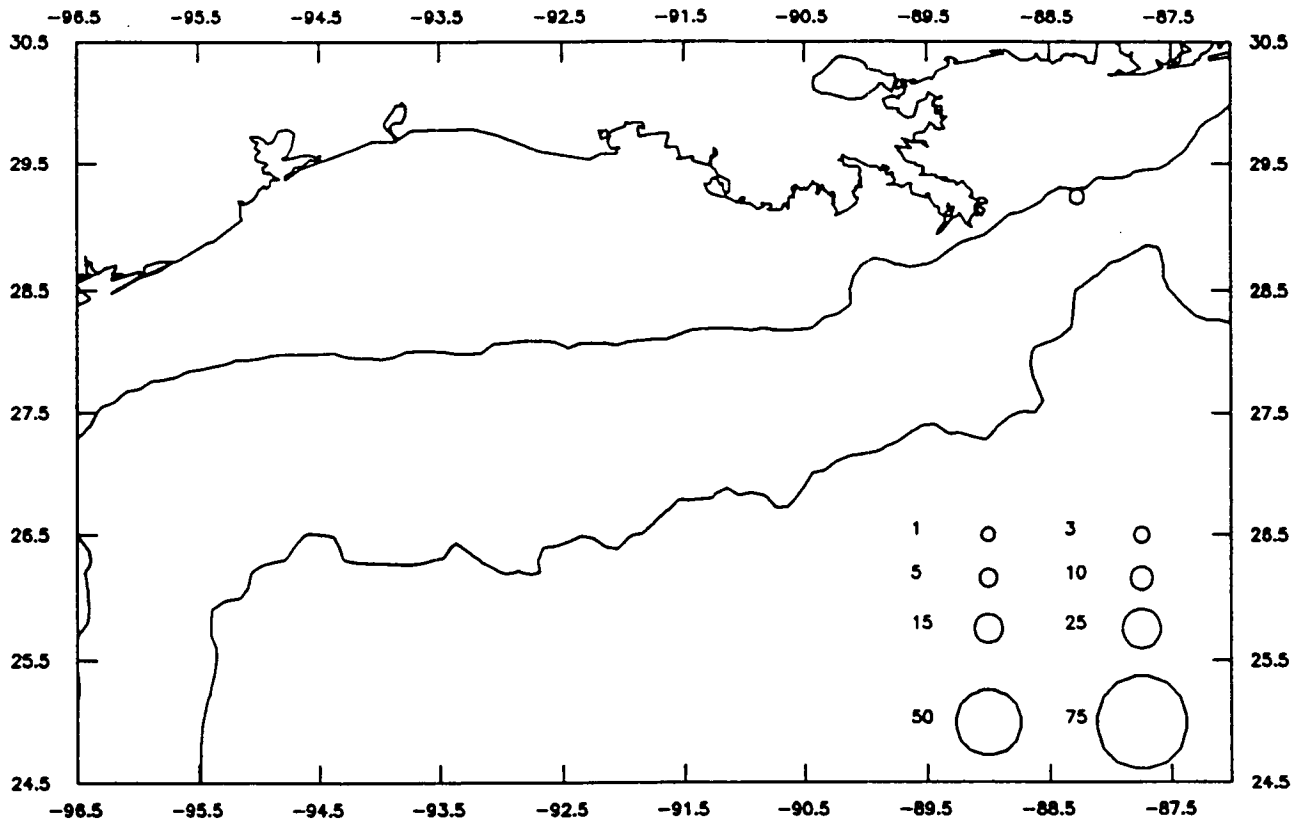
Stenella attenuata Sightings: 7



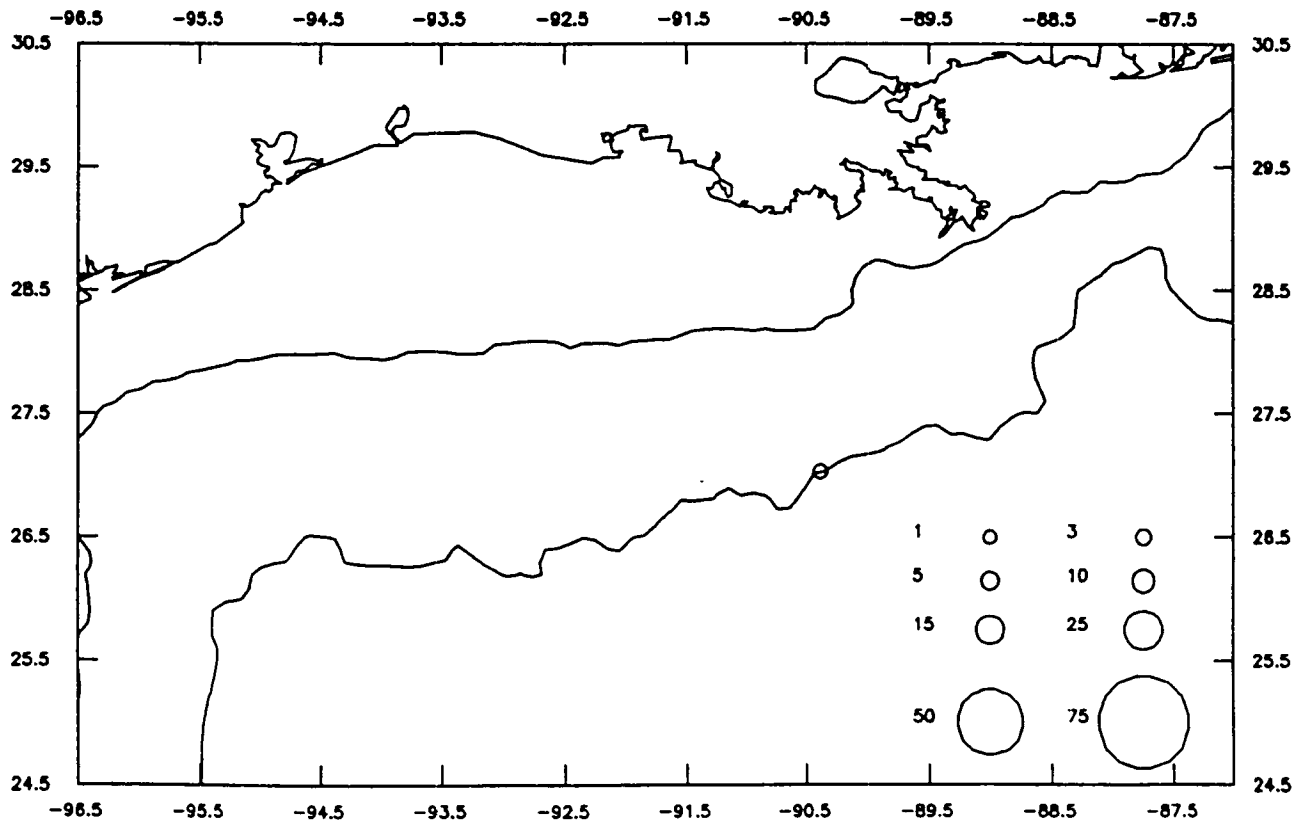
Stenella frontalis with *Tursiops truncatus* Sightings: 1



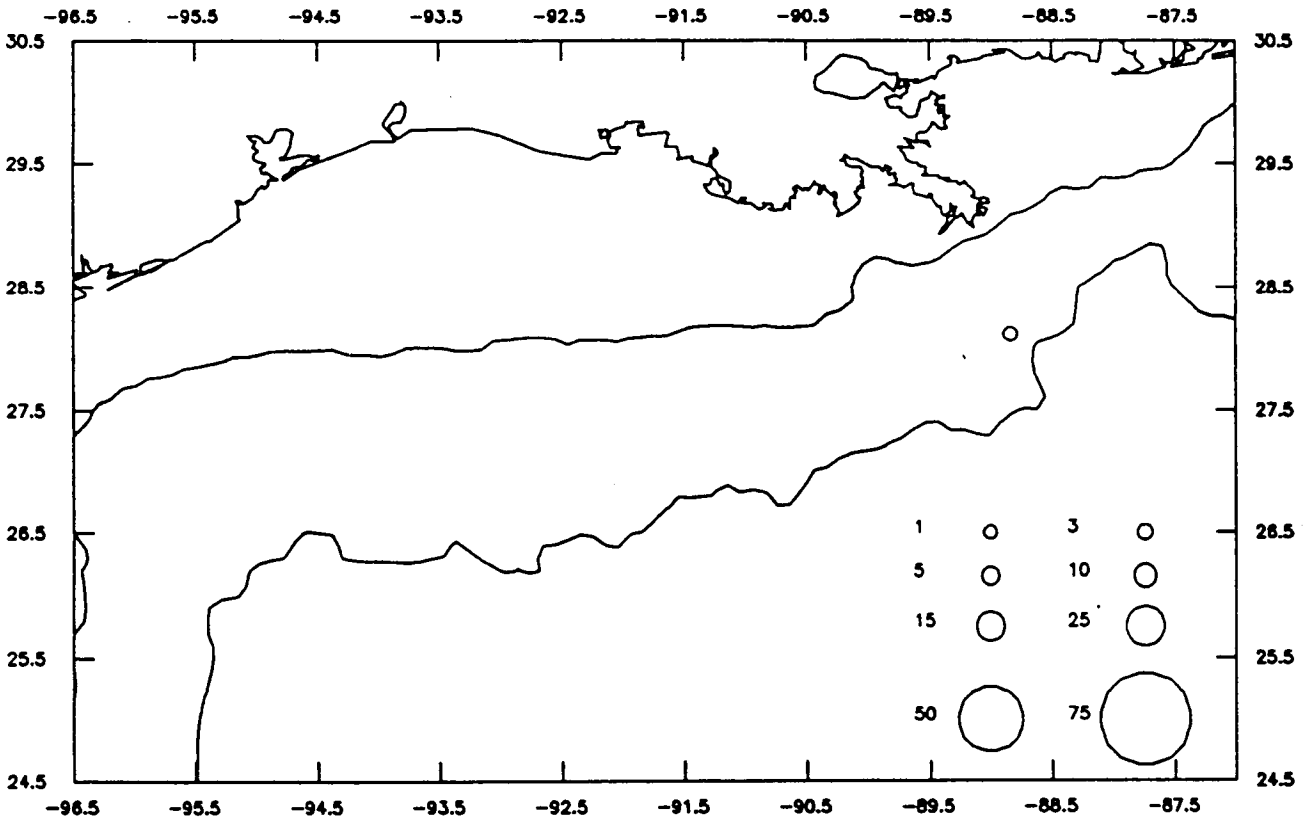
Tursiops truncatus Sighting: 1



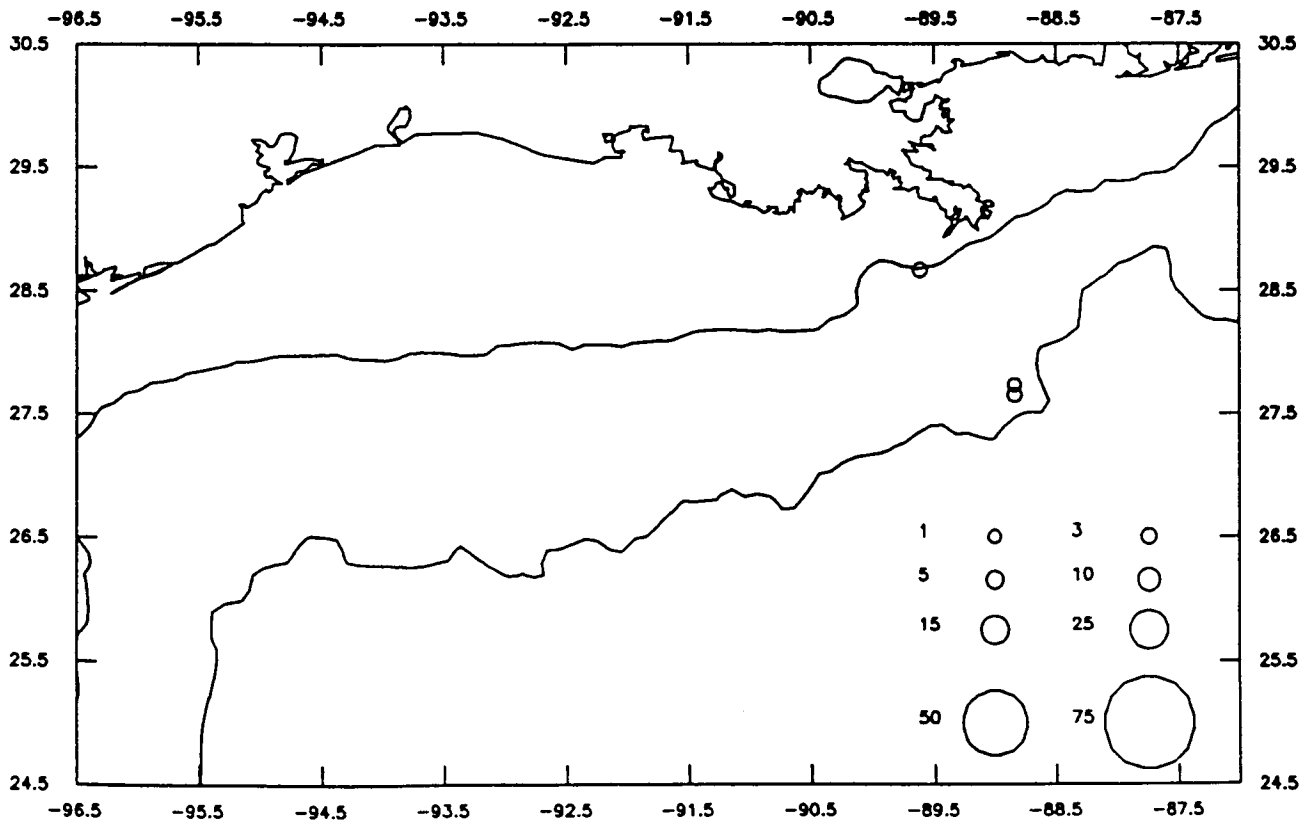
UNID Beaked Whale Sighting: 1



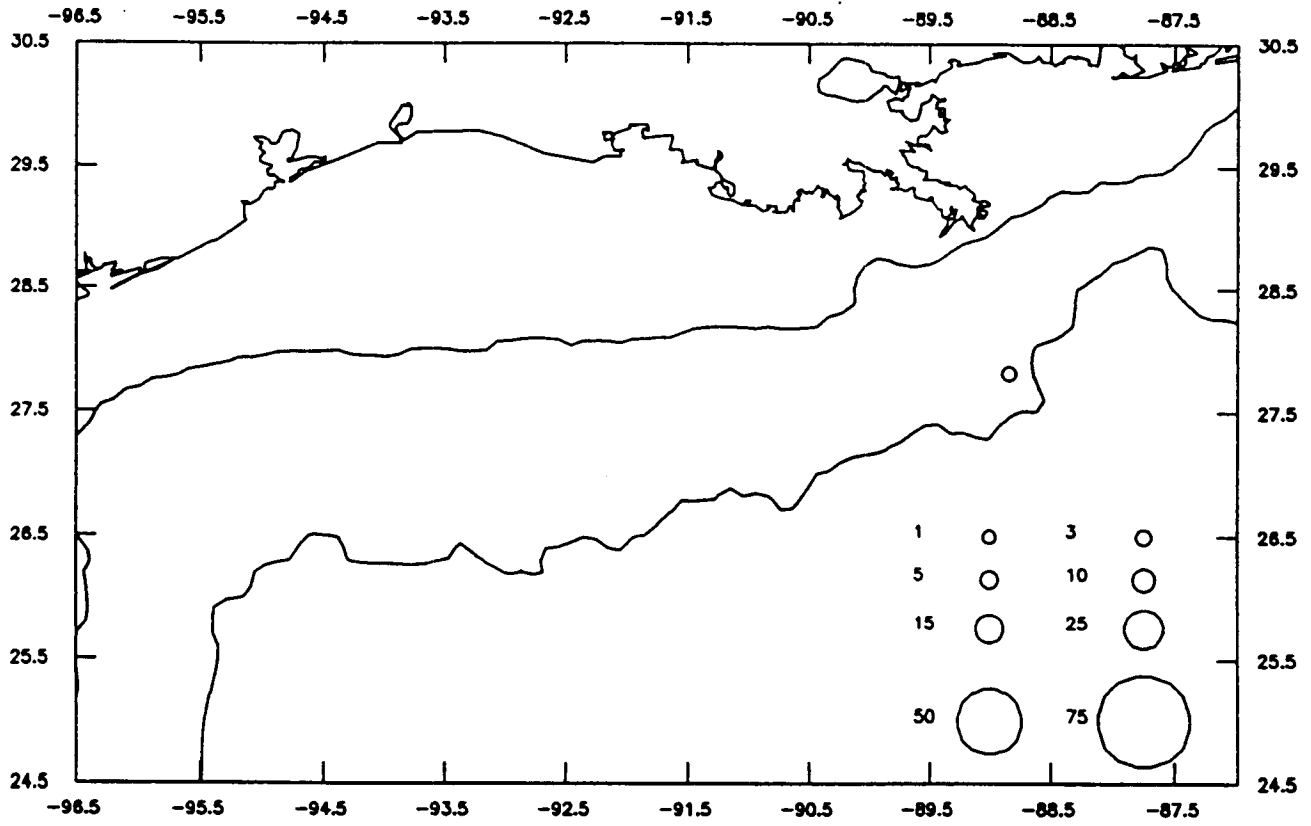
UNID Cetacean Sighting: 1



UNID Dolphin Sightings: 3

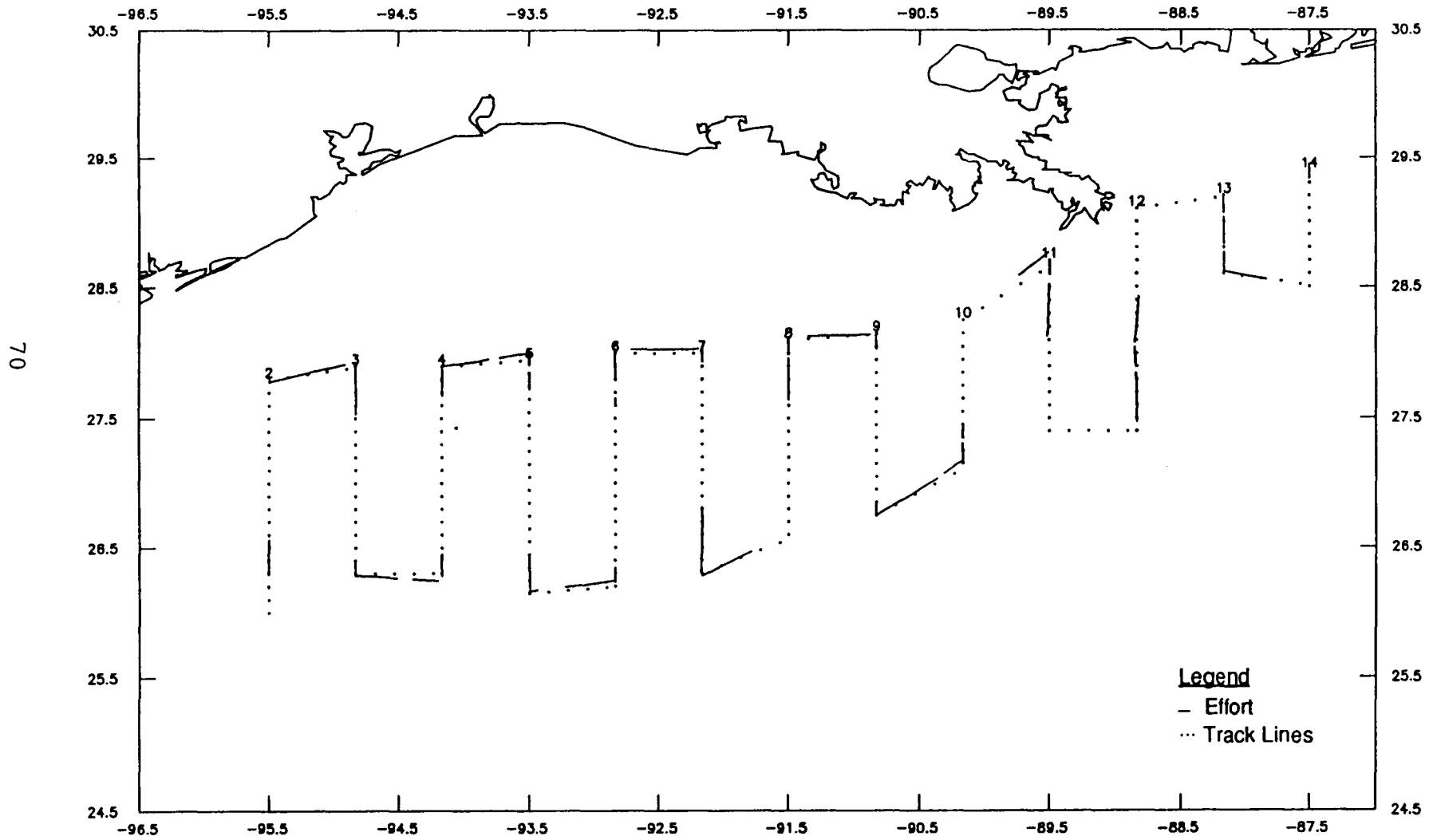


UNID Small Whale Sighting: 1



Bird Effort & Track Lines Surveyed

GulfCet Cruise 04



Cruise 04 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
12-Feb-93	1649	<i>Larus argentatus</i>	29° 25.62	87° 30.13	1	14-Feb-93	1608	<i>Stercorarius sp.</i>	27° 35.51	88° 50.22	1
12-Feb-93	1702	Unid. Gull	29° 24.12	87° 29.95	1	14-Feb-93	1636	<i>Stercorarius sp.</i>	27° 32.74	88° 50.14	2
12-Feb-93	1704	<i>Larus argentatus</i>	29° 23.92	87° 29.94	2	15-Feb-93	0715	<i>Stercorarius pomarinus</i>	28° 10.61	89° 30.75	1
12-Feb-93	1707	<i>Sula bassanus</i>	29° 23.62	87° 29.97	1	15-Feb-93	0748	<i>Larus argentatus</i>	28° 14.39	89° 29.96	1
12-Feb-93	1714	<i>Larus argentatus</i>	29° 22.09	87° 29.97	1	15-Feb-93	0748	<i>Stercorarius sp.</i>	28° 14.39	89° 29.96	1
12-Feb-93	1714	<i>Larus atricilla</i>	29° 22.09	87° 29.97	1	15-Feb-93	0748	<i>Stercorarius pomarinus</i>	28° 14.39	89° 29.96	2
12-Feb-93	1720	<i>Larus atricilla</i>	29° 22.31	87° 29.99	1	15-Feb-93	0811	<i>Stercorarius sp.</i>	28° 17.08	89° 29.90	1
12-Feb-93	1741	Unid. Gull	29° 20.28	87° 29.98	3	15-Feb-93	0820	<i>Stercorarius pomarinus</i>	28° 18.09	89° 29.94	2
13-Feb-93	0738	<i>Larus atricilla</i>	28° 34.39	87° 56.11	1	15-Feb-93	1101	Unid. Storm-Petrel	28° 36.24	89° 30.00	1
13-Feb-93	0820	<i>Larus atricilla</i>	28° 35.38	88° 02.32	1	15-Feb-93	1121	<i>Larus atricilla</i>	28° 38.25	89° 30.02	1
13-Feb-93	0833	<i>Sula bassanus</i>	28° 35.69	88° 04.10	1	15-Feb-93	1144	<i>Larus argentatus</i>	29° 40.53	89° 30.00	1
13-Feb-93	0850	<i>Larus atricilla</i>	28° 36.18	88° 06.48	1	15-Feb-93	1144	<i>Sterna maxima</i>	29° 40.53	89° 30.00	1
13-Feb-93	0922	<i>Larus atricilla</i>	28° 36.86	88° 10.00	1	15-Feb-93	1205	<i>Larus argentatus</i>	28° 42.88	89° 29.98	1
13-Feb-93	0949	<i>Larus argentatus</i>	28° 36.49	88° 09.57	4	15-Feb-93	1205	<i>Larus atricilla</i>	28° 42.88	89° 29.98	2
13-Feb-93	1008	<i>Larus atricilla</i>	28° 36.22	88° 09.25	3	15-Feb-93	1252	<i>Larus argentatus</i>	28° 45.57	89° 30.30	1
13-Feb-93	1048	<i>Larus argentatus</i>	28° 36.72	88° 09.82	8	15-Feb-93	1301	<i>Larus atricilla</i>	28° 44.90	89° 31.44	1
13-Feb-93	1048	<i>Larus atricilla</i>	28° 36.72	88° 09.82	3	15-Feb-93	1355	<i>Larus atricilla</i>	28° 40.46	89° 36.98	2
13-Feb-93	1048	<i>Sula bassanus</i>	28° 36.72	88° 09.82	1	15-Feb-93	1407	<i>Larus argentatus</i>	28° 39.53	89° 38.20	1
13-Feb-93	1206	<i>Larus argentatus</i>	28° 44.43	88° 09.87	1	15-Feb-93	1503	<i>Sula bassanus</i>	28° 34.08	89° 44.21	1
13-Feb-93	1415	<i>Larus argentatus</i>	28° 50.30	88° 09.92	2	16-Feb-93	0728	<i>Stercorarius pomarinus</i>	27° 24.72	90° 10.09	1
13-Feb-93	1458	<i>Larus atricilla</i>	28° 54.56	88° 09.73	1	16-Feb-93	0748	<i>Stercorarius pomarinus</i>	27° 22.56	90° 10.20	1
13-Feb-93	1637	<i>Larus argentatus</i>	29° 04.75	88° 10.03	1	16-Feb-93	0753	<i>Stercorarius pomarinus</i>	27° 22.06	90° 10.22	2
13-Feb-93	1731	<i>Larus argentatus</i>	29° 10.62	88° 10.10	1	16-Feb-93	0808	<i>Ardea herodias</i>	27° 20.53	90° 10.26	2
14-Feb-93	0751	<i>Larus argentatus</i>	28° 19.80	88° 49.14	1	16-Feb-93	0820	<i>Pterodroma sp.</i>	27° 18.53	90° 10.28	1
14-Feb-93	0802	<i>Larus argentatus</i>	28° 19.23	88° 49.18	1	16-Feb-93	0956	<i>Stercorarius pomarinus</i>	27° 09.73	90° 09.99	1
14-Feb-93	0816	<i>Larus argentatus</i>	28° 17.17	88° 49.30	1	16-Feb-93	1054	<i>Stercorarius pomarinus</i>	27° 10.53	90° 10.06	1
14-Feb-93	0822	<i>Larus argentatus</i>	28° 17.18	88° 49.38	1	16-Feb-93	1133	<i>Larus atricilla</i>	27° 06.74	90° 15.39	1
14-Feb-93	0832	<i>Larus argentatus</i>	28° 16.17	88° 49.55	1	16-Feb-93	1144	<i>Stercorarius pomarinus</i>	27° 05.72	90° 16.96	2
14-Feb-93	0839	<i>Larus argentatus</i>	28° 15.40	88° 49.69	1	16-Feb-93	1351	<i>Stercorarius pomarinus</i>	26° 54.15	90° 34.01	1
14-Feb-93	0848	<i>Larus atricilla</i>	28° 14.55	88° 49.90	1	16-Feb-93	1448	<i>Stercorarius pomarinus</i>	26° 49.67	90° 42.43	1
14-Feb-93	0911	<i>Larus argentatus</i>	28° 12.12	88° 50.36	1	16-Feb-93	1508	<i>Stercorarius pomarinus</i>	26° 48.02	90° 45.32	1
14-Feb-93	0911	<i>Larus atricilla</i>	28° 12.12	88° 50.36	1	16-Feb-93	1520	<i>Stercorarius pomarinus</i>	26° 46.76	90° 47.15	1
14-Feb-93	1054	<i>Larus atricilla</i>	28° 01.56	88° 50.70	1	16-Feb-93	1526	<i>Stercorarius pomarinus</i>	26° 46.33	90° 47.79	1
14-Feb-93	1114	<i>Larus atricilla</i>	27° 59.60	88° 50.75	1	16-Feb-93	1544	<i>Stercorarius pomarinus</i>	26° 44.99	90° 50.02	1
14-Feb-93	1129	<i>Larus argentatus</i>	27° 58.08	88° 50.82	1	16-Feb-93	1735	<i>Stercorarius pomarinus</i>	26° 50.90	90° 50.09	2
14-Feb-93	1129	<i>Larus atricilla</i>	27° 58.08	88° 50.82	1	17-Feb-93	0704	<i>Larus argentatus</i>	28° 02.53	90° 49.90	1
14-Feb-93	1322	<i>Stercorarius pomarinus</i>	27° 46.31	88° 50.10	1	17-Feb-93	0708	Unid. Gull	28° 02.95	90° 50.04	1
14-Feb-93	1333	<i>Larus argentatus</i>	27° 46.00	88° 50.03	1	17-Feb-93	0718	Unid. Gull	28° 03.91	90° 50.04	1
14-Feb-93	1333	<i>Larus atricilla</i>	27° 46.00	88° 50.03	1	17-Feb-93	0721	<i>Larus atricilla</i>	28° 04.19	90° 50.04	1

Obs.= Number Observed

Cruise 04 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
17-Feb-93	0728	<i>Larus atricilla</i>	28° 04.80	90° 50.02	1	18-Feb-93	0952	<i>Larus argentatus</i>	26° 17.55	92° 08.91	1
17-Feb-93	0736	<i>Larus atricilla</i>	28° 05.56	90° 49.98	1	18-Feb-93	0952	<i>Larus atricilla</i>	26° 17.55	92° 08.91	2
17-Feb-93	0745	<i>Sula bassanus</i>	28° 06.32	90° 49.94	1	18-Feb-93	0952	<i>Stercorarius pomarinus</i>	26° 17.55	92° 08.91	1
17-Feb-93	0757	<i>Sterna sp.(White-bk)</i>	28° 07.46	90° 50.00	1	18-Feb-93	1000	<i>Stercorarius pomarinus</i>	26° 17.55	92° 08.91	1
17-Feb-93	0819	<i>Larus argentatus</i>	28° 09.02	90° 50.27	9	18-Feb-93	1156	<i>Stercorarius pomarinus</i>	26° 21.05	92° 10.34	1
17-Feb-93	0819	<i>Larus atricilla</i>	28° 09.02	90° 50.27	8	18-Feb-93	1213	<i>Stercorarius pomarinus</i>	26° 22.70	92° 10.21	1
17-Feb-93	0819	<i>Sula bassanus</i>	28° 09.02	90° 50.27	2	18-Feb-93	1459	<i>Stercorarius pomarinus</i>	26° 39.38	92° 10.00	1
17-Feb-93	0819	Unid. Shorebird	28° 09.02	90° 50.27	3	18-Feb-93	1717	<i>Larus atricilla</i>	26° 41.28	92° 10.20	1
17-Feb-93	0858	<i>Sula bassanus</i>	28° 08.46	90° 53.01	2	19-Feb-93	0739	<i>Larus argentatus</i>	27° 59.20	92° 10.19	1
17-Feb-93	0910	Unid. Gull	28° 08.37	90° 55.18	1000	19-Feb-93	0801	<i>Larus argentatus</i>	28° 01.43	92° 10.06	4
17-Feb-93	0910	<i>Larus argentatus</i>	28° 08.37	90° 55.18	4	19-Feb-93	0844	<i>Larus atricilla</i>	28° 02.16	92° 11.79	1
17-Feb-93	0910	<i>Larus atricilla</i>	28° 08.37	90° 55.18	1	19-Feb-93	0944	<i>Larus atricilla</i>	28° 02.02	92° 23.35	1
17-Feb-93	0910	<i>Sula bassanus</i>	28° 08.37	90° 55.18	20	19-Feb-93	0944	<i>Sula bassanus</i>	28° 02.02	92° 23.35	1
17-Feb-93	0931	<i>Larus argentatus</i>	28° 08.30	90° 59.17	1	19-Feb-93	1000	<i>Larus argentatus</i>	28° 02.00	92° 26.66	1
17-Feb-93	0935	<i>Larus argentatus</i>	28° 08.28	90° 59.94	1	19-Feb-93	1000	<i>Larus argentatus</i>	28° 02.11	92° 28.27	1
17-Feb-93	0935	<i>Larus atricilla</i>	28° 08.28	90° 59.94	1	19-Feb-93	1000	<i>Larus atricilla</i>	28° 02.00	92° 26.66	1
17-Feb-93	0935	<i>Sula bassanus</i>	28° 08.28	90° 59.94	6	19-Feb-93	1057	<i>Larus argentatus</i>	28° 01.95	92° 35.93	1
17-Feb-93	0947	<i>Sula bassanus</i>	28° 08.29	91° 02.08	3	19-Feb-93	1057	<i>Larus atricilla</i>	28° 01.95	92° 35.93	1
17-Feb-93	1000	Unid. Gull	28° 08.25	91° 04.51	3	19-Feb-93	1108	<i>Larus atricilla</i>	28° 02.00	92° 37.43	1
17-Feb-93	1000	<i>Larus atricilla</i>	28° 08.25	91° 04.51	1	19-Feb-93	1328	<i>Larus atricilla</i>	27° 57.87	92° 50.05	2
17-Feb-93	1005	<i>Sula bassanus</i>	28° 08.23	91° 05.41	1	19-Feb-93	1427	<i>Larus atricilla</i>	27° 50.82	92° 50.06	1
17-Feb-93	1016	<i>Sula bassanus</i>	28° 08.19	91° 07.38	2	19-Feb-93	1624	<i>Stercorarius pomarinus</i>	27° 39.05	92° 50.02	2
17-Feb-93	1022	<i>Sula bassanus</i>	28° 08.13	91° 08.37	3	19-Feb-93	1650	<i>Larus atricilla</i>	27° 36.36	92° 50.01	2
17-Feb-93	1038	<i>Larus argentatus</i>	28° 08.05	91° 11.22	3	20-Feb-93	0811	<i>Stercorarius pomarinus</i>	26° 18.11	92° 49.94	1
17-Feb-93	1047	<i>Larus argentatus</i>	28° 08.03	91° 12.92	1	20-Feb-93	0831	<i>Larus atricilla</i>	26° 16.01	92° 49.99	1
17-Feb-93	1056	<i>Larus argentatus</i>	28° 07.97	91° 14.51	1	20-Feb-93	0841	<i>Stercorarius pomarinus</i>	26° 15.02	92° 50.07	1
17-Feb-93	1056	<i>Sula bassanus</i>	28° 07.97	91° 14.51	6	20-Feb-93	0944	<i>Stercorarius pomarinus</i>	26° 14.66	92° 50.38	1
17-Feb-93	1129	<i>Sula bassanus</i>	28° 07.77	91° 20.40	1	20-Feb-93	1020	<i>Stercorarius pomarinus</i>	26° 14.16	92° 55.17	1
17-Feb-93	1257	<i>Larus atricilla</i>	28° 07.01	91° 30.03	1	20-Feb-93	1036	<i>Stercorarius pomarinus</i>	26° 13.79	92° 57.94	2
17-Feb-93	1337	<i>Larus argentatus</i>	28° 02.81	91° 30.08	1	20-Feb-93	1108	<i>Stercorarius pomarinus</i>	26° 13.17	93° 03.41	1
17-Feb-93	1408	<i>Larus atricilla</i>	27° 59.50	91° 30.03	1	20-Feb-93	1108	<i>Sterna sp.(Lg. dark-bk)</i>	26° 13.17	93° 03.41	1
17-Feb-93	1444	<i>Larus argentatus</i>	27° 55.64	91° 29.96	1	20-Feb-93	1205	<i>Stercorarius pomarinus</i>	26° 12.00	93° 13.33	1
17-Feb-93	1444	<i>Larus atricilla</i>	27° 55.64	91° 29.96	1	20-Feb-93	1459	<i>Stercorarius pomarinus</i>	26° 11.79	93° 29.83	1
17-Feb-93	1504	<i>Larus philadelphia</i>	27° 53.42	91° 30.03	1	20-Feb-93	1507	<i>Stercorarius pomarinus</i>	26° 12.58	93° 29.94	1
17-Feb-93	1628	<i>Larus atricilla</i>	27° 44.41	91° 30.01	1	20-Feb-93	1527	<i>Stercorarius pomarinus</i>	26° 14.53	93° 29.84	1
17-Feb-93	1705	Unid. Gull	27° 40.53	91° 30.07	1	20-Feb-93	1548	<i>Stercorarius pomarinus</i>	26° 16.90	93° 29.92	5
17-Feb-93	1705	<i>Larus atricilla</i>	27° 40.53	91° 30.07	1	20-Feb-93	1558	<i>Stercorarius pomarinus</i>	26° 17.80	93° 29.95	1
18-Feb-93	0811	<i>Stercorarius pomarinus</i>	26° 25.32	91° 52.78	1	20-Feb-93	1645	<i>Stercorarius pomarinus</i>	26° 22.77	93° 29.50	1
18-Feb-93	0910	<i>Stercorarius sp.</i>	26° 20.94	92° 01.79	1	20-Feb-93	1658	<i>Larus atricilla</i>	26° 24.29	93° 29.91	2

Obs. = Number Observed

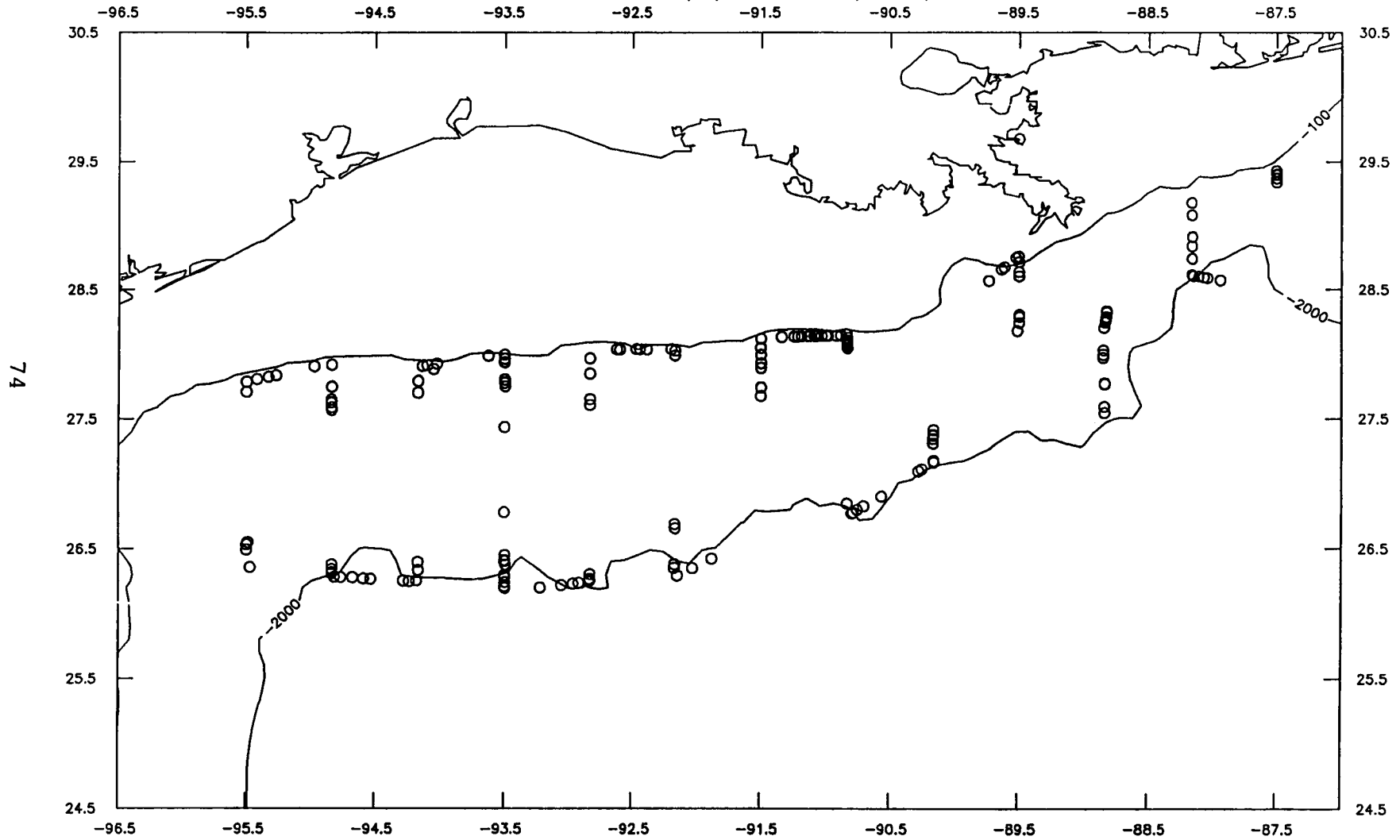
Cruise 04 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
20-Feb-93	1703	<i>Larus argentatus</i>	26° 24.79	93° 29.97	1	22-Feb-93	1419	<i>Stercorarius pomarinus</i>	26° 16.77	94° 45.88	1
20-Feb-93	1703	<i>Larus atricilla</i>	26° 24.79	93° 29.97	4	22-Feb-93	1446	<i>Larus argentatus</i>	26° 16.87	94° 48.81	1
20-Feb-93	1703	<i>Stercorarius pomarinus</i>	26° 24.79	93° 29.97	2	22-Feb-93	1446	Unid. Swallow	26° 16.87	94° 48.81	1
20-Feb-93	1727	<i>Stercorarius pomarinus</i>	26° 27.06	93° 29.89	1	22-Feb-93	1627	<i>Larus argentatus</i>	26° 16.74	94° 40.31	3
20-Feb-93	2037	<i>Larus atricilla</i>	26° 46.82	93° 30.26	3	22-Feb-93	1627	<i>Stercorarius pomarinus</i>	26° 16.74	94° 40.31	10
20-Feb-93	2128	<i>Progne subis</i>	26° 46.82	93° 30.26	6	22-Feb-93	1627	<i>Nycticorax violaceus</i>	26° 16.74	94° 40.31	1
21-Feb-93	0437	<i>Progne subis</i>	27° 26.12	93° 30.05	20	22-Feb-93	1651	<i>Stercorarius pomarinus</i>	26° 18.40	94° 50.03	1
21-Feb-93	0437	<i>Sterna maxima</i>	27° 26.12	93° 30.05	1	22-Feb-93	1657	<i>Stercorarius pomarinus</i>	26° 19.01	94° 50.02	1
21-Feb-93	0809	<i>Larus atricilla</i>	27° 44.94	93° 29.75	1	22-Feb-93	1711	<i>Stercorarius pomarinus</i>	26° 20.45	94° 50.04	1
21-Feb-93	0809	<i>Larus atricilla</i>	27° 44.94	93° 29.75	3	22-Feb-93	1732	<i>Stercorarius sp.</i>	26° 22.59	94° 49.96	1
21-Feb-93	0809	<i>Stercorarius pomarinus</i>	27° 44.94	93° 29.75	1	23-Feb-93	0751	<i>Larus atricilla</i>	27° 34.02	94° 49.99	1
21-Feb-93	0809	<i>Stercorarius pomarinus</i>	27° 44.94	93° 29.75	2	23-Feb-93	0805	<i>Larus atricilla</i>	27° 35.30	94° 50.11	4
21-Feb-93	0826	<i>Larus atricilla</i>	27° 46.61	93° 29.98	3	23-Feb-93	0805	<i>Larus atricilla</i>	27° 35.30	94° 50.11	5
21-Feb-93	0840	<i>Larus argentatus</i>	27° 48.01	93° 30.00	2	23-Feb-93	0826	<i>Larus atricilla</i>	27° 37.45	94° 50.21	1
21-Feb-93	0840	<i>Larus atricilla</i>	27° 48.01	93° 30.00	1	23-Feb-93	0839	<i>Larus atricilla</i>	27° 38.84	94° 50.24	1
21-Feb-93	1001	<i>Larus atricilla</i>	27° 56.07	93° 30.07	1	23-Feb-93	0937	<i>Larus atricilla</i>	27° 44.80	94° 50.07	1
21-Feb-93	1017	<i>Larus argentatus</i>	27° 57.61	93° 29.94	4	23-Feb-93	1116	<i>Sterna maxima</i>	27° 54.89	94° 50.09	1
21-Feb-93	1017	<i>Larus argentatus</i>	27° 57.61	93° 29.94	5	23-Feb-93	1243	<i>Larus argentatus</i>	27° 54.19	94° 58.22	1
21-Feb-93	1017	<i>Larus argentatus</i>	27° 57.61	93° 29.94	9	23-Feb-93	1315	<i>Athene cunicularia</i>	27° 52.97	94° 02.76	1
21-Feb-93	1036	<i>Larus atricilla</i>	27° 59.59	93° 30.04	1	23-Feb-93	1315	<i>Larus atricilla</i>	27° 52.97	94° 02.76	3
21-Feb-93	1146	<i>Larus argentatus</i>	27° 59.06	93° 37.54	14	23-Feb-93	1446	<i>Sula bassanus</i>	27° 50.05	95° 16.10	1
21-Feb-93	1414	<i>Larus atricilla</i>	27° 55.40	94° 01.25	2	23-Feb-93	1513	<i>Larus atricilla</i>	27° 49.32	95° 19.78	1
21-Feb-93	1414	<i>Larus atricilla</i>	27° 55.40	94° 01.25	5	23-Feb-93	1513	<i>Sula bassanus</i>	27° 49.32	95° 19.78	1
21-Feb-93	1414	<i>Larus atricilla</i>	27° 55.40	94° 01.25	6	23-Feb-93	1550	<i>Larus atricilla</i>	27° 48.22	95° 25.18	1
21-Feb-93	1442	Unid. Small Duck	27° 54.65	94° 05.75	10	23-Feb-93	1627	<i>Puffinus sp.</i>	27° 47.00	95° 30.00	1
21-Feb-93	1456	<i>Larus argentatus</i>	27° 54.30	94° 07.93	1	23-Feb-93	1730	Unid. Seabird	27° 42.43	95° 30.00	250
21-Feb-93	1635	<i>Larus atricilla</i>	27° 47.40	94° 10.01	2	24-Feb-93	0712	<i>Larus argentatus</i>	26° 33.00	95° 29.40	1
21-Feb-93	1730	<i>Stercorarius pomarinus</i>	27° 42.03	94° 10.05	1	24-Feb-93	0712	<i>Stercorarius sp.</i>	26° 33.00	95° 29.40	100
22-Feb-93	0803	<i>Stercorarius pomarinus</i>	26° 23.83	94° 10.05	1	24-Feb-93	0712	<i>Larus atricilla</i>	26° 33.00	95° 29.40	1
22-Feb-93	0842	<i>Larus atricilla</i>	26° 20.09	94° 09.94	1	24-Feb-93	0933	<i>Larus argentatus</i>	26° 31.83	95° 30.01	1
22-Feb-93	0842	<i>Stercorarius pomarinus</i>	26° 20.09	94° 09.94	2	24-Feb-93	0955	<i>Stercorarius pomarinus</i>	26° 29.57	95° 30.01	12
22-Feb-93	1100	<i>Ardea herodias</i>	26° 15.19	94° 10.66	2	24-Feb-93	1755	<i>Stercorarius pomarinus</i>	26° 21.39	95° 28.29	20
22-Feb-93	1100	<i>Larus atricilla</i>	26° 15.19	94° 10.66	1	24-Feb-93	1755	<i>Sterna fuscata</i>	26° 21.39	95° 28.29	30
22-Feb-93	1100	<i>Stercorarius pomarinus</i>	26° 15.19	94° 10.66	1						
22-Feb-93	1118	<i>Stercorarius pomarinus</i>	26° 14.94	94° 14.00	1						
22-Feb-93	1133	<i>Stercorarius pomarinus</i>	26° 15.17	94° 16.71	1						
22-Feb-93	1257	<i>Stercorarius pomarinus</i>	26° 16.02	94° 32.02	1						
22-Feb-93	1316	<i>Stercorarius pomarinus</i>	26° 16.17	94° 35.30	1						
22-Feb-93	1419	<i>Larus atricilla</i>	26° 16.77	94° 45.88	1						

Obs.= Number Observed

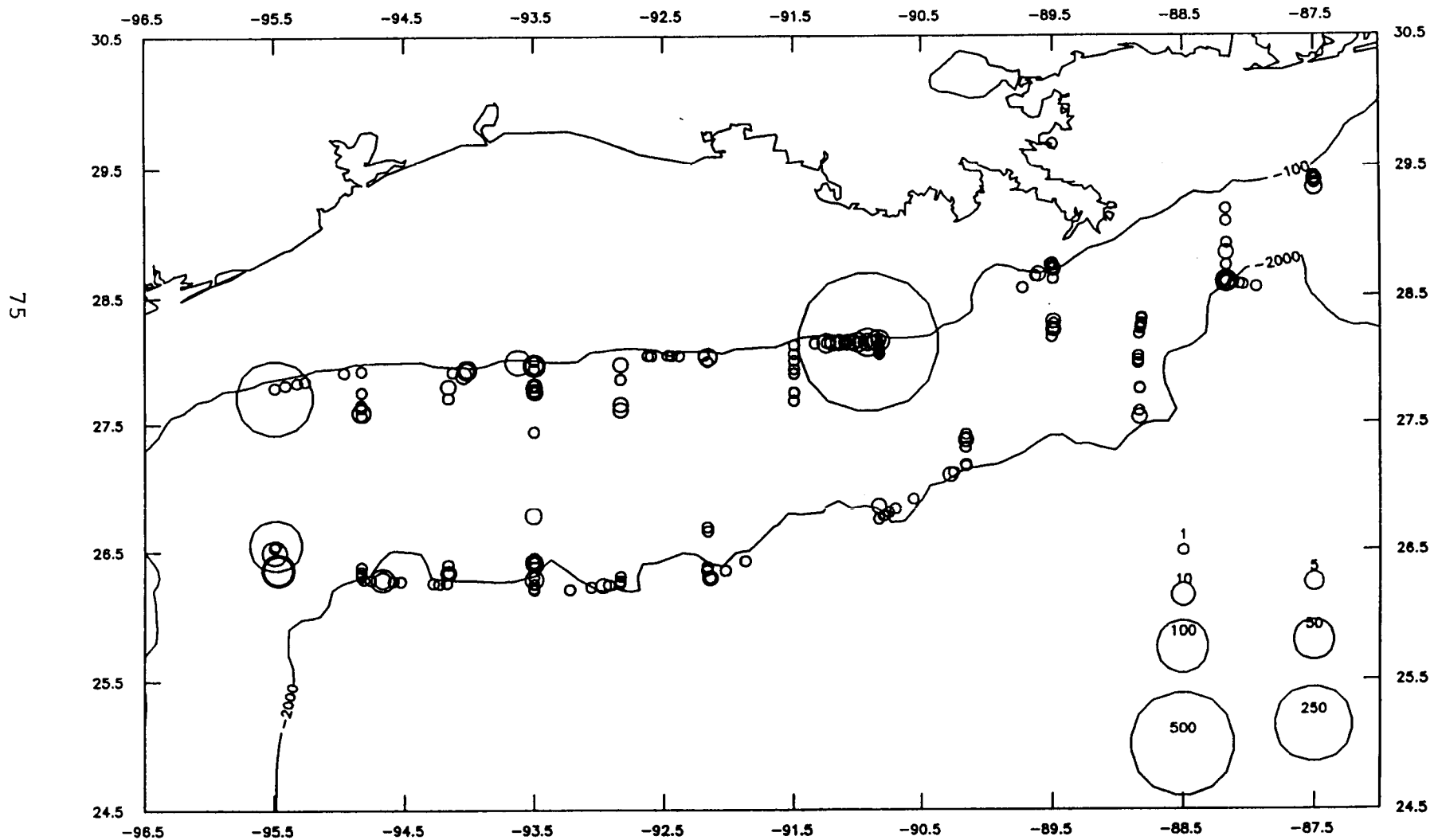
Total Bird Sightings : 238

GulfCet 04 (2/12-27/93)

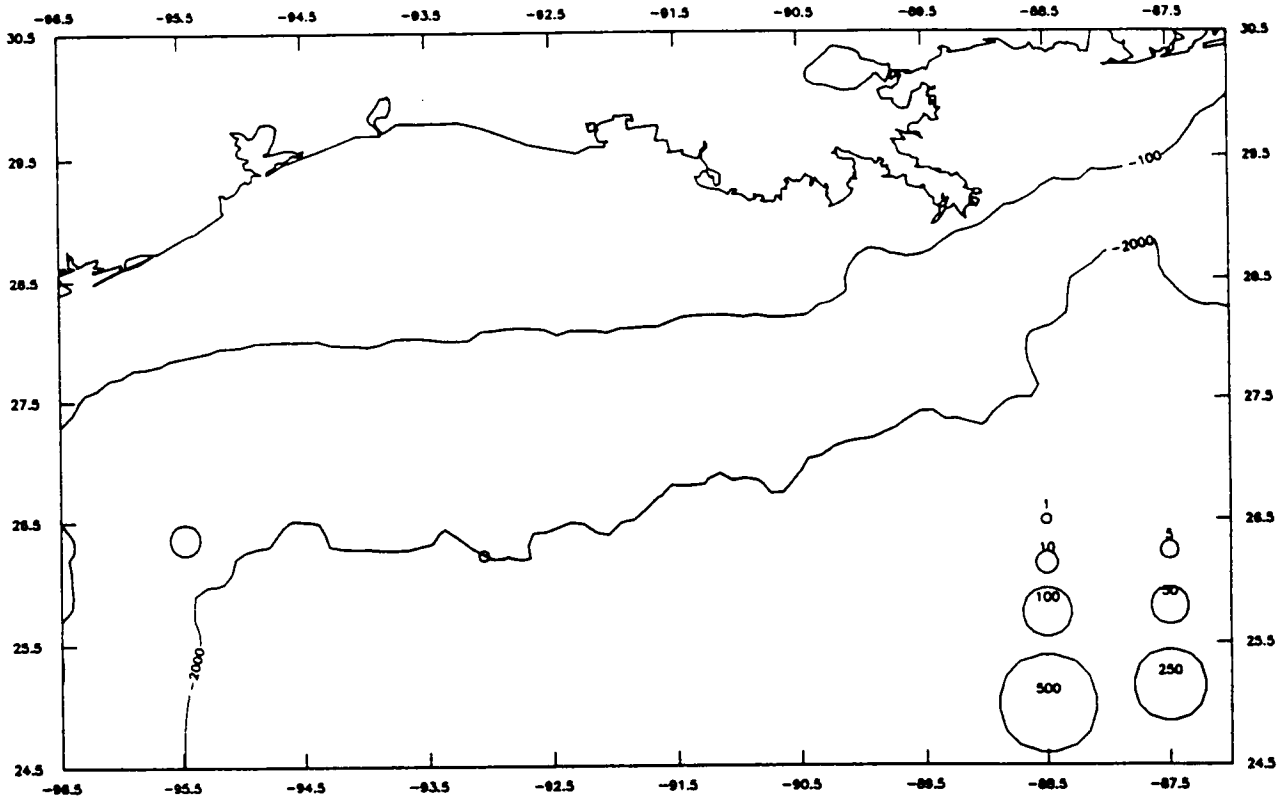


TOTAL SEABIRD SIGHTINGS: 229

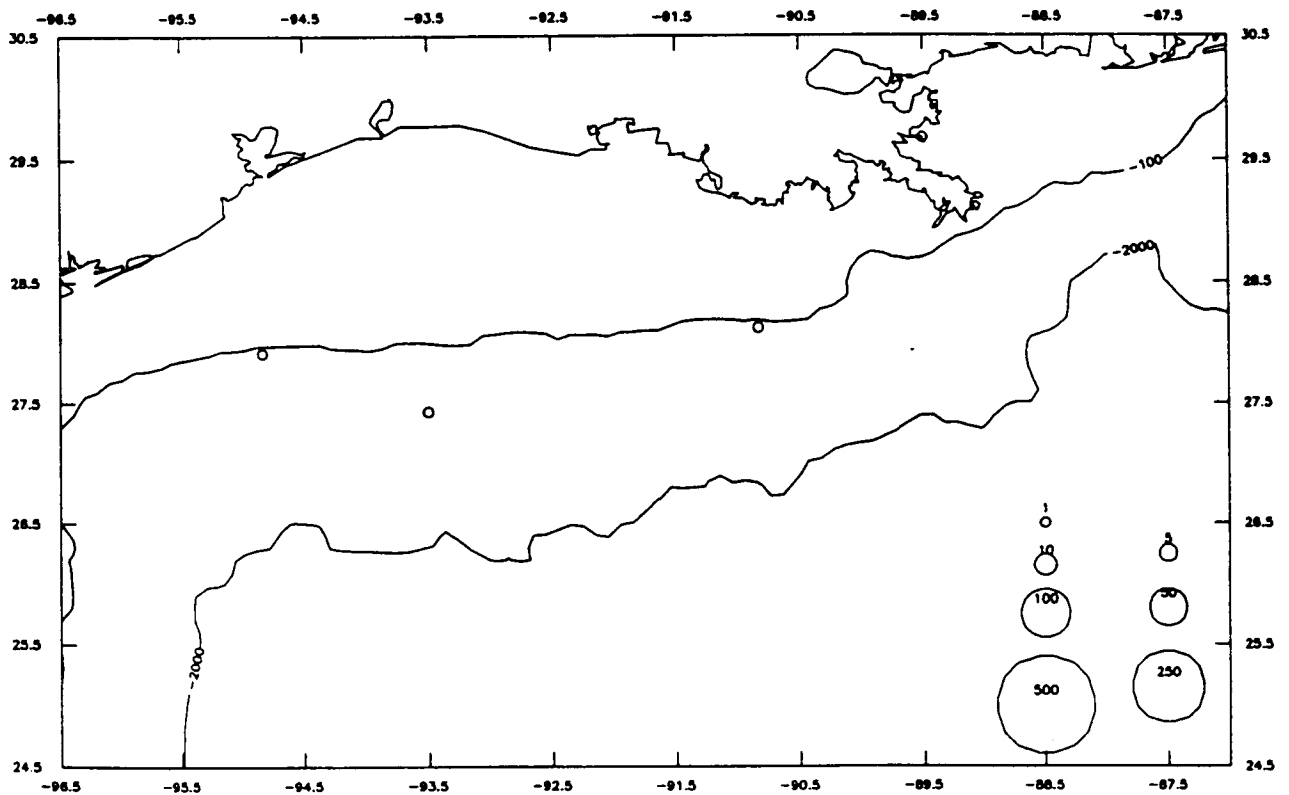
GulfCet 04: 2/12-27/94



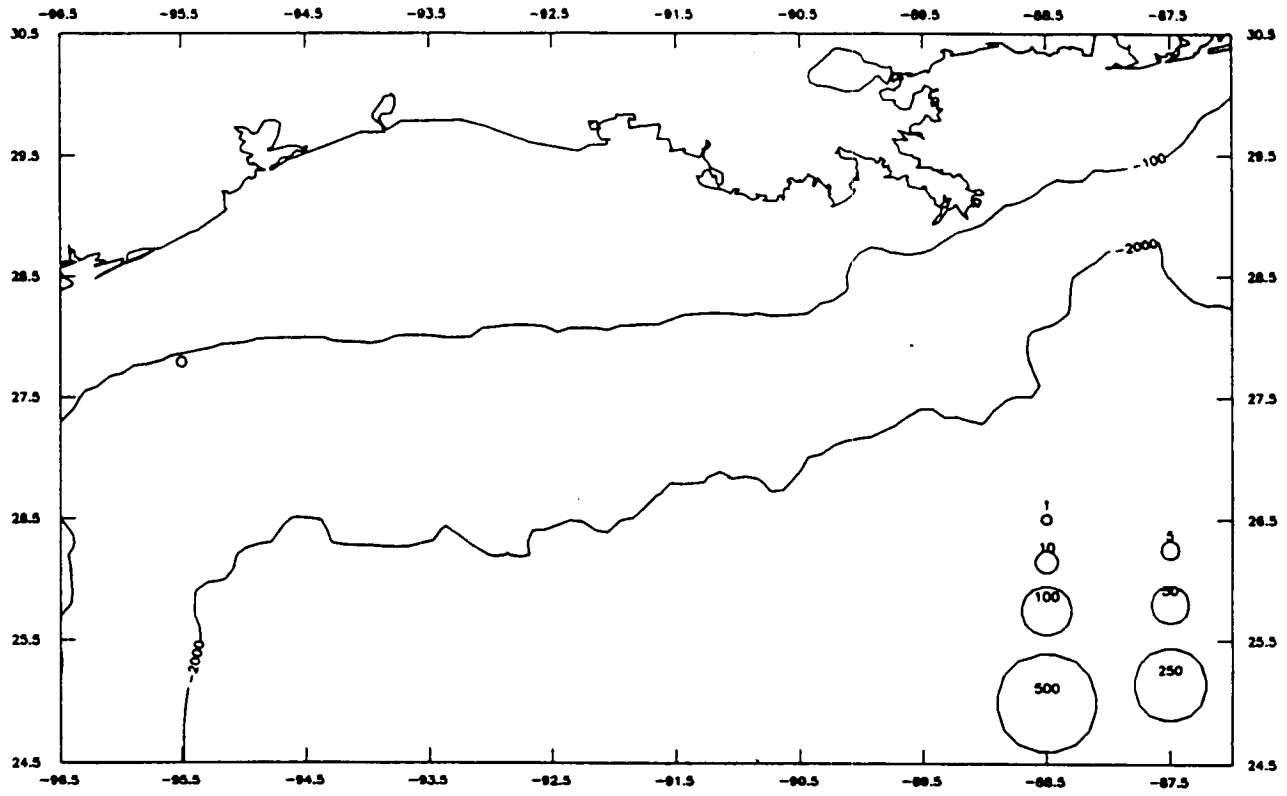
Sterna fuscata and UNID *Sterna* spp. (Dark-backed) Sightings: 2



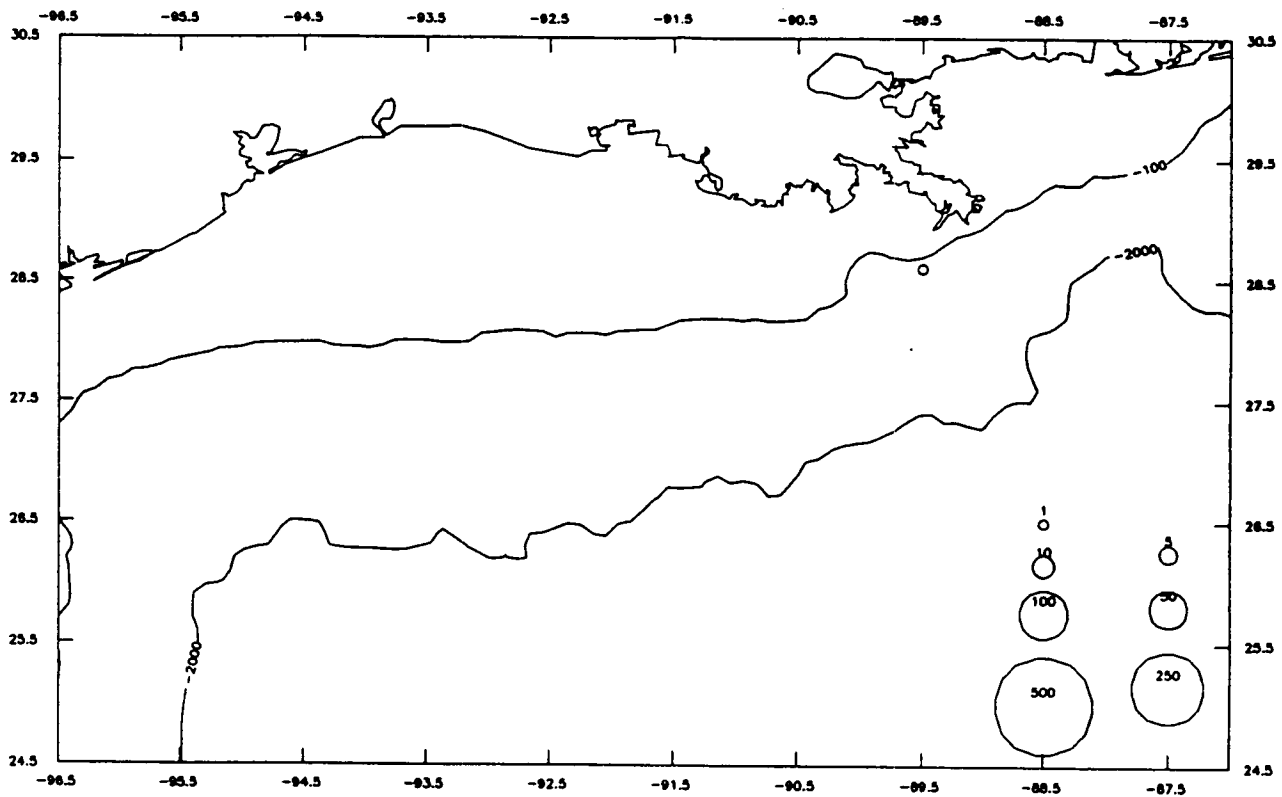
Sterna spp. (White-backed) Sightings: 4



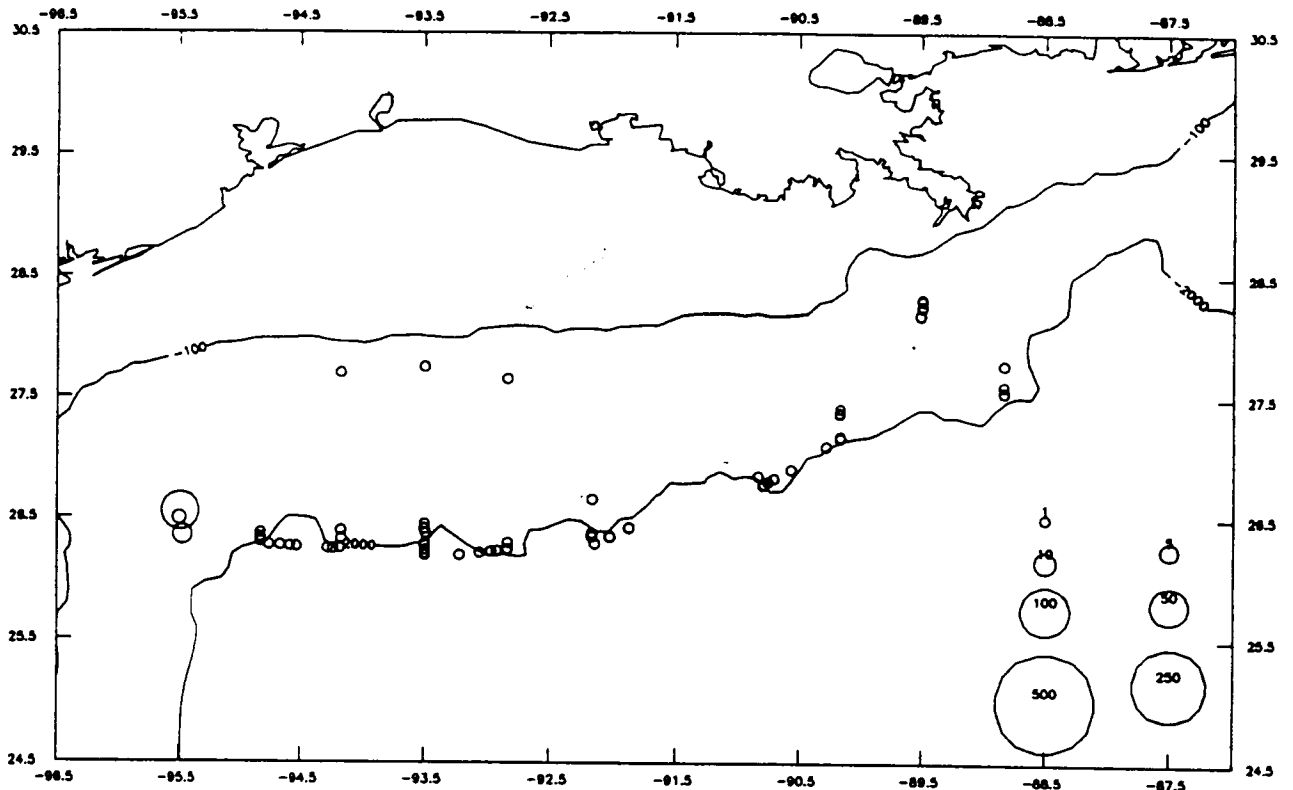
UNID *Puffinus* sp. Sighting: 1



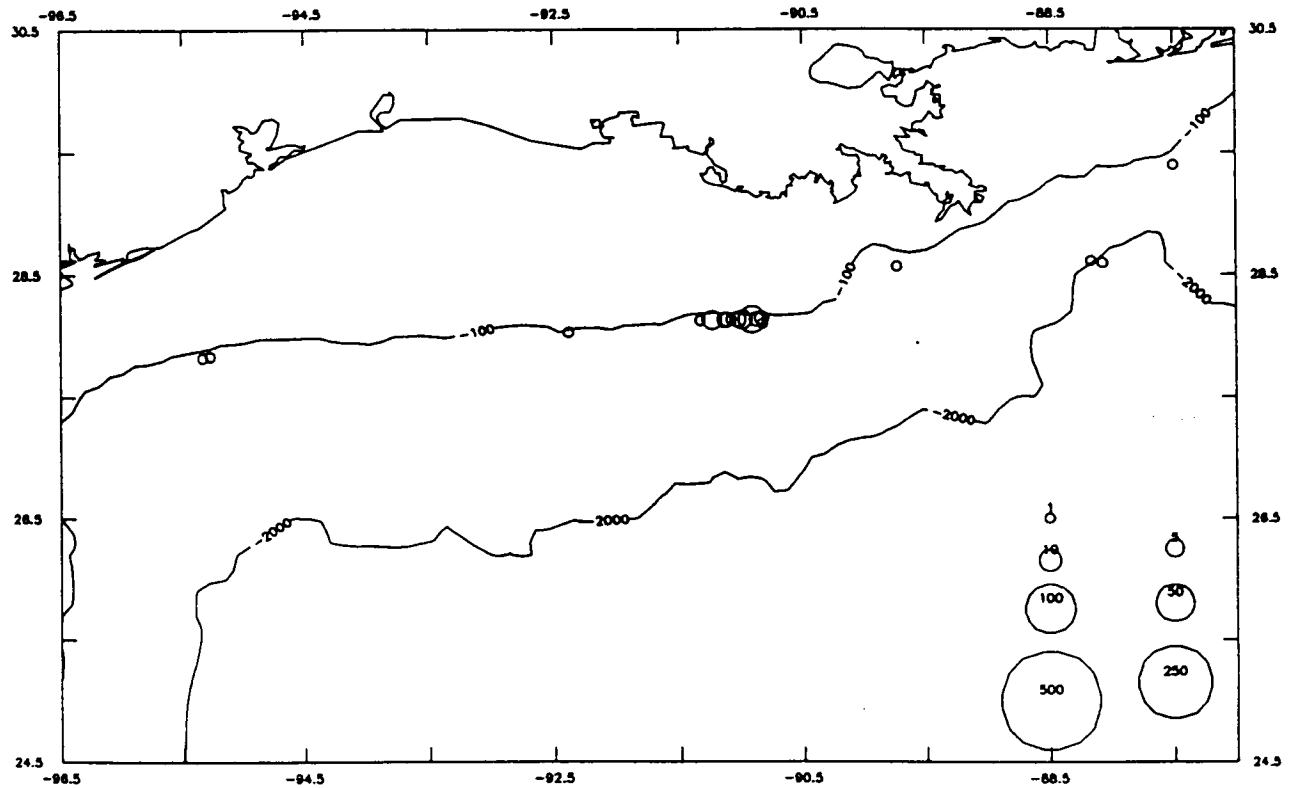
Storm-petrel spp. Sighting: 1



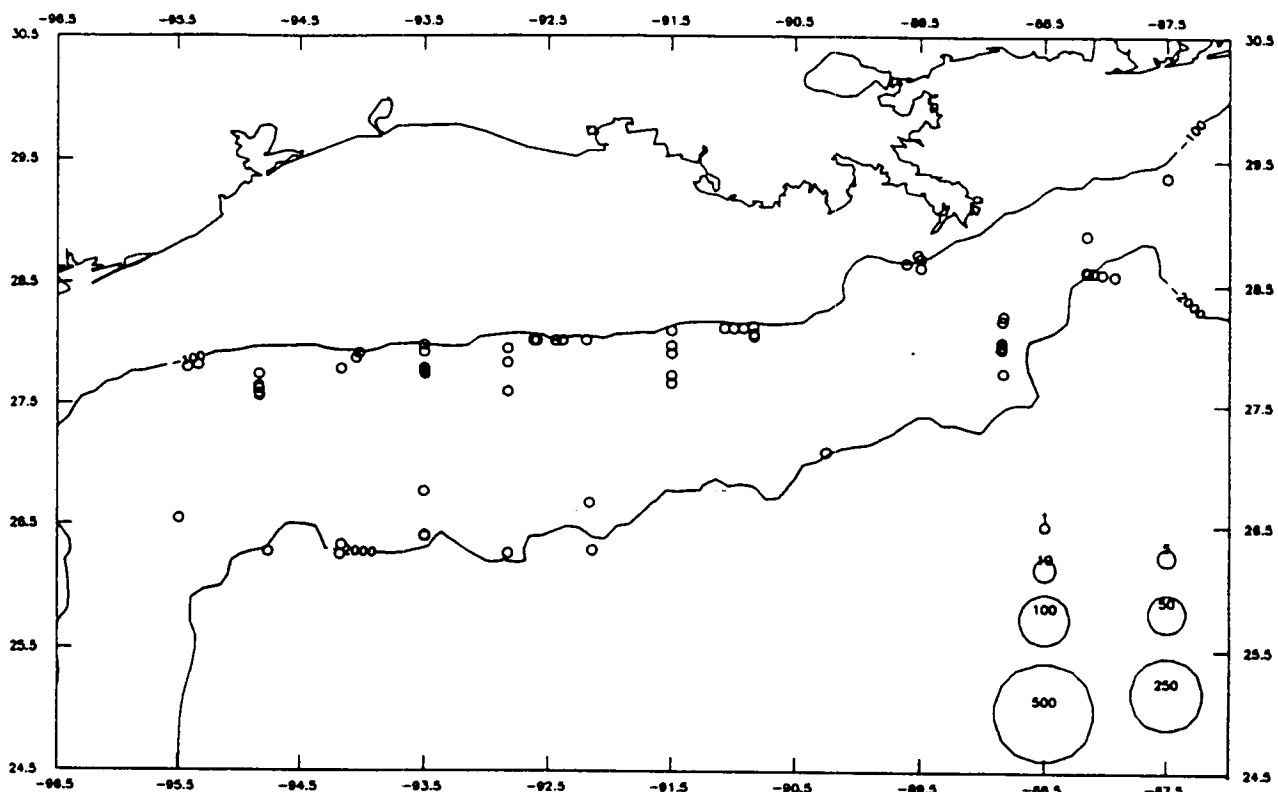
Stercorarius pomarinus and *Stercorarius* spp. Sightings: 68



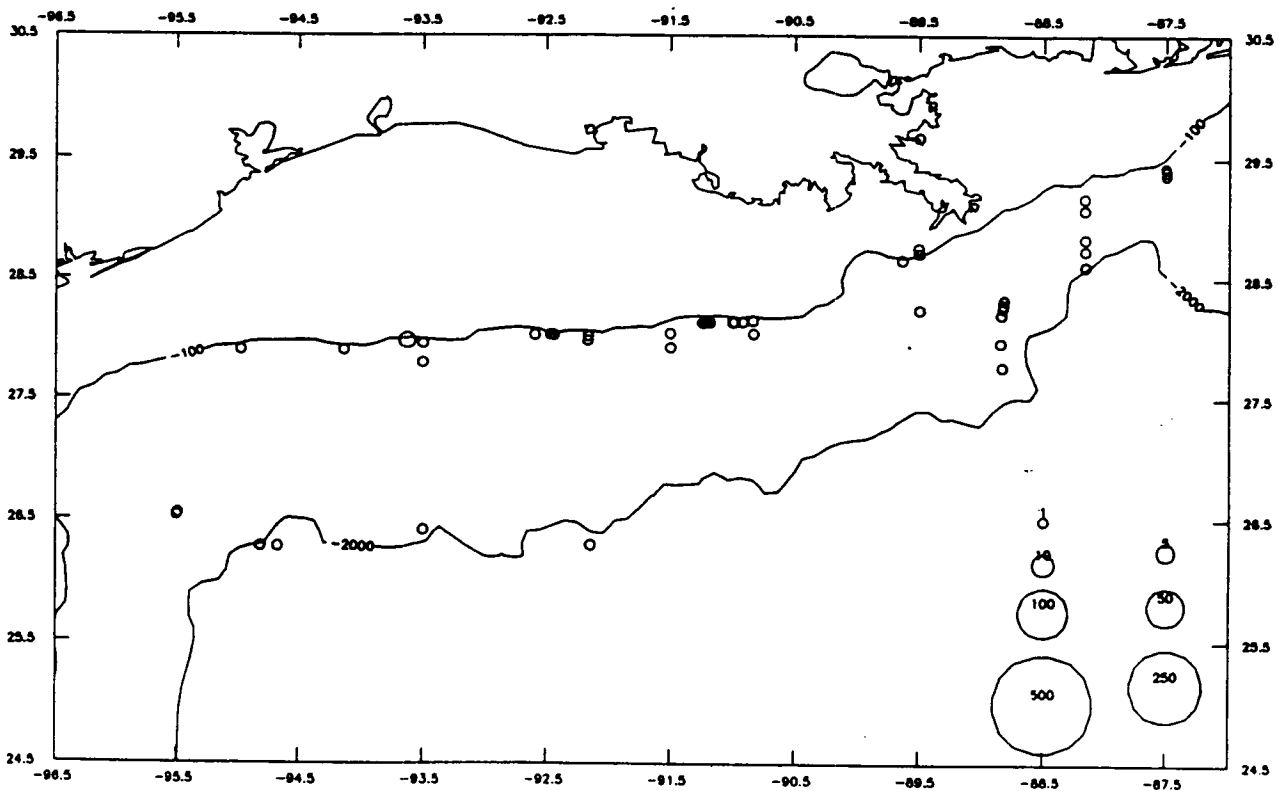
Sula bassanus Sightings: 18



Larus atricilla Sightings: 74

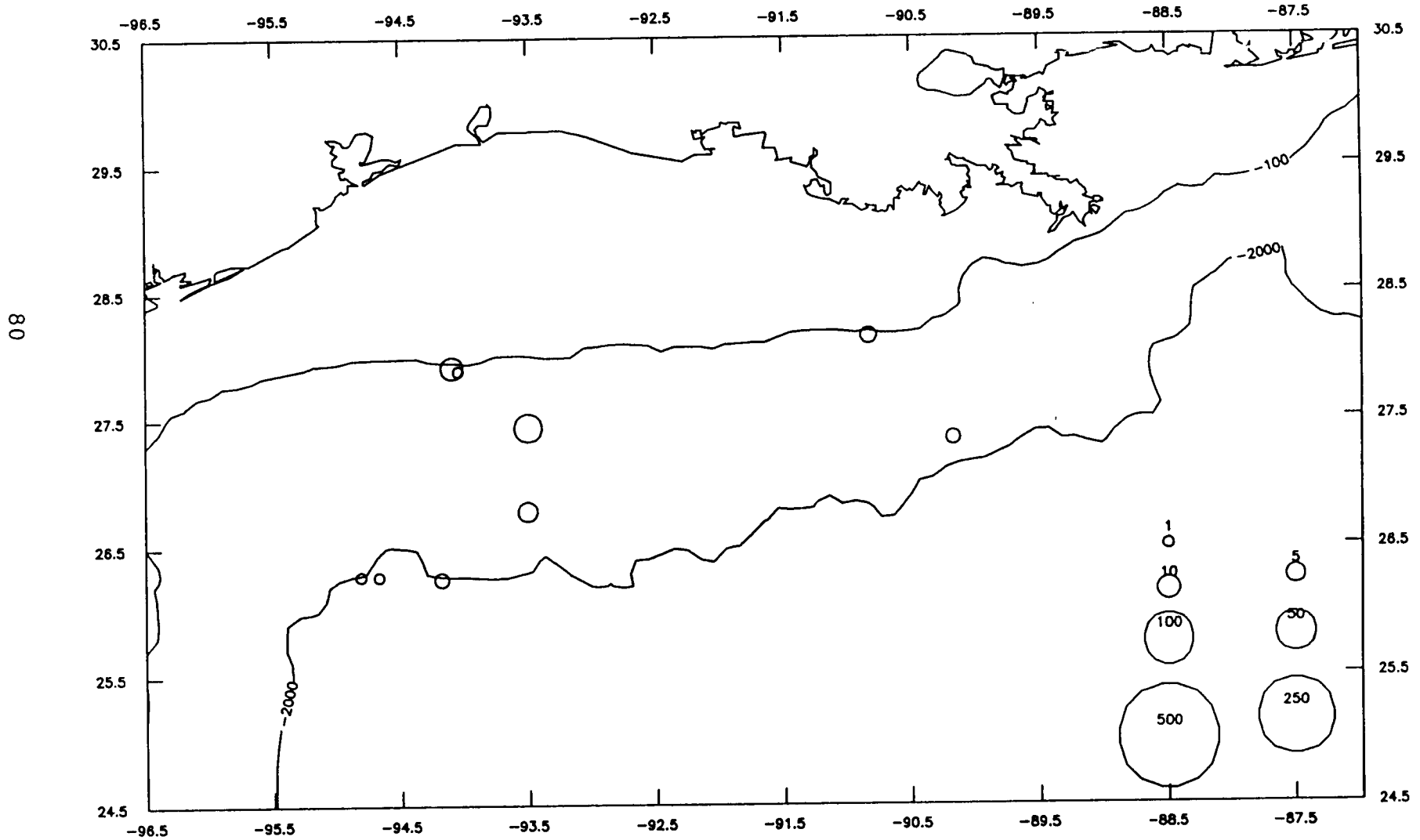


Larus argentatus Sightings: 53

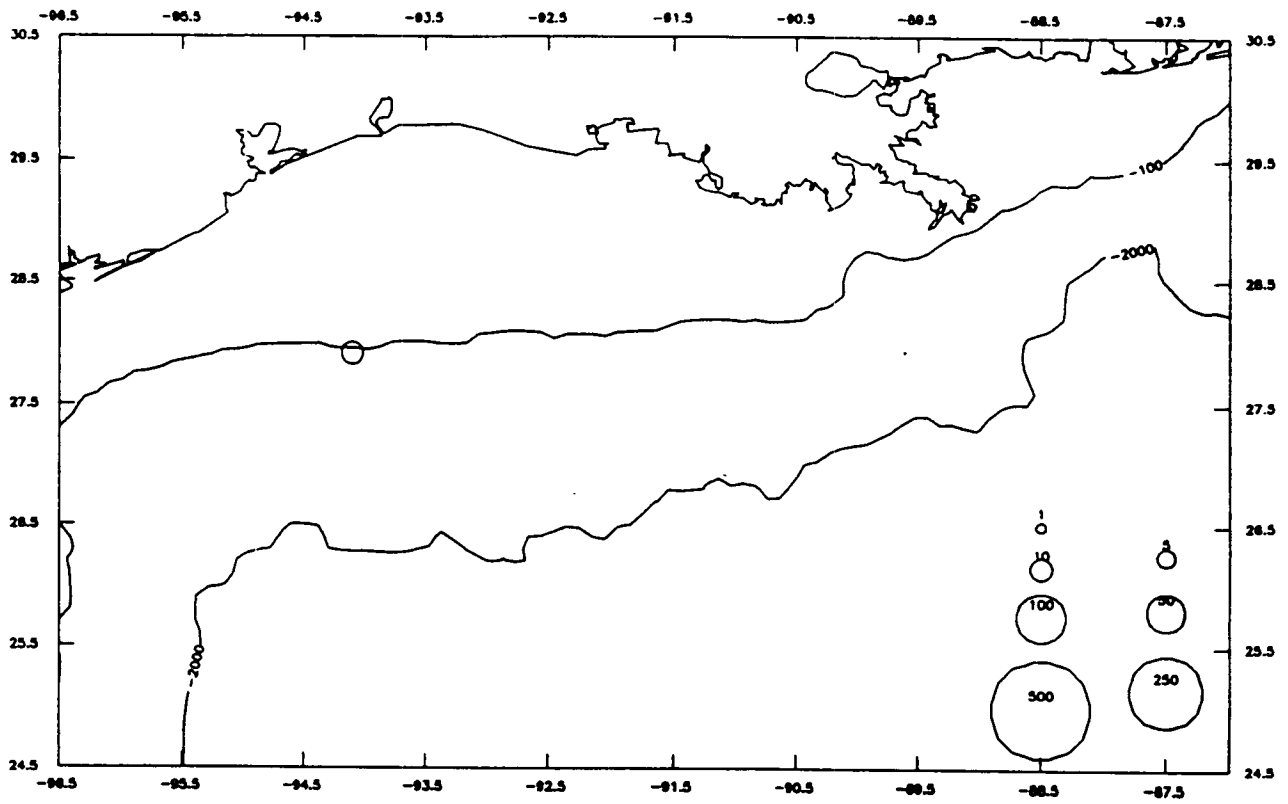


TOTAL NON-SEABIRD SIGHTINGS: 9

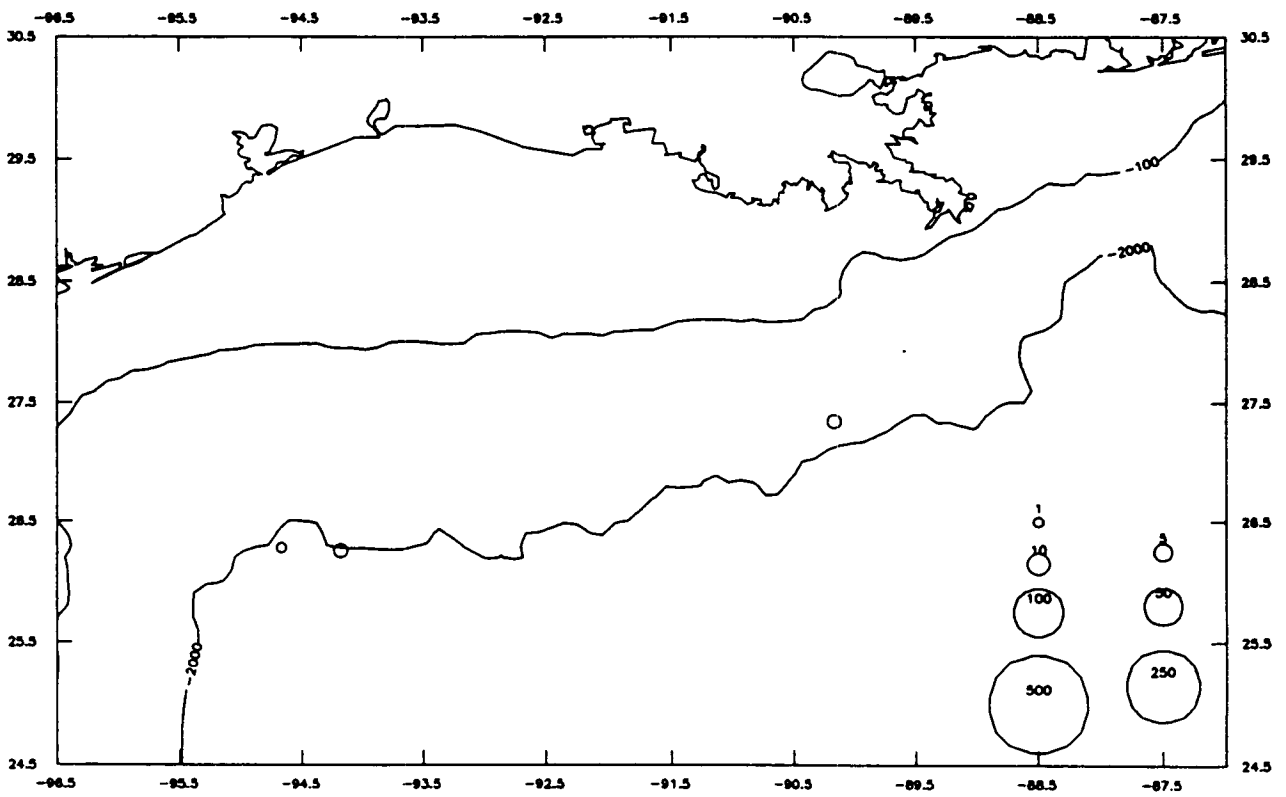
GulfCet 04: 2/12-27/93



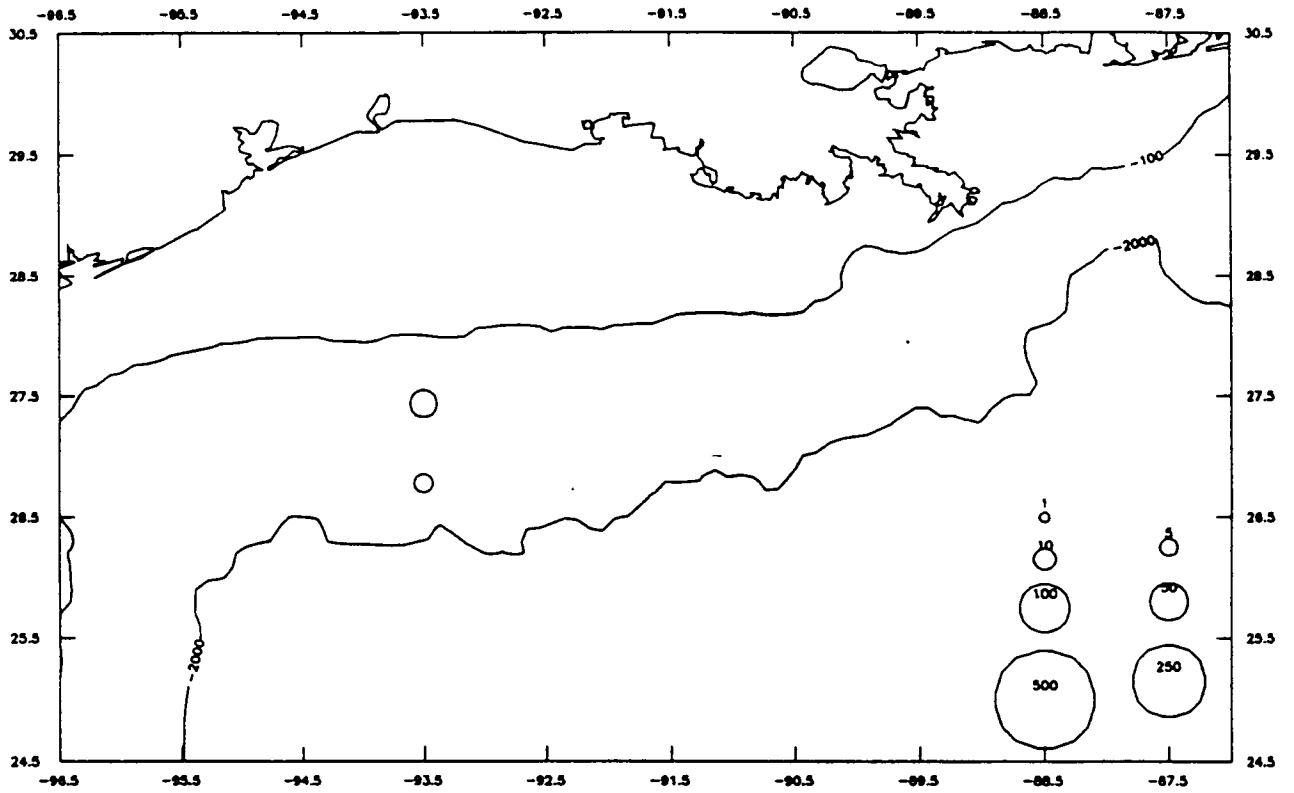
Duck spp. Sighting: 1



Heron/Egret Sightings: 3



Swallow spp. Sightings: 3

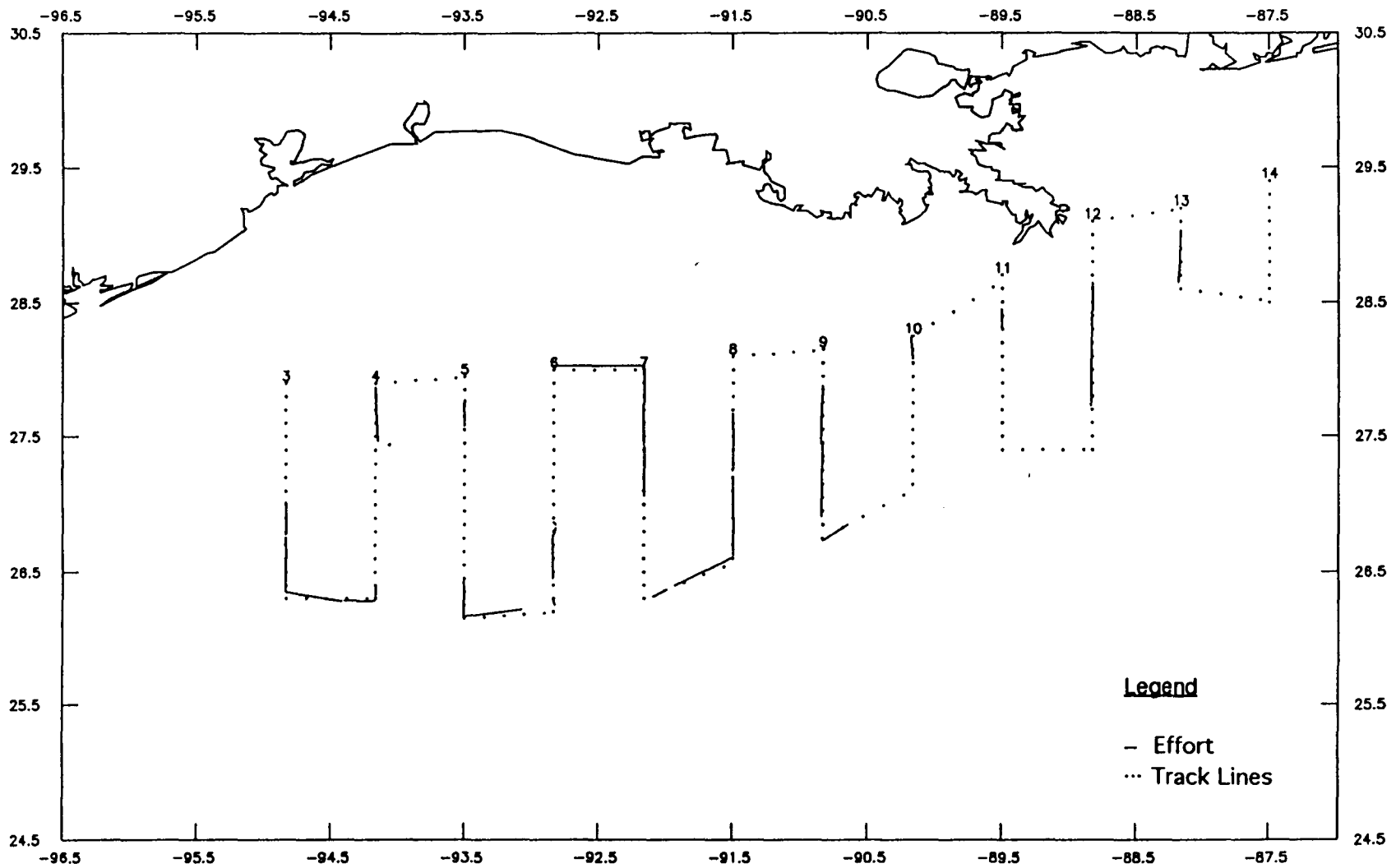


GULFCET CRUISE 05:

- MAP OF MARINE MAMMAL VISUAL EFFORT AND TRACK LINES SURVEYED
 - MARINE MAMMAL VISUAL DATA
 - DISTRIBUTION MAP OF TOTAL MARINE MAMMAL SIGHTINGS
 - INDIVIDUAL MARINE MAMMAL SPECIES DISTRIBUTION MAPS
- MAP OF BIRD EFFORT AND TRACK LINES SURVEYED
 - BIRD DATA
 - DISTRIBUTION MAP OF TOTAL BIRD SIGHTINGS
- INDIVIDUAL BIRD SPECIES AND BIRD GROUP DISTRIBUTION MAPS

Visual Effort & Track Lines Surveyed

GulfCet Cruise 05



Cruise 05 Marine Mammal Visual Data

Date	Time	Species	Latitude	Longitude	Best	High	Low
5/24/93	1744	<i>Stenella frontalis</i>	29° 12'	88° 20'	6	6	6
5/25/93	0834	<i>Stenella attenuata</i>	28° 31'	87° 30'	7	7	7
5/25/93	1158	<i>Pseudorca crassidens</i> with <i>Stenella</i> sp.	28° 35'	87° 49'	2	2	2
5/25/93	1913	Unid. small whale	29° 04'	88° 10'	7	9	6
5/25/93	1917	<i>Physeter macrocephalus</i> with <i>Globicephala macrorhynchus</i> or <i>Pseudorca crassidens</i> or <i>Feresa attenuata</i>	29° 04'	88° 10'	5 5 12 12	9 10 17 15	5 3 10 11
5/26/93	0524	<i>Physeter macrocephalus</i>	28° 40'	88° 50'	2	3	1
5/26/93	0616	Unid. dolphin	28° 37'	88° 50'	5	8	4
5/26/93	1023	<i>Mesoplodon</i> sp.	28° 10'	88° 50'	1	1	1
5/26/93	1453	<i>Kogia</i> sp.	27° 44'	88° 51'	1	1	1
5/26/93	1554	<i>Stenella attenuata</i>	27° 38'	88° 50'	15	20	12
5/26/93	1642	<i>Physeter macrocephalus</i>	27° 33'	88° 50'	4	6	2
5/26/93	1705	Unid. beaked whale	27° 30'	88° 50'	1	1	1
5/27/93	0651	<i>Stenella attenuata</i>	28° 22'	89° 30'	20	35	17
5/27/93	1857	<i>Stenella</i> sp.	28° 10'	90° 10'	5	10	3
5/27/93	1928	<i>Pseudorca crassidens</i>	28° 07'	90° 10'	2	2	2
5/28/93	0559	<i>Physeter macrocephalus</i>	27° 01'	90° 23'	2	3	2
5/28/93	0736	<i>Feresa attenuata</i> or <i>Pseudorca crassidens</i>	26° 52'	90° 38'	2 3	4 5	2 2
5/28/93	0959	<i>Globicephala macrorhynchus</i>	26° 48'	90° 57'	20 20	25 25	15 20
5/28/93	1116	<i>Ziphius cavirostris</i>	26° 58'	90° 51'	1	1	1
5/28/93	1313	Unid. cetacean	27° 12'	90° 50'	1	1	1
5/28/93	1605	<i>Stenella attenuata</i>	27° 27'	90° 50'	8	8	8
5/28/93	1648	Unid. cetacean	27° 32'	90° 50'	1	1	1
5/28/93	1824	<i>Stenella attenuata</i>	27° 42'	90° 50'	4	4	4
5/29/93	0608	Unid. dolphin	27° 42'	91° 30'	4	4	4
5/29/93	1153	Unid. cetacean	27° 03'	91° 30'	1	1	1
5/29/93	1440	Unid. dolphin	26° 44'	91° 29'	30	50	25

Cruise 05 Marine Mammal Visual Data

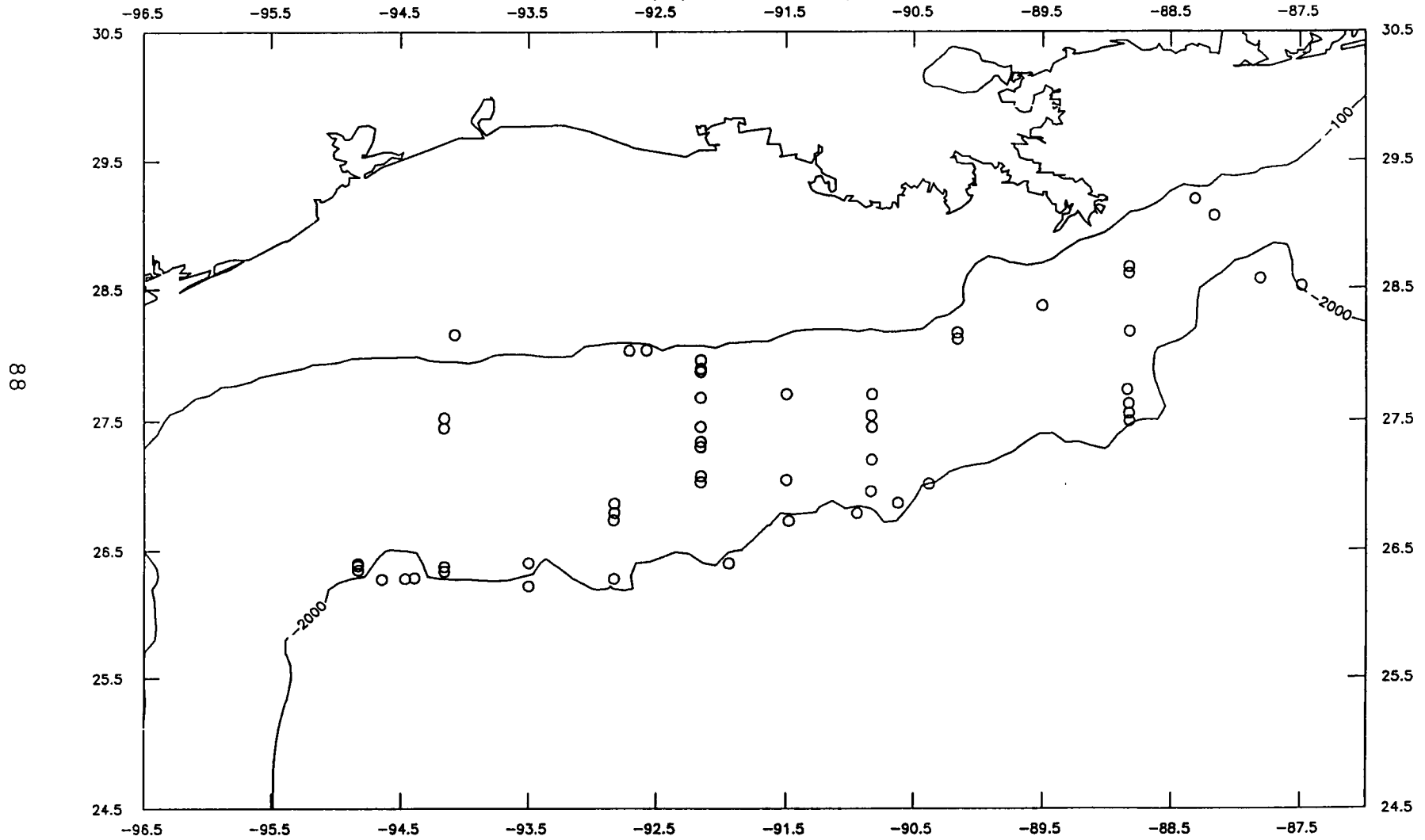
Date	Time	Species	Latitude	Longitude	Best	High	Low
5/29/93	1846	<i>Physeter macrocephalus</i>	26° 24'	91° 57'	30	42	24
					25	35	20
5/29/93	1846	<i>Stenella attenuata</i>	26° 24'	91° 57'	4	20	24
					5	25	30
					7	35	42
5/30/93	0556	<i>Stenella attenuata</i>	27° 02'	92° 10'	18	20	15
5/30/93	0626	Unid. cetacean	27° 05'	92° 10'	1	1	1
5/30/93	0814	Unid. dolphin	27° 18'	92° 10'	1	1	1
5/30/93	0836	<i>Stenella coeruleoalba</i>	27° 20'	92° 10'	45	65	35
					27	40	20
					40	60	30
5/30/93	1017	Unid. cetacean	27° 27'	92° 10'	1	1	1
5/30/93	1018	<i>Stenella clymene</i>	27° 27'	92° 10'	40	50	40
					43	50	30
					32	40	25
					40	50	25
5/30/93	1208	<i>Tursiops truncatus</i> with <i>F. attenuata</i> or <i>P. crassidens</i>	27° 41'	92° 10'	30	40	20
5/30/93	1411	<i>Tursiops truncatus</i>	27° 52'	92° 10'	6	4	6
5/30/93	1423	<i>Tursiops truncatus</i> with <i>Pseudorca crassidens</i>	27° 54'	92° 10'	4	4	4
					4	4	4
					8	8	8
5/30/93	1457	Unid. cetacean	27° 58'	92° 10'	1	1	1
5/30/93	1805	<i>Tursiops truncatus</i>	28° 02'	92° 35'	2	2	2
5/30/93	1846	<i>Tursiops truncatus</i>	28° 02'	92° 43'	8	15	5
					9	10	7
5/31/93	0613	<i>Stenella clymene</i>	26° 52'	92° 50'	45	50	40
					50	64	45
					50	60	40
5/31/93	0657	<i>Physeter macrocephalus</i>	26° 48'	92° 50'	4	5	3
					4	5	4
					4	5	4
5/31/93	0759	<i>Stenella attenuata</i>	26° 44'	92° 50'	43	50	40
					40	45	35
					45	60	40
					55	65	45
5/31/93	1154	<i>Stenella attenuata</i>	26° 17'	92° 50'	20	25	15

Cruise 05 Marine Mammal Visual Data

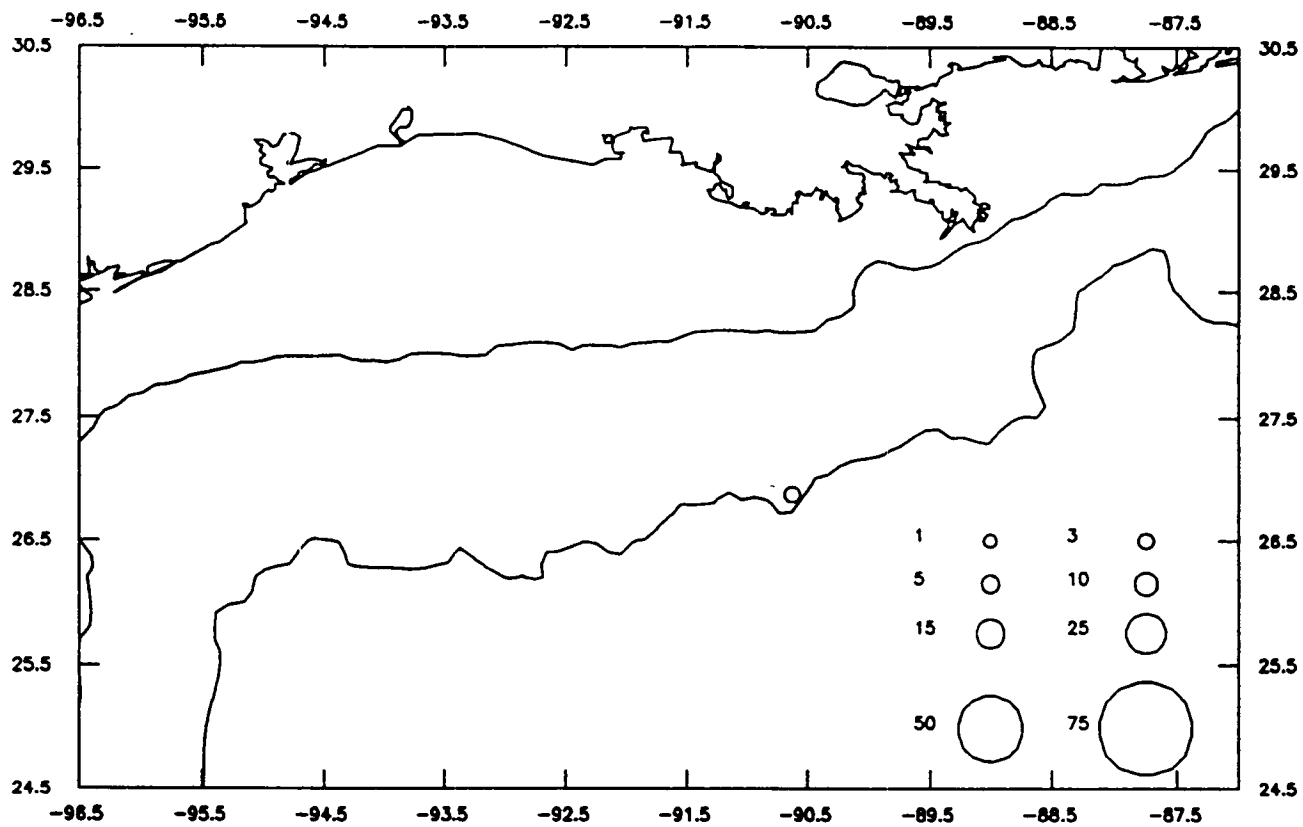
Date	Time	Species	Latitude	Longitude	Best	High	Low
5/31/93	1747	Unid. cetacean	26° 13'	93° 30'	25	30	20
5/31/93	1916	<i>Grampus griseus</i>	26° 24'	93° 30'	1	1	1
					1	1	1
6/1/93	1719	Unid. small whale with <i>Physeter macrocephalus</i>	27° 31'	94° 10'	11	14	9
					9	7	9
					13	24	10
6/1/93	1913	<i>Peponocephala electra</i> with <i>Lagenodelphis hosei</i>	27° 27'	94° 10'	150	225	100
					250	300	200
					135	155	100
6/2/93	0618	<i>Ziphius cavirostris</i>	26° 23'	94° 10'	1	1	1
6/2/93	0638	<i>Grampus griseus</i>	26° 20'	94° 10'	7	8	6
					5	5	4
6/2/93	0901	<i>Stenella clymene</i>	26° 17'	94° 24'	35	50	30
					60	90	45
					45	60	38
6/2/93	0927	<i>Stenella attenuata</i>	26° 17'	94° 28'	40	60	35
					35	45	30
					38	50	28
6/2/93	1028	<i>Stenella clymene</i>	26° 17'	94° 39'	10	12	8
					9	10	8
6/2/93	1238	<i>Physeter macrocephalus</i>	26° 21'	94° 50'	7	10	7
					2	2	2
6/2/93	1349	Unid. large whale	26° 23'	94° 50'	1	1	1
6/2/93	1359	<i>Physeter macrocephalus</i>	26° 24'	94° 50'	4	6	4
					4	6	3
					3	4	2
6/2/93	0858	<i>Stenella frontalis</i>	28° 09'	94° 05'	14	18	13

Total Marine Mammal Sightings : 63

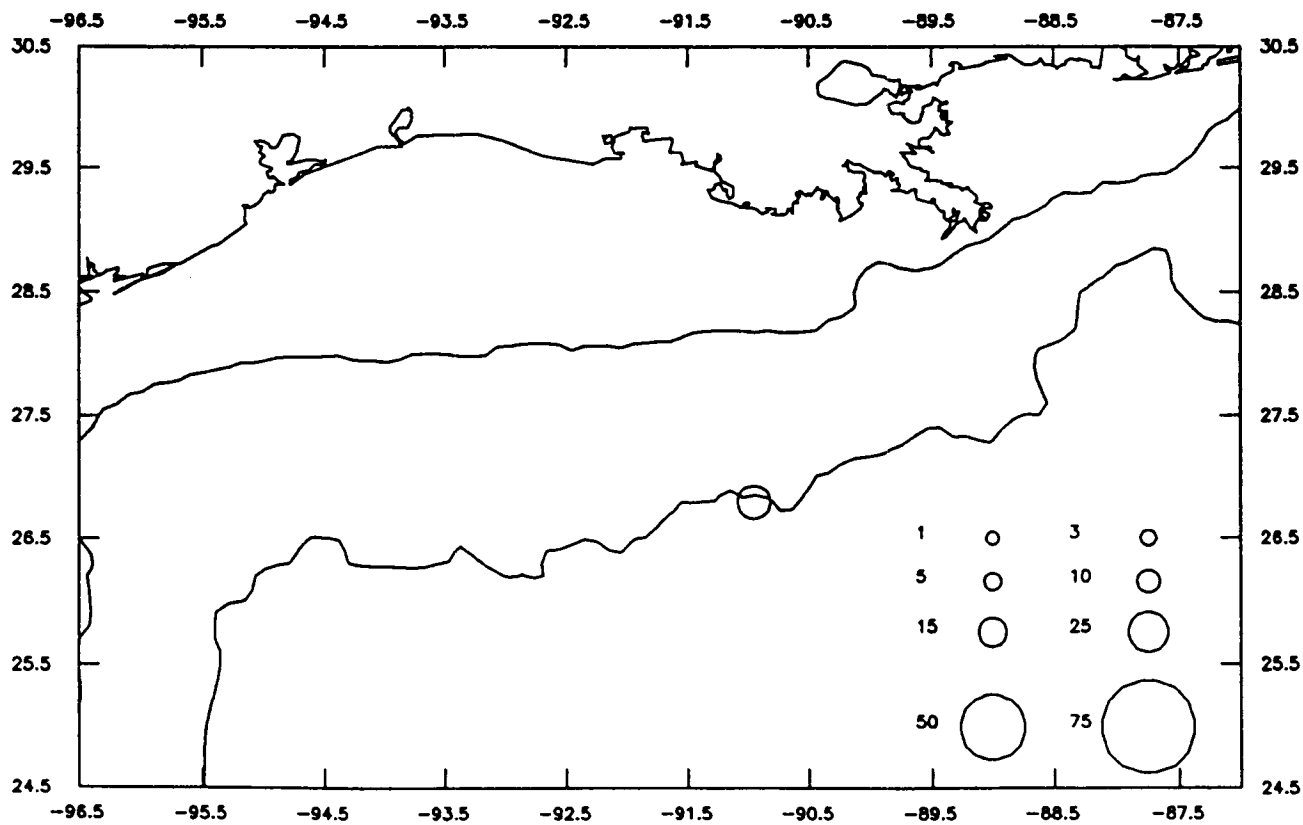
GulfCet 05 (5/23 - 6/5/1993)



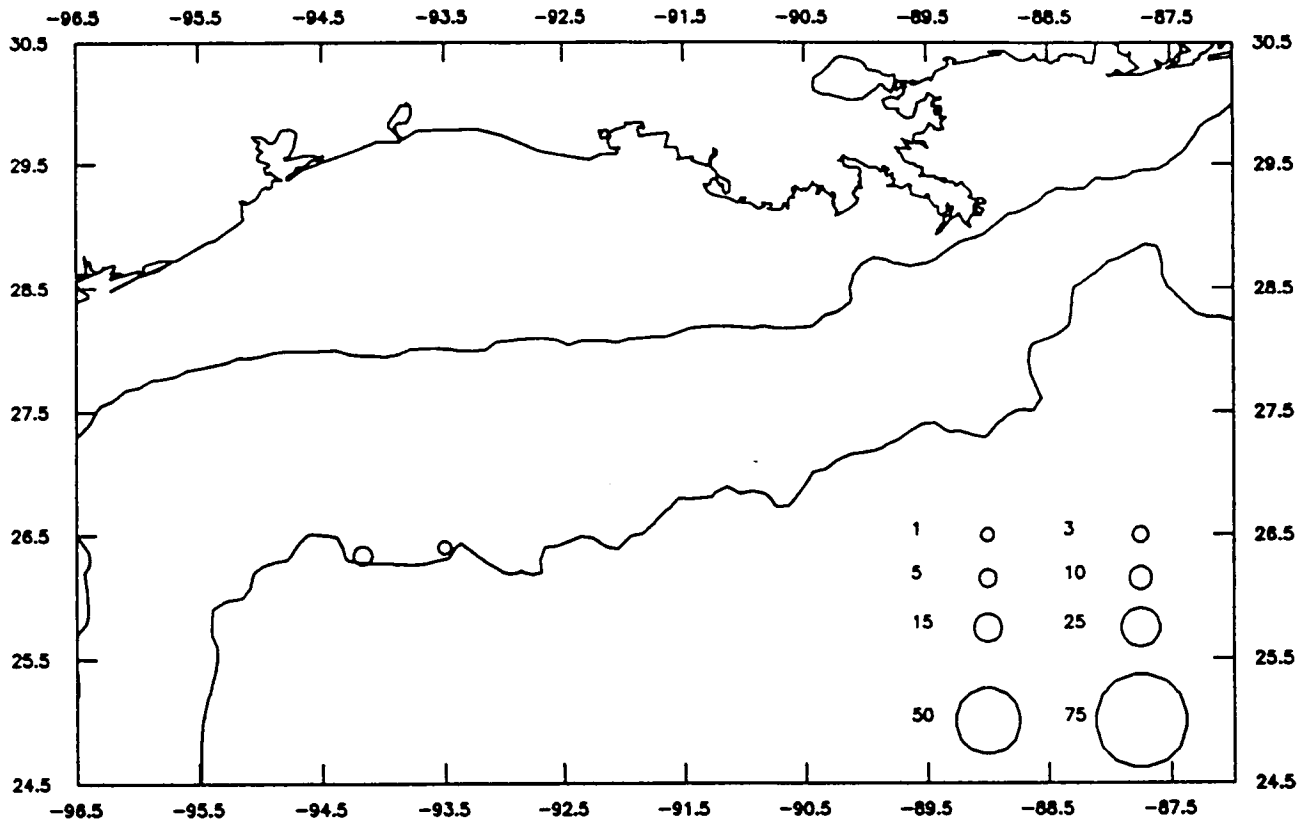
Feresa attenuata or *Pseudorca crassidens* Sighting: 1



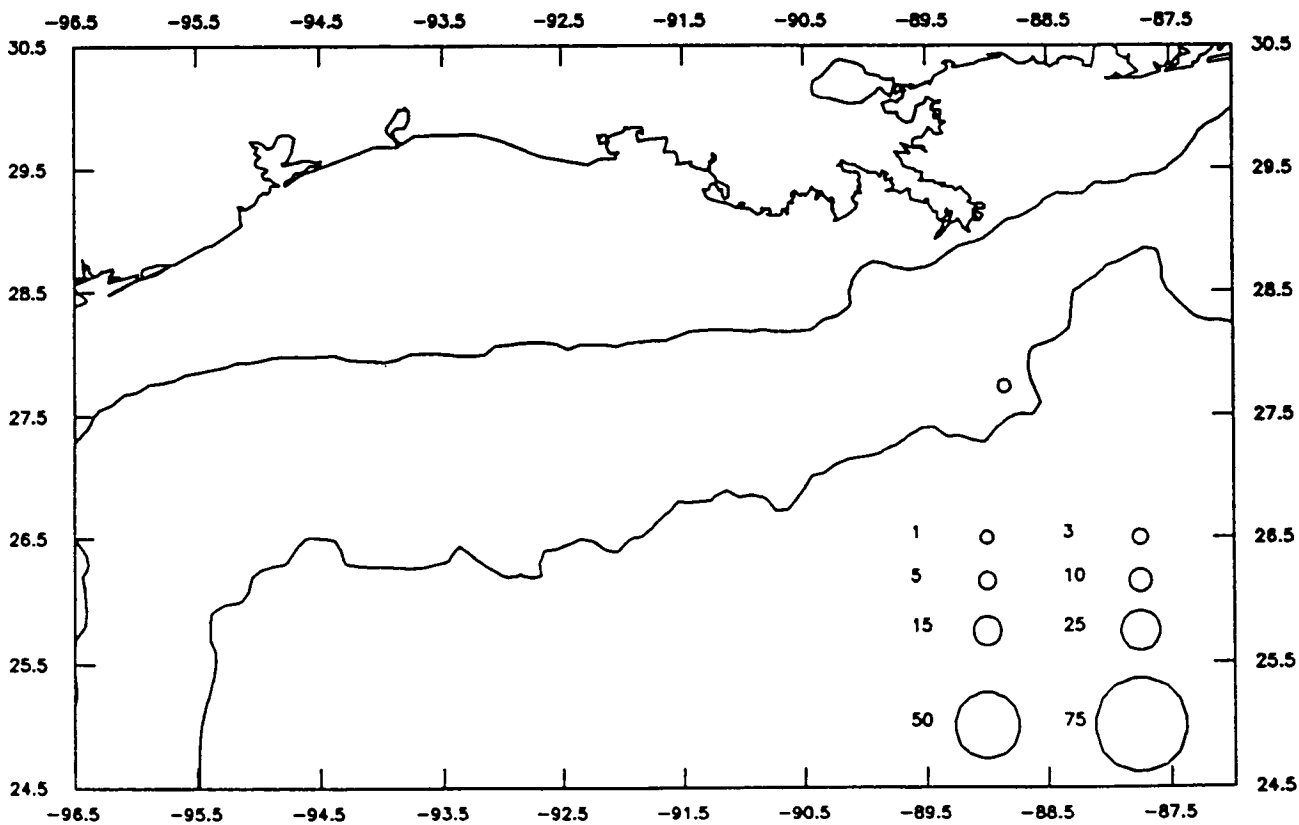
Globicephala macrorhynchus Sighting: 1



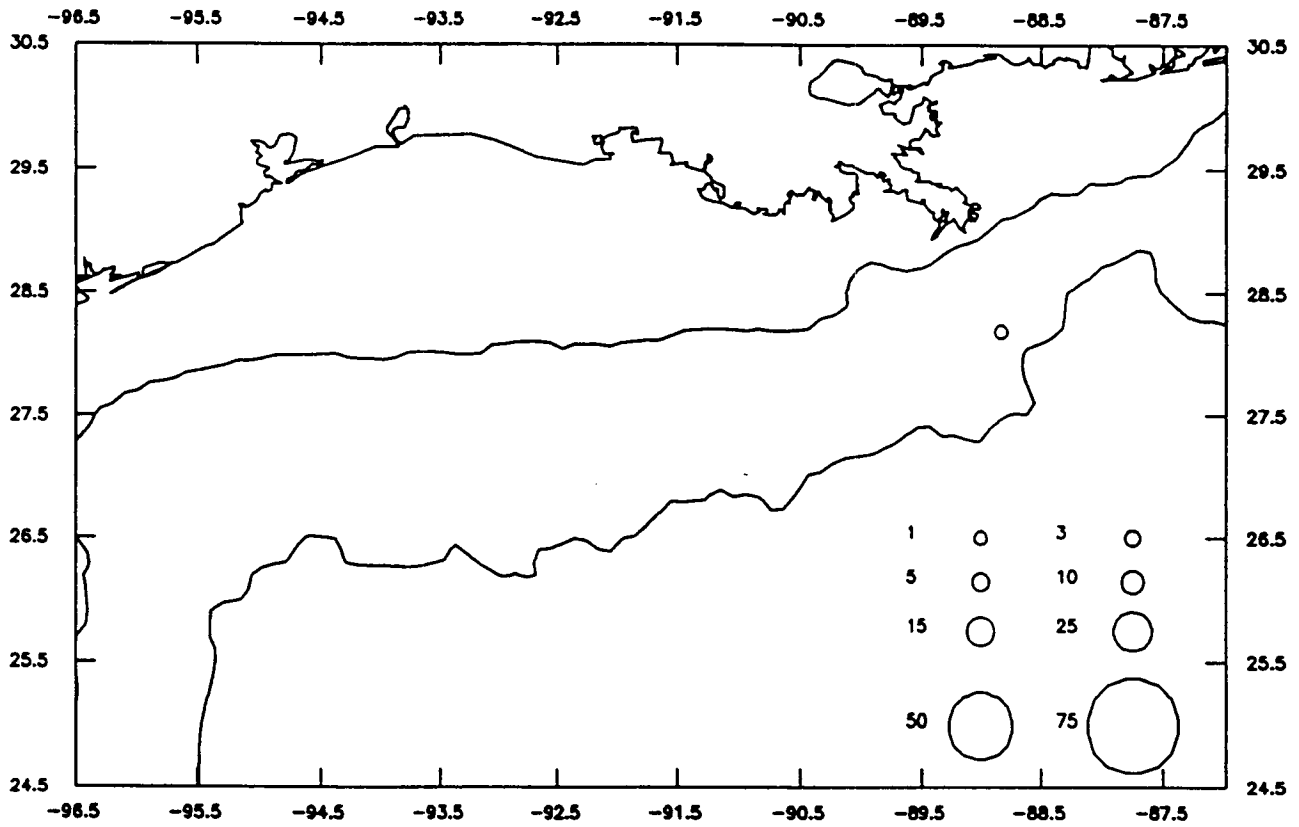
Grampus griseus Sightings: 2



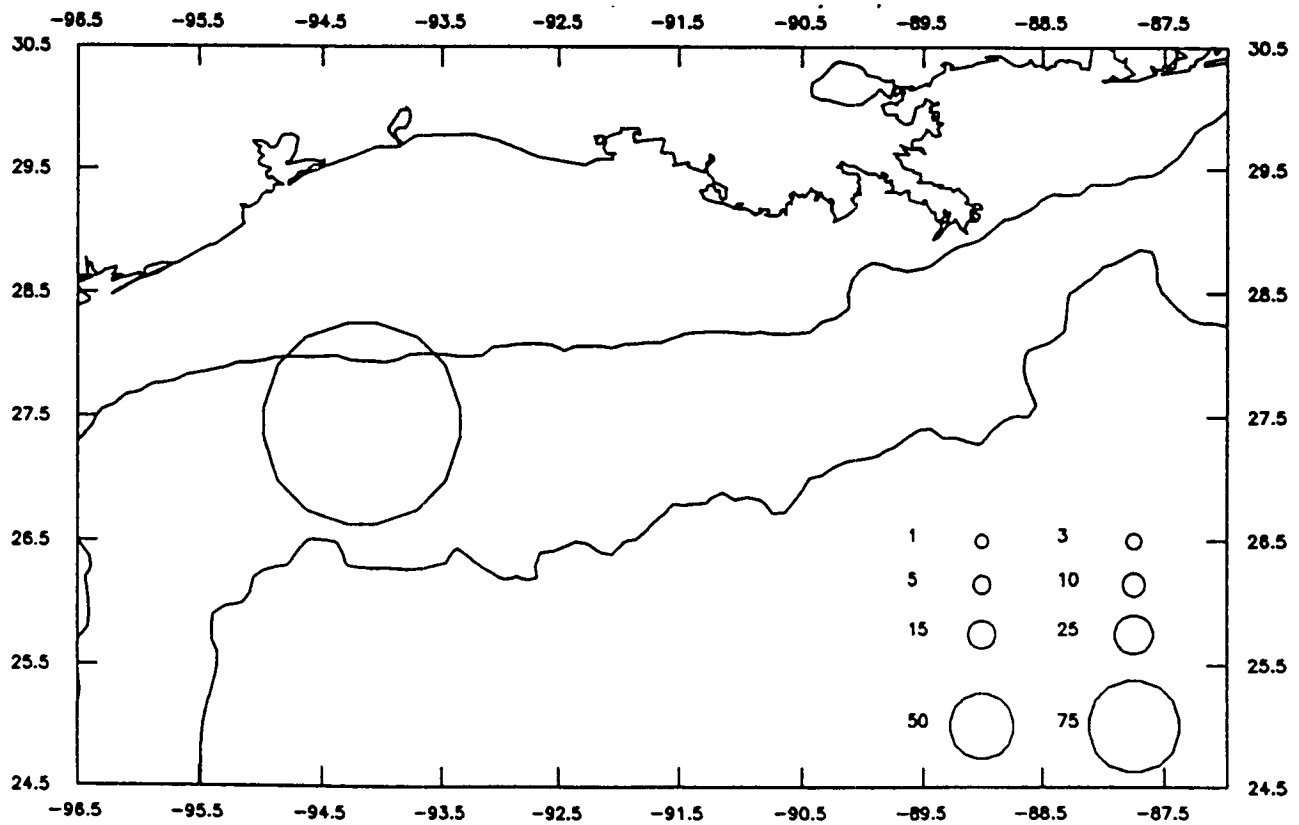
Kogia sp. Sighting: 1



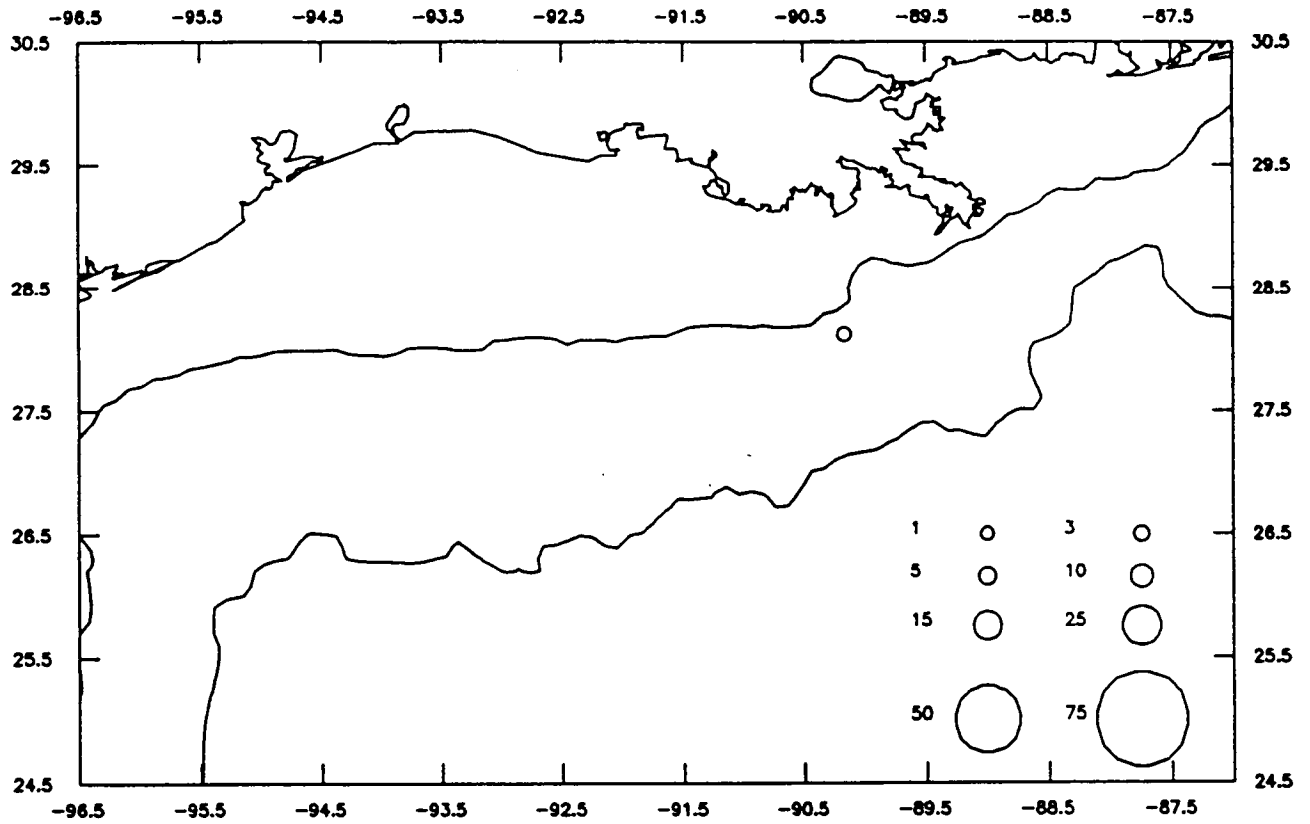
Mesoplodon sp. Sighting: 1



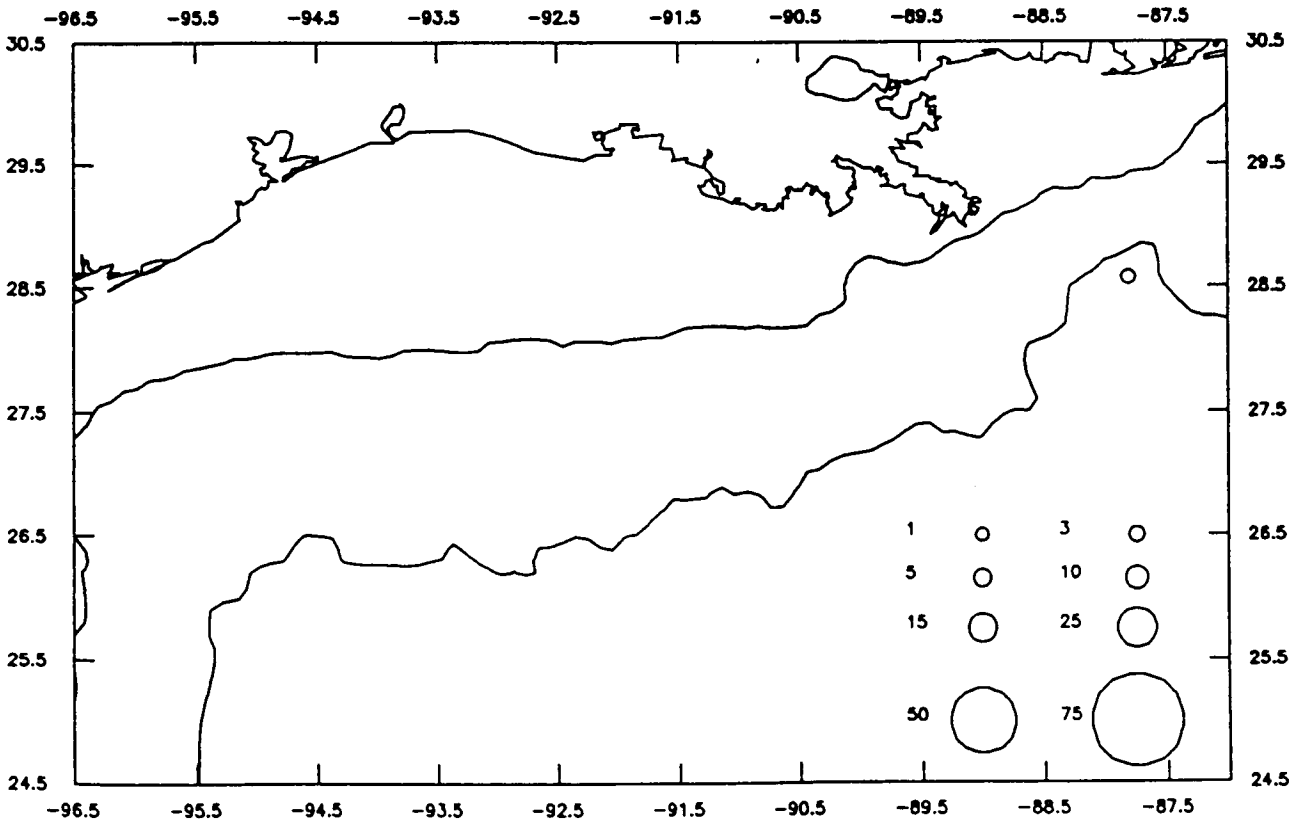
Peponocephala electra with *Lagenodelphis hosei* Sightings: 1



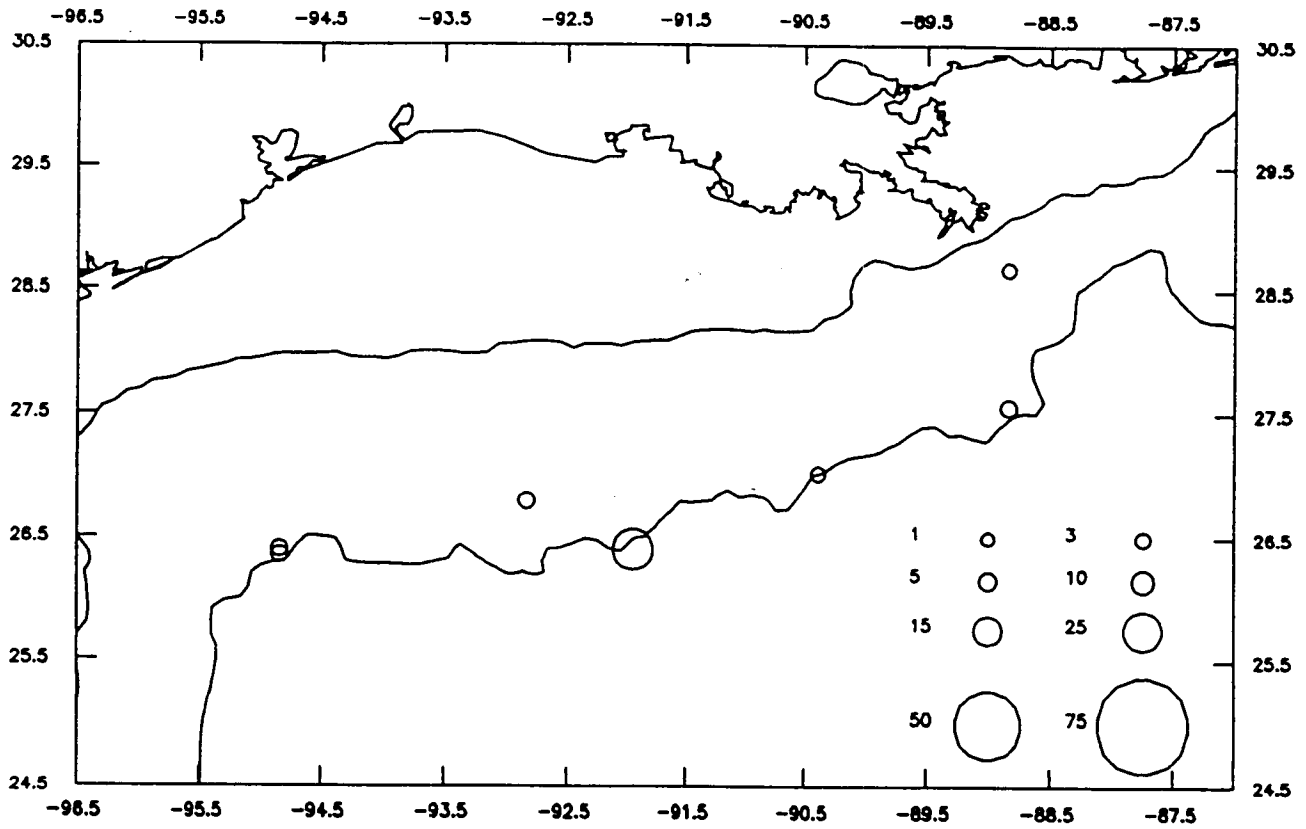
Pseudorca crassidens Sighting: 1



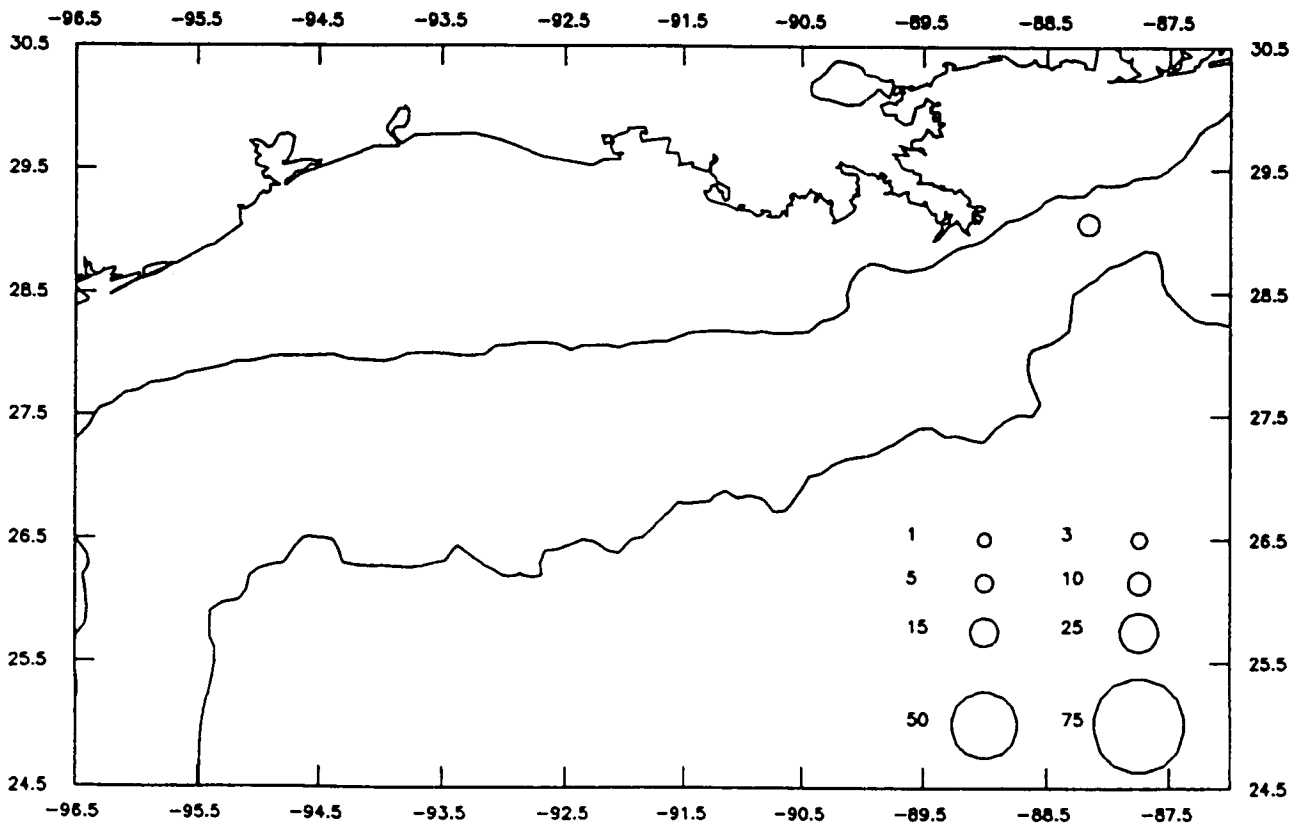
Pseudorca crassidens with *Stenella* sp. Sightings: 1



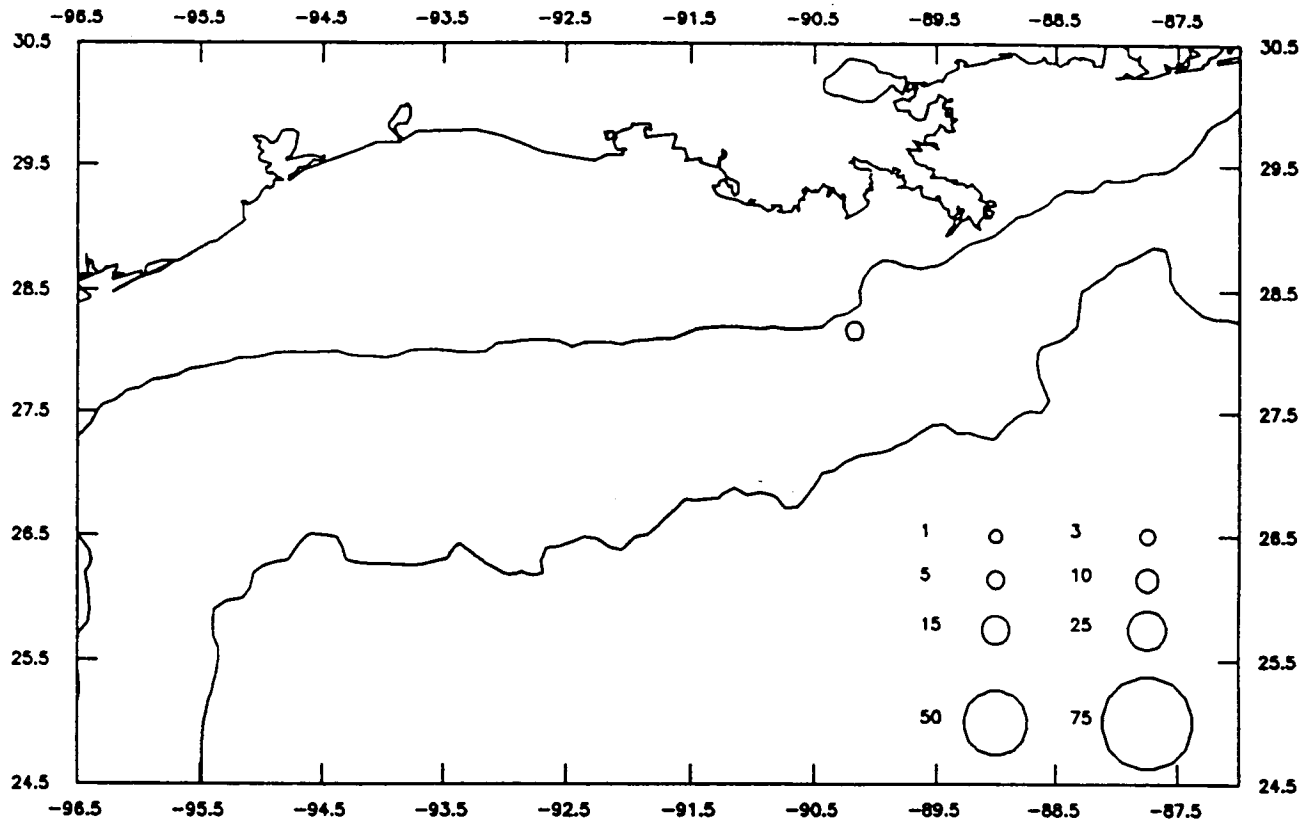
Physeter macrocephalus Sightings: 7



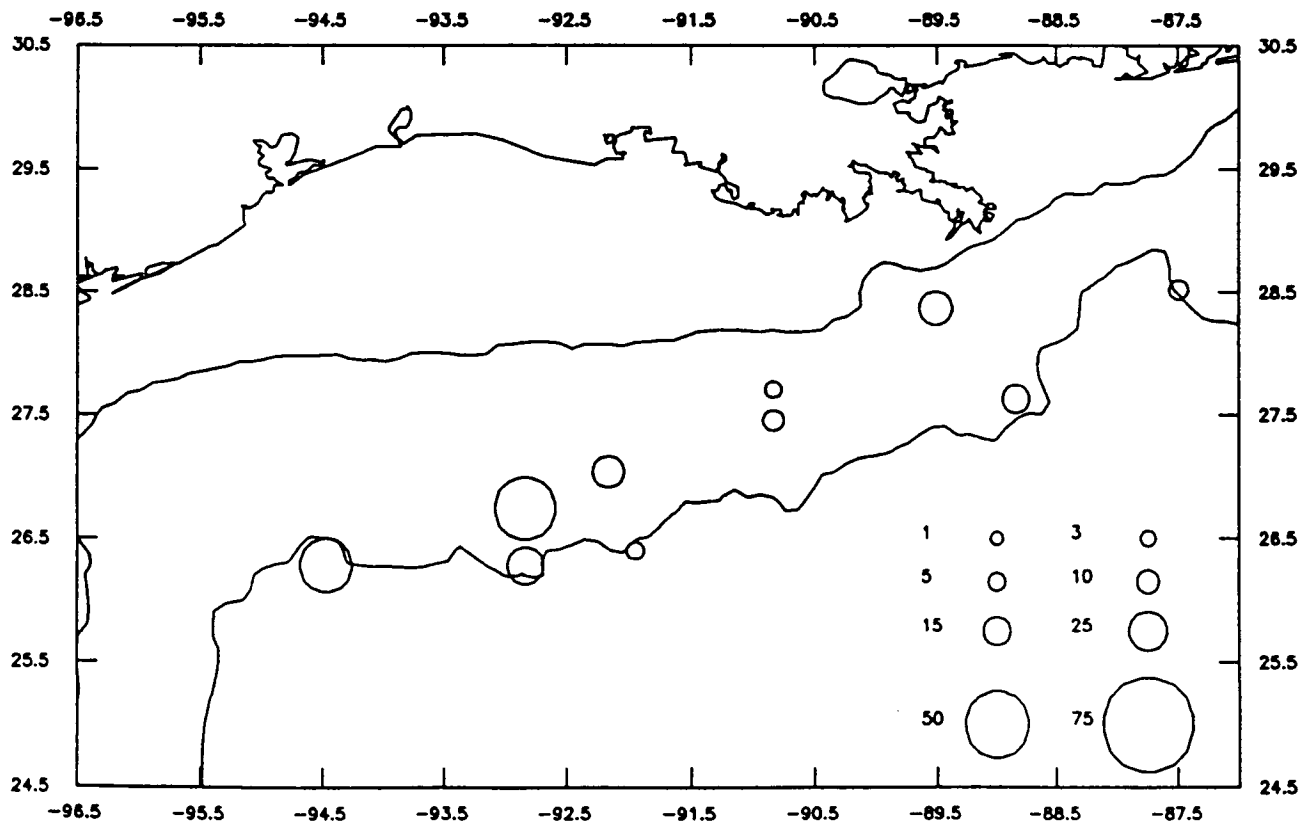
Physeter macrocephalus with *Globicephala macrorhynchus* or *Pseudorca crassidens* or *Feresa attenuata* Sighting: 1



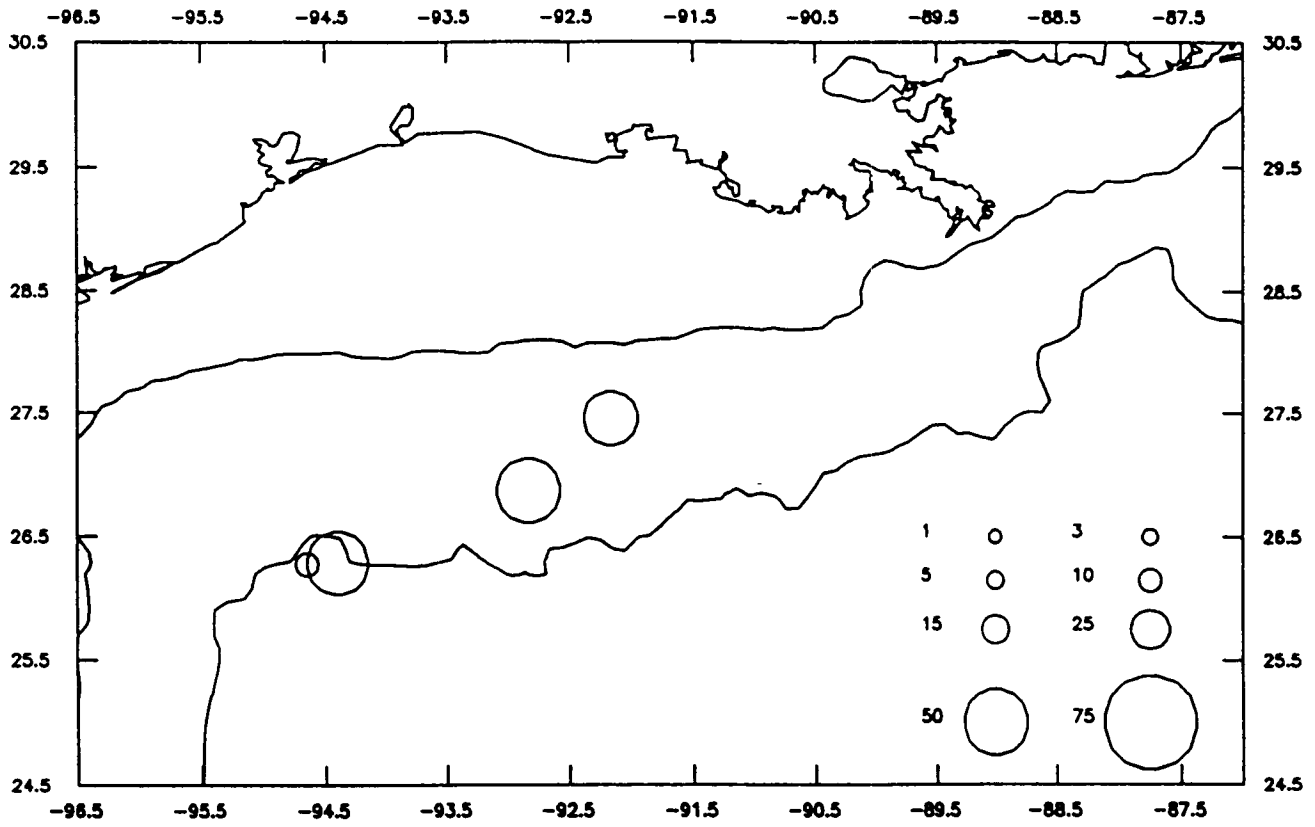
Stenella sp. Sighting: 1



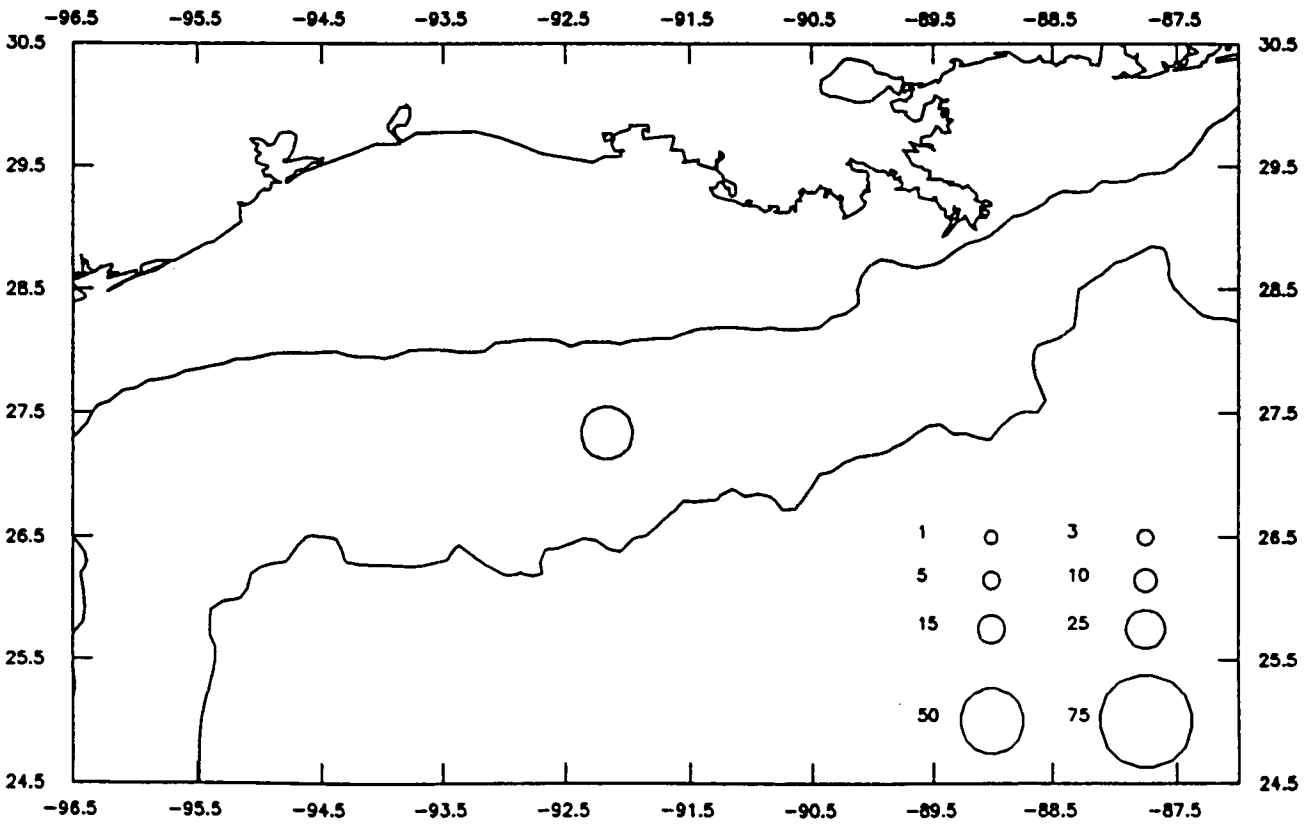
Stenella attenuata Sightings: 10



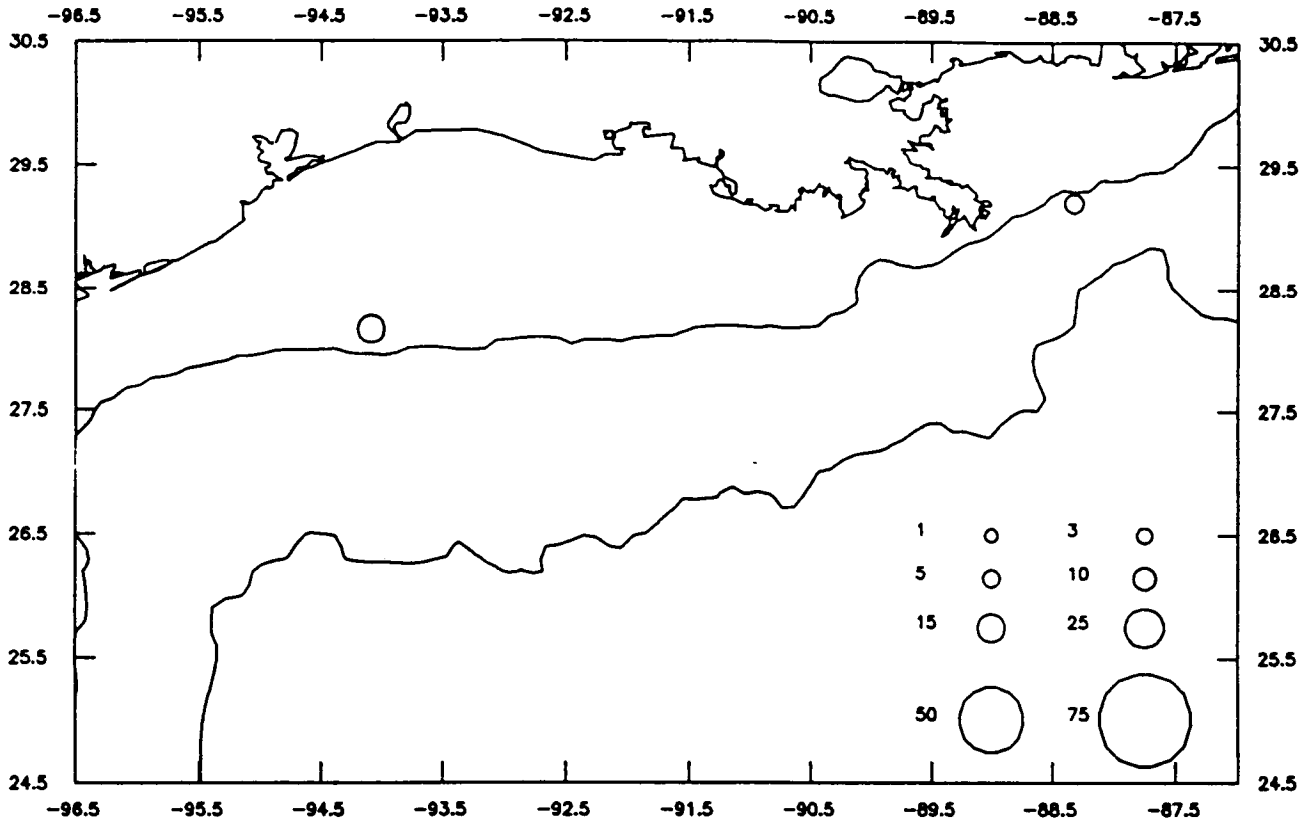
Stenella clymene Sightings: 4



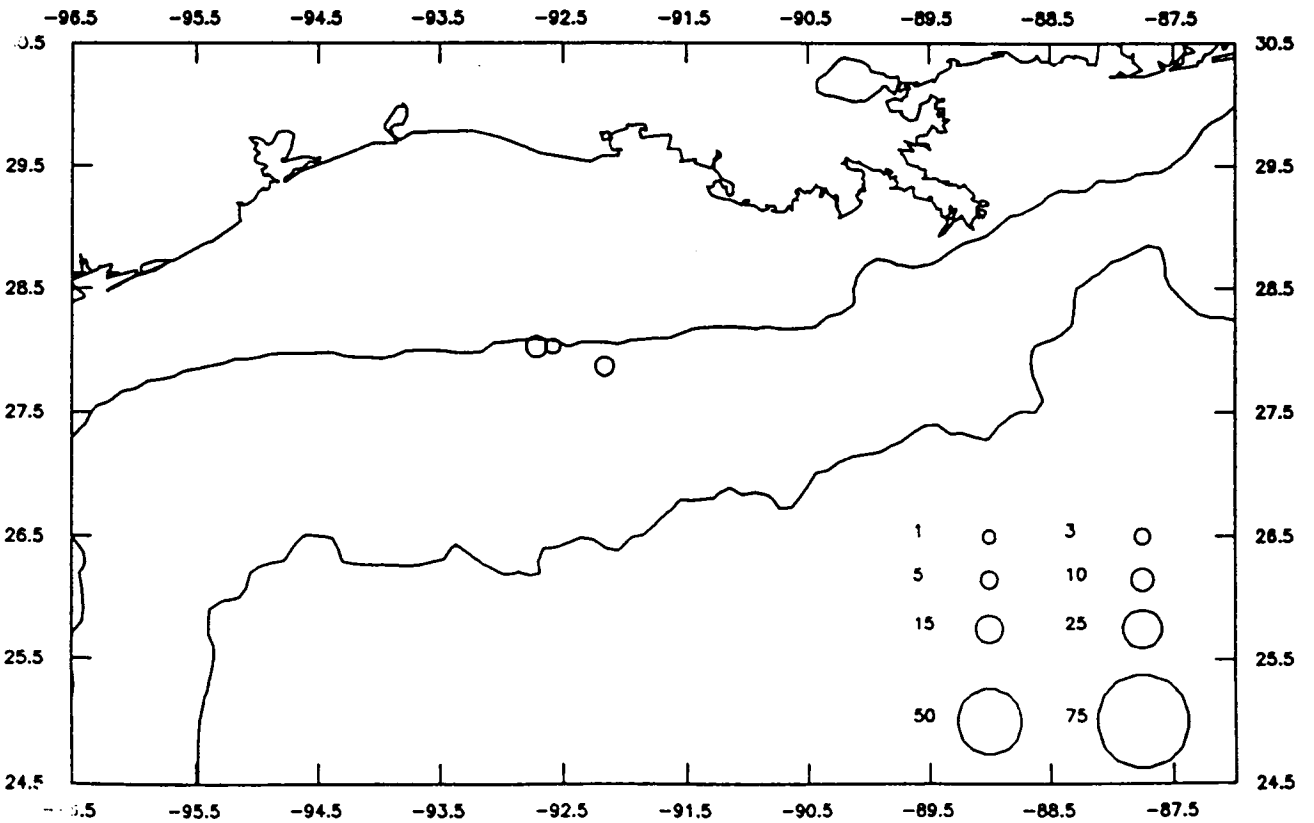
Stenella coeruleoalba Sighting: 1



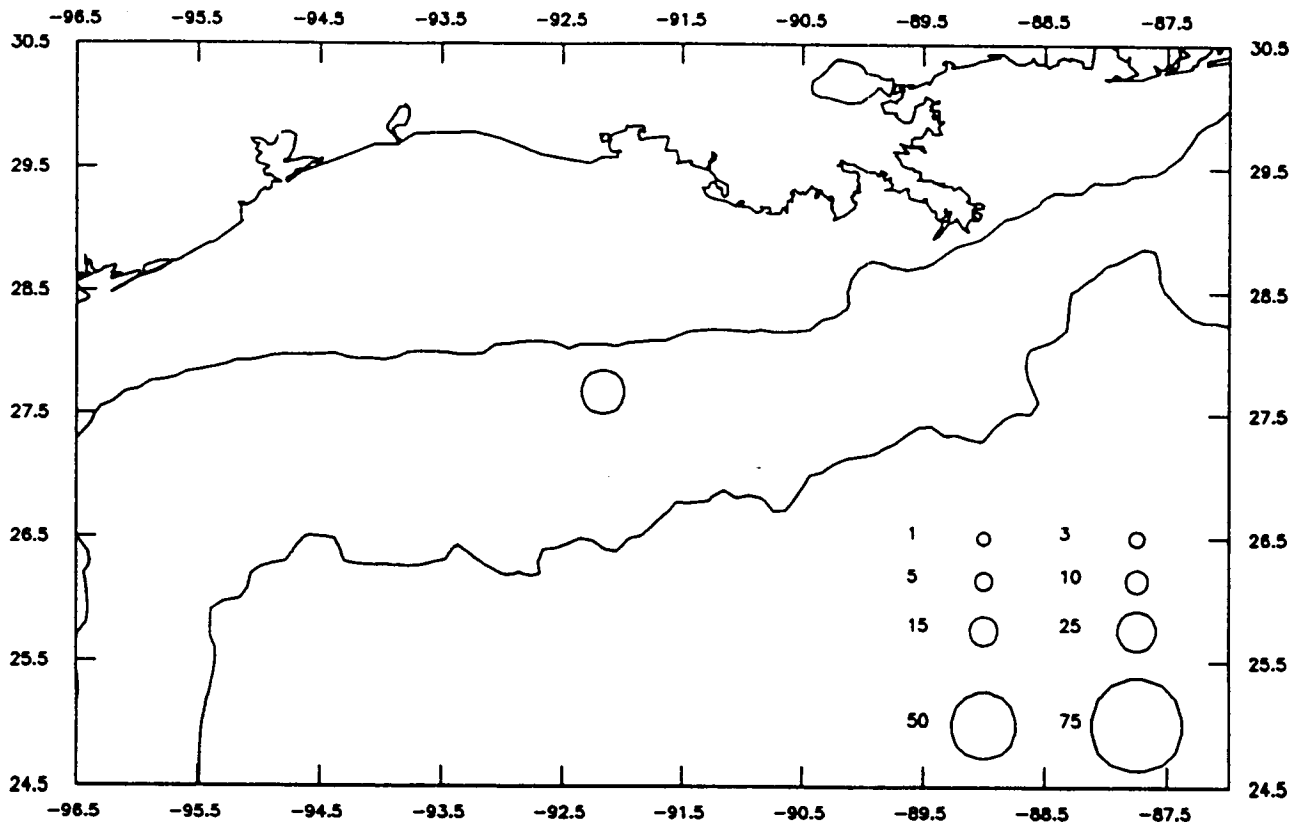
Stenella frontalis Sightings: 2



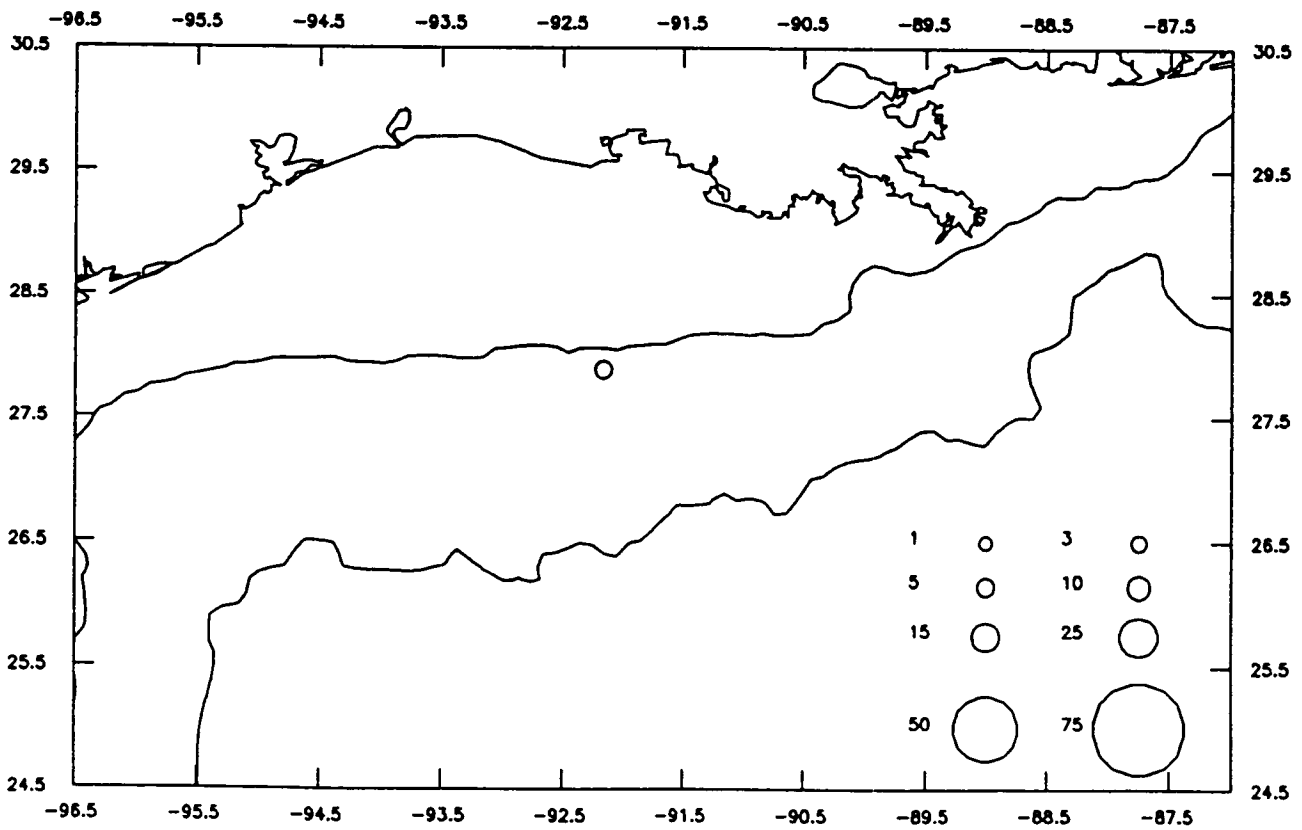
Tursiops truncatus Sightings: 3



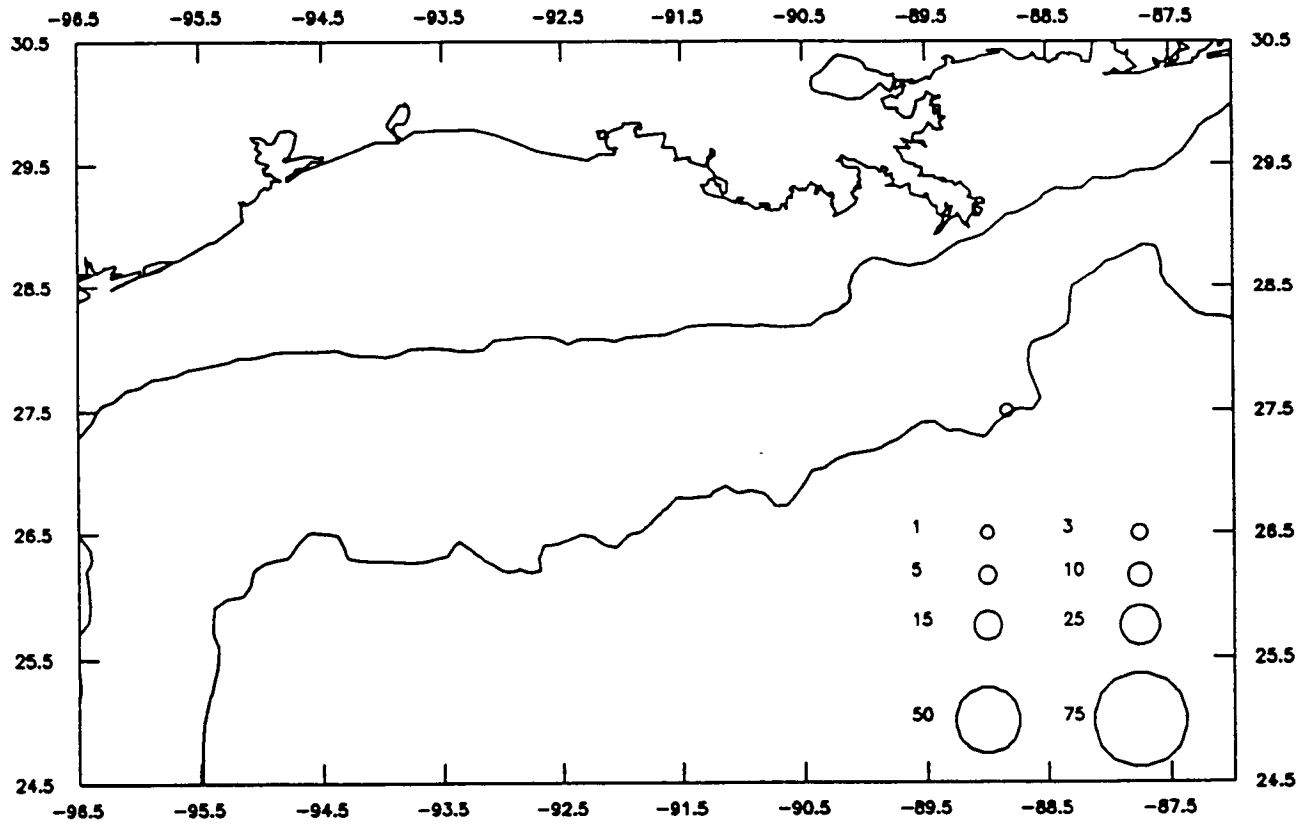
Tursiops truncatus with *Feresa attenuata* or *Pseudorca crassidens*
Sightings: 1



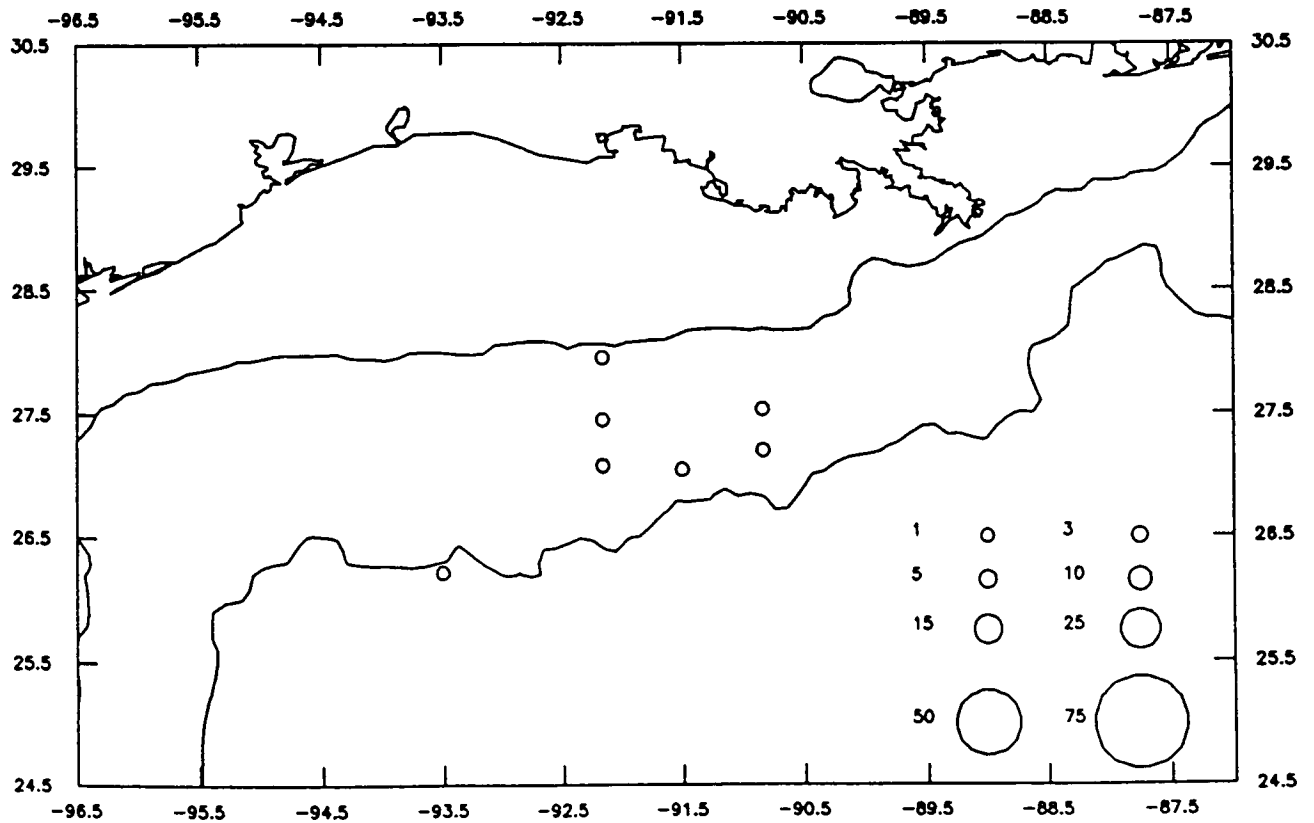
Tursiops truncatus with *Pseudorca crassidens* Sightings: 1



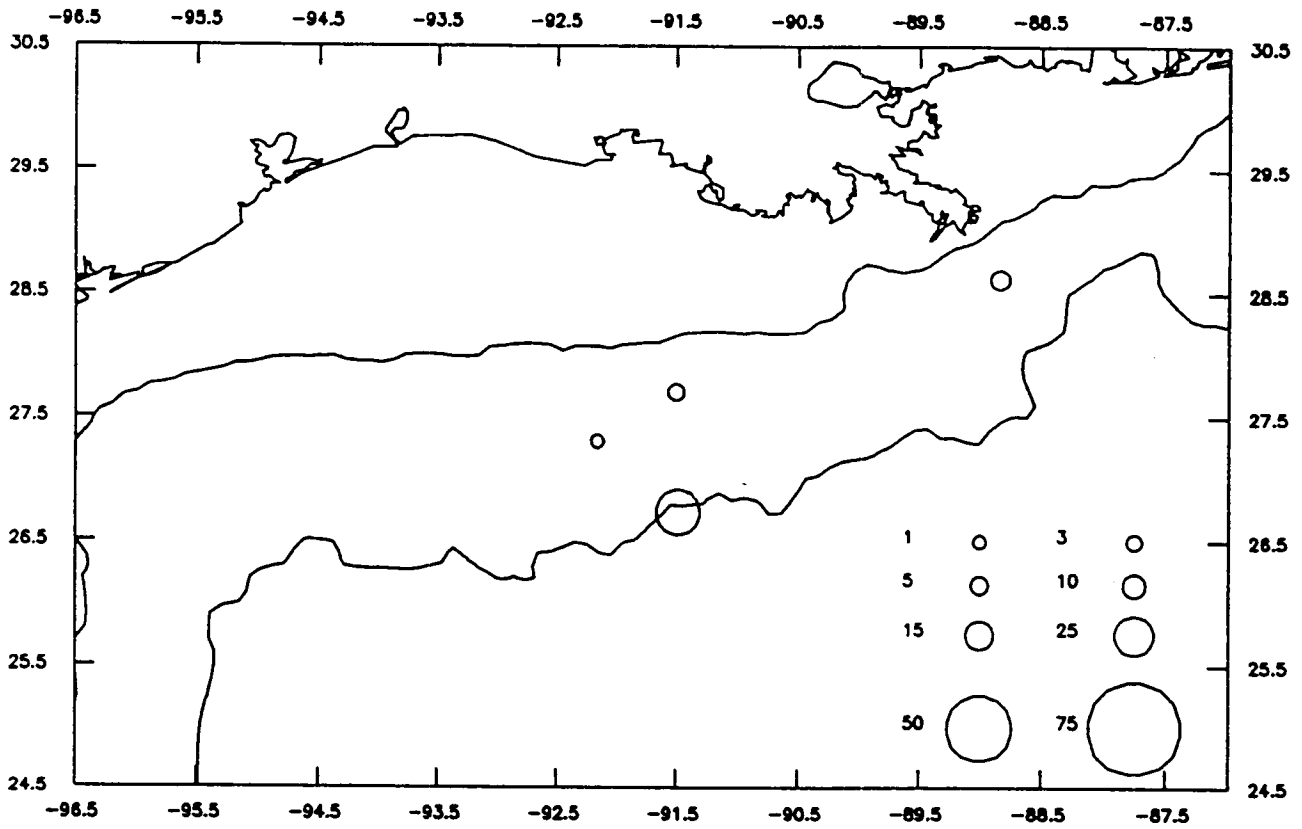
UNID Beaked Whale Sighting: 1



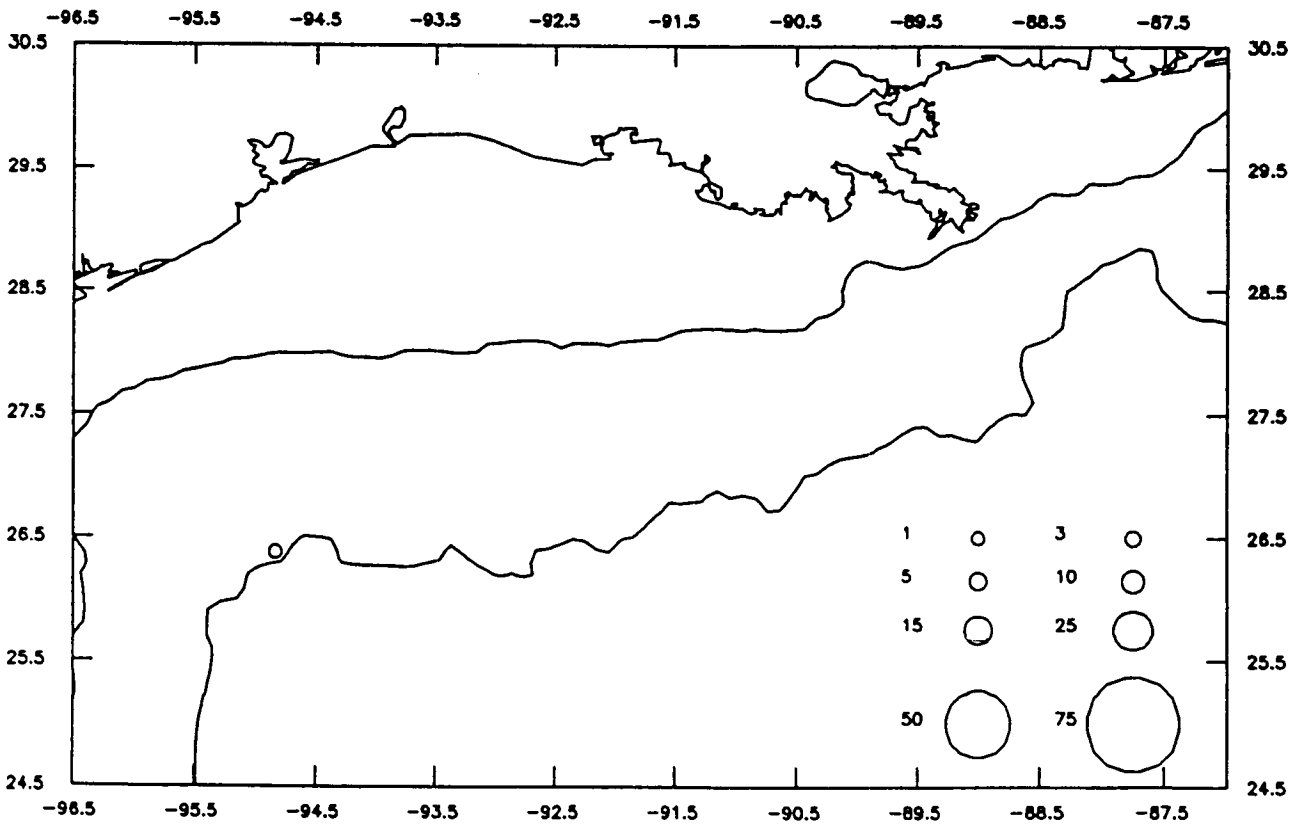
UNID Cetacean Sightings: 7



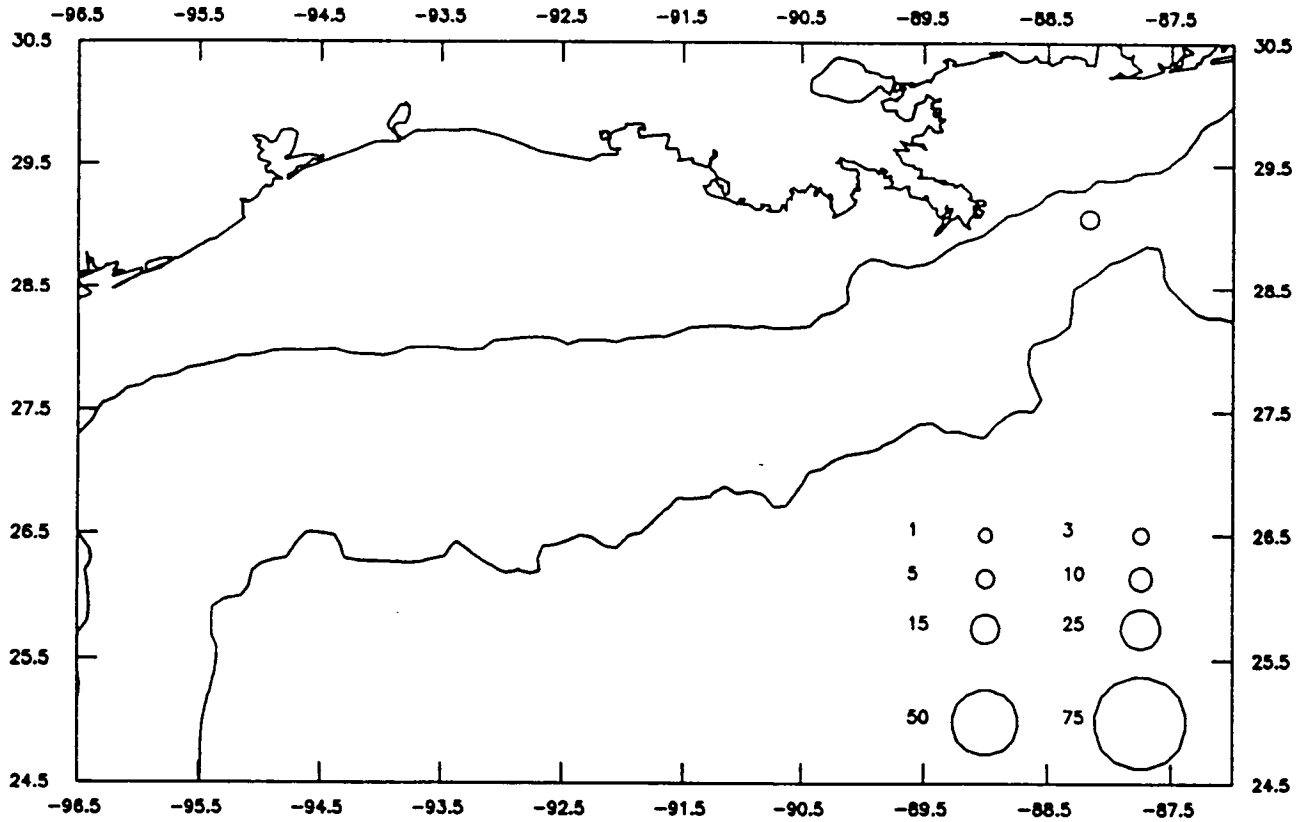
UNID Dolphin Sightings: 4



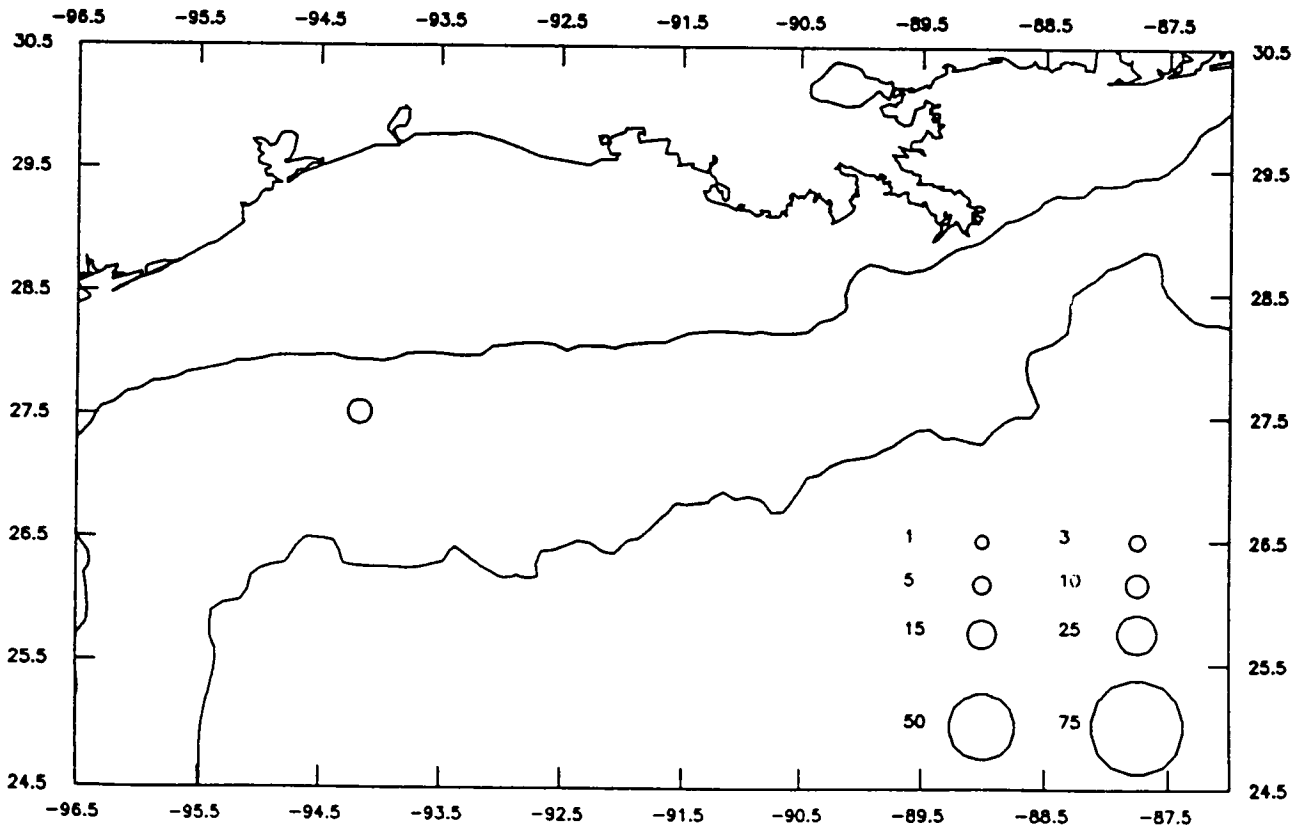
UNID Large Whale Sighting: 1



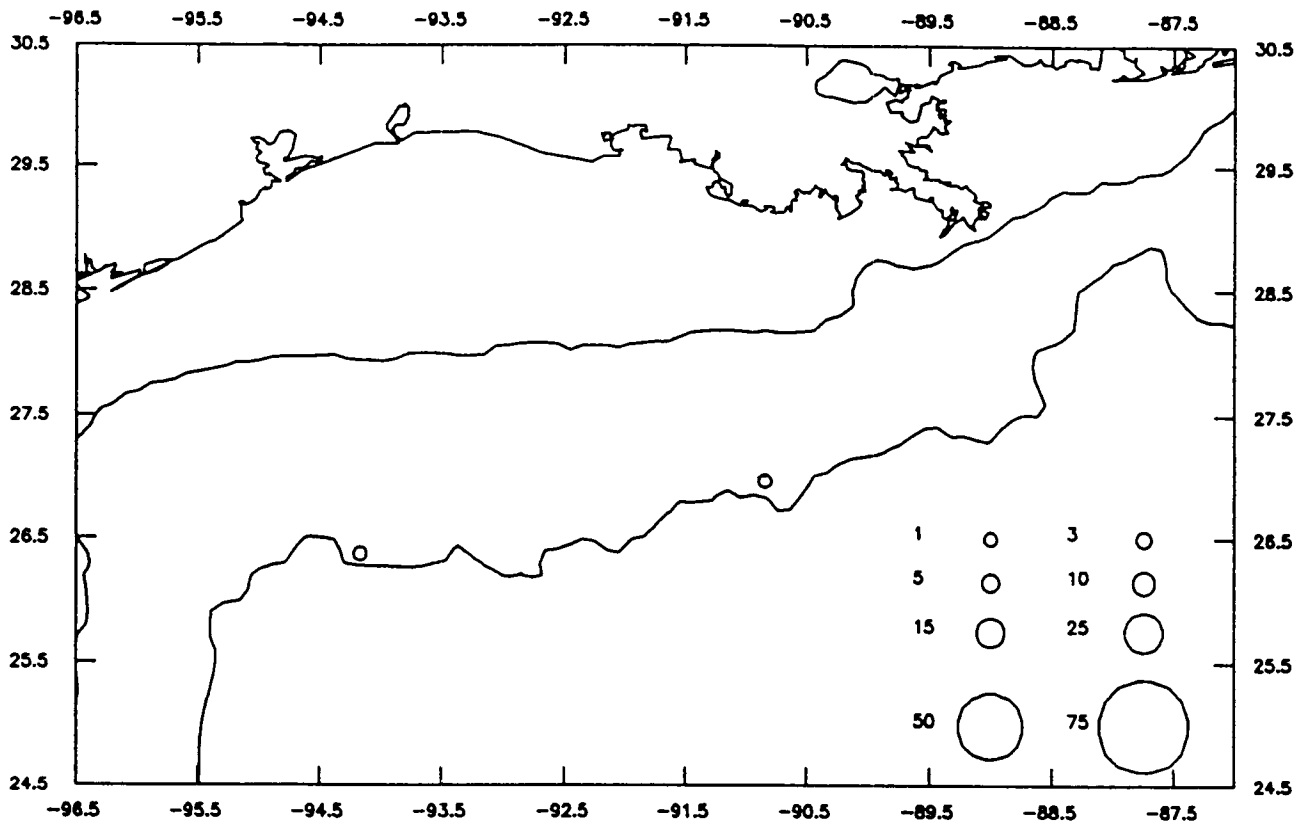
UNID Small Whale Sighting: 1



UNID Small Whale with *Physeter macrocephalus* Sighting: 1

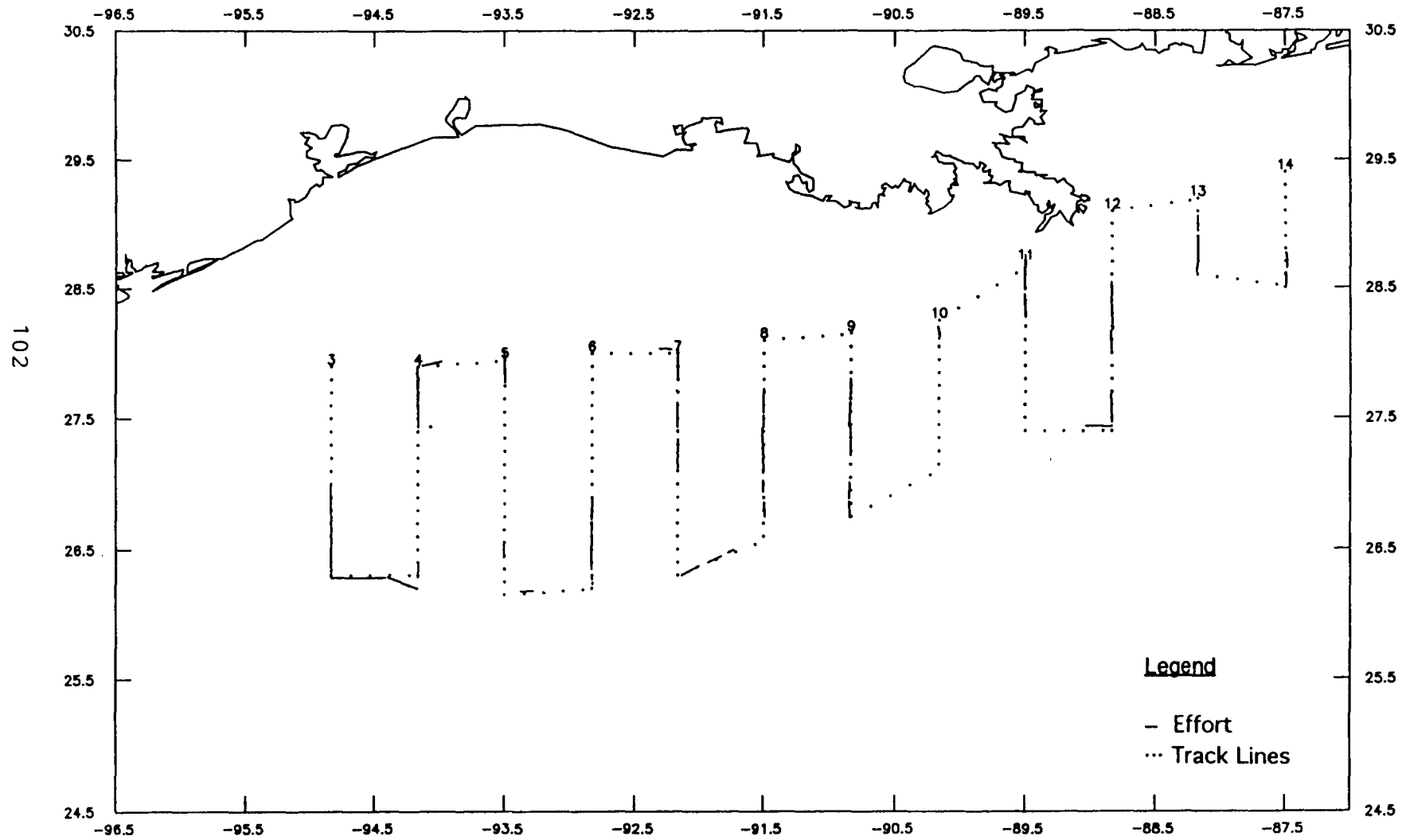


Ziphius cavirostris Sightings: 2



Bird Effort & Track Lines Surveyed

GulfCet Cruise 05



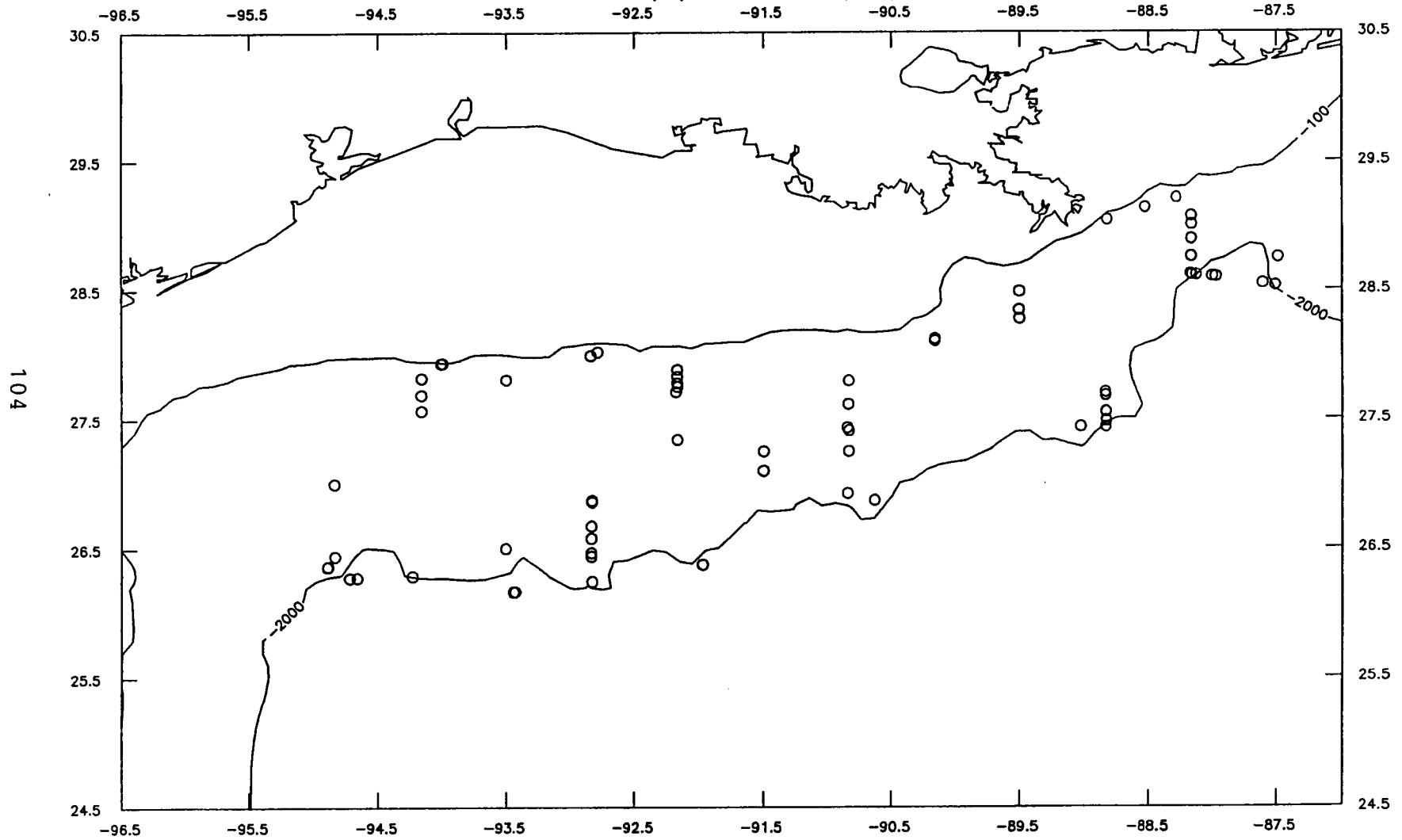
Cruise 05 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
24-May-93	1444	Unid. Bird	29° 02.17	88° 49.62	5	29-May-93	1856	Unid. Bird	26° 22.73	91° 58.14	1
24-May-93	1630	Unid. Bird	29° 07.86	88° 31.95	2	29-May-93	1902	<i>Hirundo rustica</i>	26° 22.71	91° 58.34	1
24-May-93	1758	Unid. Storm-Petrel	29° 12.47	88° 17.48	6	30-May-93	0836	<i>Sterna fuscata</i>	27° 20.31	92° 09.91	2
25-May-93	0629	<i>Stercorarius sp.</i>	28° 44.81	87° 29.39	1	30-May-93	0837	Unid. Storm-Petrel	27° 20.53	92° 09.90	1
25-May-93	0340	Unid. Large Shearwater	28° 31.74	87° 30.58	3	30-May-93	1236	Unid. Storm-Petrel	27° 42.62	92° 10.65	1
25-May-93	1028	<i>Puffinus sp.</i>	28° 32.79	87° 36.42	1	30-May-93	1311	<i>Sterna anaethetus</i>	27° 45.10	92° 09.96	1
25-May-93	1308	<i>Stercorarius sp.</i>	28° 35.91	87° 58.52	1	30-May-93	1323	<i>Sterna anaethetus</i>	27° 46.80	92° 10.05	2
25-May-93	1320	<i>Bubulcus ibis</i>	28° 36.09	88° 00.19	2	30-May-93	1323	Unid. Storm-Petrel	27° 46.80	92° 10.05	2
25-May-93	1405	<i>Puffinus lherminieri</i>	28° 36.69	88° 07.58	1	30-May-93	1350	<i>Sterna anaethetus</i>	27° 49.91	92° 10.02	1
25-May-93	1418	Unid. Storm-Petrel	28° 36.85	88° 09.55	1	30-May-93	1418	<i>Sterna anaethetus</i>	27° 53.15	92° 09.98	1
25-May-93	1450	<i>Larus atricilla</i>	28° 37.24	88° 10.34	3	30-May-93	1915	<i>Sterna anaethetus</i>	28° 01.37	92° 47.29	1
25-May-93	1809	Unid. Bird	28° 45.26	88° 09.99	1	30-May-93	1915	<i>Hirundo rustica</i>	28° 01.37	92° 47.29	2
25-May-93	1745	<i>Oceanodroma castro</i>	28° 53.42	88° 10.02	3	30-May-93	2010	<i>Sterna anaethetus</i>	27° 59.78	92° 50.48	1
25-May-93	1845	<i>Oceanodroma castro</i>	29° 00.09	88° 09.89	1	30-May-93	2013	<i>Sterna anaethetus</i>	27° 59.64	92° 50.48	1
25-May-93	1919	Unid. Storm-Petrel	29° 04.00	88° 10.00	1	31-May-93	0609	<i>Sulid sp.</i>	26° 52.33	92° 49.93	1
25-May-93	1922	Unid. Storm-Petrel	29° 04.00	88° 10.00	1	31-May-93	0617	<i>Oceanodroma castro</i>	26° 51.49	92° 49.91	1
26-May-93	0718	Unid. Bird	27° 29.27	88° 50.01	1	31-May-93	0833	<i>Bubulcus ibis</i>	26° 40.42	92° 50.18	1
26-May-93	1514	<i>Sterna sp. Dark-back</i>	27° 42.28	88° 50.47	2	31-May-93	0920	<i>Oceanodroma castro</i>	26° 34.74	92° 50.20	1
26-May-93	1514	<i>Stercorarius sp.</i>	27° 42.28	88° 50.47	1	31-May-93	0920	<i>Stercorarius pomarinus</i>	26° 34.74	92° 50.20	1
26-May-93	1528	Unid. Bird	27° 40.74	88° 50.39	2	31-May-93	1017	<i>Oceanodroma castro</i>	26° 28.07	92° 50.19	1
26-May-93	1630	<i>Oceanodroma castro</i>	27° 33.15	88° 50.14	1	31-May-93	1032	<i>Oceanodroma castro</i>	26° 26.42	92° 50.19	1
26-May-93	1712	Unid. Bird	27° 28.77	88° 49.86	1	31-May-93	1321	<i>Oceanodroma castro</i>	26° 14.75	92° 49.73	1
26-May-93	1814	<i>Sterna fuscata</i>	27° 26.16	88° 50.20	2	31-May-93	1618	<i>Oceanodroma castro</i>	26° 10.16	93° 25.74	4
26-May-93	1926	<i>Stercorarius pomarinus</i>	27° 26.29	89° 01.73	1	31-May-93	1623	<i>Oceanodroma castro</i>	26° 10.07	93° 26.55	1
27-May-93	0606	<i>Bubulcus ibis</i>	28° 16.50	89° 30.11	4	31-May-93	2007	<i>Oceanodroma castro</i>	26° 30.18	93° 30.19	1
27-May-93	0637	<i>Puffinus lherminieri</i>	28° 20.57	89° 30.40	1	01-Jun-93	0814	Unid. Storm-Petrel	27° 48.54	93° 30.05	1
27-May-93	0747	Unid. Shearwater	28° 29.11	89° 30.23	3	01-Jun-93	1253	<i>Bubulcus ibis</i>	27° 56.22	93° 59.86	2
27-May-93	1922	<i>Oceanodroma castro</i>	28° 07.40	90° 09.98	1	01-Jun-93	1257	<i>Bubulcus ibis</i>	27° 56.08	94° 00.58	4
27-May-93	1929	<i>Oceanodroma castro</i>	28° 06.31	90° 10.07	2	01-Jun-93	1257	<i>Egretta caerulea</i>	27° 56.08	94° 00.58	1
28-May-93	0740	<i>Stercorarius sp.</i>	26° 52.28	90° 38.01	2	01-Jun-93	1445	Unid. Egret	27° 49.26	94° 09.87	1
28-May-93	1058	<i>Stercorarius pomarinus</i>	26° 55.52	90° 50.63	1	01-Jun-93	1552	<i>Sula dactvitra</i>	27° 41.33	94° 10.01	1
28-May-93	1338	<i>Anous stolidus</i>	27° 15.00	90° 50.07	1	01-Jun-93	1657	<i>Sterna maxima</i>	27° 33.91	94° 09.94	2
28-May-93	1338	Unid. Egret	27° 15.00	90° 50.07	5	02-Jun-93	0806	<i>Coccyzus americanus</i>	26° 17.45	94° 14.03	1
28-May-93	1500	<i>Fregatta sp.</i>	27° 24.62	90° 50.00	1	02-Jun-93	1034	<i>Sterna maxima</i>	26° 16.63	94° 39.61	1
28-May-93	1552	<i>Larus atricilla</i>	27° 25.97	90° 50.74	1	02-Jun-93	1054	<i>Bubulcus ibis</i>	26° 16.60	94° 42.98	1
28-May-93	1738	<i>Sterna anaethetus</i>	27° 36.89	90° 50.27	1	02-Jun-93	1307	Unid. Storm-Petrel	26° 21.92	94° 53.03	2
28-May-93	1912	<i>Calonectris diomedea</i>	27° 47.89	90° 50.10	3	02-Jun-93	1316	<i>Sula dactvitra</i>	26° 21.65	94° 53.32	1
29-May-93	1016	<i>Anous stolidus</i>	27° 15.05	91° 30.03	1	02-Jun-93	1424	<i>Sterna anaethetus</i>	26° 26.56	94° 49.80	2
29-May-93	1128	<i>Oceanodroma castro</i>	27° 06.02	91° 30.11	1	02-Jun-93	2011	Unid. Bird	27° 00.00	94° 50.14	1

Obs.= Number Observed

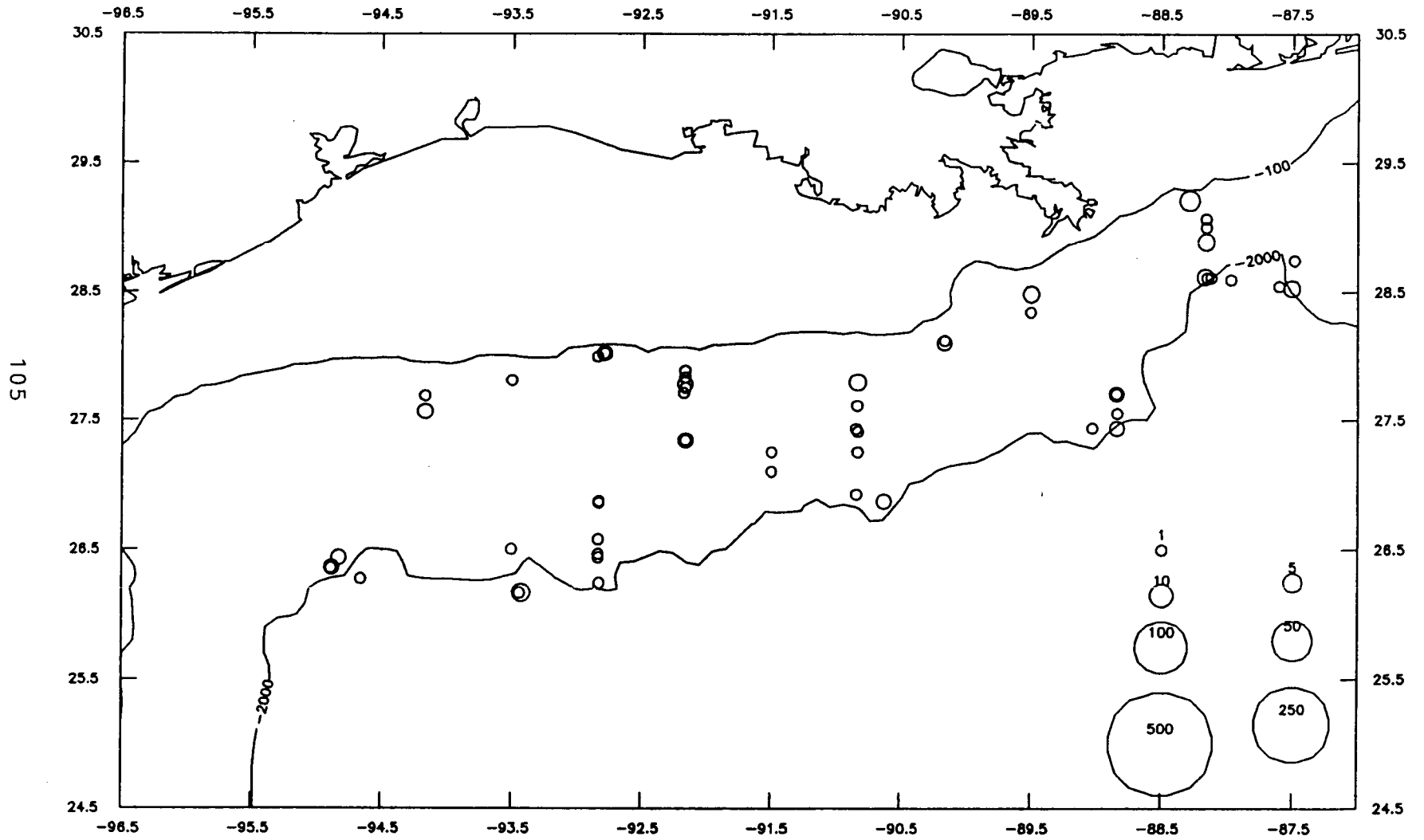
Total Bird Sightings : 78

GulfCet 05 (5/23 - 6/5/93)

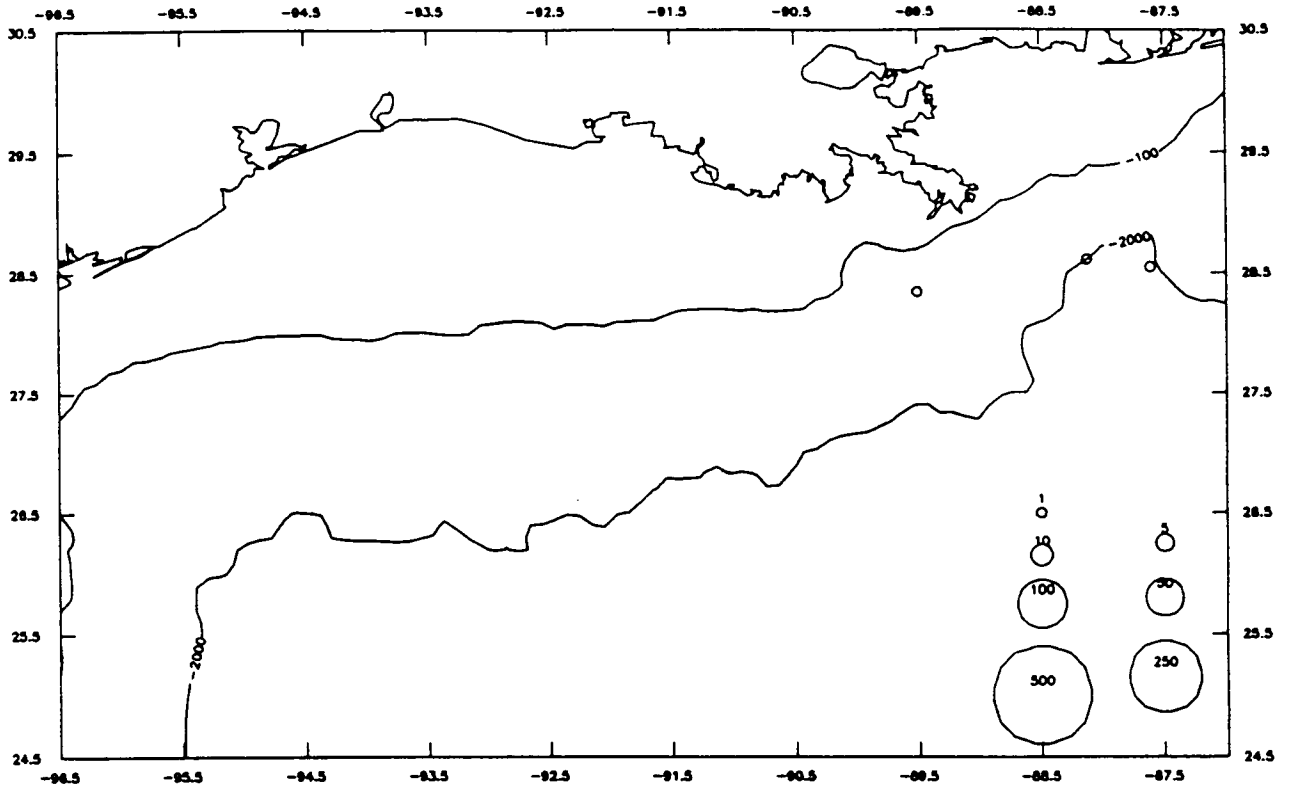


TOTAL SEABIRD SIGHTINGS: 59

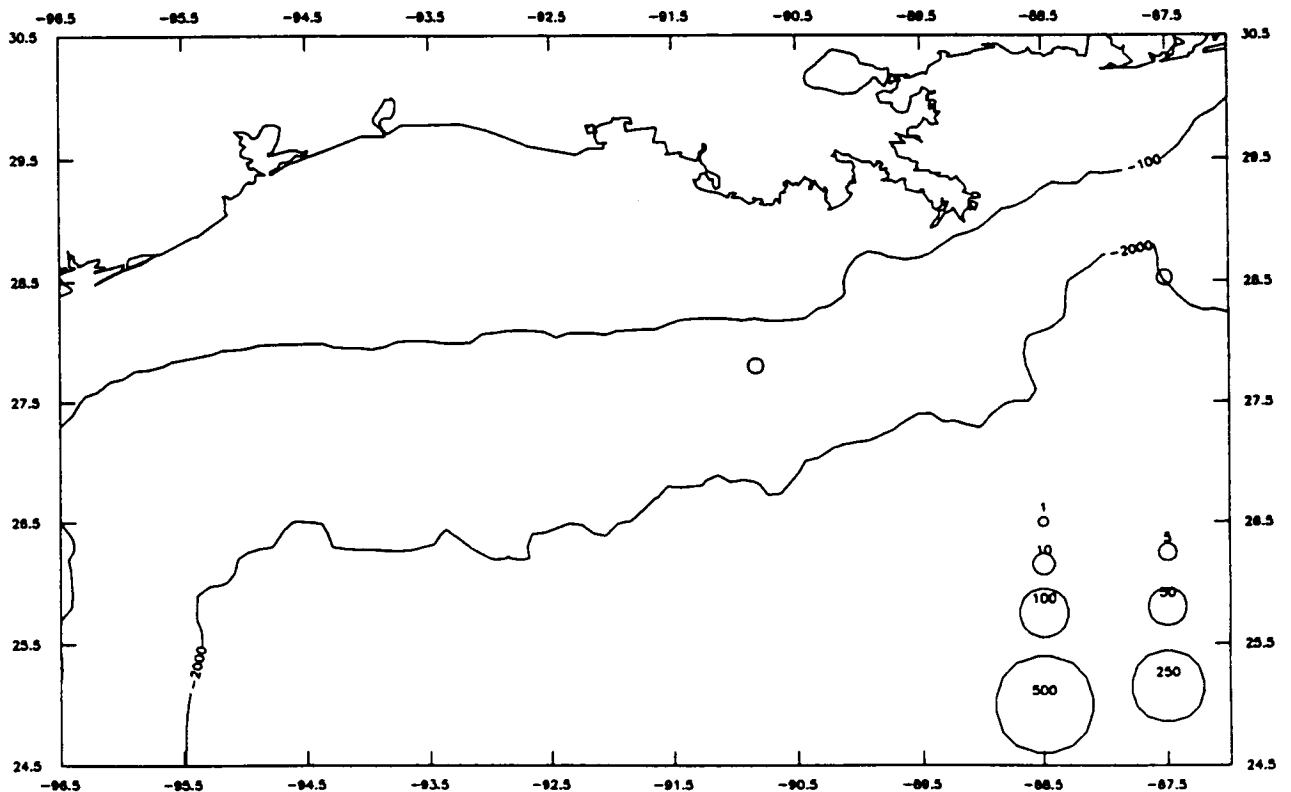
GulfCet 05: 5/23/93- 6/5/93



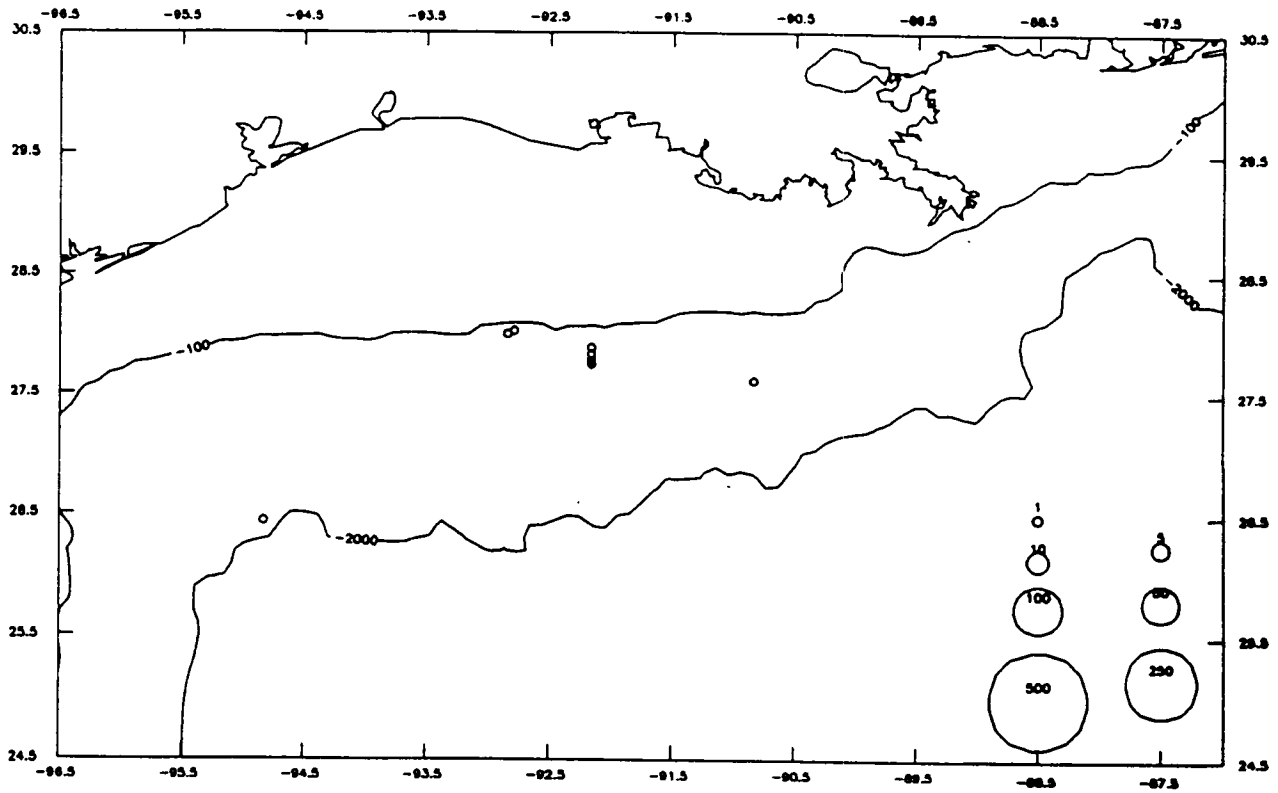
Puffinus lhermineri and UNID *Puffinus* spp. Sightings: 3



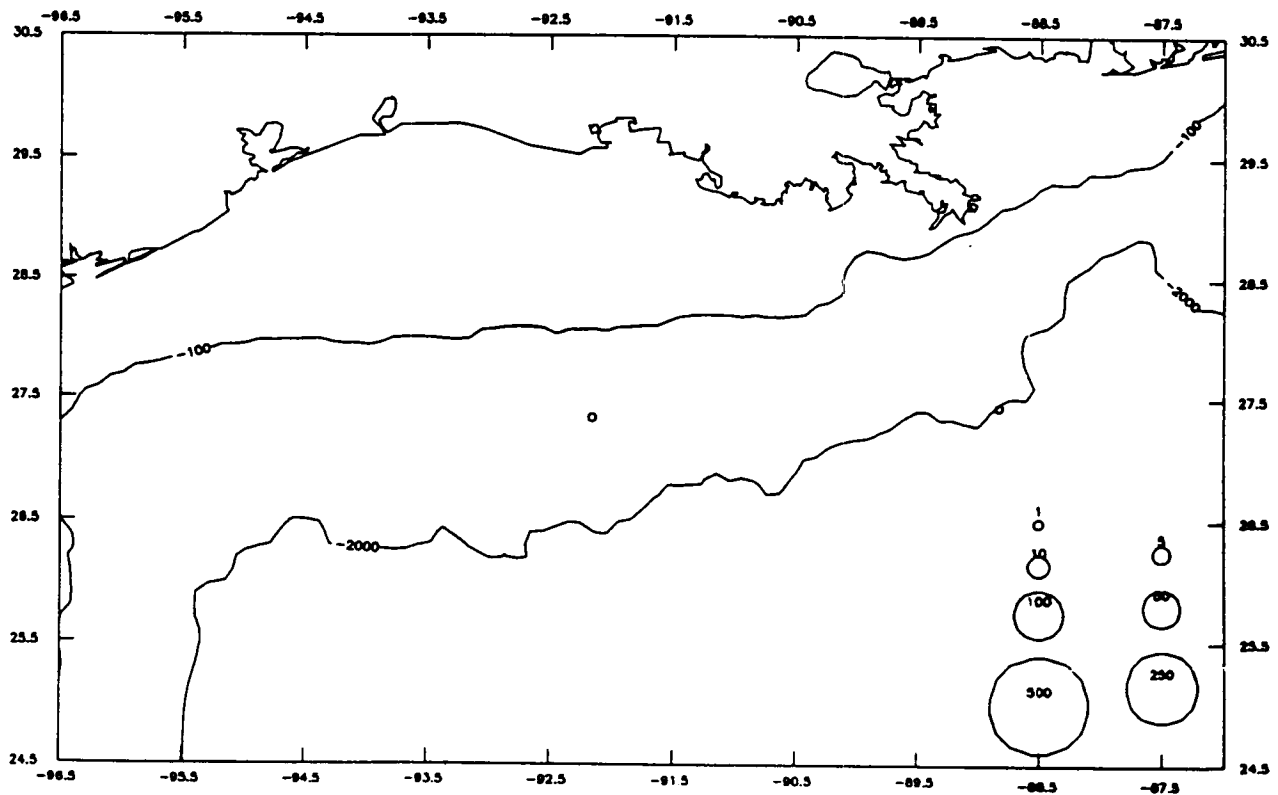
Calonectris diomedea and UNID Large Shearwater sp. Sightings: 2



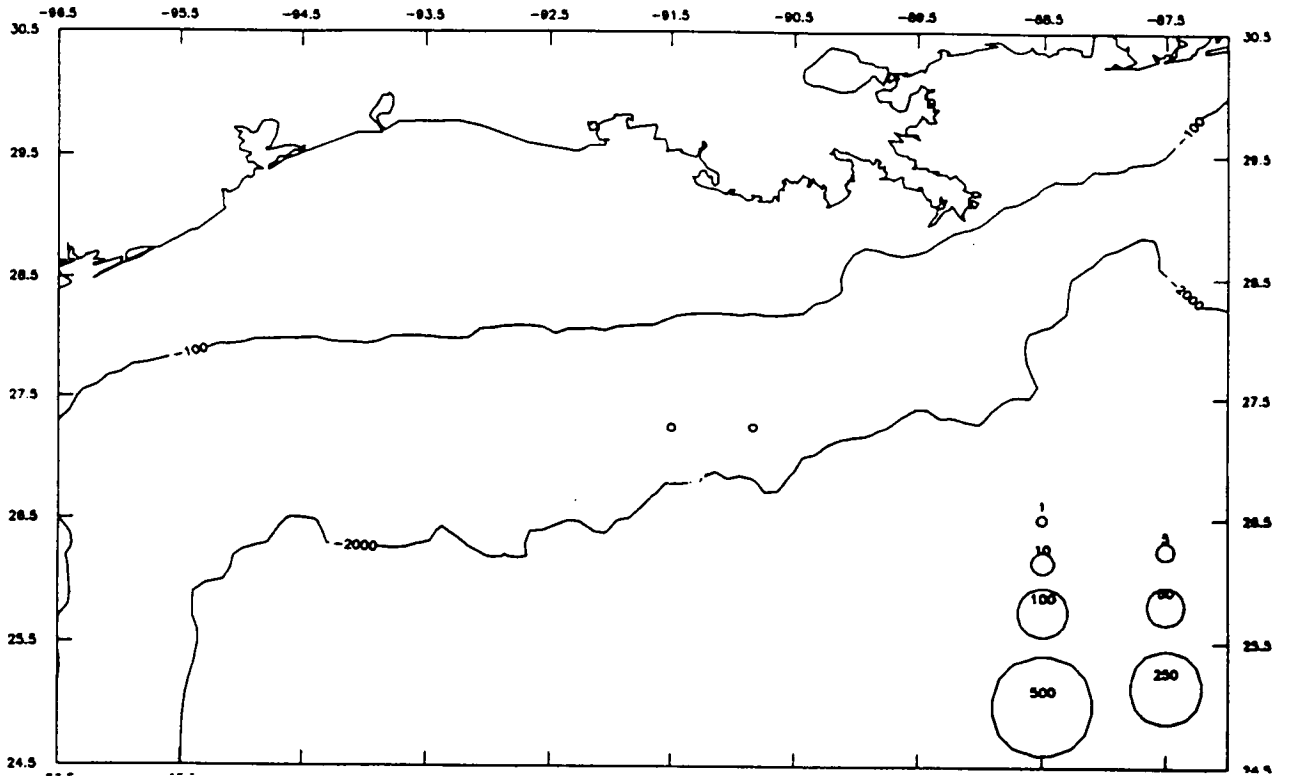
Sterna anaethetus Sightings: 9



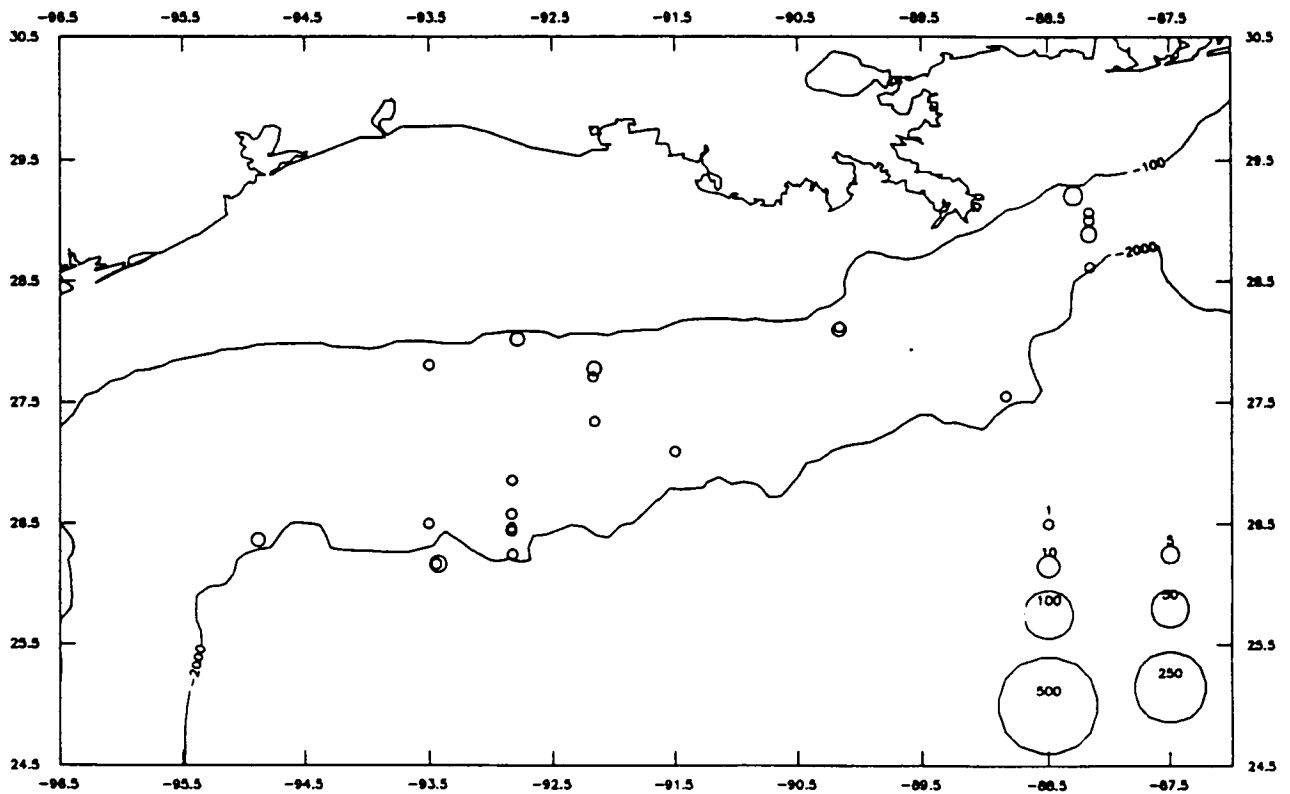
Sterna fuscata Sightings: 2



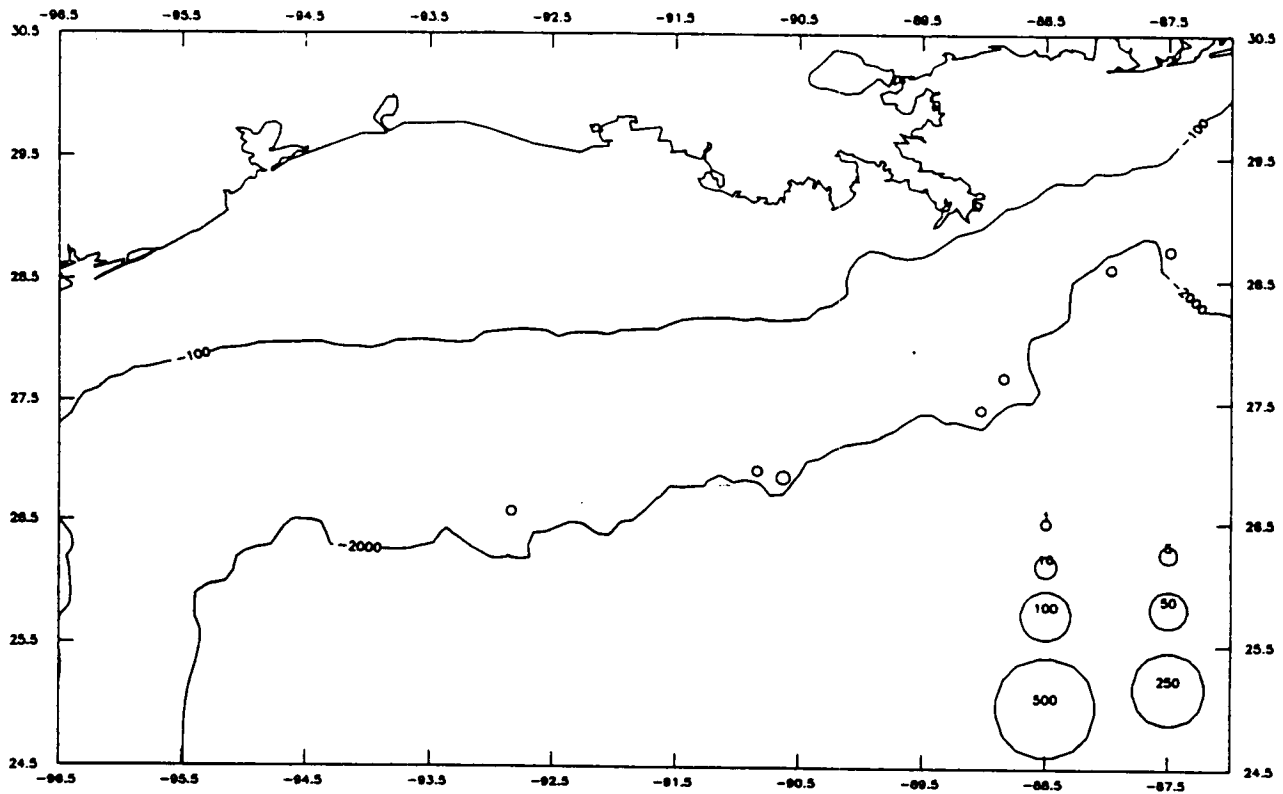
Anous stolidus Sightings: 2



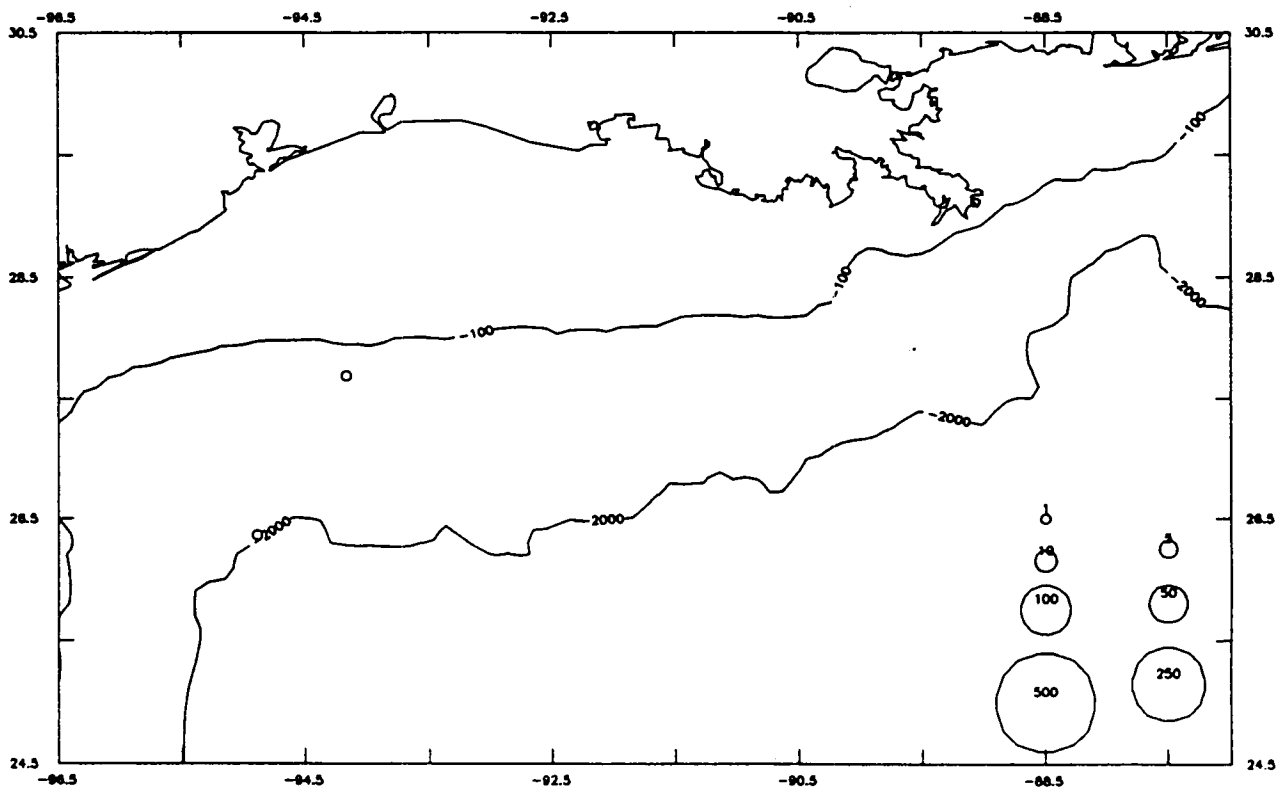
Storm-petrel spp. Sightings: 24



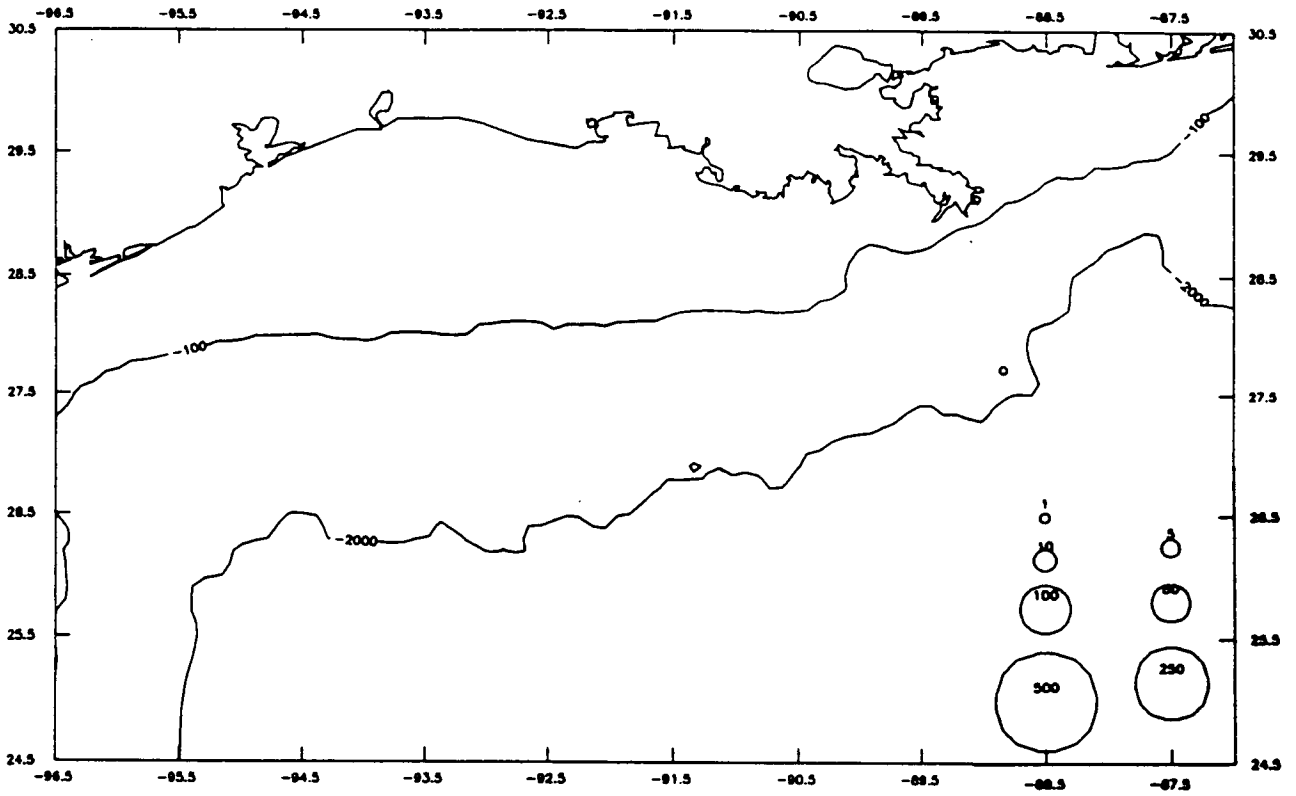
Stercorarius pomarinus and *Stercorarius* spp. Sightings: 7



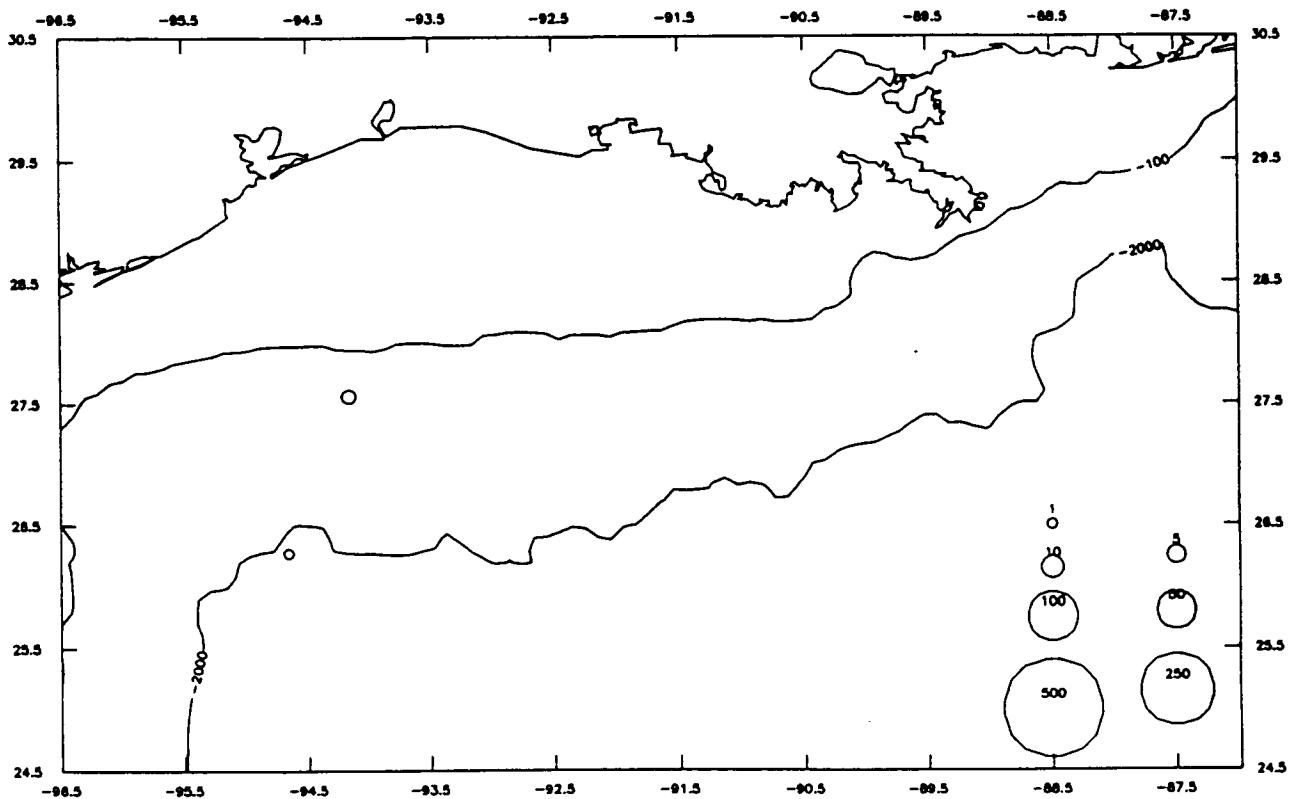
Sula dactylatra Sightings: 2



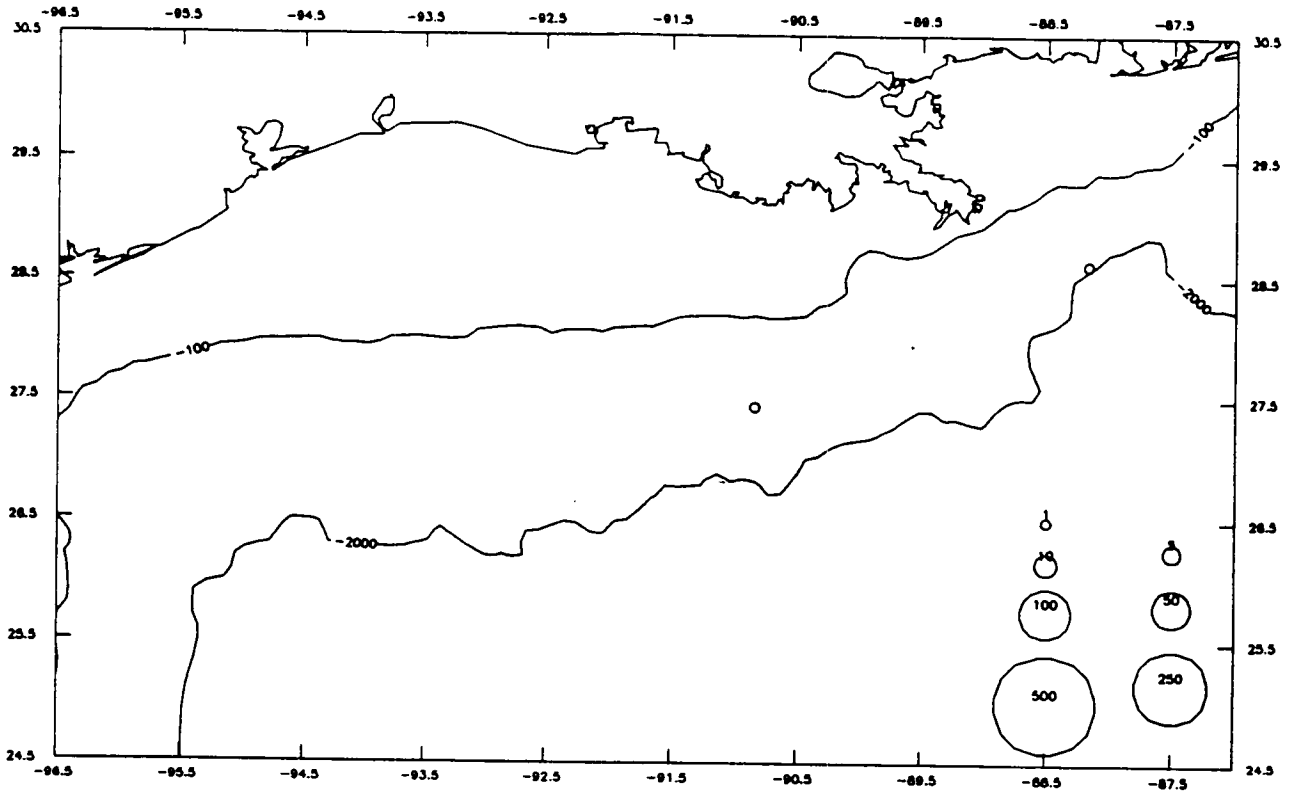
UNID *Sterna* sp. (Dark-backed) Sighting: 1



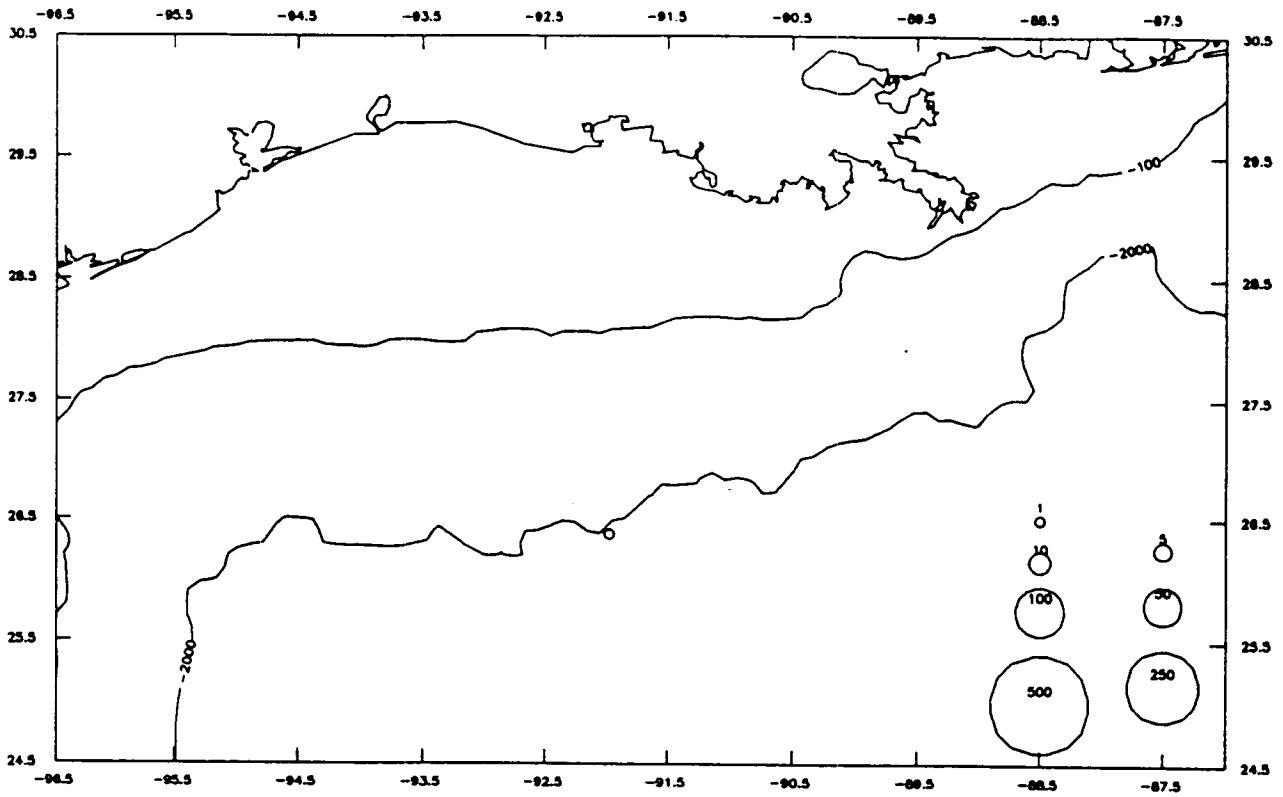
Sterna spp. (White-backed): 2



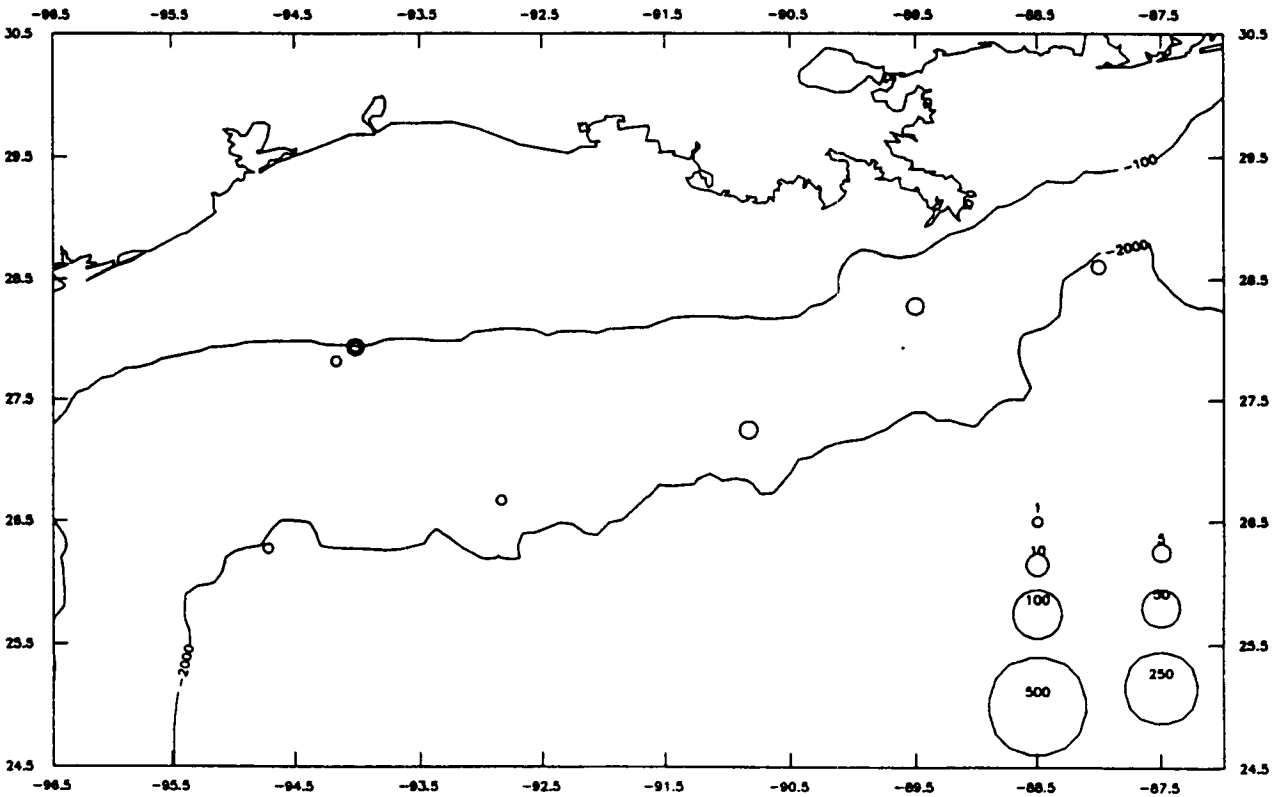
Larus atricilla Sightings: 2



Swallow sp. Sightings: 1



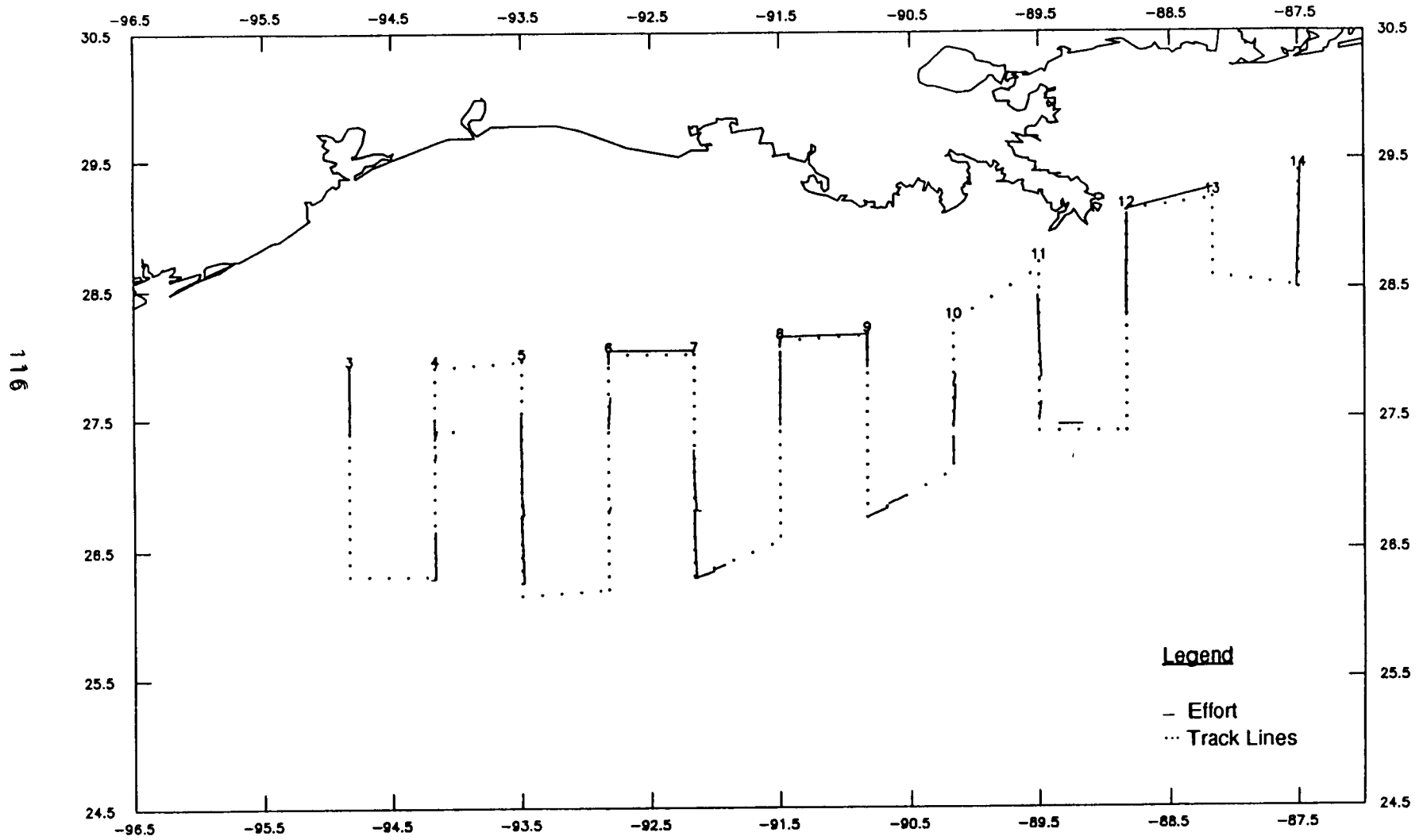
Heron/Egret Spp. Sightings: 9



GULFCET CRUISE 06:

- MAP OF MARINE MAMMAL VISUAL EFFORT AND TRACK LINES SURVEYED
 - MARINE MAMMAL VISUAL DATA
 - DISTRIBUTION MAP OF TOTAL MARINE MAMMAL SIGHTINGS
 - INDIVIDUAL MARINE MAMMAL SPECIES DISTRIBUTION MAPS
- MAP OF BIRD EFFORT AND TRACK LINES SURVEYED
 - BIRD DATA
 - DISTRIBUTION MAP OF TOTAL BIRD SIGHTINGS
- INDIVIDUAL BIRD SPECIES AND BIRD GROUP DISTRIBUTION MAPS

Visual Effort & Track Lines Surveyed GulfCet Cruise 06



Cruise 06 Marine Mammal Visual Data

Date	Time	Species	Latitude	Longitude	Best	High	Low
8/28/93	0740	<i>Kogia or Ziphius sp.</i>	29° 15'	87° 40'	1	1	1
8/28/93	0926	Unid. small whale	29° 20'	87° 30'	1	1	1
8/28/93	0945	<i>Physeter macrocephalus</i>	29° 18'	87° 30'	3	5	3
					3	3	3
					3	3	1
8/28/93	1016	<i>Physeter macrocephalus</i>	29° 14'	87° 30'	3	8	5
8/28/93	1050	<i>Physeter macrocephalus</i>	29° 11'	87° 30'	1	1	1
8/28/93	1138	Unid. large whale	29° 06'	97° 30'	1	2	1
8/28/93	1239	Unid. small whale	28° 58'	87° 30'	1	1	1
8/28/93	1341	Unid. dolphin	28° 51'	87° 30'	5	8	1
8/28/93	1414	<i>Stenella attenuata</i> with <i>Physeter macrocephalus</i>	28° 48'	87° 30'	13	16	13
8/29/93	0714	<i>Tursiops truncatus</i>	29° 14'	88° 17'	5	6	4
8/29/93	1341	<i>Kogia simus</i>	28° 46'	88° 50'	34	36	33
					45	67	35
8/29/93	1419	<i>Physeter macrocephalus</i>	28° 42'	88° 50'	12	23	12
8/29/93	1503	<i>Physeter macrocephalus</i>	28° 38'	88° 50'	4	6	4
8/29/93	1523	<i>Physeter macrocephalus</i>	28° 35'	88° 50'	1	1	1
8/29/93	1827	<i>Mesoplodon sp.</i>	28° 22'	88° 49'	6	6	5
8/29/93	1838	<i>Physeter macrocephalus</i>	28° 21'	88° 50'	4	7	4
8/29/93	1850	Unid. dolphin with Unid. small whale	28° 20'	88° 50'	14	20	11
					12	18	11
8/29/93	2029	Unid. dolphin	28° 10'	88° 50'	9	8	3
					10	15	5
8/29/93	2121	Unid. dolphin	28° 03'	88° 50'	5		3
8/30/93	1208	<i>Stenella sp.</i>	27° 49'	89° 30'	15	30	10
					150	300	60
					50	60	40
8/30/93	1336	Unid. small whale	27° 53'	89° 30'	1	1	1
8/30/93	1756	<i>Physeter macrocephalus</i>	28° 12'	89° 30'	2	2	2
8/31/93	1250	<i>Stenella attenuata</i>	27° 16'	90° 10'	3	3	3
8/31/93	1321	<i>Kogia sp.</i>	27° 12'	90° 10'	1	1	1
8/31/93	1739	<i>Physeter macrocephalus</i>	26° 51'	90° 40'	18	23	15
8/31/93	1902	<i>Physeter macrocephalus</i>	26° 45'	90° 50'	4	8	3
9/1/93	0806	<i>Tursiops truncatus</i>	28° 05'	90° 50'	8	12	8
9/1/93	0837	<i>Tursiops truncatus</i>	28° 06'	90° 50'	3	3	3
9/1/93	0843	<i>Tursiops truncatus</i>	28° 07'	90° 50'	5	7	3

Cruise 06 Marine Mammal Visual Data

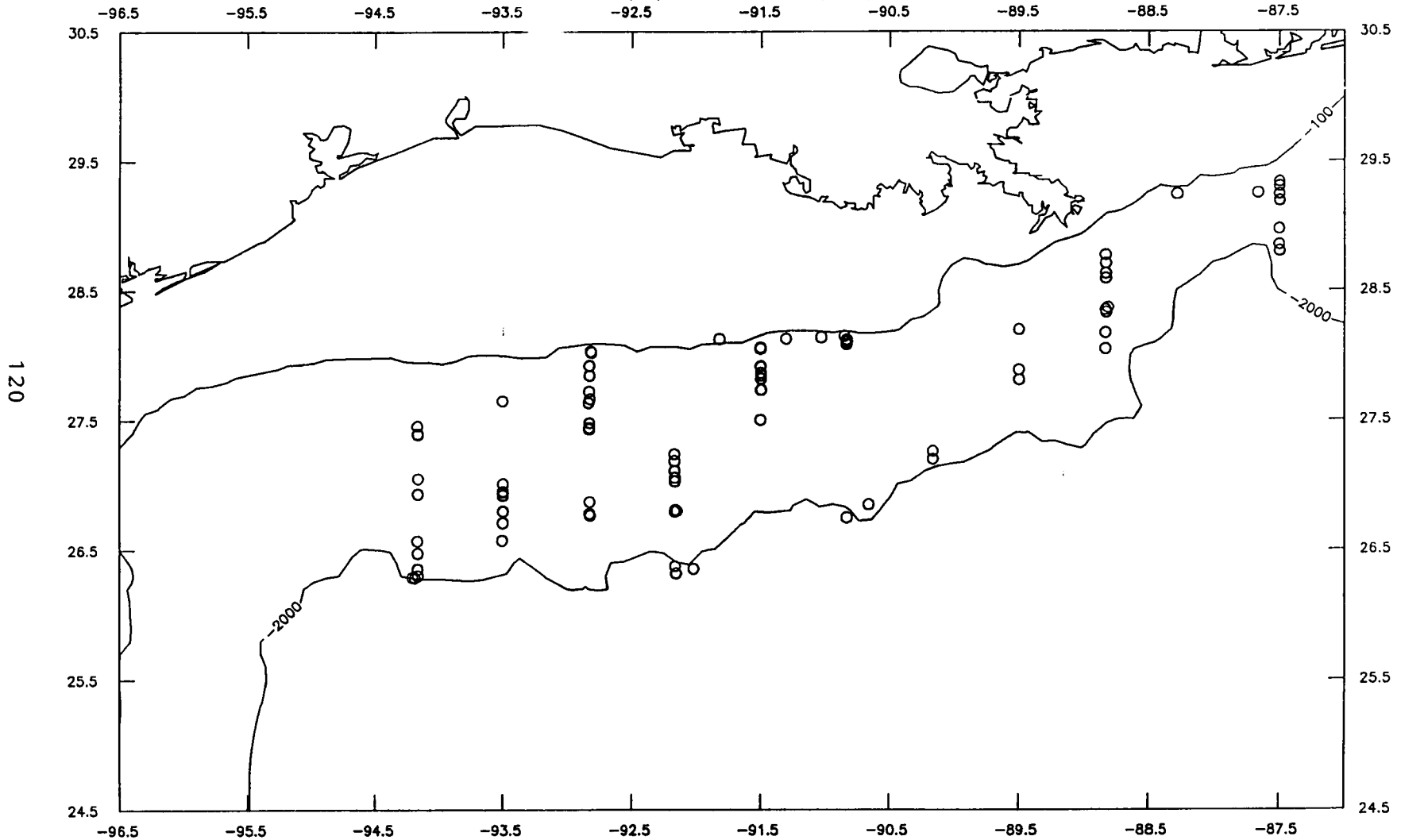
Date	Time	Species	Latitude	Longitude	Best	High	Low
9/1/93	0848	<i>Tursiops truncatus</i>	28° 07'	90° 50'	19	25	14
9/1/93	0927	<i>Tursiops truncatus</i>	28° 09'	90° 51'	1	3	1
9/1/93	1030	<i>Tursiops truncatus</i>	28° 08'	91° 02'	1	1	1
9/1/93	1200	<i>Tursiops truncatus</i>	28° 08'	91° 18'	4	4	4
					5	1	4
9/1/93	1212	<i>Tursiops truncatus</i>	28° 08'	91° 49'	3	3	3
					10		
9/1/93	1406	<i>Tursiops truncatus</i>	28° 04'	91° 30'	3	3	3
9/1/93	1408	<i>Stenella frontalis</i>	28° 03'	91° 30'	10	12	5
					20	25	16
9/1/93	1506	<i>Tursiops truncatus</i>	27° 55'	91° 30'	12	18	10
9/1/93	1533	<i>Tursiops truncatus</i>	27° 52'	91° 30'	1	2	1
9/1/93	1538	Unid. dolphin	24° 51'	91° 30'	2	4	2
9/1/93	1546	<i>Tursiops truncatus</i>	27° 49'	91° 30'	5	5	5
9/1/93	1621	Unid. dolphin	27° 44'	91° 30'	1	1	1
9/1/93	1820	<i>Mesoplodon sp.</i>	27° 30'	91° 30'	3	5	3
9/2/93	0707	Unid. dolphin	26° 21'	92° 01'	5	8	4
9/2/93	0935	<i>Kogia sp.</i>	26° 19'	92° 09'	2	2	2
9/2/93	1004	<i>Kogia breviceps</i>	26° 22'	92° 10'	2	2	2
9/2/93	1452	<i>Grampus griseus</i>	26° 48'	92° 10'	8	10	7
					10	12	7
9/2/93	1528	<i>Physeter macrocephalus</i>	26° 48'	92° 09'	4	5	3
	1546	<i>Physeter macrocephalus</i>	26° 48'	92° 10'	4	4	4
					5	5	4
9/2/93	1740	Unid. cetacean	27° 02'	92° 10'	1	1	1
9/2/93	1754	Unid. beaked whale	27° 03'	92° 10'	3	4	3
9/2/93	1820	<i>Physeter macrocephalus</i>	27° 06'	92° 10'	6	6	6
9/2/93	1904	<i>Kogia or Ziphius sp.</i>	27° 11'	92° 10'	5	7	3
9/2/93	1928	<i>Kogia or Ziphius sp.</i>	27° 14'	92° 10'	3	5	2
					2	4	2
9/3/93	0645	<i>Stenella frontalis</i>	28° 02'	92° 49'	8	8	8
9/3/93	0717	<i>Stenella frontalis</i>	28° 02'	92° 49'	4	4	4
					5	5	4
9/3/93	0809	<i>Tursiops truncatus</i>	27° 55'	92° 50'	15	25	13
9/3/93	0853	Unid. dolphin	27° 51'	92° 50'	3	5	2
9/3/93	0954	<i>Grampus griseus</i>	27° 43'	92° 50'	45	60	40
					25	30	17

Cruise 06 Marine Mammal Visual Data

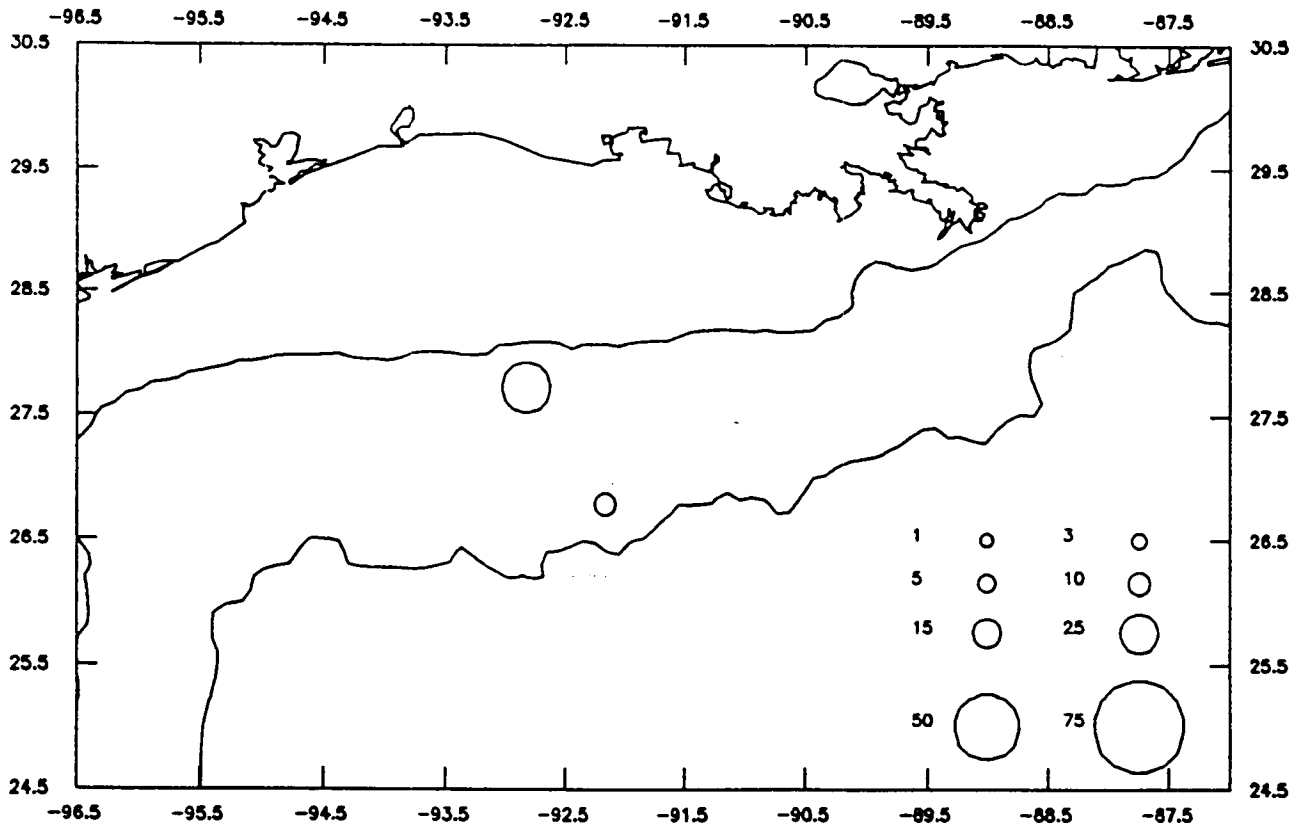
Date	Time	Species	Latitude	Longitude	Best	High	Low
					35	50	20
9/3/93	1037	Unid. dolphin	27° 40'	92° 50'	10	15	8
					8	10	3
9/3/93	1057	<i>Kogia or Ziphius sp.</i>	27° 38'	92° 50'	1	1	1
9/3/93	1218	Unid. small whale	27° 29'	92° 50'	1	1	1
9/3/93	1237	<i>Kogia sp.</i>	27° 26'	92° 50'	1	1	1
9/3/93	1244	Unid. beaked whale	27° 26'	92° 50'	3	3	3
9/3/93	1811	Unid. cetacean	26° 52'	92° 50'	2	4	2
9/3/93	1858	<i>Kogia simus</i>	26° 47'	92° 50'	7	10	6
9/3/93	1922	<i>Physeter macrocephalus</i>	26° 46'	92° 50'	1	1	1
9/4/93	1014	<i>Lagenodelphis hosei</i>	26° 34'	93° 30'	20	27	15
9/4/93	1055	<i>Stenella bredanensis</i>	26° 43'	93° 30'	14	16	14
9/4/93	1228	<i>Physeter macrocephalus</i>	26° 48'	93° 30'	3	3	3
9/4/93	1330	Unid. dolphin	26° 55'	93° 30'	6	12	5
9/4/93	1354	Unid. dolphin	26° 57'	93° 30'	8	10	6
9/4/93	1359	Unid. large whale	26° 57'	93° 30'	1		1
9/4/93	1429	<i>Physeter macrocephalus</i>	27° 01'	93° 30'	1	1	1
9/4/93	2040	Unid. dolphin	27° 39'	93° 30'	2		
9/5/93	0702	<i>Kogia or Ziphius sp.</i>	27° 27'	94° 10'	1	1	1
9/5/93	0817	Unid. cetacean	27° 24'	94° 10'	5	8	5
9/5/93	1100	Unid. dolphin	27° 03'	94° 10'	12	20	6
9/5/93	1158	Unid. dolphin	26° 56'	94° 10'	1	1	1
9/5/93	1539	Unid. large whale	26° 34'	94° 10'	2		
9/5/93	1623	<i>Mesoplodon sp.</i>	26° 28'	94° 10'	5	6	5
9/5/93	1725	Unid. dolphin	26° 21'	94° 10'	4	6	3
9/5/93	1747	Unid. small whale	26° 18'	94° 10'	1	1	1
9/5/93	1844	Unid. dolphin	26° 17'	94° 11'	6		2
9/5/93	1851	<i>Stenella clymene</i>	26° 17'	94° 12'	100	125	75
					75	100	60
					85	130	60

Total Marine Mammal Sightings : 86

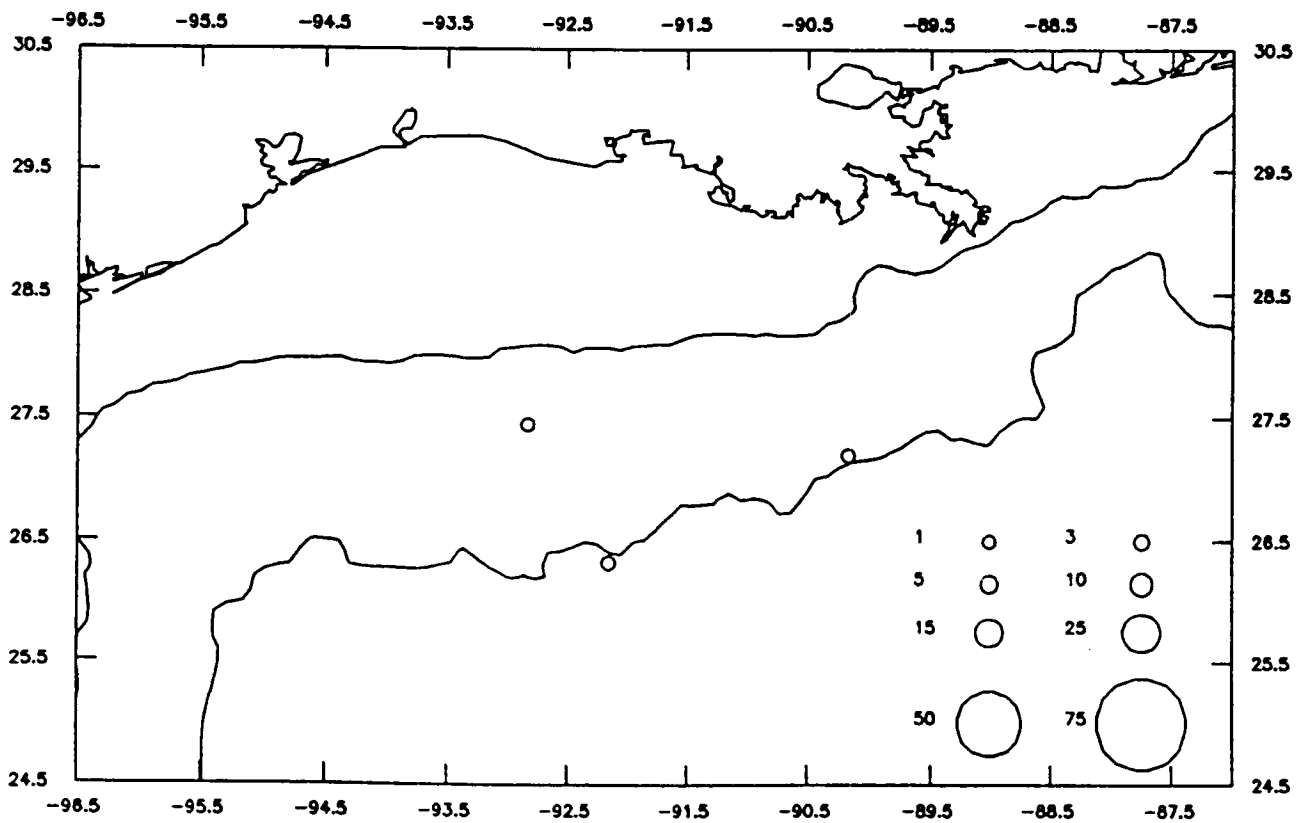
GulfCet 06 (8/28 - 9/5/1993)



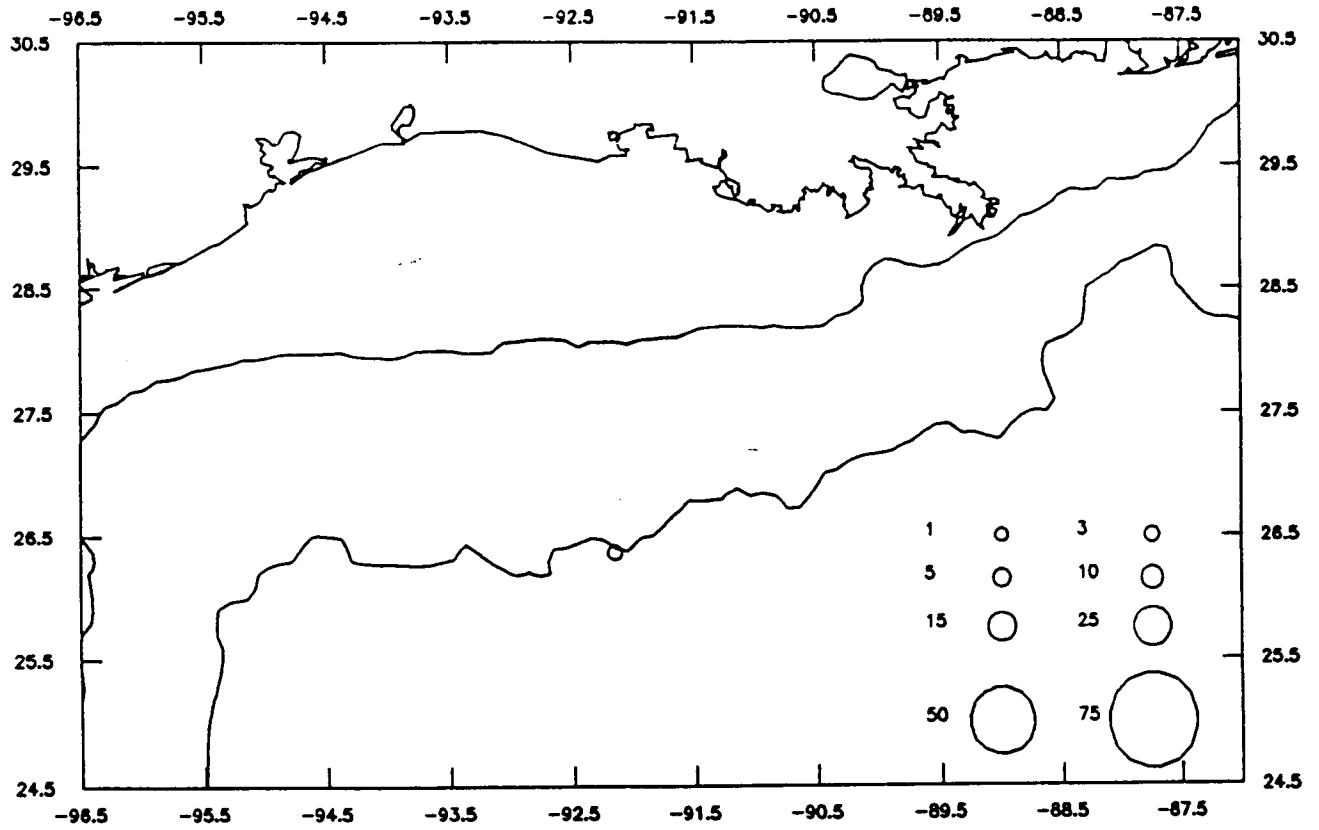
Grampus griseus Sightings: 4



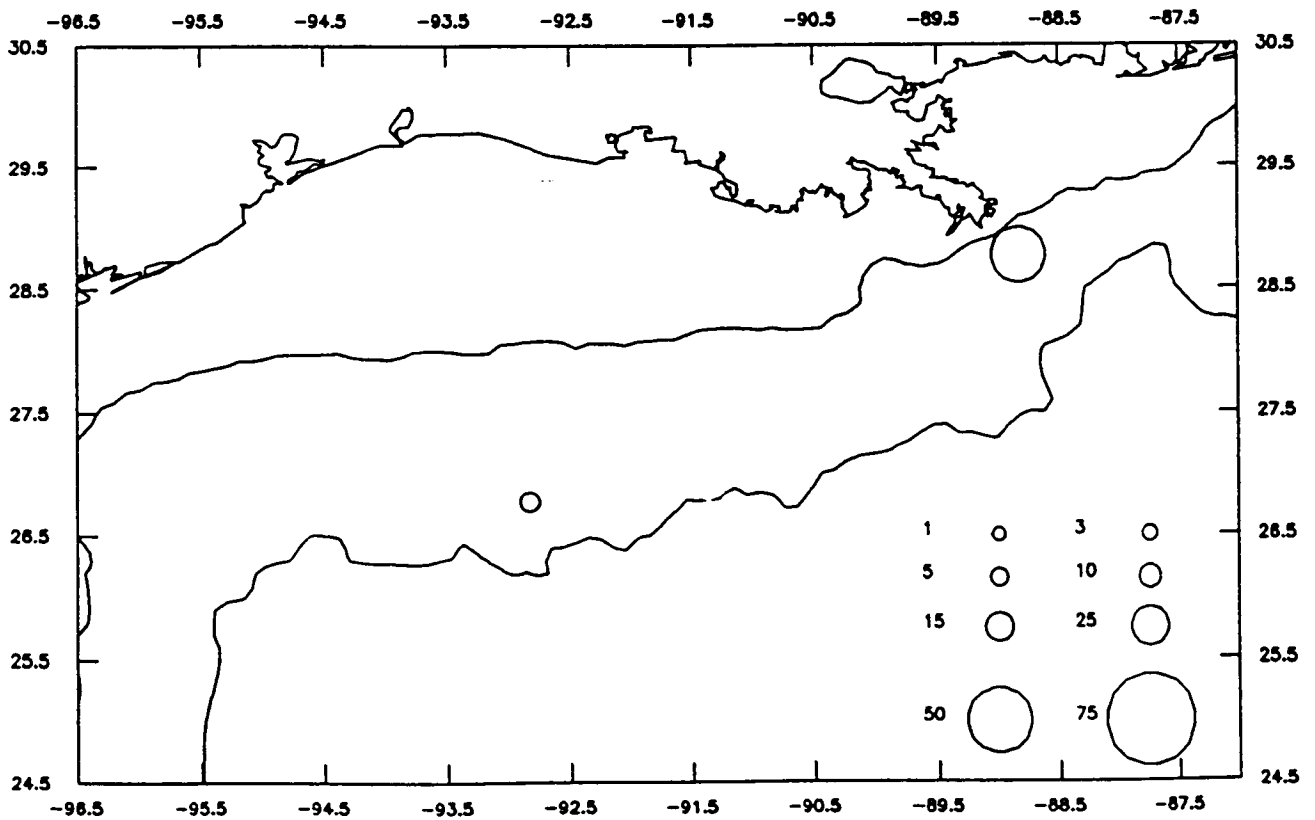
Kogia sp. Sightings: 3



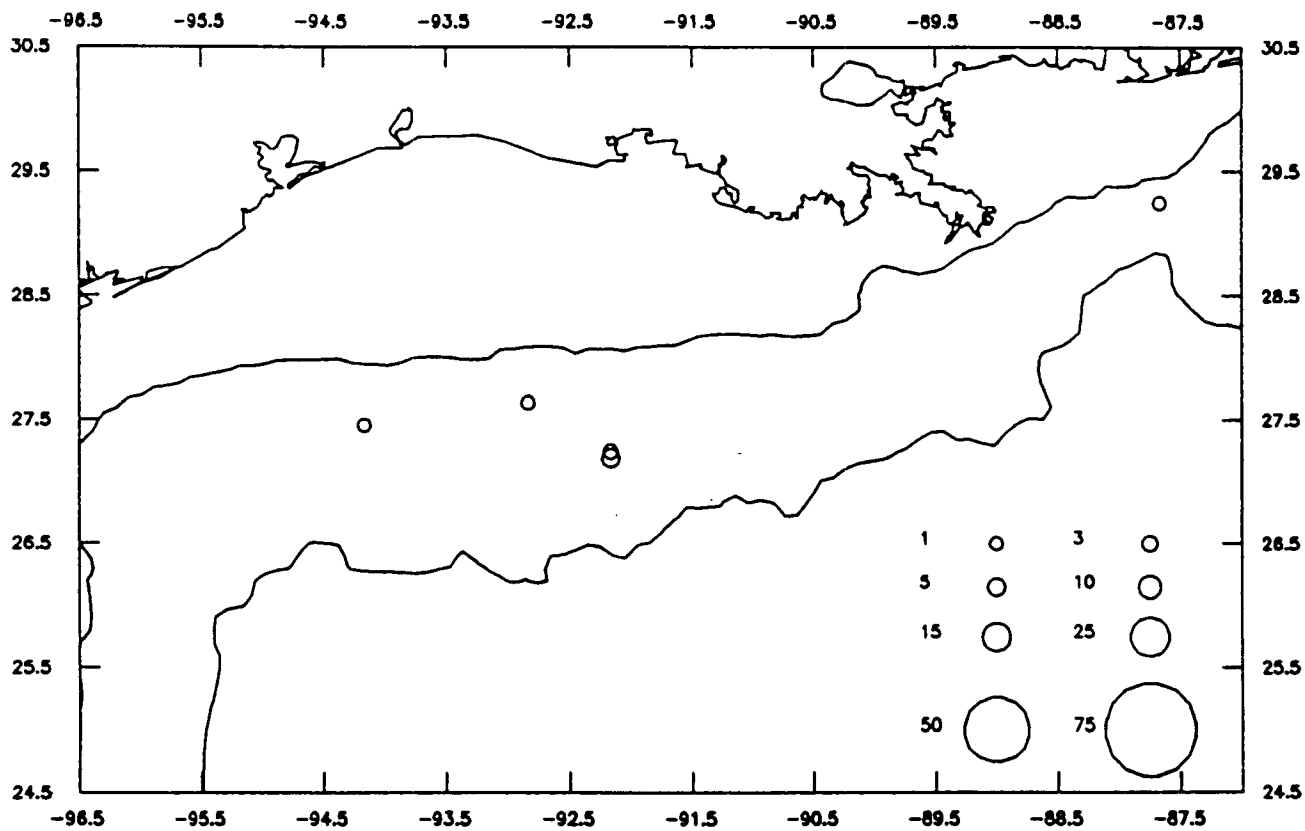
Kogia breviceps Sighting: 1



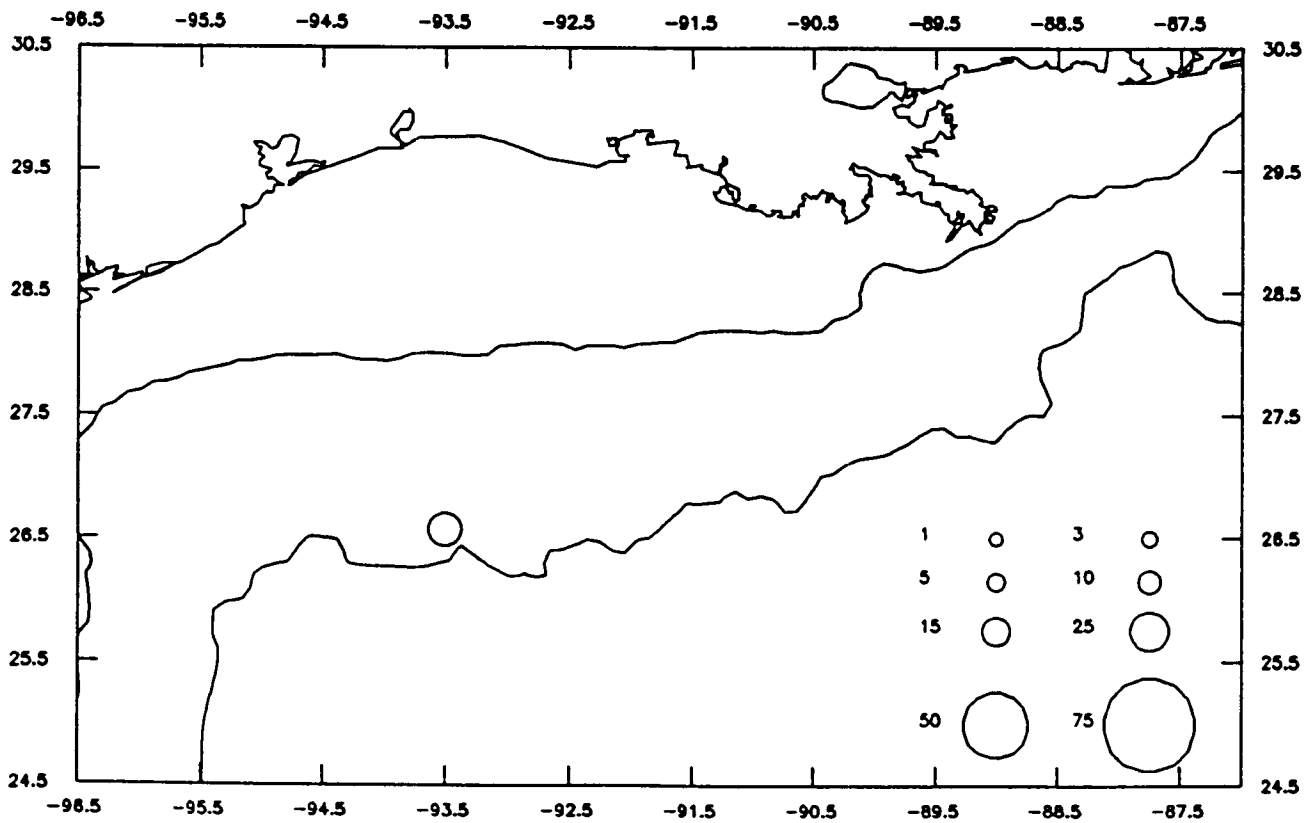
Kogia simus Sightings: 2



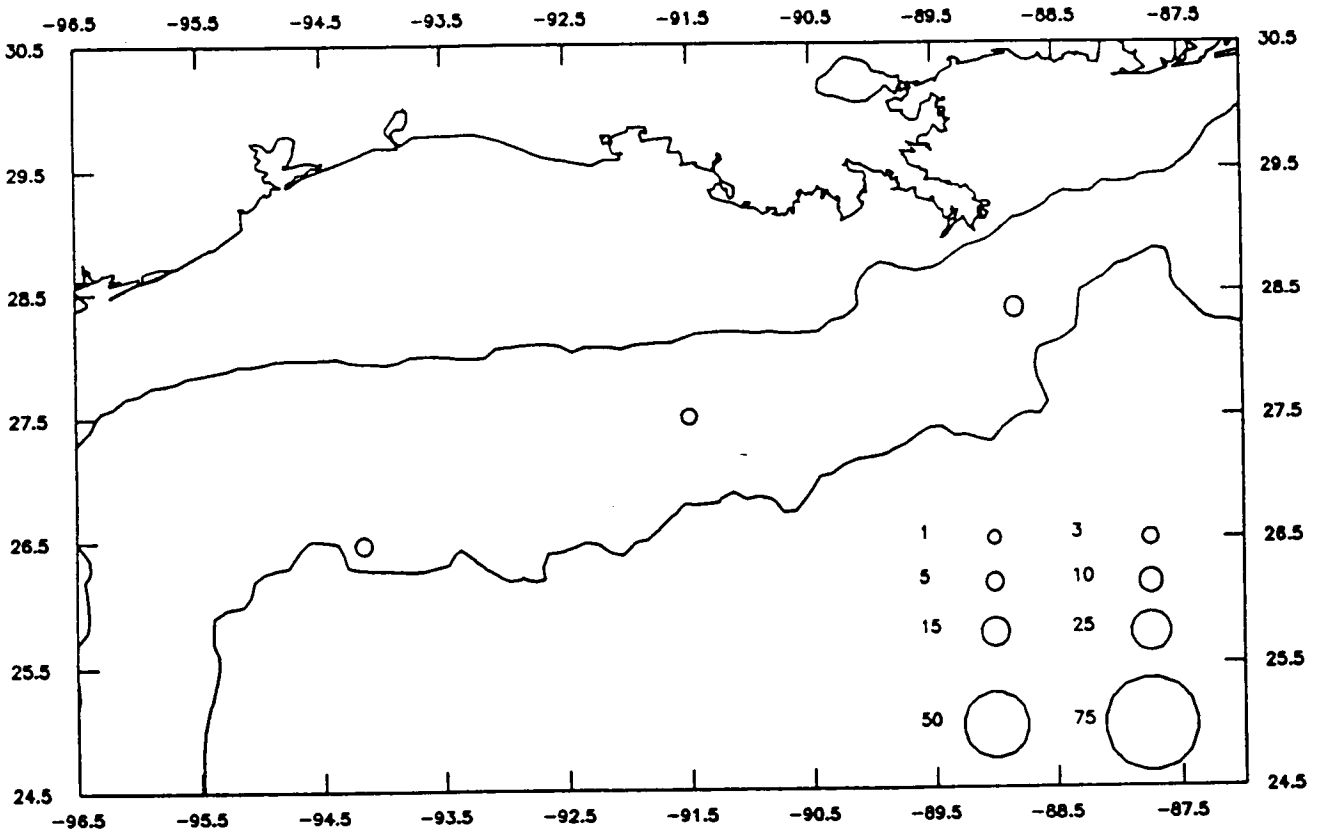
Kogia or *Ziphius* sp. Sightings: 5



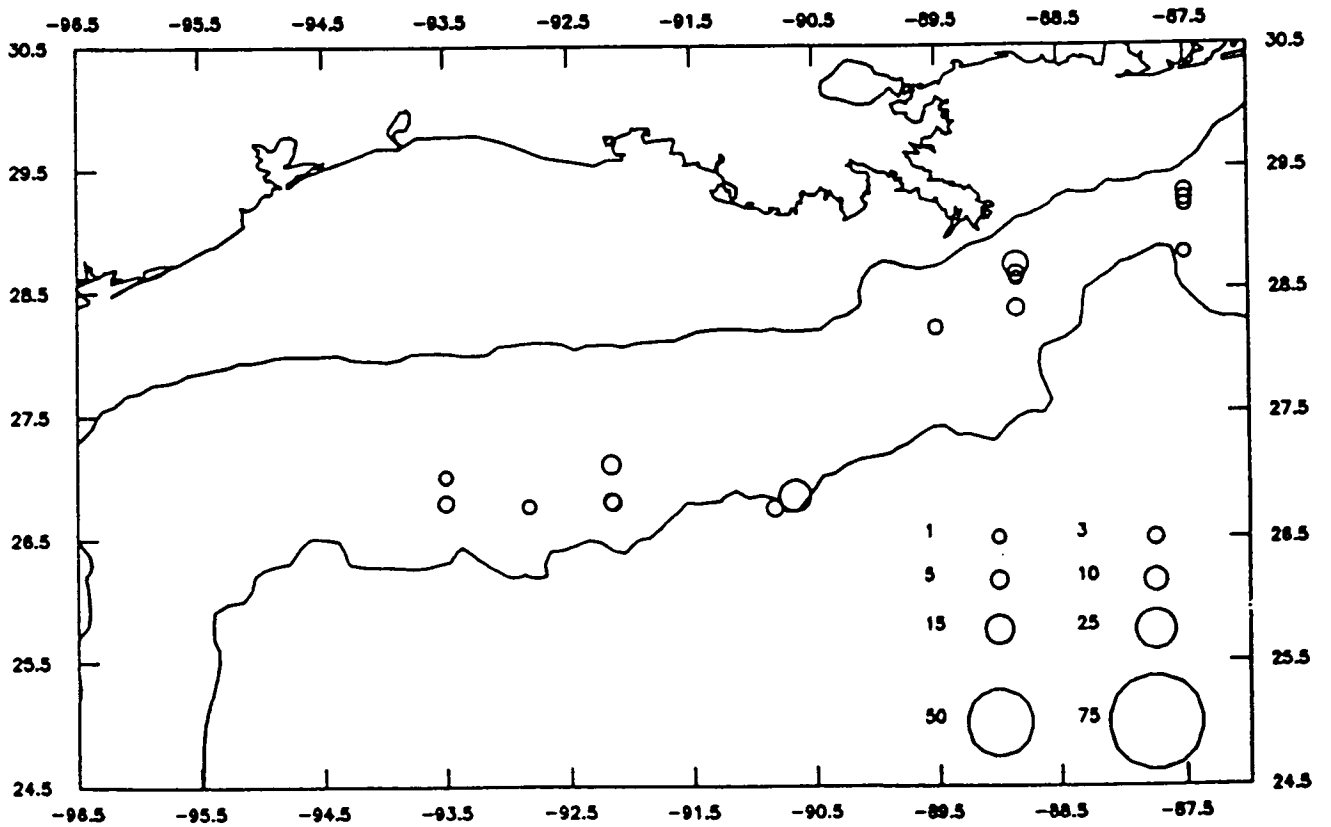
Lagenodelphis hosei Sighting: 1



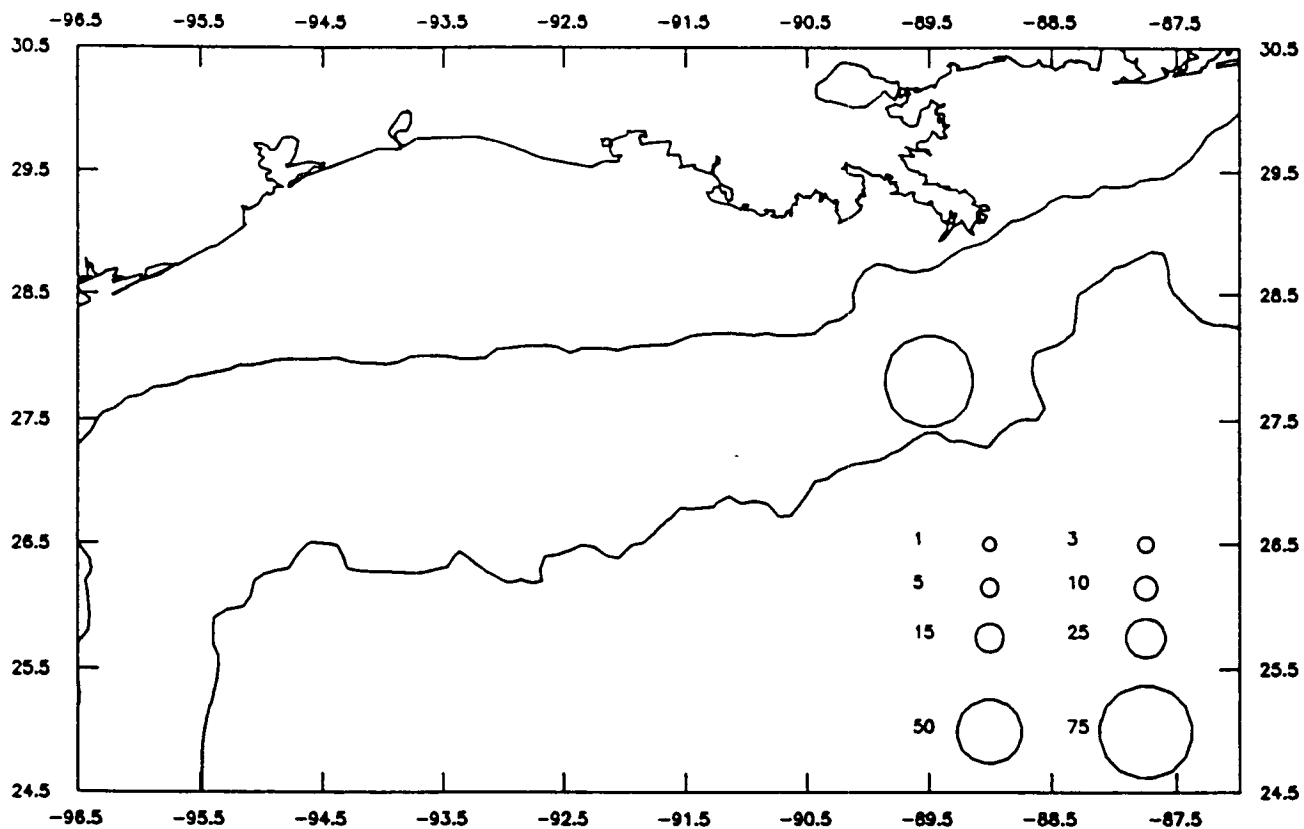
Mesoplodon sp. Sightings: 3



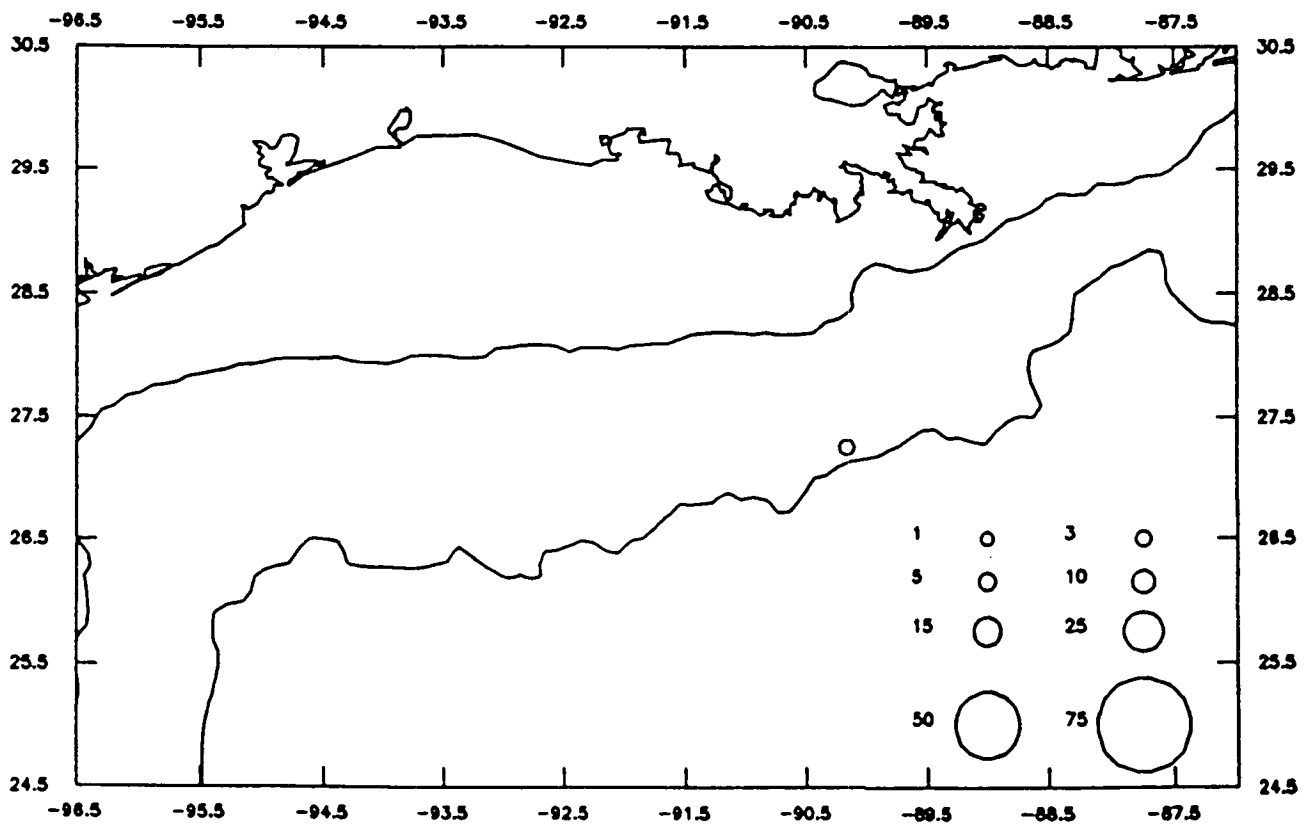
Physeter macrocephalus Sightings: 17



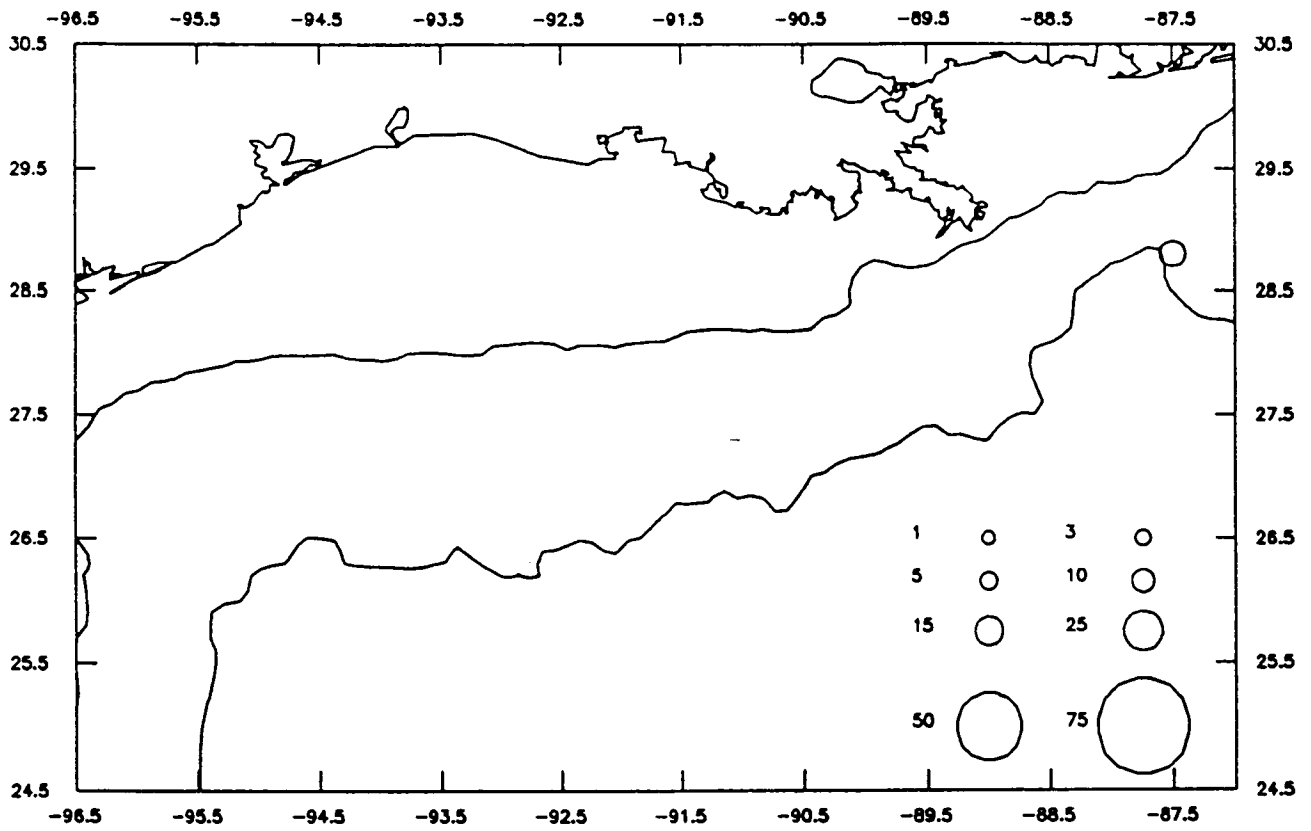
Stenella sp. Sighting: 1



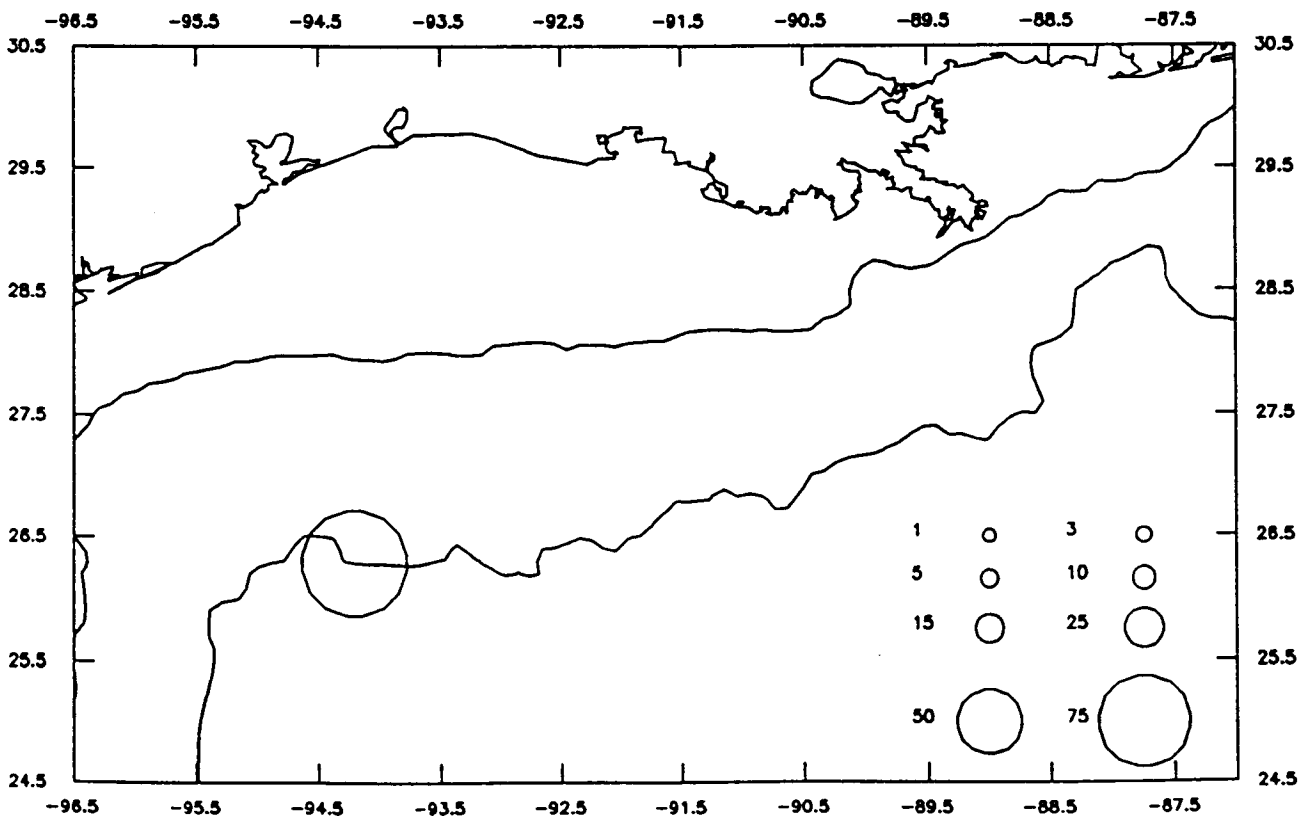
Stenella attenuata Sighting: 1



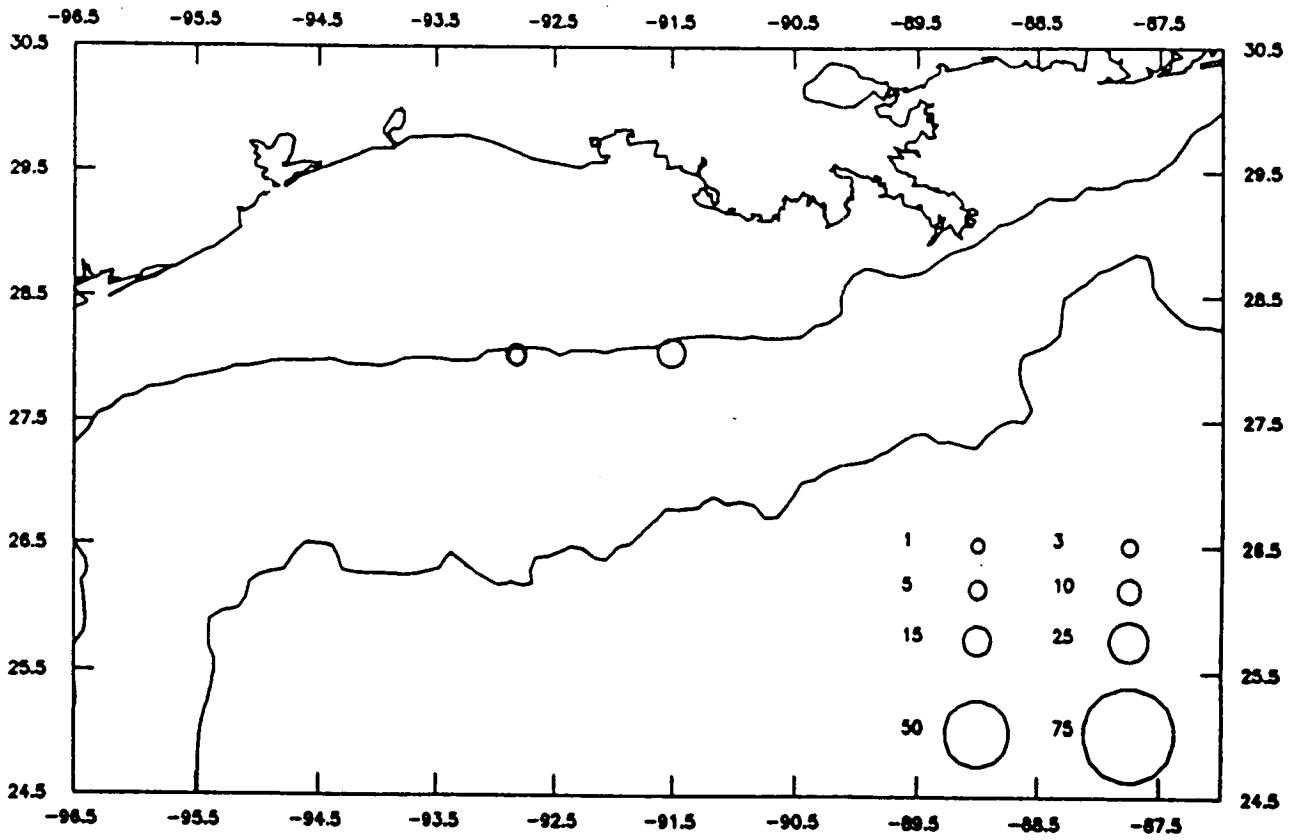
Stenella attenuata with *Physeter macrocephalus* Sightings: 1



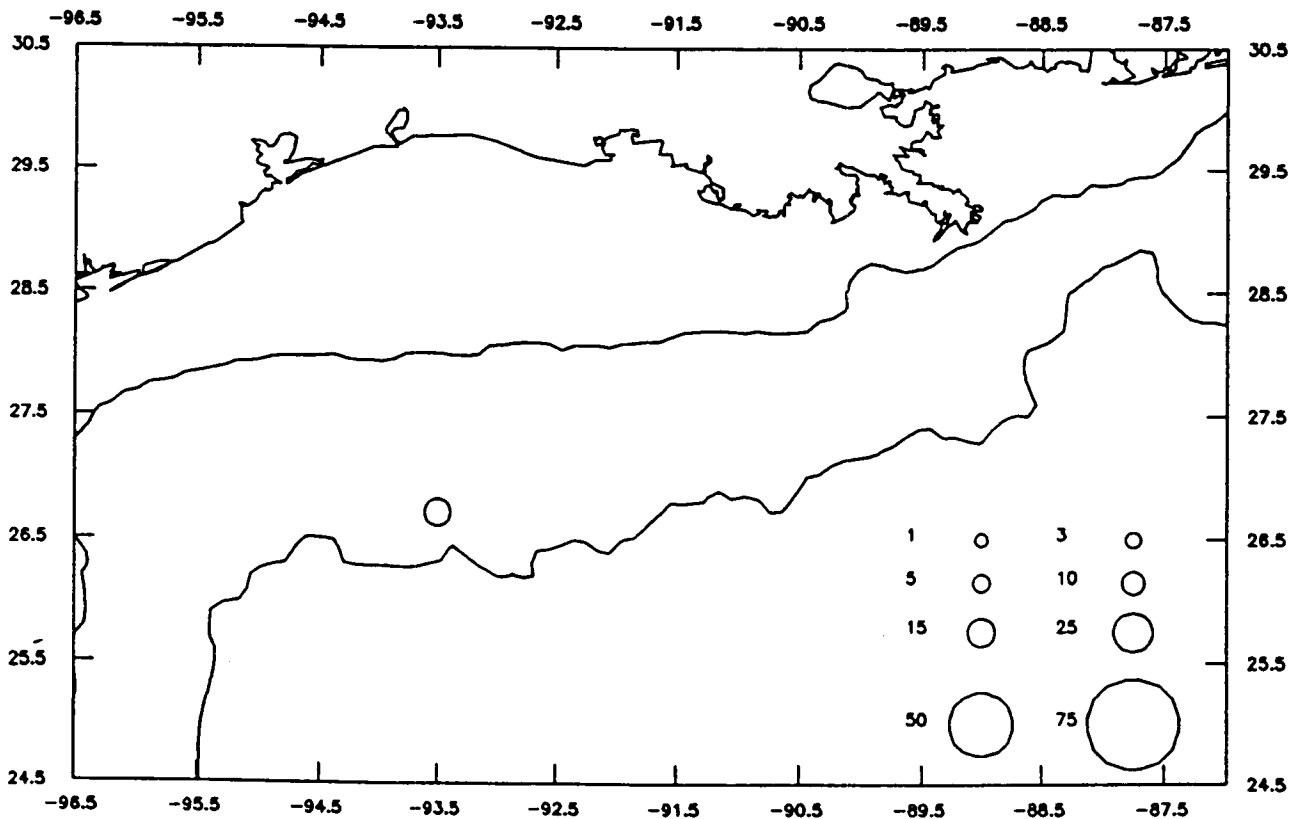
Stenella clymene Sighting: 1



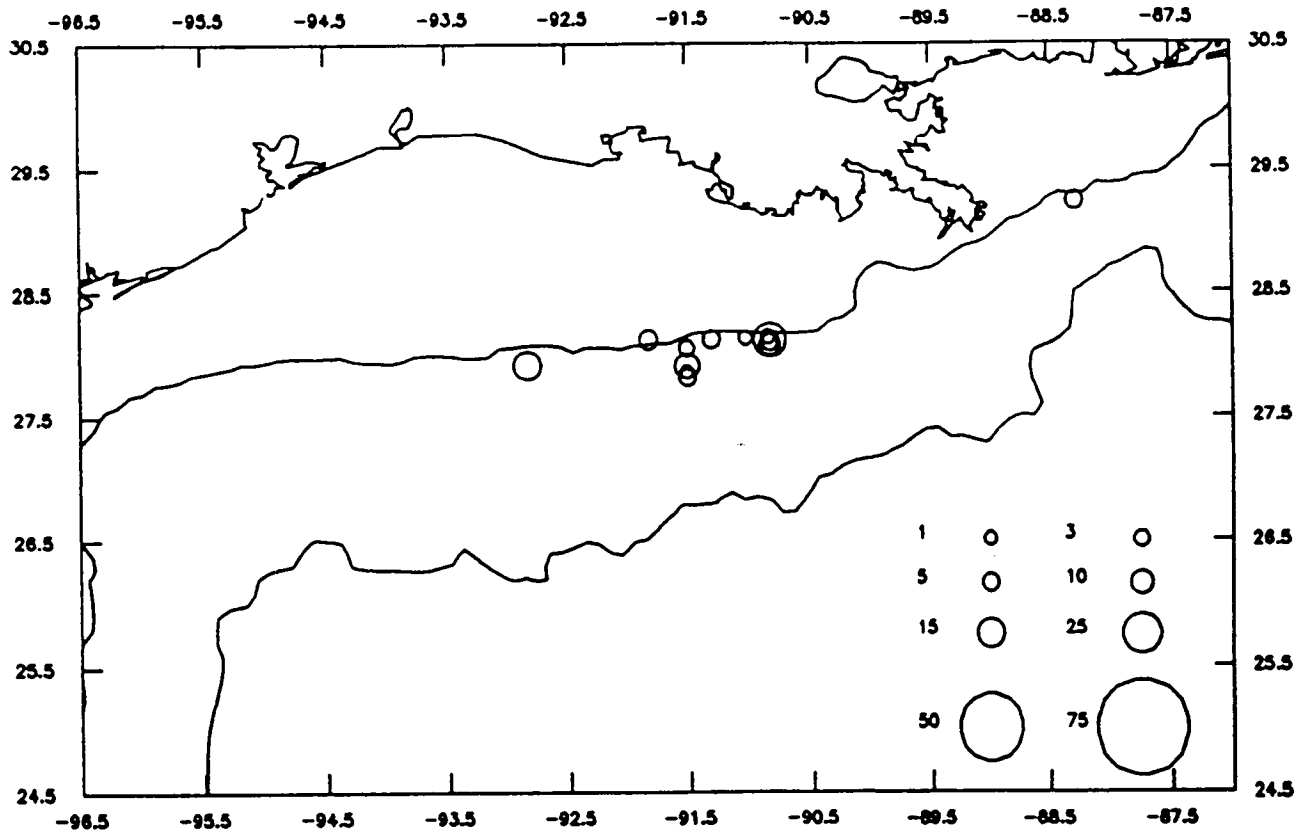
Stenella frontalis Sightings: 3



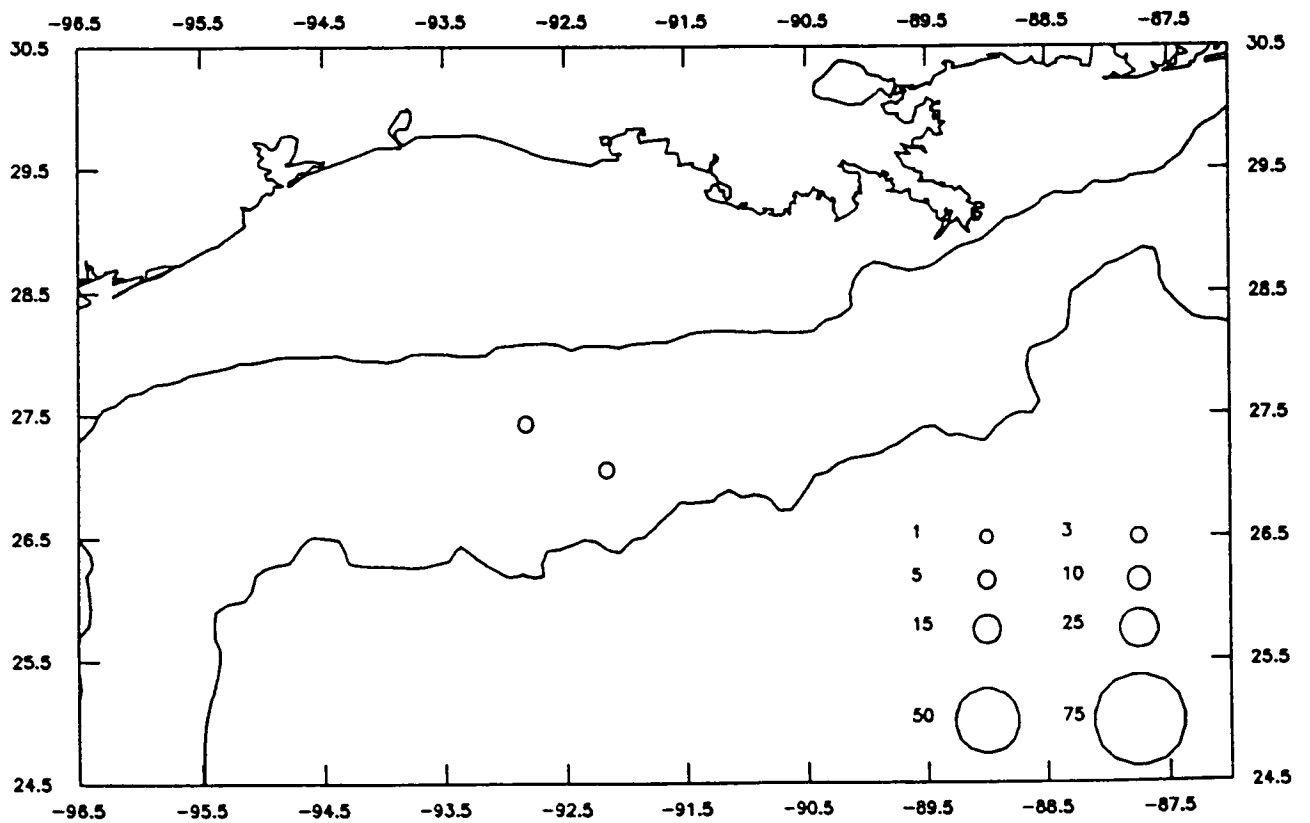
Stenella bredanensis Sighting: 1



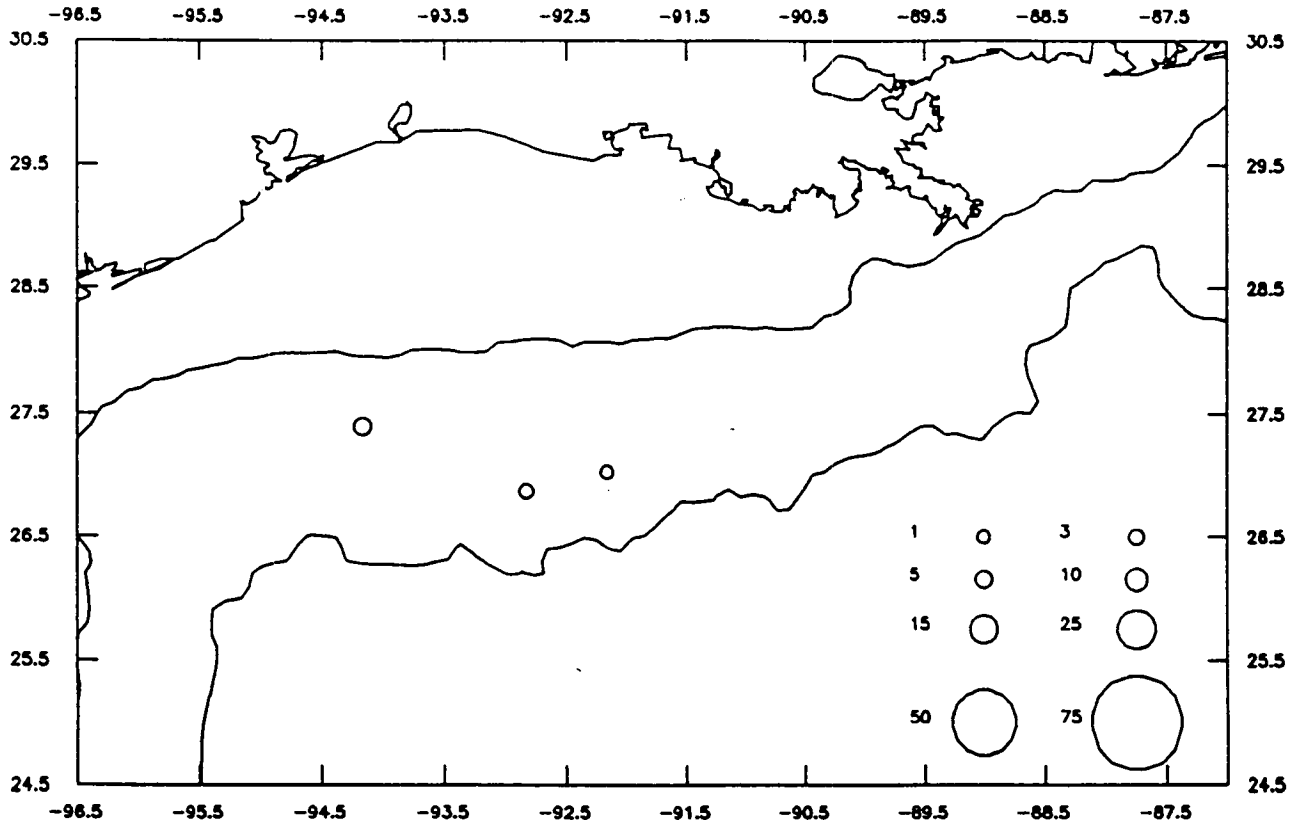
Tursiops truncatus Sightings: 14



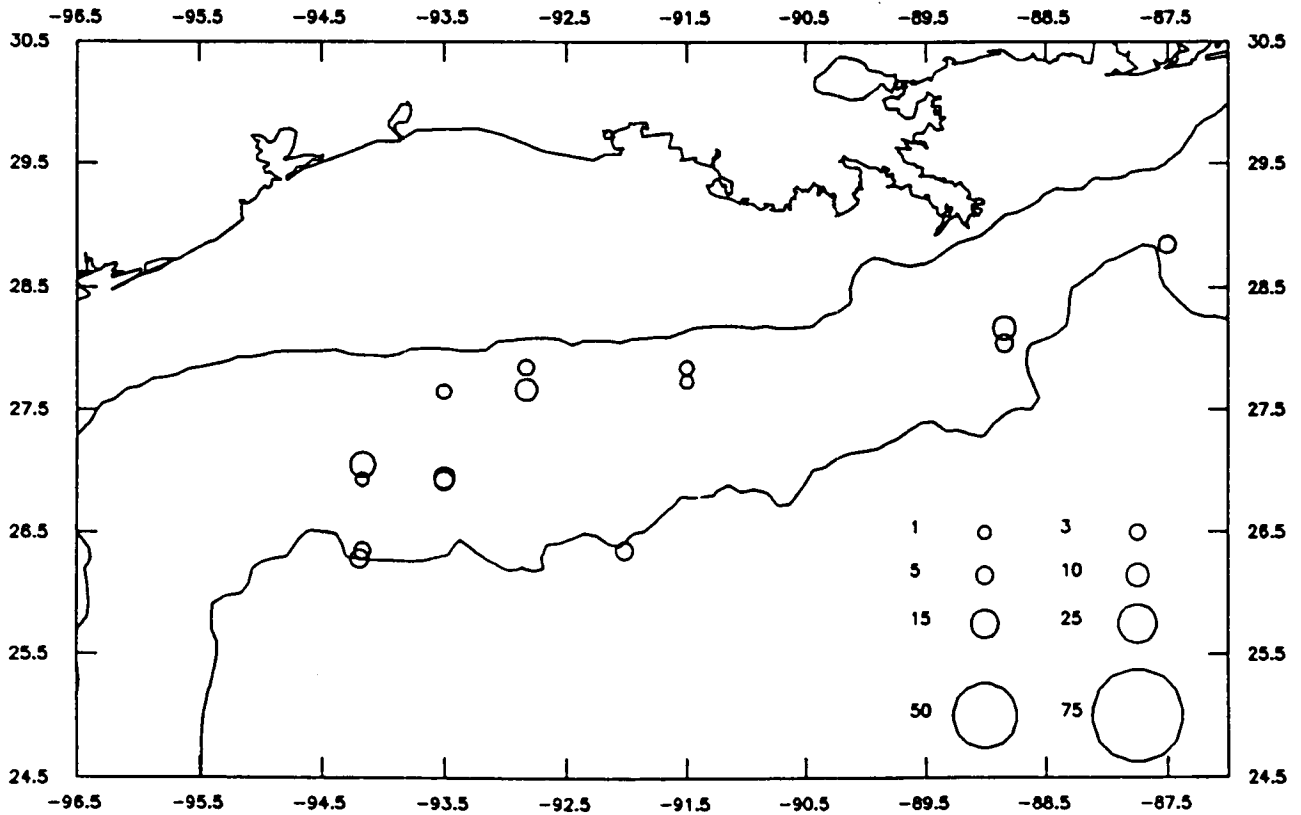
UNID Beaked Whale Sightings: 2



UNID Cetacean Sightings: 3

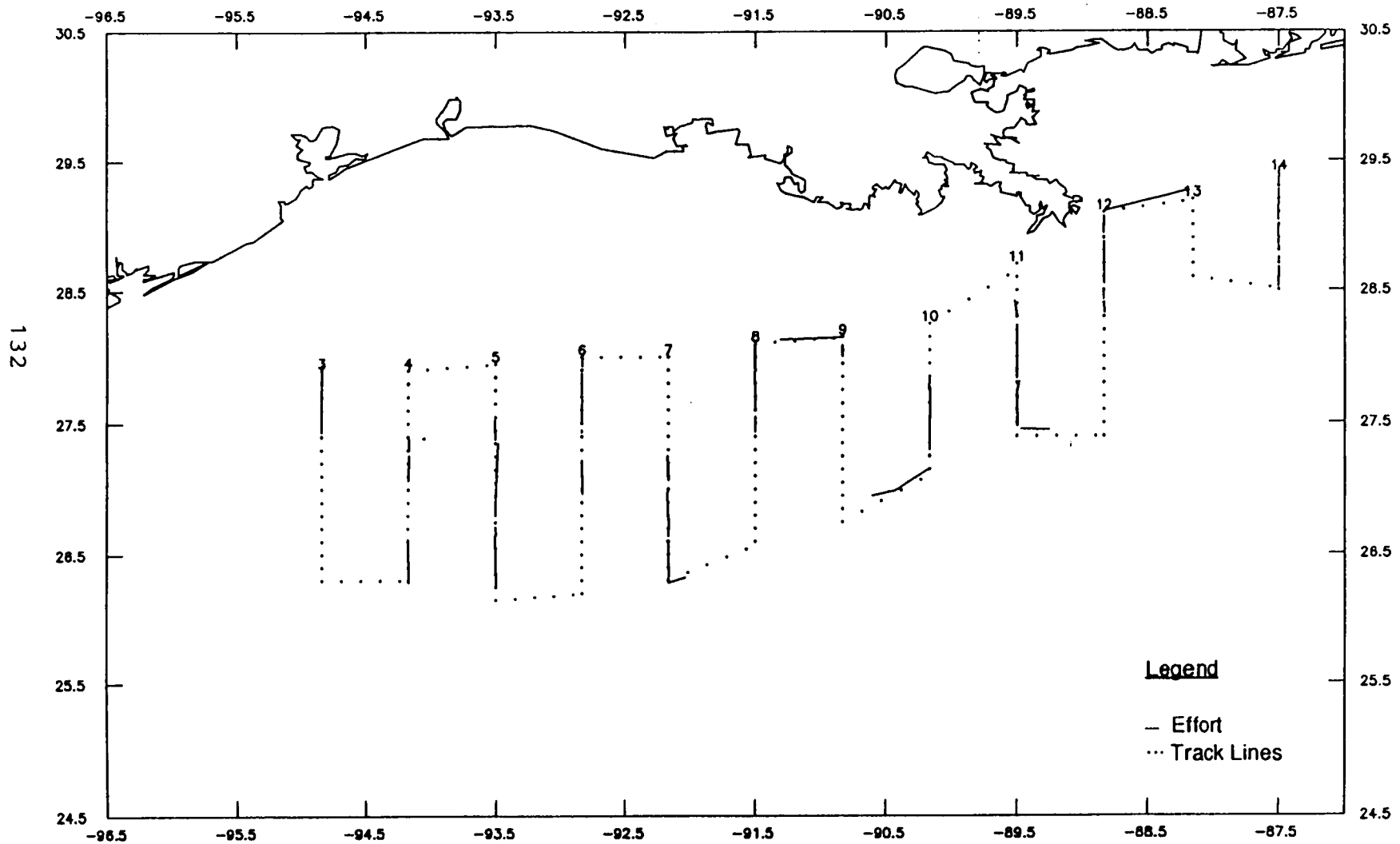


UNID Dolphin Sightings: 15



Bird Effort & Track Lines Surveyed

GulfCet Cruise 06



Cruise 06 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
28-Aug-93		<i>Chilonias niger</i>	29° 26.85	87° 29.79	12	29-Aug-93	0658	<i>Chilonias niger</i>	29° 15.08	88° 14.61	2
28-Aug-93	0740	<i>Fregatta magnificens</i>			1	29-Aug-93	0705	<i>Chilonias niger</i>	29° 14.85	88° 15.46	35
28-Aug-93	0740	<i>Sterna sp.(White-bk)</i>			5	29-Aug-93	0705	<i>Anas discors</i>	29° 14.85	88° 15.46	4
28-Aug-93	0759	<i>Hirundo rustica</i>	29° 26.23	87° 30.94	1	29-Aug-93	0705	<i>Fregatta magnificens</i>	29° 14.85	88° 15.46	1
28-Aug-93	0759	<i>Chilonias niger</i>	29° 26.23	87° 30.94	2	29-Aug-93	0715	<i>Chilonias niger</i>	29° 14.13	88° 18.24	10
28-Aug-93	0834	<i>Sterna sp.(White-bk)</i>	29° 26.19	87° 29.75	1	29-Aug-93	0715	<i>Chilonias niger</i>	29° 14.13	88° 18.24	40
28-Aug-93	0840	<i>Chilonias niger</i>	29° 25.80	87° 29.80	2	29-Aug-93	0715	<i>Sterna maxima</i>	29° 14.13	88° 18.24	2
28-Aug-93	0845	<i>Chilonias niger</i>	29° 25.00	87° 29.99	1	29-Aug-93	0715	<i>Sterna fuscata</i>	29° 14.13	88° 18.24	1
28-Aug-93	0851	<i>Chilonias niger</i>	29° 24.32	87° 30.07	1	29-Aug-93	0727	<i>Chilonias niger</i>	29° 13.84	88° 19.15	30
28-Aug-93	0859	<i>Chilonias niger</i>	29° 23.46	87° 30.08	1	29-Aug-93	0731	<i>Chilonias niger</i>	29° 13.68	88° 19.72	1
28-Aug-93	0900	<i>Chilonias niger</i>	29° 23.23	87° 30.07	1	29-Aug-93	0731	<i>Chilonias niger</i>	29° 13.68	88° 19.72	2
28-Aug-93	0905	<i>Chilonias niger</i>	29° 22.71	87° 30.06	18	29-Aug-93	0731	<i>Chilonias niger</i>	29° 13.68	88° 19.72	5
28-Aug-93	0915	<i>Chilonias niger</i>	29° 21.54	87° 29.96	20	29-Aug-93	0738	<i>Chilonias niger</i>	29° 13.24	88° 21.79	2
28-Aug-93	0930	<i>Chilonias niger</i>	29° 20.31	87° 29.90	8	29-Aug-93	0738	<i>Chilonias niger</i>	29° 13.24	88° 21.79	12
28-Aug-93	1020	<i>Hirundo rustica</i>	29° 14.98	87° 29.95	3	29-Aug-93	0738	<i>Chilonias niger</i>	29° 13.24	88° 21.79	15
28-Aug-93	1020	<i>Chilonias niger</i>	29° 14.98	87° 29.95	1	29-Aug-93	0800	<i>Chilonias niger</i>	29° 12.43	88° 25.51	175
28-Aug-93	1032	<i>Chilonias niger</i>	29° 13.60	87° 29.86	2	29-Aug-93	0800	<i>Chilonias niger</i>	29° 12.43	88° 25.51	200
28-Aug-93	1054	<i>Chilonias niger</i>	29° 10.95	87° 29.83	3	29-Aug-93	0800	<i>Fregatta magnificens</i>	29° 12.43	88° 25.51	1
28-Aug-93	1100	<i>Sterna hirundo</i>	29° 10.40	87° 29.86	1	29-Aug-93	0812	<i>Chilonias niger</i>	29° 12.18	88° 26.55	7
28-Aug-93	1104	<i>Chilonias niger</i>	29° 09.85	87° 29.87	1	29-Aug-93	0812	<i>Chilonias niger</i>	29° 12.18	88° 26.55	200
28-Aug-93	1155	Unid. Storm-Petrel	29° 03.71	87° 30.10	1	29-Aug-93	0820	<i>Chilonias niger</i>	29° 11.76	88° 28.13	10
28-Aug-93	1202	<i>Sterna sandvicensis</i>	29° 02.78	87° 30.10	1	29-Aug-93	0820	<i>Chilonias niger</i>	29° 11.76	88° 28.13	30
28-Aug-93	1300	<i>Chilonias niger</i>	28° 55.68	87° 30.31	2	29-Aug-93	0820	<i>Chilonias niger</i>	29° 11.76	88° 28.13	120
28-Aug-93	1300	<i>Fregatta magnificens</i>	28° 55.68	87° 30.31	4	29-Aug-93	0826	<i>Chilonias niger</i>	29° 11.01	88° 28.86	400
28-Aug-93	1305	<i>Puffinus lherminieri</i>	28° 54.69	87° 30.31	1	29-Aug-93	0826	<i>Sterna hirundo</i>	29° 11.01	88° 28.86	1
28-Aug-93	1403	<i>Chilonias niger</i>	28° 49.58	87° 30.04	1	29-Aug-93	0826	<i>Fregatta magnificens</i>	29° 11.01	88° 28.86	1
28-Aug-93	1440	<i>Sterna sp. (White-bk)</i>	28° 46.05	87° 29.64	1	29-Aug-93	0837	<i>Chilonias niger</i>	29° 11.16	88° 30.58	1
28-Aug-93	1500	<i>Larus atricilla</i>	28° 45.81	87° 29.95	1	29-Aug-93	0837	<i>Chilonias niger</i>	29° 11.16	88° 30.58	7
28-Aug-93	1500	<i>Fregatta magnificens</i>	28° 45.81	87° 29.95	1	29-Aug-93	0837	<i>Chilonias niger</i>	29° 11.16	88° 30.58	30
28-Aug-93	1500	<i>Sterna sp. (White-bk)</i>	28° 45.81	87° 29.95	1	29-Aug-93	0837	Unid. Shorebird	29° 11.16	88° 30.58	1
28-Aug-93	1720	<i>Chilonias niger</i>	28° 38.74	87° 30.05	2	29-Aug-93	0846	<i>Chilonias niger</i>	29° 10.80	88° 32.09	1
28-Aug-93	1744	<i>Puffinus lherminieri</i>	28° 35.79	87° 30.06	1	29-Aug-93	0846	<i>Chilonias niger</i>	29° 10.80	88° 32.09	5
28-Aug-93	1802	Unid. Storm-Petrel	28° 33.69	87° 30.17	2	29-Aug-93	0852	<i>Chilonias niger</i>	29° 10.59	88° 33.13	4
28-Aug-93	1810	<i>Hirundo rustica</i>	28° 32.60	87° 30.05	3	29-Aug-93	0852	<i>Chilonias niger</i>	29° 10.59	88° 33.13	20
28-Aug-93	1900	<i>Hirundo rustica</i>	28° 30.44	87° 30.06	3	29-Aug-93	0852	<i>Fregatta magnificens</i>	29° 10.59	88° 33.13	1
28-Aug-93	1900	<i>Mimus polyglottos</i>	28° 30.44	87° 30.17	1	29-Aug-93	0903	<i>Chilonias niger</i>	29° 10.04	88° 34.00	2
29-Aug-93	0645	<i>Puffinus lherminieri</i>	29° 15.57	88° 12.64	1	29-Aug-93	0903	<i>Chilonias niger</i>	29° 10.04	88° 34.00	5
29-Aug-93	0656	<i>Chilonias niger</i>	29° 15.19	88° 14.16	1	29-Aug-93	0910	<i>Chilonias niger</i>	29° 09.57	88° 36.06	2
29-Aug-93	0658	<i>Chilonias niger</i>	29° 15.08	88° 14.61	1	29-Aug-93	0910	<i>Chilonias niger</i>	29° 09.57	88° 36.06	3

Obs.= Number Observed

Cruise 06 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
29-Aug-93	0916	<i>Childonias niger</i>	29° 08.97	88° 37.09	3	29-Aug-93	1405	<i>Sterna anaethetus</i>	28° 44.21	88° 50.04	3
29-Aug-93	0934	<i>Childonias niger</i>	29° 08.45	88° 39.81	2	29-Aug-93	1415	<i>Sterna anaethetus</i>	28° 43.29	88° 50.00	1
29-Aug-93	0934	<i>Fregatta magnificens</i>	29° 08.45	88° 39.81	1	29-Aug-93	1415	<i>Sula dactylatra</i>	28° 43.29	88° 50.00	1
29-Aug-93	0959	<i>Childonias niger</i>	29° 07.63	88° 43.85	1	29-Aug-93	1430	<i>Childonias niger</i>	28° 41.36	88° 49.98	2
29-Aug-93	0959	<i>Childonias niger</i>	29° 07.63	88° 43.85	4	29-Aug-93	1430	<i>Childonias niger</i>	28° 41.36	88° 49.98	5
29-Aug-93	1001	<i>Childonias niger</i>	29° 07.23	88° 45.96	1	29-Aug-93	1430	<i>Childonias niger</i>	28° 41.36	88° 49.98	10
29-Aug-93	1001	<i>Childonias niger</i>	29° 07.23	88° 45.96	4	29-Aug-93	1430	<i>Childonias niger</i>	28° 41.36	88° 49.98	50
29-Aug-93	1001	<i>Sterna hirundo</i>	29° 07.23	88° 45.96	1	29-Aug-93	1430	<i>Sterna anaethetus</i>	28° 41.36	88° 49.98	1
29-Aug-93	1017	<i>Childonias niger</i>	29° 07.01	88° 47.04	2	29-Aug-93	1445	<i>Fregatta magnificens</i>	28° 39.87	88° 49.98	1
29-Aug-93	1017	<i>Childonias niger</i>	29° 07.01	88° 47.04	3	29-Aug-93	1500	<i>Childonias niger</i>	28° 38.20	88° 49.98	1
29-Aug-93	1017	<i>Childonias niger</i>	29° 07.01	88° 47.04	4	29-Aug-93	1500	<i>Childonias niger</i>	28° 38.20	88° 49.98	2
29-Aug-93	1017	<i>Childonias niger</i>	29° 07.01	88° 47.04	8	29-Aug-93	1505	<i>Sula dactylatra</i>	28° 36.69	88° 49.96	1
29-Aug-93	1017	<i>Larus atricilla</i>	29° 07.01	88° 47.04	1	29-Aug-93	1516	<i>Childonias niger</i>	28° 36.34	88° 49.95	1
29-Aug-93	1017	<i>Sterna antillarum</i>	29° 07.01	88° 47.04	2	29-Aug-93	1531	<i>Sterna anaethetus</i>	28° 34.70	88° 49.92	1
29-Aug-93	1026	<i>Larus atricilla</i>	29° 06.69	88° 48.53	1	29-Aug-93	1629	<i>Sula dactylatra</i>	28° 30.51	88° 50.01	1
29-Aug-93	1026	<i>Fregatta magnificens</i>	29° 06.69	88° 48.53	1	29-Aug-93	1650	<i>Sterna anaethetus</i>	28° 28.24	88° 50.01	1
29-Aug-93	1036	<i>Childonias niger</i>	29° 06.45	88° 49.99	1	29-Aug-93	1700	<i>Sterna anaethetus</i>	28° 27.21	88° 49.96	2
29-Aug-93	1036	<i>Sterna sandvicensis</i>	29° 06.45	88° 49.99	1	29-Aug-93	1705	<i>Sterna anaethetus</i>	28° 26.71	88° 49.95	1
29-Aug-93	1036	<i>Sterna sandvicensis</i>	29° 06.45	88° 49.99	3	29-Aug-93	1708	<i>Sterna anaethetus</i>	28° 26.01	88° 50.00	1
29-Aug-93	1055	<i>Fregatta magnificens</i>	29° 06.45	88° 49.99	4	29-Aug-93	1915	Unid. Storm-Petrel	28° 18.99	88° 50.03	1
29-Aug-93	1118	<i>Childonias niger</i>	29° 03.11	88° 49.85	2	30-Aug-93	0740	<i>Phaethon lepturus</i>	27° 27.30	89° 23.95	2
29-Aug-93	1118	<i>Childonias niger</i>	29° 03.11	88° 49.85	3	30-Aug-93	0941	<i>Puffinus lherminieri</i>	27° 31.70	89° 29.67	1
29-Aug-93	1122	<i>Hirundo rustica</i>	29° 02.26	88° 49.87	3	30-Aug-93	0941	<i>Puffinus lherminieri</i>	27° 37.37	89° 29.56	1
29-Aug-93	1122	<i>Sterna hirundo</i>	29° 02.26	88° 49.87	1	30-Aug-93	0941	<i>Sterna anaethetus</i>	27° 39.10	89° 29.92	1
29-Aug-93	1122	<i>Sterna sandvicensis</i>	29° 02.26	88° 49.87	2	30-Aug-93	0941	<i>Fregatta magnificens</i>	27° 39.10	89° 29.92	1
29-Aug-93	1131	<i>Childonias niger</i>	29° 01.65	88° 49.88	1	30-Aug-93	0950	<i>Sterna anaethetus</i>	27° 40.33	89° 29.92	1
29-Aug-93	1149	<i>Childonias niger</i>	28° 59.44	88° 49.93	1	30-Aug-93	0950	Unid. Storm-Petrel	27° 40.33	89° 29.92	1
29-Aug-93	1149	<i>Childonias niger</i>	28° 59.44	88° 49.93	3	30-Aug-93	1140	<i>Puffinus lherminieri</i>	27° 45.17	89° 29.93	1
29-Aug-93	1149	<i>Sterna sandvicensis</i>	28° 59.44	88° 49.93	3	30-Aug-93	1148	Unid. Duck	27° 46.17	89° 29.93	12
29-Aug-93	1158	<i>Childonias niger</i>	28° 58.54	88° 49.93	1	30-Aug-93	1230	<i>Larus atricilla</i>	27° 49.00	89° 30.00	1
29-Aug-93	1158	<i>Childonias niger</i>	28° 58.54	88° 49.93	3	30-Aug-93	1320	<i>Sterna sp. (Lg. dark-bk)</i>	27° 51.58	89° 30.04	2
29-Aug-93	1158	<i>Childonias niger</i>	28° 58.54	88° 49.93	6	30-Aug-93	1630	<i>Fregatta magnificens</i>	28° 07.13	89° 29.92	1
29-Aug-93	1254	<i>Childonias niger</i>	28° 51.62	88° 49.95	1	30-Aug-93	1656	<i>Sterna anaethetus</i>	28° 09.81	89° 29.87	1
29-Aug-93	1254	<i>Childonias niger</i>	28° 51.62	88° 49.95	2	30-Aug-93	1800	<i>Puffinus lherminieri</i>	28° 18.03	89° 29.98	1
29-Aug-93	1254	<i>Childonias niger</i>	28° 51.62	88° 49.95	7	30-Aug-93	1830	<i>Childonias niger</i>	28° 21.69	89° 30.22	3
29-Aug-93	1320	<i>Childonias niger</i>	28° 48.66	88° 49.93	4	30-Aug-93	1830	<i>Sterna anaethetus</i>	28° 21.69	89° 30.22	2
29-Aug-93	1320	<i>Larus atricilla</i>	28° 48.66	88° 49.93	1	30-Aug-93	1830	<i>Sterna anaethetus</i>	28° 21.69	89° 30.22	5
29-Aug-93	1350	<i>Childonias niger</i>	28° 45.71	88° 50.04	3	30-Aug-93	1840	<i>Childonias niger</i>	28° 22.21	89° 30.32	1
29-Aug-93	1350	<i>Sterna anaethetus</i>	28° 45.71	88° 50.04	2	30-Aug-93	1840	<i>Childonias niger</i>	28° 22.21	89° 30.32	5

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Date	Time	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
30-Aug-93	1900	<i>Chlidonias niger</i>	28° 24.36	89° 30.04	2	02-Sep-93	0817	<i>Caprimulgus carolinensis</i>	26° 16.92	92° 09.96	1
30-Aug-93	1910	<i>Chlidonias niger</i>	28° 25.20	89° 30.89	2	02-Sep-93	0817	<i>Sula dactvitra</i>	26° 16.92	92° 09.96	1
31-Aug-93	0900	<i>Puffinus lherminieri</i>	27° 43.29	90° 09.66	1	02-Sep-93	0817	Unid. Warbler	26° 16.92	92° 09.96	3
31-Aug-93	1010	<i>Puffinus lherminieri</i>	27° 35.52	90° 10.02	2	02-Sep-93	0850	Unid. Heron	26° 16.92	92° 09.96	4
31-Aug-93	1016	<i>Puffinus lherminieri</i>	27° 34.08	90° 10.11	1	02-Sep-93	0920	<i>Caprimulgus carolinensis</i>	26° 17.62	92° 09.02	1
31-Aug-93	1044	<i>Puffinus lherminieri</i>	27° 31.50	90° 10.23	1	02-Sep-93	0948	<i>Puffinus sp.</i>	26° 20.37	92° 09.44	1
31-Aug-93	1427	<i>Puffinus lherminieri</i>	27° 09.12	90° 10.17	1	02-Sep-93	0948	<i>Sterna sp. (Lg. dark-bk)</i>	26° 20.37	92° 09.44	1
31-Aug-93	1640	<i>Puffinus lherminieri</i>	26° 56.25	90° 31.17	1	02-Sep-93	1000	Non-Seabird sp. (doves?)	26° 22.11	92° 09.77	2
31-Aug-93	1700	<i>Calonectris diomedea</i>	26° 54.52	90° 33.97	1	02-Sep-93	1005	<i>Puffinus lherminieri</i>	26° 22.45	92° 09.77	1
31-Aug-93	1840	<i>Puffinus sp.</i>	26° 45.21	90° 49.54	1	02-Sep-93	1005	<i>Chlidonias niger</i>	26° 22.45	92° 09.77	1
31-Aug-93	1900	<i>Puffinus lherminieri</i>	26° 44.66	90° 49.65	1	02-Sep-93	1005	<i>Caprimulgus carolinensis</i>	26° 22.45	92° 09.77	1
31-Aug-93	1900	<i>Sterna anaethetus</i>	26° 44.67	90° 49.65	1	02-Sep-93	1025	<i>Icterus spurus</i>	26° 23.82	92° 10.08	1
01-Sep-93	0927	<i>Sterna anaethetus</i>	28° 08.91	90° 50.97	3	02-Sep-93	1035	<i>Puffinus lherminieri</i>	26° 25.16	92° 10.10	1
01-Sep-93	0954	Unid. Duck	28° 08.89	90° 55.08	40	02-Sep-93	1035	<i>Puffinus lherminieri</i>	26° 25.16	92° 10.10	4
01-Sep-93	1010	<i>Chlidonias niger</i>	28° 08.70	90° 58.78	1	02-Sep-93	1056	<i>Puffinus lherminieri</i>	26° 27.51	92° 10.11	2
01-Sep-93	1016	<i>Anas discors</i>	28° 08.63	90° 59.51	17	02-Sep-93	1102	<i>Puffinus lherminieri</i>	26° 28.29	92° 10.10	1
01-Sep-93	1018	<i>Chlidonias niger</i>	28° 08.60	90° 59.99	1	02-Sep-93	1116	<i>Sterna anaethetus</i>	26° 30.17	92° 10.09	1
01-Sep-93	1104	<i>Chlidonias niger</i>	28° 08.05	91° 08.13	3	02-Sep-93	1159	<i>Puffinus lherminieri</i>	26° 35.11	92° 10.10	32
01-Sep-93	1104	<i>Chlidonias niger</i>	28° 08.05	91° 08.13	5	02-Sep-93	1159	<i>Sterna fuscata</i>	26° 35.11	92° 10.10	6
01-Sep-93	1138	<i>Sterna anaethetus</i>	28° 07.86	91° 14.37	1	02-Sep-93	1241	<i>Puffinus lherminieri</i>	26° 39.62	92° 09.98	1
01-Sep-93	1145	<i>Sterna anaethetus</i>	28° 07.87	91° 15.56	1	02-Sep-93	1301	<i>Puffinus lherminieri</i>	26° 41.96	92° 09.94	1
01-Sep-93	1201	<i>Sterna anaethetus</i>	28° 07.86	91° 18.41	1	02-Sep-93	1324	<i>Puffinus lherminieri</i>	26° 44.61	92° 09.64	6
01-Sep-93	1439	<i>Sterna sp. (Lg. dark-bk)</i>	27° 59.13	91° 30.17	1	02-Sep-93	1400	<i>Puffinus lherminieri</i>	26° 45.67	92° 09.28	3
01-Sep-93	1555	<i>Sula dactvitra</i>	27° 47.61	91° 30.02	1	02-Sep-93	1520	<i>Puffinus sp.</i>	26° 46.71	92° 07.62	1
01-Sep-93	1610	<i>Sula dactvitra</i>	27° 45.87	91° 30.00	2	02-Sep-93	1557	<i>Puffinus lherminieri</i>	26° 49.54	92° 10.25	2
01-Sep-93	1617	<i>Sterna sp. (Lg. dark-bk)</i>	27° 44.75	91° 29.98	1	02-Sep-93	1621	<i>Puffinus lherminieri</i>	26° 52.22	92° 10.25	1
01-Sep-93	1631	<i>Sterna sp. (Lg. dark-bk)</i>	27° 42.46	91° 29.98	1	02-Sep-93	1644	<i>Puffinus lherminieri</i>	26° 55.09	92° 10.20	2
02-Sep-93	0728	<i>Puffinus lherminieri</i>	26° 19.34	92° 02.32	3	02-Sep-93	1644	<i>Puffinus lherminieri</i>	26° 55.09	92° 10.20	3
02-Sep-93	0741	Unid. Large Shearwater	26° 18.45	92° 05.08	1	02-Sep-93	1644	<i>Sterna anaethetus</i>	26° 55.09	92° 10.20	1
02-Sep-93	0747	Unid. Duck	26° 18.26	92° 05.64	35	02-Sep-93	1644	<i>Sterna anaethetus</i>	26° 55.09	92° 10.20	2
02-Sep-93	0747	Unid. Egret/Heron	26° 18.26	92° 05.64	8	02-Sep-93	1650	<i>Sterna sp. (Lg. dark-bk)</i>	27° 55.90	92° 10.31	2
02-Sep-93	0747	Unid. Passerine	26° 18.26	92° 05.64	2	02-Sep-93	1650	Unid. Swallow	27° 55.90	92° 10.31	1
02-Sep-93	0747	<i>Egretta thula</i>	26° 18.26	92° 05.64	1	02-Sep-93	1818	<i>Puffinus lherminieri</i>	27° 06.11	92° 10.02	3
02-Sep-93	0805	<i>Sula dactvitra</i>	26° 17.30	92° 08.71	1	02-Sep-93	1840	<i>Puffinus lherminieri</i>	27° 08.75	92° 10.08	5
02-Sep-93	0809	Unid. Egret/Heron	26° 17.19	92° 09.11	9	02-Sep-93	1844	<i>Hirundo rustica</i>	27° 08.95	92° 10.09	6
02-Sep-93	0815	Unid. Duck	26° 16.94	92° 09.93	22	02-Sep-93	1850	<i>Puffinus lherminieri</i>	27° 11.32	92° 10.16	1
02-Sep-93	0817	<i>Puffinus lherminieri</i>	26° 16.92	92° 09.96	1	02-Sep-93	1850	<i>Sula dactvitra</i>	27° 11.32	92° 10.16	1
02-Sep-93	0817	<i>Chlidonias niger</i>	26° 16.92	92° 09.96	2	02-Sep-93	1850	<i>Sterna fuscata</i>	27° 11.32	92° 10.16	1
02-Sep-93	0817	<i>Anas discors</i>	26° 16.92	92° 09.96	16	02-Sep-93	1850	<i>Sterna fuscata</i>	27° 11.32	92° 10.16	20

Obs.= Number Observed

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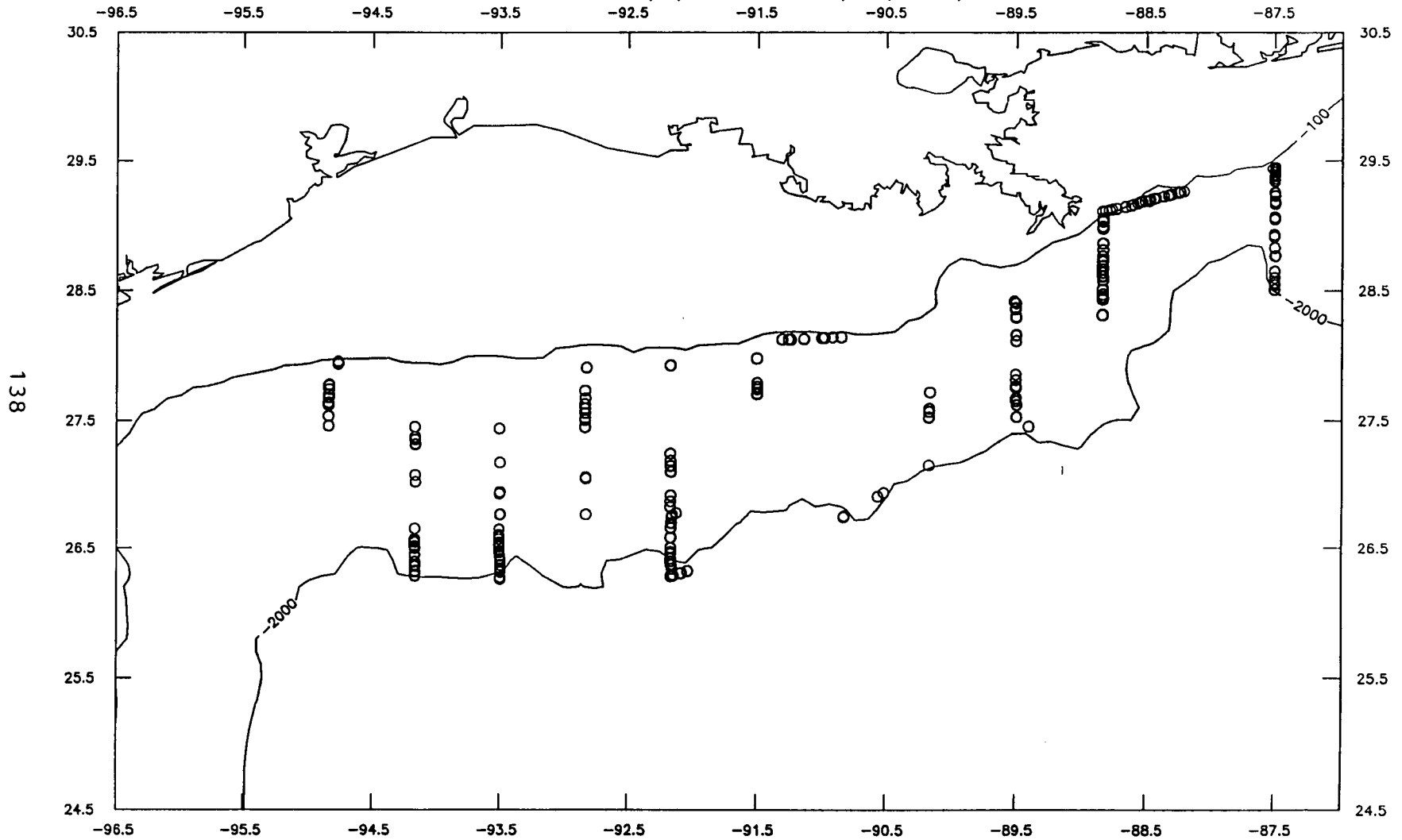
Date	Species	Latitude	Longitude	Obs.	Date	Time	Species	Latitude	Longitude	Obs.
02-Sep-93	1850 Unid. Thrush	27° 11.32	92° 10.16	1	04-Sep-93	0936	<i>Egretta caerulea</i>	26° 35.25	93° 30.48	3
02-Sep-93	1930 <i>Sterna anaethetus</i>	27° 14.67	92° 10.28	1	04-Sep-93	0945	<i>Bubulcus ibis</i>	26° 36.25	93° 30.47	52
02-Sep-93	1930 <i>Sterna fuscata</i>	27° 14.67	92° 10.28	1	04-Sep-93	0945	<i>Egretta caerulea</i>	26° 36.25	93° 30.47	1
02-Sep-93	1930 <i>Sterna fuscata</i>	27° 14.67	92° 10.28	2	04-Sep-93	0945	<i>Egretta tricolor</i>	26° 36.25	93° 30.47	2
03-Sep-93	0815 <i>Anas discors</i>	27° 54.75	92° 49.38	1	04-Sep-93	1006	<i>Caprimulgus carolinensis</i>	26° 38.78	93° 30.27	1
03-Sep-93	0815 <i>Caprimulgus carolinensis</i>	27° 54.75	92° 49.38	1	04-Sep-93	1124	Unid. Heron	26° 45.88	93° 29.94	7
03-Sep-93	0950 <i>Dendroica petechia</i>	27° 44.00	92° 50.00	1	04-Sep-93	1124	<i>Sterna fuscata</i>	26° 45.88	93° 29.94	13
03-Sep-93	1031 <i>Hirundo rustica</i>	27° 40.43	92° 49.81	1	04-Sep-93	1144	Unid. Heron (10dk,15white)	26° 45.96	93° 29.77	25
03-Sep-93	1104 Unid. Thrush	27° 37.67	92° 50.09	1	04-Sep-93	1144	Unid. Heron (7dk, 2 white)	26° 45.96	93° 29.77	9
03-Sep-93	1121 Unid. Passerine	27° 35.59	92° 50.03	1	04-Sep-93	1347	<i>Fregatta magnificens</i>	26° 55.69	93° 30.26	1
03-Sep-93	1139 <i>Hirundo rustica</i>	27° 33.41	92° 49.97	1	04-Sep-93	1355	Unid. Swallow	26° 56.46	93° 29.91	2
03-Sep-93	1159 <i>Hirundo rustica</i>	27° 31.02	92° 49.97	1	04-Sep-93	1557	<i>Sterna anaethetus</i>	27° 10.35	93° 29.92	1
03-Sep-93	1206 <i>Hirundo rustica</i>	27° 30.17	92° 49.97	2	04-Sep-93	1557	<i>Dendroica petechia</i>	27° 10.35	93° 29.92	1
03-Sep-93	1206 Unid. Passerine	27° 30.17	92° 49.97	1	04-Sep-93	1900	<i>Hirundo rustica</i>	27° 26.25	93° 30.14	1
03-Sep-93	1232 <i>Hirundo rustica</i>	27° 26.91	92° 50.00	3	05-Sep-93		<i>Stelgidopteryx serripennis</i>	27° 22.34	94° 09.80	1
03-Sep-93	1635 <i>Piranga olivacea</i>	27° 03.52	92° 49.75	1	05-Sep-93	0702	<i>Caprimulgus carolinensis</i>	27° 27.10	94° 09.91	1
03-Sep-93	1648 <i>Seiurus motacilla</i>	27° 02.72	92° 49.68	1	05-Sep-93	0730	<i>Hirundo rustica</i>	27° 27.10	94° 09.91	1
03-Sep-93	1925 <i>Sterna sp. (Lg. dark-bk)</i>	26° 45.93	92° 49.59	1	05-Sep-93	0841	<i>Fregatta magnificens</i>	27° 21.14	94° 09.72	2
04-Sep-93	0647 Unid. Duck	26° 15.56	93° 29.84	12	05-Sep-93	0859	Unid. Large Shearwater	27° 18.96	94° 09.70	1
04-Sep-93	0654 Unid. Duck	26° 16.25	93° 29.83	8	05-Sep-93	1047	<i>Caprimulgus carolinensis</i>	27° 04.59	94° 09.80	1
04-Sep-93	0714 <i>Puffinus sp.</i>	26° 18.68	93° 29.77	1	05-Sep-93	1115	Unid. Oriole	27° 01.32	94° 09.68	2
04-Sep-93	0724 Unid. Duck	26° 19.22	93° 29.75	8	05-Sep-93	1215	<i>Anas discors</i>		94° 00.00	11
04-Sep-93	0725 Unid. Duck	26° 19.96	93° 29.71	10	05-Sep-93	1457	<i>Sterna hirundo</i>	26° 39.33	94° 09.93	1
04-Sep-93	0728 Unid. Heron	26° 20.37	93° 29.70	1	05-Sep-93	1538	<i>Puffinus lherminieri</i>	26° 34.30	94° 09.98	1
04-Sep-93	0742 <i>Puffinus sp.</i>	26° 21.94	93° 29.65	1	05-Sep-93	1538	<i>Sterna sp. (Lg. dark-bk)</i>	26° 34.30	94° 09.98	1
04-Sep-93	0801 Unid. Passerine	26° 24.23	93° 29.66	4	05-Sep-93	1538	<i>Wilsonia pusilla</i>	26° 34.30	94° 09.98	1
04-Sep-93	0807 Unid. Heron	26° 24.86	93° 29.73	15	05-Sep-93	1544	Unid. Passerine	26° 33.62	94° 09.98	1
04-Sep-93	0807 <i>Sterna fuscata</i>	26° 24.86	93° 29.73	5	05-Sep-93	1550	<i>Hirundo rustica</i>	26° 32.77	94° 09.98	3
04-Sep-93	0818 Unid. Passerine	26° 26.14	93° 29.89	1	05-Sep-93	1604	Unid. Passerine	26° 31.04	94° 09.95	2
04-Sep-93	0832 Unid. Heron	26° 27.79	93° 30.11	7	05-Sep-93	1609	<i>Sterna sp. (Lg. dark-bk)</i>	26° 30.36	94° 09.93	1
04-Sep-93	0832 <i>Egretta caerulea</i>	26° 27.79	93° 30.11	2	05-Sep-93	1612	<i>Sterna antillarum</i>	26° 30.04	94° 09.92	2
04-Sep-93	0838 Unid. Heron	26° 28.54	93° 30.14	2	05-Sep-93	1637	<i>Puffinus sp.</i>	26° 26.85	94° 09.90	1
04-Sep-93	0854 <i>Sula dactylatra</i>	26° 30.46	93° 30.24	1	05-Sep-93	1703	Unid. Passerine	26° 23.60	94° 09.91	1
04-Sep-93	0900 <i>Sterna anaethetus</i>	26° 31.07	93° 30.27	1	05-Sep-93	1715	<i>Hirundo rustica</i>	26° 22.10	94° 09.79	1
04-Sep-93	0903 Unid. Duck	26° 31.45	93° 30.29	14	05-Sep-93	1720	<i>Puffinus sp.</i>	26° 21.44	94° 09.79	1
04-Sep-93	0908 Unid. Heron	26° 32.05	93° 30.33	3	05-Sep-93	1737	Unid. Passerine	26° 19.26	94° 09.77	4
04-Sep-93	0915 <i>Casmerodius albus</i>	26° 32.65	93° 30.37	3	05-Sep-93	1754	<i>Puffinus lherminieri</i>	26° 17.19	94° 09.80	6
04-Sep-93	0926 <i>Anas discors</i>	26° 34.14	93° 30.47	10	05-Sep-93	1754	Unid. Seabird	26° 17.19	94° 09.80	1
04-Sep-93	0936 Unid. Heron (4 white)	26° 35.25	93° 30.48	4	06-Sep-93	0725	Unid. Egret	27° 27.69	94° 50.09	3

Cruise 06 Bird Data

Date	Time	Species	Latitude	Longitude	Obs.
06-Sep-93	0801	Unid. Passerine	27° 32.12	94° 50.10	1
06-Sep-93	0843	Unid. Heron (2dk,10 white)	27° 37.30	94° 50.12	12
06-Sep-93	0850	Unid. Passerine	27° 38.36	94° 50.12	1
06-Sep-93	0910	<i>Egretta caerulea</i>	27° 40.77	94° 50.08	3
06-Sep-93	0927	<i>Hirundo rustica</i>	27° 42.23	94° 50.01	1
06-Sep-93	0942	<i>Egretta caerulea</i>	27° 44.68	94° 49.92	3
06-Sep-93	0952	Unid. Passerine	27° 46.44	94° 49.86	6
06-Sep-93	1000	<i>Caprimulgus carolinensis</i>	27° 46.92	94° 49.87	1
06-Sep-93	1147	<i>Chidonias niger</i>	27° 56.60	94° 45.80	1
06-Sep-93	1147	<i>Calonectris diomedea</i>	27° 57.60	94° 45.80	1

Total Bird Sightings : 328

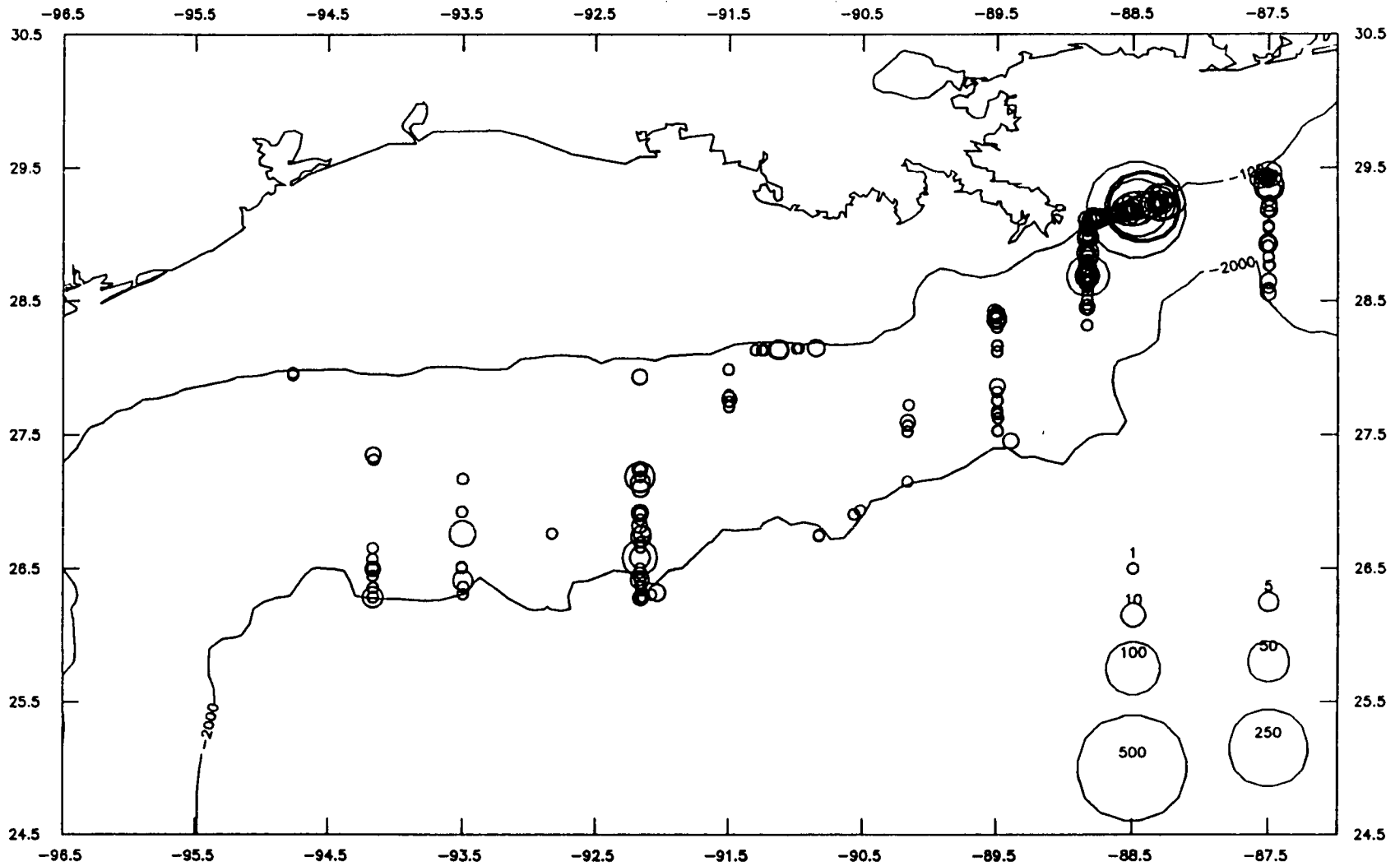
GulfCet 06 (8/28 - 9/5/93)



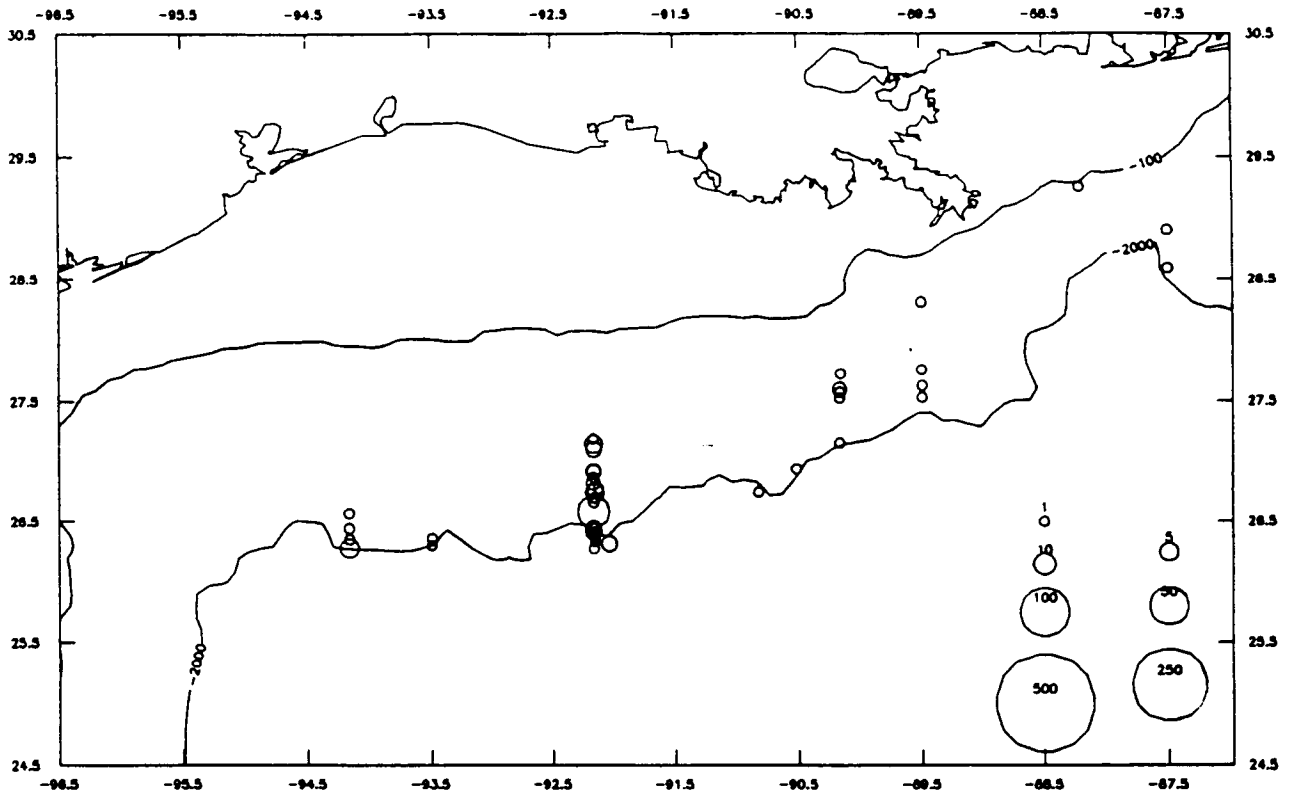
TOTAL SEABIRD SIGHTINGS: 240

GulfCet 06: 8/28/93-9/5/93

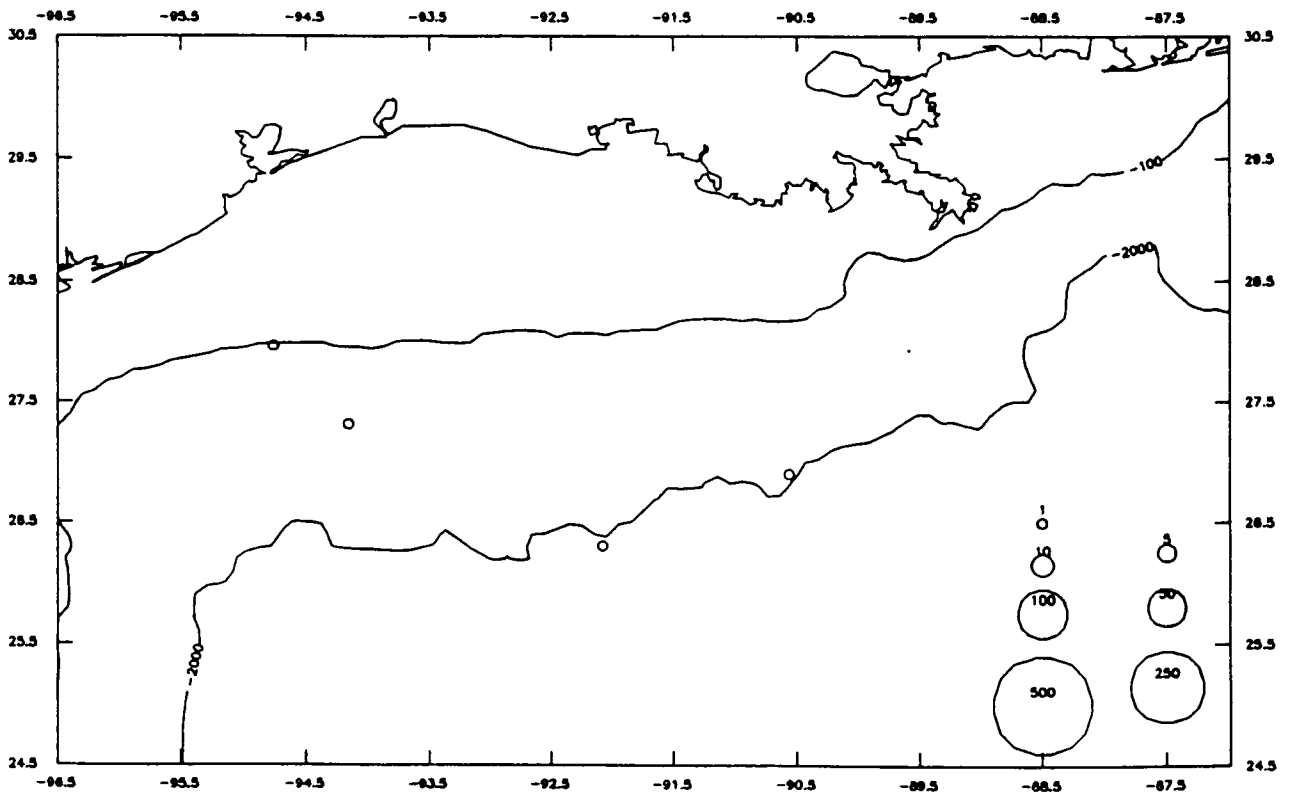
139



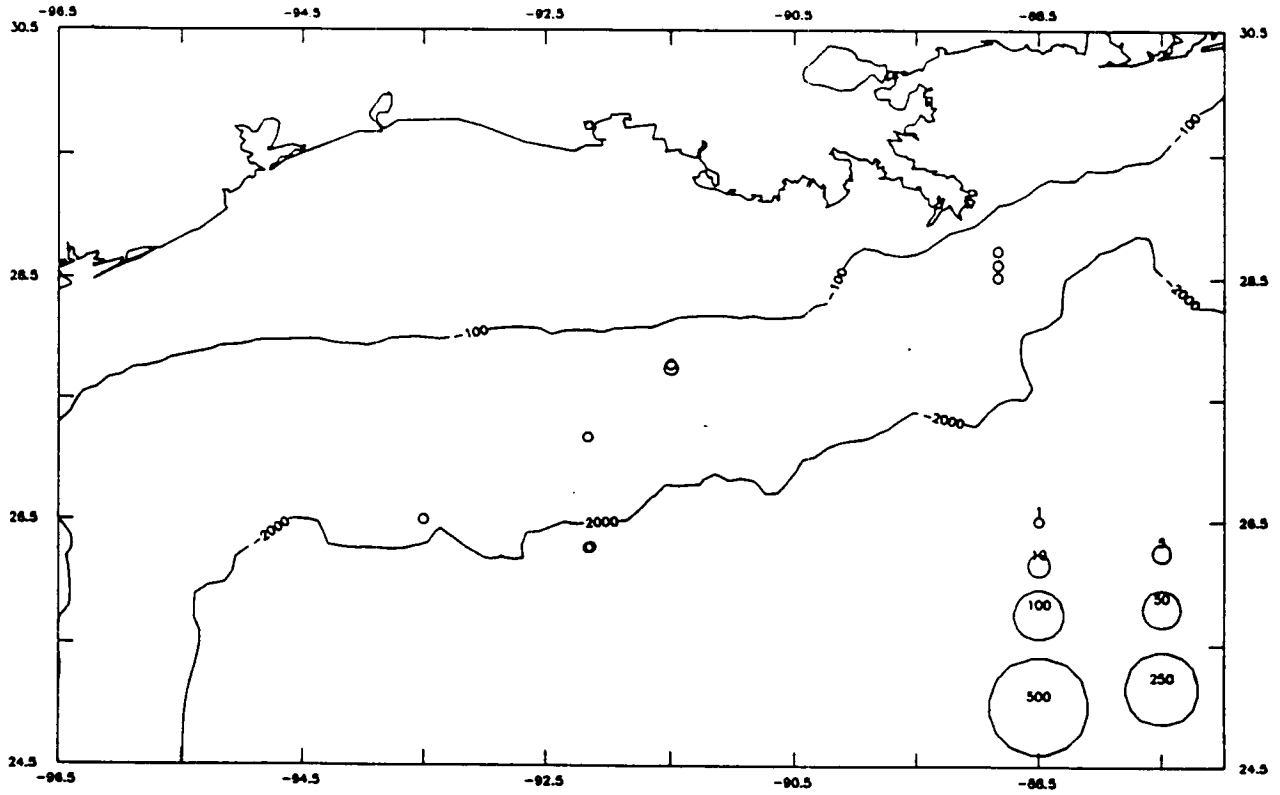
Puffinus lhermineri and UNID *Puffinus* spp. Sightings: 42



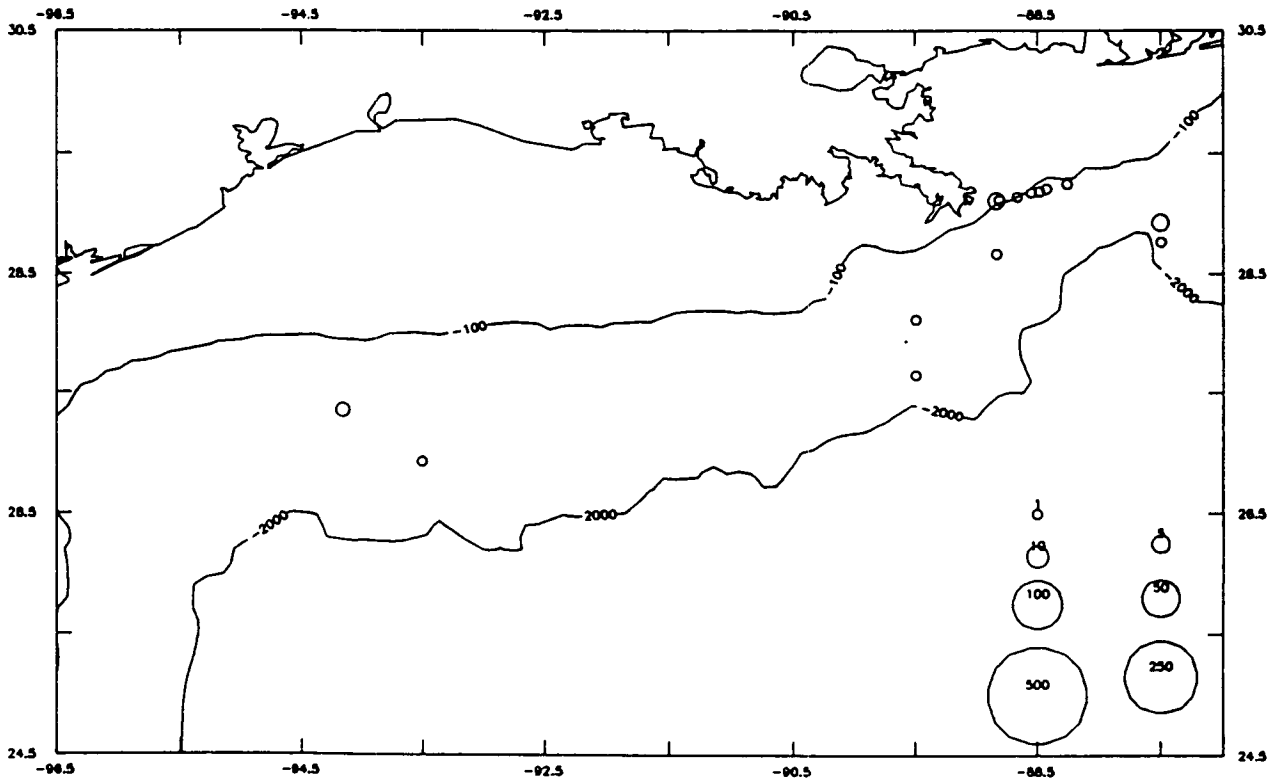
Calonectris diomedea and UNID Large Shearwater sp. Sightings: 4



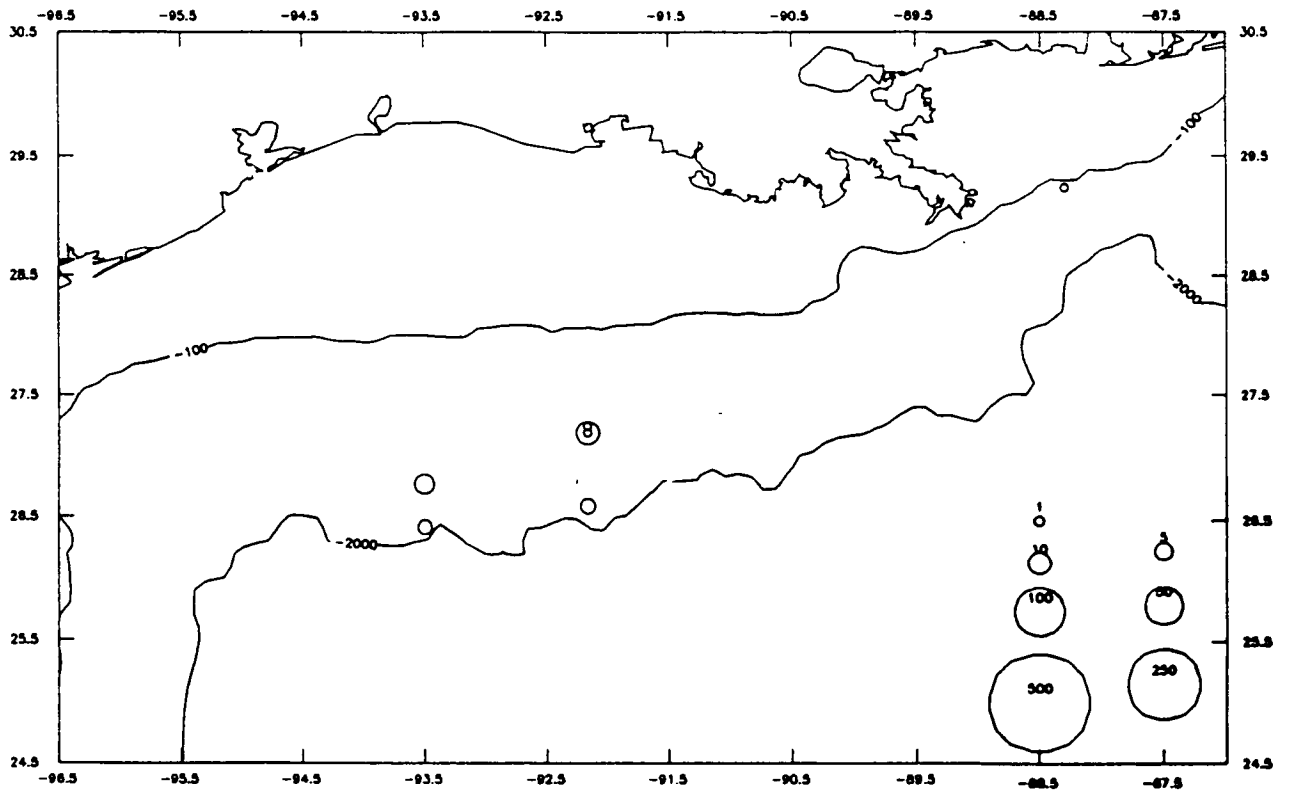
Sula dactylatra Sightings: 9



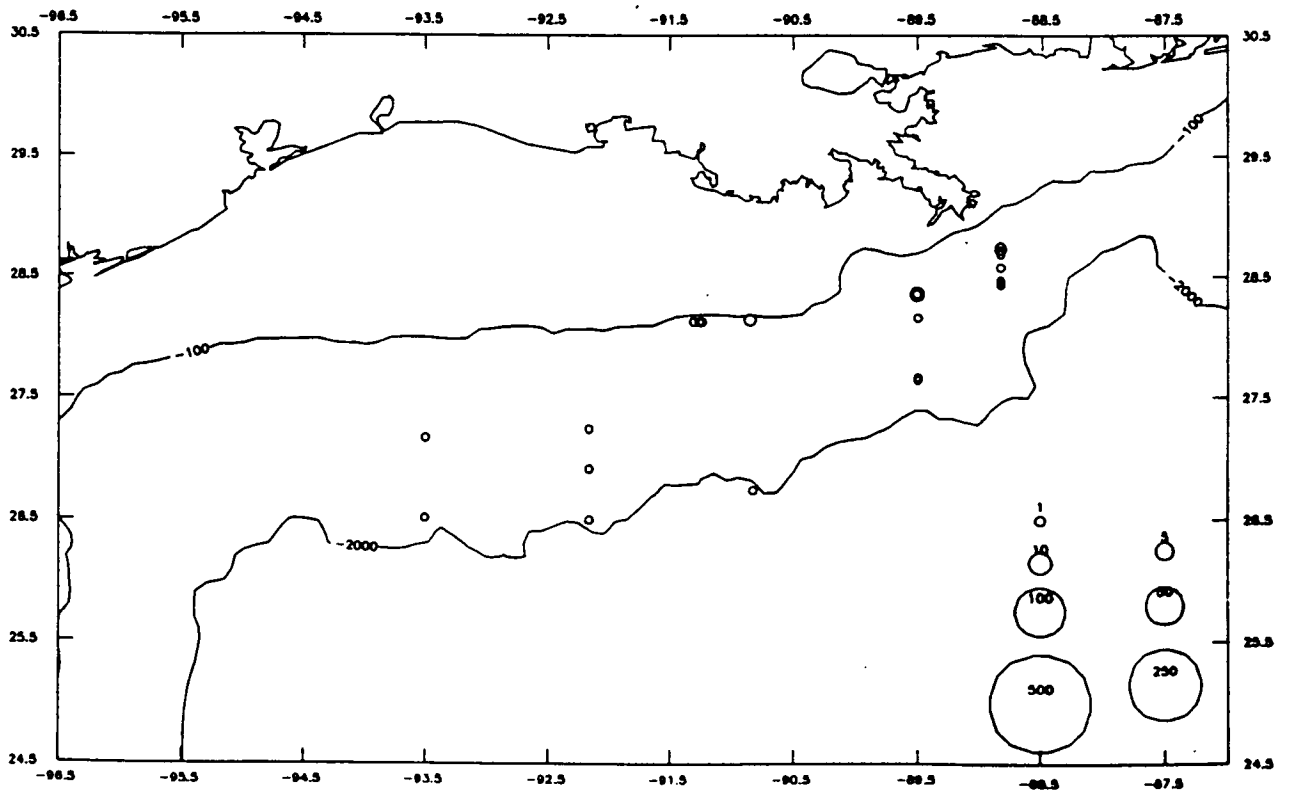
Fregata magnificens Sightings: 15



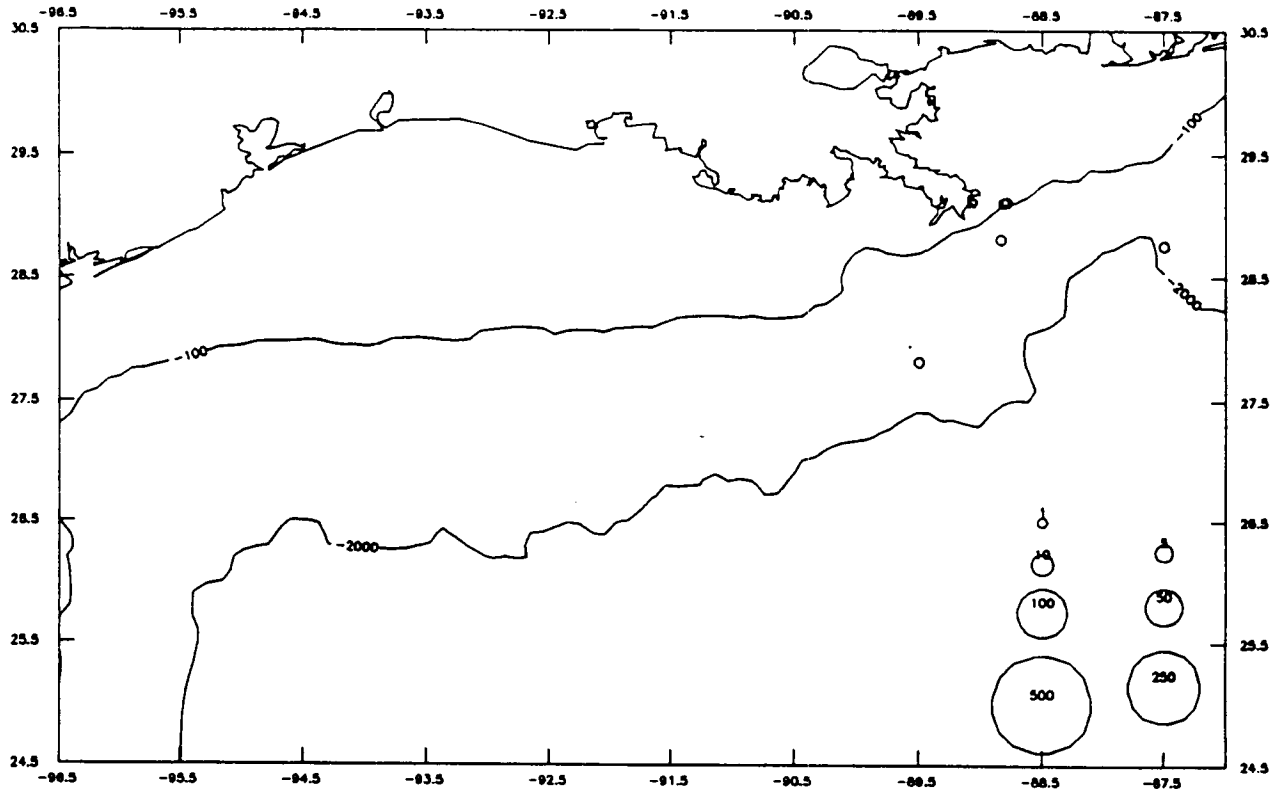
Sterna fuscata Sightings: 8



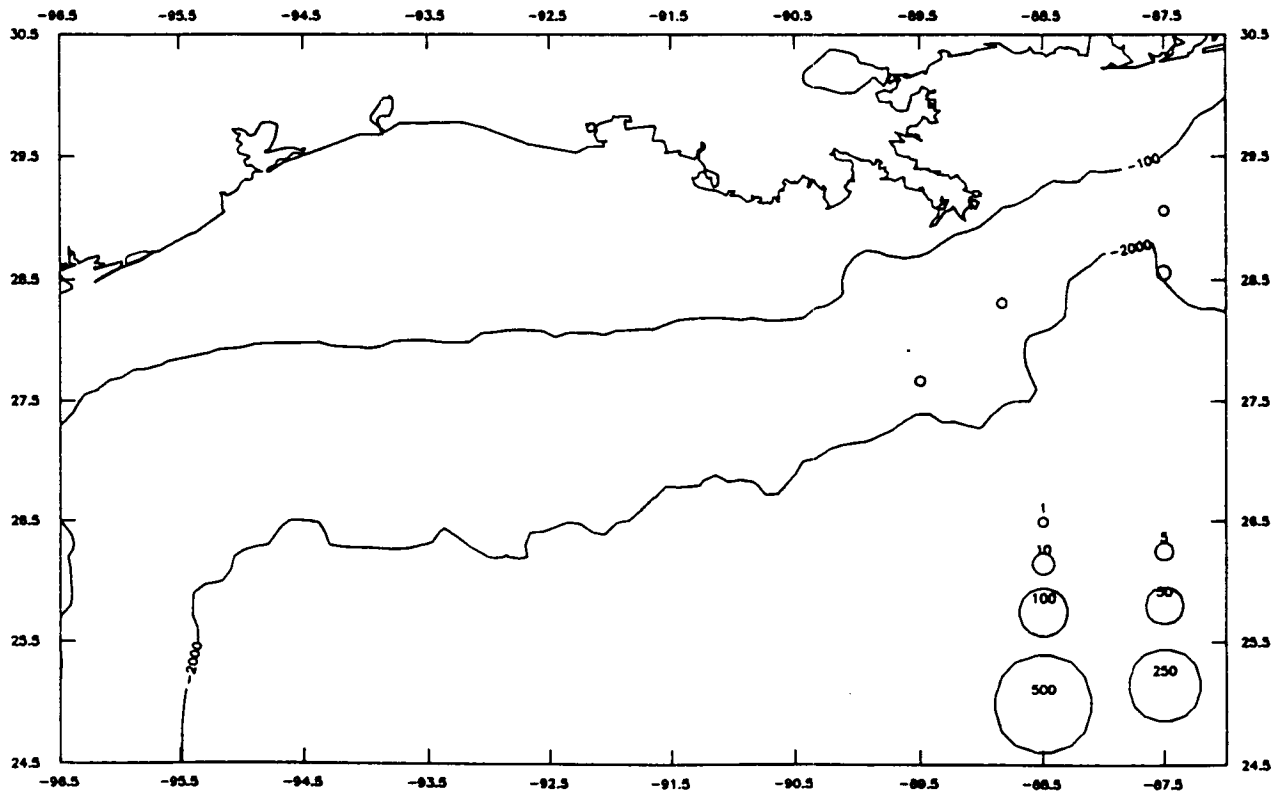
Sterna anaethetus Sightings: 25



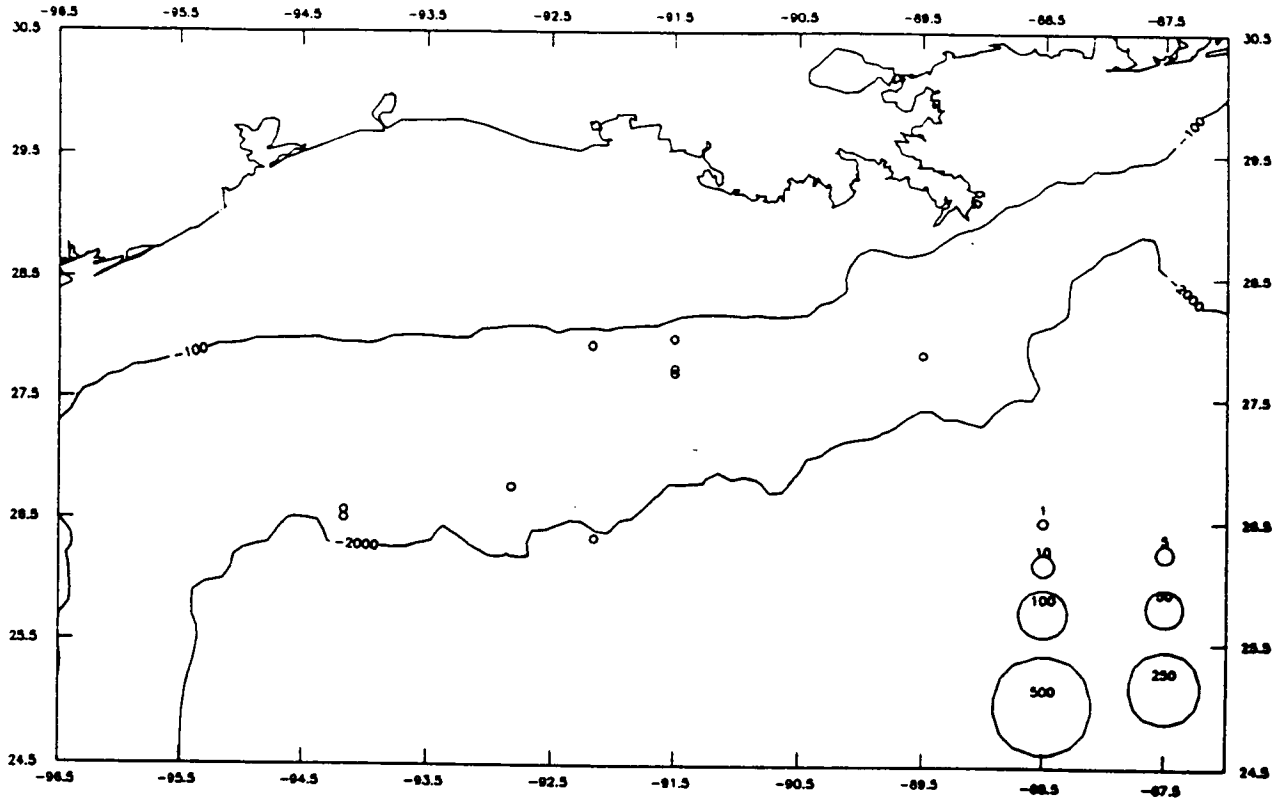
Larus atricilla Sightings: 5



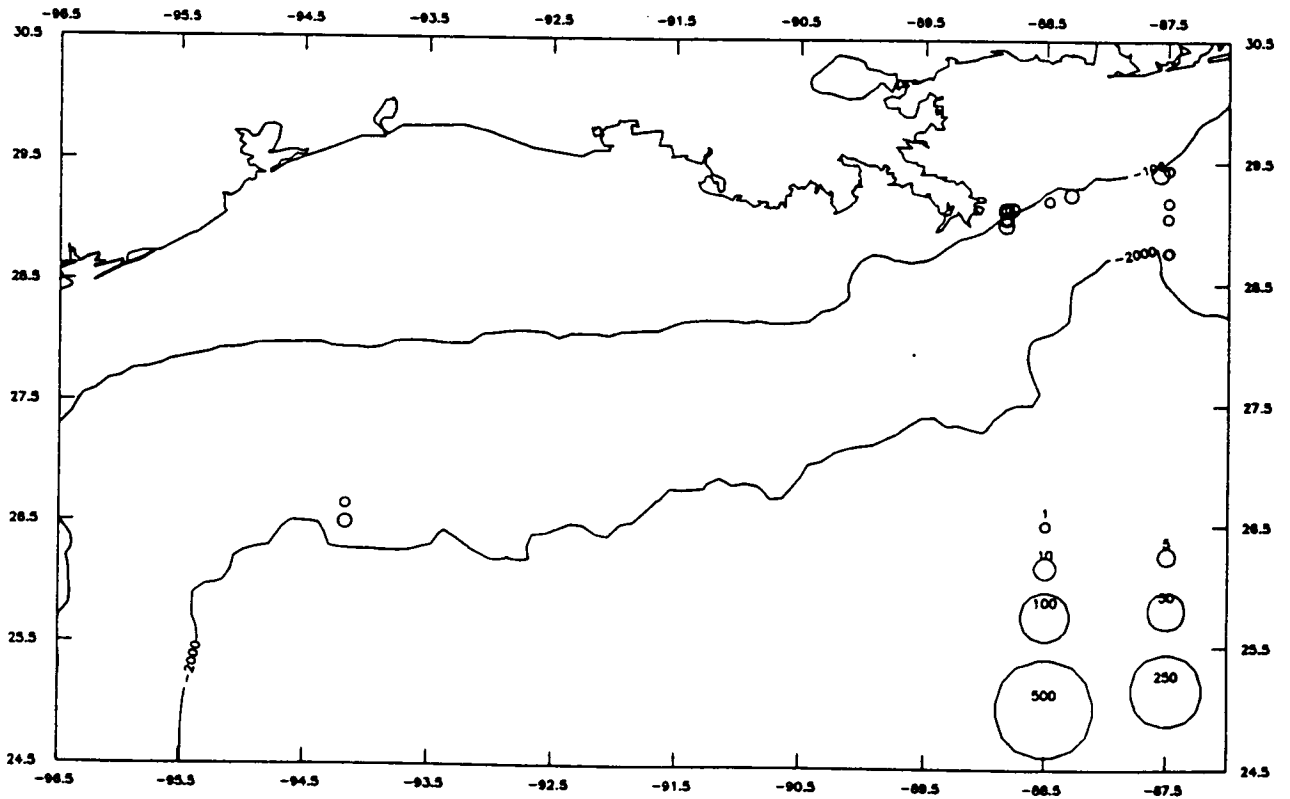
Storm-petrel spp. Sightings: 4



UNID *Sterna* spp. (Dark-backed) Sightings: 9

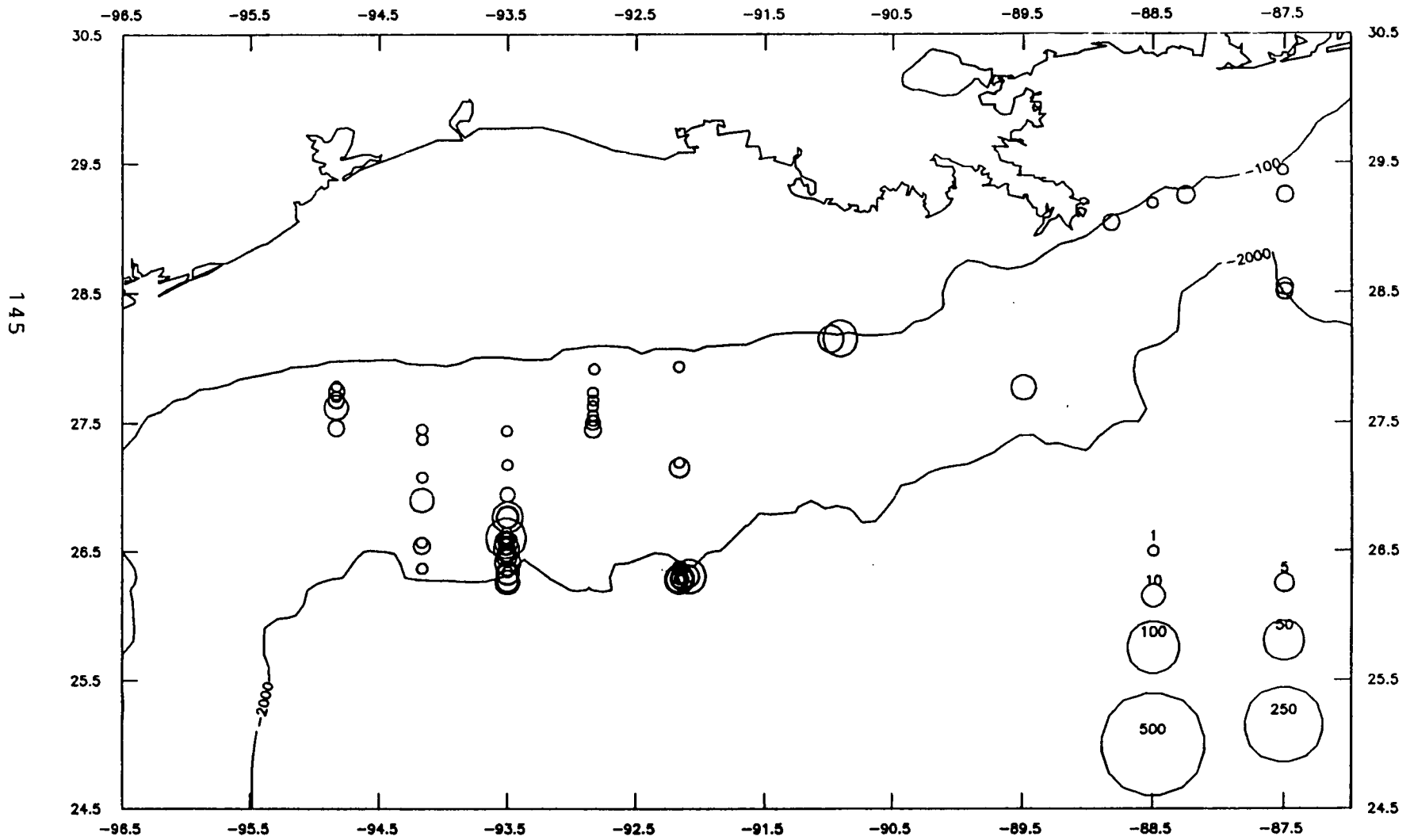


Sterna spp. (White-backed) Sightings: 17

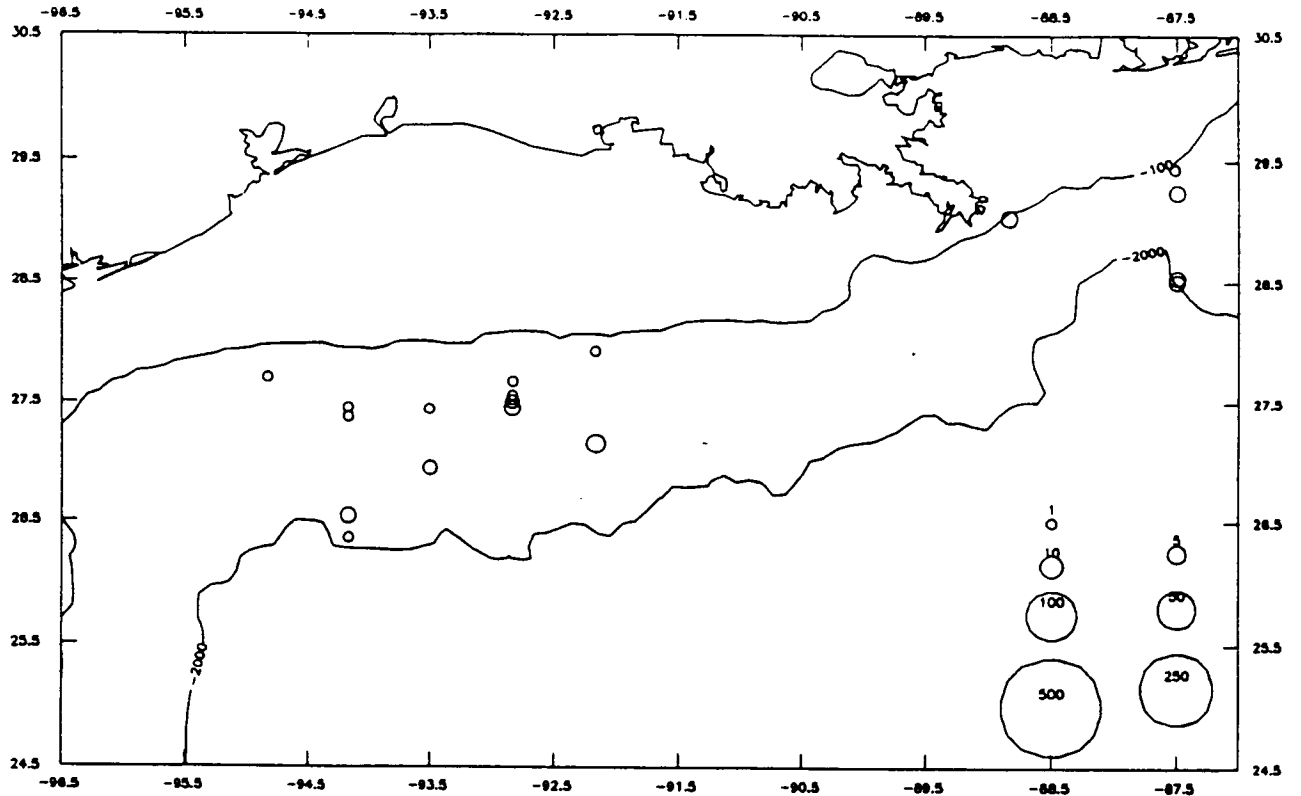


TOTAL NON-SEABIRD SIGHTINGS: 73

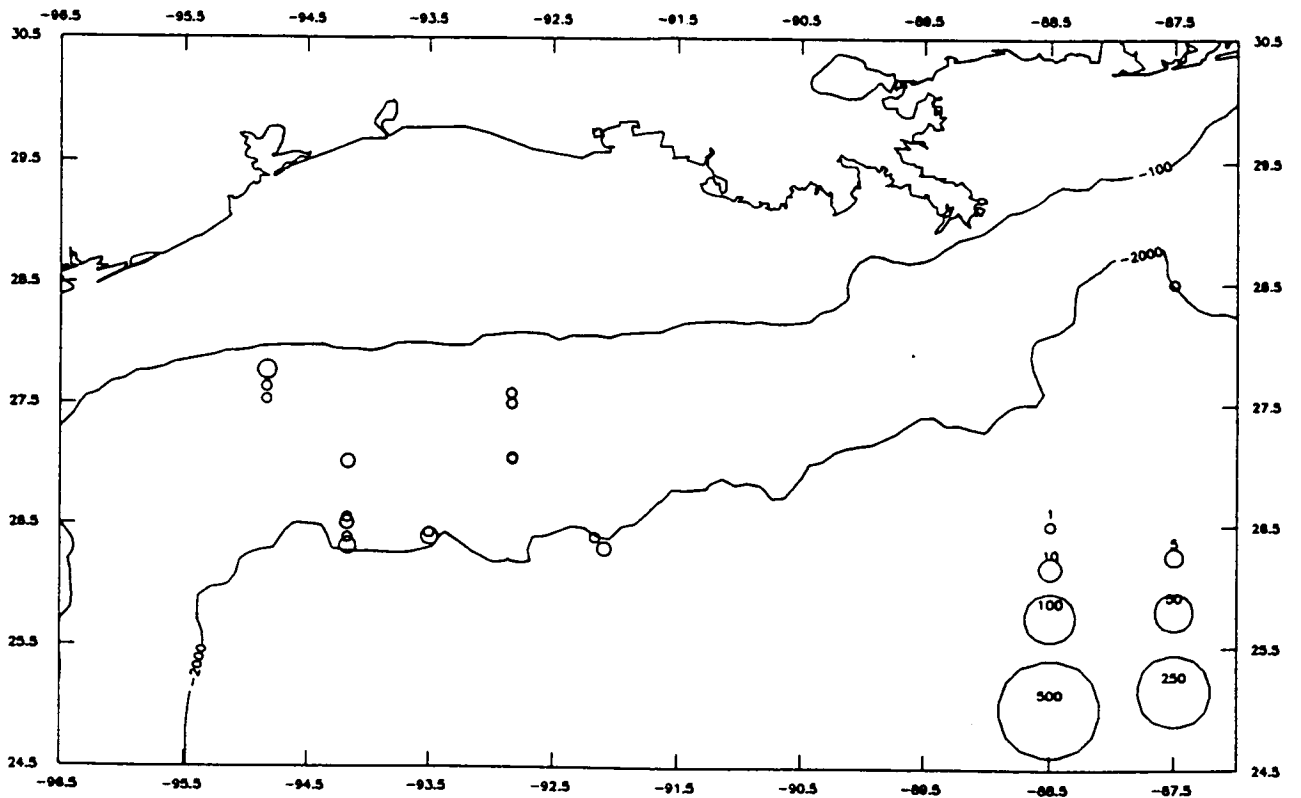
GulfCet 06: 8/28/93- 6/5/93



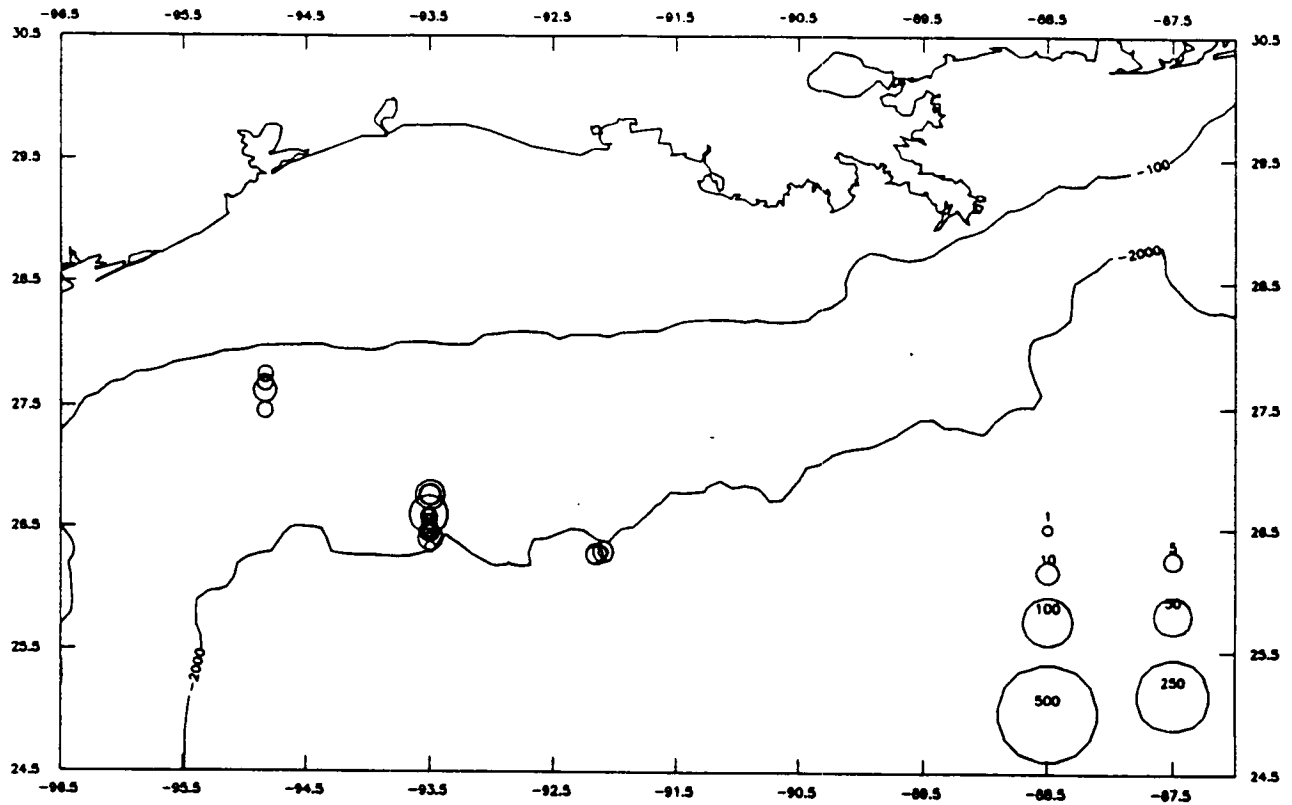
Swallow spp. Sightings: 19



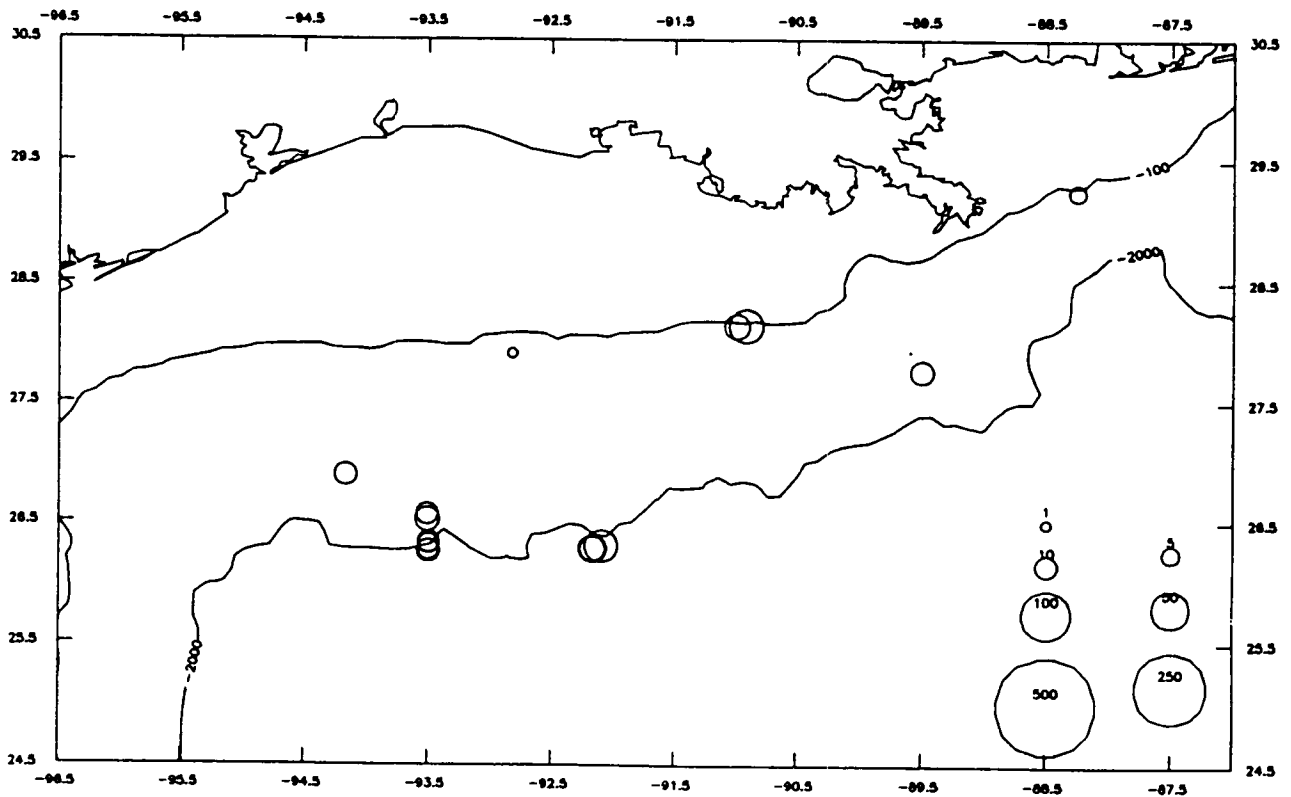
Passerine spp. Sightings: 17



Heron/Egret spp. Sightings: 23



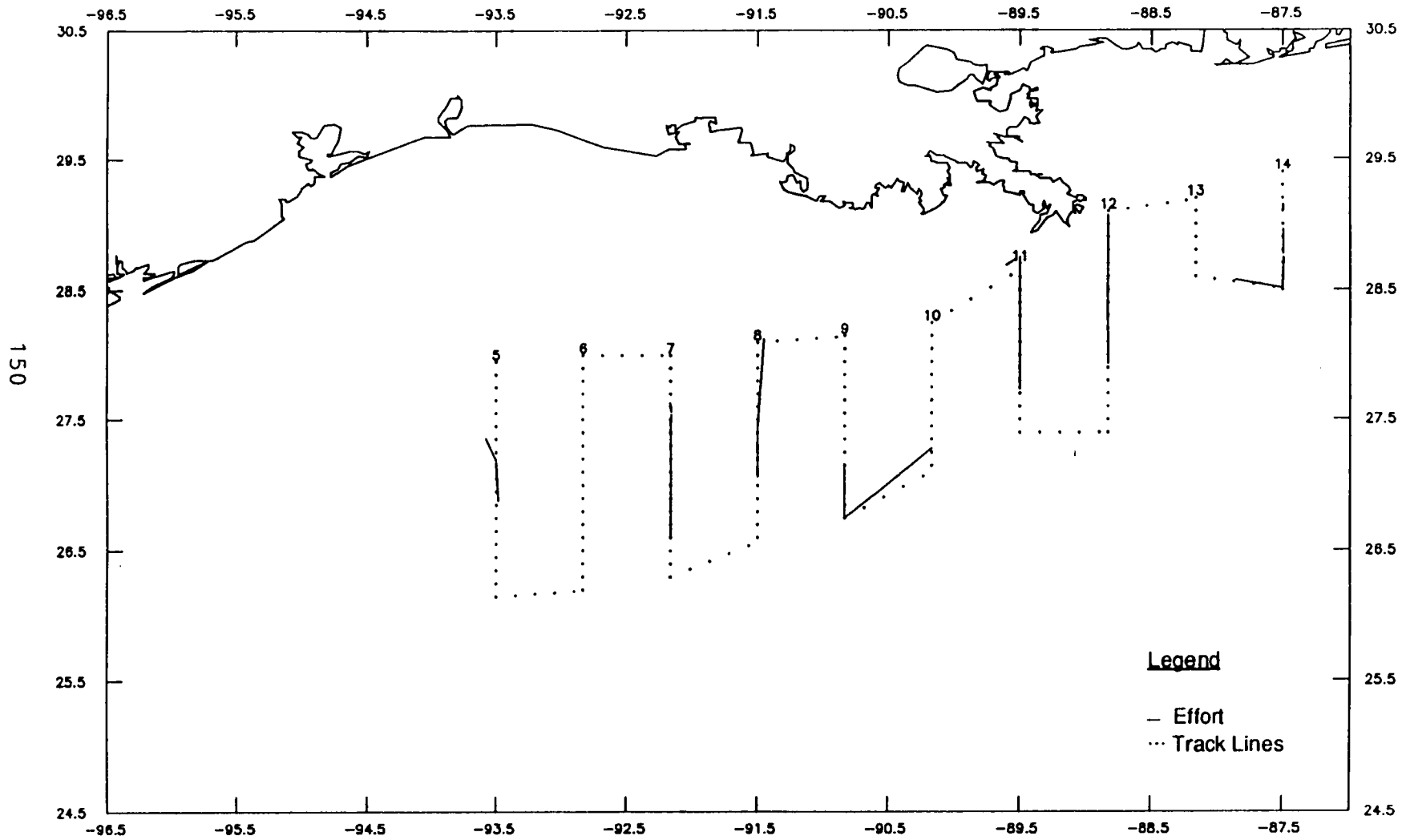
Duck spp. Sightings: 15



GULFCET CRUISE 07:

- MAP OF MARINE MAMMAL VISUAL EFFORT AND TRACK LINES SURVEYED
- MARINE MAMMAL VISUAL DATA
- DISTRIBUTION MAP OF TOTAL MARINE MAMMAL SIGHTINGS
- INDIVIDUAL MARINE MAMMAL SPECIES DISTRIBUTION MAPS

Visual Effort & Track Lines Surveyed GulfCet Cruise 07



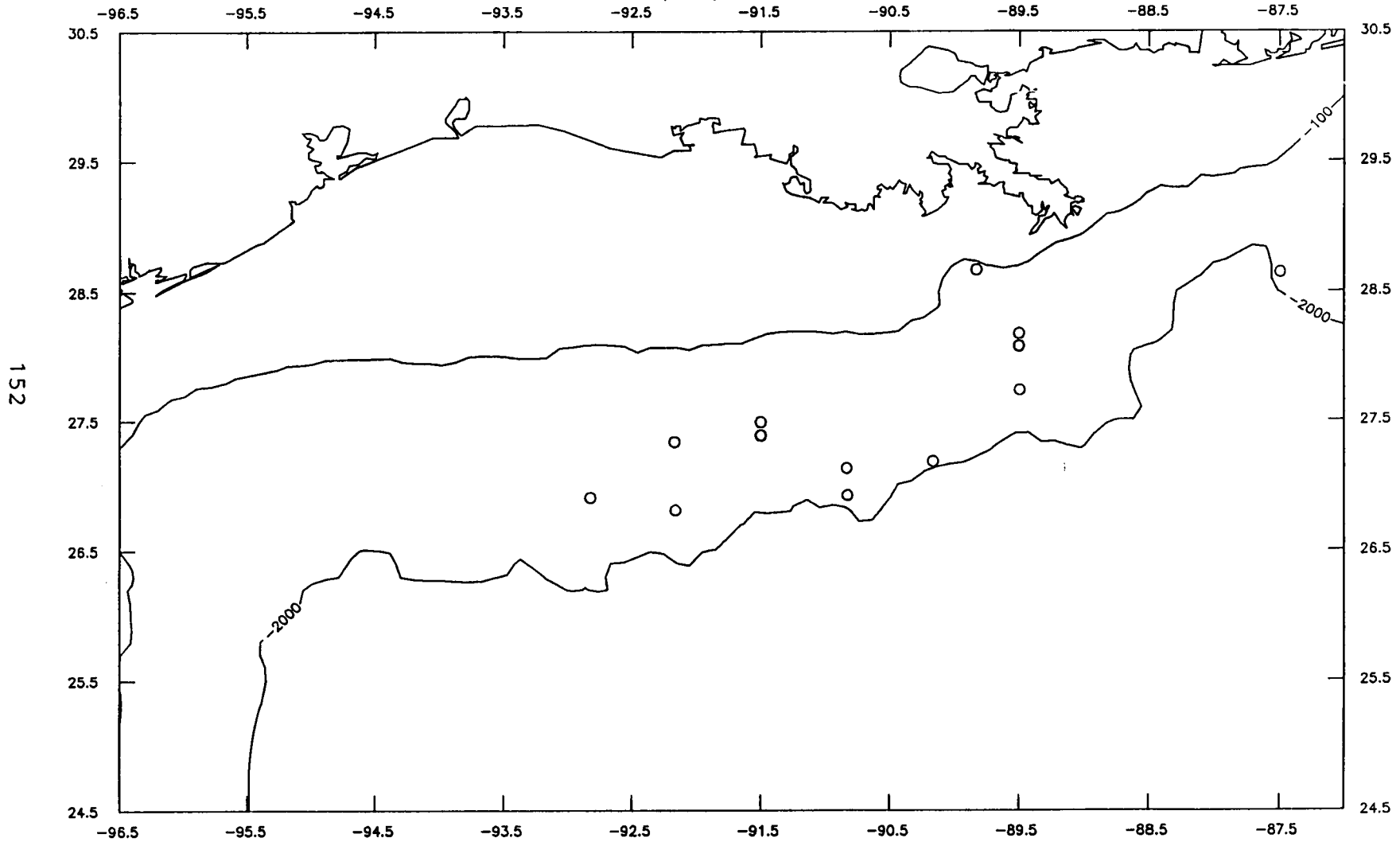
Cruise 07 Marine Mammal Visual Data

151

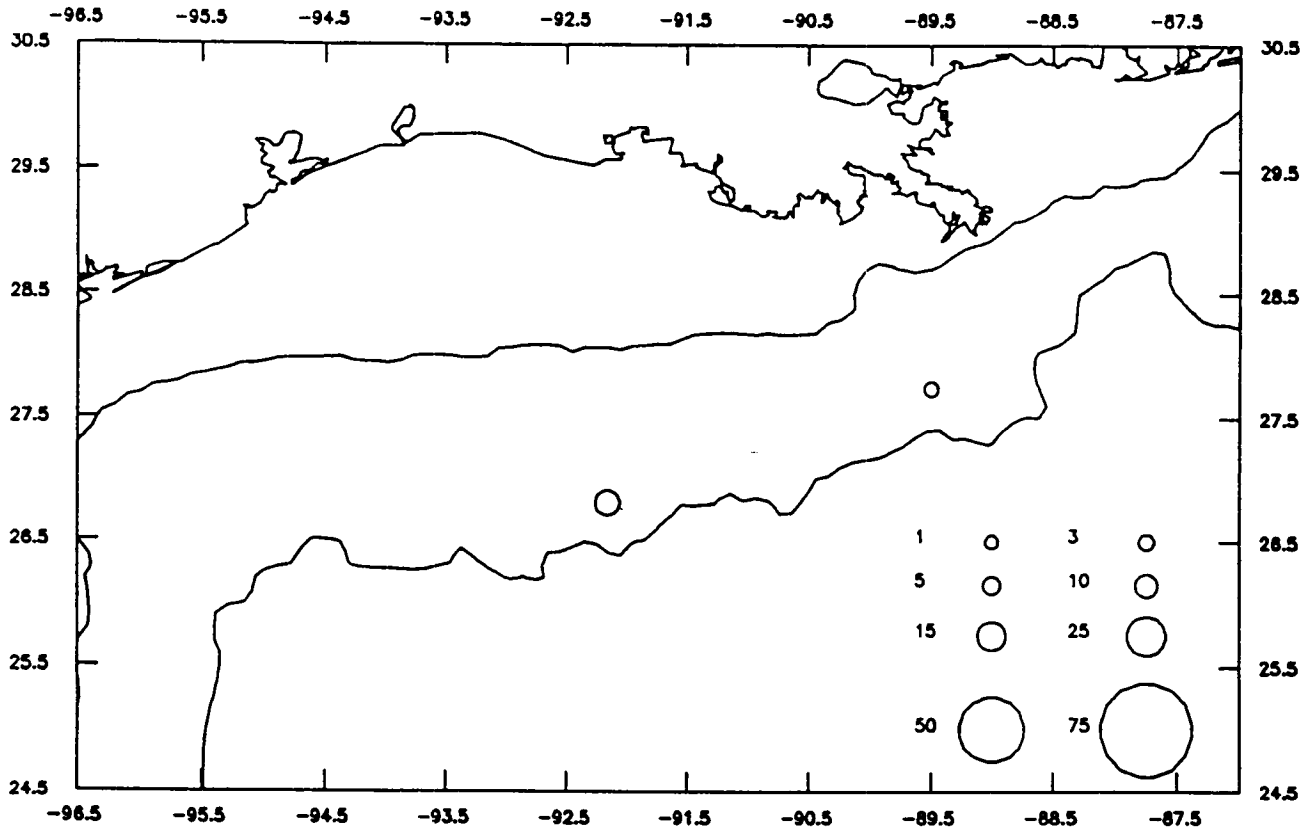
Date	Time	Species	Latitude	Longitude	Best	High	Low
12/5/93	1230	<i>Stenella sp.</i>	28° 39'	87° 30'	30	40	15
12/7/93	0637	<i>Globicephala macrorhynchus</i>	27° 44'	89° 30'	2	3	1
12/7/93	0927	<i>Physeter macrocephalus</i>	28° 05'	89° 30'	6	8	4
					4	6	4
					4	6	3
					7	10	6
					10	12	2
12/7/93	1111	<i>Physeter macrocephalus</i>	28° 11'	89° 30'	7	9	5
12/7/93	1730	<i>Tursiops truncatus</i>	28° 40'	89° 50'	10	12	9
12/8/93	0717	<i>Physeter macrocephalus</i>	27° 11'	90° 10'	3	3	3
12/8/93	1514	<i>Kogia or Ziphius sp.</i>	26° 55'	90° 50'	1	1	1
12/8/93	1700	Unid. dolphin	27° 08'	90° 50'	1	1	1
12/9/93	1243	Unid. small whale	27° 29'	91° 30'	1	1	1
12/9/93	1422	<i>Stenella attenuata</i>	27° 23'	91° 30'	7	7	6
					7	7	6
					7	8	5
12/10/93	0844	<i>Globicephala macrorhynchus</i>	26° 49'	92° 10'	10	12	6
					24	34	20
					14	20	12
					10	14	8
					14	20	10
					7	7	6
					6	10	12
12/10/93	1325	<i>Stenella sp.</i>	27° 20'	92° 10'	6	8	4
					4	5	4
12/11/93	1125	<i>Stenella attenuata</i>	26° 54'	92° 50'	18	20	15
					25	30	13
					28	34	24
					30	40	25

Total Marine Mammal Sightings : 13

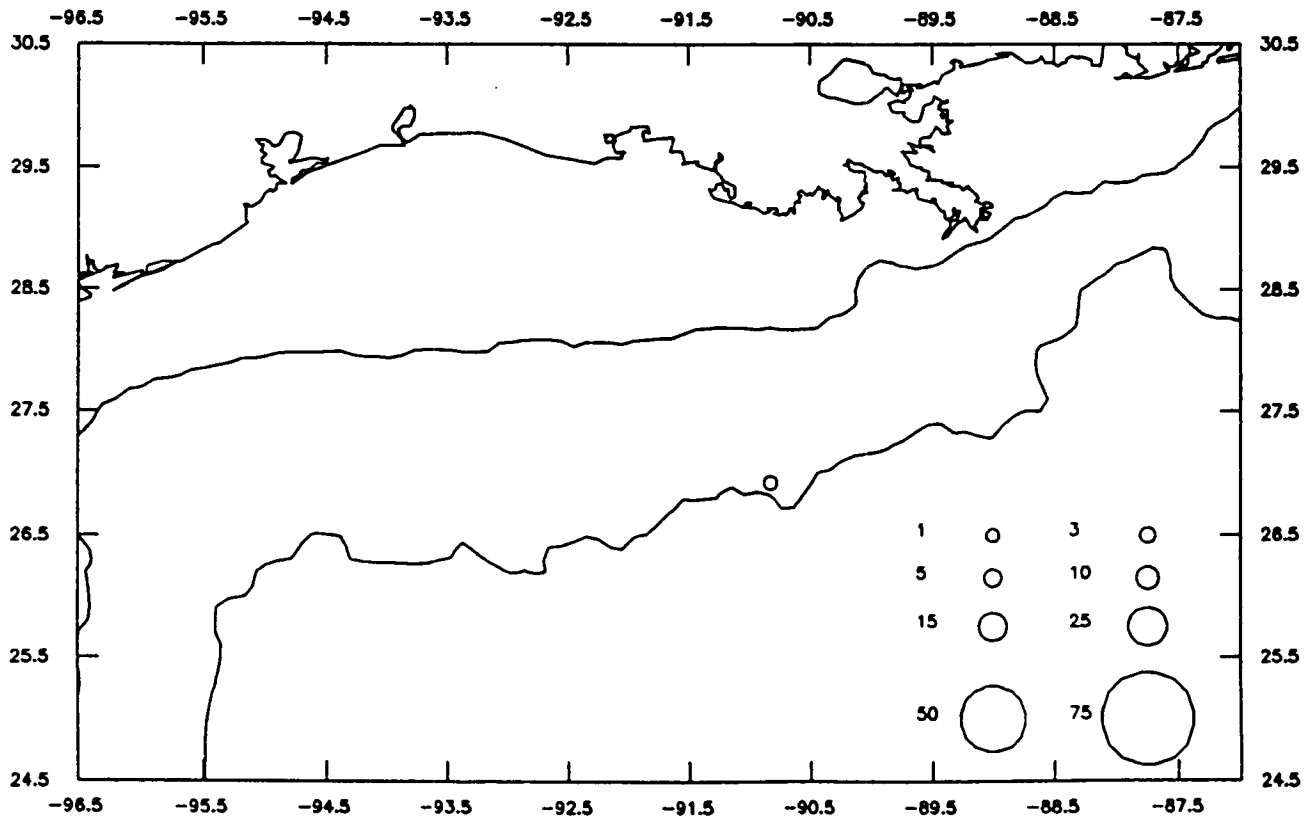
GulfCet 07 (12/3-14/1993)



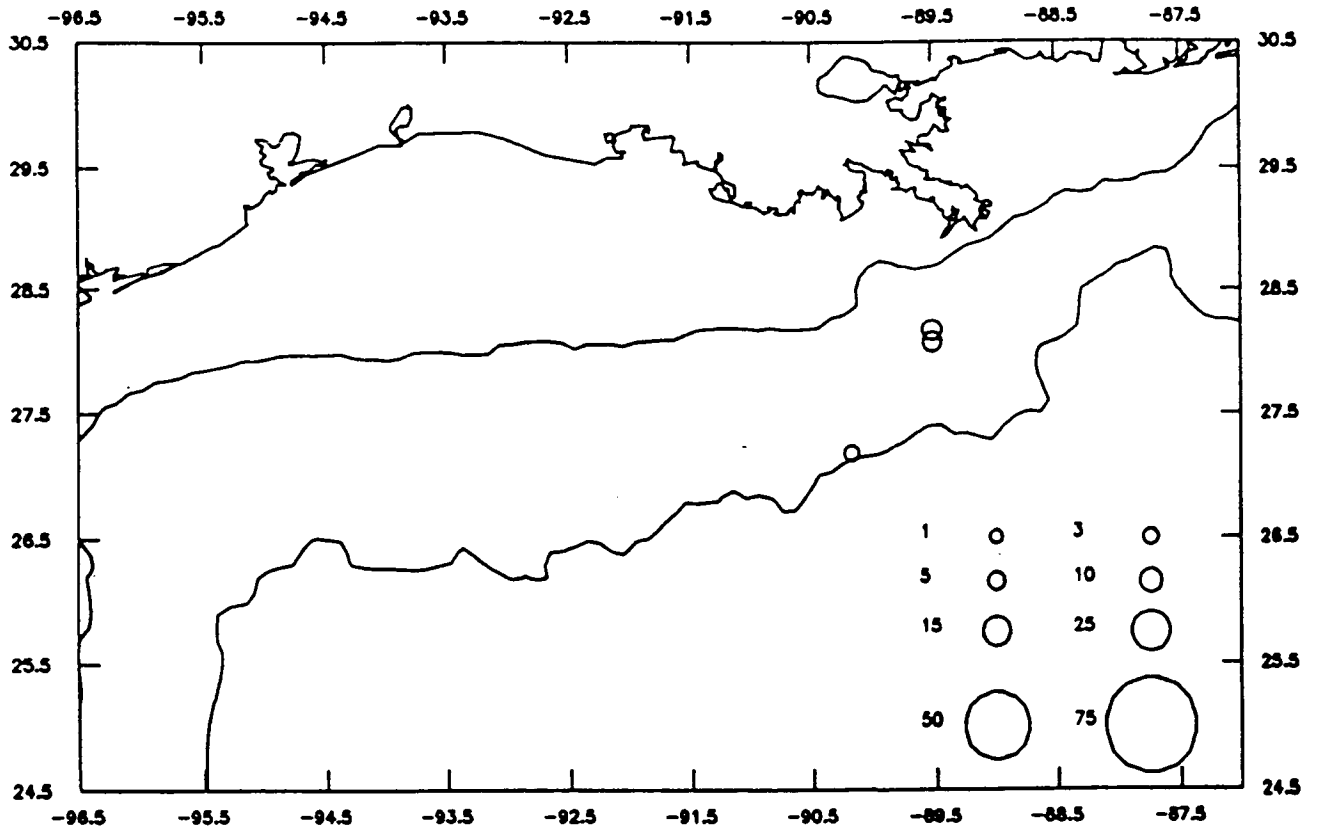
Globicephala macrorhynchus Sightings: 2



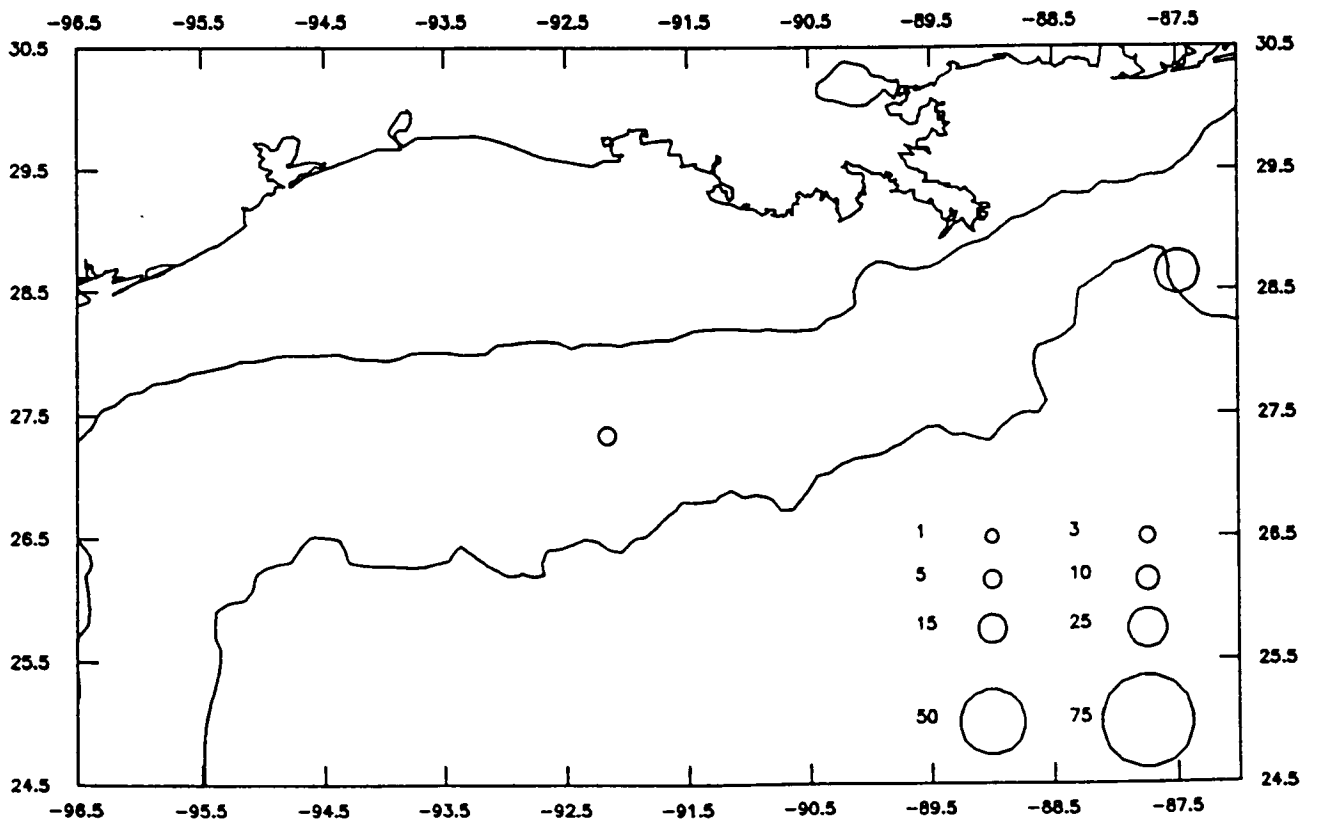
Kogia or *Ziphius* sp. Sighting: 1



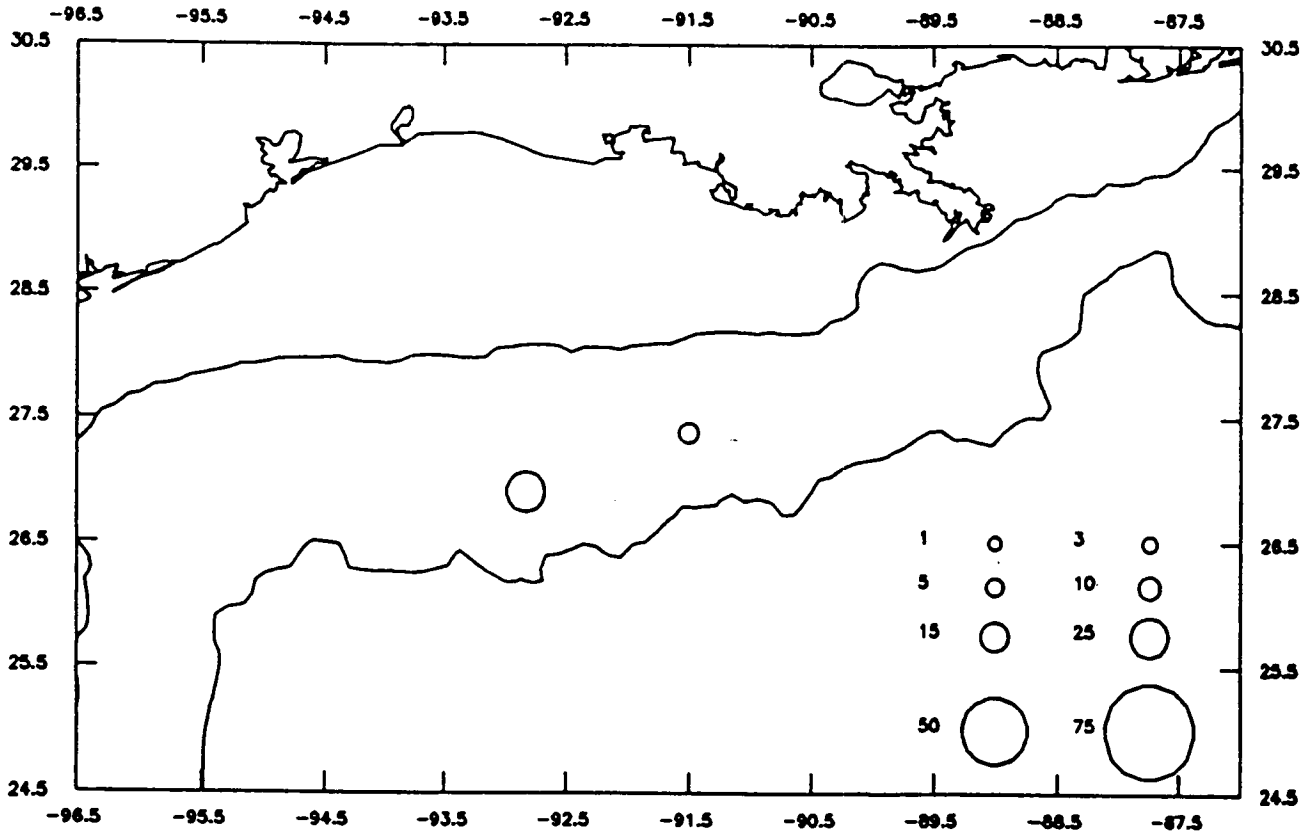
Physeter macrocephalus Sightings: 3



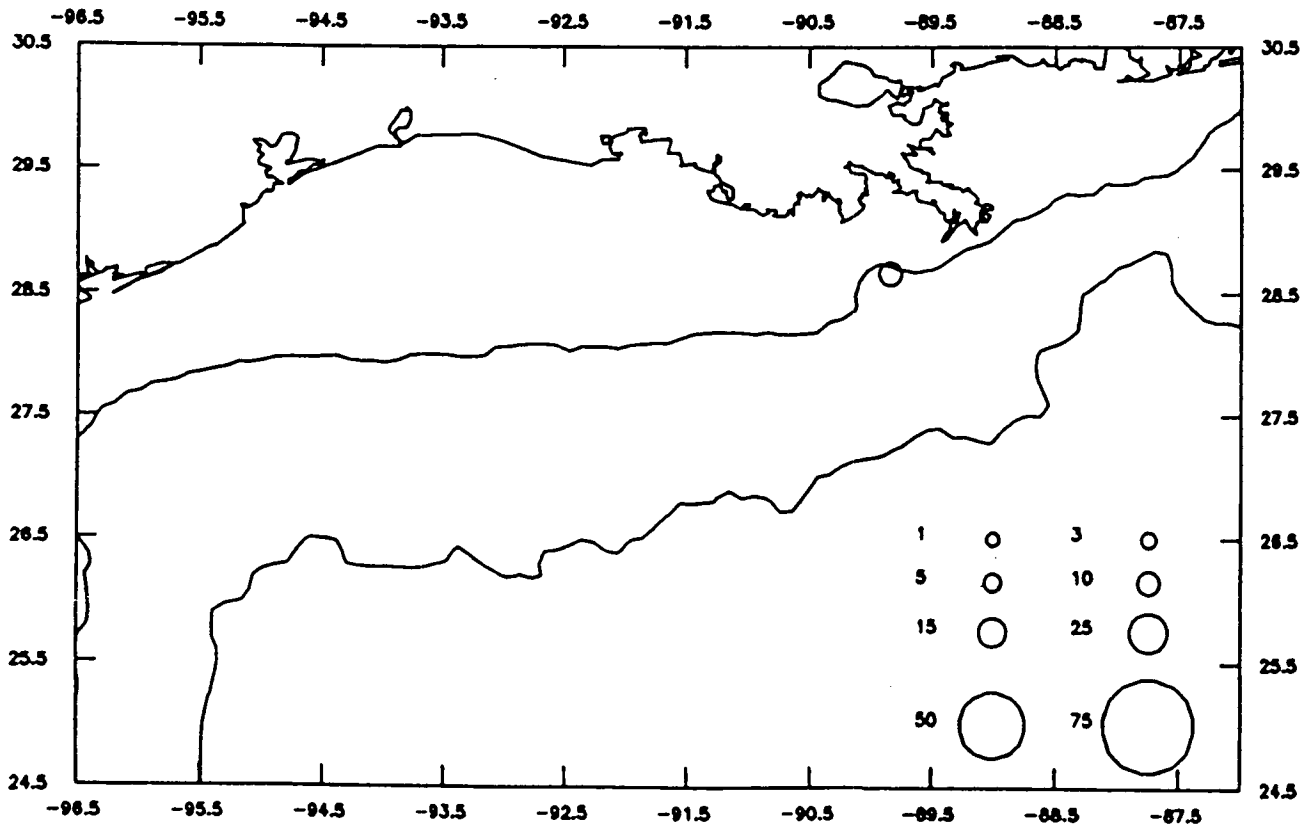
Stenella sp. Sightings: 2



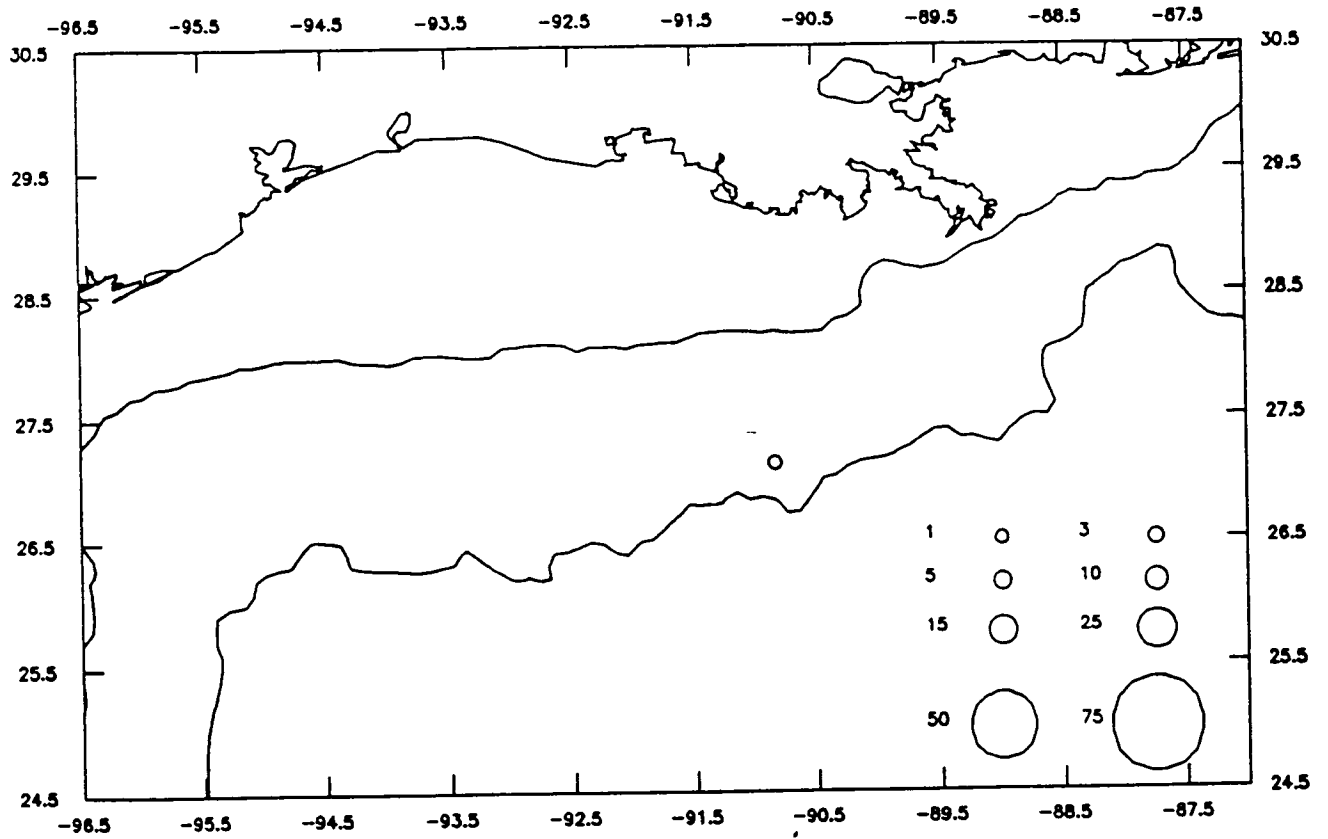
Stenella attenuata Sightings: 2



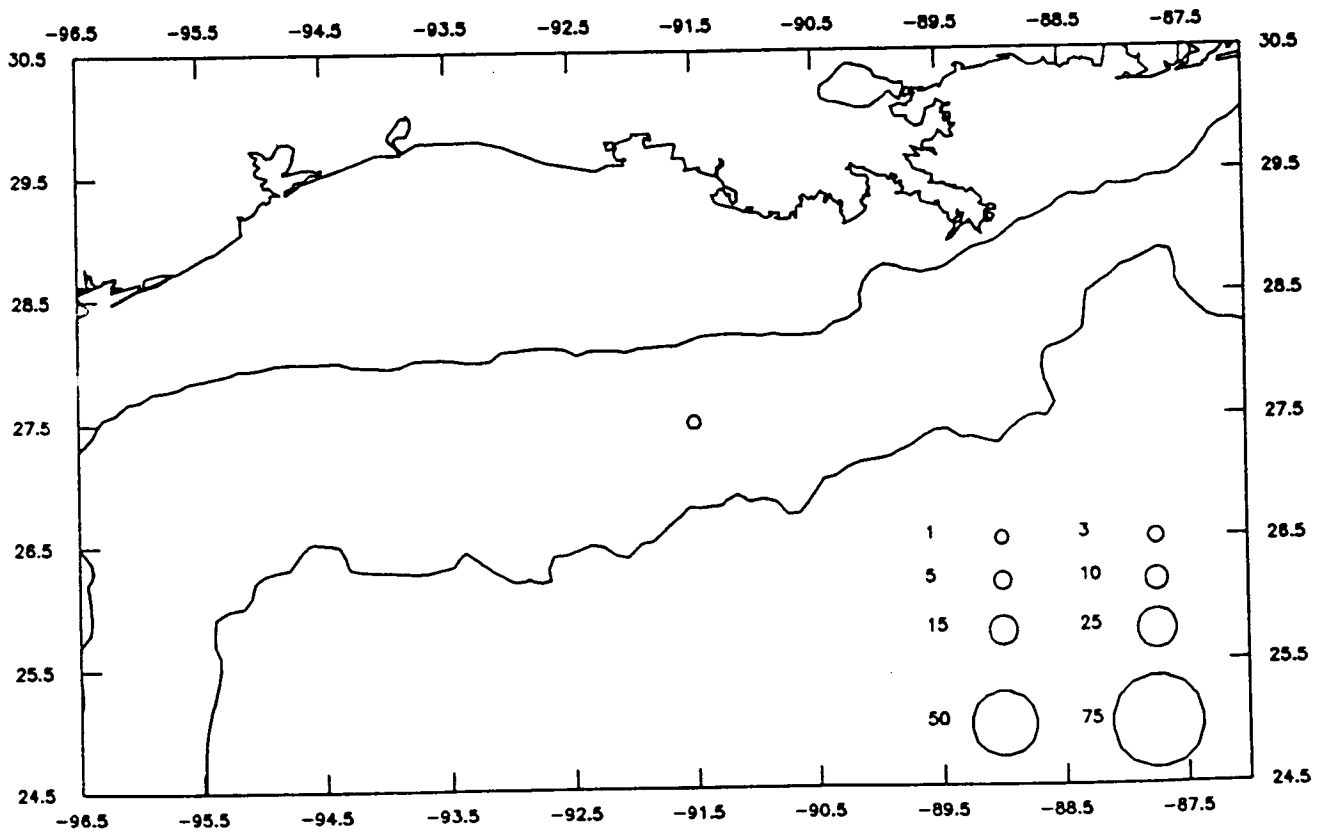
Tursiops truncatus Sighting: 1



UNID Dolphin Sighting: 1



UNID Small Whale Sighting: 1



APPENDIX

Marine Mammal Species List

<i>Tursiops truncatus</i>	Bottlenose Dolphin
<i>Stenella frontalis</i>	Atlantic Spotted Dolphin
<i>Grampus griseus</i>	Risso's Dolphin
<i>Physeter macrocephalus</i>	Sperm Whale
<i>Stenella clymene</i>	Clymene Dolphin
<i>Stenella attenuata</i>	Pantropical Spotted Dolphin
<i>Stenella longirostris</i>	Spinner Dolphin
<i>Stenella coeruleoalba</i>	Striped Dolphin
<i>Mesoplodon</i> sp.	Beaked Whale sp.
<i>Peponocephala electra</i>	Melon-headed Whale
<i>Pseudorca crassidens</i>	False Killer Whale
<i>Stenella bredanensis</i>	Rough-toothed Dolphin
<i>Feresa attenuata</i>	Pygmy Killer Whale
<i>Globicephala macrorhynchus</i>	Short-finned Pilot Whale
<i>Kogia</i> sp.	Pygmy or Dwarf Sperm Whale
<i>Ziphius cavirostris</i>	Cuvier's Beaked Whale
<i>Lagenodelphis hosei</i>	Fraser's Dolphin
<i>Kogia simus</i>	Dwarf Sperm Whale
<i>Kogia breviceps</i>	Pygmy Sperm Whale

Bird Species List

<i>Calonectris diomedea</i>	Cory's Shearwater
<i>Puffinus lherminieri</i>	Audubon's Shearwater
<i>Puffinus</i> sp.	UNID Small Shearwater
<i>Pterodroma</i> sp.	Petrel sp.
<i>Oceanodroma castro</i>	Band-rumped Storm-petrel
<i>Oceanites oceanicus</i>	Wilson's Storm-petrel
<i>Fregatta magnificens</i>	Magnificent Frigatebird
<i>Fregatta</i> sp.	UNID Frigatebird
<i>Phaethon lepturus</i>	White-tailed Tropicbird
<i>Sula bassanus</i>	Northern Gannet
<i>Sula dactyltra</i>	Masked Booby
<i>Sulid</i> sp.	Boobies or Gannets
<i>Nycticorax violaceus</i>	Yellow-crowned Night Heron
<i>Egretta tricolor</i>	Tricolored Heron
<i>Egretta caerulea</i>	Little Blue Heron
<i>Bubulcus ibis</i>	Cattle Egret
<i>Egretta thula</i>	Snowy Egret
<i>Casmerodius albus</i>	Great Egret
<i>Ardea herodias</i>	Great Blue Heron
<i>Anas discors</i>	Blue-winged Teal Duck
<i>Stercorarius pomarinus</i>	Pomarine Jaeger
<i>Stercorarius</i> sp.	Jaeger sp.
<i>Larus atricilla</i>	Laughing Gull
<i>Larus philadelphia</i>	Bonaparte's Gull
<i>Larus delawarensis</i>	Ring-billed Gull
<i>Larus argentatus</i>	Herring Gull
<i>Sterna hirundo</i>	Common Tern
<i>Sterna antillarum</i>	Least Tern
<i>Childonias niger</i>	Black Tern
<i>Sterna sandwicensis</i>	Sandwich Tern
<i>Sterna maxima</i>	Royal Tern
<i>Sterna</i> sp.	White-backed and Large Dark-backed Terns
<i>Sterna anaethetus</i>	Bridled Tern
<i>Sterna fuscata</i>	Sooty Tern
<i>Anous stolidus</i>	Brown Noddy
<i>Falco sparverius</i>	American Kestrel
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo
<i>Athene cunicularia</i>	Burrowing Owl
<i>Caprimulgus carolinensis</i>	Chuck-will's-widow
<i>Progne subis</i>	Purple Martin
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow
<i>Hirundo rustica</i>	Barn Swallow
<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Dendroica petechia</i>	Yellow Warbler
<i>Wilsonia pusilla</i>	Wilson's Warbler
<i>Seiurus motacilla</i>	Louisiana Waterthrush
<i>Icterus spurius</i>	Orchard Oriole
<i>Icterus</i> sp.	Oriole sp.
<i>Piranga olivacea</i>	Scarlet Tanager

Bird Species Groups

Seabirds

Calonectris diomedea
Puffinus lherminieri
Puffinus sp.
Pterodroma sp.
Oceanodroma castro
Oceanites oceanicus
Fregatta magnificens
Fregatta sp.
Phaethon lepturus
Sula bassanus
Sula dactyltra
Sulid sp.
Stercorarius pomarinus
Stercorarius sp.
Larus atricilla
Larus philidelphia
Larus delawarensis
Larus argentatus
Sterna hirundo
Sterna antillarum
Chilonias niger
Sterna sandvicensis
Sterna maxima
Sterna sp.
Sterna anaethetus
Sterna fuscata
Anous stolidus

Non-Seabirds

Nycticorax violaceus
Egretta tricolor
Egretta caerulea
Bubulcus ibis
Egretta thula
Casmerodius albus
Ardea herodias
Anas discors
Falco sparverius
Coccyzus americanus
Athene cunicularia
Caprimulgus carolinensis
Progne subis
Stelgidopteryx serripennis
Hirundo rustica
Mimus polyglottos
Dendroica petechia
Wilsonia pusilla
Seiurus motacilla
Icterus spurius
Icterus sp.
Piranga olivacea

Storm-petrel spp.	<i>Oceanodroma castro</i> <i>Oceanites oceanicus</i> UNID Storm-petrel
<i>Sterna</i> spp. (White-backed)	<i>Sterna hirundo</i> <i>Sterna antillarum</i> <i>Chlidonias niger</i> <i>Sterna sandvicensis</i> <i>Sterna maxima</i> <i>Sterna</i> sp. (white-backed)
Heron/Egret spp.	<i>Egretta tricolor</i> <i>Egretta caerulea</i> <i>Bubulcus ibis</i> <i>Egretta thula</i> <i>Casmerodius albus</i> <i>Ardea herodias</i> <i>Nycticorax violaceus</i> UNID Egret/Heron UNID Egret UNID Heron
Duck spp.	<i>Anas discors</i> UNID Duck UNID Small Duck
Swallow spp.	<i>Progne subis</i> <i>Stelgidopteryx serripennis</i> <i>Hirundo rustica</i> UNID Swallow
Passerine spp.	UNID Thrush <i>Mimus polyglottos</i> <i>Dendroica petechia</i> <i>Wilsonia pusilla</i> <i>Seiurus motacilla</i> UNID Warbler <i>Icterus spurius</i> <i>Icterus</i> sp. <i>Piranga olivacea</i> UNID Passerine



The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.