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MARINE MAMMAL DATA COLLECTED DURING A SURVEY IN THE EASTERN TROPICAL PACIFIC OCEAN ABOARD THE NOAA SHIPS McARTHUR AND DAVID STARR JORDAN, JULY 28 - DECEMBER 9, 1999

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NOAA-TM-NMFS-SWFSC-293

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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INTRODUCTION

This report summarizes the survey procedures and data obtained for marine mammals in the in the eastern tropical Pacific Ocean (ETP) in 1999 during the *Stenella* Abundance Research (STAR99) project. This was the the second year of a three-year (1998-2000) multidisciplinary study conducted by the National Marine Fisheries Service, Southwest Fisheries Science Center (SWFSC) on the ETP dolphin ecosystem. Separate reports will summarize the associated fauna (Olson et al., in prep) and the environmental and oceanographic findings (Philbrick et al., in prep). The project's first year of data obtained in 1998 for marine mammals was summarized in Kinzey et al. (1999).

In 1997 the U.S. Congress directed the Secretary of Commerce to determine whether the chasing and deployment of purse seine nets around dolphins during tuna fishing operations is having a significant adverse impact on any depleted dolphin stock (International Dolphin Program Conservation Act, Public Law 105-42). A portion of this mandate directed the National Marine Fisheries Service to undertake a series of surveys between 1998 and 2000 to estimate the current abundances of the populations of dolphins in the area affected by the fishery. At a planning meeting in December 1997 (Gerrodette et al., 1998), survey procedures and boundaries for the study area were discussed. The results of the 1998 survey were used to estimate the 1998 abundances of four target stocks of dolphins (Gerrodette, 1999). Estimates of the 1999 abundances of cetacean stocks in the ETP will be based on the sightings described in this report.

The SWFSC has conducted research on the cetacean populations of the ETP since the mid-1970's. Between 1986 and 1990 the SWFSC completed the five-year "Monitoring of Porpoise Stocks" (MOPS) program of line-transect surveys, which produced estimates of abundance for 24 stocks of cetaceans representing 19 species or genera (Wade and Gerrodette, 1993). The MOPS program also produced annual estimates of abundance over the five-year period for the four species of dolphins (*Stenella attenuata*, *S. longirostris*, *S. coeruleoalba*, and *Delphinus delphis*) believed to be most affected by the fishery (Wade and Gerrodette, 1992). Additional information regarding the abundance of stocks of dolphins taken by the fishery is available through analysis of sighting data from the tuna vessels (Anganuzzi and Buckland, 1994).

The STAR99 survey was conducted using two ships, the NOAA Ships *McArthur* and *David Starr Jordan* (hereafter referred to as the *Jordan*) with cruise numbers assigned as follows:

David Starr Jordan	DS-99-05	SWFSC Cruise Number 1613
McArthur	AR-99-06	SWFSC Cruise Number 1614

SURVEY OBJECTIVES

The project was a multidisciplinary study with the primary objective being to estimate the abundance of dolphins affected by the ETP purse-seine fishery for yellowfin tuna, *Thunnus albacares*. The survey's design targeted the depleted stocks of spinner dolphins, *Stenella*

longirostris orientalis (the eastern stock), and spotted dolphins, *Stenella attenuata* (the northeastern offshore stock). In addition to data suitable for line-transect analysis, behavioral, acoustic, photogrammetric, genetic, and individual whale identification data were collected on the region's cetaceans and are described in this report.

STUDY AREA

The study area extended from the US/Mexico border, south to the territorial waters of Peru, bounded on the east by the continental shores of the Americas, and to the west by Hawaii (roughly from 30° N to 18° S out from the coastline to 153° W, see Fig. 1). This area is approximately the same as that covered by the 1986-1990 MOPS surveys. Examination of dolphin sightings from research and fishing vessels indicated that this region encompasses the entire distribution of the dolphin stocks most affected by the fishery (Gerrodette et al., 1998). The study area was divided into two sampling strata which received different levels of survey effort: the core area, and the outer area (Fig.1).

ITINERARY

The survey began on July 28 and ended on December 9, 1999. It was composed of five legs on the *McArthur* and six legs on the *Jordan*. Scheduled survey legs varied between 19 and 29 days in length, separated by 4 to 6 days in port. Equipment malfunctions and a medical emergency on the *Jordan* increased the Puntarenas, Costa Rica port call to 8 days and required an unscheduled 5 days in port in Puerto Ayora, Ecuador. The itineraries for the ships are listed below.

NOAA Ship *David Star Jordan*:

28 JUL	Depart San Diego, CA
28 JUL - 16 AUG	Leg I
16 AUG - 20 AUG	Mazanillo, Mexico
20 AUG - 09 SEP	Leg II
09 SEP - 13 SEP	Acapulco, Mexico
13 SEP - 01 OCT	Leg III
01 OCT - 08 OCT	Puntarenas, Costa Rica
08 OCT - 13 OCT	Leg IVa
13 OCT – 18 OCT	Puerto Ayora, Ecuador
18 OCT – 28 OCT	Leg IVb
28 OCT – 01 NOV	Callao, Peru
01 NOV - 15 NOV	Leg V
15 NOV - 19 NOV	Panama City, Panama
19 NOV - 09 DEC	Leg VI
09 DEC	Arrive San Diego, CA

NOAA Ship *McArthur*:

28 JUL	Depart San Diego, CA

28 JUL - 26 AUG	Leg I
26 AUG – 01 SEP	Honolulu, Hawaii
01 SEP - 29 SEP	Leg II
29 SEP - 05 OCT	Puntarenas, Costa Rica
05 OCT - 23 OCT	Leg III
23 OCT - 27 OCT	Acapulco, Mexico
27 OCT - 17 NOV	Leg IV
17 NOV - 21 NOV	Manzanillo, Mexico
21 NOV - 09 DEC	Leg V
09 DEC	Arrive San Diego, CA

SCIENTIFIC PERSONNEL

The scientific complement consisted of 14 to 16 scientists per leg aboard the *Jordan* and 11 to 13 aboard the *McArthur*. Appendix B lists the participating scientists and the ship-legs on which they were involved.

Three six-person teams of marine mammal observers rotated between the ships so that each team spent three legs on the *Jordan* in order to be calibrated with helicopter photogrammetric counts of school sizes. The *Jordan* additionally had two photogrammetrists per leg. Data collected by birders and oceanographers will be summarized in separate reports, as noted above.

EQUIPMENT AND PROCEDURES

Line Transect Survey

Line-transect procedures (Buckland et al., 1993) developed at SWFSC for estimating absolute abundances of cetaceans were followed during the survey. The *McArthur* and *Jordan*, 53.3 m and 52.1 m in length, respectively, maintained cruising speeds of approximately 18.5 km/hr (10 knots) along pre-determined tracklines (Figures 1 - 3) while actively searching for marine mammals ("on effort" mode). Observers conducted a visual watch for marine mammals during daylight hours (approximately 0600 to 1800) using two 25 X 150 power "bigeye" binoculars mounted on the port and starboard sides of the ship's flying bridge. For each marine mammal sighting, bearing (using an azimuth ring on the binocular mount to measure angle) and distance (using a reticle scale inscribed in the eyepiece) were recorded, along with the initial sighting cue and related information.

Six observers on each ship rotated through three watch positions: port binocular, data recorder, and starboard binocular. Observers shifted positions every 40 minutes. At least one identification specialist with previous experience in the ETP was on watch at all times.

Total binocular height above the water for the *McArthur* was 10.4 meters, giving a maximum ship-to-horizon sighting distance of approximately 11.5 km (6.2 nm). On the *Jordan*, total binocular height above the water was 10.7 meters, giving a maximum ship-to-horizon

sighting distance of approximately 11.7 km (6.3 nm). A third 25 X 150 binocular was mounted near the center of the flying bridge on both ships for periodic use during sightings (but not during searching mode). On the *Jordan* a fourth, centrally located bigeye was also used occasionally during cetacean sightings.

Sighting data were collected by the three observers in the three watch positions on each ship. No information from other observers or binocular positions was relayed to this primary team during searching effort. The observer at the port binocular surveyed the area between 10° right and 90° left of the trackline. The observer at the starboard binocular surveyed the area between 10° left and 90° right of the trackline. Thus, the area 10° to either side of the trackline was covered by both bigeye observers while more lateral regions were covered by one observer or the other. Using unaided eye and a handheld 7X binocular, the data recorder searched the entire 180° forward of the ship, with effort focused on the trackline and the area from the ship out to about 400 meters (the "blind" area for observers using the 25X binoculars).

The data recorder entered sighting, weather and effort information into a laptop computer on the flying bridge using the software program "WinCruz", developed at the SWFSC. The computer was linked to the ship's global positioning system to record time and position for every event entered by the recorder such as a sighting or effort change, or automatically every 10 minutes if no other event had been entered.

When a sighting was made, effort typically switched to "off effort" or "closing" mode, during which variable speeds and courses were taken in order to approach the mammals. Schools were approached if they were within three nautical miles perpendicular to the trackline. Observers identified cetaceans to the level of species/stock when possible, and then made independent estimates of school size. If more than one taxon was present, percent composition of the school was estimated independently by each observer. While in closing mode, ancillary projects such as photo-identification and skin biopsy sampling might be conducted.

Upon completion of activities associated with the sighting, the ship returned to searching mode on a course parallel to the original trackline unless this was greater than 10 nm (18.5 km) from it, in which case the ship resumed searching on a 20° course back to the original trackline.

Acoustics

Acoustic recordings of cetaceans were obtained by deploying sonobuoys near the schools. Sonobouys received either in the frequency range of 10 Hz – 4 KHz (Type 53B/D sonobuoy) or 10 Hz to 20 KHz (Type 57A sonobuoy).

Photo-Identification and Biopsy Studies

35 mm photographs of cetacean schools and individuals were taken in order to assist with stock delineations and for studies utilizing identifiable individuals to determine stock

movement or, for some whale species, as an alternative means of estimating population sizes. These studies were often conducted in conjunction with biopsy sampling using a hollow-tipped dart fired from a crossbow to obtain a small sample of skin for genetic studies. Both 35 mm photography and biopsy sampling were conducted either from the bow of the ship or from a small boat with outboard engine.

Aerial Photogrammetry (*Jordan* only)

Helicopter operations were conducted from the *Jordan* in order to obtain photographs of dolphin schools for calibrating observer estimates of abundance, for analysis of cetacean lengths, and for studies of pinniped and seabird colonies. Flights were made in the morning and afternoon during optimal weather conditions: clear skies and sea state below Beaufort 4. All mammal observers on the vessel made estimates of school size and taxonomic composition for these calibration schools.

Behavior

The behavioral responses of 17 stocks of 9 species of dolphins and 13 species of whales were observed relative to research vessels. Data collection emphasized dolphin schools and focused on behaviors that would indicate reactions to the vessel. The data included information on (1) group behavior, (2) school size and shape, (3) reactions to the research vessel and (4) an estimate by the observer of whether the overall reaction of the school to the research vessel was evasive, non-evasive, both, or unknown.

RESULTS

Line-transect Observations

A total of 30,732 kilometers of trackline were surveyed in on-effort searching mode by the two ships. An average of 146 km (79 nm) were covered per ship per on-effort day. The daily record of kilometers surveyed by each ship is reported in Table 1. Figure 1 depicts the locations of the combined tracklines. Tracklines completed individually by the *Jordan* and the *McArthur* are depicted in Figures 2 and 3, respectively. The *McArthur* surveyed the most offshore portions of the study area, while the *Jordan's* tracklines included the most southern.

A total of 1379 sightings of marine mammals were made during the survey, 798 from the *Jordan* and 581 from the *McArthur*. 1206 of these sightings were on-effort, made during searching mode by the on-duty observers. Table 2 reports the times, locations, average estimated school size, and related information for each sighting, organized by sighting-category (a single species, stock, or more general category such as "unidentified dolphin"). A total of 53 sighting-categories of marine mammals, including 30 management stocks distributed among 26 identified species, were recorded. Table 3 summarizes the total numbers of sightings in each sighting-category detailed in Table 2. Maps depicting the geographic positions for all cetacean sightings are displayed in Figures 4-26.

The number of sightings in Table 3 are tabulated by the number of "pure" (single sighting-category) and "mixed" (multiple category) sightings. 88% of all schools were pure schools. The grand total of 1552 pure and mixed sightings in Table 3 exceeds the actual number of sightings by 173 because mixed sightings are counted separately in the table for each category present in the sighting.

The most common sighting-category was unidentified dolphin, comprising about 16% of the total schools (Table 3). The second most common sighting-category was the striped dolphin, *Stenella coeruleoalba* (12%), followed by one of the target stocks, the northeastern offshore spotted dolphin, *Stenella attenuata* (10%), and then by the bottlenose dolphin, *Tursiops truncatus* (8%). The second target stock, *Stenella longirostris orientalis* comprised about 5% of the sightings.

The most commonly identified species of large whales were Bryde's whale, *Balaenoptera edeni*, and blue whales, *Balaenoptera musculus* (2% and 1% of all sightings, respectively). Cuvier's beaked whale, *Ziphius cavirostris*, also comprised 2% of the sightings. Unidentified beaked whales (*Mesoplodon* or *Ziphius* spp.) comprised 3% of all sightings, with an additional 1% that were identifiable to the genus *Mesoplodon* but not to species. Sperm whales, *Physeter macrocephalus*, comprised 1%.

Table 4 tabulates the different kinds of mixed sighting-category schools sighted during the survey. One hundred and sixty schools were mixed. The most common of these, 33% of all mixed schools, were comprised of the two target stocks, northeastern offshore *Stenella attenuata* and *Stenella longirostris orientalis*. The second most common type of mixed school, 10% of all mixed schools, were comprised of northeastern offshore *Stenella attenuata* and the whitebelly stock of *Stenella longirostris*. 24% of the mixed schools contained *Tursiops truncatus*.

The overall sighting rate was 39.2 sightings per 1000 km (Table 5). Sighting rates were influenced by sea state and swell height (Table 5).

Acoustics

Seventy six recordings of cetacean calls and whistles produced by pure species schools were obtained (Table 6). The majority of recordings were of Bryde's whales, blue whales, and pilot whales. Seven recordings of *Stenella longirostris* schools, and 2 of *Stenella attenuata* schools were also obtained.

35 mm Photography

35 mm photographs of 235 cetacean schools or sightings were obtained (Table 7). Ninety-one of these schools contained various stocks of *Stenella attenuata*, *Stenella longirostris*, or both. Photographs of potentially-identifiable individual whales that will be compared to existing ID catalogs were obtained from a total of 24 different schools or sightings of *Balaenoptera musculus* (12 sightings), *Megaptera novaeangliae* (2 sightings), *Orcinus orca* (4 sightings), and *Physeter macrocephalus* (6 sightings) (Table 8).

Aerial Photogrammetry

Tables 9 and 10 summarize the photogrammetry results obtained by the helicopter on the *Jordan*. A total of 114 schools were photographed, of which 40 were used to calibrate observer estimates of school size. Fourteen *Stenella attenuata*, 2 *Stenella longirostris*, and 3 mixed *S. longirostris/S. attenuata* schools were photographed in the combined calibration and other aerial photogrammetric studies.

Biopsy Sampling

Skin biopsy samples were obtained from 430 individual cetaceans in 20 categories of species or stock. (Tables 11 and 12). For *Stenella attenuata,* biopsies from the northeast stock, schools unidentified to stock, and the coastal stock totaled 55, 39, and 21 samples, respectively. For *Stenella longirostris*, the unidentified to stock and the eastern stock were represented by 31 and 20 samples, respectively. No samples were obtained from the hybrid or "whitebelly" form of *S. longirostris*.

Behavior

Behavioural data regarding cetacean responses to the survey ships was collected for 1181 sightings (Table 13), 86% of all schools sighted.

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For further information about these data contact the following: marine mammal sightings, Tim Gerrodette; acoustics, Jay Barlow; aerial photogrammetry, Wayne Perryman; genetics, Andy Dizon; 35 mm photographs, Paula Olson.

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Table 1. Kilometers of survey effort during STAR99 per ship per day.

Date	*Jordan*	*McArthur*	Date	*Jordan*	*McArthur*
28 Jul 99	10.8	43.8	22 Sep 99	94.8	159.5
29 Jul 99	102.0	205.0	23 Sep 99	182.4	223.9
30 Jul 99	115.2	230.5	24 Sep 99	208.5	192.1
31 Jul 99	95.1	257.6	25 Sep 99	152.4	182.7
1 Aug 99	129.1	221.4	26 Sep 99	72.3	57.1
2 Aug 99	170.1	210.1	27 Sep 99	76.0	143.0
3 Aug 99	160.7	202.8	28 Sep 99	96.5	151.3
4 Aug 99	89.6	190.2	29 Sep 99	109.0	0.0
5 Aug 99	204.7	220.0	30 Sep 99	66.6	0.0
6 Aug 99	192.3	205.5	6 Oct 99	0.0	154.2
7 Aug 99	98.6	201.6	7 Oct 99	0.0	109.4
8 Aug 99	152.6	198.6	8 Oct 99	111.4	128.3
9 Aug 99	97.0	140.0	9 Oct 99	123.9	133.8
10 Aug 99	170.2	109.2	10 Oct 99	147.8	93.5
11 Aug 99	106.6	179.3	11 Oct 99	191.4	160.9
12 Aug 99	189.0	179.7	12 Oct 99	153.4	32.3
13 Aug 99	90.7	187.5	13 Oct 99	0.0	130.7
14 Aug 99	126.9	227.1	14 Oct 99	0.0	96.3
15 Aug 99	92.8	127.7	15 Oct 99	0.0	198.7
16 Aug 99	0.0	51.4	16 Oct 99	0.0	91.1
17 Aug 99	0.0	191.0	17 Oct 99	0.0	191.9
18 Aug 99	0.0	197.9	18 Oct 99	198.6	182.7
19 Aug 99	0.0	109.1	19 Oct 99	212.7	129.1
20 Aug 99	67.5	137.7	20 Oct 99	137.1	97.4
21 Aug 99	87.4	187.9	21 Oct 99	154.0	46.2
22 Aug 99	0.0	128.6	22 Oct 99	156.2	134.8
23 Aug 99	0.0	38.4	23 Oct 99	164.3	0.0
24 Aug 99	131.7	0.0	24 Oct 99	133.9	0.0
25 Aug 99	83.4	107.5	25 Oct 99	130.9	0.0
26 Aug 99	172.8	0.0	26 Oct 99	86.7	0.0
27 Aug 99	188.7	0.0	27 Oct 99	145.1	109.0
28 Aug 99	168.6	0.0	28 Oct 99	0.0	202.4
29 Aug 99	184.1	0.0	29 Oct 99	0.0	205.1
30 Aug 99	144.9	0.0	30 Oct 99	0.0	86.5
31 Aug 99	150.8	0.0	31 Oct 99	0.0	193.1
1 Sep 99	212.1	71.5	1 Nov 99	70.8	220.1
2 Sep 99	197.9	53.9	2 Nov 99	217.0	61.9
3 Sep 99	174.6	0.0	3 Nov 99	165.7	169.7
4 Sep 99	196.7	227.3	4 Nov 99	179.9	164.7
5 Sep 99	194.8	192.2	5 Nov 99	173.2	196.2
6 Sep 99	192.5	164.6	6 Nov 99	97.8	151.8
7 Sep 99	160.8	213.5	7 Nov 99	123.2	112.7
8 Sep 99	175.3	183.6	8 Nov 99	76.9	109.5
9 Sep 99	0.0	170.7	9 Nov 99	163.5	170.6
10 Sep 99	0.0	118.2	10 Nov 99	116.8	202.9
11 Sep 99	0.0	189.1	11 Nov 99	140.7	206.9
12 Sep 99	0.0	163.7	12 Nov 99	151.0	165.3
13 Sep 99	115.7	111.2	13 Nov 99	165.7	134.0
14 Sep 99	145.1	139.2	14 Nov 99	107.0	129.7
15 Sep 99	0.0	190.9	15 Nov 99	0.0	94.1
16 Sep 99	155.6	207.0	16 Nov 99	0.0	157.3
17 Sep 99	113.8	129.2	19 Nov 99	165.4	0.0
18 Sep 99	126.5	204.0	20 Nov 99	89.2	0.0
19 Sep 99	18.8	122.5	21 Nov 99	112.2	68.2
20 Sep 99	79.0	148.5	22 Nov 99	84.9	198.8
21 Sep 99	128.4	127.7	23 Nov 99	108.9	198.4

Table 1. Survey effort (continued)

Date	*Jordan*	*McArthur*
24 Nov 99	97.7	168.0
25 Nov 99	97.9	161.5
26 Nov 99	140.3	203.8
27 Nov 99	149.0	163.4
28 Nov 99	153.8	162.6
29 Nov 99	0.0	163.6
30 Nov 99	156.9	194.8
1 Dec 99	150.3	165.9
2 Dec 99	135.9	185.5
3 Dec 99	5.2	180.0
4 Dec 99	170.0	179.6
5 Dec 99	185.7	149.6
6 Dec 99	100.1	164.8
7 Dec 99	136.1	0.0
8 Dec 99	87.5	0.0
Total	13743.4	16988.6

Table 2. Marine mammal sightings during STAR99 for each sighting-category. "Other Codes" column indicates the other sighting-categories (see Appendix C) in a mixed-species school. Times are local. School size is the uncalibrated mean of the observers' best estimates of school size.

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. no.	School size	Effort
Mesoplodon peruvianus											
001		J	1480	27 Oct 99	1736	S13:31.34	W077:24.90	4	73	1	On
Stenella attenuata (offshore)											
002		M	19	2 Aug 99	0749	N19:02.38	W122:06.04	4	149	34	On
002	013	M	24	4 Aug 99	1024	N11:58.82	W122:06.55	5	149	1	On
002		M	30	6 Aug 99	1529	N05:42.77	W122:07.44	5	198	107	On
002		M	32	7 Aug 99	0919	N03:23.10	W122:06.42	5	149	22	On
002	101	M	40	9 Aug 99	1213	N06:13.23	W125:02.91	4	125	135	On
002		M	42	10 Aug 99	0744	N08:04.24	W126:35.51	4	7	27	On
002		M	44	11 Aug 99	0651	N08:36.08	W129:00.03	3	73	145	On
002	011	M	46	11 Aug 99	1459	N07:51.92	W129:55.82	4	73	496	On
002		M	49	12 Aug 99	1406	N06:32.11	W132:31.15	4	73	257	On
002	011	M	57	14 Aug 99	0942	N03:23.75	W137:48.94	4	125	151	On
002	101	M	58	14 Aug 99	1401	N04:08.91	W138:06.83	4	198	257	On
002		M	71	19 Aug 99	0717	N08:57.98	W145:58.70	2	198	22	On
002	013	M	73	19 Aug 99	1051	N09:21.76	W146:20.39	2	149	5	On
002	011	M	74	19 Aug 99	1221	N09:35.93	W146:23.16	3	149	35	On
002	011	M	75	19 Aug 99	1430	N09:43.13	W146:29.22	4	7	83	On
002	011	M	76	19 Aug 99	1630	N09:54.75	W146:29.84	3	149	594	On
002	011	M	80	19 Aug 99	1848	N10:04.94	W146:35.91	3	149	48	On
002	011	M	81	20 Aug 99	0644	N11:20.45	W147:14.91	3	7	46	On
002	011	M	82	20 Aug 99	1009	N10:56.38	W147:42.44	4	149	36	On
002	011	M	83	20 Aug 99	1337	N10:34.89	W148:08.00	4	125	68	On
002	011	M	85	20 Aug 99	1700	N10:07.91	W148:32.21	1	198	176	On
002	011	M	105	9 Sep 99	1300	N14:15.97	W129:09.89	4	149	65	On
002	011	M	107	9 Sep 99	1550	N13:59.31	W129:06.01	3	73	248	On
002	017	M	110	10 Sep 99	1015	N11:52.11	W128:37.13	2	196	181	On
002		M	113	11 Sep 99	0833	N08:29.63	W128:15.98	4	7	116	On
002		M	115	12 Sep 99	0757	N05:12.92	W127:43.51	4	196	127	On
002	011	M	128	15 Sep 99	0839	S01:04.22	W121:39.84	4	198	380	On
002		M	147	19 Sep 99	1411	S00:43.86	W109:20.65	4	149	35	On
002	003	M	176	22 Sep 99	0901	N01:46.51	W101:30.46	5	196	89	On
002	013	M	180	22 Sep 99	1429	N01:44.12	W100:44.47	4	196	23	On
002	010	M	201	27 Sep 99	0814	N06:44.33	W086:22.12	4	7	179	On
002		M	275	10 Oct 99	1532	N06:50.75	W090:12.71	4	184	73	On
002		M	284	12 Oct 99	0954	N08:05.11	W091:47.08	4	126	2	Off
002	010	M	291	13 Oct 99	1400	N11:37.05	W092:27.48	2	91	74	On
002	010	M	293	13 Oct 99	1623	N11:55.64	W092:33.18	3	92	77	On
002		M	319	15 Oct 99	1321	N12:44.80	W094:40.14	4	197	54	On
002	010	M	320	15 Oct 99	1348	N12:39.07	W094:39.00	3	92	40	On
002		M	321	15 Oct 99	1446	N12:33.12	W094:45.09	3	184	29	On
002	003	M	323	15 Oct 99	1635	N12:15.24	W094:56.05	3	184	185	On
002	010	M	326	16 Oct 99	0721	N10:36.45	W095:37.72	3	126	51	On
002		M	328	16 Oct 99	0820	N10:30.05	W095:41.61	3	197	114	On
002	010	M	329	16 Oct 99	0851	N10:24.70	W095:40.88	3	92	34	On
002	010	M	330	16 Oct 99	0943	N10:18.45	W095:47.09	4	168	42	On
002	010	M	350	19 Oct 99	0914	N08:33.16	W098:22.77	3	91	62	On
002		M	355	19 Oct 99	1310	N09:04.81	W098:23.22	3	184	6	On
002	010	M	356	19 Oct 99	1320	N09:10.00	W098:21.60	3	168	66	On
002	010	M	364	20 Oct 99	0855	N09:44.37	W098:49.59	2	168	52	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
002	010	M	366	20 Oct 99	1031	N09:57.91	W098:49.96	2	92	45	On
002	010	M	368	20 Oct 99	1156	N10:05.30	W098:46.08	2	184	15	On
002	010	M	371	20 Oct 99	1403	N10:21.33	W098:29.21	2	91	232	On
002	010	M	375	20 Oct 99	1603	N10:32.81	W098:25.79	1	92	28	On
002	010	M	376	20 Oct 99	1622	N10:37.88	W098:31.26	1	91	86	On
002	010	M	379	20 Oct 99	1740	N10:51.85	W098:28.40	2	126	198	On
002	010	M	380	21 Oct 99	0732	N12:03.39	W098:27.29	5	92	18	On
002	010	M	381	21 Oct 99	0922	N12:19.10	W098:28.61	6	126	158	Off
002	010	M	385	22 Oct 99	1011	N15:08.30	W098:33.15	3	168	75	On
002	010	M	387	22 Oct 99	1158	N15:21.01	W098:37.78	3	126	83	On
002	003	M	401	28 Oct 99	1031	N14:18.83	W101:58.09	3	126	158	On
002	010	M	403	28 Oct 99	1706	N13:21.30	W102:17.19	3	99	64	Off
002		M	414	3 Nov 99	0656	N09:31.95	W109:55.23	3	126	18	Off
002	011	M	416	3 Nov 99	0845	N09:13.26	W110:00.83	3	184	38	On
002		M	426	4 Nov 99	1452	N06:08.88	W112:45.46	4	91	41	On
002	077 011	M	434	6 Nov 99	1212	N09:05.85	W116:14.38	3	168	22	On
002	018 010	M	449	12 Nov 99	1044	N13:56.26	W108:55.07	4	197	40	On
002	010	M	451	12 Nov 99	1451	N13:30.90	W108:29.67	3	197	49	On
002	010	M	452	12 Nov 99	1624	N13:24.01	W108:14.48	3	126	88	On
002	010	M	453	13 Nov 99	0658	N14:26.30	W108:24.05	2	92	7	On
002	010	M	462	13 Nov 99	1338	N13:34.51	W109:06.38	2	126	93	On
002		M	464	13 Nov 99	1447	N13:31.11	W109:10.51	2	92	77	On
002	010 018	M	466	13 Nov 99	1601	N13:19.24	W109:10.89	2	126	93	On
002		M	471	14 Nov 99	0742	N12:47.68	W107:44.88	1	197	94	On
002	010	M	474	14 Nov 99	0925	N12:33.98	W107:39.57	1	92	30	On
002		M	475	14 Nov 99	0946	N12:30.60	W107:38.53	1	168	50	Off
002	010	M	482	14 Nov 99	1311	N12:11.36	W107:14.43	1	168	55	On
002	010	M	484	14 Nov 99	1449	N12:02.88	W106:58.10	1	126	161	On
002		M	486	14 Nov 99	1609	N12:09.50	W106:51.85	1	126	16	On
002		M	487	15 Nov 99	0626	N13:31.26	W106:20.07	2	126	37	On
002	010	M	488	15 Nov 99	0709	N13:40.66	W106:13.74	2	197	158	On
002	010 077	M	489	15 Nov 99	0817	N13:45.87	W106:08.56	2	197	63	On
002	010 077	M	490	15 Nov 99	0906	N13:52.18	W106:02.99	2	92	61	On
002	018	M	494	15 Nov 99	1233	N14:19.71	W105:50.42	1	168	91	On
002	010	M	497	15 Nov 99	1442	N14:31.32	W105:38.38	1	91	131	On
002	018	M	500	15 Nov 99	1538	N14:37.74	W105:39.39	1	92	153	On
002		M	504	16 Nov 99	0703	N16:13.77	W104:51.78	3	91	31	On
002		M	506	16 Nov 99	0830	N16:31.42	W104:44.23	3	168	63	On
002		M	530	24 Nov 99	1039	N16:51.57	W113:02.66	3	92	73	On
002		M	533	24 Nov 99	1329	N16:40.22	W113:28.37	3	168	59	On
002	011	M	538	25 Nov 99	1306	N15:38.55	W116:17.11	4	168	28	On
002		M	539	26 Nov 99	0751	N14:53.16	W118:16.77	3	126	55	On
002	003	M	540	26 Nov 99	1653	N14:18.01	W119:44.66	4	197	30	On
002		M	543	27 Nov 99	0801	N15:47.48	W119:30.99	4	197	35	On
002		M	547	28 Nov 99	1305	N18:19.37	W115:47.60	4	126	37	On
002		M	553	28 Nov 99	1614	N18:36.04	W115:33.21	3	92	71	Off
002	077	M	556	29 Nov 99	0751	N19:33.80	W117:18.62	3	91	63	On
002		J	1118	5 Aug 99	1907	N20:54.93	W113:12.15	3	168	15	Off
002	010	J	1146	8 Aug 99	1635	N19:40.27	W108:23.61	3	92	131	On
002	010	J	1156	9 Aug 99	1213	N21:35.83	W107:39.00	2	168	113	On
002		J	1163	9 Aug 99	1906	N22:14.97	W107:41.14	3	126	31	On
002		J	1187	11 Aug 99	1608	N25:25.55	W109:36.39	1	91	202	On
002		J	1191	12 Aug 99	0705	N24:40.83	W108:17.24	1	168	107	On
002		J	1206	13 Aug 99	1424	N21:49.78	W106:13.72	0	91	17	On
002		J	1207	13 Aug 99	1452	N21:45.79	W106:12.92	0	168	16	On
002		J	1209	13 Aug 99	1517	N21:43.77	W106:12.35	1	184	31	On
002	010	J	1224	15 Aug 99	1232	N19:13.73	W106:11.60	2	126	134	On
002		J	1226	15 Aug 99	1542	N19:13.33	W105:52.10	2	197	46	On
002	010	J	1244	26 Aug 99	1354	N12:05.42	W116:11.72	4	92	6	On
002	010	J	1245	26 Aug 99	1604	N12:02.99	W116:29.09	4	168	25	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
002	077	J	1256	31 Aug 99	1548	N06:16.32	W116:15.85	5	168	13	On
002		J	1257	1 Sep 99	1011	N07:31.58	W114:10.76	5	92	39	On
002		J	1259	2 Sep 99	0816	N07:30.50	W111:18.71	4	126	44	On
002		J	1260	2 Sep 99	1453	N06:47.84	W110:24.91	4	92	116	On
002	077	J	1265	3 Sep 99	1429	N05:03.24	W107:52.65	5	168	46	On
002	010	J	1268	4 Sep 99	1309	N07:54.03	W106:39.81	6	92	146	On
002	077	J	1270	4 Sep 99	1725	N08:34.73	W106:25.18	5	126	109	On
002	010	J	1271	5 Sep 99	0921	N10:10.28	W105:44.46	4	92	64	On
002		J	1272	5 Sep 99	1117	N10:27.26	W105:34.09	5	91	48	On
002		J	1276	7 Sep 99	0710	N15:35.75	W103:37.42	3	168	24	On
002		J	1277	7 Sep 99	0916	N15:55.91	W103:30.72	3	126	89	On
002	010	J	1278	7 Sep 99	1406	N16:31.13	W103:16.96	3	92	14	On
002	010	J	1321	19 Sep 99	1802	N12:10.08	W097:48.32	4	168	120	On
002		J	1322	20 Sep 99	0618	N13:20.10	W097:10.56	4	126	20	Off
002	010	J	1323	20 Sep 99	0704	N13:26.22	W097:06.47	4	91	165	On
002	010	J	1325	20 Sep 99	1456	N14:19.62	W096:44.76	3	126	125	On
002		J	1327	21 Sep 99	0633	N15:43.51	W095:58.34	3	99	40	Off
002	010	J	1331	21 Sep 99	1725	N14:14.31	W095:46.29	2	126	49	On
002	010	J	1332	22 Sep 99	0851	N12:07.70	W095:15.96	3	184	46	Off
002	010	J	1334	22 Sep 99	1349	N11:15.07	W095:02.37	3	197	202	On
002	010	J	1336	22 Sep 99	1733	N10:47.24	W094:52.71	4	126	110	On
002		J	1337	23 Sep 99	0715	N09:09.39	W094:39.42	5	168	26	On
002		J	1357	25 Sep 99	1601	N08:11.93	W092:15.93	5	126	20	On
002		J	1364	26 Sep 99	1653	N11:04.12	W090:53.33	5	126	16	On
002	077	J	1574	10 Nov 99	1752	N01:18.40	W087:08.19	4	196	22	On
002		J	1575	11 Nov 99	0655	N02:36.82	W086:29.29	4	149	127	On
002	010	J	1588	12 Nov 99	1236	N05:40.02	W083:55.79	5	196	56	On
002		J	1593	13 Nov 99	0841	N05:49.92	W081:24.65	5	73	4	On
002		J	1628	20 Nov 99	1005	N06:43.78	W082:42.84	4	73	33	On
002		J	1649	22 Nov 99	0931	N07:30.13	W088:32.25	2	73	17	On
002		J	1689	24 Nov 99	1019	N08:20.01	W093:58.22	2	125	63	On
002	036 010 098	J	1696	24 Nov 99	1700	N08:22.93	W094:45.76	3	196	19	Off
002	010	J	1720	26 Nov 99	1252	N09:14.59	W100:33.30	3	149	54	On
002		J	1723	26 Nov 99	1353	N09:12.12	W100:36.23	4	125	35	Off
002	010	J	1726	26 Nov 99	1735	N09:17.80	W101:12.02	3	196	38	On
002	010	J	1734	27 Nov 99	1324	N09:30.81	W103:53.80	5	198	64	On
002	010 018	J	1736	27 Nov 99	1621	N09:33.95	W104:22.68	5	7	153	On
002	011	J	1740	28 Nov 99	0814	N10:01.37	W106:41.36	4	196	40	On
002	010	J	1741	28 Nov 99	0904	N10:00.18	W106:48.13	4	198	68	On
002	003	J	1746	28 Nov 99	1705	N10:15.57	W108:00.51	5	7	12	Off
002	010	J	1752	30 Nov 99	1449	N13:03.13	W110:25.00	5	196	110	On
002	018	J	1754	1 Dec 99	0652	N15:12.09	W111:22.08	4	196	18	On
002	010	J	1756	1 Dec 99	1117	N15:46.73	W111:39.22	4	125	31	On
002		J	1766	2 Dec 99	1031	N18:06.07	W112:16.13	3	196	75	On
002		J	1767	2 Dec 99	1147	N18:05.41	W112:12.82	3	125	8	On
002		J	1771	2 Dec 99	1650	N18:39.01	W111:29.10	4	73	46	On
002		J	1774	3 Dec 99	1625	N19:19.62	W111:05.11	3	196	169	On
002		J	1776	4 Dec 99	1043	N19:56.55	W113:26.75	3	73	55	On
Stenella longirostris (unid. subsp.)											
003	002	M	176	22 Sep 99	0901	N01:46.51	W101:30.46	5	196	7	On
003	077	M	259	8 Oct 99	1645	N12:01.80	W087:57.64	4	91	683	Off
003	006	M	307	14 Oct 99	1152	N14:26.61	W093:05.76	2	92	8	On
003		M	308	14 Oct 99	1159	N14:22.89	W093:02.74	2	99	12	Off
003	002	M	323	15 Oct 99	1635	N12:15.24	W094:56.05	3	184	91	On
003	002	M	401	28 Oct 99	1031	N14:18.83	W101:58.09	3	126	9	On
003	002	M	540	26 Nov 99	1653	N14:18.01	W119:44.66	4	197	6	On
003	090	J	1227	15 Aug 99	1615	N19:17.53	W105:45.70	2	92	135	On
003	002	J	1746	28 Nov 99	1705	N10:15.57	W108:00.51	5	7	3	Off

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
Delphinus sp.											
005		M	25	4 Aug 99	1231	N11:44.22	W122:06.12	5	125	14	On
005		J	1010	29 Jul 99	1100	N30:09.53	W116:06.16	3	184	47	On
005		J	1034	30 Jul 99	1835	N27:33.80	W115:15.12	5	92	25	On
005		J	1095	3 Aug 99	1907	N23:27.56	W111:47.53	3	168	97	On
005		J	1712	25 Nov 99	1629	N08:45.03	W097:26.86	1	196	12	On
Stenella attenuata graffmani											
006		M	250	8 Oct 99	0754	N12:09.69	W087:34.24	3	91	110	On
006		M	251	8 Oct 99	0912	N12:12.13	W087:33.47	3	91	28	On
006		M	252	8 Oct 99	0935	N12:17.12	W087:34.24	3	91	63	On
006		M	253	8 Oct 99	0957	N12:17.81	W087:34.83	3	197	11	On
006		M	256	8 Oct 99	1526	N12:10.26	W087:54.37	4	92	87	On
006	003	M	307	14 Oct 99	1152	N14:26.61	W093:05.76	2	92	122	On
006		M	514	21 Nov 99	1215	N18:58.94	W104:45.20	4	197	198	On
006		M	517	21 Nov 99	1547	N18:57.36	W105:02.17	4	197	79	On
006		J	1367	27 Sep 99	1318	N13:14.07	W089:56.97	3	184	31	On
006		J	1368	27 Sep 99	1416	N13:16.42	W089:52.25	3	184	6	On
006		J	1369	27 Sep 99	1439	N13:19.20	W089:51.05	3	184	6	On
006		J	1370	27 Sep 99	1455	N13:20.61	W089:49.04	3	99	5	Off
006		J	1372	27 Sep 99	1731	N13:07.81	W089:44.11	3	184	18	On
006		J	1373	27 Sep 99	1825	N13:02.79	W089:45.86	3	126	25	Off
006	018	J	1376	28 Sep 99	1629	N10:41.20	W089:21.70	4	184	50	On
006		J	1388	8 Oct 99	1024	N08:49.77	W084:07.20	2	99	35	Off
006		J	1389	8 Oct 99	1057	N08:52.37	W083:59.93	0	196	49	On
006		J	1390	8 Oct 99	1131	N08:48.14	W084:02.64	1	149	19	On
006		J	1391	8 Oct 99	1148	N08:42.70	W083:58.90	1	7	20	On
006		J	1392	8 Oct 99	1258	N08:38.33	W083:54.97	3	198	6	On
006		J	1394	8 Oct 99	1340	N08:30.34	W083:52.91	3	125	32	On
006		J	1603	14 Nov 99	1021	N07:12.61	W078:29.76	4	125	51	On
006		J	1607	14 Nov 99	1259	N07:23.92	W078:15.96	4	73	7	On
006		J	1608	14 Nov 99	1340	N07:31.93	W078:17.04	4	7	17	On
006		J	1614	14 Nov 99	1645	N07:43.53	W078:29.93	4	73	8	On
Stenella longirostris orientalis											
010	002	M	201	27 Sep 99	0814	N06:44.33	W086:22.12	4	7	28	On
010	002	M	291	13 Oct 99	1400	N11:37.05	W092:27.48	2	91	12	On
010	002	M	293	13 Oct 99	1623	N11:55.64	W092:33.18	3	92	96	On
010	002	M	320	15 Oct 99	1348	N12:39.07	W094:39.00	3	92	6	On
010	002	M	326	16 Oct 99	0721	N10:36.45	W095:37.72	3	126	76	On
010	002	M	329	16 Oct 99	0851	N10:24.70	W095:40.88	3	92	52	On
010	002	M	330	16 Oct 99	0943	N10:18.45	W095:47.09	4	168	22	On
010	002	M	350	19 Oct 99	0914	N08:33.16	W098:22.77	3	91	21	On
010	002	M	356	19 Oct 99	1320	N09:10.00	W098:21.60	3	168	29	On
010	002	M	364	20 Oct 99	0855	N09:44.37	W098:49.59	2	168	28	On
010	002	M	366	20 Oct 99	1031	N09:57.91	W098:49.96	2	92	107	On
010		M	367	20 Oct 99	1132	N10:04.44	W098:48.61	2	168	81	On
010	002	M	368	20 Oct 99	1156	N10:05.30	W098:46.08	2	184	18	On
010	002	M	371	20 Oct 99	1403	N10:21.33	W098:29.21	2	91	508	On
010	002	M	375	20 Oct 99	1603	N10:32.81	W098:25.79	1	92	21	On
010	002	M	376	20 Oct 99	1622	N10:37.88	W098:31.26	1	91	217	On
010	002	M	379	20 Oct 99	1740	N10:51.85	W098:28.40	2	126	36	On
010	002	M	380	21 Oct 99	0732	N12:03.39	W098:27.29	5	92	29	On
010	002	M	381	21 Oct 99	0922	N12:19.10	W098:28.61	6	126	22	Off
010	002	M	385	22 Oct 99	1011	N15:08.30	W098:33.15	3	168	52	On
010	002	M	387	22 Oct 99	1158	N15:21.01	W098:37.78	3	126	48	On
010	002	M	403	28 Oct 99	1706	N13:21.30	W102:17.19	3	99	5	Off
010		M	407	29 Oct 99	1142	N10:54.93	W103:00.77	5	126	64	On
010		M	438	7 Nov 99	0917	N11:22.10	W117:54.04	5	197	83	On
010		M	439	7 Nov 99	1122	N11:37.28	W118:05.52	6	184	35	Off

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
010	018 002	M	449	12 Nov 99	1044	N13:56.26	W108:55.07	4	197	20	On
010	002	M	451	12 Nov 99	1451	N13:30.90	W108:29.67	3	197	29	On
010	002	M	452	12 Nov 99	1624	N13:24.01	W108:14.48	3	126	42	On
010	002	M	453	13 Nov 99	0658	N14:26.30	W108:24.05	2	92	39	On
010	002	M	462	13 Nov 99	1338	N13:34.51	W109:06.38	2	126	31	On
010	002 018	M	466	13 Nov 99	1601	N13:19.24	W109:10.89	2	126	97	On
010		M	472	14 Nov 99	0805	N12:44.59	W107:42.82	1	92	79	On
010	002	M	474	14 Nov 99	0925	N12:33.98	W107:39.57	1	92	30	On
010	002	M	482	14 Nov 99	1311	N12:11.36	W107:14.43	1	168	59	On
010	002	M	484	14 Nov 99	1449	N12:02.88	W106:58.10	1	126	100	On
010	002	M	488	15 Nov 99	0709	N13:40.66	W106:13.74	2	197	36	On
010	002 077	M	489	15 Nov 99	0817	N13:45.87	W106:08.56	2	197	27	On
010	002 077	M	490	15 Nov 99	0906	N13:52.18	W106:02.99	2	92	49	On
010	002	M	497	15 Nov 99	1442	N14:31.32	W105:38.38	1	91	24	On
010		M	507	16 Nov 99	1018	N16:38.04	W104:33.08	3	168	172	On
010	002	J	1146	8 Aug 99	1635	N19:40.27	W108:23.61	3	92	36	On
010	002	J	1156	9 Aug 99	1213	N21:35.83	W107:39.00	2	168	126	On
010		J	1202	13 Aug 99	0956	N22:13.20	W106:34.61	1	184	392	On
010		J	1205	13 Aug 99	1226	N21:59.44	W106:23.86	1	92	187	On
010		J	1212	14 Aug 99	0704	N20:55.24	W106:05.83	2	91	294	On
010	090	J	1219	14 Aug 99	1531	N20:01.30	W106:45.96	3	91	10	On
010	002	J	1224	15 Aug 99	1232	N19:13.73	W106:11.60	2	126	66	On
010		J	1237	24 Aug 99	1512	N10:35.40	W112:07.55	4	197	33	On
010	002	J	1244	26 Aug 99	1354	N12:05.42	W116:11.72	4	92	96	On
010	002	J	1245	26 Aug 99	1604	N12:02.99	W116:29.09	4	168	192	On
010	002	J	1268	4 Sep 99	1309	N07:54.03	W106:39.81	6	92	136	On
010	002	J	1271	5 Sep 99	0921	N10:10.28	W105:44.46	4	92	86	On
010		J	1274	6 Sep 99	1236	N13:33.41	W104:26.46	3	168	7	On
010	018	J	1275	6 Sep 99	1839	N14:25.52	W104:07.22	3	126	58	On
010	002	J	1278	7 Sep 99	1406	N16:31.13	W103:16.96	3	92	47	On
010	090	J	1282	8 Sep 99	1120	N17:37.82	W101:51.06	2	184	22	On
010	002	J	1321	19 Sep 99	1802	N12:10.08	W097:48.32	4	168	29	On
010	002	J	1323	20 Sep 99	0704	N13:26.22	W097:06.47	4	91	96	On
010	002	J	1325	20 Sep 99	1456	N14:19.62	W096:44.76	3	126	33	On
010	002	J	1331	21 Sep 99	1725	N14:14.31	W095:46.29	2	126	39	On
010	002	J	1332	22 Sep 99	0851	N12:07.70	W095:15.96	3	184	31	Off
010	002	J	1334	22 Sep 99	1349	N11:15.07	W095:02.37	3	197	96	On
010	002	J	1336	22 Sep 99	1733	N10:47.24	W094:52.71	4	126	63	On
010	002	J	1588	12 Nov 99	1236	N05:40.02	W083:55.79	5	196	62	On
010	036 002 098	J	1696	24 Nov 99	1700	N08:22.93	W094:45.76	3	196	75	Off
010		J	1719	26 Nov 99	1109	N09:10.50	W100:13.88	3	73	1	On
010	002	J	1720	26 Nov 99	1252	N09:14.59	W100:33.30	3	149	36	On
010	002	J	1726	26 Nov 99	1735	N09:17.80	W101:12.02	3	196	46	On
010	002	J	1734	27 Nov 99	1324	N09:30.81	W103:53.80	5	198	177	On
010	002 018	J	1736	27 Nov 99	1621	N09:33.95	W104:22.68	5	7	86	On
010	077	J	1738	27 Nov 99	1816	N09:34.13	W104:41.25	5	73	115	On
010	002	J	1741	28 Nov 99	0904	N10:00.18	W106:48.13	4	198	59	On
010	002	J	1752	30 Nov 99	1449	N13:03.13	W110:25.00	5	196	190	On
010	002	J	1756	1 Dec 99	1117	N15:46.73	W111:39.22	4	125	9	On
Stenella longirostris (whitebelly)											
011		M	20	3 Aug 99	0805	N15:46.34	W122:05.49	5	73	105	On
011		M	22	3 Aug 99	1000	N15:30.67	W122:04.27	4	198	93	On
011	002	M	46	11 Aug 99	1459	N07:51.92	W129:55.82	4	73	124	On
011	002	M	57	14 Aug 99	0942	N03:23.75	W137:48.94	4	125	44	On
011		M	60	15 Aug 99	1325	N07:17.83	W139:23.50	4	196	46	On
011		M	70	18 Aug 99	1757	N07:39.61	W145:20.79	4	196	47	On
011	002	M	74	19 Aug 99	1221	N09:35.93	W146:23.16	3	149	248	On
011	002	M	75	19 Aug 99	1430	N09:43.13	W146:29.22	4	7	179	On
011	002	M	76	19 Aug 99	1630	N09:54.75	W146:29.84	3	149	679	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
011	002	M	80	19 Aug 99	1848	N10:04.94	W146:35.91	3	149	30	On
011	002	M	81	20 Aug 99	0644	N11:20.45	W147:14.91	3	7	101	On
011	002	M	82	20 Aug 99	1009	N10:56.38	W147:42.44	4	149	49	On
011	002	M	83	20 Aug 99	1337	N10:34.89	W148:08.00	4	125	127	On
011	002	M	85	20 Aug 99	1700	N10:07.91	W148:32.21	1	198	410	On
011		M	93	22 Aug 99	1433	N08:43.88	W152:17.93	2	73	34	On
011		M	95	22 Aug 99	1735	N08:49.65	W152:40.58	3	196	7	Off
011		M	100	6 Sep 99	0732	N13:57.90	W138:25.06	4	149	102	On
011	002	M	105	9 Sep 99	1300	N14:15.97	W129:09.89	4	149	411	On
011	002	M	107	9 Sep 99	1550	N13:59.31	W129:06.01	3	73	183	On
011		M	108	9 Sep 99	1802	N13:44.54	W128:59.26	3	73	33	On
011	002	M	128	15 Sep 99	0839	S01:04.22	W121:39.84	4	198	50	On
011		M	412	1 Nov 99	1248	N07:52.93	W107:28.07	5	91	66	On
011	002	M	416	3 Nov 99	0845	N09:13.26	W110:00.83	3	184	77	On
011	077 079	M	423	4 Nov 99	0927	N06:52.15	W112:16.52	3	91	123	On
011	077 002	M	434	6 Nov 99	1212	N09:05.85	W116:14.38	3	168	172	On
011		M	435	6 Nov 99	1324	N09:12.88	W116:22.69	3	197	127	On
011	002	M	538	25 Nov 99	1306	N15:38.55	W116:17.11	4	168	65	On
011		M	544	27 Nov 99	1050	N16:01.13	W119:07.36	5	91	55	On
011	002	J	1740	28 Nov 99	0814	N10:01.37	W106:41.36	4	196	25	On
011	017	J	1742	28 Nov 99	1204	N10:04.52	W107:12.41	5	196	2	On
Stenella coeruleoalba											
013	017	M	14	30 Jul 99	1147	N28:56.16	W122:05.07	5	198	40	On
013		M	17	30 Jul 99	1542	N28:14.87	W122:04.66	5	125	52	On
013		M	21	3 Aug 99	0908	N15:41.94	W122:05.57	5	125	18	On
013	002	M	24	4 Aug 99	1024	N11:58.82	W122:06.55	5	149	28	On
013		M	26	4 Aug 99	1256	N11:41.85	W122:07.14	4	198	133	On
013		M	28	4 Aug 99	1920	N10:42.90	W122:05.41	3	73	25	On
013		M	29	6 Aug 99	1350	N05:58.44	W122:04.80	5	125	54	On
013		M	54	13 Aug 99	1219	N05:03.58	W134:51.36	5	73	41	On
013		M	62	16 Aug 99	0707	N08:24.37	W140:27.41	4	73	70	On
013	002	M	73	19 Aug 99	1051	N09:21.76	W146:20.39	2	149	59	On
013		M	78	19 Aug 99	1813	N09:57.05	W146:30.92	3	125	20	Off
013	077	M	88	22 Aug 99	0849	N08:26.88	W151:45.57	3	7	73	On
013		M	91	22 Aug 99	1305	N08:40.39	W152:10.38	3	7	30	On
013		M	103	8 Sep 99	0713	N15:19.13	W132:08.82	4	73	76	On
013		M	125	14 Sep 99	0806	N00:58.51	W123:38.43	4	7	33	On
013		M	130	16 Sep 99	1703	S03:04.74	W117:57.11	4	125	223	On
013		M	140	18 Sep 99	0740	S01:46.21	W113:21.61	4	149	223	On
013		M	141	18 Sep 99	1723	S01:19.98	W111:48.34	4	99	62	On
013		M	144	19 Sep 99	1032	S00:47.65	W109:49.54	3	149	27	On
013	017	M	152	20 Sep 99	0622	S00:01.72	W107:14.69	3	73	48	On
013		M	155	20 Sep 99	0856	S00:03.54	W106:49.15	3	198	17	On
013		M	157	20 Sep 99	1026	S00:00.53	W106:41.67	3	196	253	On
013		M	160	20 Sep 99	1419	N00:13.45	W106:07.71	3	73	41	On
013	017	M	162	20 Sep 99	1521	N00:14.90	W105:59.15	3	125	18	On
013		M	163	21 Sep 99	0651	N00:44.47	W104:16.62	1	196	56	On
013		M	177	22 Sep 99	1030	N01:44.34	W101:16.99	5	125	82	On
013	002	M	180	22 Sep 99	1429	N01:44.12	W100:44.47	4	196	132	On
013		M	182	22 Sep 99	1726	N01:55.99	W100:23.56	4	73	52	On
013		M	188	24 Sep 99	1454	N03:47.49	W093:40.55	5	196	40	On
013		M	190	24 Sep 99	1735	N03:51.06	W093:16.02	5	7	37	On
013		M	191	25 Sep 99	0850	N04:25.64	W091:10.77	4	7	22	On
013		M	193	25 Sep 99	1110	N04:34.47	W090:51.84	4	73	10	On
013		M	196	26 Sep 99	0802	N05:29.89	W087:17.63	4	125	50	On
013		M	206	27 Sep 99	1345	N07:15.51	W086:05.72	4	125	30	On
013		M	207	27 Sep 99	1451	N07:26.40	W085:57.21	4	125	26	On
013		M	235	7 Oct 99	0803	N09:12.05	W087:09.79	2	92	18	On
013		M	237	7 Oct 99	0935	N09:20.21	W087:14.37	2	126	11	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
013		M	238	7 Oct 99	1022	N09:25.62	W087:14.86	2	126	9	Off
013		M	264	9 Oct 99	0633	N10:46.38	W088:29.54	2	92	40	Off
013		M	265	9 Oct 99	0803	N10:32.12	W088:34.15	2	184	26	On
013		M	267	9 Oct 99	1018	N10:11.15	W088:37.90	2	168	32	On
013		M	270	9 Oct 99	1537	N09:35.95	W088:54.92	5	168	30	On
013		M	272	10 Oct 99	0737	N07:43.75	W089:53.24	4	184	17	On
013		M	325	16 Oct 99	0652	N10:42.33	W095:38.94	3	184	22	On
013		M	327	16 Oct 99	0810	N10:33.13	W095:42.75	3	126	30	On
013		M	335	17 Oct 99	0711	N08:19.52	W096:44.65	4	126	18	On
013		M	339	17 Oct 99	1228	N07:32.97	W097:04.38	4	126	40	On
013	077	M	357	19 Oct 99	1454	N09:23.86	W098:22.69	3	126	4	On
013		M	358	19 Oct 99	1520	N09:26.39	W098:23.47	3	92	7	On
013		M	359	19 Oct 99	1606	N09:34.36	W098:25.10	3	168	28	On
013		M	362	20 Oct 99	0650	N09:32.52	W099:01.96	2	92	16	On
013		M	365	20 Oct 99	1030	N09:54.96	W098:47.95	2	92	32	On
013		M	369	20 Oct 99	1240	N10:12.51	W098:40.72	2	168	15	On
013		M	372	20 Oct 99	1454	N10:25.35	W098:25.19	2	126	19	On
013		M	373	20 Oct 99	1535	N10:28.72	W098:25.91	1	197	13	On
013		M	374	20 Oct 99	1551	N10:31.58	W098:29.00	1	184	17	On
013		M	377	20 Oct 99	1710	N10:45.87	W098:28.03	2	126	31	On
013		M	378	20 Oct 99	1727	N10:46.93	W098:26.84	2	126	15	On
013		M	415	3 Nov 99	0734	N09:22.93	W109:57.83	3	126	29	On
013		M	429	5 Nov 99	0736	N05:37.84	W113:52.11	4	197	25	On
013		M	433	6 Nov 99	0843	N08:35.24	W115:49.74	4	184	23	On
013		M	448	11 Nov 99	0703	N15:56.70	W111:46.28	2	126	30	On
013		M	465	13 Nov 99	1543	N13:23.12	W109:09.02	2	126	23	On
013		M	481	14 Nov 99	1239	N12:15.36	W107:19.53	1	197	12	On
013		M	502	15 Nov 99	1630	N14:42.89	W105:35.54	1	168	12	On
013		M	519	22 Nov 99	0723	N18:33.33	W107:21.33	4	168	2	On
013		M	526	24 Nov 99	0708	N17:01.28	W112:27.20	3	91	33	On
013		M	536	25 Nov 99	1224	N15:42.73	W116:16.44	5	126	18	On
013		M	546	27 Nov 99	1517	N16:30.93	W118:28.11	4	92	30	On
013		M	548	28 Nov 99	1348	N18:17.92	W115:44.56	4	91	22	On
013		M	549	28 Nov 99	1442	N18:23.86	W115:35.05	3	126	9	On
013		M	550	28 Nov 99	1540	N18:29.82	W115:32.20	3	197	11	On
013		M	561	29 Nov 99	1739	N19:09.20	W119:00.27	4	126	17	On
013		M	568	3 Dec 99	1327	N23:10.90	W119:48.34	4	184	25	On
013		M	570	4 Dec 99	1143	N24:26.28	W118:08.28	2	91	12	On
013		M	576	5 Dec 99	0751	N25:14.88	W117:34.60	3	184	53	On
013		M	577	5 Dec 99	0915	N25:27.46	W117:32.83	3	126	117	On
013		M	581	6 Dec 99	1051	N28:14.26	W117:51.29	5	91	56	On
013		J	1110	5 Aug 99	0705	N22:00.35	W111:52.81	3	91	76	On
013		J	1119	6 Aug 99	0608	N20:34.90	W112:18.10	3	91	32	On
013		J	1120	6 Aug 99	1037	N20:57.63	W111:40.88	5	91	20	On
013		J	1122	6 Aug 99	1818	N21:33.30	W110:43.30	0	91	25	On
013		J	1123	7 Aug 99	0702	N21:43.76	W109:38.28	2	126	171	On
013		J	1124	7 Aug 99	0802	N21:32.12	W109:41.72	2	91	19	On
013		J	1126	7 Aug 99	0934	N21:29.22	W109:45.29	2	197	10	On
013		J	1127	7 Aug 99	0935	N21:25.80	W109:44.55	2	168	18	On
013		J	1129	7 Aug 99	1046	N21:19.78	W109:41.71	2	91	59	On
013		J	1131	7 Aug 99	1242	N21:05.62	W109:43.03	1	92	21	On
013		J	1133	7 Aug 99	1501	N20:43.54	W109:49.03	1	184	60	On
013		J	1134	7 Aug 99	1549	N20:43.76	W109:50.60	1	197	21	On
013		J	1136	7 Aug 99	1627	N20:36.82	W109:49.44	1	126	32	On
013		J	1137	7 Aug 99	1645	N20:32.15	W109:49.30	1	92	26	On
013		J	1140	8 Aug 99	0830	N19:17.57	W109:14.17	2	197	67	On
013		J	1142	8 Aug 99	1025	N19:17.69	W108:59.25	2	184	57	On
013		J	1145	8 Aug 99	1557	N19:35.01	W108:29.54	3	197	10	On
013		J	1148	8 Aug 99	1837	N19:55.99	W108:22.74	2	126	39	On
013		J	1149	8 Aug 99	1922	N19:57.84	W108:25.15	2	197	19	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Sighting Ship	Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Ef-fort
013		J	1150	9 Aug 99	0754	N21:01.86	W107:54.67	2	197	4	Off
013		J	1151	9 Aug 99	0847	N21:15.39	W107:47.11	2	92	14	On
013		J	1161	9 Aug 99	1823	N22:13.75	W107:39.30	3	91	11	On
013	077	J	1222	14 Aug 99	1912	N19:44.51	W107:14.39	3	91	34	On
013		J	1235	24 Aug 99	1405	N10:40.87	W112:04.69	3	91	39	On
013		J	1236	24 Aug 99	1418	N10:40.91	W112:03.78	3	91	21	On
013		J	1238	24 Aug 99	1543	N10:30.68	W112:07.81	4	92	8	On
013		J	1242	26 Aug 99	0729	N11:41.12	W115:30.74	4	184	22	On
013		J	1246	28 Aug 99	0750	N10:14.30	W118:52.21	4	126	15	On
013		J	1247	28 Aug 99	1506	N09:36.90	W117:58.66	5	168	25	On
013		J	1251	30 Aug 99	0826	N06:02.17	W119:33.10	5	197	9	On
013		J	1252	30 Aug 99	0847	N06:04.65	W119:29.36	5	168	21	On
013	077	J	1253	30 Aug 99	1043	N05:59.40	W119:14.91	5	126	54	On
013		J	1254	30 Aug 99	1805	N05:19.53	W118:33.98	5	91	22	On
013		J	1258	1 Sep 99	1415	N07:52.65	W113:35.38	5	126	12	On
013		J	1308	17 Sep 99	1500	N06:32.52	W100:38.19	3	168	19	On
013	036	J	1316	18 Sep 99	1112	N08:25.07	W099:35.52	3	184	26	On
013		J	1335	22 Sep 99	1625	N11:00.06	W094:57.85	4	91	24	On
013		J	1338	23 Sep 99	0751	N09:03.56	W094:37.80	5	168	40	On
013		J	1340	23 Sep 99	1153	N08:28.23	W094:29.97	5	91	33	On
013		J	1341	23 Sep 99	1258	N08:19.43	W094:27.18	5	126	16	On
013		J	1347	25 Sep 99	0747	N07:13.79	W092:42.49	5	126	15	On
013		J	1350	25 Sep 99	1045	N07:34.60	W092:28.53	5	92	49	On
013		J	1353	25 Sep 99	1153	N07:42.90	W092:27.28	5	126	21	On
013		J	1355	25 Sep 99	1428	N08:04.12	W092:19.73	5	184	21	On
013		J	1375	28 Sep 99	1216	N11:07.39	W089:29.33	3	184	25	On
013		J	1409	10 Oct 99	0720	N05:15.18	W086:09.98	4	73	31	On
013		J	1415	12 Oct 99	0729	N00:19.77	W089:28.25	4	7	30	On
013		J	1423	12 Oct 99	1451	S00:05.48	W090:29.36	4	125	53	On
013	102	J	1439	21 Oct 99	1549	S10:15.89	W093:37.57	4	7	160	On
013		J	1447	24 Oct 99	1204	S14:03.98	W086:14.43	4	73	97	On
013		J	1451	25 Oct 99	1034	S14:00.25	W083:29.69	4	196	46	On
013	077	J	1494	3 Nov 99	1426	S10:46.75	W083:55.03	4	7	43	On
013		J	1503	5 Nov 99	1823	S05:37.46	W086:01.19	5	73	67	On
013		J	1504	6 Nov 99	0707	S05:27.62	W084:33.97	4	7	20	On
013		J	1543	9 Nov 99	0620	S02:00.62	W084:48.55	0	7	28	On
013		J	1545	9 Nov 99	0647	S02:00.83	W084:53.32	1	73	87	On
013		J	1551	9 Nov 99	0806	S01:54.35	W085:03.77	1	196	102	On
013	017	J	1559	9 Nov 99	1332	S01:22.22	W085:36.01	4	196	35	On
013		J	1565	10 Nov 99	0746	N00:24.58	W087:33.96	4	198	19	On
013		J	1566	10 Nov 99	0902	N00:32.42	W087:48.48	5	7	81	On
013		J	1569	10 Nov 99	1118	N00:42.96	W087:36.52	4	125	11	On
013		J	1570	10 Nov 99	1212	N00:50.63	W087:33.89	4	196	21	On
013		J	1573	10 Nov 99	1719	N01:14.10	W087:08.05	4	149	13	On
013		J	1579	11 Nov 99	1415	N03:20.31	W085:57.68	4	125	58	On
013		J	1580	11 Nov 99	1534	N03:30.70	W085:48.01	4	73	44	On
013		J	1581	11 Nov 99	1702	N03:38.00	W085:36.84	4	196	30	On
013		J	1582	11 Nov 99	1757	N03:44.30	W085:36.44	4	198	15	On
013		J	1585	12 Nov 99	0827	N05:10.58	W084:30.00	5	196	25	On
013		J	1586	12 Nov 99	0959	N05:19.20	W084:21.36	5	125	15	On
013		J	1591	13 Nov 99	0718	N05:49.56	W081:32.62	5	7	31	On
013		J	1601	14 Nov 99	0851	N07:02.43	W078:32.73	4	73	12	On
013		J	1625	19 Nov 99	1735	N06:31.85	W080:39.17	3	125	33	On
013		J	1626	20 Nov 99	0756	N06:44.14	W082:26.16	2	73	89	On
013		J	1645	22 Nov 99	0805	N07:26.89	W088:20.80	0	125	35	On
013		J	1647	22 Nov 99	0854	N07:28.93	W088:26.17	2	198	16	On
013		J	1648	22 Nov 99	0912	N07:31.70	W088:27.19	2	7	17	On
013		J	1650	22 Nov 99	1009	N07:31.44	W088:35.10	2	198	30	On
013		J	1653	22 Nov 99	1209	N07:31.21	W088:43.16	1	125	36	On
013		J	1656	22 Nov 99	1305	N07:35.16	W088:52.43	1	7	47	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
013		J	1659	22 Nov 99	1608	N07:39.37	W089:11.84	2	196	29	On
013		J	1671	23 Nov 99	1633	N07:54.44	W091:54.74	2	198	23	On
013		J	1673	23 Nov 99	1803	N07:57.69	W092:09.12	2	196	51	On
013		J	1674	24 Nov 99	0614	N08:14.89	W093:44.16	1	125	13	On
013		J	1675	24 Nov 99	0635	N08:11.34	W093:44.44	1	125	19	On
013		J	1692	24 Nov 99	1458	N08:20.69	W094:28.90	4	198	8	On
013		J	1694	24 Nov 99	1621	N08:27.98	W094:39.41	4	198	14	On
013		J	1695	24 Nov 99	1649	N08:28.26	W094:43.04	3	149	25	On
013		J	1698	25 Nov 99	0704	N08:36.00	W096:20.69	2	125	10	On
013		J	1699	25 Nov 99	0752	N08:31.13	W096:30.76	2	149	18	On
013		J	1701	25 Nov 99	1050	N08:37.66	W096:53.84	2	125	56	On
013		J	1703	25 Nov 99	1211	N08:41.92	W097:01.80	2	73	34	On
013		J	1704	25 Nov 99	1309	N08:41.77	W097:09.24	1	7	49	On
013		J	1706	25 Nov 99	1345	N08:38.75	W097:11.46	1	125	86	On
013		J	1707	25 Nov 99	1435	N08:44.31	W097:17.74	1	7	48	On
013		J	1714	26 Nov 99	0646	N09:04.18	W099:32.36	1	125	18	On
013		J	1716	26 Nov 99	0829	N09:07.09	W099:49.68	2	73	87	On
013		J	1717	26 Nov 99	0906	N09:09.40	W099:56.34	2	149	53	On
013		J	1728	27 Nov 99	0820	N09:28.42	W103:12.54	5	7	37	On
013		J	1729	27 Nov 99	1021	N09:35.95	W103:30.98	5	125	20	On
013		J	1731	27 Nov 99	1139	N09:34.98	W103:40.02	5	196	20	On
013		J	1732	27 Nov 99	1218	N09:38.09	W103:44.13	5	149	17	On
013		J	1733	27 Nov 99	1246	N09:33.45	W103:49.60	5	125	24	On
013		J	1739	28 Nov 99	0710	N09:56.79	W106:30.77	4	73	22	On
013		J	1743	28 Nov 99	1306	N10:10.93	W107:22.11	5	7	19	On
013		J	1744	28 Nov 99	1418	N10:14.30	W107:30.88	5	149	4	On
013		J	1755	1 Dec 99	0907	N15:28.44	W111:30.45	4	198	13	On
013		J	1758	1 Dec 99	1314	N16:02.16	W111:46.49	4	149	18	On
013		J	1759	1 Dec 99	1424	N16:12.97	W111:52.32	4	196	34	On
013		J	1761	1 Dec 99	1616	N16:23.28	W112:02.42	4	73	21	On
013		J	1764	2 Dec 99	0756	N17:53.07	W112:38.10	3	73	27	On
013		J	1768	2 Dec 99	1215	N18:10.62	W112:06.32	3	149	29	On
013		J	1769	2 Dec 99	1437	N18:24.45	W111:43.93	4	196	47	On
013		J	1772	2 Dec 99	1655	N18:37.86	W111:32.70	4	73	38	Off
013		J	1775	4 Dec 99	0728	N19:49.72	W112:57.15	3	149	14	On
Steno bredanensis											
015		M	92	22 Aug 99	1355	N08:42.31	W152:14.73	2	73	2	On
015		M	98	25 Aug 99	1229	N19:17.30	W156:15.58	4	125	12	Off
015	036 018	M	109	10 Sep 99	0746	N12:09.78	W128:57.78	3	7	1	On
015	036 018 026	M	175	21 Sep 99	1735	N01:14.10	W103:05.28	4	196	5	On
015	017	M	194	25 Sep 99	1253	N04:41.76	W090:37.06	4	7	6	On
015		M	221	28 Sep 99	1221	N08:46.44	W085:24.41	3	149	7	On
015		M	224	5 Oct 99	1448	N09:11.13	W084:44.16	2	91	12	Off
015		M	287	12 Oct 99	1046	N08:09.51	W091:49.49	4	92	3	Off
015	018	M	363	20 Oct 99	0820	N09:42.38	W098:55.83	2	92	13	On
015		M	396	27 Oct 99	1329	N16:33.43	W100:22.53	1	92	8	On
015	070	M	409	30 Oct 99	0952	N08:01.27	W103:45.77	2	126	9	On
015		M	422	4 Nov 99	0857	N06:59.41	W112:10.90	3	92	34	On
015		M	458	13 Nov 99	1202	N13:44.39	W108:51.24	2	126	12	On
015		M	469	14 Nov 99	0651	N12:49.68	W107:50.92	1	184	11	On
015		M	492	15 Nov 99	1051	N13:59.75	W106:01.46	2	126	4	On
015	077	M	493	15 Nov 99	1142	N14:11.79	W105:54.91	2	126	13	On
015		M	503	15 Nov 99	1631	N14:43.84	W105:32.30	1	197	3	On
015		M	511	16 Nov 99	1521	N17:17.91	W104:14.39	2	91	7	On
015		J	1083	2 Aug 99	1558	N23:38.86	W114:16.20	3	168	22	On
015		J	1141	8 Aug 99	0959	N19:18.82	W109:02.74	2	91	7	On
015		J	1152	9 Aug 99	0927	N21:13.83	W107:47.57	2	91	10	On
015		J	1153	9 Aug 99	0959	N21:14.09	W107:46.72	1	184	4	On
015		J	1154	9 Aug 99	1000	N21:19.30	W107:43.48	1	184	11	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Ef-fort
015		J	1155	9 Aug 99	1026	N21:18.80	W107:44.31	2	197	9	On
015		J	1158	9 Aug 99	1432	N21:43.07	W107:35.11	2	197	13	On
015		J	1159	9 Aug 99	1515	N21:47.09	W107:32.24	2	126	11	On
015		J	1186	11 Aug 99	1541	N25:27.90	W109:42.20	1	91	5	On
015		J	1197	13 Aug 99	0841	N22:18.40	W106:42.13	2	126	6	On
015		J	1201	13 Aug 99	0857	N22:20.39	W106:43.21	2	99	8	Off
015		J	1220	14 Aug 99	1746	N19:52.99	W107:04.96	3	168	10	On
015		J	1264	3 Sep 99	1251	N05:11.89	W108:07.97	5	126	29	On
015		J	1283	8 Sep 99	1214	N17:38.03	W101:50.17	2	126	7	On
015	018	J	1286	8 Sep 99	1416	N17:32.11	W101:33.64	2	168	3	On
015	018	J	1293	14 Sep 99	0659	N14:09.48	W100:13.57	1	184	4	On
015		J	1315	18 Sep 99	1052	N08:20.64	W099:37.00	3	168	8	On
015	077	J	1352	25 Sep 99	1129	N07:38.24	W092:27.41	5	184	6	On
015		J	1397	8 Oct 99	1525	N08:24.29	W083:44.52	2	7	3	On
015		J	1413	11 Oct 99	1258	N02:12.86	W088:08.94	4	125	14	On
015		J	1602	14 Nov 99	0859	N07:03.36	W078:31.51	4	73	9	Off
015		J	1604	14 Nov 99	1159	N07:19.10	W078:23.42	4	73	6	On
015	033	J	1612	14 Nov 99	1447	N07:35.40	W078:21.13	4	125	5	Off
015		J	1666	23 Nov 99	1240	N07:54.00	W091:28.92	2	125	16	Off
015	018	J	1691	24 Nov 99	1331	N08:24.58	W094:19.53	4	7	2	On
015		J	1760	1 Dec 99	1509	N16:13.64	W111:57.14	4	125	10	On
Delphinus capensis											
016		J	1021	29 Jul 99	1457	N29:47.11	W115:51.88	4	168	315	Off
016		J	1022	29 Jul 99	1637	N29:50.30	W115:55.22	4	184	18	On
016		J	1042	31 Jul 99	1324	N26:54.75	W114:13.33	3	92	352	On
016		J	1065	1 Aug 99	0921	N24:55.98	W112:28.09	3	184	673	On
016		J	1069	1 Aug 99	1224	N24:31.73	W112:16.12	2	197	1298	On
016		J	1070	1 Aug 99	1256	N24:30.68	W112:12.88	2	92	204	On
016		J	1071	1 Aug 99	1340	N24:29.81	W112:09.97	3	168	1	On
016		J	1074	1 Aug 99	1449	N24:19.61	W111:58.44	4	91	277	On
016		J	1076	1 Aug 99	1744	N24:16.53	W112:03.34	4	126	567	On
016	025	J	1482	1 Nov 99	1213	S11:59.78	W077:30.28	1	73	12	On
Delphinus delphis											
017		M	2	28 Jul 99	1705	N31:41.20	W116:59.70	4	125	190	On
017		M	6	28 Jul 99	1926	N31:23.85	W116:47.39	4	196	151	On
017		M	7	29 Jul 99	0758	N30:47.07	W118:29.91	5	73	19	On
017		M	13	29 Jul 99	1650	N30:13.85	W119:51.04	5	149	55	Off
017	013	M	14	30 Jul 99	1147	N28:56.16	W122:05.07	5	198	80	On
017	002	M	110	10 Sep 99	1015	N11:52.11	W128:37.13	2	196	362	On
017		M	142	19 Sep 99	0618	S00:53.25	W110:07.54	2	7	44	On
017	013	M	152	20 Sep 99	0622	S00:01.72	W107:14.69	3	73	392	On
017		M	153	20 Sep 99	0720	S00:04.85	W107:01.56	3	196	148	On
017		M	154	20 Sep 99	0755	S00:03.80	W106:57.72	3	73	170	On
017		M	156	20 Sep 99	0952	N00:02.50	W106:46.95	3	196	418	On
017		M	161	20 Sep 99	1445	N00:09.72	W106:01.14	3	196	235	On
017	013	M	162	20 Sep 99	1521	N00:14.90	W105:59.15	3	125	113	On
017		M	164	21 Sep 99	0652	N00:49.79	W104:18.78	1	125	243	Off
017		M	166	21 Sep 99	0810	N00:56.22	W104:09.84	1	7	160	On
017	015	M	194	25 Sep 99	1253	N04:41.76	W090:37.06	4	7	42	On
017		M	204	27 Sep 99	1224	N07:08.64	W086:08.97	4	7	317	On
017		M	209	27 Sep 99	1551	N07:37.18	W085:48.73	4	149	258	On
017		M	210	27 Sep 99	1728	N07:48.60	W085:41.35	3	73	73	On
017		M	211	28 Sep 99	0547	N07:47.80	W085:48.44	3	73	28	On
017		M	213	28 Sep 99	0611	N07:55.20	W085:45.37	3	125	40	On
017		M	228	6 Oct 99	1130	N07:58.03	W086:11.58	3	126	160	On
017		M	230	6 Oct 99	1550	N07:58.11	W086:46.41	4	168	18	On
017		M	241	7 Oct 99	1628	N10:15.49	W087:23.13	4	91	45	On
017		M	262	9 Oct 99	0632	N10:42.84	W088:25.43	2	184	86	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Sighting Ship	Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Ef-fort
017		M	268	9 Oct 99	1252	N09:52.63	W088:47.63	2	91	77	On
017		M	271	10 Oct 99	0645	N07:45.69	W089:50.07	4	168	213	On
017		M	276	10 Oct 99	1704	N06:41.54	W090:13.50	4	168	41	On
017		M	280	11 Oct 99	1409	N05:53.47	W091:12.55	4	91	34	On
017		M	281	11 Oct 99	1616	N06:18.08	W091:16.14	4	126	95	On
017		M	289	12 Oct 99	1529	N08:44.43	W091:52.02	4	126	43	On
017		M	292	13 Oct 99	1505	N11:50.40	W092:31.84	3	126	170	On
017		M	361	19 Oct 99	1746	N09:52.86	W098:23.75	3	184	36	On
017		M	392	22 Oct 99	1733	N16:01.15	W098:30.79	3	126	29	On
017		M	441	7 Nov 99	1437	N12:05.82	W118:20.20	5	197	80	On
017		M	483	14 Nov 99	1340	N12:07.50	W107:09.84	1	184	153	On
017		M	518	21 Nov 99	1638	N18:59.12	W105:12.63	4	92	97	On
017		M	583	6 Dec 99	1129	N28:19.23	W117:50.77	5	184	29	On
017		M	585	6 Dec 99	1500	N28:52.40	W117:53.05	5	184	7	On
017		J	1002	28 Jul 99	1849	N32:05.56	W117:02.92	3	184	364	Off
017		J	1003	29 Jul 99	0641	N30:41.36	W116:25.48	4	184	140	On
017		J	1004	29 Jul 99	0714	N30:37.86	W116:24.82	4	92	393	On
017		J	1005	29 Jul 99	0736	N30:38.66	W116:25.40	4	168	6	On
017		J	1008	29 Jul 99	1021	N30:11.15	W116:07.24	3	197	297	On
017		J	1009	29 Jul 99	1040	N30:09.32	W116:07.36	3	197	489	On
017		J	1014	29 Jul 99	1140	N29:58.46	W116:03.83	3	168	15	On
017		J	1024	30 Jul 99	0700	N28:34.68	W115:48.53	5	168	73	On
017		J	1026	30 Jul 99	0741	N28:32.38	W115:45.64	5	126	167	On
017		J	1033	30 Jul 99	1807	N27:35.14	W115:12.20	5	184	334	On
017		J	1035	30 Jul 99	1836	N27:34.89	W115:13.95	5	184	154	On
017		J	1037	31 Jul 99	0958	N27:03.69	W114:42.07	5	168	3	Off
017		J	1038	31 Jul 99	1017	N27:07.70	W114:37.31	5	91	318	On
017		J	1079	2 Aug 99	1051	N24:06.43	W113:58.12	3	126	462	On
017		J	1105	4 Aug 99	0935	N23:12.64	W110:34.74	2	126	160	On
017		J	1111	5 Aug 99	0740	N21:59.09	W111:54.69	3	126	105	On
017		J	1115	5 Aug 99	1256	N21:38.58	W112:45.35	3	126	289	On
017		J	1125	7 Aug 99	0843	N21:31.77	W109:44.21	2	126	142	On
017		J	1167	10 Aug 99	0913	N23:20.13	W108:31.55	3	126	137	On
017		J	1290	13 Sep 99	1204	N16:31.69	W099:59.93	3	91	316	On
017		J	1329	21 Sep 99	1217	N14:58.02	W095:50.70	5	168	71	On
017		J	1330	21 Sep 99	1507	N14:34.44	W095:48.04	3	126	161	On
017		J	1339	23 Sep 99	1057	N08:33.35	W094:32.16	5	197	78	On
017		J	1349	25 Sep 99	0837	N07:16.51	W092:39.99	5	91	29	On
017		J	1374	28 Sep 99	0841	N11:33.71	W089:34.14	5	168	86	On
017		J	1381	29 Sep 99	1255	N10:34.96	W087:17.35	4	126	94	On
017	036	J	1401	8 Oct 99	1648	N08:16.57	W083:38.87	1	198	77	On
017		J	1419	12 Oct 99	1153	N00:04.40	W090:05.90	4	7	45	On
017		J	1425	12 Oct 99	1537	S00:00.97	W090:42.66	4	7	764	On
017		J	1428	12 Oct 99	1825	S00:12.65	W090:55.67	4	7	42	On
017		J	1449	24 Oct 99	1504	S14:03.67	W085:49.60	4	73	242	On
017		J	1457	25 Oct 99	1732	S14:03.12	W082:44.27	3	7	8	Off
017		J	1461	26 Oct 99	0806	S14:05.88	W081:01.42	3	7	136	On
017		J	1462	26 Oct 99	0854	S14:06.59	W080:56.65	4	196	59	On
017		J	1463	26 Oct 99	1049	S14:08.79	W080:45.69	4	198	59	On
017		J	1468	26 Oct 99	1604	S14:11.36	W080:12.48	4	149	28	On
017		J	1472	26 Oct 99	1805	S14:14.05	W079:59.77	4	125	137	On
017		J	1474	27 Oct 99	0908	S13:56.85	W078:16.09	4	7	79	On
017		J	1489	3 Nov 99	1103	S10:53.21	W083:24.75	5	125	286	On
017		J	1490	3 Nov 99	1130	S10:52.95	W083:29.29	5	198	438	On
017		J	1493	3 Nov 99	1342	S10:45.99	W083:47.28	4	196	789	On
017		J	1495	3 Nov 99	1653	S10:39.57	W084:10.59	5	149	433	On
017		J	1496	4 Nov 99	0704	S09:02.31	W084:19.87	4	198	350	On
017		J	1499	4 Nov 99	1711	S07:30.25	W084:15.90	4	125	247	On
017		J	1507	6 Nov 99	1241	S05:28.53	W084:33.55	4	125	213	On
017		J	1508	6 Nov 99	1259	S05:26.32	W084:33.93	4	73	187	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
017		J	1510	6 Nov 99	1553	S05:22.56	W084:01.06	5	196	503	On
017		J	1519	7 Nov 99	1258	S05:01.84	W081:26.66	3	149	653	On
017		J	1521	7 Nov 99	1518	S04:58.87	W081:16.35	4	125	413	On
017		J	1528	8 Nov 99	0743	S03:40.90	W082:51.88	2	73	650	On
017		J	1529	8 Nov 99	0949	S03:28.35	W083:08.17	2	149	158	On
017		J	1533	8 Nov 99	1150	S03:13.25	W083:18.13	3	73	433	On
017		J	1537	8 Nov 99	1431	S03:12.47	W083:19.45	3	99	110	Off
017		J	1538	8 Nov 99	1533	S03:06.57	W083:30.75	3	149	332	On
017		J	1539	8 Nov 99	1604	S03:06.16	W083:32.06	3	198	30	On
017		J	1541	8 Nov 99	1640	S03:06.91	W083:35.26	3	149	17	On
017		J	1547	9 Nov 99	0713	S02:00.74	W084:54.45	2	73	32	On
017		J	1552	9 Nov 99	0831	S01:51.55	W085:05.68	1	73	32	On
017		J	1554	9 Nov 99	0937	S01:47.71	W085:10.34	1	198	9	On
017	013	J	1559	9 Nov 99	1332	S01:22.22	W085:36.01	4	196	76	On
017		J	1564	9 Nov 99	1440	S01:12.61	W085:40.90	3	7	125	On
017		J	1594	13 Nov 99	1008	N05:43.54	W081:12.39	4	73	172	On
017		J	1597	13 Nov 99	1551	N05:40.44	W080:20.84	4	4	168	Off
017		J	1622	19 Nov 99	1247	N07:00.81	W080:11.85	3	149	52	On
017		J	1627	20 Nov 99	0935	N06:46.03	W082:38.11	2	198	60	On
017		J	1635	21 Nov 99	1450	N07:20.07	W086:16.22	3	198	110	On
017		J	1639	21 Nov 99	1634	N07:27.40	W086:30.76	4	149	174	On
017		J	1641	21 Nov 99	1721	N07:28.82	W086:36.00	2	7	198	On
017		J	1644	22 Nov 99	0717	N07:32.73	W088:17.75	2	73	93	On
017		J	1651	22 Nov 99	1033	N07:31.67	W088:35.88	2	149	45	On
017		J	1652	22 Nov 99	1105	N07:35.55	W088:38.93	2	73	102	On
017		J	1657	22 Nov 99	1356	N07:35.72	W088:58.06	1	73	106	On
017		J	1660	22 Nov 99	1804	N07:37.52	W089:30.26	2	73	253	On
017		J	1683	24 Nov 99	0749	N08:18.85	W093:49.76	1	125	150	On
017		J	1685	24 Nov 99	0923	N08:21.67	W093:50.94	2	7	79	On
017		J	1700	25 Nov 99	0847	N08:35.46	W096:41.00	2	7	173	On
017		J	1705	25 Nov 99	1329	N08:44.29	W097:11.04	1	196	42	On
017		J	1708	25 Nov 99	1510	N08:49.96	W097:20.76	1	125	155	On
017	011	J	1742	28 Nov 99	1204	N10:04.52	W107:12.41	5	196	37	On
017		J	1781	5 Dec 99	0732	N22:35.31	W114:58.19	0	149	7	On
017		J	1782	5 Dec 99	0825	N22:39.39	W115:04.78	0	125	43	On
017		J	1787	6 Dec 99	0939	N25:02.39	W115:53.62	4	149	1183	On
017		J	1789	7 Dec 99	1158	N28:23.62	W116:57.19	5	149	27	On
Tursiops truncatus											
018		M	18	30 Jul 99	1638	N28:06.43	W122:04.85	5	149	17	On
018	021	M	55	13 Aug 99	1839	N04:37.68	W135:48.55	4	125	2	On
018	036	M	61	15 Aug 99	1703	N07:49.53	W139:29.10	4	196	1	On
018		M	96	25 Aug 99	1032	N19:04.65	W156:04.78	4	149	17	On
018	021	M	104	8 Sep 99	0854	N15:14.77	W131:55.46	4	125	1	On
018	036 015	M	109	10 Sep 99	0746	N12:09.78	W128:57.78	3	7	11	On
018	036 026 015	M	175	21 Sep 99	1735	N01:14.10	W103:05.28	4	196	13	On
018		M	198	26 Sep 99	0919	N05:33.37	W087:04.71	4	149	175	Off
018		M	199	27 Sep 99	0604	N06:24.48	W086:34.40	4	73	35	On
018		M	202	27 Sep 99	0949	N06:51.45	W086:23.35	4	196	10	On
018	033	M	217	28 Sep 99	0955	N08:28.64	W085:31.88	2	73	27	On
018		M	219	28 Sep 99	1107	N08:37.38	W085:28.65	2	198	5	On
018	021	M	222	28 Sep 99	1310	N08:52.17	W085:18.47	2	73	50	On
018	036	M	223	28 Sep 99	1456	N09:04.99	W085:10.97	3	196	15	On
018		M	229	6 Oct 99	1454	N07:58.23	W086:39.20	4	197	6	On
018		M	240	7 Oct 99	1539	N10:07.17	W087:19.37	3	168	1	On
018		M	255	8 Oct 99	1409	N12:16.71	W087:47.75	4	126	66	On
018		M	257	8 Oct 99	1604	N12:02.86	W087:58.36	4	168	153	On
018		M	260	8 Oct 99	1703	N12:03.88	W087:56.62	4	197	23	Off
018		M	269	9 Oct 99	1434	N09:46.64	W088:48.12	3	184	8	On
018		M	273	10 Oct 99	0927	N07:29.75	W089:58.64	4	92	27	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
018		M	283	12 Oct 99	0947	N08:04.54	W091:46.56	4	184	6	On
018		M	285	12 Oct 99	1015	N08:08.58	W091:47.97	4	91	6	On
018	021	M	297	14 Oct 99	0748	N13:51.86	W092:55.02	2	184	7	On
018	021	M	298	14 Oct 99	0822	N13:56.06	W092:55.25	2	168	4	On
018	021	M	299	14 Oct 99	0839	N14:00.02	W092:55.72	2	168	4	On
018		M	303	14 Oct 99	1018	N14:15.73	W093:03.47	2	92	16	On
018	021	M	309	14 Oct 99	1300	N14:32.26	W093:04.74	1	184	48	On
018		M	310	14 Oct 99	1344	N14:37.88	W093:07.46	1	197	13	On
018		M	311	14 Oct 99	1402	N14:42.03	W093:03.10	1	126	89	On
018		M	313	14 Oct 99	1439	N14:43.05	W093:07.82	1	92	19	On
018		M	314	14 Oct 99	1452	N14:45.75	W093:06.05	1	126	6	On
018		M	315	14 Oct 99	1533	N14:53.52	W093:14.15	1	184	189	On
018		M	317	14 Oct 99	1701	N15:00.58	W093:12.60	2	126	1	Off
018		M	322	15 Oct 99	1524	N12:25.31	W094:49.57	3	168	5	On
018		M	338	17 Oct 99	1132	N07:41.89	W096:58.54	4	184	5	On
018		M	349	19 Oct 99	0818	N08:22.88	W098:23.11	3	168	26	On
018	015	M	363	20 Oct 99	0820	N09:42.38	W098:55.83	2	92	6	On
018	021	M	384	22 Oct 99	0921	N14:58.34	W098:31.24	3	126	9	On
018		M	390	22 Oct 99	1556	N15:50.22	W098:35.69	3	91	5	On
018		M	397	27 Oct 99	1409	N16:31.23	W100:29.89	1	184	11	On
018		M	398	27 Oct 99	1539	N16:28.30	W100:31.48	3	99	12	Off
018		M	402	28 Oct 99	1241	N14:02.89	W102:05.89	3	168	10	On
018		M	404	28 Oct 99	1751	N13:16.92	W102:18.29	3	184	4	On
018		M	413	2 Nov 99	1030	N10:17.44	W109:10.60	3	99	20	Off
018	077	M	420	3 Nov 99	1712	N08:00.82	W110:39.54	3	184	5	On
018		M	446	9 Nov 99	1626	N12:42.17	W113:57.83	3	126	56	On
018	002 010	M	449	12 Nov 99	1044	N13:56.26	W108:55.07	4	197	8	On
018	002 010	M	466	13 Nov 99	1601	N13:19.24	W109:10.89	2	126	22	On
018		M	468	14 Nov 99	0616	N12:57.55	W107:52.29	1	91	11	On
018	002	M	494	15 Nov 99	1233	N14:19.71	W105:50.42	1	168	2	On
018		M	498	15 Nov 99	1525	N14:30.85	W105:39.89	1	91	32	Off
018	002	M	500	15 Nov 99	1538	N14:37.74	W105:39.39	1	92	6	On
018		M	528	24 Nov 99	0753	N17:01.25	W112:30.57	3	184	4	On
018		M	529	24 Nov 99	0922	N16:53.29	W112:49.04	3	126	69	On
018		M	531	24 Nov 99	1042	N16:50.01	W112:57.45	3	168	8	Off
018		M	537	25 Nov 99	1257	N15:41.50	W116:17.43	4	92	6	On
018		M	579	5 Dec 99	1132	N25:50.56	W117:31.13	3	168	73	On
018		M	580	5 Dec 99	1331	N26:09.83	W117:34.32	3	126	37	On
018		J	1072	1 Aug 99	1342	N24:29.77	W112:06.90	3	91	13	On
018		J	1096	4 Aug 99	0642	N23:38.98	W110:41.58	2	197	18	On
018		J	1097	4 Aug 99	0659	N23:33.03	W110:42.04	2	92	11	On
018		J	1099	4 Aug 99	0737	N23:27.40	W110:41.66	2	168	5	On
018		J	1101	4 Aug 99	0801	N23:31.37	W110:40.72	2	168	8	Off
018		J	1102	4 Aug 99	0826	N23:19.11	W110:38.17	2	184	21	On
018		J	1104	4 Aug 99	0924	N23:17.74	W110:36.42	2	92	14	On
018		J	1109	5 Aug 99	0647	N22:06.43	W111:51.71	3	184	6	On
018		J	1130	7 Aug 99	1209	N21:10.74	W109:43.20	2	126	11	On
018		J	1132	7 Aug 99	1444	N20:50.03	W109:47.27	1	168	13	On
018		J	1162	9 Aug 99	1847	N22:11.63	W107:39.58	3	126	3	Off
018	021	J	1178	11 Aug 99	1229	N25:34.57	W110:04.47	3	126	34	On
018	021	J	1194	12 Aug 99	1907	N23:04.21	W107:19.59	3	168	9	On
018		J	1210	13 Aug 99	1712	N21:39.67	W106:06.14	3	168	48	On
018		J	1211	13 Aug 99	1905	N21:26.83	W105:53.16	3	126	37	On
018		J	1239	24 Aug 99	1814	N10:13.59	W112:20.33	4	91	8	On
018	010	J	1275	6 Sep 99	1839	N14:25.52	W104:07.22	3	126	9	On
018	015	J	1286	8 Sep 99	1416	N17:32.11	W101:33.64	2	168	3	On
018	015	J	1293	14 Sep 99	0659	N14:09.48	W100:13.57	1	184	6	On
018		J	1294	14 Sep 99	0728	N14:07.78	W100:13.51	1	91	9	On
018		J	1299	16 Sep 99	0750	N08:15.47	W100:48.59	5	92	6	On
018		J	1344	24 Sep 99	0743	N06:05.49	W093:59.21	5	91	7	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
018		J	1351	25 Sep 99	1051	N07:34.57	W092:32.66	5	99	6	Off
018		J	1354	25 Sep 99	1340	N07:60.00	W092:19.13	5	126	7	On
018	006	J	1376	28 Sep 99	1629	N10:41.20	W089:21.70	4	184	1	On
018		J	1382	30 Sep 99	0657	N10:14.13	W086:03.27	3	92	24	On
018		J	1384	8 Oct 99	0906	N08:51.43	W084:13.71	2	198	15	On
018		J	1385	8 Oct 99	0934	N08:52.30	W084:11.59	2	73	70	On
018		J	1398	8 Oct 99	1547	N08:23.12	W083:43.98	2	7	41	On
018		J	1400	8 Oct 99	1628	N08:18.98	W083:44.07	2	125	18	Off
018		J	1404	9 Oct 99	0709	N07:14.34	W084:33.05	4	196	3	On
018		J	1406	9 Oct 99	0957	N07:00.12	W084:49.31	4	4	6	Off
018		J	1407	9 Oct 99	1101	N06:53.85	W084:54.99	4	196	6	On
018	ZC	J	1421	12 Oct 99	1318	S00:02.06	W090:15.35	4	149	138	On
018		J	1427	12 Oct 99	1729	S00:10.13	W090:50.67	4	196	95	On
018	036	J	1435	20 Oct 99	1542	S08:49.18	W095:37.66	5	73	8	On
018	021	J	1442	22 Oct 99	1154	S11:18.68	W091:45.11	4	125	8	On
018	034 021	J	1454	25 Oct 99	1509	S14:02.93	W082:56.93	2	7	13	On
018	034	J	1467	26 Oct 99	1505	S14:09.58	W080:18.36	3	149	15	On
018		J	1481	27 Oct 99	1742	S13:37.03	W077:21.83	4	149	82	On
018		J	1520	7 Nov 99	1444	S05:02.98	W081:20.86	4	125	18	On
018	OB	J	1522	7 Nov 99	1651	S04:57.26	W081:21.80	4	149	84	On
018		J	1524	7 Nov 99	1758	S04:54.63	W081:26.27	4	7	17	Off
018		J	1526	8 Nov 99	0712	S03:45.64	W082:48.09	2	198	5	On
018	034	J	1536	8 Nov 99	1224	S03:11.12	W083:14.41	3	149	4	Off
018	034	J	1542	8 Nov 99	1721	S03:02.54	W083:39.86	3	7	16	On
018		J	1587	12 Nov 99	1119	N05:29.36	W084:09.72	5	73	5	On
018		J	1590	12 Nov 99	1616	N05:53.56	W083:40.00	5	125	14	On
018	033	J	1595	13 Nov 99	1120	N05:45.73	W080:58.89	4	196	7	On
018		J	1605	14 Nov 99	1212	N07:19.58	W078:22.93	4	7	3	On
018		J	1611	14 Nov 99	1429	N07:33.36	W078:23.06	4	196	6	Off
018		J	1613	14 Nov 99	1557	N07:40.48	W078:28.24	4	73	4	On
018		J	1615	19 Nov 99	0839	N07:40.19	W079:52.81	3	73	6	On
018		J	1617	19 Nov 99	1023	N07:25.92	W079:58.05	4	4	8	Off
018		J	1619	19 Nov 99	1110	N07:17.48	W080:02.00	4	125	4	On
018		J	1620	19 Nov 99	1130	N07:14.90	W080:01.82	3	149	5	On
018		J	1629	21 Nov 99	0654	N07:07.04	W085:16.59	4	198	11	On
018		J	1630	21 Nov 99	0713	N07:08.12	W085:20.18	4	198	7	On
018		J	1654	22 Nov 99	1235	N07:34.25	W088:47.73	1	125	17	On
018		J	1680	24 Nov 99	0732	N08:16.49	W093:50.38	1	125	17	On
018	015	J	1691	24 Nov 99	1331	N08:24.58	W094:19.53	4	7	8	On
018		J	1710	25 Nov 99	1617	N08:49.36	W097:27.73	1	196	6	On
018	002 010	J	1736	27 Nov 99	1621	N09:33.95	W104:22.68	5	7	2	On
018	002	J	1754	1 Dec 99	0652	N15:12.09	W111:22.08	4	196	2	On
018		J	1765	2 Dec 99	0923	N17:59.93	W112:28.53	3	196	7	On
018		J	1773	3 Dec 99	1549	N19:18.82	W110:51.42	4	73	65	Off
Grampus griseus											
021	018	M	55	13 Aug 99	1839	N04:37.68	W135:48.55	4	125	13	On
021		M	67	18 Aug 99	1156	N06:45.53	W144:58.60	4	149	18	On
021		M	102	7 Sep 99	1356	N14:51.93	W134:39.66	4	125	33	On
021	018	M	104	8 Sep 99	0854	N15:14.77	W131:55.46	4	125	22	On
021		M	131	17 Sep 99	0726	S02:37.07	W116:16.06	2	7	7	On
021		M	136	17 Sep 99	1645	S02:16.24	W115:16.96	4	149	6	On
021		M	168	21 Sep 99	0949	N00:56.08	W104:00.32	2	98	4	Off
021		M	212	28 Sep 99	0549	N07:51.15	W085:49.45	3	73	6	Off
021	018	M	222	28 Sep 99	1310	N08:52.17	W085:18.47	2	73	23	On
021	078	M	277	11 Oct 99	0949	N05:26.34	W091:04.79	4	168	18	On
021		M	294	14 Oct 99	0605	N13:37.33	W092:55.98	1	92	16	On
021		M	295	14 Oct 99	0630	N13:41.62	W092:52.81	1	126	41	On
021		M	296	14 Oct 99	0728	N13:47.95	W092:52.59	2	92	15	On
021	018	M	297	14 Oct 99	0748	N13:51.86	W092:55.02	2	184	20	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
021	018	M	298	14 Oct 99	0822	N13:56.06	W092:55.25	2	168	20	On
021	018	M	299	14 Oct 99	0839	N14:00.02	W092:55.72	2	168	23	On
021		M	300	14 Oct 99	0853	N14:00.53	W092:56.57	2	126	2	On
021		M	302	14 Oct 99	0925	N14:06.77	W092:56.56	1	91	26	On
021	018	M	309	14 Oct 99	1300	N14:32.26	W093:04.74	1	184	6	On
021	018	M	384	22 Oct 99	0921	N14:58.34	W098:31.24	3	126	24	On
021		M	454	13 Nov 99	0737	N14:24.86	W108:26.07	2	99	6	Off
021		M	509	16 Nov 99	1201	N16:47.43	W104:28.30	3	92	8	On
021		M	563	1 Dec 99	1345	N22:04.14	W116:03.57	5	168	9	On
021		M	566	2 Dec 99	1158	N23:01.99	W116:39.94	3	184	5	On
021		M	571	4 Dec 99	1346	N24:28.78	W117:48.68	2	126	17	On
021		M	575	5 Dec 99	0731	N25:11.80	W117:34.77	3	91	9	On
021		J	1032	30 Jul 99	1204	N28:16.42	W115:27.57	4	197	18	On
021		J	1094	3 Aug 99	1800	N23:20.07	W111:55.27	3	197	17	On
021		J	1116	5 Aug 99	1404	N21:32.53	W112:54.73	3	168	3	On
021		J	1171	11 Aug 99	0722	N25:29.79	W110:16.04	2	92	28	On
021		J	1172	11 Aug 99	0808	N25:30.03	W110:21.31	2	91	11	On
021		J	1173	11 Aug 99	0827	N25:34.77	W110:20.25	2	184	7	On
021		J	1174	11 Aug 99	0849	N25:36.91	W110:23.82	2	126	20	On
021		J	1176	11 Aug 99	1138	N25:39.71	W110:11.80	3	184	79	On
021		J	1177	11 Aug 99	1207	N25:37.03	W110:08.50	3	91	27	On
021	018	J	1178	11 Aug 99	1229	N25:34.57	W110:04.47	3	126	66	On
021		J	1183	11 Aug 99	1438	N25:28.10	W109:46.61	2	168	13	On
021	018	J	1194	12 Aug 99	1907	N23:04.21	W107:19.59	3	168	24	On
021		J	1196	13 Aug 99	0815	N22:22.44	W106:47.74	2	91	35	On
021		J	1225	15 Aug 99	1504	N19:08.39	W105:58.77	2	184	28	On
021		J	1232	20 Aug 99	1819	N18:40.75	W105:02.11	5	126	4	On
021		J	1233	20 Aug 99	1916	N18:38.21	W105:08.63	5	91	6	On
021		J	1289	13 Sep 99	1115	N16:38.05	W099:55.61	3	91	13	On
021		J	1408	9 Oct 99	1557	N06:26.89	W085:21.08	4	196	8	On
021	077	J	1414	11 Oct 99	1758	N01:36.83	W088:31.54	4	149	3	On
021	018	J	1442	22 Oct 99	1154	S11:18.68	W091:45.11	4	125	8	On
021	034 018	J	1454	25 Oct 99	1509	S14:02.93	W082:56.93	2	7	17	On
021		J	1500	5 Nov 99	0708	S06:22.06	W085:36.64	4	73	3	On
021		J	1513	6 Nov 99	1813	S05:22.14	W083:47.62	5	196	3	On
021		J	1606	14 Nov 99	1227	N07:22.26	W078:18.49	4	198	7	On
021		J	1633	21 Nov 99	1118	N07:18.40	W085:53.90	3	99	27	Off
021	077	J	1777	4 Dec 99	1254	N20:01.05	W113:47.15	3	7	12	On
021		J	1788	6 Dec 99	1350	N25:22.31	W116:15.45	4	149	12	On
Lagenorhynchus obliquidens											
022		J	1015	29 Jul 99	1214	N29:58.93	W116:05.02	3	92	10	On
022		J	1018	29 Jul 99	1319	N29:51.89	W115:58.68	3	91	4	On
022		J	1019	29 Jul 99	1347	N29:51.66	W115:56.25	4	197	5	On
022		J	1020	29 Jul 99	1405	N29:51.30	W115:55.33	4	92	5	On
022		J	1040	31 Jul 99	1135	N27:03.79	W114:29.24	3	91	17	On
022		J	1041	31 Jul 99	1227	N27:03.35	W114:22.96	3	197	3	Off
022		J	1044	31 Jul 99	1429	N26:54.49	W114:14.29	3	91	12	On
022		J	1045	31 Jul 99	1534	N26:47.74	W114:06.60	5	197	21	On
022	UO	J	1050	31 Jul 99	1622	N26:44.80	W114:02.93	5	126	8	On
022		J	1053	31 Jul 99	1655	N26:37.76	W113:59.83	5	126	13	Off
Lagenorhynchus obscurus											
025	016	J	1482	1 Nov 99	1213	S11:59.78	W077:30.28	1	73	59	On
025		J	1483	1 Nov 99	1413	S11:51.91	W077:33.01	3	149	13	On
025		J	1484	1 Nov 99	1444	S11:52.88	W077:40.21	3	125	67	On
Lagenodelphis hosei											
026		M	38	8 Aug 99	1851	N05:06.72	W124:12.71	3	149	44	On
026	036 018 015	M	175	21 Sep 99	1735	N01:14.10	W103:05.28	4	196	23	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
Peponocephala electra											
031		M	203	27 Sep 99	1007	N06:51.89	W086:18.94	4	196	142	On
Feresa attenuata											
032		M	388	22 Oct 99	1257	N15:22.34	W098:35.92	3	197	26	On
032		M	567	2 Dec 99	1628	N23:15.51	W117:29.57	3	126	35	On
032		J	1301	16 Sep 99	1246	N07:29.76	W100:52.21	5	91	50	On
Pseudorca crassidens											
033		M	68	18 Aug 99	1354	N07:02.48	W145:05.50	4	196	6	On
033		M	133	17 Sep 99	1117	S02:26.06	W115:40.76	2	7	4	On
033	036	M	192	25 Sep 99	1029	N04:34.16	W090:54.52	4	7	5	On
033	018	M	217	28 Sep 99	0955	N08:28.64	W085:31.88	2	73	15	On
033	018	J	1595	13 Nov 99	1120	N05:45.73	W080:58.89	4	196	2	On
033	015	J	1612	14 Nov 99	1447	N07:35.40	W078:21.13	4	125	27	Off
Globicephala sp.											
034		M	139	18 Sep 99	0723	S01:48.63	W113:24.84	4	7	11	On
034	021 018	J	1454	25 Oct 99	1509	S14:02.93	W082:56.93	2	7	17	On
034	018	J	1467	26 Oct 99	1505	S14:09.58	W080:18.36	3	149	14	On
034	018	J	1536	8 Nov 99	1224	S03:11.12	W083:14.41	3	149	34	Off
034	018	J	1542	8 Nov 99	1721	S03:02.54	W083:39.86	3	7	30	On
Globicephala macrorhynchus											
036		M	37	8 Aug 99	1753	N05:03.81	W124:06.29	4	73	22	On
036		M	41	9 Aug 99	1545	N06:34.54	W125:20.66	4	125	11	On
036		M	43	10 Aug 99	0920	N08:17.37	W126:40.35	4	7	15	On
036		M	47	12 Aug 99	1055	N06:39.29	W132:05.23	4	125	41	On
036		M	48	12 Aug 99	1208	N06:40.29	W132:11.70	4	73	10	On
036	018	M	61	15 Aug 99	1703	N07:49.53	W139:29.10	4	196	34	On
036		M	69	18 Aug 99	1514	N07:13.20	W145:09.79	4	125	11	On
036		M	77	19 Aug 99	1802	N09:56.47	W146:33.72	3	7	12	On
036		M	86	21 Aug 99	1844	N07:43.63	W150:43.23	4	73	14	On
036		M	99	1 Sep 99	1609	N20:03.71	W154:26.26	4	73	15	On
036	018 015	M	109	10 Sep 99	0746	N12:09.78	W128:57.78	3	7	11	On
036		M	111	10 Sep 99	1426	N11:07.83	W128:35.54	3	125	10	On
036		M	145	19 Sep 99	1152	S00:48.64	W109:37.36	2	196	13	On
036	018 026 015	M	175	21 Sep 99	1735	N01:14.10	W103:05.28	4	196	56	On
036	033	M	192	25 Sep 99	1029	N04:34.16	W090:54.52	4	7	14	On
036		M	220	28 Sep 99	1109	N08:36.65	W085:30.61	2	149	1	Off
036	018	M	223	28 Sep 99	1456	N09:04.99	W085:10.97	3	196	6	On
036		M	258	8 Oct 99	1615	N12:04.27	W087:54.43	4	197	1	Off
036		M	274	10 Oct 99	1157	N07:24.22	W089:59.49	4	197	16	On
036		M	337	17 Oct 99	1111	N07:40.92	W096:56.80	4	126	19	On
036		M	348	19 Oct 99	0745	N08:18.91	W098:22.55	4	197	7	On
036		M	432	6 Nov 99	0738	N08:24.94	W115:47.27	4	92	14	On
036		M	555	29 Nov 99	0719	N19:36.59	W117:11.08	3	184	9	On
036		J	1084	3 Aug 99	0612	N22:45.67	W113:26.36	2	126	13	On
036		J	1261	3 Sep 99	0620	N05:44.46	W108:51.99	4	91	7	On
036		J	1304	16 Sep 99	1723	N06:55.18	W100:54.79	5	126	14	On
036		J	1305	17 Sep 99	0902	N05:51.59	W100:53.99	3	126	9	On
036	077	J	1309	17 Sep 99	1555	N06:38.07	W100:31.26	3	92	10	On
036		J	1311	17 Sep 99	1747	N06:45.15	W100:31.38	3	91	5	On
036		J	1312	18 Sep 99	0704	N08:09.21	W099:42.18	3	92	11	On
036	013	J	1316	18 Sep 99	1112	N08:25.07	W099:35.52	3	184	12	On
036		J	1317	18 Sep 99	1214	N08:31.19	W099:33.08	3	184	11	On
036		J	1318	18 Sep 99	1339	N08:46.75	W099:30.37	3	92	11	On
036		J	1345	24 Sep 99	1633	N05:24.34	W093:35.05	5	184	11	On
036		J	1399	8 Oct 99	1617	N08:16.99	W083:43.69	2	125	12	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
036	017	J	1401	8 Oct 99	1648	N08:16.57	W083:38.87	1	198	10	On
036		J	1402	9 Oct 99	0636	N07:15.85	W084:30.95	4	196	10	On
036	018	J	1435	20 Oct 99	1542	S08:49.18	W095:37.66	5	73	24	On
036		J	1502	5 Nov 99	0943	S06:11.00	W085:50.70	4	73	18	On
036		J	1572	10 Nov 99	1619	N01:12.53	W087:15.30	4	73	11	On
036		J	1678	24 Nov 99	0644	N08:16.27	W093:48.77	1	125	8	Off
036		J	1679	24 Nov 99	0718	N08:14.39	W093:51.97	1	7	26	On
036	010 002 098	J	1696	24 Nov 99	1700	N08:22.93	W094:45.76	3	196	30	Off
Orcinus orca											
037		M	101	6 Sep 99	1153	N14:10.70	W138:02.83	5	73	2	On
037		M	106	9 Sep 99	1355	N14:13.30	W129:03.78	3	196	4	On
037		M	278	11 Oct 99	1037	N05:30.56	W091:09.50	4	126	2	On
037		M	382	21 Oct 99	1511	N13:10.58	W098:24.40	4	92	6	On
037		M	431	5 Nov 99	0845	N05:47.94	W113:58.20	5	168	7	On
037		M	447	10 Nov 99	1342	N14:42.26	W113:13.77	3	91	2	On
037		M	558	29 Nov 99	1636	N19:09.16	W118:56.69	4	126	5	On
037		J	1075	1 Aug 99	1617	N24:19.58	W111:49.66	4	168	10	On
037		J	1138	7 Aug 99	1726	N20:28.29	W109:43.93	2	168	3	On
037		J	1310	17 Sep 99	1636	N06:41.96	W100:28.74	3	168	6	On
037		J	1361	26 Sep 99	1042	N10:12.60	W091:19.73	5	4	4	Off
037		J	1365	27 Sep 99	0838	N12:47.03	W090:04.36	4	197	2	On
037		J	1436	21 Oct 99	0825	S09:51.93	W094:26.81	5	196	6	On
Physeter macrocephalus											
046		M	94	22 Aug 99	1718	N08:47.96	W152:41.90	3	196	8	On
046		M	126	14 Sep 99	1108	N00:42.57	W123:17.50	4	125	7	On
046		M	143	19 Sep 99	0714	S00:47.95	W109:58.43	2	149	8	On
046		M	505	16 Nov 99	0743	N16:21.70	W104:46.33	3	126	5	On
046		M	574	4 Dec 99	1647	N24:41.83	W117:29.09	2	184	1	On
046		J	1106	4 Aug 99	1008	N23:05.60	W110:32.91	2	168	28	On
046		J	1107	4 Aug 99	1626	N22:54.22	W110:28.42	3	184	14	On
046		J	1223	15 Aug 99	0954	N19:13.21	W106:24.06	2	92	8	On
046		J	1228	15 Aug 99	1805	N19:07.02	W105:25.61	2	168	30	On
046		J	1263	3 Sep 99	1011	N05:22.25	W108:21.44	4	92	4	On
046		J	1314	18 Sep 99	0757	N08:11.12	W099:42.74	3	184	1	On
046		J	1424	12 Oct 99	1529	S00:10.28	W090:40.64	4	73	4	Off
046		J	1432	18 Oct 99	1812	S03:57.84	W092:20.04	4	125	2	On
046		J	1434	20 Oct 99	1250	S08:29.90	W095:27.72	4	196	1	On
046		J	1476	27 Oct 99	1023	S13:51.39	W078:07.24	4	149	1	Off
046		J	1477	27 Oct 99	1345	S13:39.96	W077:41.75	4	125	9	On
046		J	1506	6 Nov 99	0742	S05:27.30	W084:23.66	4	196	67	On
Kogia sima											
048		M	84	20 Aug 99	1620	N10:18.45	W148:25.82	1	73	1	On
048		M	90	22 Aug 99	1241	N08:39.38	W152:05.93	3	7	1	On
048		M	461	13 Nov 99	1327	N13:37.04	W108:57.97	2	92	1	On
048		J	1180	11 Aug 99	1405	N25:33.53	W109:54.07	2	92	1	On
048		J	1181	11 Aug 99	1409	N25:29.95	W109:52.17	2	126	3	On
048		J	1284	8 Sep 99	1231	N17:39.71	W101:46.68	2	126	1	On
048		J	1448	24 Oct 99	1250	S14:04.13	W086:10.53	4	7	2	On
048		J	1658	22 Nov 99	1454	N07:37.56	W089:01.44	1	73	2	On
048		J	1783	5 Dec 99	0854	N22:44.91	W115:01.57	1	7	3	On
048		J	1784	5 Dec 99	1040	N22:57.03	W115:13.33	1	73	1	On
ziphiid whale											
049		M	31	6 Aug 99	1642	N05:32.44	W122:05.70	5	149	1	On
049		M	36	8 Aug 99	0723	N03:35.80	W123:02.54	4	196	1	On
049		M	59	14 Aug 99	1854	N04:51.50	W138:20.89	4	7	1	On
049		M	117	12 Sep 99	1419	N04:27.14	W127:13.30	5	7	2	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
049		M	120	12 Sep 99	1752	N04:06.67	W126:57.84	4	73	1	On
049		M	121	13 Sep 99	1205	N02:35.33	W125:17.18	5	73	1	On
049		M	146	19 Sep 99	1238	S00:48.37	W109:36.97	2	125	1	On
049		M	158	20 Sep 99	1150	N00:01.12	W106:28.22	3	73	1	On
049		M	159	20 Sep 99	1322	N00:07.47	W106:16.36	4	196	1	On
049		M	169	21 Sep 99	1052	N00:57.74	W103:51.23	2	196	3	On
049		M	172	21 Sep 99	1324	N01:02.05	W103:34.43	3	7	2	On
049		M	174	21 Sep 99	1720	N01:08.91	W103:00.72	4	196	1	On
049		M	231	6 Oct 99	1659	N07:59.54	W086:55.26	4	99	3	Off
049		M	336	17 Oct 99	1050	N07:45.54	W096:56.43	4	91	1	On
049		M	421	4 Nov 99	0703	N07:15.76	W111:58.27	3	126	1	On
049		M	425	4 Nov 99	1243	N06:29.24	W112:29.51	4	99	1	Off
049		M	478	14 Nov 99	1059	N12:22.94	W107:33.16	1	184	1	On
049		M	480	14 Nov 99	1138	N12:23.39	W107:24.97	1	197	1	On
049		M	501	15 Nov 99	1622	N14:38.14	W105:34.27	0	197	5	Off
049		M	510	16 Nov 99	1438	N17:11.34	W104:17.15	2	184	1	On
049		M	522	23 Nov 99	1506	N17:30.11	W110:42.04	3	168	1	On
049		M	569	3 Dec 99	1503	N23:20.85	W119:46.52	4	92	1	On
049		M	578	5 Dec 99	1131	N25:48.94	W117:34.25	3	99	1	Off
049		J	1030	30 Jul 99	0859	N28:22.62	W115:37.44	4	126	1	On
049		J	1031	30 Jul 99	0859	N28:24.14	W115:33.96	4	92	1	On
049		J	1175	11 Aug 99	1018	N25:44.30	W110:26.39	2	126	1	On
049		J	1182	11 Aug 99	1424	N25:27.16	W109:48.17	2	126	8	Off
049		J	1188	11 Aug 99	1734	N25:23.50	W109:31.44	2	91	3	On
049		J	1193	12 Aug 99	1659	N23:24.33	W107:32.92	3	91	1	On
049		J	1216	14 Aug 99	1014	N20:34.91	W106:16.81	3	168	2	On
049		J	1217	14 Aug 99	1124	N20:31.23	W106:17.14	3	197	2	On
049		J	1241	25 Aug 99	1735	N10:33.76	W114:20.97	3	126	4	On
049		J	1273	6 Sep 99	1147	N13:29.11	W104:26.94	3	197	2	On
049		J	1380	29 Sep 99	1159	N10:28.21	W087:22.96	4	92	1	On
049		J	1420	12 Oct 99	1227	N00:01.16	W090:06.09	4	73	4	On
049		J	1488	3 Nov 99	1057	S10:52.18	W083:21.45	4	125	1	On
049		J	1501	5 Nov 99	0852	S06:12.99	W085:47.94	4	198	2	On
049		J	1509	6 Nov 99	1417	S05:25.20	W084:22.24	5	196	2	On
049		J	1516	7 Nov 99	0753	S05:06.71	W082:08.54	2	7	1	On
049		J	1550	9 Nov 99	0759	S01:56.30	W084:59.62	1	4	1	Off
049		J	1560	9 Nov 99	1413	S01:16.84	W085:43.16	3	7	1	On
049		J	1561	9 Nov 99	1414	S01:18.50	W085:41.61	3	198	1	On
049		J	1621	19 Nov 99	1241	N07:06.54	W080:07.00	3	4	1	Off
049		J	1624	19 Nov 99	1616	N06:43.04	W080:31.65	3	4	1	Off
049		J	1655	22 Nov 99	1247	N07:34.25	W088:50.97	1	7	3	Off
049		J	1669	23 Nov 99	1519	N07:57.33	W091:48.99	2	7	3	On
049		J	1676	24 Nov 99	0639	N08:17.09	W093:49.17	1	125	2	Off
049		J	1715	26 Nov 99	0748	N09:05.30	W099:40.22	2	149	1	On
Mesoplodon sp.											
051		M	34	7 Aug 99	1715	N03:13.92	W122:44.25	5	73	1	On
051		M	52	13 Aug 99	0818	N05:23.30	W134:23.79	4	196	1	Off
051		M	63	16 Aug 99	0925	N08:16.11	W140:39.33	3	73	1	On
051		M	64	17 Aug 99	0734	N06:17.15	W142:43.27	5	7	1	On
051		M	118	12 Sep 99	1448	N04:25.22	W127:11.13	5	7	2	On
051		M	122	13 Sep 99	1324	N02:26.89	W125:08.21	5	73	2	On
051		M	150	19 Sep 99	1537	S00:39.85	W109:10.99	3	125	3	On
051		M	165	21 Sep 99	0748	N00:48.59	W104:11.81	1	73	5	On
051		M	170	21 Sep 99	1127	N01:00.44	W103:53.08	2	7	3	Off
051		M	197	26 Sep 99	0908	N05:31.80	W087:10.04	4	73	1	Off
051		M	383	22 Oct 99	0644	N14:33.01	W098:32.89	3	92	2	On
051		M	457	13 Nov 99	1026	N13:57.99	W108:42.41	2	92	2	On
051		M	459	13 Nov 99	1227	N13:43.45	W108:55.23	2	91	3	On
051		M	485	14 Nov 99	1552	N12:04.88	W106:56.84	1	91	2	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
051		M	496	15 Nov 99	1419	N14:25.97	W105:44.46	1	184	1	On
051		J	1184	11 Aug 99	1441	N25:28.60	W109:47.58	2	168	3	On
051		J	1548	9 Nov 99	0737	S01:58.12	W084:55.33	2	149	4	On
051		J	1556	9 Nov 99	1102	S01:41.05	W085:23.36	3	73	3	Off
051		J	1558	9 Nov 99	1318	S01:26.25	W085:35.88	4	196	2	On
051		J	1562	9 Nov 99	1429	S01:18.16	W085:41.55	3	7	2	On
051		J	1596	13 Nov 99	1543	N05:44.18	W080:21.89	4	7	1	On
051		J	1668	23 Nov 99	1408	N07:53.91	W091:37.19	2	196	1	On
051		J	1713	26 Nov 99	0635	N08:59.97	W099:29.34	1	73	2	On
Mesoplodon densirostris											
059		M	114	11 Sep 99	1122	N08:06.00	W128:14.31	5	7	2	On
059		M	187	24 Sep 99	0904	N03:27.21	W094:41.63	4	73	1	On
Ziphius cavirostris											
061		M	53	13 Aug 99	1138	N05:04.70	W134:41.38	5	7	3	On
061		M	97	25 Aug 99	1056	N19:07.18	W156:08.02	4	73	1	Off
061		M	149	19 Sep 99	1501	S00:36.79	W109:15.59	3	73	1	On
061		M	173	21 Sep 99	1409	N01:03.87	W103:32.45	4	196	2	On
061		M	178	22 Sep 99	1036	N01:45.76	W101:22.07	5	73	1	On
061		M	239	7 Oct 99	1049	N09:29.98	W087:14.57	3	126	2	On
061		M	410	30 Oct 99	1128	N07:53.14	W103:50.79	2	92	1	On
061		M	565	2 Dec 99	1141	N23:02.23	W116:37.35	3	91	1	On
061		J	1185	11 Aug 99	1448	N25:28.50	W109:49.53	2	197	3	Off
061		J	1297	14 Sep 99	1325	N13:21.60	W100:19.06	3	184	3	On
061		J	1298	14 Sep 99	1537	N12:58.96	W100:22.57	3	91	2	On
061		J	1346	24 Sep 99	1749	N05:33.83	W093:32.96	5	92	1	On
061		J	1405	9 Oct 99	0845	N07:04.80	W084:41.80	4	73	1	On
061		J	1438	21 Oct 99	1257	S10:06.67	W094:01.17	5	7	2	On
061		J	1446	24 Oct 99	0652	S13:41.98	W086:52.65	4	73	2	On
061		J	1453	25 Oct 99	1309	S14:02.18	W083:13.65	2	7	3	Off
061		J	1466	26 Oct 99	1338	S14:13.82	W080:28.28	4	98	2	Off
061		J	1479	27 Oct 99	1728	S13:32.81	W077:26.40	4	196	2	On
061		J	1512	6 Nov 99	1747	S05:23.28	W083:52.43	4	98	1	Off
061		J	1514	7 Nov 99	0551	S05:09.52	W082:28.53	5	73	4	Off
061		J	1515	7 Nov 99	0711	S05:05.65	W082:15.93	2	73	2	Off
061		J	1517	7 Nov 99	0845	S05:06.01	W082:02.24	3	198	4	On
061		J	1525	8 Nov 99	0653	S03:46.14	W082:44.53	2	198	3	On
061		J	1557	9 Nov 99	1250	S01:30.38	W085:33.89	3	196	2	On
061		J	1571	10 Nov 99	1328	N00:57.91	W087:25.66	4	196	3	On
061		J	1770	2 Dec 99	1544	N18:26.84	W111:43.01	4	125	1	On
061		J	1779	5 Dec 99	0620	N22:19.38	W114:52.43	1	73	4	Off
061		J	1786	5 Dec 99	1323	N23:26.58	W115:24.72	1	125	3	On
Balaenoptera sp.											
070		M	183	23 Sep 99	0823	N02:19.07	W098:16.50	4	7	1	On
070	015	M	409	30 Oct 99	0952	N08:01.27	W103:45.77	2	126	1	On
070		M	411	31 Oct 99	1608	N06:02.35	W105:40.87	4	168	1	On
070		M	440	7 Nov 99	1138	N11:43.14	W118:08.30	6	168	1	On
070		M	444	9 Nov 99	0736	N13:39.99	W115:04.76	4	197	1	On
070		M	542	27 Nov 99	0713	N15:45.34	W119:34.82	3	126	2	On
070		J	1001	28 Jul 99	1826	N32:06.26	W117:04.54	3	126	1	On
070		J	1046	31 Jul 99	1538	N26:44.48	W114:03.33	5	99	1	Off
070	072	J	1052	31 Jul 99	1638	N26:43.69	W113:59.61	5	92	4	On
070	099	J	1054	31 Jul 99	1803	N26:39.08	W113:57.29	5	184	2	On
070		J	1064	1 Aug 99	0908	N24:55.10	W112:31.73	3	92	2	On
070		J	1085	3 Aug 99	0641	N22:46.01	W113:21.42	2	197	1	On
070		J	1089	3 Aug 99	1033	N22:56.23	W112:56.05	2	126	1	On
070		J	1100	4 Aug 99	0755	N23:33.21	W110:40.41	2	168	1	On
070		J	1139	8 Aug 99	0738	N19:19.86	W109:25.83	2	99	1	Off

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
070		J	1464	26 Oct 99	1245	S14:13.58	W080:29.66	4	196	2	On
070		J	1470	26 Oct 99	1654	S14:12.90	W080:09.76	4	99	1	Off
070		J	1486	1 Nov 99	1808	S11:49.68	W078:03.22	4	196	1	Off
070		J	1491	3 Nov 99	1136	S10:51.92	W083:30.07	5	198	2	Off
070		J	1531	8 Nov 99	1008	S03:25.60	W083:09.85	2	149	1	Off
070		J	1576	11 Nov 99	0736	N02:38.99	W086:28.18	4	149	1	Off
070		J	1578	11 Nov 99	1300	N03:19.50	W086:15.27	4	125	1	Off
070		J	1599	14 Nov 99	0613	N06:39.17	W078:49.76	4	196	1	On
070		J	1610	14 Nov 99	1419	N07:37.15	W078:18.09	4	196	1	On
070		J	1727	26 Nov 99	1802	N09:14.45	W101:11.63	3	99	1	Off
070		J	1749	30 Nov 99	1100	N12:37.52	W110:15.65	5	196	2	On
Balaenoptera edeni											
072		M	35	7 Aug 99	1805	N03:23.94	W122:48.43	5	73	2	On
072		M	39	9 Aug 99	0958	N06:05.77	W125:05.31	4	196	1	On
072		M	51	13 Aug 99	0812	N05:22.80	W134:25.53	4	149	1	On
072		M	66	17 Aug 99	1652	N05:21.63	W143:44.08	5	198	2	On
072		M	123	13 Sep 99	1600	N02:08.81	W124:48.41	5	73	1	On
072		M	124	13 Sep 99	1714	N02:03.58	W124:44.30	5	198	2	On
072		M	137	17 Sep 99	1651	S02:17.34	W115:14.90	4	149	2	Off
072		M	167	21 Sep 99	0924	N01:00.70	W103:59.47	2	196	2	On
072		M	189	24 Sep 99	1534	N03:44.15	W093:35.49	5	149	2	On
072		M	520	22 Nov 99	1228	N18:05.41	W108:03.13	4	91	1	On
072		M	523	23 Nov 99	1602	N17:39.15	W110:50.75	3	184	1	On
072	070	J	1052	31 Jul 99	1638	N26:43.69	W113:59.61	5	92	2	On
072		J	1060	1 Aug 99	0837	N25:00.19	W112:35.31	3	92	2	On
072		J	1189	11 Aug 99	1820	N25:22.54	W109:18.81	2	92	5	On
072		J	1195	13 Aug 99	0702	N22:25.59	W106:44.16	3	184	1	Off
072		J	1307	17 Sep 99	1232	N06:16.48	W100:45.61	3	184	1	On
072		J	1395	8 Oct 99	1412	N08:27.84	W083:44.53	3	149	1	On
072		J	1411	10 Oct 99	1616	N04:22.39	W086:46.01	4	7	2	On
072		J	1426	12 Oct 99	1634	S00:04.38	W090:48.11	4	73	1	On
072		J	1429	12 Oct 99	1836	S00:09.67	W090:58.22	4	73	1	Off
072		J	1441	22 Oct 99	1044	S11:23.81	W091:47.25	5	149	1	On
072		J	1445	23 Oct 99	1656	S13:07.00	W088:14.20	3	149	1	On
072		J	1450	24 Oct 99	1627	S14:00.88	W085:41.33	4	196	2	On
072		J	1452	25 Oct 99	1227	S14:06.64	W083:17.21	2	198	1	On
072		J	1455	25 Oct 99	1643	S14:04.66	W082:43.75	3	73	2	On
072		J	1456	25 Oct 99	1727	S14:01.75	W082:45.14	3	7	1	On
072		J	1465	26 Oct 99	1318	S14:14.94	W080:29.08	4	196	2	On
072		J	1471	26 Oct 99	1701	S14:14.44	W080:09.56	4	120	2	Off
072		J	1485	1 Nov 99	1734	S11:50.27	W077:59.78	4	125	1	On
072		J	1492	3 Nov 99	1154	S10:50.93	W083:29.28	4	198	2	On
072		J	1532	8 Nov 99	1118	S03:19.42	W083:10.74	3	7	1	On
072		J	1567	10 Nov 99	0943	N00:39.25	W087:41.61	5	196	2	On
072		J	1577	11 Nov 99	0817	N02:40.33	W086:27.44	4	196	2	On
Balaenoptera borealis											
073		J	1443	23 Oct 99	0740	S12:25.12	W089:28.76	5	198	1	On
Balaenoptera physalus											
074		M	535	25 Nov 99	1038	N15:52.34	W116:14.49	5	91	2	On
074		J	1073	1 Aug 99	1403	N24:28.67	W112:05.85	3	91	1	On
074		J	1170	10 Aug 99	1907	N24:21.76	W109:19.35	3	92	2	On
Balaenoptera musculus											
075		M	1	28 Jul 99	1622	N31:42.61	W116:56.16	3	198	2	On
075		M	8	29 Jul 99	1015	N30:40.38	W118:56.65	4	98	2	Off
075		M	9	29 Jul 99	1129	N30:30.12	W119:07.02	5	73	1	On
075		M	10	29 Jul 99	1211	N30:32.11	W119:08.82	5	7	3	Off

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
075		M	11	29 Jul 99	1304	N30:29.30	W119:11.55	5	198	2	On
075		M	282	12 Oct 99	0744	N08:01.16	W091:51.04	3	92	2	On
075		M	286	12 Oct 99	1020	N08:09.73	W091:50.39	4	126	2	On
075		M	288	12 Oct 99	1435	N08:40.88	W091:54.06	4	184	1	On
075		M	332	16 Oct 99	1252	N09:53.46	W096:00.34	4	197	1	Off
075		M	333	16 Oct 99	1300	N09:50.18	W096:03.96	4	99	3	Off
075		M	515	21 Nov 99	1406	N18:58.26	W104:56.76	3	184	1	On
075		J	1077	2 Aug 99	0619	N24:07.94	W113:23.85	3	126	1	On
075		J	1087	3 Aug 99	0844	N22:57.09	W113:09.03	2	126	1	On
075		J	1358	26 Sep 99	0742	N09:56.71	W091:26.69	5	197	2	On
075		J	1473	26 Oct 99	1853	S14:17.22	W079:54.49	4	198	1	On
075		J	1534	8 Nov 99	1207	S03:09.13	W083:12.14	3	149	5	Off
075		J	1661	22 Nov 99	1812	N07:39.13	W089:31.93	2	198	1	Off
075		J	1663	23 Nov 99	0937	N07:54.91	W091:19.42	2	149	1	On
075		J	1664	23 Nov 99	1025	N07:52.22	W091:23.96	2	196	2	On
075		J	1665	23 Nov 99	1225	N07:54.17	W091:27.83	2	125	1	On
075		J	1670	23 Nov 99	1519	N07:57.36	W091:53.80	2	149	1	On
075		J	1684	24 Nov 99	0753	N08:16.93	W093:50.21	1	99	1	Off
075		J	1690	24 Nov 99	1024	N08:21.90	W094:01.18	2	7	2	Off
Megaptera novaeangliae											
076		M	586	6 Dec 99	1559	N29:05.66	W117:51.76	5	91	2	On
076		J	1386	8 Oct 99	0938	N08:50.11	W084:07.20	2	73	3	On
076		J	1387	8 Oct 99	0947	N08:53.96	W084:10.28	2	73	3	Off
076		J	1460	26 Oct 99	0801	S13:58.17	W080:59.19	3	7	2	On
076		J	1589	12 Nov 99	1456	N05:51.03	W083:42.29	5	73	2	On
unid. dolphin											
077		M	3	28 Jul 99	1813	N31:32.37	W116:55.67	4	7	12	On
077		M	15	30 Jul 99	1315	N28:38.98	W122:07.45	5	7	25	On
077		M	16	30 Jul 99	1409	N28:31.64	W122:05.90	5	125	2	On
077		M	23	3 Aug 99	1815	N14:08.52	W122:02.81	4	196	1	On
077		M	27	4 Aug 99	1426	N11:26.57	W122:06.46	4	73	15	On
077		M	33	7 Aug 99	1306	N02:52.25	W122:09.59	6	149	1	On
077		M	45	11 Aug 99	1245	N07:58.52	W129:37.60	4	7	6	On
077		M	56	13 Aug 99	1847	N04:35.35	W135:51.37	4	125	5	Off
077		M	72	19 Aug 99	0908	N09:09.55	W146:08.46	2	125	12	On
077		M	87	22 Aug 99	0710	N08:15.01	W151:36.49	4	73	1	On
077	013	M	88	22 Aug 99	0849	N08:26.88	W151:45.57	3	7	44	On
077		M	89	22 Aug 99	1039	N08:37.44	W151:53.04	3	196	1	On
077		M	112	11 Sep 99	0733	N08:42.83	W128:09.86	4	149	50	On
077		M	116	12 Sep 99	1132	N04:46.94	W127:24.28	5	196	1	On
077		M	119	12 Sep 99	1542	N04:17.77	W127:03.77	4	7	2	On
077		M	132	17 Sep 99	0738	S02:36.68	W116:16.01	2	99	3	Off
077		M	138	17 Sep 99	1748	S02:16.37	W115:08.77	3	196	1	On
077		M	148	19 Sep 99	1432	S00:49.97	W109:19.20	4	7	2	Off
077		M	151	20 Sep 99	0610	N00:00.86	W107:22.88	3	73	250	Off
077		M	179	22 Sep 99	1105	N01:44.53	W101:16.37	5	73	2	On
077		M	185	24 Sep 99	0727	N03:24.65	W094:54.38	4	34	10	On
077		M	195	25 Sep 99	1624	N04:52.66	W089:58.15	4	73	10	On
077		M	200	27 Sep 99	0718	N06:34.86	W086:32.96	4	7	1	Off
077		M	205	27 Sep 99	1337	N07:10.35	W085:59.50	4	196	4	On
077		M	208	27 Sep 99	1550	N07:29.57	W085:49.69	4	198	2	On
077		M	214	28 Sep 99	0716	N08:00.60	W085:34.56	3	198	3	On
077		M	225	5 Oct 99	1547	N09:02.58	W084:42.32	2	197	3	Off
077		M	226	5 Oct 99	1703	N08:47.91	W084:41.06	3	184	25	Off
077		M	233	7 Oct 99	0604	N09:12.08	W087:08.62	2	197	65	Off
077		M	234	7 Oct 99	0701	N09:11.58	W087:12.77	2	92	4	On
077		M	236	7 Oct 99	0842	N09:21.03	W087:05.41	2	168	4	On
077		M	243	8 Oct 99	0549	N11:52.64	W087:29.20	2	126	5	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
077		M	244	8 Oct 99	0550	N11:51.47	W087:35.62	2	92	10	On
077		M	245	8 Oct 99	0608	N11:55.29	W087:26.55	3	126	12	On
077		M	247	8 Oct 99	0717	N12:03.98	W087:22.84	3	92	100	On
077		M	249	8 Oct 99	0736	N12:09.18	W087:23.36	3	92	20	On
077		M	254	8 Oct 99	1137	N12:37.87	W087:38.53	3	184	1	On
077	003	M	259	8 Oct 99	1645	N12:01.80	W087:57.64	4	91	455	Off
077		M	261	9 Oct 99	0602	N10:48.52	W088:20.75	2	168	20	On
077		M	263	9 Oct 99	0632	N10:45.04	W088:29.49	2	15	25	On
077		M	266	9 Oct 99	0835	N10:23.80	W088:38.02	2	91	5	On
077		M	279	11 Oct 99	1408	N05:54.44	W091:06.47	4	168	20	On
077		M	290	13 Oct 99	0656	N10:47.80	W092:17.66	3	15	20	On
077		M	306	14 Oct 99	1145	N14:25.76	W092:56.53	2	92	2	On
077		M	312	14 Oct 99	1405	N14:40.35	W093:07.56	1	126	4	Off
077		M	324	16 Oct 99	0645	N10:46.13	W095:40.24	3	168	25	Off
077		M	334	16 Oct 99	1601	N09:46.14	W096:00.98	4	126	5	Off
077		M	341	17 Oct 99	1633	N07:00.73	W097:28.06	4	126	2	On
077		M	342	17 Oct 99	1654	N06:50.79	W097:22.90	4	91	5	On
077		M	345	18 Oct 99	0955	N05:24.23	W098:16.02	5	168	1	On
077		M	346	18 Oct 99	1024	N05:25.17	W098:16.82	5	184	1	On
077		M	351	19 Oct 99	0957	N08:35.60	W098:17.01	3	184	1	On
077		M	352	19 Oct 99	0957	N08:39.00	W098:21.87	3	126	4	On
077		M	353	19 Oct 99	1052	N08:45.33	W098:23.12	3	91	3	On
077		M	354	19 Oct 99	1252	N09:05.77	W098:16.84	3	92	60	On
077	013	M	357	19 Oct 99	1454	N09:23.86	W098:22.69	3	126	2	On
077		M	360	19 Oct 99	1725	N09:50.51	W098:18.96	3	168	20	On
077		M	370	20 Oct 99	1311	N10:12.59	W098:35.78	2	184	9	On
077		M	386	22 Oct 99	1053	N15:05.53	W098:33.38	3	92	12	On
077		M	389	22 Oct 99	1314	N15:23.61	W098:28.68	3	126	2	On
077		M	391	22 Oct 99	1637	N16:01.13	W098:41.51	3	197	2	On
077		M	399	27 Oct 99	1840	N16:04.16	W100:48.66	3	126	5	On
077		M	405	29 Oct 99	0835	N11:25.97	W102:53.55	3	197	30	On
077		M	406	29 Oct 99	0908	N11:24.60	W102:53.07	3	184	3	On
077		M	417	3 Nov 99	1019	N09:01.57	W110:13.07	3	184	5	On
077		M	419	3 Nov 99	1551	N08:14.41	W110:33.38	3	92	3	On
077	018	M	420	3 Nov 99	1712	N08:00.82	W110:39.54	3	184	6	On
077	011 079	M	423	4 Nov 99	0927	N06:52.15	W112:16.52	3	91	20	On
077		M	427	4 Nov 99	1737	N05:52.70	W113:04.53	4	168	30	On
077		M	428	5 Nov 99	0638	N05:33.30	W113:45.50	4	126	2	On
077		M	430	5 Nov 99	0803	N05:41.12	W113:56.29	4	184	1	On
077	002 011	M	434	6 Nov 99	1212	N09:05.85	W116:14.38	3	168	22	On
077		M	436	7 Nov 99	0734	N11:04.93	W117:45.84	5	91	25	On
077		M	437	7 Nov 99	0811	N11:11.96	W117:45.10	5	91	5	Off
077		M	442	8 Nov 99	0750	N13:37.18	W117:56.72	5	126	2	On
077		M	450	12 Nov 99	1427	N13:35.01	W108:30.86	4	197	8	On
077		M	455	13 Nov 99	0809	N14:24.74	W108:33.21	2	184	1	Off
077		M	463	13 Nov 99	1422	N13:27.97	W109:00.66	2	184	1	On
077		M	467	13 Nov 99	1733	N13:09.43	W109:24.39	2	126	5	On
077		M	470	14 Nov 99	0710	N12:49.95	W107:47.64	1	126	3	On
077		M	477	14 Nov 99	1026	N12:30.77	W107:36.59	1	184	1	On
077		M	479	14 Nov 99	1133	N12:18.29	W107:30.48	1	91	50	On
077	002 010	M	489	15 Nov 99	0817	N13:45.87	W106:08.56	2	197	2	On
077	010 002	M	490	15 Nov 99	0906	N13:52.18	W106:02.99	2	92	1	On
077		M	491	15 Nov 99	1002	N13:55.02	W106:06.88	2	126	1	On
077	015	M	493	15 Nov 99	1142	N14:11.79	W105:54.91	2	126	10	On
077		M	495	15 Nov 99	1325	N14:20.68	W105:43.93	1	168	2	On
077		M	499	15 Nov 99	1531	N14:38.72	W105:42.76	1	92	50	On
077		M	508	16 Nov 99	1116	N16:41.93	W104:28.78	3	91	4	On
077		M	512	16 Nov 99	1710	N17:37.29	W104:10.03	2	184	20	On
077		M	516	21 Nov 99	1529	N18:55.70	W105:00.50	3	92	10	On
077		M	521	23 Nov 99	1215	N17:17.83	W110:15.02	3	184	1	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
077		M	524	23 Nov 99	1615	N17:43.69	W110:51.72	3	126	2	Off
077		M	525	23 Nov 99	1738	N17:44.01	W110:59.30	3	126	4	On
077		M	527	24 Nov 99	0746	N16:56.91	W112:33.53	3	126	2	On
077		M	532	24 Nov 99	1218	N16:45.87	W113:11.30	3	197	6	On
077		M	534	24 Nov 99	1634	N16:30.44	W113:51.37	3	197	3	On
077		M	541	26 Nov 99	1734	N14:17.25	W119:48.23	4	168	7	On
077		M	554	28 Nov 99	1714	N18:42.38	W115:39.38	3	91	1	On
077	002	M	556	29 Nov 99	0751	N19:33.80	W117:18.62	3	91	16	On
077		M	557	29 Nov 99	1513	N19:17.25	W118:42.41	4	99	3	On
077		M	560	29 Nov 99	1735	N19:05.38	W119:02.71	4	126	7	Off
077		M	562	1 Dec 99	0830	N21:43.37	W116:56.46	5	91	5	On
077	090	M	564	1 Dec 99	1505	N22:05.56	W115:50.11	5	168	27	On
077		M	572	4 Dec 99	1406	N24:25.11	W117:46.78	2	126	5	On
077		M	573	4 Dec 99	1501	N24:26.21	W117:38.12	2	197	1	On
077		J	1006	29 Jul 99	0811	N30:33.09	W116:16.29	3	126	15	On
077		J	1016	29 Jul 99	1242	N29:54.97	W116:04.12	3	184	47	Off
077		J	1017	29 Jul 99	1303	N29:54.55	W116:02.33	3	91	5	On
077		J	1023	29 Jul 99	1746	N29:43.48	W115:58.65	4	92	5	Off
077		J	1025	30 Jul 99	0723	N28:32.45	W115:48.24	5	184	1	On
077		J	1036	31 Jul 99	0838	N27:03.03	W114:56.11	5	99	29	Off
077		J	1067	1 Aug 99	1032	N24:45.57	W112:26.34	2	184	1	On
077		J	1082	2 Aug 99	1507	N23:48.08	W114:25.43	4	126	30	On
077		J	1098	4 Aug 99	0714	N23:34.75	W110:41.41	2	184	11	On
077		J	1108	5 Aug 99	0640	N22:09.61	W111:51.91	3	92	50	Off
077		J	1112	5 Aug 99	0827	N21:58.98	W112:06.47	3	91	6	On
077		J	1113	5 Aug 99	0854	N21:52.33	W112:02.93	3	92	100	On
077		J	1114	5 Aug 99	1151	N21:40.78	W112:36.15	4	168	1	On
077		J	1117	5 Aug 99	1414	N21:29.51	W112:58.31	3	184	35	On
077		J	1121	6 Aug 99	1313	N21:12.14	W111:25.58	5	168	10	On
077		J	1128	7 Aug 99	1030	N21:23.17	W109:45.49	2	168	1	On
077		J	1135	7 Aug 99	1618	N20:40.73	W109:54.47	1	92	2	Off
077		J	1143	8 Aug 99	1053	N19:09.97	W108:58.04	2	184	2	On
077		J	1144	8 Aug 99	1159	N19:05.02	W108:50.15	3	168	2	On
077		J	1147	8 Aug 99	1813	N19:47.23	W108:22.06	2	91	5	On
077		J	1157	9 Aug 99	1350	N21:42.26	W107:33.47	2	184	16	On
077		J	1160	9 Aug 99	1542	N21:56.62	W107:28.79	2	197	2	On
077		J	1164	9 Aug 99	1923	N22:17.02	W107:40.77	3	126	5	On
077		J	1165	10 Aug 99	0825	N23:19.87	W108:22.21	3	168	20	On
077		J	1168	10 Aug 99	1112	N23:28.13	W108:42.59	4	168	36	On
077		J	1169	10 Aug 99	1900	N24:23.64	W109:22.34	3	126	2	On
077		J	1190	11 Aug 99	1929	N25:27.21	W109:15.34	2	168	100	Off
077		J	1192	12 Aug 99	0815	N24:31.30	W108:09.09	1	126	1	On
077		J	1198	13 Aug 99	0842	N22:17.04	W106:40.71	2	92	2	On
077		J	1199	13 Aug 99	0846	N22:19.38	W106:43.13	2	92	2	On
077		J	1200	13 Aug 99	0852	N22:21.00	W106:43.53	2	126	5	Off
077		J	1203	13 Aug 99	1028	N22:12.25	W106:35.38	1	92	10	Off
077		J	1221	14 Aug 99	1900	N19:51.17	W107:11.85	3	184	2	On
077	013	J	1222	14 Aug 99	1912	N19:44.51	W107:14.39	3	91	10	On
077		J	1234	21 Aug 99	1520	N16:33.97	W106:41.19	5	92	20	On
077		J	1240	25 Aug 99	1633	N10:33.17	W114:19.96	3	168	10	On
077		J	1243	26 Aug 99	1339	N12:08.17	W116:08.84	4	126	1	On
077		J	1248	28 Aug 99	1714	N09:23.74	W117:41.31	5	126	3	On
077		J	1249	29 Aug 99	0739	N08:15.64	W118:01.78	5	197	1	On
077		J	1250	30 Aug 99	0749	N06:04.37	W119:33.55	5	126	2	On
077	013	J	1253	30 Aug 99	1043	N05:59.40	W119:14.91	5	126	21	On
077		J	1255	31 Aug 99	1222	N05:57.03	W116:47.51	5	184	1	On
077	002	J	1256	31 Aug 99	1548	N06:16.32	W116:15.85	5	168	30	On
077		J	1262	3 Sep 99	0733	N05:41.33	W108:37.73	4	126	4	On
077	002	J	1265	3 Sep 99	1429	N05:03.24	W107:52.65	5	168	46	On
077		J	1266	4 Sep 99	1155	N07:43.41	W106:43.81	6	126	6	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
077		J	1269	4 Sep 99	1425	N08:07.27	W106:44.00	6	126	1	On
077	002	J	1270	4 Sep 99	1725	N08:34.73	W106:25.18	5	126	33	On
077		J	1285	8 Sep 99	1301	N17:38.38	W101:44.81	2	197	5	On
077		J	1287	8 Sep 99	1447	N17:28.21	W101:29.00	2	92	5	On
077		J	1288	8 Sep 99	1819	N17:06.70	W100:58.53	3	168	2	On
077		J	1291	13 Sep 99	1249	N16:24.36	W100:03.55	3	126	10	On
077		J	1292	13 Sep 99	1252	N16:28.10	W100:05.70	3	126	3	On
077		J	1295	14 Sep 99	0815	N13:58.37	W100:07.18	1	92	100	On
077		J	1300	16 Sep 99	1156	N07:37.55	W100:47.40	5	126	6	On
077		J	1302	16 Sep 99	1537	N07:04.64	W100:56.48	5	168	1	On
077		J	1303	16 Sep 99	1648	N06:58.79	W100:53.70	4	91	5	On
077	036	J	1309	17 Sep 99	1555	N06:38.07	W100:31.26	3	92	4	On
077		J	1313	18 Sep 99	0728	N08:09.91	W099:39.38	3	168	6	On
077		J	1319	18 Sep 99	1506	N08:52.86	W099:24.59	3	184	1	On
077		J	1320	19 Sep 99	1452	N11:45.94	W097:58.50	4	91	5	On
077		J	1324	20 Sep 99	1024	N13:48.67	W096:54.88	3	126	4	On
077		J	1326	20 Sep 99	1552	N14:21.35	W096:41.10	2	168	2	On
077		J	1328	21 Sep 99	0648	N15:44.62	W095:58.45	2	91	4	On
077		J	1333	22 Sep 99	1049	N11:47.31	W095:11.57	3	126	2	On
077		J	1342	23 Sep 99	1442	N08:05.68	W094:18.01	5	168	2	On
077		J	1343	23 Sep 99	1804	N07:32.07	W094:13.67	5	92	10	On
077	015	J	1352	25 Sep 99	1129	N07:38.24	W092:27.41	5	184	15	On
077		J	1356	25 Sep 99	1510	N08:04.03	W092:15.73	6	168	2	On
077		J	1359	26 Sep 99	0931	N10:01.56	W091:26.23	5	99	1	Off
077		J	1360	26 Sep 99	1034	N10:14.43	W091:17.33	5	168	87	On
077		J	1362	26 Sep 99	1529	N10:53.76	W090:58.83	5	184	25	On
077		J	1363	26 Sep 99	1637	N11:02.33	W090:55.50	5	92	8	On
077		J	1377	28 Sep 99	1816	N10:29.80	W089:24.77	4	91	4	On
077		J	1378	29 Sep 99	0935	N10:20.20	W087:37.20	4	91	30	On
077		J	1379	29 Sep 99	1040	N10:33.86	W087:31.47	3	168	50	On
077		J	1383	8 Oct 99	0618	N09:22.11	W084:25.53	2	149	35	On
077		J	1396	8 Oct 99	1448	N08:24.56	W083:48.62	2	73	5	On
077		J	1410	10 Oct 99	0940	N05:02.55	W086:19.60	4	196	5	Off
077		J	1412	10 Oct 99	1804	N04:19.59	W086:59.16	4	198	2	On
077	021	J	1414	11 Oct 99	1758	N01:36.83	W088:31.54	4	149	2	On
077		J	1416	12 Oct 99	0906	N00:11.41	W089:32.18	4	149	2	On
077		J	1417	12 Oct 99	1051	S00:00.55	W089:50.34	4	125	15	On
077		J	1418	12 Oct 99	1052	N00:12.15	W089:54.82	4	196	82	On
077		J	1422	12 Oct 99	1444	S00:00.42	W090:34.58	4	196	37	On
077		J	1431	18 Oct 99	1147	S02:59.33	W091:54.06	4	125	5	On
077		J	1433	20 Oct 99	1122	S08:18.48	W095:14.93	5	196	4	On
077		J	1437	21 Oct 99	1033	S09:58.40	W094:14.42	5	149	2	On
077		J	1444	23 Oct 99	1409	S12:57.84	W088:40.50	4	149	40	On
077		J	1469	26 Oct 99	1639	S14:15.69	W080:06.90	4	196	20	On
077		J	1475	27 Oct 99	1007	S13:54.75	W078:12.46	4	149	3	On
077		J	1478	27 Oct 99	1606	S13:36.60	W077:34.94	4	196	10	On
077	013	J	1494	3 Nov 99	1426	S10:46.75	W083:55.03	4	7	58	On
077		J	1497	4 Nov 99	1407	S07:57.28	W084:22.16	4	73	5	On
077		J	1498	4 Nov 99	1632	S07:43.80	W084:16.54	4	98	1	Off
077		J	1505	6 Nov 99	0741	S05:20.20	W084:26.81	4	125	50	On
077		J	1511	6 Nov 99	1723	S05:24.00	W083:54.85	4	196	1	On
077		J	1523	7 Nov 99	1734	S04:56.33	W081:25.01	4	196	27	On
077		J	1540	8 Nov 99	1636	S03:02.23	W083:26.52	3	198	10	On
077		J	1544	9 Nov 99	0621	S01:59.13	W084:47.48	0	73	33	Off
077		J	1546	9 Nov 99	0700	S01:57.45	W084:52.73	1	198	40	Off
077		J	1553	9 Nov 99	0930	S01:53.01	W085:12.69	1	198	3	On
077		J	1555	9 Nov 99	0945	S01:46.09	W085:14.07	1	198	5	Off
077		J	1563	9 Nov 99	1439	S01:21.63	W085:48.97	3	198	50	On
077		J	1568	10 Nov 99	1056	N00:40.85	W087:41.38	4	73	1	On
077	002	J	1574	10 Nov 99	1752	N01:18.40	W087:08.19	4	196	98	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
077		J	1583	12 Nov 99	0719	N05:00.51	W084:38.90	4	73	200	On
077		J	1584	12 Nov 99	0731	N05:06.13	W084:40.44	4	7	1	On
077		J	1592	13 Nov 99	0808	N05:49.73	W081:31.03	5	7	1	On
077		J	1598	13 Nov 99	1730	N05:48.27	W080:03.19	4	149	1	On
077		J	1600	14 Nov 99	0844	N07:00.77	W078:34.40	4	149	3	On
077		J	1609	14 Nov 99	1402	N07:22.80	W078:23.08	4	125	25	On
077		J	1616	19 Nov 99	0948	N07:25.12	W079:51.27	4	125	30	On
077		J	1618	19 Nov 99	1035	N07:23.19	W079:58.95	4	125	3	On
077		J	1623	19 Nov 99	1356	N06:56.69	W080:16.18	2	196	3	On
077		J	1632	21 Nov 99	0840	N07:15.96	W085:34.54	4	149	1	On
077		J	1634	21 Nov 99	1433	N07:13.40	W086:11.24	3	73	1	On
077		J	1636	21 Nov 99	1533	N07:17.00	W086:20.84	3	196	9	On
077		J	1637	21 Nov 99	1553	N07:15.37	W086:21.51	4	196	12	On
077		J	1638	21 Nov 99	1623	N07:16.31	W086:23.36	4	7	15	On
077		J	1640	21 Nov 99	1644	N07:22.26	W086:28.59	4	7	5	Off
077		J	1642	22 Nov 99	0701	N07:37.17	W088:09.26	2	73	5	Off
077		J	1643	22 Nov 99	0708	N07:24.35	W088:14.44	2	196	10	On
077		J	1646	22 Nov 99	0851	N07:24.41	W088:23.45	1	198	20	Off
077		J	1672	23 Nov 99	1718	N08:03.16	W091:57.27	2	125	4	On
077		J	1677	24 Nov 99	0643	N08:16.45	W093:50.11	1	7	34	Off
077		J	1681	24 Nov 99	0732	N08:14.66	W093:55.10	1	73	20	On
077		J	1682	24 Nov 99	0736	N08:18.29	W093:54.71	1	73	15	Off
077		J	1688	24 Nov 99	0952	N08:28.01	W093:51.78	2	149	5	On
077		J	1693	24 Nov 99	1548	N08:20.90	W094:37.96	4	73	15	On
077		J	1697	25 Nov 99	0638	N08:33.23	W096:18.98	2	125	5	On
077		J	1702	25 Nov 99	1056	N08:37.19	W096:58.65	2	125	2	Off
077		J	1711	25 Nov 99	1621	N08:47.34	W097:28.13	1	196	11	On
077		J	1718	26 Nov 99	0921	N09:10.20	W100:01.47	2	7	10	Off
077		J	1721	26 Nov 99	1255	N09:13.32	W100:36.32	3	149	1	Off
077		J	1722	26 Nov 99	1347	N09:15.53	W100:38.28	4	196	4	On
077		J	1724	26 Nov 99	1559	N09:15.45	W101:04.18	3	149	1	On
077		J	1725	26 Nov 99	1704	N09:17.27	W101:08.44	3	149	2	On
077		J	1735	27 Nov 99	1557	N09:33.76	W104:21.86	5	196	2	On
077		J	1737	27 Nov 99	1753	N09:42.21	W104:39.14	5	7	6	On
077	010	J	1738	27 Nov 99	1816	N09:34.13	W104:41.25	5	73	21	On
077		J	1745	28 Nov 99	1701	N10:19.01	W108:01.46	5	7	1	On
077		J	1747	30 Nov 99	0651	N12:05.08	W109:59.45	5	196	1	On
077		J	1748	30 Nov 99	0720	N12:04.70	W110:00.20	5	125	3	On
077		J	1751	30 Nov 99	1416	N12:57.89	W110:27.34	5	7	1	On
077		J	1753	1 Dec 99	0649	N15:07.32	W111:21.91	4	7	1	On
077		J	1757	1 Dec 99	1225	N15:53.71	W111:48.57	4	73	50	On
077		J	1762	1 Dec 99	1723	N16:28.91	W112:03.85	4	196	5	On
077		J	1763	2 Dec 99	0705	N17:44.19	W112:34.14	1	7	1	On
077	021	J	1777	4 Dec 99	1254	N20:01.05	W113:47.15	3	7	4	On
unid. small whale											
078		M	129	15 Sep 99	1615	S01:56.54	W120:50.56	4	198	1	On
078		M	171	21 Sep 99	1133	N00:58.87	W103:51.08	2	198	1	On
078		M	181	22 Sep 99	1549	N01:49.85	W100:38.88	4	99	1	On
078		M	184	23 Sep 99	0841	N02:23.49	W098:18.97	4	7	10	On
078		M	242	7 Oct 99	1718	N10:23.56	W087:21.94	4	126	1	On
078	021	M	277	11 Oct 99	0949	N05:26.34	W091:04.79	4	168	7	On
078		M	301	14 Oct 99	0901	N14:00.66	W092:56.23	2	184	1	Off
078		M	473	14 Nov 99	0907	N12:41.45	W107:34.30	1	168	1	On
078		M	476	14 Nov 99	1004	N12:33.17	W107:37.87	1	91	1	On
078		J	1393	8 Oct 99	1318	N08:38.49	W083:49.51	3	198	1	On
078		J	1430	18 Oct 99	0737	S02:22.48	W091:35.51	4	125	1	On
078		J	1458	25 Oct 99	1843	S14:01.58	W082:41.20	3	149	1	Off
078		J	1487	2 Nov 99	0614	S11:37.03	W079:19.06	4	73	1	On
078		J	1686	24 Nov 99	0948	N08:26.15	W093:50.46	2	149	1	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
078		J	1730	27 Nov 99	1129	N09:39.58	W103:40.18	5	73	1	On
unid. large whale											
079		M	186	24 Sep 99	0759	N03:27.81	W094:47.82	4	73	1	On
079		M	227	6 Oct 99	0840	N07:57.41	W085:42.99	4	92	1	On
079		M	331	16 Oct 99	1056	N10:07.65	W095:52.64	4	168	1	On
079		M	340	17 Oct 99	1614	N07:01.42	W097:20.44	4	99	1	Off
079		M	347	18 Oct 99	1650	N06:29.99	W098:21.77	4	126	1	On
079	077 011	M	423	4 Nov 99	0927	N06:52.15	W112:16.52	3	91	1	On
079		M	443	8 Nov 99	1748	N14:20.91	W116:26.74	5	168	1	On
079		M	545	27 Nov 99	1350	N16:25.55	W118:47.23	4	126	1	On
079		M	551	28 Nov 99	1556	N18:29.63	W115:32.77	3	99	1	Off
079		M	552	28 Nov 99	1557	N18:36.30	W115:36.95	3	92	1	On
079		J	1056	1 Aug 99	0709	N25:08.48	W112:43.74	2	197	1	Off
079		J	1058	1 Aug 99	0805	N24:59.82	W112:35.31	3	168	1	On
079		J	1061	1 Aug 99	0840	N24:57.68	W112:35.26	3	184	1	Off
079		J	1081	2 Aug 99	1321	N24:01.84	W114:15.86	3	99	1	Off
079		J	1090	3 Aug 99	1100	N22:56.75	W112:48.72	2	197	1	On
079		J	1267	4 Sep 99	1218	N07:45.82	W106:45.92	6	184	2	On
079		J	1306	17 Sep 99	1018	N06:01.64	W100:55.03	3	92	1	On
079		J	1518	7 Nov 99	0919	S05:06.13	W081:57.45	3	198	1	On
Kogia sp.											
080		M	215	28 Sep 99	0757	N08:09.82	W085:41.35	3	196	1	On
Mesoplodon sp. A											
083		M	418	3 Nov 99	1127	N08:51.64	W110:11.99	2	92	2	On
083		M	460	13 Nov 99	1227	N13:43.33	W108:52.40	2	197	3	On
083		J	1667	23 Nov 99	1347	N07:51.80	W091:34.64	2	73	2	On
Stenella longirostris centroamericana											
088		M	304	14 Oct 99	1050	N14:18.24	W092:59.34	2	197	185	On
Stenella attenuata (unid. subsp.)											
090		M	246	8 Oct 99	0629	N12:00.63	W087:30.41	3	168	10	On
090		M	248	8 Oct 99	0724	N12:02.97	W087:29.29	3	99	4	Off
090		M	318	14 Oct 99	1732	N15:05.73	W093:14.63	2	197	10	On
090		M	393	27 Oct 99	1126	N16:41.40	W100:04.65	2	92	38	On
090		M	394	27 Oct 99	1156	N16:41.64	W100:11.66	2	126	142	On
090		M	513	21 Nov 99	1209	N18:54.98	W104:39.92	4	168	40	On
090	077	M	564	1 Dec 99	1505	N22:05.56	W115:50.11	5	168	31	On
090		J	1208	13 Aug 99	1512	N21:39.83	W106:08.52	1	126	138	On
090		J	1213	14 Aug 99	0752	N20:47.49	W106:05.59	2	92	82	On
090		J	1214	14 Aug 99	0827	N20:50.28	W106:08.51	2	197	69	On
090		J	1215	14 Aug 99	0910	N20:42.35	W106:08.02	3	184	150	On
090		J	1218	14 Aug 99	1216	N20:20.46	W106:21.27	2	92	125	On
090	010	J	1219	14 Aug 99	1531	N20:01.30	W106:45.96	3	91	69	On
090	003	J	1227	15 Aug 99	1615	N19:17.53	W105:45.70	2	92	15	On
090		J	1229	20 Aug 99	1127	N19:04.28	W104:28.50	2	197	16	Off
090		J	1230	20 Aug 99	1311	N19:02.45	W104:41.62	1	184	27	On
090		J	1231	20 Aug 99	1735	N18:43.81	W105:00.73	5	168	41	On
090	010	J	1282	8 Sep 99	1120	N17:37.82	W101:51.06	2	184	35	On
090		J	1371	27 Sep 99	1658	N13:13.47	W089:46.11	3	4	5	Off
unid. cetacean											
096		M	127	15 Sep 99	0816	S00:57.32	W121:39.88	4	149	1	Off
096		M	232	7 Oct 99	0556	N09:09.25	W087:09.62	2	197	4	On
096		M	305	14 Oct 99	1133	N14:19.51	W093:02.26	2	184	3	On
096		M	400	28 Oct 99	0837	N14:44.48	W101:53.23	2	99	1	Off
096		M	424	4 Nov 99	1225	N06:30.14	W112:29.23	4	92	1	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
096		J	1091	3 Aug 99	1139	N23:00.83	W112:47.74	2	184	1	On
096		J	1179	11 Aug 99	1312	N25:32.10	W109:59.33	2	184	3	On
096		J	1204	13 Aug 99	1125	N22:08.27	W106:32.48	1	184	2	On
096		J	1296	14 Sep 99	0850	N13:56.00	W100:16.39	1	197	1	On
096		J	1348	25 Sep 99	0819	N07:14.87	W092:42.97	5	184	6	On
096		J	1631	21 Nov 99	0722	N07:08.85	W085:21.91	4	149	1	Off
096		J	1687	24 Nov 99	0951	N08:17.08	W093:51.43	2	7	2	Off
096		J	1709	25 Nov 99	1514	N08:46.17	W097:20.48	1	125	1	Off
096		J	1778	5 Dec 99	0618	N22:21.64	W114:49.11	1	198	1	On
096		J	1780	5 Dec 99	0725	N22:34.63	W114:59.89	0	149	1	On
096		J	1785	5 Dec 99	1043	N22:58.83	W115:12.68	1	198	3	On
unid. whale											
098		M	5	28 Jul 99	1905	N31:28.62	W116:50.17	4	99	1	Off
098		M	50	13 Aug 99	0743	N05:25.15	W134:22.00	4	149	1	On
098		M	65	17 Aug 99	1058	N05:55.39	W143:07.91	5	73	1	On
098		M	395	27 Oct 99	1315	N16:34.30	W100:21.83	1	184	1	On
098		M	456	13 Nov 99	0952	N13:57.97	W108:38.37	3	168	1	On
098		J	1039	31 Jul 99	1044	N27:06.24	W114:38.38	5	99	1	Off
098		J	1662	23 Nov 99	0919	N07:50.95	W091:20.43	2	73	1	On
098	036 010 002	J	1696	24 Nov 99	1700	N08:22.93	W094:45.76	3	196	1	Off
Balaenoptera borealis/edeni											
099		M	79	19 Aug 99	1819	N10:00.11	W146:33.40	3	98	1	Off
099		M	134	17 Sep 99	1508	S02:14.98	W115:29.26	3	7	3	On
099		M	135	17 Sep 99	1547	S02:15.90	W115:22.77	4	198	1	On
099		M	316	14 Oct 99	1604	N14:54.54	W093:12.04	1	184	1	On
099		M	343	18 Oct 99	0722	N05:10.89	W098:14.10	5	91	3	On
099		M	344	18 Oct 99	0836	N05:05.69	W098:17.29	5	92	3	On
099		M	408	30 Oct 99	0851	N08:07.16	W103:53.09	2	168	2	On
099		M	445	9 Nov 99	0813	N13:31.22	W115:02.14	4	126	1	On
099	070	J	1054	31 Jul 99	1803	N26:39.08	W113:57.29	5	184	1	On
099		J	1055	31 Jul 99	1855	N26:35.67	W113:55.07	5	126	1	On
099		J	1057	1 Aug 99	0716	N25:06.76	W112:42.26	3	91	1	On
099		J	1062	1 Aug 99	0859	N24:56.95	W112:33.17	3	184	2	On
099		J	1066	1 Aug 99	0930	N24:55.60	W112:30.56	3	92	1	Off
099		J	1088	3 Aug 99	0853	N22:52.19	W113:08.63	2	168	1	Off
099		J	1459	26 Oct 99	0715	S14:05.58	W081:12.95	3	73	1	On
099		J	1527	8 Nov 99	0715	S03:45.30	W082:46.30	2	120	1	Off
099		J	1750	30 Nov 99	1343	N12:55.23	W110:23.00	5	149	1	On
Stenella longirostris (southwestern)											
101	002	M	40	9 Aug 99	1213	N06:13.23	W125:02.91	4	125	55	On
101	002	M	58	14 Aug 99	1401	N04:08.91	W138:06.83	4	198	13	On
Stenella longirostris longirostris											
102	013	J	1439	21 Oct 99	1549	S10:15.89	W093:37.57	4	7	421	On
102		J	1440	22 Oct 99	0738	S11:05.22	W092:07.64	5	196	835	On
Stenella longirostris orient/centroamericana											
103		J	1279	8 Sep 99	1039	N17:37.12	W102:00.64	3	168	81	On
103		J	1366	27 Sep 99	0952	N12:53.03	W089:58.03	4	168	116	On
Arctocephalus australis											
AA		J	1800	27 Oct 99	1214	S13:47.18	W077:57.94	3	196	1	On
AA		J	1801	27 Oct 99	1217	S13:46.63	W077:56.49	3	125	1	On
AA		J	1802	27 Oct 99	1225	S13:48.04	W077:55.35	4	196	1	On
AA		J	1803	27 Oct 99	1309	S13:43.84	W077:49.51	4	7	1	On
AA		J	1804	27 Oct 99	1333	S13:41.16	W077:45.45	4	73	1	On
AA		J	1811	1 Nov 99	1541	S11:52.87	W077:42.61	3	7	1	On

Table 2. Marine mammal sightings (continued)

Code	Other Codes	Ship	Sighting Number	Date	Time	Latitude	Longitude	Bft.	Obs. No.	School Size	Effort
Mirounga angustirostris											
MA		M	4	28 Jul 99	1902	N31:28.50	W116:48.61	4	73	1	On
MA		J	1013	29 Jul 99	1139	N30:03.91	W116:02.51	3	91	1	On
Otaria byronia											
OB	018	J	1522	7 Nov 99	1651	S04:57.26	W081:21.80	4	149	8	On
OB		J	1805	1 Nov 99	1204	S11:58.12	W077:27.31	1	73	1	On
OB		J	1806	1 Nov 99	1359	S11:55.95	W077:30.92	2	149	2	On
OB		J	1807	1 Nov 99	1431	S11:53.33	W077:34.32	3	149	3	On
OB		J	1808	1 Nov 99	1432	S11:53.89	W077:34.52	3	196	1	On
OB		J	1809	1 Nov 99	1435	S11:54.26	W077:35.04	3	7	1	On
OB		J	1810	1 Nov 99	1440	S11:53.24	W077:36.36	3	7	2	On
OB		J	1813	1 Nov 99	1602	S11:52.57	W077:45.82	4	73	6	On
OB		J	1814	1 Nov 99	1616	S11:51.83	W077:48.18	4	125	1	On
OB		J	1815	1 Nov 99	1651	S11:52.10	W077:53.34	4	149	1	On
OB		J	1816	1 Nov 99	1659	S11:51.37	W077:55.21	4	149	1	On
OB		J	1817	7 Nov 99	1616	S05:01.12	W081:16.74	4	125	1	On
OB		J	1818	7 Nov 99	1624	S05:00.31	W081:17.82	4	125	2	On
unid. pinniped											
PU		M	584	6 Dec 99	1428	N28:47.11	W117:52.58	5	99	1	Off
PU		J	1047	31 Jul 99	1603	N26:48.49	W114:05.77	5	197	1	On
PU		J	1048	31 Jul 99	1611	N26:46.54	W114:04.27	5	92	1	On
PU		J	1812	1 Nov 99	1546	S11:54.20	W077:43.04	3	198	2	On
unid. sea lion											
UO		J	1007	29 Jul 99	1017	N30:13.71	W116:06.99	3	168	1	On
UO		J	1011	29 Jul 99	1125	N30:05.36	W116:05.71	3	168	1	On
UO		J	1012	29 Jul 99	1131	N30:05.04	W116:04.57	3	91	1	On
UO		J	1027	30 Jul 99	0759	N28:31.86	W115:44.48	5	91	1	On
UO		J	1049	31 Jul 99	1614	N26:47.04	W114:04.14	5	99	1	Off
UO	022	J	1050	31 Jul 99	1622	N26:44.80	W114:02.93	5	126	1	On
UO		J	1078	2 Aug 99	0927	N24:08.90	W113:36.50	3	184	1	On
UO		J	1080	2 Aug 99	1257	N24:04.28	W114:11.77	3	168	1	On
UO		J	1086	3 Aug 99	0826	N22:49.89	W113:11.18	2	168	1	On
UO		J	1092	3 Aug 99	1225	N23:03.32	W112:41.71	2	91	1	On
UO		J	1093	3 Aug 99	1304	N23:05.07	W112:34.75	2	184	1	On
UO		J	1166	10 Aug 99	0908	N23:17.55	W108:25.43	3	184	1	On
Zalophus californianus											
ZC		J	1028	30 Jul 99	0803	N28:31.24	W115:43.56	5	91	1	On
ZC		J	1029	30 Jul 99	0812	N28:30.63	W115:42.43	5	126	1	On
ZC		J	1403	12 Oct 99	1345	N00:01.30	W090:18.00	4	73	2	On
ZC	018	J	1421	12 Oct 99	1318	S00:02.06	W090:15.35	4	149	11	On
ZC		J	1819	6 Dec 99	1441	N25:27.40	W116:19.07	4	7	1	On

Table 3. Summary of STAR99 marine mammal sightings. Mixed schools are counted once for each sighting-category that occurs in them. School size is the mean of the best estimates of total school size for pure schools and subgroup size of the sighting-category in the case of mixed schools.

Code	Sighting-Category	Pure Schools	Mixed Schools	Total Sightings	School Size
077	unid. dolphin	233	23	256	16.4
013	*Stenella coeruleoalba*	178	14	192	37.2
002	*Stenella attenuata* (offshore)	61	94	155	80.0
018	*Tursiops truncatus*	88	37	125	21.8
017	*Delphinus delphis*	114	8	122	175.8
010	*Stenella longirostris orientalis*	12	62	74	75.2
021	*Grampus griseus*	38	15	53	16.9
049	ziphiid whale	48	0	48	1.7
015	*Steno bredanensis*	33	11	44	9.0
036	*Globicephala macrorhynchus*	33	10	43	14.4
072	*Balaenoptera edeni*	32	1	33	1.6
011	*Stenella longirostris* (whitebelly)	11	19	30	127.0
061	*Ziphius cavirostris*	28	0	28	2.1
070	*Balaenoptera* sp.	23	3	26	1.4
006	*Stenella attenuata graffmani*	23	2	25	43.3
075	*Balaenoptera musculus*	23	0	23	1.7
051	*Mesoplodon* sp.	23	0	23	2.0
090	*Stenella attenuata* (unid. subsp.)	15	4	19	55.1
079	unid. large whale	17	1	18	1.1
046	*Physeter macrocephalus*	17	0	17	11.5
099	*Balaenoptera borealis/edeni*	16	1	17	1.5
096	unid. cetacean	16	0	16	2.0
078	unid. small whale	14	1	15	2.0
037	*Orcinus orca*	13	0	13	4.4
OB	*Otaria byronia*	12	1	13	2.3
UO	unid. sea lion	11	1	12	1.0
016	*Delphinus capensis*	9	1	10	371.7
022	*Lagenorhynchus obliquidens*	9	1	10	9.9
048	*Kogia sima*	10	0	10	1.7
003	*Stenella longirostris* (unid. subsp.)	1	8	9	106.0
098	unid. whale	7	1	8	1.0
033	*Pseudorca crassidens*	2	4	6	9.8
AA	*Arctocephalus australis*	6	0	6	1.0
034	*Globicephala* sp.	1	4	5	20.9
076	*Megaptera novaeangliae*	5	0	5	2.4
005	*Delphinus* sp.	5	0	5	38.9
ZC	*Zalophus californianus*	4	1	5	3.2
PU	unid. pinniped	4	0	4	1.3
032	*Feresa attenuata*	3	0	3	37.1
074	*Balaenoptera physalus*	3	0	3	1.7
083	*Mesoplodon* sp. A	3	0	3	2.2
025	*Lagenorhynchus obscurus*	2	1	3	46.0
101	*Stenella longirostris* (southwestern)	0	2	2	33.6
102	*Stenella longirostris longirostris*	1	1	2	627.8
103	*Stenella longirostris orient/centroam*	2	0	2	98.2
026	*Lagenodelphis hosei*	1	1	2	33.3
MA	*Mirounga angustirostris*	2	0	2	1.0
059	*Mesoplodon densirostris*	2	0	2	1.5
001	*Mesoplodon peruvianus*	1	0	1	1.0
073	*Balaenoptera borealis*	1	0	1	1.0
080	*Kogia* sp.	1	0	1	1.0
088	*Stenella longirostris centroamericana*	1	0	1	185.3
031	*Peponocephala electra*	1	0	1	142.3

Table 4. Marine mammal schools of mixed species composition during STAR99. Scientific names for each sighting code are listed in Appendix C.

Species 1 code	Species 1 name	Species 2 code	Species 2 name	Species 3 code	Species 3 name	Species 4 code	Species 4 name	Number of Schools
002	OFFSH_SPOT	010	EAST_SPINR					52
002	OFFSH_SPOT	011	WBEL_SPINR					16
021	GRAMPUS	018	TURSIOPS					11
013	STRIPED	077	UNID_DOLPH					5
002	OFFSH_SPOT	077	UNID_DOLPH					5
002	OFFSH_SPOT	003	UNID_SPINR					5
015	STENO	018	TURSIOPS					4
017	SHRTB_COMM	013	STRIPED					4
036	SHRT_PILOT	018	TURSIOPS					3
018	TURSIOPS	034	GLOBI_SPP					3
002	OFFSH_SPOT	010	EAST_SPINR	018	TURSIOPS			3
002	OFFSH_SPOT	018	TURSIOPS					3
013	STRIPED	002	OFFSH_SPOT					3
090	UNID_SPOT	010	EAST_SPINR					2
015	STENO	077	UNID_DOLPH					2
077	UNID_DOLPH	021	GRAMPUS					2
018	TURSIOPS	033	FALSE_KLLR					2
002	OFFSH_SPOT	010	EAST_SPINR	077	UNID_DOLPH			2
101	SW_SPINNER	002	OFFSH_SPOT					2
018	TURSIOPS	OB	SA_SEALION					1
022	P_WHT_SIDE	UO	UNID_OTARI					1
072	BRYDES_WHL	070	UNID_RORQL					1
077	UNID_DOLPH	002	OFFSH_SPOT	011	WBEL_SPINR			1
003	UNID_SPINR	090	UNID_SPOT					1
018	TURSIOPS	010	EAST_SPINR					1
017	SHRTB_COMM	036	SHRT_PILOT					1
036	SHRT_PILOT	013	STRIPED					1
006	COAST_SPOT	018	TURSIOPS					1
018	TURSIOPS	ZC	CA_SEALION					1
102	GRAYS_SPIN	013	STRIPED					1
034	GLOBI_SPP	021	GRAMPUS	018	TURSIOPS			1
025	DUSKY	016	LONGB_COMM					1
099	SEI/BRYDES	070	UNID_RORQL					1
036	SHRT_PILOT	077	UNID_DOLPH					1
033	FALSE_KLLR	015	STENO					1
006	COAST_SPOT	003	UNID_SPINR					1
010	EAST_SPINR	077	UNID_DOLPH					1
036	SHRT_PILOT	018	TURSIOPS	015	STENO			1
017	SHRTB_COMM	002	OFFSH_SPOT					1
036	SHRT_PILOT	018	TURSIOPS	026	FRASERS	015	STENO	1
036	SHRT_PILOT	010	EAST_SPINR	002	OFFSH_SPOT	098	UNID_WHALE	1
017	SHRTB_COMM	015	STENO					1
021	GRAMPUS	078	UNID_SM_WH					1
018	TURSIOPS	077	UNID_DOLPH					1
070	UNID_RORQL	015	STENO					1
077	UNID_DOLPH	011	WBEL_SPINR	079	UNID_LG_WH			1
077	UNID_DOLPH	090	UNID_SPOT					1
017	SHRTB_COMM	011	WBEL_SPINR					1
033	FALSE_KLLR	036	SHRT_PILOT					1
003	UNID_SPINR	077	UNID_DOLPH					1

Table 5. Effort and sighting rates during STAR99 by sea state and swell height.

	Kilometers of effort	No. of sightings	Sightings per 1000 km
Total	30732.0	1206	39.24
By sea state (Beaufort)			
0	115.3	9	78.03
1	703.4	107	152.13
2	2693.3	228	84.65
3	6316.5	320	50.66
4	12828.9	354	27.59
5	7775.7	181	23.28
6	299.0	7	23.41
By swell height (ft)			
0	28.2	1	35.52
1	184.4	21	113.91
2	1303.8	109	83.60
3	4004.5	279	69.67
4	6099.1	245	40.17
5	8536.0	294	34.44
6	7582.1	178	23.48
7	1897.8	43	22.66
8	930.5	28	30.09
9	101.1	4	39.58
10	35.9	0	0.00
12	9.1	1	109.72

Number of sightings with no swell height recorded = 3

Table 6. Sonobuoy effort and number of acoustic recordings obtained per species during STAR99.

Effort	Sonobuoys
functioning Type 53B/D (10 Hz - 4 KHz)	58
functioning Type 57A (10 Hz - 20 KHz)	38
total functional sonobuoys	96
total sonobuoys launched	132

Recordings by species	
Balaenoptera edeni[1]	21
Balaenoptera musculus[1]	18
Globicephala macrorhynchus	11
Stenella longirostris	7
Tursiops truncatus	5
Steno bredanensis	3
Orcinus orca	2
Physeter macrocephalus	2
Stenella attenuata	2
Lagenodelphis hosei	1
Megaptera novaengliae	1
Pseudorca crassidens	1
Delphinus delphis	1
Feresa attenuata	1
total recordings	76

[1] Whales were not heard on every recording

Table 7. Cetacean schools photographed by handheld 35 mm camera and total number of frames taken during STAR99, listed by number of schools photographed.

Sighting-categories	Schools	Frames[1]
Balaenoptera musculus	38	383
Delphinus delphis	28	282
Stenella longirostris (whitebelly)	23	523
Balaenoptera edeni	18	94
Physeter macrocephalus	16	158
Orcinus orca	14	166
Stenella attenuata (NE offshore)/ *S. longirostris orientalis*	14	126
Stenella longirostris (unid. subsp.)	12	195
Stenella attenuata (NE offshore)	9	46
Steno bredanensis	7	27
Stenella longirostris (whitebelly)/ *S. attenuata (NE offshore)*	7	192
Delphinus capensis	6	70
Stenella attenuata graffmani	5	42
Stenella longirostris (southwestern)/ *S. attenuata* (NE offshore)	5	62
Stenella attenuata (NE offshore)/ *S. longirostris* (unid. subsp.)	5	77
Balaenoptera physalus	4	35
Megaptera novaeangliae	4	54
Tursiops truncatus	3	25
Stenella longirostris orientalis	2	28
Stenella coeruleoalba	2	18
Lagenorhynchus obliquidens	2	10
Stenella attenuata (unid. subsp.)	2	7
Stenella longirostris orientalis / S. attenuata (NE offshore)	2	31
Stenella attenuata (NE offshore)/ *S. l. orientalis/ T. truncatus*	2	12
Globicephala sp.	1	3
Globicephala macrorhynchus	1	3
Stenella longirostris centroamericana	1	26
Stenella longirostris (southwestern)	1	3
Stenella attenuata (NE offshore)/*T. truncatus*	1	28
Total	235	2726

[1] includes spacers/ poor quality shots

Table 8. 35 mm photographs of whales from STAR99 that are potentially identifiable as unique individuals.

SIGHT NO.	DATE MM/DD/YY	POSITION	LOCATION	SPECIES	BIOPSY	PHOTO SUBJECT	ROLL	FRAMES	PHOTOG.
008	07/29/99	N30:38/W118:5	NW Baja	*Balaenoptera musculus*		L side	ILB99-01	6-26	196
010	07/29/99	N30:33/W119:0	NW Baja	*Balaenoptera musculus*		L side	LJM99-01	7-24	149
286	10/12/99	N08:09/W091:4	Costa Rica dome	*Balaenoptera musculus*		R side	PAO99-10	7-8	092
332	10/16/99	N09:54/W095:5	NW of C.R. dome	*Balaenoptera musculus*	X	R side	PAO99-10	25	092
"	"	9	"	"	"	L side	PAO99-11	7-31	092&091
"	"	"	"	"	"	L&R side	SEY99-05	8-36	091
"	"	"	"	"	"	L side	SEY99-06	1-6	091
333	10/16/99	N09:53/W095:6	NW of C.R. dome	*Balaenoptera musculus*		R side	PAO99-11	32-36	092
"	"	0	"	"		R side	SEY99-06	10-21	091
1077	08/02/99	N24:08/W113:2	SW Baja	*Balaenoptera musculus*		L side	JDA99-04	9-10	168
"	08/02/99	2	"	"		R side	PAO99-02	5-10	091
1534	11/08/99	S03:15/W083:1	W of Ecuador	*Balaenoptera musculus*		L dorsal	ILB99-16	4	099
1662	11/23/99	N07:55/W091:1	Costa Rica dome	*Balaenoptera musculus*	X	L side	ILB99-17	20-30	196
1663	11/23/99	N07:55/W091:1	Costa Rica dome	*Balaenoptera musculus*	X	L side	ILB99-18	10-15	196
"	"	7	"	"	"	L side	ELZ99-02	2-16	198
1670	11/23/99	N07:58/W091:4	Costa Rica dome	*Balaenoptera musculus*	X	L side	ILB99-18	31-36	196
1684	11/24/99	N08:17/W093:5	Costa Rica dome	*Balaenoptera musculus*	X	L side	ILB99-19	19-27	196
1690	11/24/99	N08:22/W093:5	Costa Rica dome	*Balaenoptera musculus*	X	L&R sides	ELZ99-03	10-36	198
"	"	"	"	"	"	L sides	ELZ99-04	2-8	198
586	12/06/99	N29:02/W117:5	Guadalupe I.	*Megaptera novaeangliae*		L&R dorsals	PAO99-18	1-11	168
1589	11/12/99	N05:51/W083:4	W of Cabo Blanco, Peru	*Megaptera novaeangliae*		L dorsals	ILB99-16	20-28	196
"	11/12/99	"	"	"		R dorsals	ELZ99-01	26-36	198
382	10/21/99	N13:06/W098:2	SE of Acapulco, MX	*Orcinus orca*	X	L&R dorsals	PAO99-12	4-27	092
"	"	4	"	"	"	L dorsal	SEY99-06	30	197
"	"	"	"	"	"	L&R dorsals	SEY99-07	1-10	197
447	11/10/99	N14:42/W113:1	SW of Revillagigedos	*Orcinus orca*		L dorsal	PAO99-14	23-36	197
"	"	4	"	"		L dorsal	PAO99-15	18-32	168
1075	08/01/99	N24:17/W111:5	SW Baja	*Orcinus orca*	X	L dorsals	JDA99-03	27-35	168
"	"	4	"	"	"	L dorsals	PAO99-01	35-37	092
1138	08/07/99	N20:32/W109:4	NE of Revillagigedos	*Orcinus orca*	X	L sides	PAO99-02	31-36	092
"	"	"	"	"	"	L side&R dorsal	PAO99-03	2-3	092
094	08/22/99	N08:49/W152:3	offshore	*Physeter macrocephalus*		L&R dorsals	LJM99-16	14-36	149
126	09/14/99	N00:40/W123:2	offshore	*Physeter macrocephalus*		L dorsal & fluke	LJM99-19	19, 28	196
1107	08/04/99	N22:51/W110:2	S tip of Baja	*Physeter macrocephalus*	X	flukes	PAO99-02	25-30	092
1228	08/15/99	N19:11/W105:3	off Manzanillo, MX	*Physeter macrocephalus*		fluke	PAO99-08	1	092
1477	10/27/99	S13:42/W077:4	off Lima, Peru	*Physeter macrocephalus*	X	flukes	ILB99-13	22-33	196
1506	11/06/99	S05:26/W084:3	W of Cabo Blanco, Peru	*Physeter macrocephalus*		L dorsal & fluke	ILB99-14	15-26	196

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Table 9. Aerial photogrammetry effort, total number of schools, and number of calibration schools, obtained per leg during STAR99 by the helicopter on the *Jordan*.

Leg #	1	2	3	4	5	6	Totals
Days Flown	16	4	3	7	4	13	47
Days Lost	3	16	15	10	10	7	61
% Days Flown	84%	20%	17%	41%	29%	65%	44%
Flight Hours	43.3	9.3	3	13.9	7.9	42.9	120.3
Avg. Flight Hrs./Days Flown	2.71	2.33	1.00	1.99	1.98	3.30	2.56
#Schools Photo'd	40	2	2	13	8	50	115
# Schools for Calibration	13	0	0	5	4	18	40
% Calibration	33%	0%	0%	38%	50%	36%	35%

Table 10. Numbers of aerially photographed cetacean schools per leg during STAR99 by the helicopter on the *Jordan*.

Leg #	1	2	3	4	5	6	Totals
Stenella attenuata	7	0	0	3	0	4	14
Stenella longirotris	2	0	0	0	0	0	2
Mixed *S. attenuata* & *S. longirostris*	2	1	0	0	0	1	3
S. coeruleoalba	9	1	0	0	0	15	24
Delphinus sp.	6	0	0	2	6	10	24
Other Small Cetacean	9	0	2	5	0	14	30
Unid Small Cetaceans	1	0	0	0	0	0	1
Lg. Whales	3	0	0	2	1	5	11
Beaked Whales	1	0	0	1	1	1	4
Total Schools Photographed	40	2	2	13	8	50	114

Table 11. Identity and sample location of skin biopsy samples of cetaceans obtained during STAR99.

Species/Stock	Sighting Number	Ship	Date (yy/mm/dd)	Position
Balaenoptera edeni	39	MAC	99/08/9	06° 04′ N 125° 02′ W
Balaenoptera edeni	1189	DSJ	99/08/11	25° 23′ N 109° 21′ W
Balaenoptera edeni	1189	DSJ	99/08/11	25° 23′ N 109° 21′ W
Balaenoptera edeni	1189	DSJ	99/08/11	25° 23′ N 109° 21′ W
Balaenoptera edeni	51	MAC	99/08/13	05° 22′ N 134° 23′ W
Balaenoptera edeni	1395	DSJ	99/10/8	08° 26′ N 083° 49′ W
Balaenoptera edeni	1465	DSJ	99/10/26	14° 13′ S 080° 25′ W
Balaenoptera musculus	1077	DSJ	99/08/2	24° 08′ N 113° 24′ W
Balaenoptera musculus	332	MAC	99/10/16	09° 53′ N 096° 01′ W
Balaenoptera musculus	1661	DSJ	99/11/22	07° 40′ N 089° 26′ W
Balaenoptera musculus	1664	DSJ	99/11/23	07° 53′ N 091° 23′ W
Balaenoptera musculus	1663	DSJ	99/11/23	07° 54′ N 091° 18′ W
Balaenoptera musculus	1684	DSJ	99/11/24	08° 20′ N 093° 48′ W
Balaenoptera musculus	1690	DSJ	99/11/24	08° 21′ N 093° 57′ W
Balaenoptera musculus	1690	DSJ	99/11/24	08° 21′ N 093° 57′ W
Balaenoptera physalus	1170	DSJ	99/08/10	24° 20′ N 109° 19′ W
Balaenoptera physalus	1170	DSJ	99/08/10	24° 20′ N 109° 19′ W
Delphinus capensis	1022	DSJ	99/07/29	29° 50′ N 115° 55′ W
Delphinus capensis	1021	DSJ	99/07/29	29° 51′ N 115° 53′ W
Delphinus capensis	1021	DSJ	99/07/29	29° 51′ N 115° 53′ W
Delphinus capensis	1021	DSJ	99/07/29	29° 51′ N 115° 53′ W
Delphinus capensis	1021	DSJ	99/07/29	29° 51′ N 115° 53′ W
Delphinus capensis	1021	DSJ	99/07/29	29° 51′ N 115° 53′ W
Delphinus capensis	1021	DSJ	99/07/29	29° 51′ N 115° 53′ W
Delphinus capensis	1042	DSJ	99/07/31	26° 57′ N 114° 17′ W
Delphinus capensis	1065	DSJ	99/08/1	24° 56′ N 112° 29′ W
Delphinus capensis	1065	DSJ	99/08/1	24° 56′ N 112° 29′ W
Delphinus capensis	1065	DSJ	99/08/1	24° 56′ N 112° 29′ W
Delphinus capensis	1065	DSJ	99/08/1	24° 56′ N 112° 29′ W
Delphinus capensis	1065	DSJ	99/08/1	24° 56′ N 112° 29′ W
Delphinus capensis	1065	DSJ	99/08/1	24° 56′ N 112° 29′ W
Delphinus delphis	1002	DSJ	99/07/28	32° 07′ N 117° 06′ W
Delphinus delphis	1002	DSJ	99/07/28	32° 07′ N 117° 06′ W
Delphinus delphis	1002	DSJ	99/07/28	32° 07′ N 117° 06′ W
Delphinus delphis	1009	DSJ	99/07/29	30° 09′ N 116° 07′ W
Delphinus delphis	1009	DSJ	99/07/29	30° 09′ N 116° 07′ W
Delphinus delphis	1009	DSJ	99/07/29	30° 09′ N 116° 07′ W
Delphinus delphis	1008	DSJ	99/07/29	30° 12′ N 116° 07′ W
Delphinus delphis	1004	DSJ	99/07/29	30° 39′ N 116° 25′ W
Delphinus delphis	1004	DSJ	99/07/29	30° 39′ N 116° 25′ W
Delphinus delphis	1003	DSJ	99/07/29	30° 41′ N 116° 26′ W
Delphinus delphis	1026	DSJ	99/07/30	28° 32′ N 115° 45′ W
Delphinus delphis	1330	DSJ	99/09/21	14° 35′ N 095° 47′ W
Delphinus delphis	204	MAC	99/09/27	07° 11′ N 086° 08′ W
Delphinus delphis	-	DSJ	99/10/8	08° 17′ N 083° 43′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long
Delphinus delphis	-	DSJ	99/10/8	08° 17′ N 083° 43′ W
Delphinus delphis	-	DSJ	99/10/8	08° 17′ N 083° 43′ W
Delphinus delphis	1519	DSJ	99/11/7	05° 03′ S 081° 26′ W
Delphinus delphis	1519	DSJ	99/11/7	05° 03′ S 081° 26′ W
Delphinus delphis	1519	DSJ	99/11/7	05° 03′ S 081° 26′ W
Delphinus delphis	1519	DSJ	99/11/7	05° 03′ S 081° 26′ W
Delphinus delphis	1519	DSJ	99/11/7	05° 03′ S 081° 26′ W
Delphinus delphis	1519	DSJ	99/11/7	05° 03′ S 081° 26′ W
Delphinus delphis	1519	DSJ	99/11/7	05° 03′ S 081° 26′ W
Delphinus delphis	1552	DSJ	99/11/9	-
Delphinus delphis	1657	DSJ	99/11/22	07° 35′ N 088° 56′ W
Delphinus delphis	1787	DSJ	99/12/6	25° 00′ N 115° 52′ W
Delphinus delphis	1787	DSJ	99/12/6	25° 00′ N 115° 52′ W
Delphinus delphis	1789	DSJ	99/12/7	28° 23′ N 116° 58′ W
Globicephala macrorhynchus	1399	DSJ	99/10/8	08° 20′ N 083° 45′ W
Globicephala macrorhynchus	1399	DSJ	99/10/8	08° 20′ N 083° 45′ W
Globicephala macrorhynchus	1399	DSJ	99/10/8	08° 20′ N 083° 45′ W
Globicephala macrorhynchus	1399	DSJ	99/10/8	08° 20′ N 083° 45′ W
Globicephala macrorhynchus	1399	DSJ	99/10/8	08° 20′ N 083° 45′ W
Globicephala macrorhynchus	1399	DSJ	99/10/8	08° 20′ N 083° 45′ W
Globicephala macrorhynchus	1399	DSJ	99/10/8	08° 20′ N 083° 45′ W
Globicephala macrorhynchus	1435	DSJ	99/10/20	08° 48′ S 095° 36′ W
Globicephala macrorhynchus	1454	DSJ	99/10/25	14° 02′ S 082° 59′ W
Globicephala macrorhynchus	1454	DSJ	99/10/25	14° 02′ S 082° 59′ W
Globicephala macrorhynchus	1454	DSJ	99/10/25	14° 02′ S 082° 59′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1502	DSJ	99/11/5	06° 11′ S 085° 05′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1542	DSJ	99/11/8	03° 06′ S 083° 37′ W
Globicephala macrorhynchus	1696	DSJ	99/11/24	08° 27′ N 094° 45′ W
Globicephala macrorhynchus	1696	DSJ	99/11/24	08° 27′ N 094° 45′ W
Grampus griseus	1178	DSJ	99/08/11	25° 35′ N 110° 04′ W
Grampus griseus	1176	DSJ	99/08/11	25° 39′ N 110° 13′ W
Grampus griseus	1176	DSJ	99/08/11	25° 39′ N 110° 13′ W
Grampus griseus	1289	DSJ	99/09/13	16° 39′ N 099° 56′ W
Lagenorhynchus obliquidens	1044	DSJ	99/07/31	26° 54′ N 114° 15′ W
Lagenorhynchus obscurus	1484	DSJ	99/11/1	11° 54′ S 077° 36′ W
Orcinus orca	1075	DSJ	99/08/1	24° 15′ N 111° 57′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long
Orcinus orca	1138	DSJ	99/08/7	20° 34′ N 109° 42′ W
Orcinus orca	1138	DSJ	99/08/7	20° 34′ N 109° 42′ W
Orcinus orca	382	MAC	99/10/21	13° 09′ N 098° 26′ W
Orcinus orca	382	MAC	99/10/21	13° 09′ N 098° 26′ W
Orcinus orca	382	MAC	99/10/21	13° 09′ N 098° 26′ W
Orcinus orca	382	MAC	99/10/21	13° 09′ N 098° 26′ W
Physeter macrocephalus	1107	DSJ	99/08/4	22° 50′ N 110° 28′ W
Physeter macrocephalus	1107	DSJ	99/08/4	22° 50′ N 110° 28′ W
Physeter macrocephalus	1107	DSJ	99/08/4	22° 50′ N 110° 28′ W
Physeter macrocephalus	1107	DSJ	99/08/4	22° 50′ N 110° 28′ W
Physeter macrocephalus	1107	DSJ	99/08/4	22° 50′ N 110° 28′ W
Physeter macrocephalus	1107	DSJ	99/08/4	22° 50′ N 110° 28′ W
Physeter macrocephalus	1228	DSJ	99/08/15	19° 11′ N 105° 32′ W
Physeter macrocephalus	1228	DSJ	99/08/15	19° 11′ N 105° 32′ W
Physeter macrocephalus	1228	DSJ	99/08/15	19° 11′ N 105° 32′ W
Physeter macrocephalus	1228	DSJ	99/08/15	19° 11′ N 105° 32′ W
Physeter macrocephalus	1228	DSJ	99/08/15	19° 11′ N 105° 32′ W
Physeter macrocephalus	1228	DSJ	99/08/15	19° 11′ N 105° 32′ W
Physeter macrocephalus	1228	DSJ	99/08/15	19° 11′ N 105° 32′ W
Physeter macrocephalus	1223	DSJ	99/08/15	19° 16′ N 106° 27′ W
Physeter macrocephalus	143	MAC	99/09/19	00° 49′ S 109° 53′ W
Physeter macrocephalus	1477	DSJ	99/10/27	13° 39′ S 077° 46′ W
Physeter macrocephalus	1477	DSJ	99/10/27	13° 39′ S 077° 46′ W
Physeter macrocephalus	1477	DSJ	99/10/27	13° 39′ S 077° 46′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Physeter macrocephalus	1506	DSJ	99/11/6	05° 28′ S 084° 29′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N 078° 20′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long	
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N	078° 20′ W
Pseudorca crassidens	1612	DSJ	99/11/14	07° 35′ N	078° 20′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1187	DSJ	99/08/11	25° 27′ N	109° 38′ W
Stenella attenuata	1191	DSJ	99/08/12	24° 44′ N	108° 18′ W
Stenella attenuata	1191	DSJ	99/08/12	24° 44′ N	108° 18′ W
Stenella attenuata	1191	DSJ	99/08/12	24° 44′ N	108° 18′ W
Stenella attenuata	1191	DSJ	99/08/12	24° 44′ N	108° 18′ W
Stenella attenuata	1218	DSJ	99/08/14	20° 23′ N	106° 21′ W
Stenella attenuata	1218	DSJ	99/08/14	20° 23′ N	106° 21′ W
Stenella attenuata	1325	DSJ	99/09/20	14° 17′ N	096° 46′ W
Stenella attenuata	1325	DSJ	99/09/20	14° 17′ N	096° 46′ W
Stenella attenuata	1325	DSJ	99/09/20	14° 17′ N	096° 46′ W
Stenella attenuata	1334	DSJ	99/09/22	11° 15′ N	095° 05′ W
Stenella attenuata	1334	DSJ	99/09/22	11° 15′ N	095° 05′ W
Stenella attenuata	1334	DSJ	99/09/22	11° 15′ N	095° 05′ W
Stenella attenuata	1334	DSJ	99/09/22	11° 15′ N	095° 05′ W
Stenella attenuata	1334	DSJ	99/09/22	11° 15′ N	095° 05′ W
Stenella attenuata	1334	DSJ	99/09/22	11° 15′ N	095° 05′ W
Stenella attenuata	1337	DSJ	99/09/23	09° 09′ N	094° 39′ W
Stenella attenuata	1337	DSJ	99/09/23	09° 09′ N	094° 39′ W
Stenella attenuata	1337	DSJ	99/09/23	09° 09′ N	094° 39′ W
Stenella attenuata	201	MAC	99/09/27	06° 47′ N	086° 26′ W
Stenella attenuata	201	MAC	99/09/27	06° 47′ N	086° 26′ W
Stenella attenuata	201	MAC	99/09/27	06° 47′ N	086° 26′ W
Stenella attenuata	201	MAC	99/09/27	06° 47′ N	086° 26′ W
Stenella attenuata	291	MAC	99/10/13	11° 36′ N	092° 28′ W
Stenella attenuata	291	MAC	99/10/13	11° 36′ N	092° 28′ W
Stenella attenuata	293	MAC	99/10/13	11° 53′ N	092° 35′ W
Stenella attenuata	293	MAC	99/10/13	11° 53′ N	092° 35′ W
Stenella attenuata	293	MAC	99/10/13	11° 53′ N	092° 35′ W
Stenella attenuata	293	MAC	99/10/13	11° 53′ N	092° 35′ W
Stenella attenuata	329	MAC	99/10/16	10° 28′ N	095° 41′ W
Stenella attenuata	329	MAC	99/10/16	10° 28′ N	095° 41′ W
Stenella attenuata	326	MAC	99/10/16	10° 37′ N	095° 39′ W
Stenella attenuata	385	MAC	99/10/22	15° 02′ N	098° 33′ W
Stenella attenuata	401	MAC	99/10/28	14° 23′ N	101° 59′ W
Stenella attenuata	488	MAC	99/11/15	13° 38′ N	106° 14′ W
Stenella attenuata	499	MAC	99/11/15	14° 16′ N	105° 51′ W
Stenella attenuata	499	MAC	99/11/15	14° 16′ N	105° 51′ W
Stenella attenuata	497	MAC	99/11/15	14° 29′ N	105° 41′ W
Stenella attenuata	500	MAC	99/11/15	14° 36′ N	105° 38′ W
Stenella attenuata	500	MAC	99/11/15	14° 36′ N	105° 38′ W
Stenella attenuata	1766	DSJ	99/12/2	18° 02′ N	112° 17′ W
Stenella attenuata	1766	DSJ	99/12/2	18° 02′ N	112° 17′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long
Stenella attenuata	1766	DSJ	99/12/2	18° 02′ N 112° 17′ W
Stenella attenuata	1774	DSJ	99/12/3	19° 21′ N 111° 03′ W
Stenella attenuata	1774	DSJ	99/12/3	19° 21′ N 111° 03′ W
Stenella attenuata	1774	DSJ	99/12/3	19° 21′ N 111° 03′ W
Stenella attenuata	1774	DSJ	99/12/3	19° 21′ N 111° 03′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	-	DSJ	99/08/8	19° 42′ N 108° 24′ W
Stenella attenuata (unid)	1208	DSJ	99/08/13	21° 42′ N 106° 10′ W
Stenella attenuata (unid)	1208	DSJ	99/08/13	21° 42′ N 106° 10′ W
Stenella attenuata (unid)	1208	DSJ	99/08/13	21° 42′ N 106° 10′ W
Stenella attenuata (unid)	1208	DSJ	99/08/13	21° 42′ N 106° 10′ W
Stenella attenuata (unid)	1208	DSJ	99/08/13	21° 42′ N 106° 10′ W
Stenella attenuata (unid)	1207	DSJ	99/08/13	21° 47′ N 106° 13′ W
Stenella attenuata (unid)	1206	DSJ	99/08/13	21° 50′ N 106° 14′ W
Stenella attenuata (unid)	1206	DSJ	99/08/13	21° 50′ N 106° 14′ W
Stenella attenuata (unid)	1206	DSJ	99/08/13	21° 50′ N 106° 14′ W
Stenella attenuata (unid)	1206	DSJ	99/08/13	21° 50′ N 106° 14′ W
Stenella attenuata (unid)	1206	DSJ	99/08/13	21° 50′ N 106° 14′ W
Stenella attenuata (unid)	1219	DSJ	99/08/14	20° 03′ N 106° 47′ W
Stenella attenuata (unid)	1219	DSJ	99/08/14	20° 03′ N 106° 47′ W
Stenella attenuata (unid)	1218	DSJ	99/08/14	20° 23′ N 106° 21′ W
Stenella attenuata (unid)	1218	DSJ	99/08/14	20° 23′ N 106° 21′ W
Stenella attenuata (unid)	1215	DSJ	99/08/14	20° 43′ N 106° 10′ W
Stenella attenuata (unid)	1215	DSJ	99/08/14	20° 43′ N 106° 10′ W
Stenella attenuata (unid)	1215	DSJ	99/08/14	20° 43′ N 106° 10′ W
Stenella attenuata (unid)	1215	DSJ	99/08/14	20° 43′ N 106° 10′ W
Stenella attenuata (unid)	1229	DSJ	99/08/20	19° 04′ N 104° 28′ W
Stenella attenuata (unid)	1230	DSJ	99/08/20	19° 04′ N 104° 43′ W
Stenella attenuata (unid)	1230	DSJ	99/08/20	19° 04′ N 104° 43′ W
Stenella attenuata (unid)	1230	DSJ	99/08/20	19° 04′ N 104° 43′ W
Stenella attenuata (unid)	1282	DSJ	99/09/8	17° 39′ N 101° 55′ W
Stenella attenuata (unid)	1282	DSJ	99/09/8	17° 39′ N 101° 55′ W
Stenella attenuata (unid)	1282	DSJ	99/09/8	17° 39′ N 101° 55′ W
Stenella attenuata (unid)	1327	DSJ	99/09/21	15° 43′ N 095° 58′ W
Stenella attenuata (unid)	1327	DSJ	99/09/21	15° 43′ N 095° 58′ W
Stenella attenuata (unid)	1332	DSJ	99/09/22	12° 08′ N 095° 16′ W
Stenella attenuata (unid)	1332	DSJ	99/09/22	12° 08′ N 095° 16′ W
Stenella attenuata graffmani	1373	DSJ	99/09/27	13° 03′ N 089° 45′ W
Stenella attenuata graffmani	1373	DSJ	99/09/27	13° 03′ N 089° 45′ W
Stenella attenuata graffmani	1373	DSJ	99/09/27	13° 03′ N 089° 45′ W
Stenella attenuata graffmani	1373	DSJ	99/09/27	13° 03′ N 089° 45′ W
Stenella attenuata graffmani	1373	DSJ	99/09/27	13° 03′ N 089° 45′ W
Stenella attenuata graffmani	1372	DSJ	99/09/27	13° 38′ N 089° 45′ W
Stenella attenuata graffmani	1392	DSJ	99/10/8	08° 38′ N 083° 56′ W
Stenella attenuata graffmani	1390	DSJ	99/10/8	08° 49′ N 084° 02′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long	
Stenella attenuata graffmani	1389	DSJ	99/10/8	08° 52′ N	084° 02′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	1603	DSJ	99/11/14	07° 12′ N	078° 29′ W
Stenella attenuata graffmani	517	MAC	99/11/21	18° 56′ N	105° 01′ W
Stenella coeruleoalba	14	MAC	99/07/30	28° 54′ N	122° 06′ W
Stenella coeruleoalba	1647	DSJ	99/11/22	07° 29′ N	088° 25′ W
Stenella coeruleoalba	1768	DSJ	99/12/2	18° 10′ N	112° 08′ W
Stenella coeruleoalba	1768	DSJ	99/12/2	18° 10′ N	112° 08′ W
Stenella longirostris (unid)	1156	DSJ	99/08/9	21° 32′ N	107° 40′ W
Stenella longirostris (unid)	1156	DSJ	99/08/9	21° 32′ N	107° 40′ W
Stenella longirostris (unid)	1156	DSJ	99/08/9	21° 32′ N	107° 40′ W
Stenella longirostris (unid)	1156	DSJ	99/08/9	21° 32′ N	107° 40′ W
Stenella longirostris (unid)	1156	DSJ	99/08/9	21° 32′ N	107° 40′ W
Stenella longirostris (unid)	1205	DSJ	99/08/13	20° 00′ N	106° 24′ W
Stenella longirostris (unid)	1205	DSJ	99/08/13	20° 00′ N	106° 24′ W
Stenella longirostris (unid)	1205	DSJ	99/08/13	20° 00′ N	106° 24′ W
Stenella longirostris (unid)	1205	DSJ	99/08/13	20° 00′ N	106° 24′ W
Stenella longirostris (unid)	1202	DSJ	99/08/13	22° 11′ N	106° 32′ W
Stenella longirostris (unid)	1202	DSJ	99/08/13	22° 11′ N	106° 32′ W
Stenella longirostris (unid)	1202	DSJ	99/08/13	22° 11′ N	106° 32′ W
Stenella longirostris (unid)	1202	DSJ	99/08/13	22° 11′ N	106° 32′ W
Stenella longirostris (unid)	1202	DSJ	99/08/13	22° 11′ N	106° 32′ W
Stenella longirostris (unid)	1202	DSJ	99/08/13	22° 11′ N	106° 32′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1212	DSJ	99/08/14	20° 55′ N	106° 05′ W
Stenella longirostris (unid)	1279	DSJ	99/09/8	17° 35′ N	102° 00′ W
Stenella longirostris (unid)	1279	DSJ	99/09/8	17° 35′ N	102° 00′ W
Stenella longirostris (unid)	1279	DSJ	99/09/8	17° 35′ N	102° 00′ W
Stenella longirostris (unid)	1279	DSJ	99/09/8	17° 35′ N	102° 00′ W
Stenella longirostris (unid)	1279	DSJ	99/09/8	17° 35′ N	102° 00′ W
Stenella longirostris (unid)	1366	DSJ	99/09/27	12° 55′ N	090° 03′ W
Stenella longirostris orientalis	1219	DSJ	99/08/14	20° 03′ N	106° 47′ W
Stenella longirostris orientalis	1224	DSJ	99/08/15	19° 14′ N	106° 14′ W
Stenella longirostris orientalis	1224	DSJ	99/08/15	19° 14′ N	106° 14′ W
Stenella longirostris orientalis	1224	DSJ	99/08/15	19° 14′ N	106° 14′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long
Stenella longirostris orientalis	1224	DSJ	99/08/15	19° 14′ N 106° 14′ W
Stenella longirostris orientalis	1224	DSJ	99/08/15	19° 14′ N 106° 14′ W
Stenella longirostris orientalis	1224	DSJ	99/08/15	19° 14′ N 106° 14′ W
Stenella longirostris orientalis	1323	DSJ	99/09/20	13° 26′ N 097° 06′ W
Stenella longirostris orientalis	1323	DSJ	99/09/20	13° 26′ N 097° 06′ W
Stenella longirostris orientalis	1325	DSJ	99/09/20	14° 17′ N 096° 46′ W
Stenella longirostris orientalis	1334	DSJ	99/09/22	11° 15′ N 095° 05′ W
Stenella longirostris orientalis	1334	DSJ	99/09/22	11° 15′ N 095° 05′ W
Stenella longirostris orientalis	293	MAC	99/10/13	11° 53′ N 092° 35′ W
Stenella longirostris orientalis	293	MAC	99/10/13	11° 53′ N 092° 35′ W
Stenella longirostris orientalis	387	MAC	99/10/22	15° 19′ N 098° 36′ W
Stenella longirostris orientalis	387	MAC	99/10/22	15° 19′ N 098° 36′ W
Stenella longirostris orientalis	507	MAC	99/11/16	16° 38′ N 104° 35′ W
Stenella longirostris orientalis	507	MAC	99/11/16	16° 38′ N 104° 35′ W
Stenella longirostris orientalis	507	MAC	99/11/16	16° 38′ N 104° 35′ W
Stenella longirostris orientalis	507	MAC	99/11/16	16° 38′ N 104° 35′ W
Steno bredanensis	1154	DSJ	99/08/9	21° 15′ N 107° 43′ W
Steno bredanensis	1286	DSJ	99/09/8	17° 32′ N 101° 34′ W
Steno bredanensis	1666	DSJ	99/11/23	07° 54′ N 091° 27′ W
Steno bredanensis	1666	DSJ	99/11/23	07° 54′ N 091° 27′ W
Tursiops truncatus	1097	DSJ	99/08/4	23° 35′ N 110° 42′ W
Tursiops truncatus	1097	DSJ	99/08/4	23° 35′ N 110° 42′ W
Tursiops truncatus	1096	DSJ	99/08/4	23° 39′ N 110° 44′ W
Tursiops truncatus	1130	DSJ	99/08/7	21° 05′ N 109° 43′ W
Tursiops truncatus	1178	DSJ	99/08/11	25° 35′ N 110° 04′ W
Tursiops truncatus	1194	DSJ	99/08/12	23° 10′ N 107° 22′ W
Tursiops truncatus	1210	DSJ	99/08/13	21° 40′ N 106° 07′ W
Tursiops truncatus	1210	DSJ	99/08/13	21° 40′ N 106° 07′ W
Tursiops truncatus	1210	DSJ	99/08/13	21° 40′ N 106° 07′ W
Tursiops truncatus	1210	DSJ	99/08/13	21° 40′ N 106° 07′ W
Tursiops truncatus	1210	DSJ	99/08/13	21° 40′ N 106° 07′ W
Tursiops truncatus	1239	DSJ	99/08/24	10° 17′ N 112° 21′ W
Tursiops truncatus	1239	DSJ	99/08/24	10° 17′ N 112° 21′ W
Tursiops truncatus	1239	DSJ	99/08/24	10° 17′ N 112° 21′ W
Tursiops truncatus	1275	DSJ	99/09/6	14° 26′ N 104° 07′ W
Tursiops truncatus	1294	DSJ	99/09/14	14° 08′ N 100° 14′ W
Tursiops truncatus	1294	DSJ	99/09/14	14° 08′ N 100° 14′ W
Tursiops truncatus	1294	DSJ	99/09/14	14° 08′ N 100° 14′ W
Tursiops truncatus	1354	DSJ	99/09/25	07° 58′ N 092° 20′ W
Tursiops truncatus	1354	DSJ	99/09/25	07° 58′ N 092° 20′ W
Tursiops truncatus	1354	DSJ	99/09/25	07° 58′ N 092° 20′ W
Tursiops truncatus	1354	DSJ	99/09/25	07° 58′ N 092° 20′ W
Tursiops truncatus	198	MAC	99/09/26	05° 33′ N 087° 05′ W
Tursiops truncatus	198	MAC	99/09/26	05° 33′ N 087° 05′ W
Tursiops truncatus	198	MAC	99/09/26	05° 33′ N 087° 05′ W
Tursiops truncatus	198	MAC	99/09/26	05° 33′ N 087° 05′ W
Tursiops truncatus	198	MAC	99/09/26	05° 33′ N 087° 05′ W
Tursiops truncatus	198	MAC	99/09/26	05° 33′ N 087° 05′ W
Tursiops truncatus	217	MAC	99/09/28	08° 30′ N 085° 34′ W
Tursiops truncatus	217	MAC	99/09/28	08° 30′ N 085° 34′ W
Tursiops truncatus	222	MAC	99/09/28	08° 51′ N 085° 18′ W
Tursiops truncatus	222	MAC	99/09/28	08° 51′ N 085° 18′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long	
Tursiops truncatus	222	MAC	99/09/28	08° 51′ N	085° 18′ W
Tursiops truncatus	1382	DSJ	99/09/30	10° 15′ N	086° 05′ W
Tursiops truncatus	-	DSJ	99/10/5	09° 58′ N	084° 50′ W
Tursiops truncatus	257	MAC	99/10/8	12° 06′ N	087° 56′ W
Tursiops truncatus	257	MAC	99/10/8	12° 06′ N	087° 56′ W
Tursiops truncatus	257	MAC	99/10/8	12° 06′ N	087° 56′ W
Tursiops truncatus	257	MAC	99/10/8	12° 06′ N	087° 56′ W
Tursiops truncatus	257	MAC	99/10/8	12° 06′ N	087° 56′ W
Tursiops truncatus	257	MAC	99/10/8	12° 06′ N	087° 56′ W
Tursiops truncatus	255	MAC	99/10/8	12° 19′ N	087° 46′ W
Tursiops truncatus	255	MAC	99/10/8	12° 19′ N	087° 46′ W
Tursiops truncatus	255	MAC	99/10/8	12° 19′ N	087° 46′ W
Tursiops truncatus	1400	DSJ	99/10/8	08° 19′ N	083° 44′ W
Tursiops truncatus	1400	DSJ	99/10/8	08° 19′ N	083° 44′ W
Tursiops truncatus	1400	DSJ	99/10/8	08° 19′ N	083° 44′ W
Tursiops truncatus	1398	DSJ	99/10/8	08° 24′ N	083° 44′ W
Tursiops truncatus	1398	DSJ	99/10/8	08° 24′ N	083° 44′ W
Tursiops truncatus	1398	DSJ	99/10/8	08° 24′ N	083° 44′ W
Tursiops truncatus	273	MAC	99/10/10	07° 30′ N	089° 59′ W
Tursiops truncatus	273	MAC	99/10/10	07° 30′ N	089° 59′ W
Tursiops truncatus	273	MAC	99/10/10	07° 30′ N	089° 59′ W
Tursiops truncatus	311	MAC	99/10/14	14° 40′ N	093° 04′ W
Tursiops truncatus	384	MAC	99/10/22	14° 56′ N	098° 33′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	1481	DSJ	99/10/27	13° 32′ S	077° 23′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	413	MAC	99/11/2	10° 18′ N	109° 11′ W
Tursiops truncatus	1524	DSJ	99/11/7	04° 55′ S	081° 26′ W
Tursiops truncatus	1522	DSJ	99/11/7	04° 58′ S	081° 20′ W
Tursiops truncatus	1522	DSJ	99/11/7	04° 58′ S	081° 20′ W
Tursiops truncatus	1520	DSJ	99/11/7	05° 03′ S	081° 23′ W
Tursiops truncatus	446	MAC	99/11/9	12° 45′ N	113° 58′ W
Tursiops truncatus	446	MAC	99/11/9	12° 45′ N	113° 58′ W
Tursiops truncatus	446	MAC	99/11/9	12° 45′ N	113° 58′ W
Tursiops truncatus	446	MAC	99/11/9	12° 45′ N	113° 58′ W
Tursiops truncatus	446	MAC	99/11/9	12° 45′ N	113° 58′ W
Tursiops truncatus	466	MAC	99/11/13	13° 22′ N	109° 11′ W

Table 11. Cetacean biopsies (continued)

Species/Stock	Sighting Number	Ship	Date	Lat/Long
Tursiops truncatus	1605	DSJ	99/11/14	07° 20′ N 078° 23′ W
Tursiops truncatus	1605	DSJ	99/11/14	07° 20′ N 078° 23′ W
Tursiops truncatus	494	MAC	99/11/15	14° 16′ N 105° 51′ W
Tursiops truncatus	498	MAC	99/11/15	14° 30′ N 105° 39′ W
Tursiops truncatus	1629	DSJ	99/11/21	07° 07′ N 085° 17′ W
Tursiops truncatus	1630	DSJ	99/11/21	07° 08′ N 085° 19′ W
Tursiops truncatus	1630	DSJ	99/11/21	07° 08′ N 085° 19′ W
Tursiops truncatus	1654	DSJ	99/11/22	07° 34′ N 088° 46′ W
Tursiops truncatus	1654	DSJ	99/11/22	07° 34′ N 088° 46′ W
Tursiops truncatus	529	MAC	99/11/24	16° 54′ N 112° 47′ W
Tursiops truncatus	529	MAC	99/11/24	16° 54′ N 112° 47′ W
Tursiops truncatus	529	MAC	99/11/24	16° 54′ N 112° 47′ W
Tursiops truncatus	1682	DSJ	99/11/24	08° 16′ N 093° 49′ W
Tursiops truncatus	1682	DSJ	99/11/24	08° 16′ N 093° 49′ W
Tursiops truncatus	1765	DSJ	99/12/2	18° 00′ N 112° 28′ W
Tursiops truncatus	1773	DSJ	99/12/3	19° 19′ N 110° 53′ W
Tursiops truncatus	579	MAC	99/12/5	25° 49′ N 117° 33′ W
Tursiops truncatus	579	MAC	99/12/5	25° 49′ N 117° 33′ W
Tursiops truncatus	579	MAC	99/12/5	25° 49′ N 117° 33′ W
Tursiops truncatus	580	MAC	99/12/5	26° 08′ N 117° 34′ W

Table 12. Summary of skin biopsy samples of cetaceans obtained during STAR99, listed by number of samples.

Species/stock	Totals
Tursiops truncatus	104
Stenella attenuata (NE offshore)	55
Stenella attenuata (unid. subsp.)	39
Physeter macrocephalus	35
Globicephala macrorhynchus	31
Stenella longirostris (unid. subsp.)	31
Delphinus delphis	28
Stenella attenuata graffmani	21
Stenella longirostris orientalis	20
Delphinus capensis	15
Pseudorca crassidens	13
Balaenoptera musculus	8
Balaenoptera edeni	7
Orcinus orca	7
Grampus griseus	4
Stenella coeruleoalba	4
Steno bredanensis	4
Balaenoptera physalus	2
Lagenorhynchus obliquidens	1
Lagenorhynchus obscurus	1
Total	430

Table 13. Number of cetacean schools for which behavioral observations were recorded during STAR99.

Sighting-category	Total
Stenella coeruleoalba	187
unid. dolphin	168
Stenella attenuata (offshore)	150
Delphinus delphis	119
Tursiops truncatus	118
Stenella longirostris orientalis	68
Grampus griseus	50
Steno bredanensis	43
Stenella longirostris (whitebelly)	27
Stenella attenuata graffmani	25
Stenella longirostris (unid. subsp.)	22
Globicephala macrorhynchus	21
Stenella attenuata (unid. subsp.)	20
Globicephala sp.	16
ziphiid whale	13
Delphinus capensis	12
Ziphius cavirostris	11
Lagenorhynchus obliquidens	10
Balaenoptera edeni	9
Stenella longirostris (southwestern)	9
Balaenoptera musculus	8
Orcinus orca	8
Physeter macrocephalus	8
Mesoplodon sp.	7
unid. large whale	7
unid. cetacean	6
unid. small whale	6
Delphinus sp.	5
Pseudorca crassidens	5
Balaenoptera borealis/edeni	4
Kogia sima	4
Feresa attenuata	3
Balaenoptera sp.	2
Megaptera novaeangliae	2
Lagenodelphis hosei	1
Lagenorhynchus obscurus	1
Mesoplodon densirostris	1
Mesoplodon peruvianus	1
Mesoplodon sp. A	1
Peponocephala electra	1
Stenella longirostris centroamericana	1
unid. whale	1
Total	1181

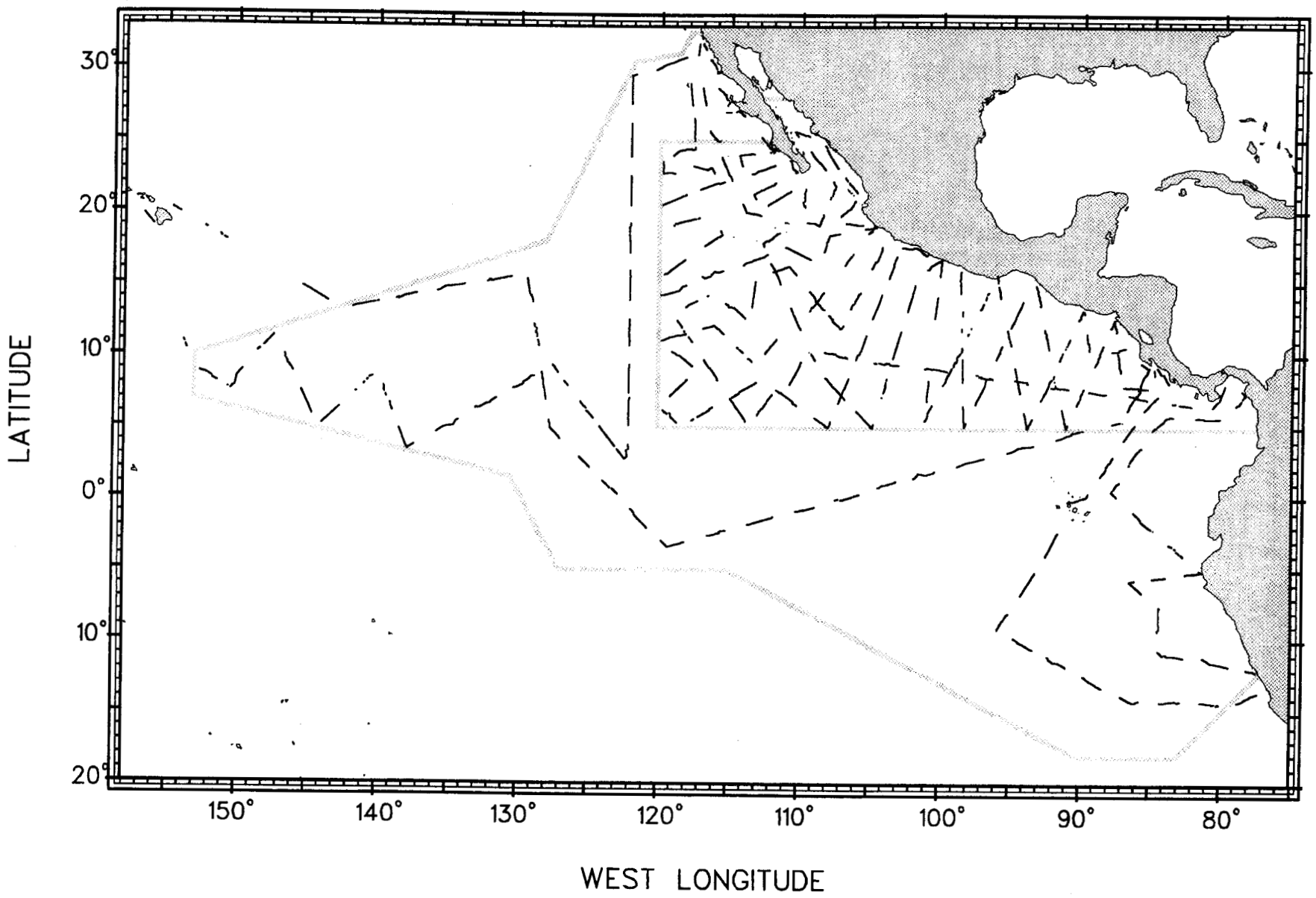

Figure 1. STAR99 survey tracklines and sampling strata boundaries, both ships combined.

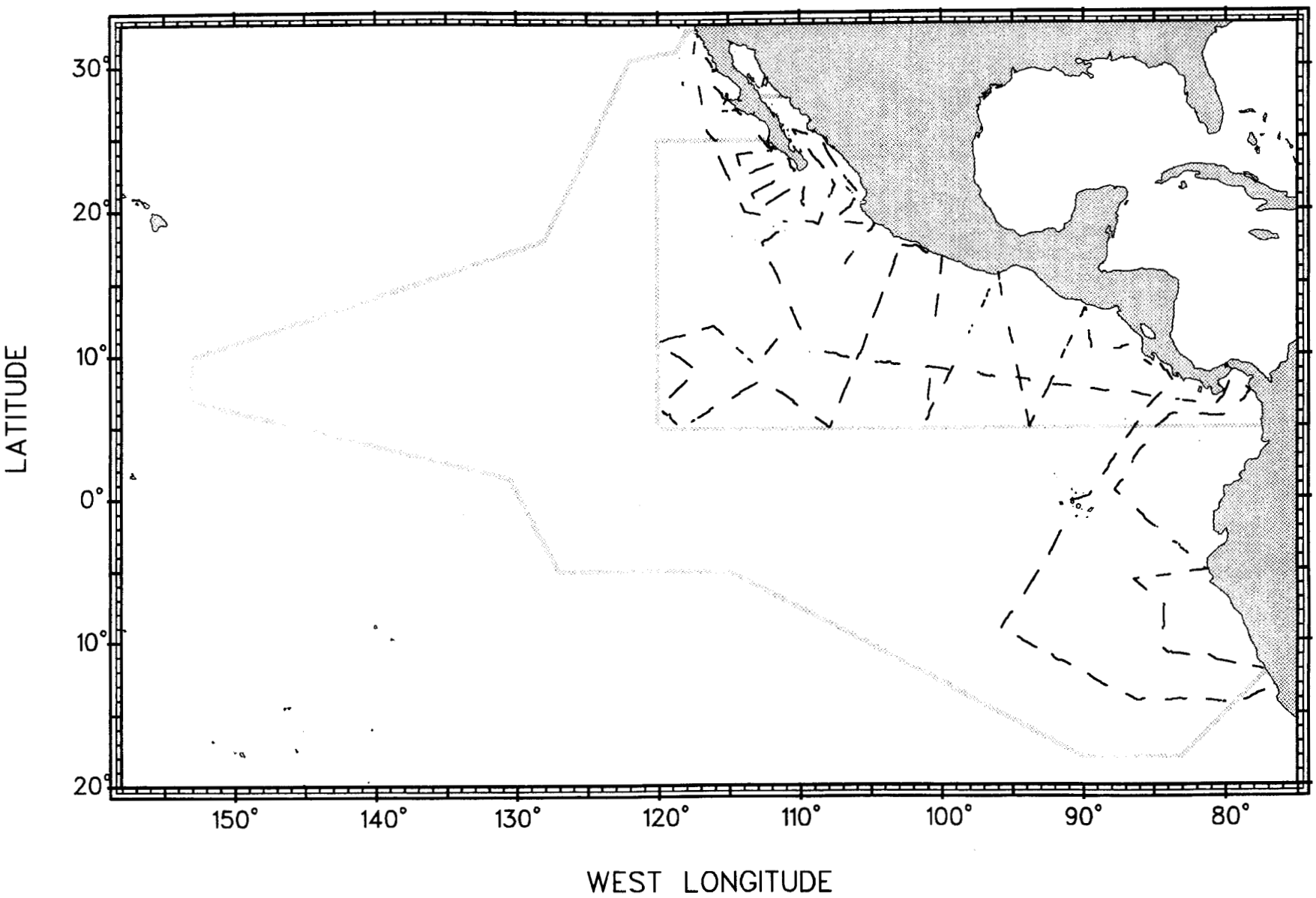

Figure 2. STAR99 tracklines for the *David Starr Jordan.*

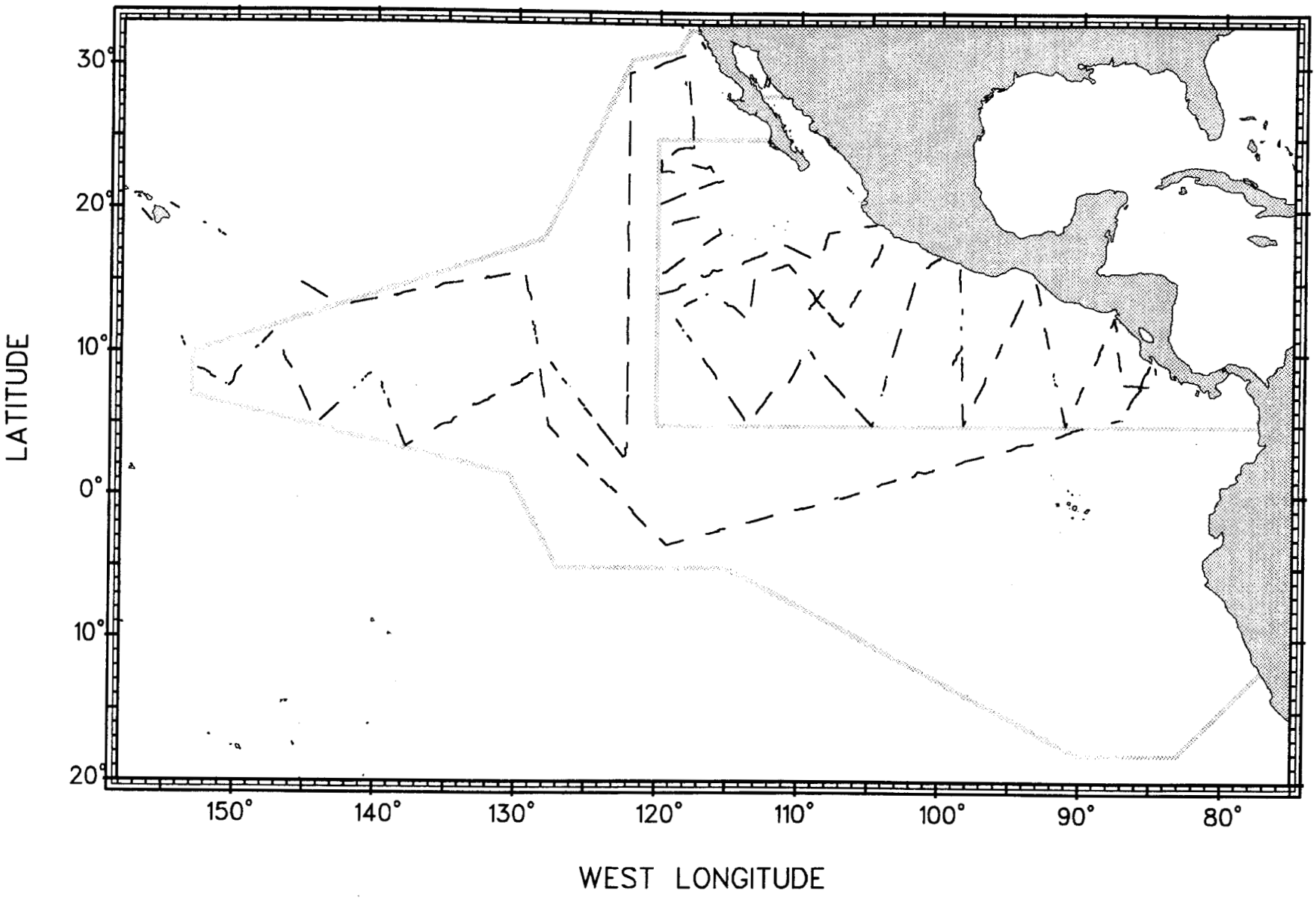

Figure 3. STAR99 tracklines for the *McArthur*.

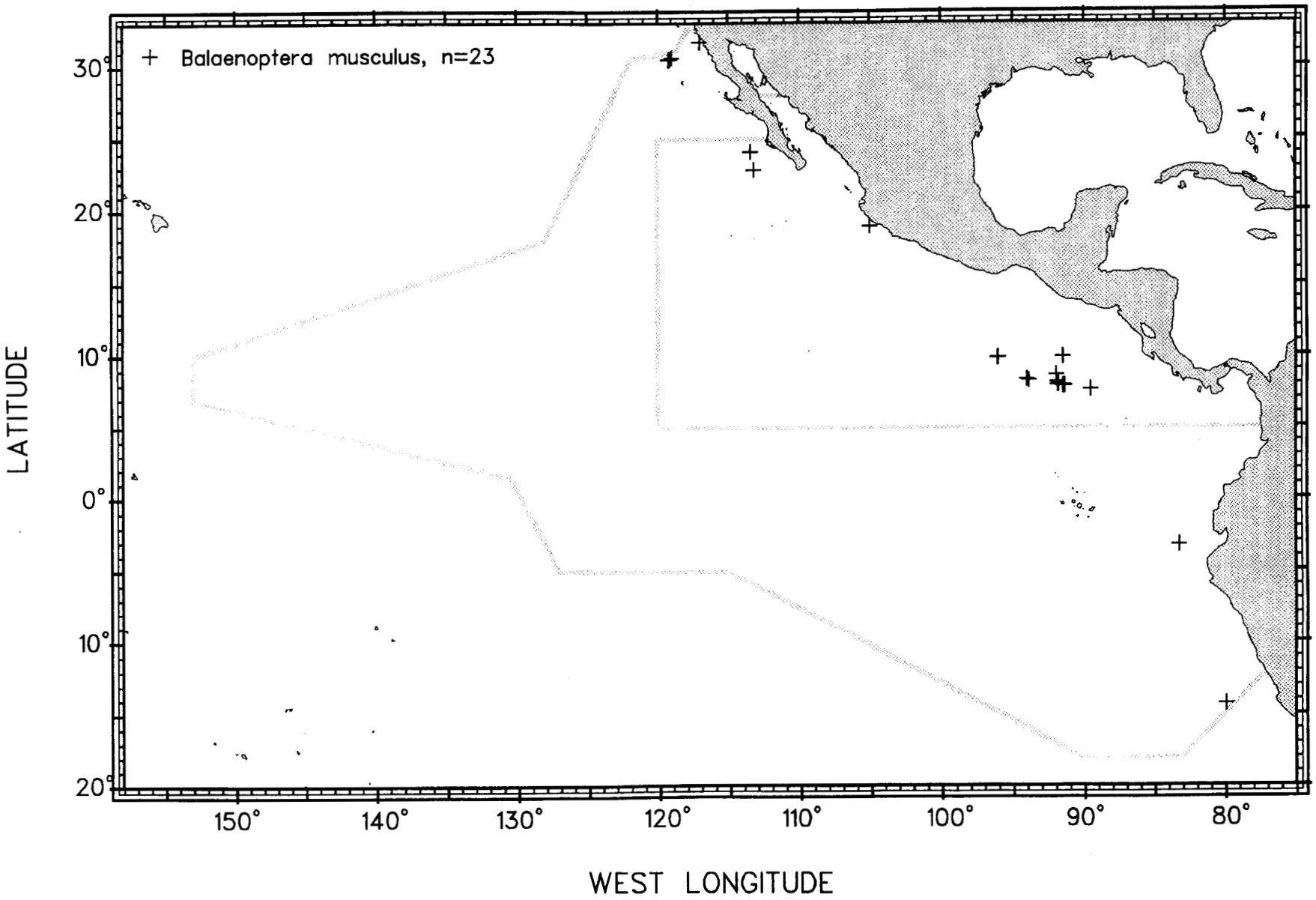

Figure 4. Blue whale sightings during STAR99.

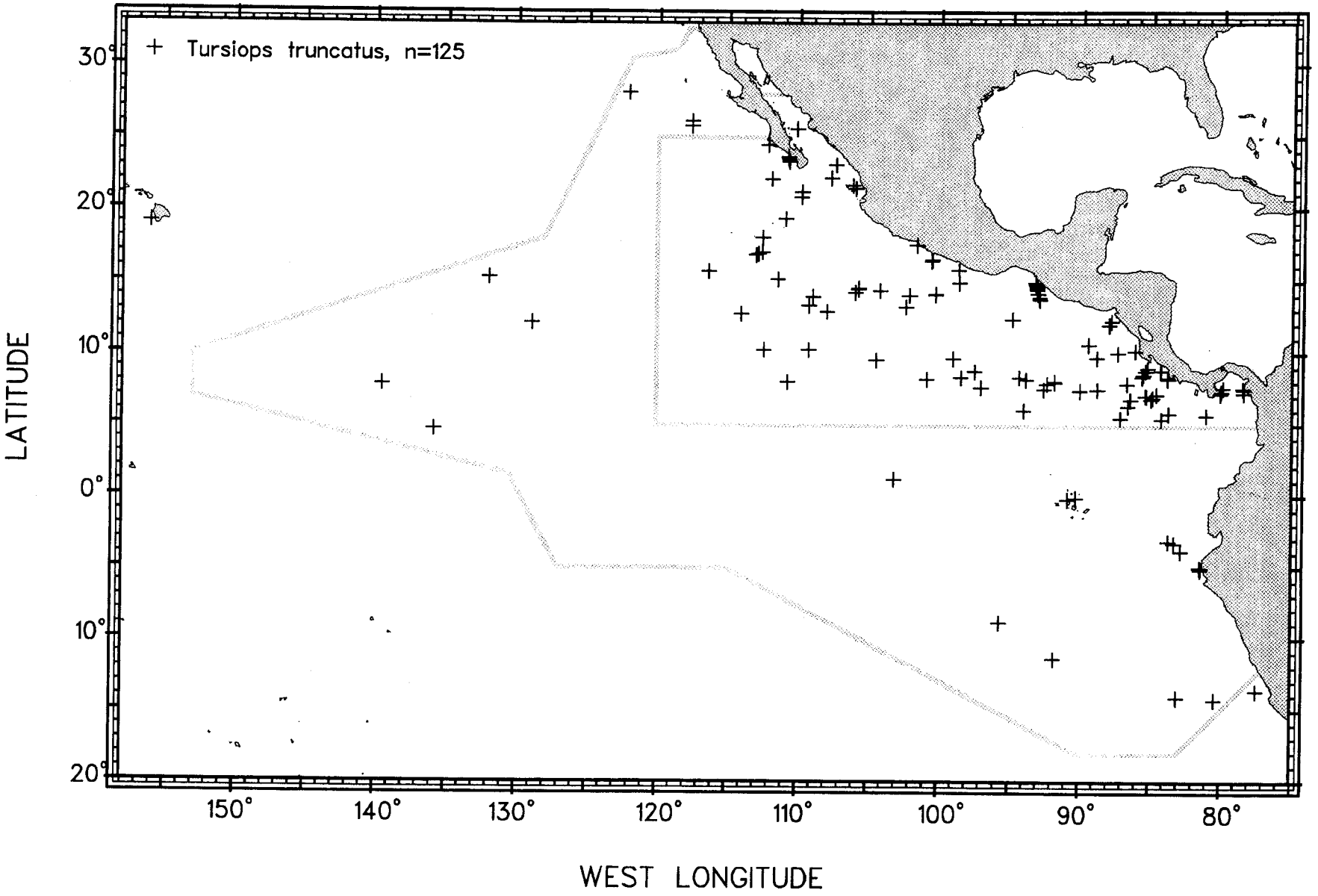

Figure 5. Bottlenose dolphin sightings during STAR99.

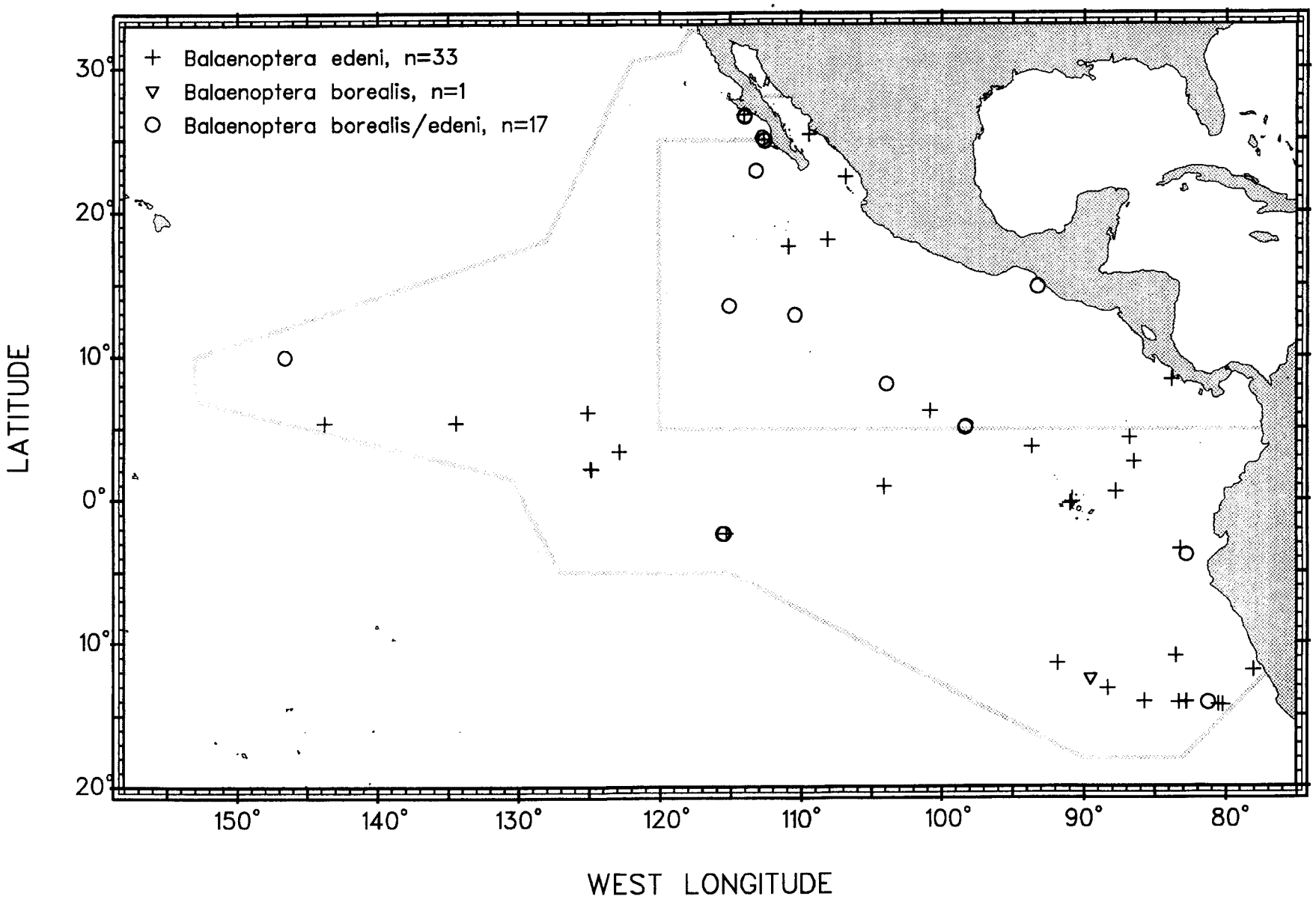

Figure 6. Bryde's and sei whale sightings during STAR99.

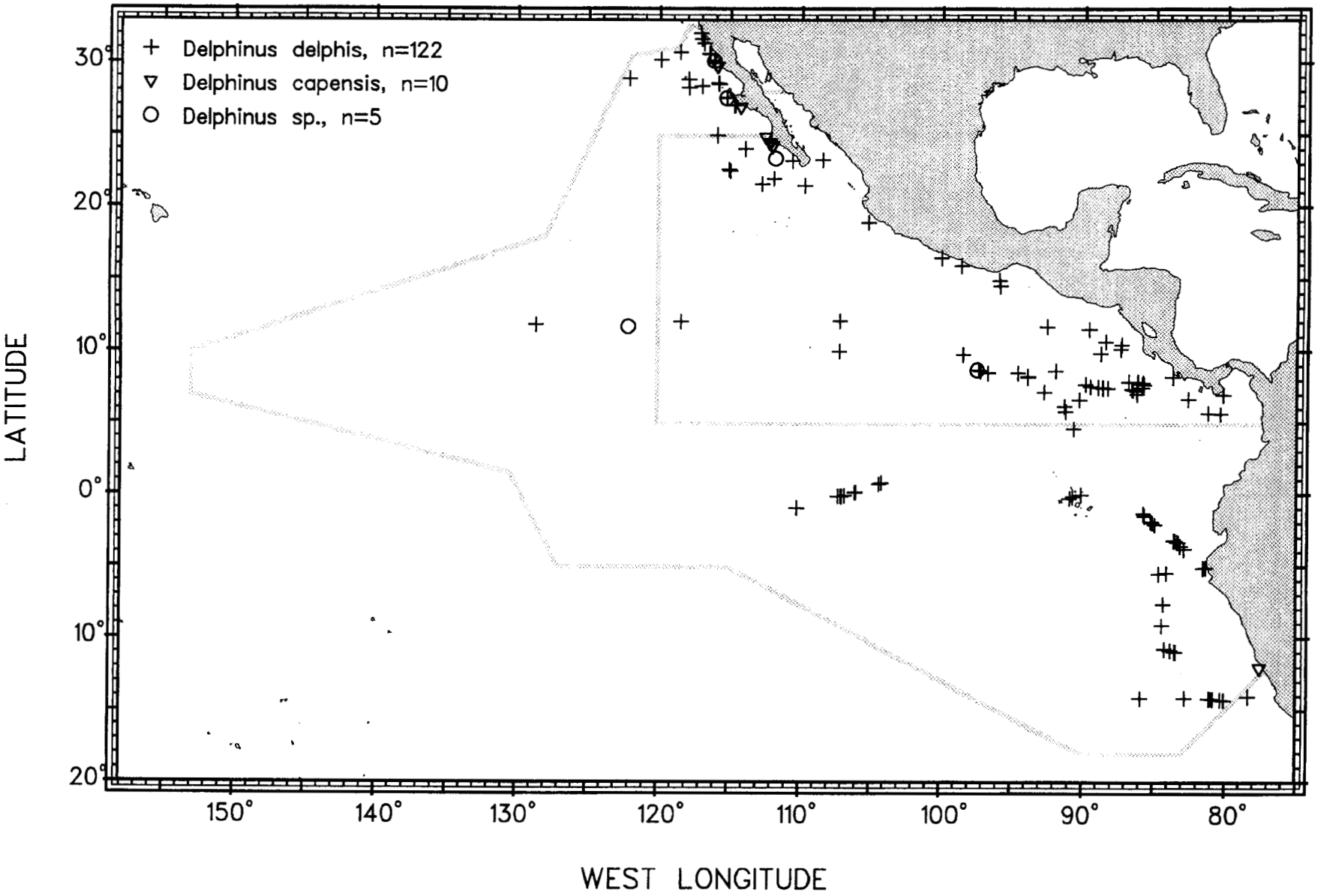

Figure 7. Common (short- and long-beaked) dolphin sightings during STAR99.

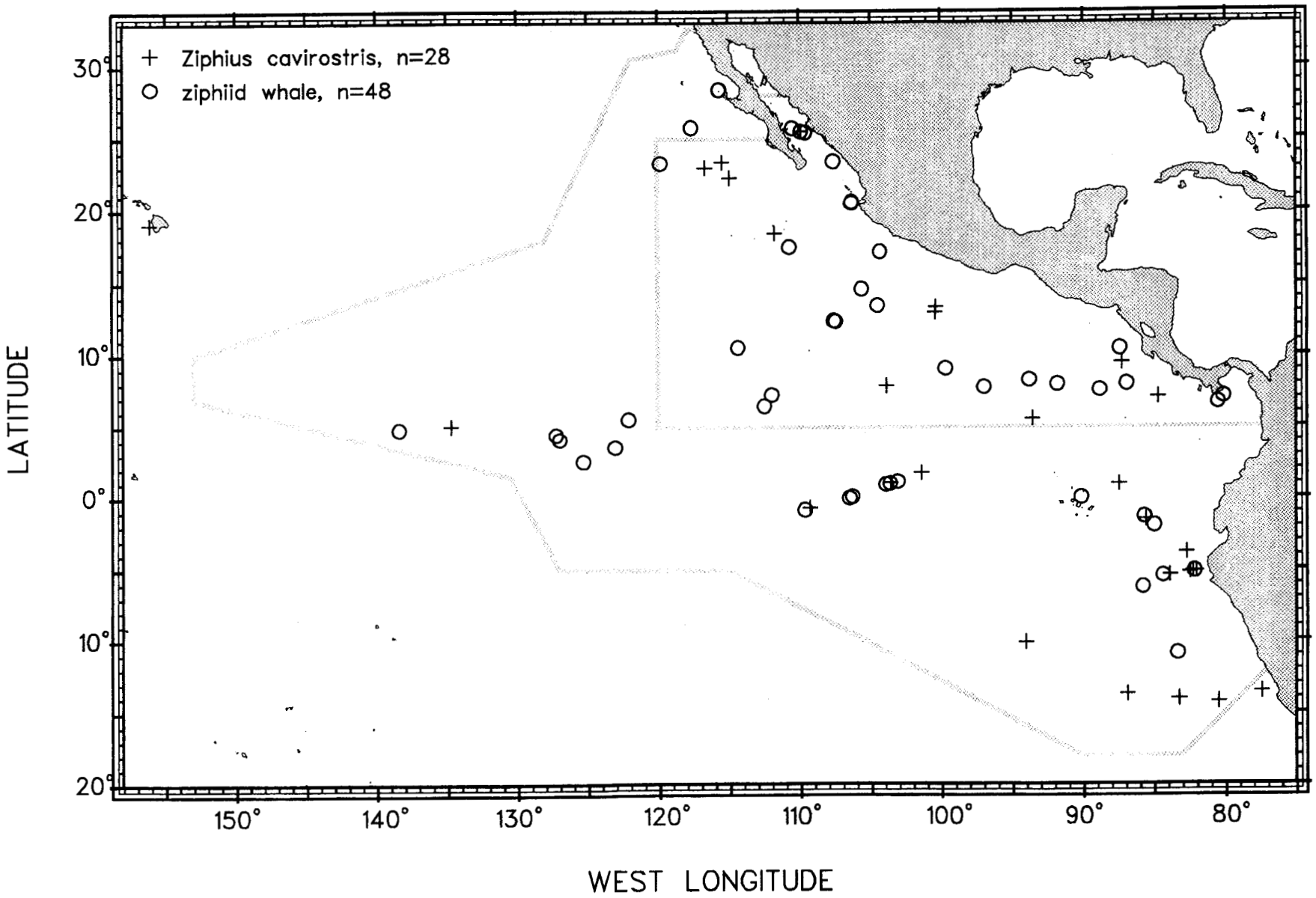

Figure 8. Cuvier and unidentified Ziphiid whale sightings during STAR99.

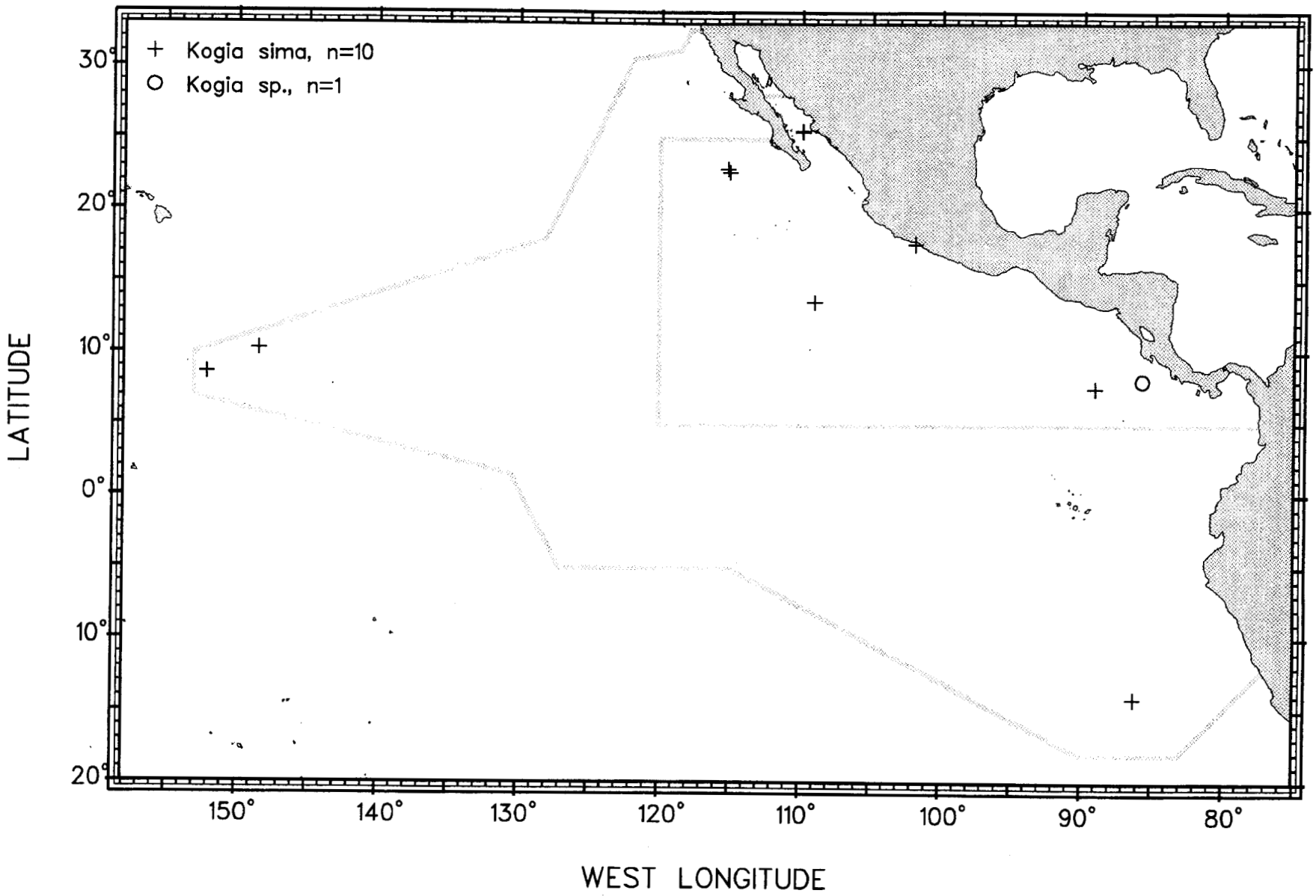

Figure 9. Dwarf sperm and unidentified *Kogia* sp. whale sightings during STAR99.

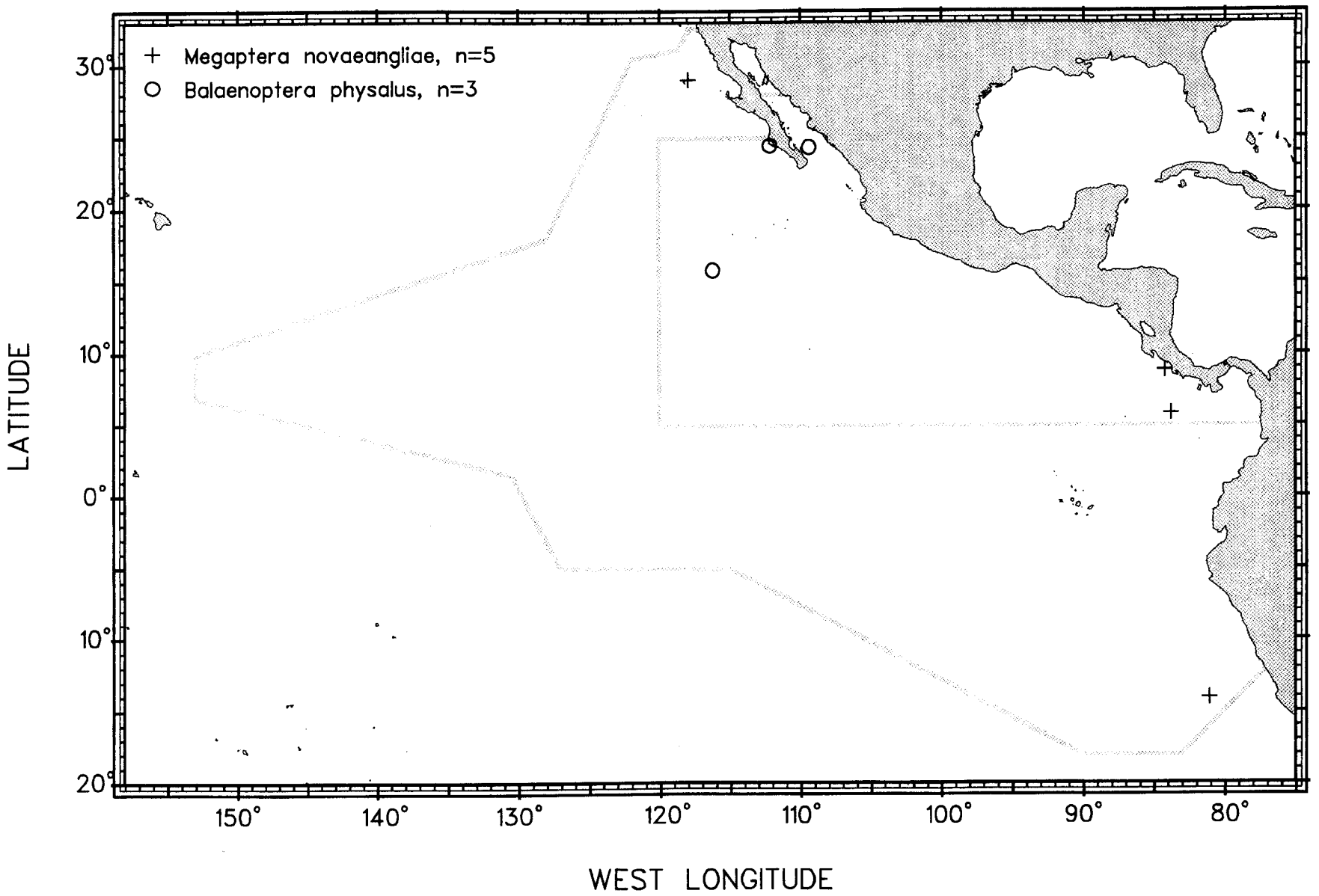

Figure 10. Humpback and fin whale sightings during STAR99.

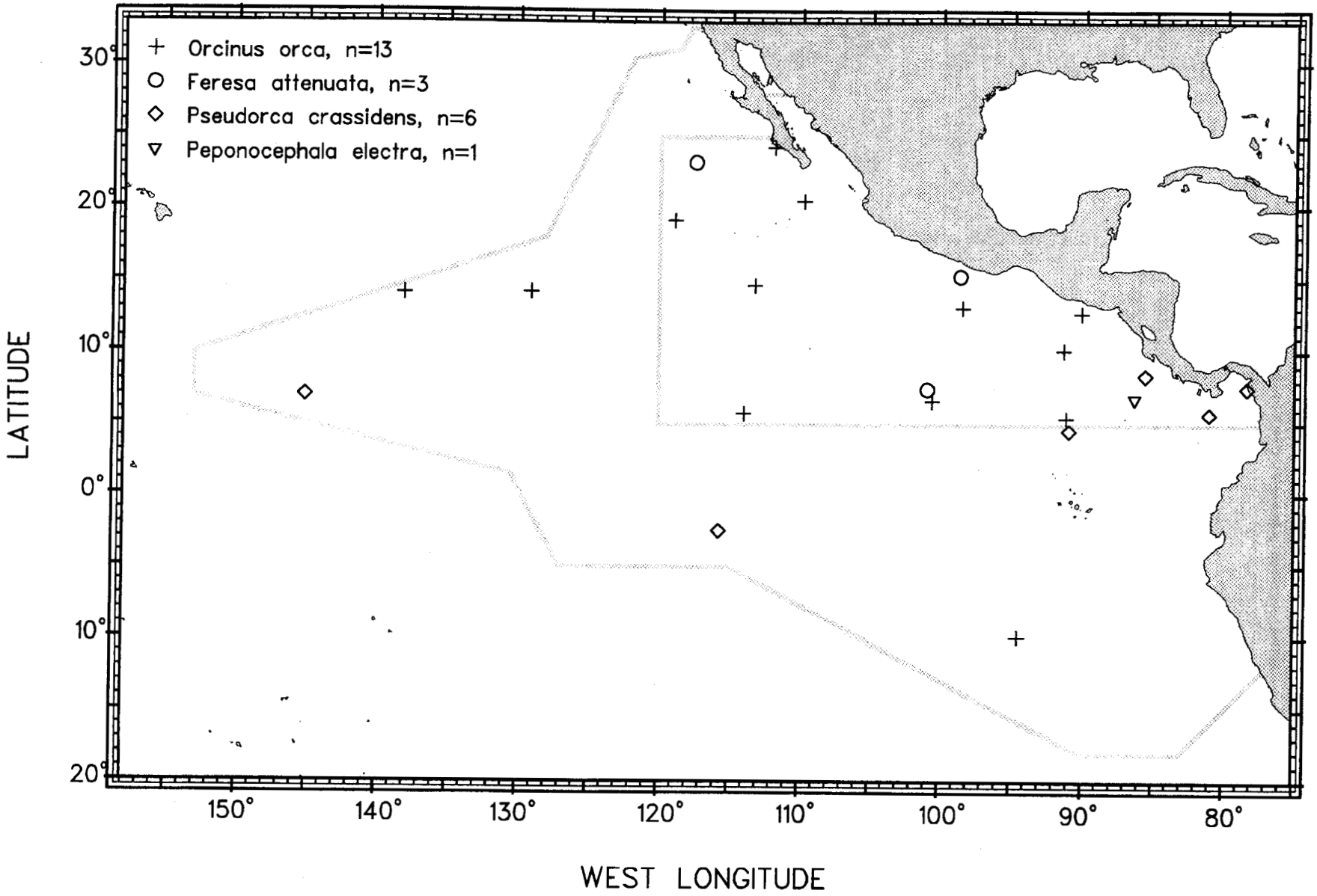

Figure 11. Killer, pygmy killer, false killer and melon-headed whale sightings during STAR99.

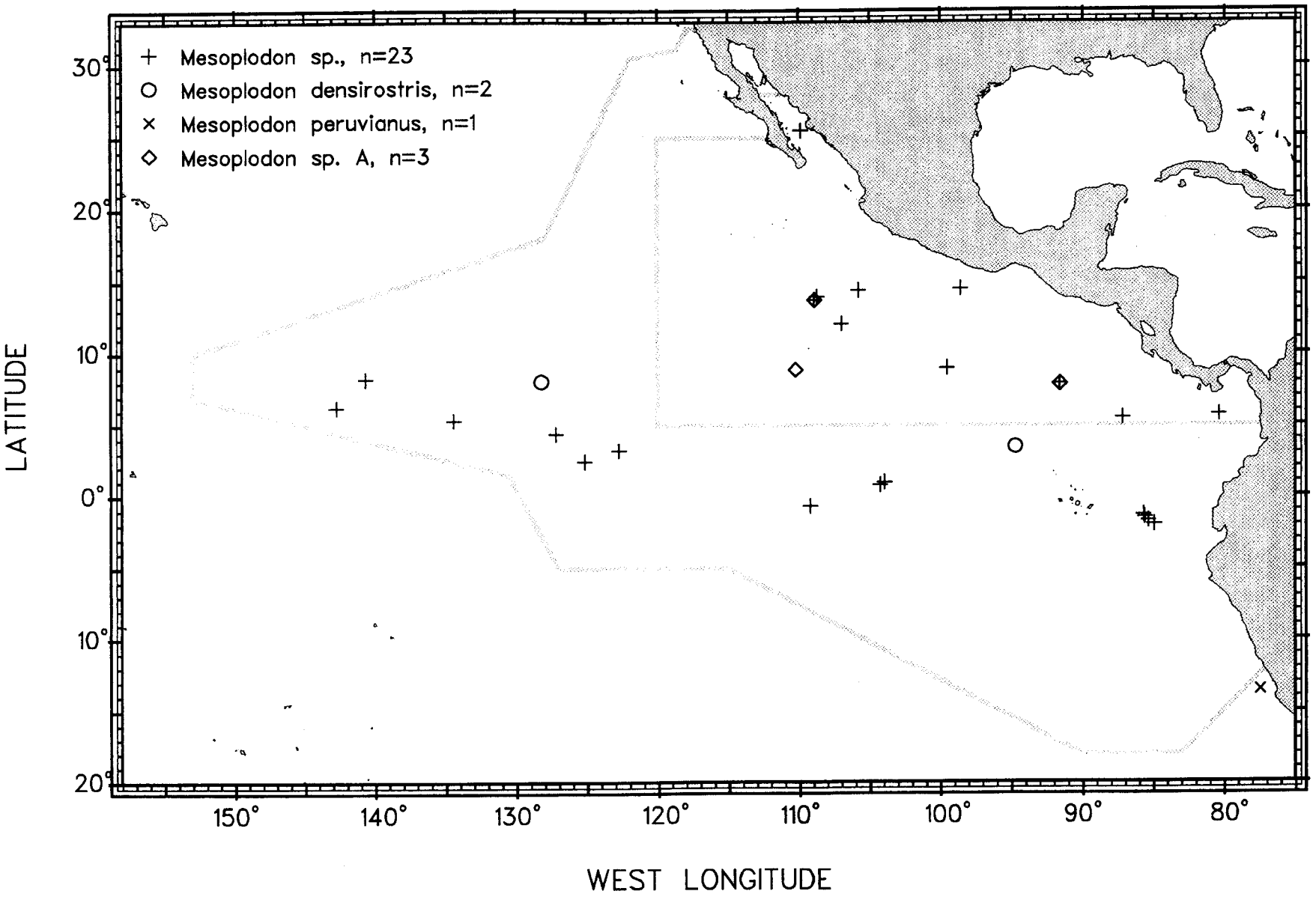

Figure 12. *Mesoplodon* spp. whale sightings during STAR99.

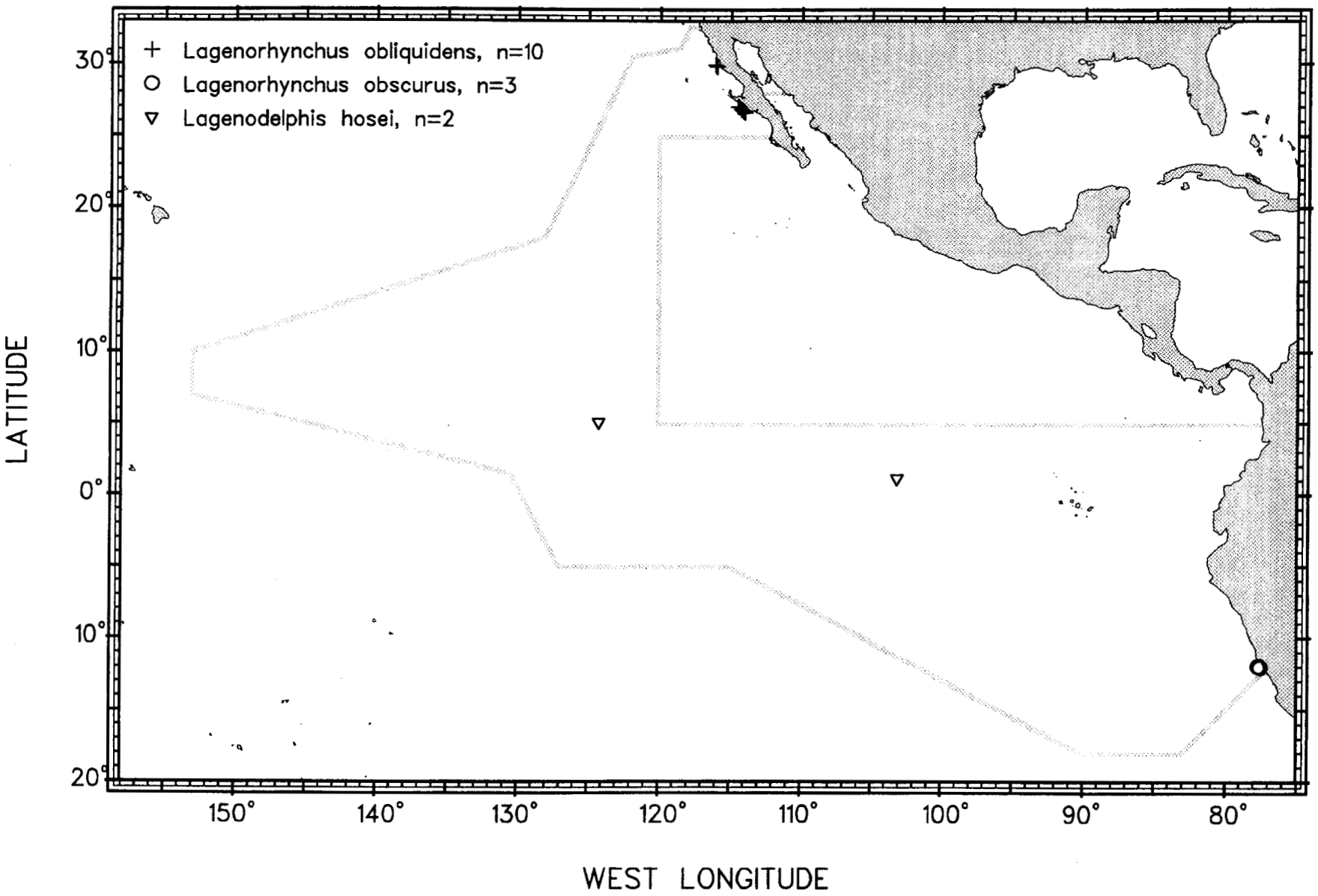

Figure 13. Pacific white-sided, dusky, and Fraser's dolphin sightings during STAR99.

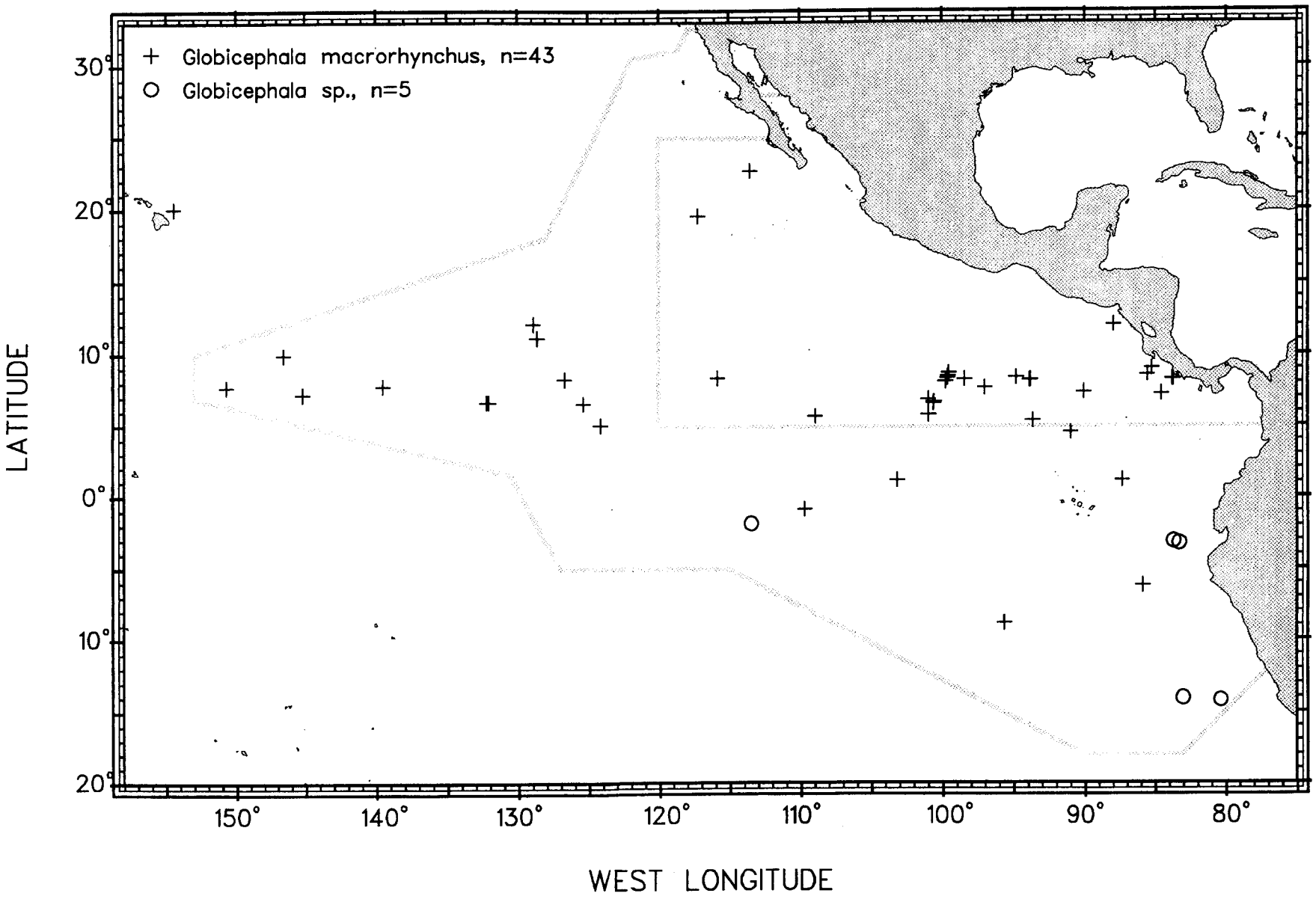

Figure 14. Pilot whale sightings during STAR99.

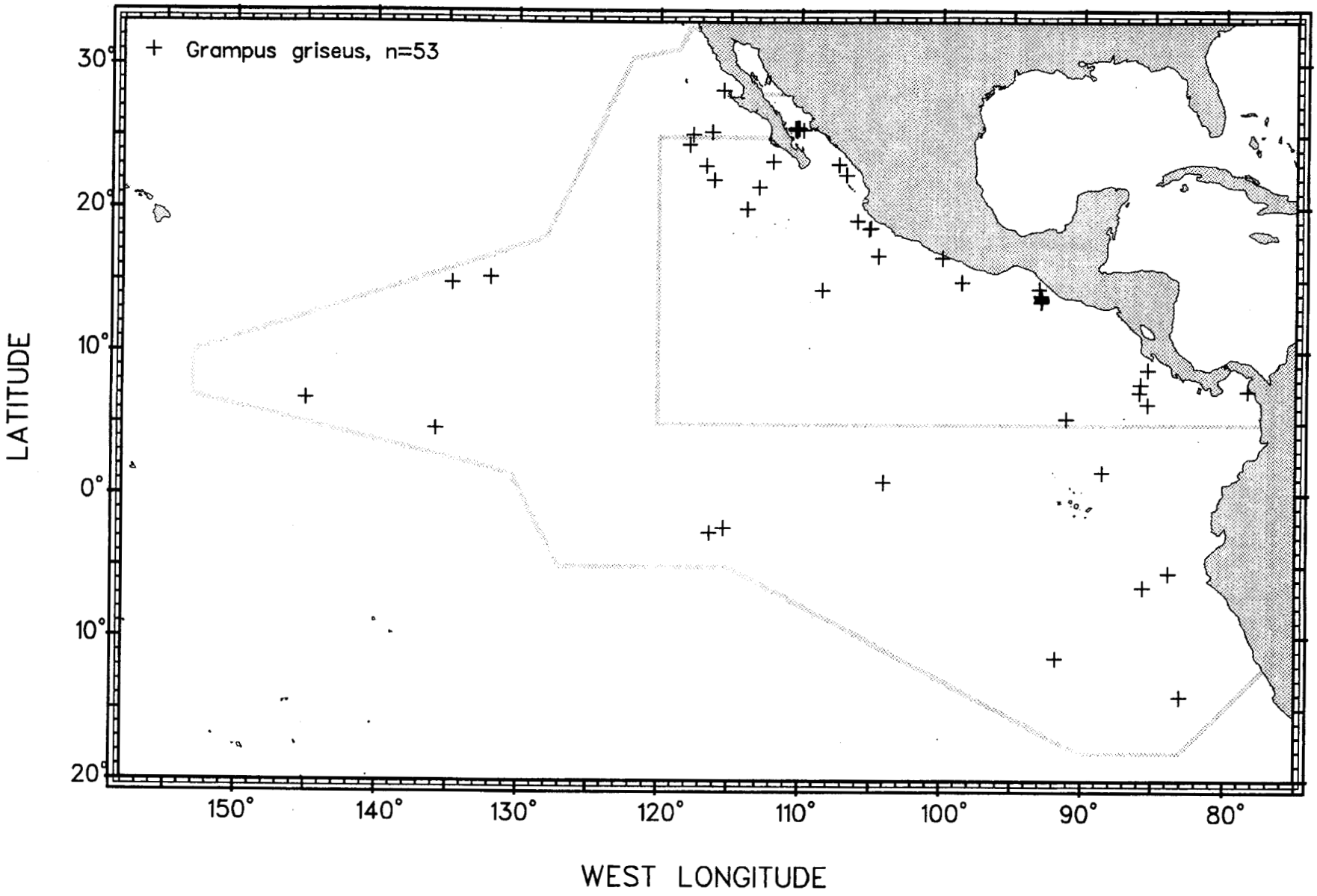

Figure 15. Risso's dolphin sightings during STAR99.

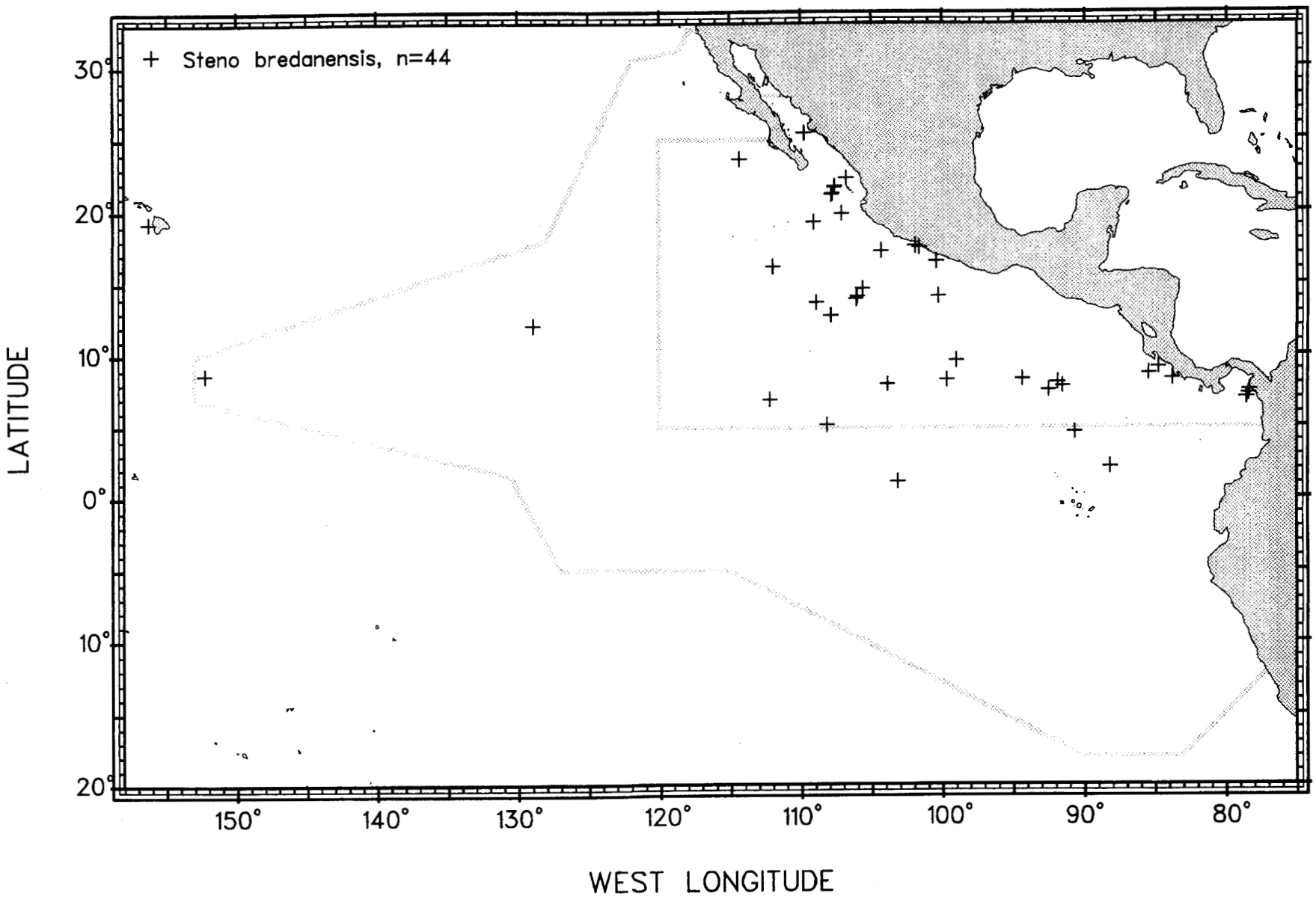

Figure 16. Rough-toothed dolphin sightings during STAR99.

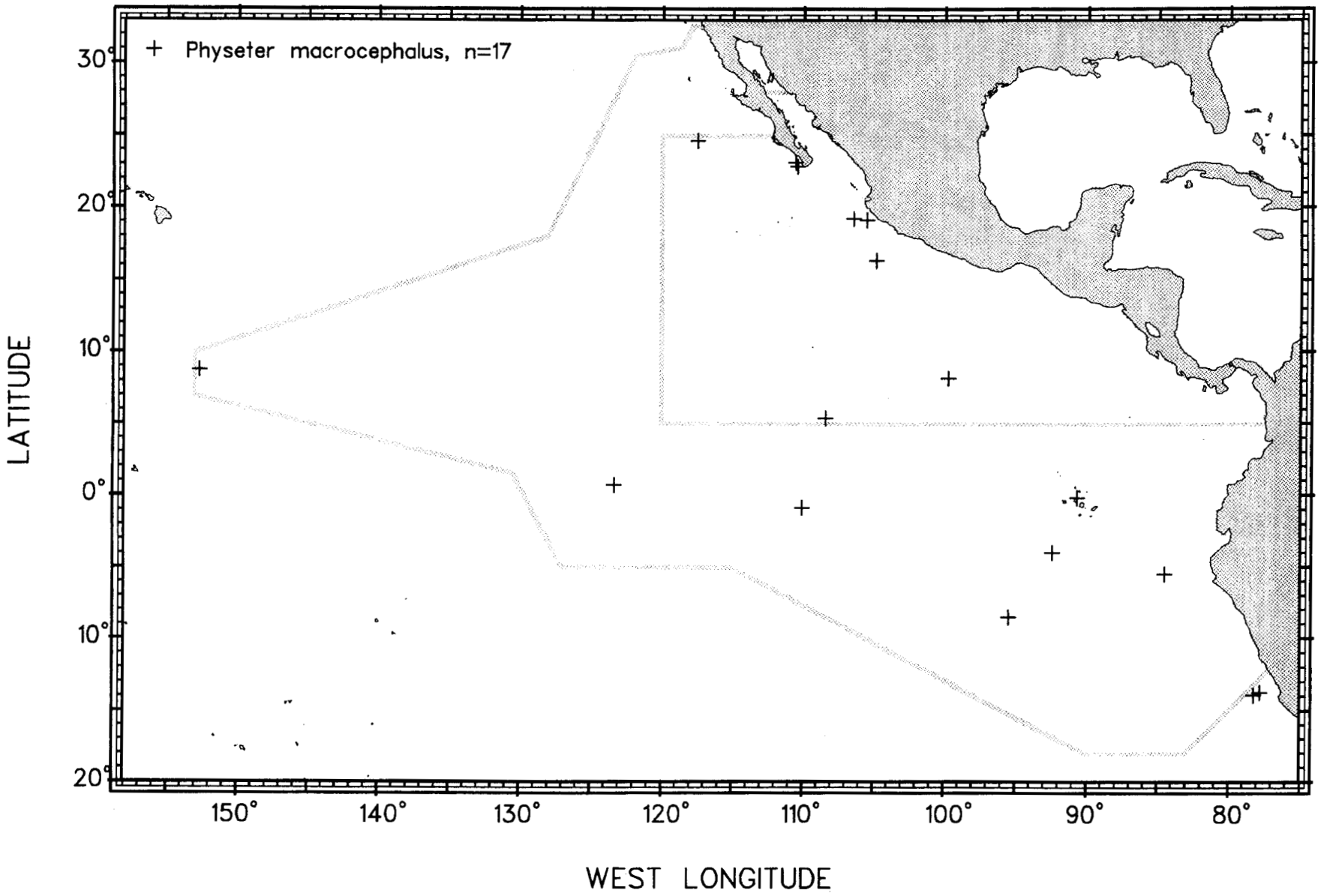

Figure 17. Sperm whale sightings during STAR99.

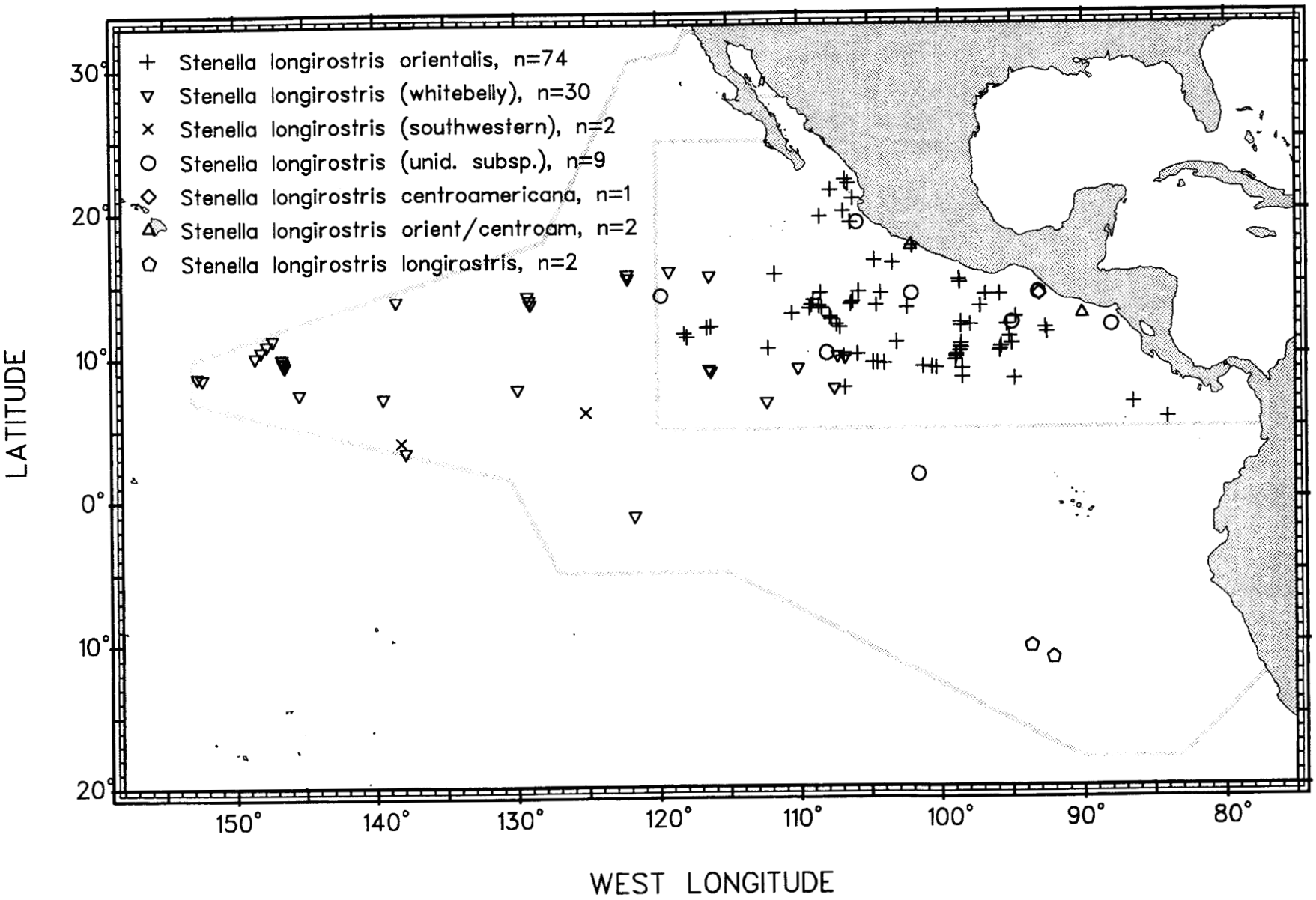

Figure 18. Spinner dolphin sightings during STAR99.

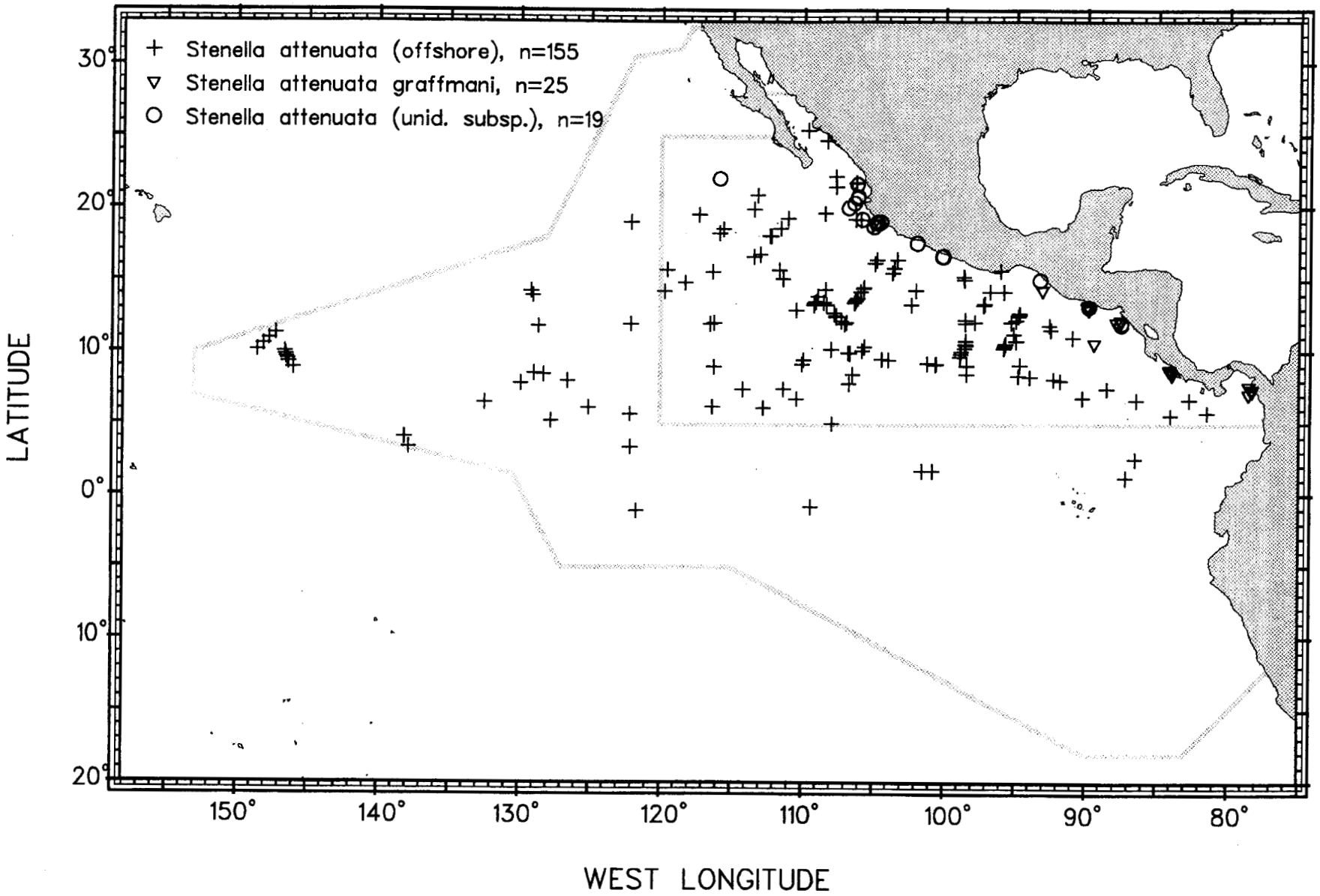

Figure 19. Spotted dolphin sightings during STAR99.

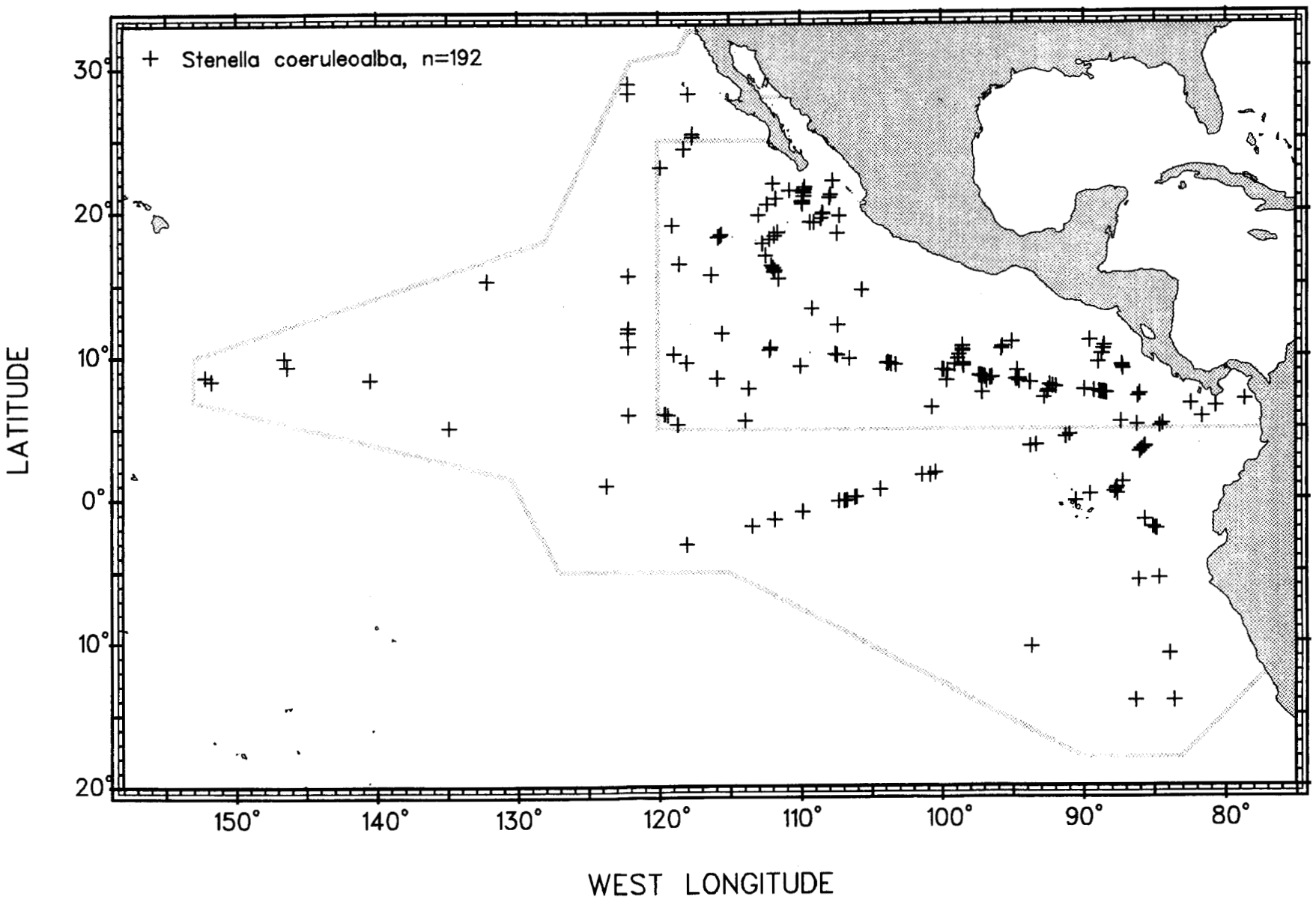

Figure 20. Striped dolphin sightings during STAR99.

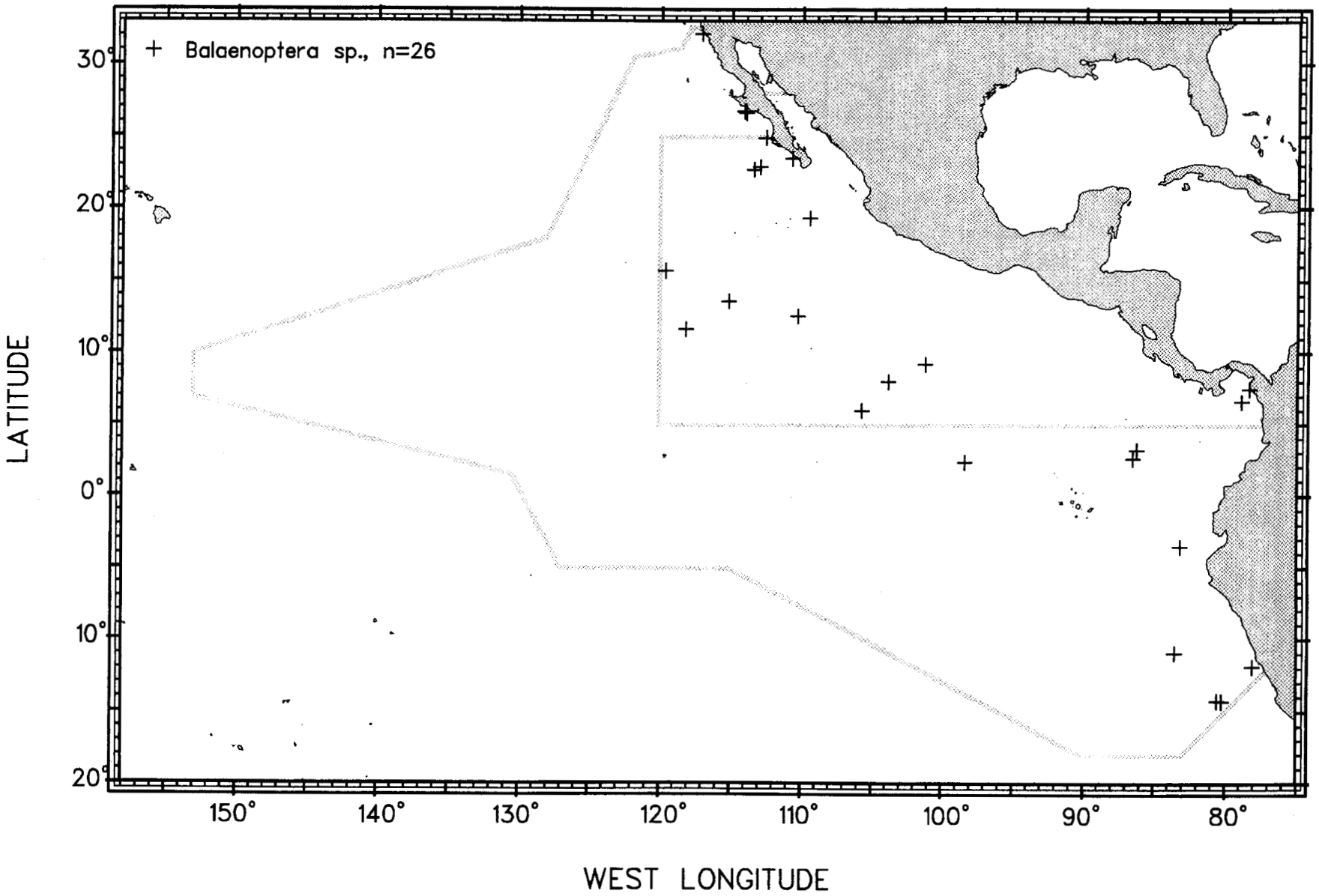

Figure 21. Unidentified baleen whale sightings during STAR99.

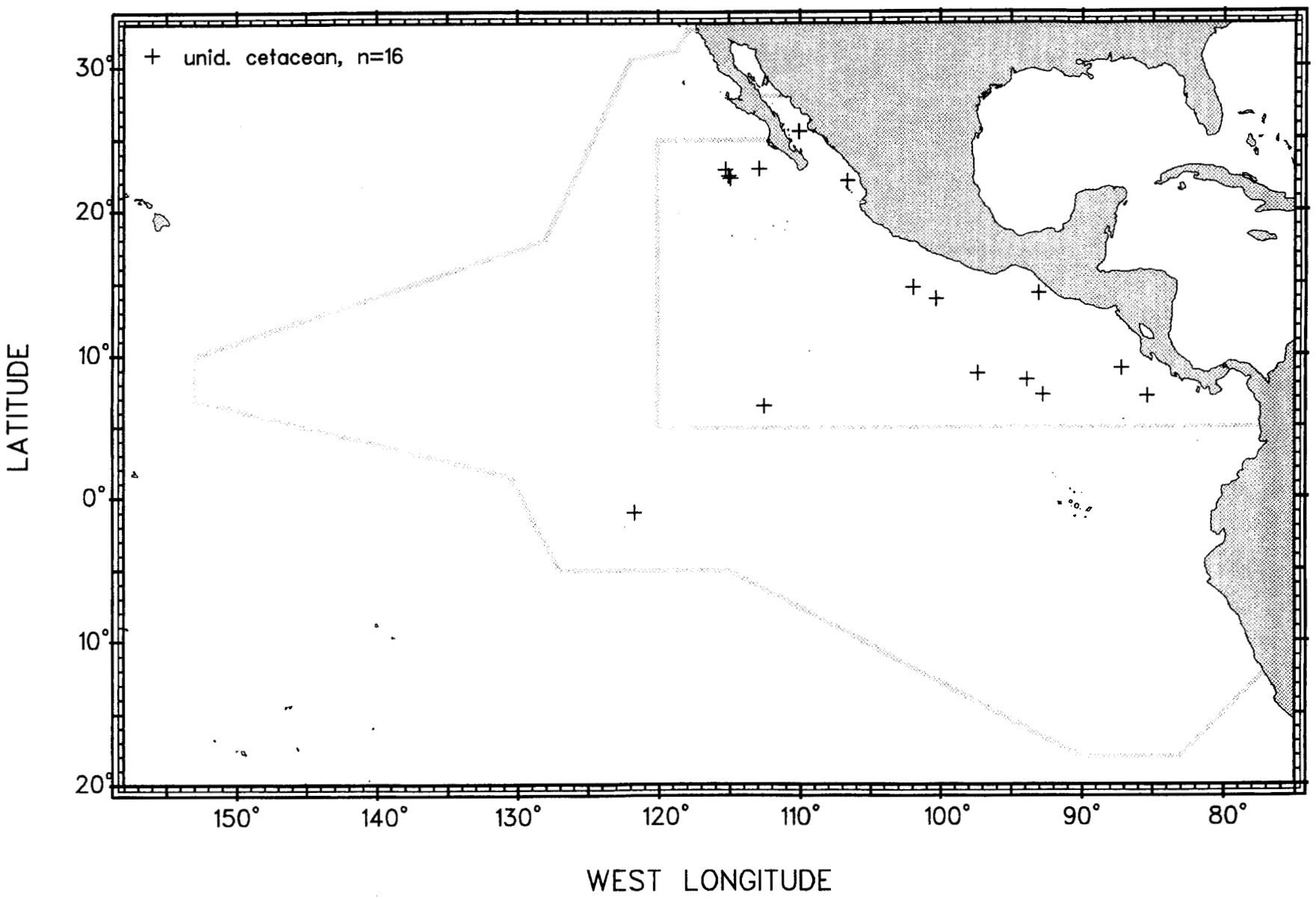

Figure 22. Unidentified cetacean sightings during STAR99.

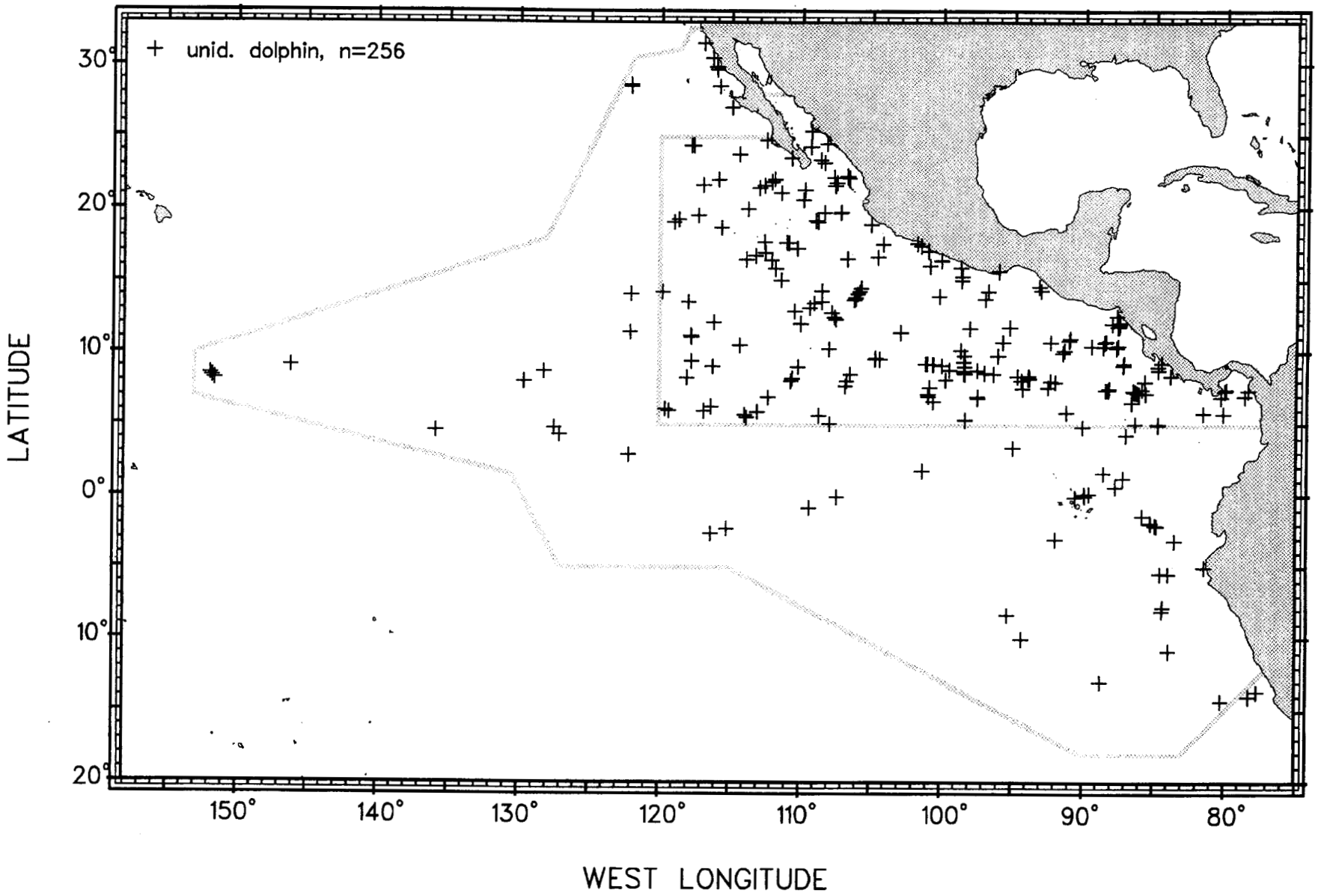

Figure 23. Unidentified dolphin sightings during STAR99.

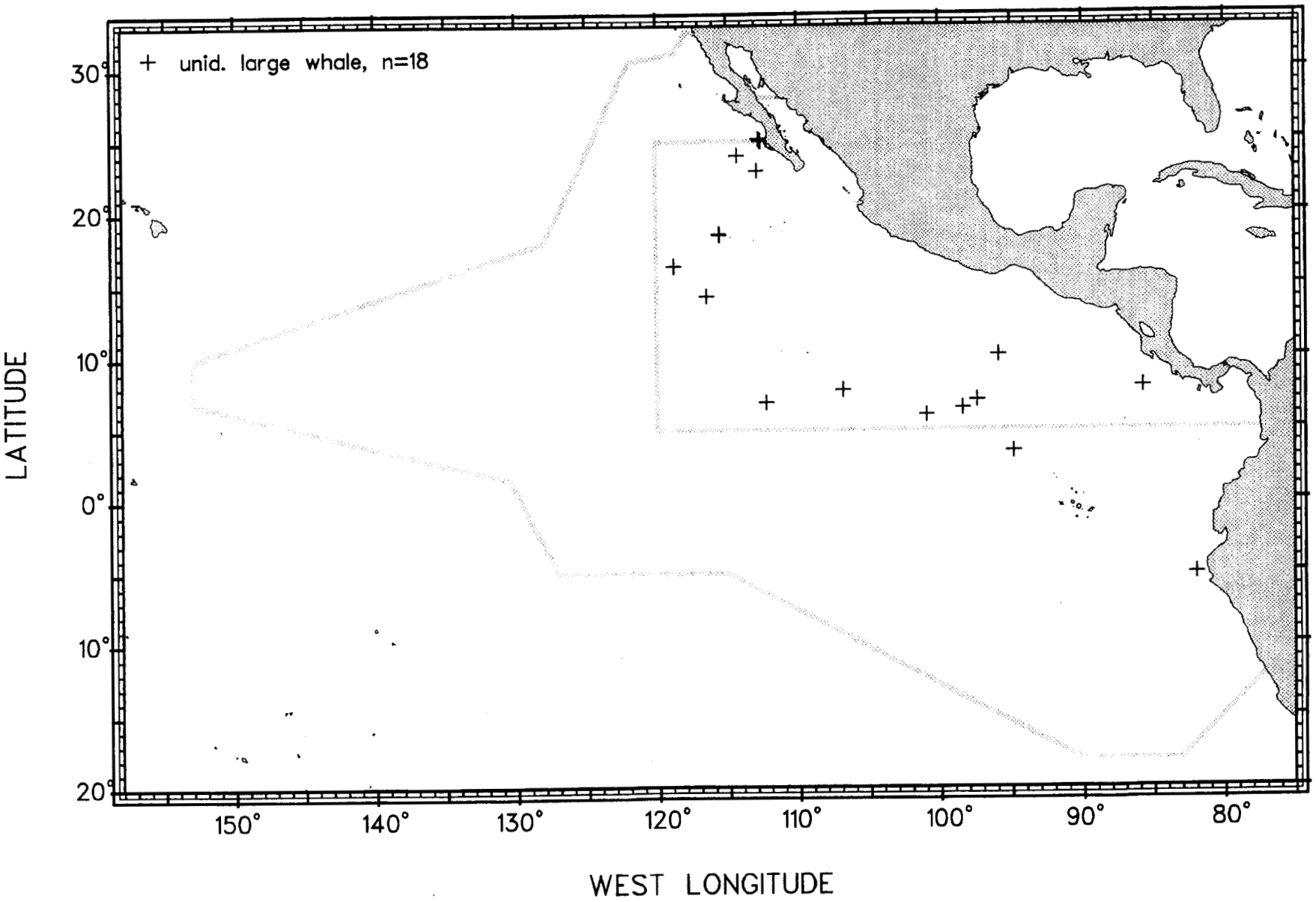

Figure 24. Unidentified large whale sightings during STAR99.

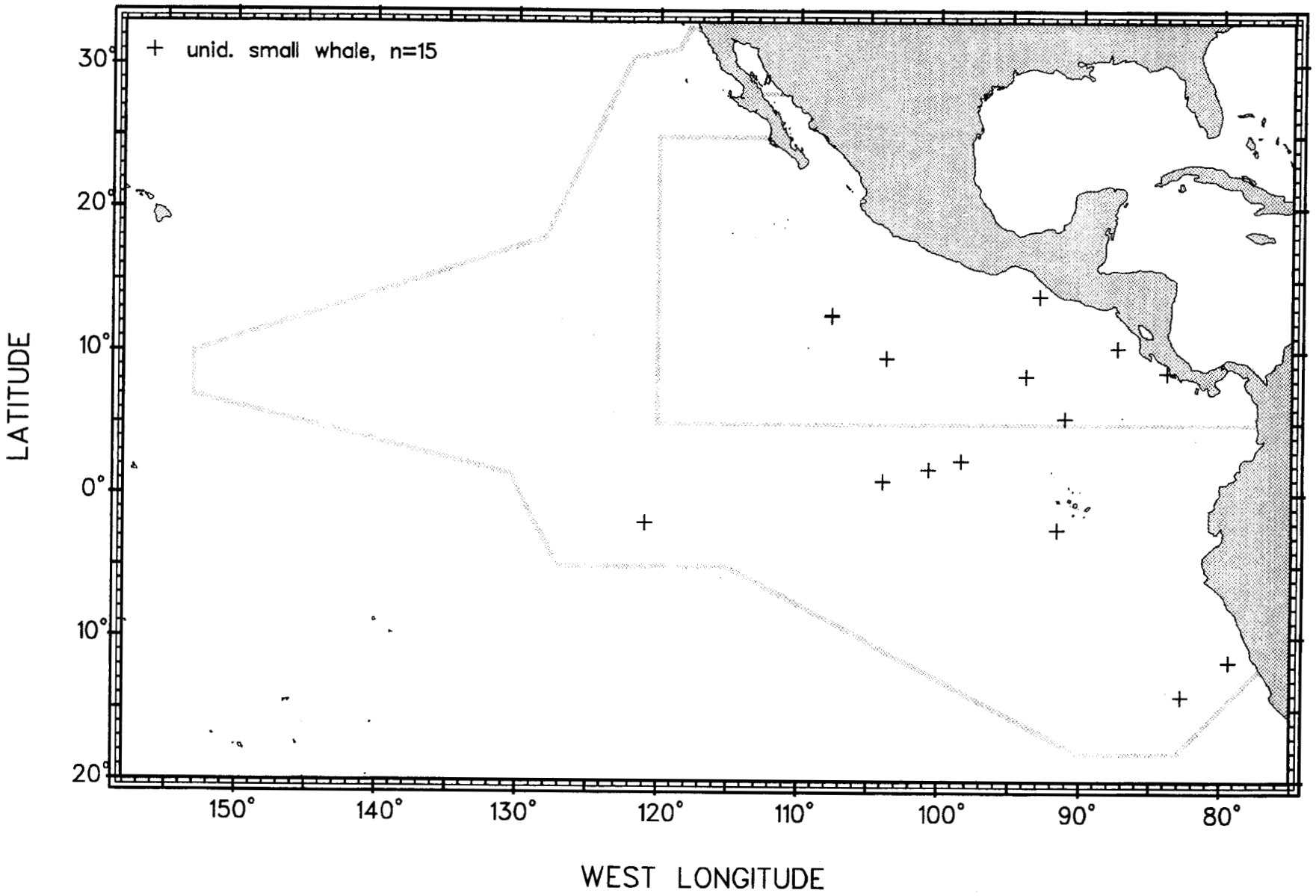

Figure 25. Unidentified small whale sightings during STAR99.

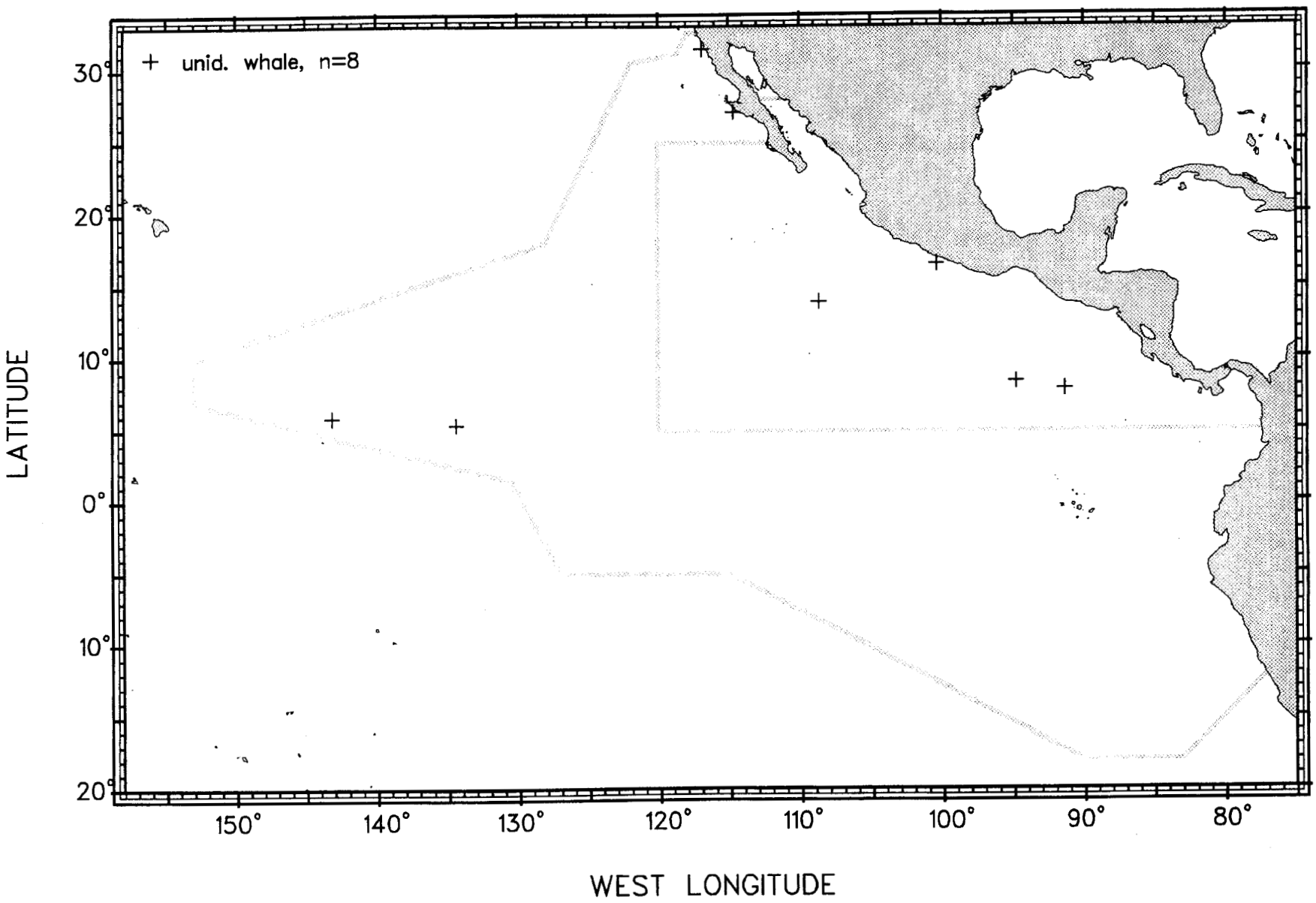

Figure 26. Unidentified whale sightings during STAR99.

Appendix A. Study area boundary points for STAR99 survey. The eastern boundary is defined by the coastline of the Americas.

32°	32.12′	N,	117°	7.34′	W
32°	35.37′	N,	117°	27.82′	W
32°	37.61′	N,	117°	49.52′	W
31°	7.97′	N,	118°	36.30′	W
30°	32.52′	N,	121°	52.00′	W
18°	0.00′	N,	128°	0.00′	W
10°	0.00′	N,	153°	0.00′	W
7°	0.00′	N,	153°	0.00′	W
1°	30.00′	N,	130°	30.00′	W
5°	0.00′	S,	127°	0.00′	W
5°	0.00′	S,	115°	0.00′	W
18°	0.00′	S,	90°	0.00′	W
18°	0.00′	S,	83°	0.00′	W
12°	0.00′	S,	77°	0.00′	W

Stratum Boundary: The core stratum is defined by the following points:

5°	0.00′	N,	77°	38.04′	W
5°	0.00′	N,	120°	0.00′	W
25°	0.00′	N,	120°	0.00′	W
25°	0.00′	N,	112°	51.60′	W

Appendix B. Participating scientists and legs during STAR99.

				D. S. Jordan Leg #						*McArthur* Leg #				
Name	Observer #	Position	Affiliation[1]	1	2	3	4	5	6	1	2	3	4	5
Lisa Ballance	120	Chief Scientist	SWFSC			x	x	x		x				
Jay Barlow	15	Cruise Leader	SWFSC									x		
Susan Chivers	29	Cruise Leader	SWFSC										x	
Mark Lowry	19	Cruise Leader	SWFSC											x
Barbara Taylor	34	Cruise Leader	SWFSC								x			
Robert Pitman	4	Cruise Leader/Birder	SWFSC	x	x	x	x	x	x					
James Cotton	7	ID Specialist	SWFSC				x	x	x	x	x			
Doug Kinzey	91	ID Specialist	SWFSC	x	x	x						x	x	x
Paula Olson	92	ID Specialist	SWFSC	x	x	x						x	x	x
Richard Rowlett	73	ID Specialist	SWFSC				x	x	x	x	x			
Isabel Beasley	196	Mammal Observer	SWFSC				x	x	x	x	x			
Jorge Del Angel	168	Mammal Observer	SWFSC	x	x	x						x	x	x
Laura Morse	149	Mammal Observer	SWFSC				x	x	x	x	x			
Shannon Rankin	184	Mammal Observer	SWFSC	x	x	x						x	x	x
Juan Carlos Salinas	126	Mammal Observer	SWFSC	x	x	x						x	x	x
Ernesto Vázquez	125	Mammal Observer	SWFSC				x	x	x	x	x			
Suzanne Yin	197	Mammal Observer	SWFSC	x	x	x						x	x	x
Elizabeth Zúñiga	198	Mammal Observer	SWFSC				x	x	x	x	x			
Dawn Breese		Bird Observer	SWFSC						x					
Mike Force	98	Bird Observer	SWFSC				x	x	x	x	x			
Chris Hoefer		Bird Observer	SWFSC	x	x	x						x	x	x
Brett Jarrett		Bird Observer	SWFSC	x	x	x						x	x	x
Cornelia Oedekoven		Bird Observer	SWFSC	x	x	x								
Pedro Castaneda		Foreign Observer	Armada de Ecuador											x

[1] INP: Instituto National de la Pesca, México
INMARPE: Instituto del Mar del Perú
AOC: Aircraft Operations Center, National Oceanic and Atmospheric Administration
UCSD: University of California San Diego
SDU: San Diego State University

Appendix B. Participating scientists (continued).

Name	Observer #	Position	Affiliation	*D. S. Jordan* 1	2	3	4	5	6	*McArthur* 1	2	3	4	5
Arelí Cortés		Foreign Observer	INP											x
Milena Schreiber		Foreign Observer	INMARPE											x
Edith Zárate		Foreign Observer	INP									x		
Raul Zamora		Foreign Observer	Armada de Guatemala										x	
Roy Dehart		Helicopter Mechanic	AOC	x		x		x						
Ron Helgeson		Helicopter Mechanic	AOC		x		x		x					
LT Debora Barr		Helicopter Pilot	AOC		x			x						
Dave Gardner		Helicopter Pilot	AOC	x			x							
LT Julie Helmers		Helicopter Pilot	AOC			x	x		x					
Kerry Kopitsky		Oceanographer	SWFSC	x	x	x	x	x	x					
Kathy Noyes		Oceanographer	SWFSC							x	x	x	x	x
Valerie Philbrick	89	Oceanographer	SWFSC	x	x	x	x	x	x					
Jim Gilpatrick	80	Photogrammetrist	SWFSC											
Morgan Lynn	57	Photogrammetrist	SWFSC	x	x				x					
Charles Stinchcomb	145	Photogrammetrist	SWFSC						x					
John Brandon		Photogrammetrist	SWFSC		x	x								
Katie Cramer		Photogrammetrist	SWFSC	x										
Paola Amador		Visiting Scientist	Ecuador								x			
Gill Braulik		Visiting Scientist	Great Britain								x			
Lanna Cheng		Visiting Scientist	UCSD										x	
Peter Dutton		Visiting Scientist	SWFSC									x		
Jaume Forcada		Visiting Scientist	SWFSC								x			
Erica Goetze		Visiting Scientist	UCSD							x				
Jan Hodder		Visiting Scientist	University of Oregon					x						
Kathy Hough	188	Visiting Scientist	SWFSC										x	
Julie Oswald		Visiting Scientist	SDSU							x				
Carl Safina		Visiting Scientist	Nat'l Audubon Society				x							
Luis Vilchis		Visiting Scientist	UCSD				x							

Appendix C. SWFSC sighting-categories of marine mammals.

code	genus/taxa	species/stock	common names
001	*Mesoplodon*	*peruvianus*	Pygmy beaked whale
002	*Stenella*	*attenuata* (offshore)	Offshore pantropical spotted dolphin, offshore spotter
003	*Stenella*	*longirostris* (unid. subsp.)	Unidentified spinner dolphin, spinner porpoise
004	*Stenella*	*clymene*	Clymene dolphin, short-snouted spinner dolphin
005	*Delphinus*	spp.	Unidentified common dolphin, saddleback dolphin, whitebelly
006	*Stenella*	*attenuata graffmani*	Coastal spotted dolphin, spotter, silverbacks
007	*Sotalia*	*fluviatilis*	Tucuxi, Guiana dolphin
008	*Orcaella*	*brevirostris*	Irrawaddy dolphin, Lumbalumba
009	*Australophocaena*	*dioptrica*	Spectacled porpoise
010	*Stenella*	*longirostris orientalis*	Eastern spinner dolphin
011	*Stenella*	*longirostris* hybrid	Whitebelly spinner dolphin
012	*Lagenorhynchus*	*albirostris*	White-beaked dolphin
013	*Stenella*	*coeruleoalba*	Striped dolphin, streaker porpoise, euphrosyne dolphin
014	*Lagenorhynchus*	*acutus*	Atlantic white-sided dolphin
015	*Steno*	*bredanensis*	Rough-toothed dolphin, Steno
016	*Delphinus*	*capensis*	Baja neritic common dolphin, longbeaked common dolphin
017	*Delphinus*	*delphis*	Offshore common dolphin, shortbeaked common dolphin
018	*Tursiops*	*truncatus*	Bottlenose dolphin, black porpoise, common porpoise
019	*Cephalorhynchus*	*heavisidii*	Heaviside's dolphin
020	*Cephalorhynchus*	*hectori*	Hector's dolphin, pied dolphin, white front dolphin
021	*Grampus*	*griseus*	Risso's dolphin, gray grampus
022	*Lagenorhynchus*	*obliquidens*	Pacific white-sided dolphin, lag, hookfin porpoise
023	*Lagenorhynchus*	*australis*	Peale's dolphin, blackchin dolphin
024	*Lagenorhynchus*	*cruciger*	Hourglass dolphin
025	*Lagenorhynchus*	*obscurus*	Dusky dolphin
026	*Lagenodelphis*	*hosei*	Fraser's dolphin, Sarawak dolphin
027	*Lissodelphis*	*borealis*	Northern right whale dolphin
028	*Lissodelphis*	*peronii*	Southern right-whale dolphin
029	*Cephalorhynchus*	*eutropia*	Black dolphin, Chilean dolphin
030	*Cephalorhynchus*	*commersonii*	Commerson's dolphin, piebald dolphin
031	*Peponocephala*	*electra*	Melon-headed whale, Hawaiian/many-toothed blackfish
032	*Feresa*	*attenuata*	Pygmy killer whale, slender blackfish

Appendix C. SWFSC sighting-categories of marine mammals (continued)

code	genus/taxa	species/stock	common names
033	*Pseudorca*	*crassidens*	False killer whale
034	*Globicephala*	spp.	Unidentified pilot whale
035	*Globicephala*	*melas*	Long-finned or Atlantic pilot whale, blackfish, pothead
036	*Globicephala*	*macrorhynchus*	Short-finned pilot whale, blackfish, pothead
037	*Orcinus*	*orca*	Killer whale
038	*Sousa*	*chinensis*	Indo-Pacific hump-backed dolphin, white dolphin
039	*Sousa*	*teuszii*	Atlantic hump-backed dolphin
040	*Phocoena*	*phocoena*	Harbor porpoise, herring hog
041	*Phocoena*	*sinus*	Vaquita, Gulf of California harbor porpoise
042	*Phocoena*	*spinipinnis*	Burmeister's porpoise, black porpoise
043	*Neophocaena*	*phocaenoides*	Black finless porpoise
044	*Phocoenoides*	*dalli*	Dall's porpoise
045	*Delphinapterus*	*leucas*	White whale, beluga, belukha, sea canary
046	*Physeter*	*macrocephalus*	Sperm whale
047	*Kogia*	*breviceps*	Pygmy sperm whale
048	*Kogia*	*simus*	Dwarf sperm whale
049	*ziphiid*		Unidentified beaked whale
050	*Hyperoodon*	*planifrons*	Southern bottlenose whale, flathead bottlenose whale
051	*Mesoplodon*	spp.	Unidentified Mesoplodon
052	*Mesoplodon*	*carlhubbsi*	Hubb's beaked whale, archbeak whale
053	*Mesoplodon*	*hectori*	Hector's beaked whale
054	*Mesoplodon*	*bowdoini*	Andrew's beaked whale, deepcrest whale
055	*Mesoplodon*	*europaeus*	Gervais' beaked whale, Antillean beaked whale
056	*Mesoplodon*	*bidens*	Sowerby's beaked whale
057	*Mesoplodon*	*ginkgodens*	Ginkgo-toothed beaked whale
058	*Mesoplodon*	*grayi*	Gray's beaked whale
059	*Mesoplodon*	*densirostris*	Blaineville's beaked, dense-beaked, tropical beaked whale
060	*Mesoplodon*	*layardii*	Strap-toothed whale
061	*Ziphius*	*cavirostris*	Cuvier's beaked whale, goose-beaked whale
062	*Berardius*	*arnuxii*	Arnoux's beaked whale, southern giant bottlenose whale
063	*Berardius*	*bairdii*	Baird's beaked whale, nouthern giant bottlenose whale
064	*Tasmacetus*	*shepherdi*	Shepherd's beaked whale
065	*Mesoplodon*	*pacificus*	Longman's beaked whale, Indo-Pacific beaked whale
066	*Eubalaena*	*glacialis*	Northern right whale
067	*Balaena*	*mysticetus*	Bowhead whale
068	*Caperea*	*marginata*	Pygmy right whale

Appendix C. SWFSC sighting-categories of marine mammals (continued)

code	genus/taxa	species/stock	common names
069	*Eschrichtius*	*robustus*	Gray whale
070	*Balaenoptera*	*spp.*	Unidentified Rorqual
071	*Balaenoptera*	*acutorostrata*	Minke whale
072	*Balaenoptera*	*edeni*	Bryde's whale
073	*Balaenoptera*	*borealis*	Sei whale
074	*Balaenoptera*	*physalus*	Fin whale
075	*Balaenoptera*	*musculus*	Blue whale
076	*Megaptera*	*novaeangliae*	Humpback whale
077	unid. dolphin		Unidentified dolphin or porpoise
078	unid. small whale		Unidentified small whale
079	unid. large whale		Unidentified large whale
080	*Kogia*	*simus/breviceps*	Unidentified Kogia dwarf or pygmy sperm whale
081	*Mesoplodon*	*stejnegeri*	Steinger's, sabertooth, Bering Sea beaked whale
082	*Mesoplodon*	*mirus*	True's Beaked Whale
083	*Mesoplodon*	sp. A	Unnamed beaked whale
084	*Hyperoodon*	*ampullatus*	Northern Bottlenose, North Atlantic bottlenose whale
085	*Monodon*	*monoceros*	Narwhal, sea unicorn
086	*Eubalaena*	*australis*	Southern right whale
087	*Pontoporia*	*blainvillei*	Franciscana, La Plata dolphin
088	*Stenella*	*longirostris centroamericana*	Central American or Costa Rican spinner dolphin
089	*Stenella*	*attenuata/plagidon*	Unidentified spotted dolphin in Atlantic
090	*Stenella*	*attenuata* (unid. subsp.)	Unidentified spotted dolphin, spotter porpoise
091	*Stenella*	*frontalis*	Atlantic spotted dolphin, spotter porpoise
092	*Platanista*	*gangetica*	Ganges susu, Ganges dolphin
093	*Plantanista*	*minor*	Indus susu, Indus dolphin
094	*Inia*	*geoffrensis*	Boto, Amazon river dolphin
095	*Lipotes*	*vexillifer*	Baiji, Chinese river dolphin, whitefin dolphin
096	unid cetacean		Unidentified cetacean
097	unid object		Unidentified object, possible marine mammal
098	unid. whale		Unidentified whale
099	*Balaenoptera*	*borealis/edeni*	Rorqual identified as a Sei or Bryde's whale
100	*Stenella*	*longirostris*	Tres Marias spinner dolphin
101	*Stenella*	*longirostris*	Southwestern spinner dolphin
102	*Stenella*	*longirostris*	Gray's spinner dolphin, pantropical spinner dolphin
103	*Stenella*	*longirostris*	Undetermined eastern or Central American spinner dolphin

Pinniped codes:

code	genus/taxa	species	common names
AA	*Arctocephalus*	*australis*	South American fur seal
AG	*Arctocephalus*	*galapagoensis*	Galapagos fur seal
AT	*Arctocephalus*	*townsendi*	Guadalupe fur seal
CU	*Callorhinus*	*ursinus*	Northern fur seal
EJ	*Eumetopias*	*jubatus*	Stellar sea lion
MA	*Mirounga*	*angustirostris*	Northern elephant seal
OB	*Otaria*	*byronia*	South American sea lion
PU	unid. pinniped		Unidentified pinniped
PV	*Phoca*	*vitulina*	Harbor seal
UA	unid. fur seal		Unidentified fur seal
UO	unid. sea lion		Unidentified sea lion
US	unid. seal		Unidentified seal
ZC	*Zalophus*	*californianus*	California sea lion

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