

Annotated Checklist of the Marine Mammals of Micronesia

L. G. ELDREDGE

Pacific Science Association
P.O. Box 17801
Honolulu, Hawaii 96817, USA

Abstract—Reports of a total of 19 species of marine mammals from Micronesia have been gleaned from published and unpublished sources. The first records of seals occurring in Micronesia, specifically the Marshall Islands, are included.

Introduction

This review of Micronesian marine mammals is a first compilation gleaned from published and unpublished information and provides records of the presence of seals within the area for the first time. A total of 19 species and three unidentified forms of marine mammals are herein reported from Micronesian waters. For detailed descriptions and information on natural history and distribution of all species see Leatherwood & Reeves (1983). Recent photographs of almost all species are provided by Balcomb (1987)—the citation for photographs is noted at the end of each species account.

Reese (1987) provided a list of 27 species which might be expected at Ene-wetak Atoll, Marshall Islands, but noted that the presence of only two species had been confirmed by sightings. Balcomb (1987) reported 22 cetaceans and one seal from Hawaiian waters but also included four other species which, because of their known distribution, might be seen.

Fifteen of the 19 species noted herein have also been reported from Indonesian waters, where six additional species not known from Micronesia also occur (Soegiarto & Polunin 1982). Five additional species—to total 30—are likely to be found in waters of the east Asian region (IUCN/UNEP 1985).

Twenty-seven marine mammal species are documented as occurring within the Food and Agriculture Organization of the United Nations (FAO) Statistical Area 71 (Western Central Pacific), which includes all of the Philippines, Indonesia, the southeast Asian coast, the northeast Australian coast, and all of the islands of Micronesia and Melanesia.

Species Accounts

CETACEA: MYSTICETI: Balaenopteridae

Balaenoptera borealis Lesson, 1828 [Sei whale]

One specimen was sighted west of Saipan by Masaki (1972) at 15°25.2'N, 143°00'E. This species, occurring in all oceans, is rare north of Japan (Northridge

1984) and has been reported from Indonesia—Kalimantan and the Java and Savu Seas—by Soegiarto and Polunin (1982).

Balaenoptera edeni Anderson, 1878 [Bryde's whale]

The tropical Pacific was considered the center of distribution for Bryde's whales by Ivashin (1980). Nishiwaki (1966) diagramed their distribution throughout the Mariana Islands. Ohsumi (1980) supported this contention with distribution data on the movements through Micronesia of tagged specimens. Omura et al. (1981) provided a detailed account of the osteology of the species from the central Pacific and Indian Oceans, although no specimens originated from Micronesian waters.

A single specimen was reported from 5°19.5'N and 148°45'E, near the southern boundary of Micronesia (Masaki 1972). Wada (1975) recorded 28 specimens from the Micronesian region, mostly from an area near the Equator (00°03'S, 132°08' to 141°19'E), and Miyazaki and Wada (1978) sighted numerous individuals during 1976 along the Equator, especially around Manus Island and Nauru. School size ranged from a solitary individual to ten.

A decomposed carcass speculatively identified as a Bryde's whale washed ashore some 500 meters north of Sella Bay, Guam, on 31 August 1978. The body length was 6.7m, but the body was badly disfigured by shark bites (Donaldson, pers. comm.). A popular account (Davis 1978) quoted Umatac Commissioner, Albert T. Topasna, that this was the first whale seen since "the early 1900s, at least that's when one of our senior citizens last remembers seeing one."

Bryde's whales recently have been illegally hunted in the waters surrounding Palau and the Caroline Islands. During 1976 and 1977 and in 1979, several were harpooned by Taiwanese interests (Frizell et al. 1980), and between 1983 and 1986 a number were caught by Japanese whalers (Greenpeace Environmental Trust 1987?). Known catch locations are:

- 27 November 1983—01°14'N, 137°02'E
- 28 November 1983—06°29'N, 137°56'E
- ? February 1985—04°N, 137°E
- 10 January 1986—05°40.5'N, 145°26'E
- 15 March 1986—05°20'N, 142°E
- 17 March 1986—05°50'N, 143°E

The last one had been tagged with "Reward for return to Discovery 37484 British Museum (Natural History)" between 1983 and 1984 during the IWC Bryde's whale-marking program from the ship "Discovery." [Balcomb 1987, pp. 9-11]

Megaptera novaeangliae (Borowski, 1781) [Humpback whale]

These whales are found in all oceans and are known to make long migrations. Working from Townsend's (1935) charts, Winn & Scott (1981) identified eleven "prime world populations," including one originally located in the Mariana Is-

lands. Wolman (1978) and Leatherwood & Reeves (1983) stated that undetermined but discrete stocks occur around the Mariana, Bonin, and Ryukyu Islands and Taiwan. Nishiwaki (1959) detailed information about the humpback, specifically in Ryukyuan waters, and provided information on the numbers of whales caught in the north Pacific and in Japanese coastal waters between 1910 and 1957 but did not provide any Micronesian records. Logbooks of American whale-ships showed only fifty humpback whales caught immediately in the area of the Mariana Islands during the 19th century between January and May. Large numbers were also collected near New Caledonia and around the islands of Tonga (Townsend 1935). Lever (1964) further noted these early southern distributions. "Humpbacks from the Asian stock were overexploited by commercial whalers for more than half a century and are now seriously depleted" (Leatherwood et al. 1982, p. 41).

Specimens, speculatively identified, have been reported from Guam from time to time. One such sighting reported two whales (one 12–15m, the other 7m or less) about 100 meters off the reef margin at Uruno Point on 25 February 1978. Both were "motionless" near the reef, frequently "blowing," and were interpreted to be a feeding calf and mother. When approached within 50 meters, both moved slowly into deeper water (Eads, pers. comm.). Farther north, two adult humpbacks were sighted on 2 February 1981 moving slowly north-northeast about a mile offshore from Sabineta Point, the northwest point of Saipan (Naughton, pers. comm.). A long-term resident of Pagan in the northern Mariana Islands reported seeing one or two large whales, apparently with young, periodically for several years (B. Aldan, pers. comm.). Three individuals were sighted off the west coast of Guam on 13 February 1991 (Eads 1991), and a mother and calf were seen near the shore along the east coast of Rota two weeks later (Stinson, pers. comm.). [Balcomb 1987, pp. 15–19]

CETACEA: ODONTOCETI: Ziphiidae

Ziphius cavirostris Cuvier, 1823 [Cuvier's beaked whale]

This species is known from all seas. It was reported by Masaki (1972) in the Mariana and Bonin Islands. Miyazaki & Wada (1978) observed the species four times in the area of 1°N, 142°E. Two sightings were of single animals, and two were of groups of three animals each. A single, pregnant female was returned to deep water on 16 March 1987 after having been stranded on Johnston Island on coastal riprap fronting the south side of the island near the west peninsula (Forsell, pers. comm.). [Balcomb 1987, pp. 40–42]

CETACEA: ODONTOCETI: Physteridae

Physeter macrocephalus Linnaeus, 1758 [Sperm whale]

Sperm whales are relatively common in the Micronesian area, as they are throughout the tropical region. Townsend's (1935) charts show records throughout the year between 1761 and 1920, especially around the Marianas, Pohnpei, and Kosrae, and sightings were numerous around Nauru and the Gilbert Islands

eastward to the Line Islands. Lever (1964) further detailed sperm whale distribution in the area. Masaki (1972) and Wada (1975) observed specimens from a wide area, but none of their sightings were within Micronesia. Miyazaki and Wada (1978) reported a total of 156 sperm whales in twelve schools during 1976, one near Nauru. At Guam, a 15m albino sperm whale was found beached at Acho Bay, Inarajan, on 5 September 1962 (Bordallo 1965b). Most of the abdomen was missing, and shark-bite marks were on the remainder of the carcass. A local resident reported a similar, but unverified, stranding in 1950. At Saipan, Costenoble (1905) noted that the islanders had driven a group of 80 sperm whales into a shallow lagoon, although Kami & Lujan (1976) indicated that Costenoble's "whale" report actually may have been one of porpoises. [Balcomb 1987, pp. 24–29]

Kogia simus (Owen, 1866) [Dwarf sperm whale]

This species is considered uncommon, and previous records may have been confused with *Kogia breviceps*. Handley (1963) reviewed all the described species and designated only these two as valid. At Guam, Kami & Lujan (1976) reported two beached *K. simus* specimens. The first washed ashore on 25 March 1970 at Asan, along the west coast; the second, on 6 December 1974 at Rizal Beach, at the southwest shore south of Orote Peninsula. Only the skull of the first specimen was collected; the remainder of the body was apparently taken to be consumed. The second specimen, 772mm from the snout to the notch in the fluke, was thought to be neonatal. The identification of both specimens was verified by J. G. Mead, Curator of Marine Mammals, Smithsonian Institution, Washington, D.C. [Balcomb 1987, pp. 30–32]

Kogia breviceps (de Blainville, 1838) [Pygmy sperm whale]

A partially decayed 2.9-meter specimen identified as *K. breviceps* was found at NSD Beach at Naval Station (Apra Harbor), Guam, on 9 February 1989. Recently inflicted propeller cuts were found on the right side and near the tail but were not considered to be the cause of death, and numerous 15-cm, scalloped bite marks were found on the body (Sherwood 1989). The cleaned skull and mandibles have been deposited in the Bishop Museum, Honolulu. [Balcomb 1987, pp. 30–32]

CETACEA: ODONTOCETI: Delphinidae

Peponocephala electra (Gray, 1846) [Melon-headed whale]

Also known as the many-toothed blackfish, specimens are observed with somewhat regular frequency in the tropical Pacific north of 10°S. Miyazaki & Wada (1978) reported a school of some twenty individuals within the Micronesian area (01°43'N, 164°3'E) on 20 February 1976. This group was composed of several females accompanied by young and was accompanied by nearly 500 Fraser's dolphins (*Lagenodelphis hosei*). Miyazaki & Wada (1978) collected one immature female which had several whale lice attached to the ventrum between the

flippers, around the mammary glands and the umbilicus, and under the right eye. Kami & Hosmer (1982) reported a stranded male melon-headed whale at Inarajan, Guam, on 6 April 1980. Attempts to "push the whale into the bay" were unsuccessful, since the whale repeatedly stranded itself. Donaldson (1983) detailed the description and compared the measurements with Queensland specimens. The length of the Guam specimen—250cm—is well within the known range of other Pacific specimens. Donaldson further reported a stranded specimen from Palau (Birkeland, pers. comm.) and suggested that the Mariana Islands may be a link between the equatorial and northern Pacific populations. Six melon-headed whales were sighted in the lagoon at Kwajalein Atoll between 22 February and 13 March 1989. Of these, three were stranded—two were destroyed and one eaten (Nitta, pers. comm.) [Balcomb 1987, pp. 51–52]

Feresa attenuata Gray, 1875 [Pygmy killer whale]

This species is thought to be rare, since reports are few and widely scattered. Miyazaki & Wada (1978) sighted a "well united" school of 150–200 individuals on 6 March 1976 just south of the Micronesian area (2°48'S, 153°16'E). Specimens have also been reported from Japan, Indonesia, and Hawaii (Northridge 1984). [Balcomb 1987, pp. 53–55]

Pseudorca crassidens (Owen, 1846) [False killer whale]

The false killer whale appears to be fairly common and is pelagic and gregarious; however, only one record is known from Micronesian waters. Miyazaki & Wada (1978) reported a school of 10–20 individuals along with spotted dolphins west of Palau (4°52'N, 138°35'E) on 27 January 1976. The school was composed of several groups of two or three individuals, the groups being separated from one another by 10 to 50 meters. [Balcomb 1987, pp. 47–50]

Orcinus orca (Linnaeus, 1758) [Killer whale]

Killer whales are thought to be cosmopolitan in distribution; however, there are few verified records in Micronesia. In a study on tuna predation by *O. orca*, Iwashita et al. (1963) collected fishing data for 1956, 1958, and 1962 and mapped recorded sightings for much of the equatorial Pacific. The decreasing frequencies for Micronesia, as interpolated from the maps, are as follows:

	1956	1958	1962
January	1	2	—
March	7	7	—
April	—	3	—
July	3	—	2
August	5	1	3
September	5	4	1
December	2	—	—

Iwashita et al. (1963) further suggested that *O. orca* apparently tend to move toward fishing areas, where they stay throughout the year. Numerous records are known from eastern Polynesia north of the Marquesa Islands. Miyazaki & Wada (1978) sighted a school of nine individuals on 19 February 1976 north of the equator (2°21'N, 164°08'E) near Kapingamarangi. The group consisted of three adult males, two adults or subadults, and two females, each with a calf.

On 1st August 1981, a killer whale was found at Orote Point, Guam (Kami & Hosmer 1982). The body was partially decomposed when beached and had apparently been mutilated by sharks, since the flukes and dorsal fin were missing. Unverified sightings of killer whales have been reported from Guam on 19 November 1985 and 27–28 September 1986. During the summer of 1987, two large male and two female killer whales were observed just offshore between Orote Point and Facpi Point, Guam, by Andy Hutchko, a part-time fisherman from Agat, Guam (Naughton, pers. comm.). [Balcomb 1987, pp. 56–59]

Globicephala macrorhynchus Gray, 1846 [Short-finned pilot whale]

Widely distributed, this species ranges throughout the warm and tropical waters of the world. Masaki (1972) and Wada (1975) reported it from the western Pacific, and Miyazaki & Wada (1978) observed a school of about ten individuals just south of the Equator (0°48'S, 142°14'E) on 30 January 1976. In a popular report, Birkeland (1977) related swimming with a "large school" of pilot whales near Uruno Point, Guam, and illustrated the note with photographs of several individuals. Kami & Hosmer (1982) and Donaldson (1983) reported on the first known beaching of a short-finned pilot whale at Guam on 6 July 1980. A female, 359cm long, was found by a local fisherman at Togcha Beach, near Yona, Guam. A newspaper article of 7 July 1980 contained photographs of the specimen (Schulz 1980). [Balcomb 1987, pp. 44–46]

Lagenodelphis hosei Fraser, 1956 [Fraser's dolphin]

This species is thought to be rare but occurs in conspicuous groups near Cebu City, Philippines (Northridge 1984). Miyazaki & Wada (1978) observed a total of four schools, three of which were within Micronesia. On 1 February 1976 40–50 individuals were seen (1°33'N, 142°04'E), and one male was collected; on 2 February 1976 another group was seen (3°00'N, 141°55'E); and on 20 February 1976 a third group of 400–500 individuals was sighted swimming together with several *Peponocephala electra*. [Balcomb 1987, pp. 94–95]

Grampus griseus (Cuvier, 1812) [Risso's dolphin]

Miyasaki & Wada (1978) observed four groups of 8–10 each of Risso's dolphin within the Micronesian area. One was seen in the immediate vicinity of Guam (14°4'N, 144°56'E), and the other three, just north of the Equator at 142°E and 143°E. [Balcomb 1987, pp. 60–62]

Stenella longirostris (Gray, 1828) [Long-snouted spinner dolphin]

Spinner dolphins are found throughout the tropics. There are few verified reports in Micronesia. Miyazaki & Wada (1978) sighted a total of eighteen schools

during 1976—four from the southern Micronesian area (between 0°25′–3°11′N and 141°57′–165°E). Schools ranged from 30 to 150 individuals. Rock (1984) published a color photograph of two spinner dolphins in the waters off Guam. During extensive field research at Haputo Point, Guam, Naughton (pers. comm.) consistently sighted spinner dolphins in the Pugua Patch Reef (Double Reef) area. Groups of 20 to 30 individuals, always in less than 30m of water just south off the patch reef, were observed in April and May 1986 and in June 1988. Naughton suggested that this was a resident group because of their behavior and their affinity for the particular location. Reese (1987) included this species, identified from photographs, among those from Enewetak, Marshall Islands. [Balcomb 1987, pp. 73–76]

Stenella coeruleoalba (Meyen, 1833) [Striped dolphin]

This common species is thought to have a wider distribution than the spinner and spotted dolphins. Miyazaki & Wada (1978) observed a total of eight schools. The only school sighted within Micronesia (5 March 1976; 4°02′N, 155°41′E) contained between 400 and 500 individuals. Many of the females were with calves. Identification of a skeleton confirmed the presence of this species at Enewetak (Reese 1987). A single freshly dead female was found at Dadi Beach, Agat Bay, Guam, on 24 July 1985. The lower jaw of this 227-cm individual was broken (Nitta, pers. comm.). [Balcomb 1987, pp. 70–72]

Stenella attenuata (Gray, 1846) [Pantropical spotted dolphin]

This species is the most widely distributed of the “spotted dolphins.” In a revision of these species, Perrin et al. (1987) described *S. frontalis* as the endemic Atlantic species and *S. attenuata* as the pantropical species. Only two of the fourteen schools observed by Miyazaki & Wada (1978) during 1976 were found within Micronesia. Each of these (at 14°51′N, 138°28′E and 04°52′N, 138°35′E) contained 10–20 individuals, although as many as 600 individuals were observed in another school outside the region. These authors provided a map showing the distribution of schools of all the *Stenella* sighted (p. 187). [Balcomb, 1987, pp. 77–81]

Stenella sp. [Unidentified species]

Near the Equator, two schools of unidentified *Stenella* were observed by Miyazaki & Wada (1978) on 31 January 1976 and 21 February 1976. Each contained 10–20 individuals and were impossible to identify, having been sighted in the evening. Part of skull and six vertebrae of an unidentified porpoise are deposited at the Bishop Museum, Honolulu, Vertebrate Zoology Collection (Cat. No. 147856). There were taken “from the stomach of a 10-foot tiger shark” collected in the lagoon at Enewetak Atoll, Marshall Islands, on 11 December 1974.

Delphinus delphis Linnaeus, 1758 [Common dolphin]

This common, worldwide species has been reported only once in the Micronesian area (Masaki 1972). Miyazaki & Wada (1978) repeated the report but did not sight any members of this species themselves.

PINNIPEDIA: Phocidae

Unidentified Seals

Monk seals range throughout the northwestern Hawaiian Islands, and rare individuals have been seen at Johnston Atoll, which lies at a third of the distance from the Hawaiian to the Marshall Islands. Northern elephant seals have been verified from the Midway Islands, where a female tagged at San Miguel Island, off southern California, was identified in February 1978 by George Balazs (Tomich 1986).

Three sightings in the Marshall Islands of unidentified seals have been made during the past thirty years. Information concerning these reports was provided by George Balazs (Southwest Fisheries Center, Honolulu Laboratory, NOAA) from information given to him by Lisa Boucher and Bill Puleloa. The reports originated from islanders who were considered "very reliable" sources. However, actual identifications of the seals—either monk or elephant—is questionable (Balazs, pers. comm.).

In 1958, a seal appeared at Maloelap, where it lived for several weeks before being killed. The remains were disposed of at sea. In 1963, a seal was reported from Wotje and was unharmed. It remained there for a while before it swam away. Fifteen years later, in 1978, another seal appeared at Wotje and was killed by the islanders (Balazs, pers. comm.). Lack of further seal sightings at even the most remote atolls has led to the statement that seals and sea-lions are unknown in the Marshall Islands (Reese 1987).

At Maiana, Gilbert Islands, a "monster" which was killed was possibly a monk seal (Bertram & Bertram 1973). [Balcomb 1987, pp. 84–88 for Hawaiian monk seal]

SIRENIA: Dugongidae

Dugong dugon (Müller, 1776) [Dugong]

Dugongs are widely distributed from the east African coast to the islands of the southwestern Pacific. Bertram & Bertram (1973) detailed information on their distribution and frequency. In a review of literature pertaining to dugongs, Husar (1975) indicated that individuals were known from Palau and the Caroline and Gilbert Islands but were absent from the Marshall Islands. The absence of dugongs from the Marshalls was further confirmed by Reese (1987).

In an attempt to clarify the distribution of the species, an extensive field survey was conducted by Japanese scientists in 1977 and 1978, and information was collected from local scientists, fishermen, and other informed people (Nishiwaki et al. 1979). The eastern limit of distribution was a major priority. These authors further reported information on two dugongs from Yap. In 1963, one was caught and sold in the market, and in 1977, another was seen by a turtle hunter. Nishiwaki et al. (1979) concluded that dugongs were absent from Saipan, the Caroline Islands (Chuuk, Pohnpei, Ulithi, Ngulu, Nama, Lukunor, Satawan, and Kosrae), the Marshall Islands (Majuro), the Gilbert Islands, and Nauru.

For Guam, these authors cited doubtful information gathered from a sport fisherman and indicated that further confirmation would be necessary. However, a group of University of Guam Marine Laboratory field researchers verified seeing a dugong in Cocos Lagoon, at the southern end of the island, in 1975 (Randall et al. 1975). Several sightings were also reported at Guam in 1984. Picnickers sketched an animal which they observed along the southeastern coast, and windsurfers and sport fishermen reported seeing what they described as a dugong (Grosenbough, pers. comm.).

Maps of dugong distribution are presented by Husar (1975), Jones (1976), Nishiwaki et al. (1979), Nishiwaki & Marsh (1985), and Marsh et al. (1986).

Dugongs have been constant inhabitants at Palau. Extensive information on length, weight, and general biology appeared fifty years ago (Asano 1938a, 1938b, Hirasaka 1939). In mid-1955, a single specimen, which had been accidentally speared, was held at Koror before being taken to the Steinhart Aquarium in San Francisco. Feeding attempts demonstrated that "Eugenie" would eat sea cucumbers from the sand but not from floating seagrasses and when fed only seagrasses, preferred them anchored to floating (Harry, 1956). ["Eugenie" died on 27 December 1955 from infection in the original spear wound.]

Research on the status of dugongs at Palau was conducted during 1977 and 1978 (Brownell et al. 1981). The numbers of individuals observed were 15 in 1977 and 34 in 1978. The reproductive rate was relatively high, since many specimens seen were calves—13% in 1977 and 24% in 1978. The population may be as great as 150 individuals. [Popular photographs were taken about the same time as the survey (Quimby 1980).] Palau was resurveyed in 1983 (Rathbun et al. 1988) in an attempt to determine changes in distribution and abundance. The total number of individuals counted, including three calves, was 38 from combined aerial surveys of 23 and 24 August. This number compares favorably with that of 34 observed in 1978. One major difference was that during the 1983 survey very few individuals were seen in Malakal Harbor, whereas as many as nine were observed during the 1977–1978 surveys. The reproductive potential was 8.5% for the combined 1983 surveys; less than that for the earlier survey (Rathbun et al. 1988). Another survey is scheduled during late summer 1991.

In a review of dugongs, Husar (1975) listed known internal parasites of dugongs. New records of the monostome flukes, *Parcochlotrema indicum* and *Opisthotrema dujonis* from Palau were reported by Blair (1981). Regarding the survival of the dugong in Micronesia, Brownell et al. (1981) stated that unless poaching is reduced, the Palau dugong populations "could be exterminated by the end of the century" (p. 19). Rathbun et al. (1988) added that long-term monitoring, public education, and less human exploitation would be necessary to maintain the unique and isolated population.

Notes on Whaling Activities in Micronesia

American whaling efforts in Micronesia reached their height of activity during the first half of the 19th century and declined after the 1850s with the discovery

of petroleum and the advent of the Civil War. Among the islands of Micronesia, Guam was a major port for water and supplies for the early trips of many months at sea (Doty 1972, Martin 1979). Pohnpei and Kosrae were favored rest stops (Martin 1987), as were the Gilbert Islands and Nauru (Martin 1978)—areas where whales occurred abundantly.

Confrontations between whalers and islanders created much colorful island history (Perry 1978, Ronck 1978), and during this time, first-hand reports appeared in the forms of whaling logbooks and individual journals. Numerous books were written about adventures during the whaling years. Newspaper accounts, such as those of "The Friend" published in Honolulu, provided many insights into the activities and anecdotes of the day.

Jones' (1861) early account of the ship "Emily Morgan" and whaling in Micronesia, especially in the Marianas, has been used as a basis for several other reports. Part of his book was reprinted in 1936 [Guam Recorder 12(5):2-3,32; 12(6):10-11,31; 12(7):10-11] and forms the basis for more recent notes by Bordallo (1965a, 1965b) and Camba (1965). Stories of sightings and killings of humpback whales in the southern Mariana Islands in 1869 were reported by Beane (1905), who added that a catch of nine whales was "not a particularly brilliant seasons work."

For more than twenty years, whaling has been banned in Micronesian waters through various international treaties and national regulations. However, illegal or pirate whaling has been documented recently in the western Caroline Islands. According to Greenpeace sources (Frizell et al. 1980), Taiwanese boats, refitted for whaling and manned by Japanese whaling crew and Chinese ships' crew, operated along the annual migration routes of the Bryde's whales to supply the Japanese whale-meat market during 1976 and 1977. The whales wintered in the Caroline Islands and spent summers around the Bonin Islands. In the Caroline Islands, the hunting grounds were within 10°-15°N and 134°-140°E. During this time, the Chinese vessel "Hai Yen" ("Sea Bird") reportedly harpooned 290 Bryde's whales as well as an assortment of sperm, humpback, and gray whales.

A second ship, the "Hai Hwa" ("Sea Flower"), was brought from Japan during 1979. Upon its return to Kaohsiung, Taiwan's United Daily News (Frizell et al. 1980) reported that the "Hai Hwa" had been hunting northeast of Palau (7°40'N, 135°50'E) on 28 February 1979 when two spouting "giant whales" were encountered. One was harpooned immediately. The second was hit but not killed; however, the harpoon during retrieval hit and killed the Chinese radio operator. Frizell et al. (1980) also provided additional details of illicit whale-meat trade.

Greenpeace further reports that in 1982, a group of Japanese nationals established a whaling operation in the Philippine Islands. "Faith No. 1" was catching Bryde's whales and processing them at sea. From 1983 to 1986, between November and February, this ship made 13 trips into the area of Palau and the western Caroline Islands; in April during these years, hunting was carried out north of the Mariana Islands. The total number of whales caught is unknown, but several tons of packaged meat reached Japanese markets (Greenpeace Environmental Trust 1987?).

Acknowledgements

In response to the United Nations Environment Programme (UNEP) Governing Council decisions 59(IV) of 13 April 1976 and 88(V) of 25 May 1977, and in cooperation with the Food and Agriculture Organization of the United Nations (FAO), UNEP initiated a project to develop a global plan of action for marine mammals. A draft action plan was circulated for comment, and in 1981 the Council requested that preparation of the plan be continued. The 12th session of the Council (Nairobi, 16–29 May 1984) adopted the final version of the Marine Mammal Action Plan, which includes a program for the conservation, management, and utilization of these mammals (FAO/UNEP, 1985). The International Whaling Commission also considered and endorsed the Plan at its 36th meeting (Buenos Aires, June 1984). Further the Plan was endorsed by the General Assembly of IUCN in November 1984. In conjunction with the Plan, regional studies have been carried out to investigate the status of marine mammals. The present survey, conducted under the auspices of the South Pacific Regional Environment Programme (SPREP), complements these activities for the Micronesian area.

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NOTE ADDED IN PROOF

Subspecific status has been accorded to the worldwide tropical long-snouted spinner dolphin as *Stenella longirostris longirostris*, and one museum specimen is reported from Enewetak, Marshall Islands. [Perrin, W. F. 1990. Subspecies of *Stenella longirostris* (Mammalia: Cetacea: Delphinidae). *Proc. Biol. Soc. Wash.* 103(2):453-463.]

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