

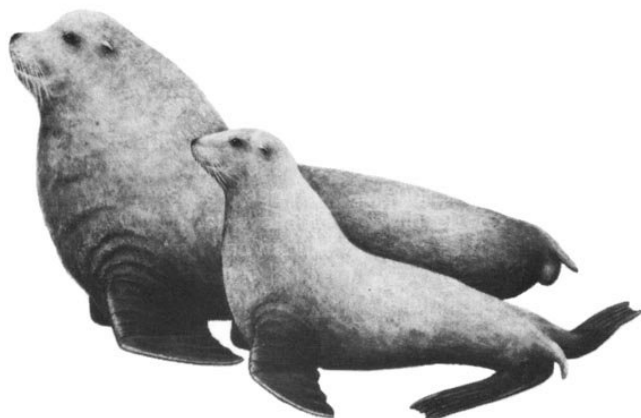
4.1.4 FAO Species Identification Sheets

Eumetopias jubatus (Schreber, 1776)

OTAR Eumet 1

SSL

FAO Names: **En** - Steller sea lion; **Fr** - Lion de mer de Steller; **Sp** - Lobo marino de Steller.



475 *Eumetopias jubatus*

Distinctive Characteristics: Steller sea lions are enormous and powerfully built. Aside from the overall large size of adults and generally robust build of all age and sex classes, the most conspicuous characteristics are the appearance of the head and muzzle, which are massive and wide. The eyes and ear pinnae appear small when compared with the size of the rest of the head. The vibrissae can be very long in adults. In all but adult males, there is little or no clear demarcation between the crown of the head and the muzzle, thus no forehead. In adult males, development of the sagittal crest produces a variable amount of forehead demarcating the muzzle and crown. Breeding bulls in their prime are very robust in the neck and shoulder area and have a mane of longer guard hairs. Both the fore- and hindflippers are very long and broad for an otariid. Collectively, these features make the upper body appear massive in relation to the lower body.

Coloration in adults is pale yellow to light tan above, darkening to brown and shading to rust below. Unlike most pinnipeds, when wet, Steller sea lions are paler, appearing greyish white. Pups are born with a thick blackish brown lanugo that is moulted by about 6 months of age. All ages and sexes have contrasting black flippers, naked except for a short stubble of dark fur partially covering the upper surface.

The dental formula is I 3/2, C 1/1 PC 5/5. There is a wide diastema (gap) between the fourth and fifth post-canines.

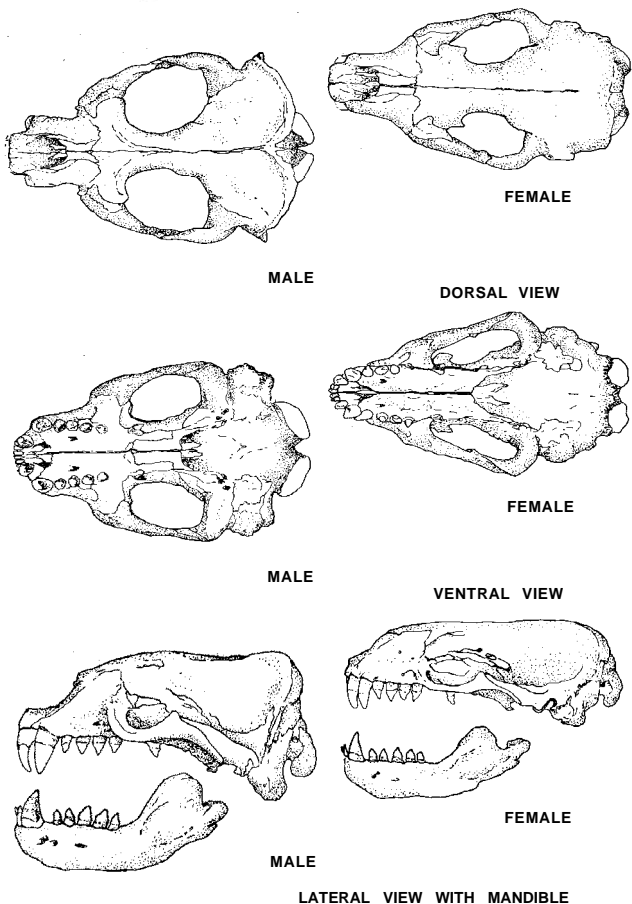


Fig. 476 Skull

Can be confused with: The large robust bodies of Steller sea lions will allow them to be easily distinguished from the species of fur seals that inhabit their range. California sea lions (p. 230) are most likely to cause confusion. Careful attention to robustness, head and muzzle shape, coloration, and the size of bulls will allow them to be differentiated. Also, Steller sea lion bulls have much smaller, more posterior sagittal crests than those of California sea lion males.

Size: The maximum length of adult males is about 3.3 m and average weight is 1 000 kg. The maximum length for adult females is about 2.5 m and average weight is 273 kg. Pups are born at an average of about 1 m and 18 to 22 kg.

Geographical Distribution: Steller sea lions are found from central California (formerly southern California), north to the Bering Sea, west along the Aleutian chain to the Kamchatka Peninsula, and south to northern Japan. Throughout their range they are primarily found from the coast to the outer continental shelf. However, they frequent deep oceanic waters in some parts of their range.

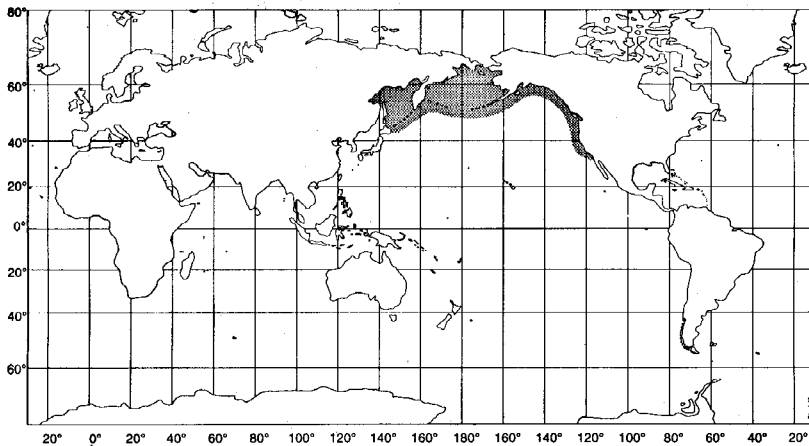


Fig. 477

Biology and Behaviour: Steller sea lions breed in the late spring and summer. They are highly polygynous; adult males arrive before females and establish territories, which they aggressively and vociferously defend. Steller sea lions sometimes leave their haulouts in large groups of over 1 000 individuals; however, sightings at sea are most often of groups of 1 to 12 animals. They aggregate in areas of prey abundance, particularly around fishing operations, such as trawlers and salmon driftnetters, where they feed on netted, fish and bycatch. Steller sea lions feed on many varieties of fish and squid, with a decided preference for bottom species. Apparently, much feeding occurs at night.

Exploitation: Historically this sea lion was sporadically harvested for fat, meat, and "trimmings" (vibrissae and testes). There was a government-sponsored cull in this century that was pursued with the hope of limiting population size and its impact on commercially important fish species. Currently however, the Steller sea lion is suffering a massive range-wide population decline for, as yet, unknown reasons. The chief suspected cause is the over-exploitation of stocks of pollock in the high North Pacific. Other reasons suggested for the decline include long term change in ocean temperature, accumulation of human produced toxins, and disease. It may be that the decline is attributable to the subtle interaction of several of these factors. In 1990, the Steller sea lion was declared a threatened species under the United States Endangered Species Act.

IUCN Status: Vulnerable.

Zalophus californianus (Lesson, 1828)

OTAR Zal 1

CSL

FAO Names: En - California sea lion (*Z. c. californianus*), Galapagos sea lion (*Z. c. wollebaeki*), and Japanese sea lion (*Z. c. japonicus*); Fr - Lion de mer de Californie; Sp - Lobo marino de California.



Fig. 478 *Zalophus californianus*

Distinctive Characteristics: The California sea lion is the well-known performing "seal" of zoos, circuses, and oceanaria. In both sexes, the muzzle is dog-like and long, slightly tapering to a moderately blunt end. Adult males are substantially more robust and larger than females. In adult males, the sagittal crest creates a high peaked crown. The crest begins to emerge at sexual maturity and, although highly variable, is most prominent in full-grown males. On most males, especially darker individuals, the crest and a corresponding area on the muzzle and around the eyes lighten with age. Females lack a pronounced crest and have a thinner head that slopes more gently to the end of the muzzle. This makes subadult and juvenile males very difficult to distinguish from females.

Colour of California sea lions is highly variable. When dry, the coat of most adult males is dark brown. However, many males do not darken completely, remaining sandy brown on the sides, belly, and rear quarters. Adult females and juveniles are uniformly tan. Pups are born with a thick brownish black lanugo that is generally moulted by the end of the first month. The succeeding light brown juvenile coat is shed 4 to 5 months later, and is replaced by adult coloration. All ages and sexes have contrasting black flippers, naked except for a short stubble of dark fur partially covering the upper surface.

The dental formula is variable, but is usually I 3/2, C 1/1, PC 5/5 (in the California race) or PC 6/5 (in the Galapagos race).

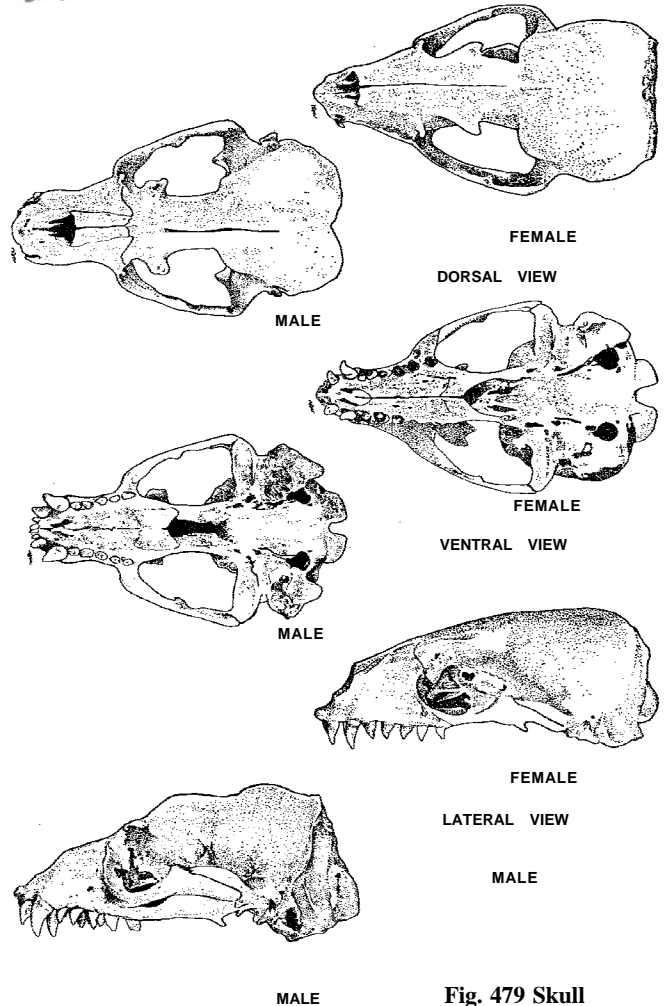


Fig. 479 Skull

Can be confused with: California sea lions share their range with 3 other otariids (Steller sea lions [p.228], and northern [p. 238] and Guadalupe [p.240] fur seals). Galapagos sea lions overlap with Galapagos fur seals (p. 244) and South American sea lions (p. 232). These sea lions can be separated from the similar, but much larger, Steller sea lion and similar sized South American sea lion, on the basis of head and muzzle shape and size, and relative size of the ear pinnae. Additionally fore- and hindflippers are relatively shorter than in the Steller sea lion. (See the Guadalupe, Galapagos, and northern fur seal accounts for more detail on separating California and Galapagos sea lions from fur seals.)

Size: Male California sea lions reach lengths of 2.4 m, and weights of more than 390 kg. Females only reach 2 m, and weigh an average of 110 kg. Newborn pups are about 80 cm long and 6 to 9 kg. There is very little information on the sizes of Galapagos sea lions (estimated weights are 200 kg for males, and 50 to 100 kg for females).

Geographical Distribution: There are 3 recognized subspecies of *Zalophus californianus*: *Z. c. californianus*, in the eastern North Pacific from central Mexico north to British Columbia, including the Gulf of California; *Z. c. wollebaeki*, restricted to waters surrounding the Galapagos Islands; and *Z. c. japonicus*, formerly found in the western Pacific (off Japan and Korea), but now considered extinct. California sea lions are found in coastal and continental shelf waters throughout their range. They frequent bays, harbours, and river mouths and regularly haul-out on buoys and jetties. They can occasionally be found up to several hundred kilometers offshore as well.

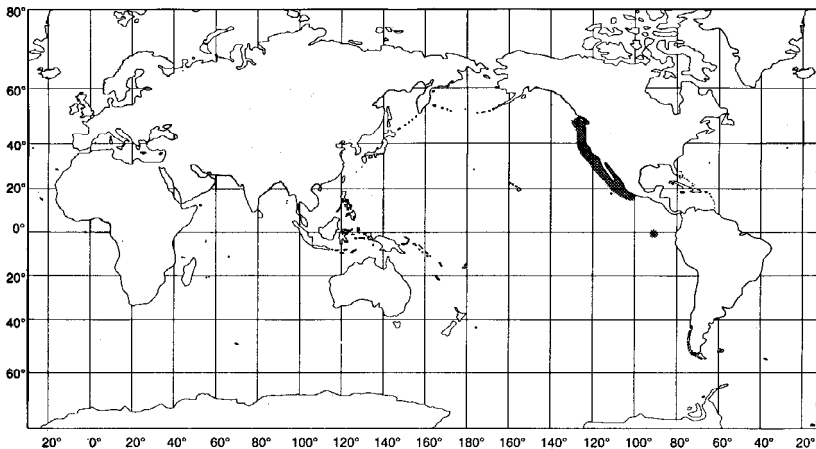


Fig. 480

Biology and Behaviour: Breeding takes place from May through July (California sea lions), and from May through January (Galapagos sea lions). Males are highly polygynous and hold territories both on land and in shallow water nearshore. In California sea lions, most adult males and many subadults and juveniles of both sexes take part in a post-breeding migration northward from the rookeries. Galapagos sea lions apparently stay around the Galapagos Archipelago all year.

At sea, California sea lions often raft at the surface alone or in groups. Animals in such rafts frequently raise their flippers out of the water. California sea lions often "porpoise" when traveling rapidly at sea, sometimes in large groups. Juveniles and subadults may perform acrobatic and high vertical leaps, and individuals of all ages surf breakers and ride in the wakes of vessels. California sea lions are often seen with a wide variety of dolphin and baleen whale species.

California sea lions feed on squid, octopus, and many species of fishes. Because of their taste for commercially important fish species and their boldness, California sea lions are considered a nuisance by many sport and commercial fishermen.

Exploitation: Currently, there is no significant direct catch of California sea lions. Many sea lions, however, are shot by fishermen and certainly many others are taken incidentally during fishing operations. Set and drift gillnets, in particular, appear to be taking large numbers each year. The total population of the California sea lion in 1989 was estimated to be 160 000 and increasing, about equally split between Mexico and the United States. The numbers of Galapagos sea lions are unknown. Unfortunately, the Japanese race of this sea lion is now extinct.

IUCN Status: Insufficiently known; extinct (*Z. c. japonicus* only).

Otaria byronia (Shaw, 1800)

OTAR Otar 1

SEL

FAO Names: En - South American sea lion; Fr - Lion de mer d'Amérique du Sud; Sp - Lobo común.

Other scientific names still in use: *Otaria flavescens* (Shaw, 1800).

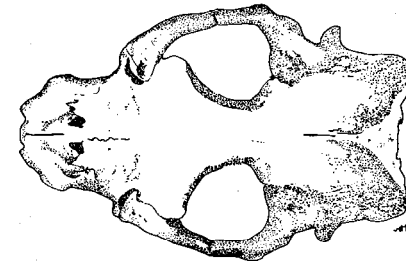


Fig. 481 *Otaria byronia*

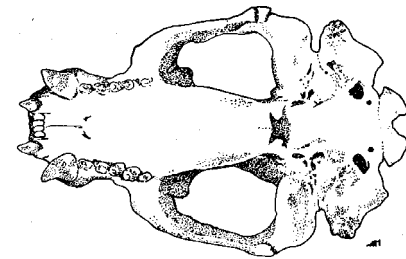
Distinctive Characteristics: The South American sea lion is stocky in build. In both sexes the muzzle is blunt; although relatively short, it is deep, wide, and slightly upturned at the end. The lower jaw is particularly large, wide, and deep and it juts slightly beyond the upper jaw. The ear pinnae are small and lie close to the side of the head; they are especially inconspicuous in adult males. Adult males are unmistakable, bearing a mane of long, coarse, erectile guard hairs, extending from forehead to shoulders and chin to mid-chest. The neck, head, and jaws are much more massive than those of females. Their great anterior bulk makes the hind quarters seem too small.

Adult females and subadults of both sexes have coats shaded from yellow to brownish orange. They are not necessarily uniformly coloured, but can be patterned with areas of slightly different hues. Most males darken with age, becoming brownish orange, although the mane and underparts frequently remain lighter. Males sometimes have a darker face, giving them a slightly masked appearance. Adults of both sexes can be pale gold in colour. Pups are born black above and greyish orange below. They undergo their first moult approximately 1 month after birth, becoming dark brown. This colour fades during the rest of the first year to a paler brown to tan colour, with paler areas in the face.

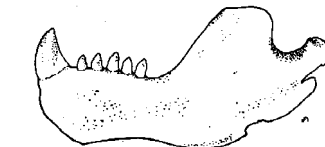
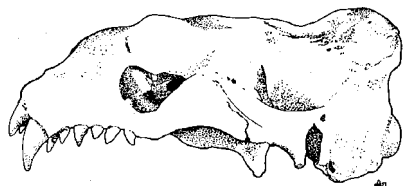
The dental formula is I 3/2, C 1/1, PC



DORSAL VIEW



VENTRAL VIEW



LATERAL VIEW
WITH MANDIBLE

Fig. 482 Skull of male

Can be confused with: The South American fur seal (p. 246) is the only otariid that regularly shares the range of this sea lion. At least 5 other otariids occur, mostly as vagrants, within the range of the South American sea lion: the Juan Fernandez (p. 242) Galapagos (p. 244), Antarctic (p. 252), and subantarctic (p. 250) fur seals, and the Galapagos sea lion.(p. 230). For each of these, note characteristics of the fur, mane of adult males, flippers, head and muzzle, and ear pinnae.

Size: Males reach 2.6 m in length and weights of up to 350 kg; females reach 2.2 m and 144 kg. At birth, pups are 11 to 15 kg and 78 to 85 cm long.

Geographical Distribution: South American sea lions are widely distributed, occurring more or less continuously from northern Peru on the west side of South America, northward up the east coast to southern Brazil, including the Falkland Islands. This is primarily a coastal species, usually found over the continental shelf and slope. They less frequently occur in deeper waters. South American sea lions venture into fresh waters in rivers and around glaciers.

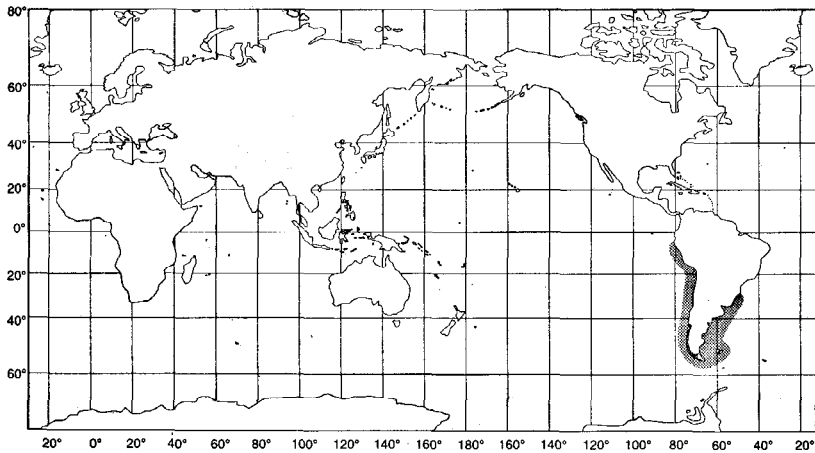


Fig. 483

Biology and Behaviour: The timing of the breeding season in this species varies by location and latitude. The earliest breed in September, the latest in March. In many areas the peak is from mid-December to early February. Most pups are born from early to late January. Generally, rookeries are continuously occupied by at least some animals, and the species has been described as sedentary. Although there is no known migration, many animals, particularly males, may disperse widely. At sea South American sea lions frequently raft alone or in small to large groups. They have been reported in association with feeding cetaceans and seabirds.

They are opportunistic feeders, taking a wide variety of prey. Their diet includes many species of benthic and pelagic fishes, and invertebrates such as lobster krill, squid, octopus, and jellyfish (and occasionally penguins and young South American fur seals).

Exploitation: Humans have exploited South American sea lions for hides, meat, and fat from prehistoric times to the present. Native peoples, explorers, sealers, and government-sponsored commercial ventures have taken their toll on sea lion populations at various times. Commercial harvesting continues in Chile, while throughout its range the South American sea lion is generally regarded as a nuisance and competitor with local fisheries. Many animals are taken annually in gillnets or are shot or killed with explosive charges set off near them when they approach fishing nets. Sea lion meat is regularly used as bait in crab trap fishing operations in some regions. This species may be in danger, at least in portions of its range, from overfishing of vital food stocks. Historically, more than 300 000 may have inhabited the Falkland Islands alone, whereas surveys from 1965 yielded an estimate of only 30 000.

IUCN Status: Insufficiently known.

Neophoca cinerea (Peron, 1816)

OTAR Neoph 1

ASL

FAO Names: En - Australian sea lion; Fr - Lion de mer d'Australie; Sp - Lobo marino de Australia.

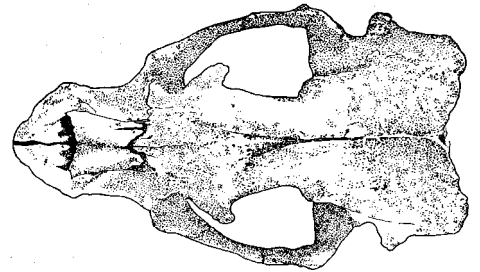


Fig. 484 *Neophoca cinerea*

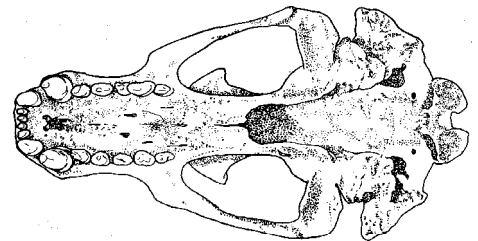
Distinctive Characteristics: Australian sea lions have a large head and a muzzle that is long and somewhat narrow, tapering slightly to a rounded end in profile. The ear pinnae are small and lie close to the head. The vibrissae are moderate in length, reaching just beyond the area of the ears. In adult males, the head and especially the neck and shoulders are greatly enlarged.

At birth, Australian sea lion pups are dark brown, with a paler crown and a dark facial mask. Pups begin to moult their birth coat at 2 months and change to their juvenile pelage, which is similar to that of adult females. This coat is fawn to silvery grey above and tan to pale yellow below. The demarcation between light and dark zones is high on the neck, but dips downward to the insertion of the flippers. The foreflippers are often darker above. The light coloration sometimes extends to the area around the ears (which are often particularly light and appear highlighted), the eyes, and the muzzle. In some animals there may be little discernable contrast between coloration above and below. Subadult males are coloured like females, but darken as they mature. The first evidence of this appears as dark spotting on the chest and darkening of the muzzle. Adult males have a dark brown coat, a whitish creamy crown and nape, and a slightly paler chest and lower throat area. This accentuates the darker "masked" face, chin, and muzzle. Younger bulls are incompletely marked and have a whitish ring around the eyes.

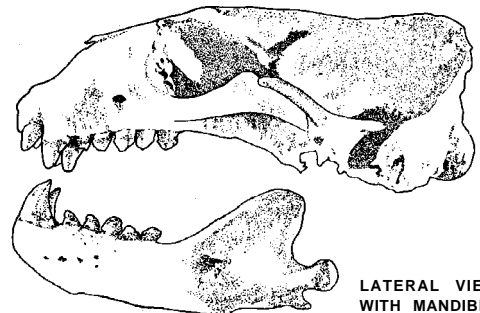
The dental formula is I 3/2, C 1/1, PC 5/5 (there is some variation in upper post-canine numbers).



DORSAL VIEW



VENTRAL VIEW



LATERAL VIEW
WITH MANDIBLE

Fig. 485 Skull of male

Can be confused with: New Zealand (p. 248) and Australian (p. 254) fur seals occur within or very near the present range of Australian sea lions. Australian sea lions can be differentiated from these and all other southern fur seals based on coloration, lack of dense under-fur, generally shorter pelage (exclusive of the mane on adult males) and vibrissae, head and muzzle shape, size of the ear pinnae, and size and shape of toes on the hindflippers.

Size: Very little information exists, but males reach lengths of at least 2.5 m and weights of 300 kg. Females reach at least 1.8 m and 105 kg. At birth, pups are approximately 60 to 70 cm and weigh 6.5 to 8 kg.

Geographical Distribution: Australian sea lions are found only around southern and southwestern Australia. They inhabit islands and the mainland coast, ranging over waters of the adjacent continental shelf. Little is known of their distribution at sea.

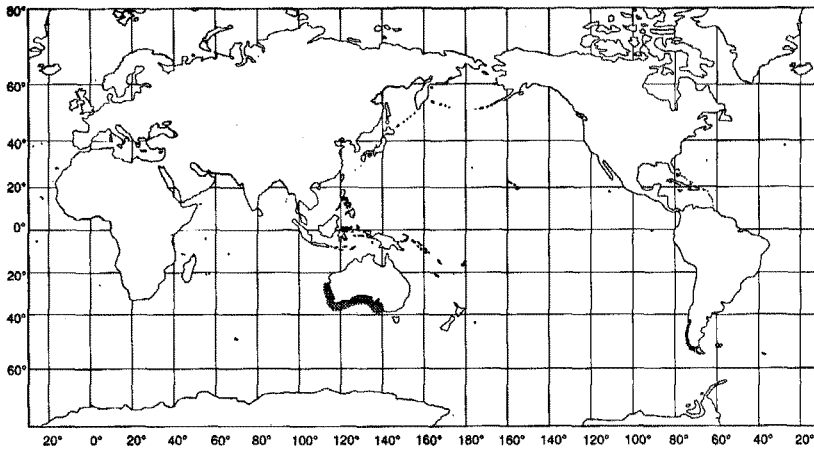


Fig. 486

Biology and Behaviour: Breeding in this polygynous species is unusual for a pinniped, in that pups can be born at many different times of year. Although little information is available on behaviour at sea, Australian sea lions are known to porpoise when traveling rapidly, and also to surf beach waves. These seals are considered to be non-migratory. The greatest distance recorded for a tagged animal is approximately 300 km.

Australian sea lions are known to prey on a wide variety of fishes (including rays and small sharks), squid, cuttlefish, and penguins. They are thought to concentrate their efforts on shallow-water benthic prey. Fishermen complain of sea lions robbing lobster traps and fishing nets.

Exploitation: There is no direct exploitation at present, and Australian sea lions are protected throughout their limited range. Historically these sea lions had a more extensive range in Australia, but they were severely reduced by 19th Century commercial hunting. In some areas sea lions are killed by fishermen, directly when they interfere in operations and indirectly when caught in working nets. Entanglement in net debris, results in necklaced animals and some unknown level of mortality. The population appears to be stable.

IUCN Status: Rare.