

MONITORING OF THE MEDITERRANEAN MONK SEALS IN THE TURKISH COAST OF THE AEGEAN SEA

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Abstract

The status of the Mediterranean monk seals in the Turkish coasts of the Aegean Sea was studied from 1986 to 1996 for 10 years. During the study period, 41 individuals were identified in the Aegean Sea, among them 28 individuals survive, while 13 were dead. Only four pups were determined to survive. Except for two individuals in the Bodrum Peninsula, all monk seals were single individuals. Therefore, the population of the Mediterranean monk seals is not stable in the Aegean Sea. Main causes of the decline of the monk seal population were deliberate killings, loss of habitats and overfishing.

Key-words: cetacea, conservation, Aegean Sea

The Mediterranean monk seal, *Monachus monachus* (Hermann, 1779) is a mammal facing the danger of extinction and it is listed as one of the world's six most threatened mammals (1). Caltagirone (2) pointed out that there are 200 to 300 individuals worldwide, including only 100 to 150 remaining in the Mediterranean Sea. In the Aegean Sea, there are small quiet islets, isolated islands, calm beaches and underwater caves, which are most important habitats for the survival of the monk seals. Recent studies showed that in the Aegean Sea the number of seals ranged greatly from 50 to 90 individuals (3-11). However, most of the information is either old or controversial, thus more accurate data are needed for implementing appropriate protection measures. Therefore the aim of this study is to monitor the monk seals in the Aegean coast of Turkey.

This study was conducted from October 1986 to October 1996 in the Turkish part of the Aegean Sea, between Çanakkale Strait to Finike (Fig. 1). Direct observations were made from the fishing, research and private boats, as well as from the land. Besides, seal sighting information and reports of dead animals were collected from the fishermen and local authorities. This information was then carefully reviewed for avoiding double sightings, locations and dates. The population size reported below for each area represents the minimum number of individual seals identified by the author. For the individuals identification, size, color and other peculiarities were concerned. Photos and videos were taken for this purpose. The animals less the 120 cm were considered as juveniles, between 120-200 cm as subadults and larger than 200 cm as adults, according to Öztürk (11).

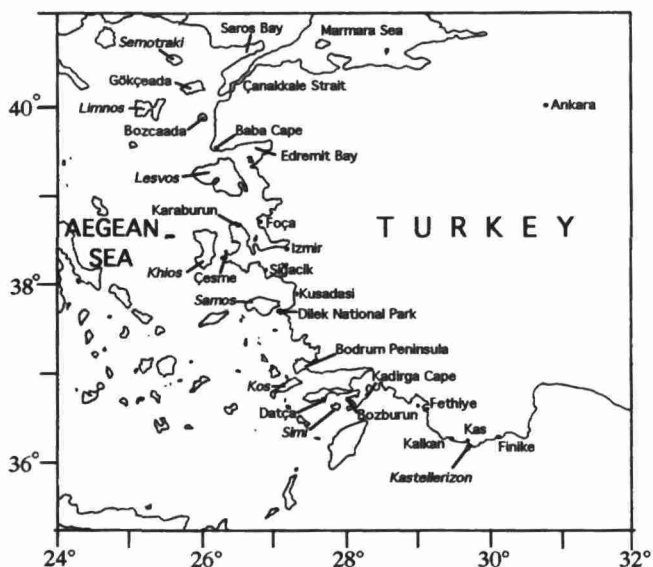


Figure 1 : Map of the Turkish coast of the Aegean Sea. Greek islands are indicated in italics.

During 10 years of the study, a total of 41 seals were identified in the Aegean coast of Turkey, of which 28 individuals survived at the end of the study period in 1996.

There are three seals in the Northern Aegean Sea, including Saros Bay, Gokceada, Bozcaada and Baba Cape. Two of them were adult and the other was subadult. On the western side of this area, there are

two Greek islands, Limnos and Semotraki, which are also known as seal habitats (13). This area is one of the overlap zones in the Aegean Sea, where monk seals are encountered on both the Turkish and Greek sides.

In the Central Aegean Sea, including Foca Monk Seal Protection Area, five seals were determined. Four of them were adult, one was subadult. Three of them were sighted in Foca Region and two of them in Karaburun Region. Marchessaux (7) estimated three to five seals in the same region. This area is considered to be one of the core zones for the survival of the monk seal in the central Aegean Sea, due to effective *in situ* protection measures implemented by the local people. In other parts of the Central Aegean Sea between Karaburun to Kusadasi, seven individuals were determined. These were three adults, one subadult and three pups. These individuals were isolated from one another, except for two of them sighted together off Cavus Island, west of the Bodrum Peninsula. Marchessaux (7) estimated 10 animals in this zone in 1987. Between Kusadasi to the Bodrum Peninsula, eight individuals were determined. Those were four adults, two subadults, one juvenile and one pup. Marchasseux (13) estimated 20 individuals in Dilek National Park and five seals in the Bodrum Peninsula. Öztürk (8) reported six individuals in the Bodrum Peninsula and small islands around it.

In the southern Aegean Sea, between Bodrum to Finike, five individuals were identified. Three of these seals were adult and the others were juvenile. Bozburun, Uzunada, Kizilburun, Kadirga Cape, the Delikadalar (off Fethiye), the Catalada (off Kalkan) and the Ic Islands (off Kas) were habitats for monk seals. Berkes (14) estimated 50-100 individuals in this area, including those in Antalya Bay, east of Finike.

Total mortality reported was 13 individuals in the Aegean Sea. Five of them died from deliberate killing, five were drowned in the fishing nets and three died for unknown reason. Among them two individuals were pups. On the other hand, only four pups were determined survive; three in 1992 and one in 1995 in the Central Aegean Sea.

For the protection of the monk seals, the main problems in the Turkish Aegean coasts is deliberate killing. To realize the survival of monk seals it is necessary to continue mass public awareness campaign, especially for fishermen. At the same time, to compensate the net damage done by seals, fishermen should be able to find some supports such as supply of cheap oil, subvention, cold storage facilities and reduction of their port tax. In addition, Dilek National Park must be facilitated with better equipment for *in situ* protection.

In the Aegean Sea, there are "overlap" zone between Turkey and Greece for the monk seals as several islands and islets are very close to both countries and seals possibly move freely cross the border for feeding and breeding. Berkes (15) also reported possible migration of the monk seals in the Aegean Sea between Turkey and Greece and listed the following four areas where such migration is likely to occur: Lesvos - Babakale - Edremit Bay, Samos - Kusadasi, Kastellorizon - Kas, and Simi - the Datça Peninsula. An international survey with the participation of both countries is indispensable for the census of the exact number of monk seals in the the Aegean Sea. Moreover, continuous and regular monitoring studies should be carried out in all the Turkish Aegean coasts.

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