



Vol. 6 (1): June 2003

IS THE REHABILITATION OF THE MEDITERRANEAN MONK SEAL *MONACHUS MONACHUS* (HERMANN 1779) IN TURKEY NECESSARY?

Harun Güçlüsoy, Hasan Örek and N. Ozan Ververi

Underwater Research Society – Mediterranean Seal Research Group (SAD-AFAG)

Abstract

The aim of this study is to determine whether the rehabilitation of the critically endangered Mediterranean monk seal *Monachus monachus* in Turkey is necessary and, if so, to identify basic requirements for the establishment of a rehabilitation centre. A literature search, including grey publications on the species and its rehabilitation, was conducted for the purposes of the study. In addition, data obtained through the field research of SAD-AFAG, of which the authors are members, and basic experience gained by the authors during a brief course at the Seal Rehabilitation and Research Centre in the Netherlands, were taken into consideration. So far, rehabilitation of Mediterranean monk seals has been carried out in Greece, Mauritania and Madeira, thereby covering most of the current distribution range of the species. Two monk seals which were reported to have been in need of rehabilitation during the last decade along Turkish coasts died. A third animal was found stranded, but disappeared after a few days. While it is impossible to conclude that these animals would have survived as a result of rehabilitation and veterinary treatment, experience elsewhere has shown that they would have enjoyed a better chance of survival had rehabilitation facilities existed in Turkey. Taking all known factors into consideration, including the low population numbers along Turkish coasts, this study recommends the deployment of a mobile rehabilitation unit rather than the creation of a permanent rehabilitation centre. On a national scale, the authors also recommend the preparation of rehabilitation protocols, the establishment of a rescue and information network to provide timely alerts on strandings and the discovery of orphaned seals, and the involvement of experienced staff. Should rehabilitation take place, the authors propose that seals be released along the Cilician coasts or the Karaburun Peninsula, where conservation projects have been conducted since the mid-1990s.

Introduction

The Mediterranean monk seal *Monachus monachus* is an indicator species residing at the top of the food chain in the Mediterranean marine ecosystem. An estimated total population of 379-530 monk seals survive within its distribution range (Johnson 2001).

The Mediterranean monk seal has, since 1966, been classified by the World Conservation Union (IUCN) as a species in danger of extinction (IUCN/UNEP 1988). Threats against the species were clearly defined at the First International Conference on the Mediterranean Monk Seal in Rhodes, Greece in 1978 (Ronald & Duguay 1979 in Johnson and Lavigne 1998). They include:

1. "Increased adult and juvenile mortality because of deliberate killing (mostly by fishers).
2. Increased adult and juvenile mortality caused by incidental entanglement in fishing gear.
3. Increased adult and juvenile mortality due to human disturbance (activities such as tourism, fisheries and shipping).
4. Increased pup mortality caused by pupping in unsuitable locations, due to loss of preferred habitat.
5. Poor condition due to lack of food as a result of overfishing.
6. Reduced fecundity and pup survival [possibly] caused by inbreeding depression".

With the purpose of determining the means by which such threats could be minimised, Johnson and Lavigne (1998) gathered expert recommendations from scientific studies, action plans and conference resolutions covering the years 1978-1994. In this work, entitled *The Mediterranean Monk Seal – Conservation Guidelines*, the authors identify measures and precautions that, according to a consensus of scientific opinion, should be applied to the conservation of the species, under the following categories:

1. International coordination
2. Scientific research
3. Habitat protection
4. Legislation and enforcement
5. Education and public awareness
6. **Rescue and rehabilitation**
7. Translocation
8. Captive breeding

The Conservation Guidelines were subsequently endorsed by 78 marine mammalogists and other professionals involved in the study and conservation of the monk seal.

The purpose of the authors in the present study is to discuss whether a permanent rehabilitation centre for the Mediterranean monk seal is required in Turkey, and to determine the measures, precautions and organisation that would be required to handle effectively potential cases of rehabilitation.



Fig. 1. A stranded and ailing monk seal on the Turkish coast in 1999. The individual subsequently died.

Methods

This study was based on information gathered from scientific papers and grey publications on the rehabilitation of the Mediterranean monk seal, and on experience gained by the authors while working at the Seal Rescue and Rehabilitation Centre (SRRRC) in the Netherlands.

Results

In the Mediterranean Monk Seal – Conversation Guidelines (Johnson and Lavigne 1998), measures and precautions to be considered for the rescue and rehabilitation of the species were listed as follows:

1. Rescue and rehabilitation of wounded, stranded or orphaned monk seals should be subject to strict scientific and ethical protocols to prevent collection of individuals that do not require treatment. Protocols, reviewed and approved by the wider conservation community, should also cover handling, transport, feeding, veterinary care, and release.
2. A mobile intensive care station, acting as a rescue and rehabilitation facility, is currently situated on the island of Alonissos in the Northern Sporades Marine Park, Greece. A similar facility has been proposed for Mauritania/Western Sahara near the Côte des Phoques seal colony. Should any additional rescue and rehabilitation facilities be deemed necessary, they should initially be established only within the current range of surviving monk seal populations to reduce stress associated with long-distance transport.
3. Rescue or observer networks should be established or improved to increase the likelihood that wounded, stranded or orphaned seals will be located. Great care must be taken, however, to ensure that healthy seals do not fall victim to overzealous volunteers or members of the general public.
4. Following rehabilitation, seals should be released in protected areas, preferably in the region where they were originally found.
5. Rescue and rehabilitation facilities should provide training opportunities in the care and handling of captive monk seals, generating knowledge and expertise useful in any future translocation and captive breeding programmes.
6. Recognising the potentially substantial risks of disease transmission associated with the transport of animals to and from rescue centres, and with reintroduction to the wild, comprehensive quarantine and assessment procedures should be implemented throughout any rescue, rehabilitation and release programme. Such programmes should only be initiated after consultation with the wider scientific community and the IUCN Specialist Groups on Seals, Reintroduction and Veterinary Care.

Rehabilitation of Mediterranean monk seals began in 1987 when 2 orphaned pups were found in Greece (Hart and Vedder 1990). Rehabilitation efforts have subsequently continued in Greece, Mauritania and in Madeira, Portugal (Table 1).

State	Population Estimate	Rehabilitation	Released	Source
Greece	200 – 250*	11+2	6+?	Androukaki et al., 1999
Mauritania / western Sahara	77-148*	6	5	Rehabilitation in theory and practice: protocols, techniques, cases, 2002; Androukaki 2002
Madeira – Portugal	21*	2	1	Neves and Pires, 1999
Turkey	50-55*	-	-	-

*Johnson, 2001

Table 1. Cases of Mediterranean monk seal rehabilitation in Greece, Mauritania/western Sahara, Madeira and Turkey.

In Turkey, information on monk seal individuals requiring rehabilitation is exceedingly difficult to obtain, not only because of the much-diminished population in the country, but also because of the lack of a rescue and information network. A network of this type has operated in Greece since 1991 (Adamantopoulou et al., 1999) and has played an indispensable role in providing its organisational administrator, MOM, with information on marine mammal strandings nationwide. Where weak and dehydrated orphaned monk seals are concerned, early warning is a vital component in the rehabilitation process.

Only 3 monk seal individuals deemed in need of rehabilitation were recorded by the authors between 1987 and 2002, during studies to collect monk seal sightings data (Table 2).

Year	Location	Age Class	Status
1990	Gümüldür Izmir	Pup	Died
1998	Çesme Peninsula – Izmir	Pup	Disappeared
1999	Çesme Peninsula – Izmir	Young adult	Died

Table 2. Cases of monk seals deemed in need of rehabilitation in Turkey.

The first incident took place in 1990, when an orphaned seal pup was found by locals in Gümüldür, Izmir. The seal was placed in a pool and for one week attempts were made to feed it and help it swim, but the pup eventually died despite – and perhaps partly because of – such good-willed (yet inexperienced) efforts.

The second case was that of a single pup found by locals of Çesme in 1998, a town at the north of the Çesme peninsula in Izmir. The seal was reported to have been vocalising constantly (“crying”) from the beach where it was hauled out for less than a week, until it eventually disappeared.

The third incident took place in 1999, in the same area. Locals of Çesme attempted to force the young adult seal (Fig. 2) back into the sea and feed it with fish. Although our team subsequently intervened in an effort to assist the seal, the young female died of an undetermined illness on 7th March 1999 (Güçlüsoy and Savas 2000).



Fig. 2. The young female seal from Çesme, 1999

Discussion and Recommendations

Considering the much-diminished state of the Mediterranean monk seal population in Turkey and the small number of incidents hitherto recorded of seals requiring rehabilitation, the authors do not deem the establishment of a permanent rehabilitation centre to be necessary at present. However, since every single individual counts when the survival of a critically endangered species is at stake, we believe it prudent to consider the deployment of a mobile rehabilitation unit, to be ready and available should rehabilitation be required.

Given the general scarcity of funds available for monk seal conservation, as well as the need to focus on first-priority *in situ* initiatives, we believe that a small mobile rehabilitation unit would best serve Turkish needs at the present time. This single-piece unit would be adequate for one seal, incorporating both a pool and shelter (a small cave-like construction). The unit would be sufficiently small to allow easy transport by truck within Turkey.



Fig. 3. A compact, single seal rehabilitation unit, as found at the SRRC in the Netherlands.

Although government funding is difficult to obtain for long-term conservation actions, there is some reason to believe that support would be forthcoming if an orphaned monk seal was rescued in Turkey and entered rehabilitation.

Indeed, significant interest in monk seal rehabilitation has most recently been expressed by the Ministry of Environment (Izmir Directorate) during the meeting on "Marine Turtle and Monk Seal Action Plan for Izmir Coasts" (Güçlüsoy 2002) organised in May 2002.

A possible alternative to establishing a mobile unit in Turkey would be the transfer of seals in need of rehabilitation to already-existing facilities on Alonissos, in the Northern Sporades Marine Park in Greece. Political

support from both Turkey and Greece would, however, be required to realise such a plan of action. Should such support be forthcoming, equipment and expertise would be required on the Turkish side to ensure the safe transfer of the seal under the least stressful and most aseptic conditions possible.

The establishment of a permanent rehabilitation centre in Turkey, capable of treating not only seals, but other marine mammals and also sea turtles, might also be considered, but would require a detailed feasibility study.

Although the ability to conduct monk seal rehabilitation projects was reflected in the National Action Plan for the protection of the monk seal – to which the Turkish Environment Ministry acted as Secretariat – and although the Plan was endorsed by the National Monk Seal Committee, protocols have yet to be prepared dealing with nutrition, veterinary care, potential disease transmission, transportation and release. It is urgent that such protocols be drawn up in the light of information hitherto obtained.

Following the preparation of such protocols, a rescue and observation network should be established in order to increase the probability of locating wounded, sick and orphaned monk seals. Members of this network should receive basic instruction on how to react swiftly, safely and efficiently whenever a seal requiring care is found. Training of rehabilitation staff and volunteers, who can effectively administer first aid, must also be completed.

As has been seen in Greece, the creation of such a network can also provide important secondary benefits to the conservation of the monk seal, providing valuable information on the status, distribution and threats to the species.

Such a network would also increase public awareness among the local inhabitants and officials of coastal towns and villages.

The network would be based on both direct and indirect communication with its members. Direct communication is likely to be indispensable during the establishment of the network, but face-to-face meetings would probably continue to occur on a regular basis in sensitive seal areas.

Indirect communication would rely on mailing, e-mailing, fax and phone, and would be used to encourage the participation of relevant local authorities, such as the coast guard, gendarmerie, port police, fishery and veterinary services, harbour directors and coastal municipalities. Fishing cooperatives, local NGOs and others would also be approached.

Following any successful rehabilitation process, seals should be released in areas frequented by known populations, such as the Cilician coasts of Turkey or in areas that would facilitate post-release monitoring, such as Izmir's Karaburun Peninsula, where research is conducted on a regular basis.

Acknowledgements

We are most grateful to Ms. Lenie Hart, director of the SRRC, and Dr. Lies Vedder, former veterinarian at the SSRC, for assisting us in the training of our team members in seal rehabilitation. We also thank Dr. Peter J.H. van Bree and MOm – the Hellenic Society for the Study & Protection of the Monk Seal, for providing us with additional literature for this article. We are also grateful to Ms. Arda Okur for the translation of the early draft of the document, and to W.M. Johnson for his constructive criticism.

References

- Adamantopoulou, S., E. Androukaki, and S. Kotomatas.** 1999. The distribution of the Mediterranean monk seal in Greece based on an information network. *Contributions to the Zoogeography and Ecology of the Eastern Mediterranean Region* 1: 399-404.
- Androukaki, E., E.J. Vedder, E. Fatsea, E. Tounta and S. Kotomatas.** 1999. Data on the growth and development of monk seal pups during rehabilitation. 8th International Congress on the Zoogeography and Adjacent Regions, 17-21 May 1999, Kavala: 11.
- Androukaki, E.** 2002. [Rehab workshop convenes in Liege](#). *The Monachus Guardian* 5 (1): May 2002.
- Güçlüsoy, H.** 2002. [Marine turtle and monk seal action plan for Izmir coasts](#). *The Monachus Guardian* 5 (2): November 2002.
- Güçlüsoy, H. and Y. Savas.** 2000. [Dead seal found at Çesme](#). *The Monachus Guardian* 2 (1): 17.
- Hart, L. and L. Vedder.** 1990. The Rehabilitation of the two newborn Mediterranean monk seals (*Monachus monachus*) in the Seal Rehabilitation and Research Centre (SRRC) in Pieterburen, The Netherlands. Unpubl. ms: 1-17.
- IUCN/UNEP.** 1988. The Mediterranean monk seal (P.J.H. Reijnders, M.N. de Visscher and E. Ries, eds.) IUCN, Gland, Switzerland: 1-59.
- Johnson, W.M.** 2001. [The numbers game](#). *The Monachus Guardian* 3 (1): 5.
- Johnson, W.M. and D.M. Lavigne.** 1998. The Mediterranean monk seal. Conservation Guidelines. Multilingual Edition. IMMA Inc., Guelph, Canada: 1-152. [Available in the [Monachus Library](#)]
- Neves, H.C. and R. Pires.** 1999. [The recuperation of a monk seal pup, *Monachus monachus*, in the Ilhas Desertas – the conditions for its success](#). *The Monachus Guardian* 1 (2): 45-48.