

Status of leatherback turtles in Bahrain

1. Introduction

Bahrain consists of a group of 33 low-lying islands in the Gulf off Saudi Arabia. Notable habitats include salt marsh, seagrass beds and mangrove swamps, coral reefs and date groves. National designations of protected areas include wildlife park (*Hema*) and wildlife reserve. The Environmental Protection Committee has divided the protected area categories into three priorities: priority 1: full protected status; priority 2: conservation status; priority 3: seasonal management status. In addition, a degree of protection is given to the southern part of Bahrain Island and the smaller archipelagos, as well as the isolated Hawar Islands. In the case of the latter, the government has imposed access restrictions to all but fishermen and those with official permits.

The maritime area of Bahrain falls within the Arabian (Persian) Gulf, between Saudi Arabia and Qatar. The average depth is about 35 m and maximum is 100 m. The Gulf is subject to wide climatic fluctuations, with surface water temperatures generally ranging from 12° in the winter to > 35°C in the summer and salinity from 28-60 ppt. The narrow straits of Hormuz restrict water exchange with the Arabian Sea, causing the Gulf to become highly saline because of high evaporation and low inputs of fresh water. Marine ecosystems include mangrove swamps, seagrass beds, coral reefs and small offshore islands.

2. The legal protection status for leatherback turtles

2.1 Overview

Bahrain has ratified the Kuwait Action Plan under Regional Organization for Protection of the Marine Environment, ROPME. Bahrain's commitment to the preservation of the Hawar Islands was formalized in 1995 with Royal Decree No. 2 (1995), to instigate the creation of a Wildlife Sanctuary around the Hawar Islands. The legislation to protect the islands was completed with Edict No. 16 (1996) issued by the Council of Ministers establishing the islands as a Protected Area. This Edict has since been further reinforced by the nomination of the Islands of Hawar as a Ramsar Site (the islands were nominated on ratification of the Ramsar agreement on 26 February 1997 through Royal decree No. 3 1997), and by the Ministerial Order (MOHME) for the Protection of Wildlife in June 1996.

2.2 Management agencies responsible for marine turtle conservation

The government has used the following mechanisms and protocols for the protection of wildlife: the Establishment of Bahrain Wild Life Committee, now the National Commission for the Protection of Wildlife (NCWP); the formation of a National Biodiversity Committee, with the main objective to formulate a National Biodiversity Strategy and Action Plan (NBSAP); the establishment of Marine Protected Areas (Mashtan Island was adopted in April 2002), membership in the Kuwait Action Plan for the Protection of Marine Environment drafted under the auspices of the Regional Organization for the Protection of the Marine Environment (ROPME) in 1978, ratification of the Convention of Biological Diversity (CBD) in 1993 and of the Convention on Wetlands of International Importance as Waterfowl Habitats (Ramsar) in 1998.

The Directorate of Environmental Affairs of the Ministry of Health is responsible for marine and coastal environmental activities. It works with the Bahrain Petroleum Company (BAPCO) on marine pollution and marine environmental affairs. The Directorate of Fisheries is concerned with environmental studies and the protection of breeding and nursery areas for fish and shrimp and the establishment of fishing bans in spawning seasons and the development of laws and regulations relating to the protection of the marine environment. Non-governmental bodies actively concerned with protected areas include the Bahrain Natural History Society (BNHS).

3. Nesting populations

There are no historical or contemporary records of leatherbacks nesting in Bahrain.

4. Foraging populations

4.1 Overview

Bahrain lists the leatherback as present in its waters (SOMER, 2003), although no contemporary records of any sightings exist. While significant research and conservation action has been

implemented for hawksbill turtles, no research of any kind has been carried out on leatherback turtles in Bahrain.

4.2 Threats to leatherback turtles

The most significant of the environmental problems include the extensive damage and destruction through massive urban development programmes and rapid land reclamation programmes and oil pollution. Land reclamation projects, have increased the northern and eastern coasts of Bahrain by 11 km² in less than 10 years, resulting in a direct loss of marine habitat. Potentially threats exist from major oil and chemical spillages such as the Iranian war spills of 1983 and the Gulf War and the discharge of sewage and industrial effluent as well as dredging has caused damage to the seabed and coral reefs. Commercial trawl fishing occurs in Bahrain and is unregulated.

4.3 Protection of foraging areas

The Bahrain National Charter §3(5) proclaims the protection of Hawar Islands as a Nature Reserve and National Heritage. It also states that as a result of increasing pressure on the limited natural resources, the government seeks to create an ideal condition to exploit the natural resources without negatively affecting the environment or the health of the people. The marine environments around the islands embody a myriad of habitats and seascapes that are home to a remarkable array of marine fauna. The protected Area provides habitat for a diverse range of marine and terrestrial species. For example, the endangered Dugong (*Dugong dugon*) and the green sea turtle (*Chelonia mydas*) inhabit the nearshore waters, and over 150 species of birds use the islands as a flyway or as a wintering breeding/foraging area.

4.4. Gaps in capacity and requirements for improved conservation

A major gap for turtle conservation is the lack of dedicated marine protected areas. There is a general lack of funding for marine research activities, and most research is currently funded through volunteer projects. In particular, research needs to be carried out in order to update baseline environmental conditions, and follow-up monitoring should refer to these baselines to detect changes in foraging populations; direct use and indirect development activities that affect turtles and their habitats need to be carefully evaluated in the design stages, and be subject to continued monitoring through the implementation stages; there is a need to develop community education programmes that highlight the role of communities in turtle biology and ecology, particularly the at-sea stages with regard to Bahrain. The designation of marine protected areas need to become a priority issue within the country. Finally, a larger proportion of funds need to be allocated to protected areas and environmental research needs to be appropriated for marine conservation efforts.

5. References

SOMER (2003) 'State of the Marine Environment Report. ROPME/GC-11/003.' Regional Organization for the Protection of the Marine Environment, Kuwait. 217 pp.