

## Introduction

Bahrain, which means “two seas”, is an archipelago in the Arabian Gulf consisting of 40 islands, the largest of which is Bahrain Island, lying offshore from Saudi Arabia to the west and Qatar to the south. Bahrain is connected to Saudi Arabia via the King Fahd Causeway.

Bahrain’s 161km of coastline includes seagrass beds, coral reefs, mangrove swamps and mudflats with many small islands, reefs and shoals just offshore. The coasts of the Hawar Islands, a RAMSAR site in the Gulf of Bahrain, consist of saltmarsh and seagrass beds.

### At Risk Wildlife

Avian Species - Tubli Bay and the Hawar Islands are important sites for migrating and wintering water birds and sea birds. More than 90 species of water birds (duck, shorebirds and waders) and sea birds are either resident or migratory in the area. Species of special concern include the Socotra cormorant, great snipe, black-tailed godwit, and Eurasian curlew.

Marine mammals - Dugong, finless porpoise, Indo-Pacific humpback and bottlenose dolphins are the only marine mammals recorded in this area. The world’s second largest dugong population is found in the waters around the Hawar Islands.

Marine Reptiles - Four species of sea turtle have been reported in Bahrain’s waters (leatherback, loggerhead, green and hawksbill) but only the hawksbill and green are regularly seen. Important foraging sites are in the southeast, between the main island of Bahrain and Hawar, the headland of Hadd al Jamal, and the shallows of Tubli Bay. Yellow-bellied sea snakes are found in the waters surrounding Bahrain.

## Regional Seas

ROPME Regional Sea, consisting of the Arabian Gulf, the Gulf of Oman and part of the Arabian Sea (Note: The ROPME Regional Sea area is based on the boundaries established by the Kuwait Convention’s Regional Organisation for the Protection of the Marine Environment for their scope of work).

## Past experience

Bahrain has experienced several oil spills (the last in 2003), two of which were considerable, i.e. the Ras Tanura (1980) and the Nowruz field (1983). Although they occurred outside Bahrain’s waters, the oil reached its coast. There is no reference to any oiled wildlife response occurring in the aftermath of those incidents.

## Response: the role of the authorities

The Public Commission for the Protection of Marine Resources, Environment and Wildlife (PMEW)’s General Directorate of Environment and Wildlife Protection is the competent national authority for oil spill response. PMEW also develops, maintains and implements the National Contingency Plan.

Various agencies (the Bahrain Petroleum Company, the Ministry of Works, Power and Water and the Directorate General of Ports) take responsibility for spills at their facilities and in adjacent sensitive areas.

The Bahrain Defence Force, the Ministry of the Interior (MoI), the Public Works Directorate, individual municipalities and local contractors share shoreline clean-up responsibility.

For larger incidents the Marine Emergency Mutual Aid Centre (MEMAC), a ROPME cooperative project, could be called in for assistance.

## Oiled wildlife response

### Formal guidelines?

There are no formal wildlife response guidelines in place. It is possible that the Supreme Council for the Environment would take a lead role in determining any response to oiled wildlife.

### Response objectives and strategy

There is no reference to any defined objectives or strategies for an oiled wildlife response.

### Euthanasia or rehabilitation?

Although no guidelines are available, it is likely that the Public Commission for the Protection of Marine Resources, Environment and Wildlife would allow the rehabilitation of oiled wildlife.

### Impact assessment

If wildlife impact assessment is undertaken it is likely that the Bahrain Natural History Society, which conducts regular surveys and has been involved in cleanup of coastal areas, would be involved. The Biology Department of the University of Bahrain has staff researching environmental and marine pollution, environmental impact assessment and bioremediation and would likely be involved in this process as well.

The MEMAC Regional Marine Oil Pollution Manual includes a section on impact assessment, although methods for impact assessment are not detailed.

### Notification and early response

There is no reference to notification and early response procedures for oiled wildlife.

### **Wildlife responders**

The Al Areen Wildlife Park and Reserve is active in conservation of Bahrain's endangered species and lists response to natural disasters such as oil spills in their conservation information, but has no previous experience in this area. The Bahrain Natural History Society, a BirdLife partner, might be a source of information on seasonality of species and resources available within the country. The National Mariculture Centre (NaMaC) has capacity to provide flow-through seawater, however, the sensitivity of their aquaculture activities may limit access due to contamination concerns and no staff have experience in oiled wildlife response.

### **Cooperation between stakeholders**

Bahrain is a signatory to the Kuwait Convention/ROPME, which responds to oil spills via the Marine Emergency Mutual Aid Centre (MEMAC) based in Bahrain, and the country has an MoU with Kuwait on environmental cooperation.

### **Permanent facilities**

There are no permanent facilities dedicated to oiled wildlife response in Bahrain.

### **Current processes**

No information is available regarding current processes for developing oiled wildlife response capabilities.

A MEMAC regional workshop on oil spill response was held in September 2015 in Qatar to review the status of participating countries and share information. Details of the meeting were not available at time of publication.

### **Documentation and references**

General references

General references

Birdlife International Country profile. Accessed online 6.2015

ROPME Regional Plan

MEMAC website Accessed online 6.2015

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