

**Introduction**

The Red Sea and Gulf of Aden region includes the states of Djibuti, Egypt, Jordan, Saudi Arabia, Somalia, Sudan and Yemen, and the region holds some of the largest oil and gas reserves in the world. The waters of the Red Sea and Gulf of Aden constitute a unique ecosystem with high biological diversity. In particular they host an extensive system of coral reefs and their associated animals and plants. Surrounded by arid terrestrial environments the reefs support rich biological communities and representatives of several endangered species. There are also mangroves, seagrass beds, salt marshes and salt pans in the region. Typical features of the Sudanese Red Sea are coastal lagoons and sheltered bays that form natural harbours and fish-landing places. Extensive coral reefs are found the length of the Sudanese coast, extending almost 100 km from the coast in some parts. The dominant reef type is the fringing reef extending almost continuously along the coast, which acts as a breakwater. Most of the fringing reefs are 1-3 km wide, separated by deep channels forming a barrier reef 1-14 km wide along much of the coast. The outer barrier drops steeply to a depth of several hundred metres. An FAO study carried out in 1995 identified a total of 13 mangrove areas along the Sudanese Red Sea coast. Mangroves are highly productive ecosystems providing food and shelter for a large number of species (over 30 different fish species are reported, several of them of commercial importance) and mangroves are also essential habitats for numerous birds. Other key groups include turtles and birds.

The new Bashayer oil terminal at Gezirat Abd Alla stores and loads crude oil delivered by the pipeline from the Heglig and Adariel oilfields in southern Sudan. The new (2004) single berth products terminal at El Khair, close to Port Sudan, has replaced berths in Port Sudan harbour that formerly handled these products.

Fishing and an ever growing tourism industry are important to the economy of the area. The Red Sea and Gulf of Aden carry approximately 7% of the worlds shipping trade and about 11% of the worlds oil shipping. All adjacent countries support PERGSA a Programme for the Environment of the Red Sea and Gulf of Aden. This is managed by a secretariat run by a team of professionals recruited from various countries in the region. PERGSA has published regional action plans for coral reefs, turtles, mangroves and seabirds in the Red Sea and Gulf of Aden.

Sudan has 2,245 km of coastline on the Red Sea. These extend to 15,900 km<sup>2</sup> of continental shelf (up to 200 m deep) and 32,600 km<sup>2</sup> of territorial sea (up to 12 miles). There are currently two designated Marine or Littoral Protected areas, but no designated Wetlands of International Importance. However, Red Sea as a whole is listed by IUCN as of possible World Heritage status for its coral diversity, deep vertical drops, islands, numerous coastal and pelagic species (turtles, sharks, barracudas, mantas) and has some protection through national decrees and regional convention. Within Sudan the Sudd is one of world's largest wetlands (5 million ha), including swamps, floodplain, over 100 bird and mammal species, molluscs, food and papyrus production. These may be threatened by pollution from inland oil extraction activities. Port Sudan has a proposed 1000km<sup>2</sup> marine and subtidal marine Protected Area and the nearby Sabganeb Atoll (12 km<sup>2</sup>) was designated as a Marine National Park in 1990. Further north the Island of Mukawwar is designated as a Managed Nature Reserve., and to the south the Suakin Archipeligo (1500 km<sup>2</sup>) is a proposed National Park. Other proposed protected areas include Khor Kilab Bird Sanctuary, a 2 km<sup>2</sup> estuarine area on the south side of Port Sudan harbour; the Abu Hashish area, a 5 km<sup>2</sup> area on the eastern side of the new Green port, containing numerous coral reefs; and Shuab Rumi, a 4 km<sup>2</sup> area of coral reefs 50km north of Port Sudan. To this list, the United Nations Environment Programme would add all of the remaining mangrove stands along the Sudanese Red Sea coastline, as this habitat is now under severe pressure and disappearing rapidly in some areas.

**Regional Seas**

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Red Sea, Gulf of Aden

**Past experience**

There have been no major pollution incidents in Sudanese waters.

**Response: the role of the authorities**

Sudan has not ratified the International Conventions Concerning Marine pollution (MARPOL annexes, OPRC, CLC or IOPC Fund) However,

A draft National Oil Spill Contingency Plan (NOSCP) was prepared in 1998 and approved by the Federal Government Council of Ministers on 04 April 2004. The NOSCP has been developed by the Marine Environment Protection Administration (MEPA) which has been responsible, with PERGSA, for producing the NOSCP in its final form

The governance structure for the Sudanese Red Sea coastline, territorial seas, islands and associated marine protected areas is very complex and in consequence, fragmented. Sudanese ports are managed by the Sea Ports

Corporation, which is part of the federal Ministry of Transport. The important exception is the arrangement at the Bashir Oil Terminal port facilities, which also come under the management of the Ministry of Energy and Mining. Marine fisheries are governed by the Marine Fisheries Administration, which is part of the federal Ministry of Agriculture and Forestry. The marine protected areas are under the responsibility of the Headquarter of Wildlife Conservation in the federal Ministry of Interior, and wildlife conservation services staff are actually managed by the Ministry of Interior, as they are part of the country's united police force. At the state level, the governor and the local government of ministers and advisors have significant and broad-reaching authority, which overlaps with the federal mandate to a large extent.

Red Sea state is unusual in that it has a working body specifically for marine environment protection, the Marine Environmental Protection Authority (MEPA). In addition, the State Council for Environment (SCE) provides an oversight and coordination role. Finally, the NGO sector is also active in Port Sudan.

**Oiled wildlife response**Formal guidelines?

The national response strategy for the Sudan is based on the tiered concept, with each oil handling facility being responsible for developing its own local oil pollution emergency plan. At present Sudan has little capacity to respond to a major oil pollution event that might threaten its coastline and wildlife. It is likely the in the event of a major oil spill assistance would be sought from international organizations located outside the country.

The national combat strategy is to terminate or reduce outflows at source, monitor the slick, attempt recovery at sea by mechanical means and use dispersants except in shallow water and near coral reefs and fish spawning areas.

Response objectives and strategy

n.a

Euthanasia or rehabilitation?

n.a.

Impact assessment

Some sensitivity mapping is being undertaken by PERGSA.

Notification and early response

The Sudanese Maritime Administration Corporation (SMAC) is the national Authority responsible for oil pollution, preparedness and response, and entitled to act on behalf of the State to request international assistance and to decide whether to render assistance to another State when required.

**Wildlife responders**

It is not known in detail what level of environmental expertise relative to oil spills exists within the country. However, organisations with some marine environmental expertise include The Marine Fisheries Administration, The Integrated Coastal Zone Management Office, Sudanese Ecological Society, The University of Red Sea Faculty of Marine Sciences and Fisheries and the Institute of Marine Research which are based at Port Sudan. The University of Khartoum Zoology Department, and Institute of Environmental Studies, the Sudanese Conservation Society, The Higher Council for Environmental protection and Natural Resources are based in Khartoum, and PERGSA is based in Jeddah but also has representation at Port Sudan.

**Cooperation between stakeholders**

While the Red Sea region has a number of interested and responsible parties for environmental protection, the complex governance structure and ensuing fragmentation of responsibility hamper practical performance by the authorities. In addition, a severe lack of financial resources affects all governance operations (except for the Bashir Oil Terminal and the Sea Ports Corporation), and legislative deficiencies hinder both the authorities and civil society. For instance, many of the major facilities are managed at the federal level, which makes enforcement of legislation at the state level problematic.

**Permanent facilities**

Tier 1 capacity (local spills from facilities) only, at Bashayer Oil Export Terminal and at Port Sudan. Tier 2 capability (larger spills or those beyond the facilities) planned by Bashayer and Port Sudan jointly. Bashayer oil terminal at Gezirat Abd Alla has booms, one skimmer, a tug, launch, inflatable and stockpiles of dispersant. At Port Sudan SPC has 400m of boom in 25 sections on an hydraulic reel, a skimmer, dispersant pump and 2 marine pumps.

Regional sources of equipment include stockpiles in Saudi Arabia available for use in emergencies.

**Current processes**

n.a.

**Documentation and references**

General references

PERGSA: <http://www.persga.org/UI/English/Download/PERSGA-MDG's.pdf>

World heritage wetland sites: IUCN Global overview of wetland and marine protected areas on the world heritage list

<http://www.unep-wcmc.org/wh/reviews/wetlands/t11.htm>

Port Sudan MPA: [http://www.mpaglobal.org/index.php?action=showMain&site\\_code=10724](http://www.mpaglobal.org/index.php?action=showMain&site_code=10724)

PERGSA Action plan 2005: <http://www.persga.org/UI/English/Download/PERSGAFinalDRAFTA.pdf>  
Marine Environments and Resources.

Sudan Post-Conflict Environmental Assessment. 12 Marine environments and resources.

[http://postconflict.unep.ch/publications/sudan/12\\_marine.pdf](http://postconflict.unep.ch/publications/sudan/12_marine.pdf)

PERGSA Integrated Coastal Zone Management: [http://www.persga.org/UI/English/Activities.aspx?  
&ContentId=4&SubContentId=193](http://www.persga.org/UI/English/Activities.aspx?&ContentId=4&SubContentId=193)

PERGSA ICZM handbook: [http://www.persga.org/UI/English/Download/ICZMhandbook\\_eng.pdf](http://www.persga.org/UI/English/Download/ICZMhandbook_eng.pdf)

Integrated Coastal Zone Management Office

<http://www.iczm-rss.sd/>

Sudanese Environmental Conservation Society <http://www.empowermentworks.org/SECS.html>

State of the environment in Sudan Asim I El Moghraby United Nations Environment Programme EIA Training Manual 4

[http://www.unep.ch/etu/publications/11\)%2027%20to%2036.pdf](http://www.unep.ch/etu/publications/11)%2027%20to%2036.pdf)

Coral reef Status in Sudan: Nichols Pilcher, & Dirar Nasr, 2000. The status of Coral Reefs in Sudan. Global Coral Reef Monitoring Network. Ref 12546. [http://www.reefbase.org/resource\\_center/publication/main.aspx?](http://www.reefbase.org/resource_center/publication/main.aspx?)

refid=12546

Status of Coral Reefs in the Red Sea-Gulf of Aden (2002): Moshira Hassan, Mohammed M A Kotb & Abdulmohsin A Al-Sofyani

In: Status of Coral Reefs of the World.

<http://www3.aims.gov.au/pages/research/coral-bleaching/scr2002/pdf/scr2002-02.pdf>

ITOPF Country profiles: Sudan

[http://www.itopf.org/\\_assets/country/sudan.pdf](http://www.itopf.org/_assets/country/sudan.pdf)

ITPOF Regional profile: Red Sea and Gulf of Aden

<http://earthmind.net/marine/docs/red-sea-gulf-aden-oil-spills-risks.pdf>

Implementation of the Strategic Action Programme (SAP) for the Red

Sea and Gulf of Aden (2006) [http://www.undp.org/gef/05/documents/writeups\\_doc/iw/PERSGA\\_notes\\_IW2.doc](http://www.undp.org/gef/05/documents/writeups_doc/iw/PERSGA_notes_IW2.doc)

Regional Action Plan for the Conservation of Marine Turtles and their Habitats in the Red Sea and Gulf of Aden. PERSGA/GEF. 2004 PERSGA, Jeddah.

[http://www.persga.org/UI/English/Download/2\\_MarineTurtles\\_ActionPlan.pdf](http://www.persga.org/UI/English/Download/2_MarineTurtles_ActionPlan.pdf)

Regional Action Plan for the Conservation of Breeding Seabirds and their Habitats in the

Red Sea and Gulf of Aden. PERSGA/GEF 2004. PERSGA, Jeddah.

[http://www.persga.org/UI/English/Download/SeaBirds\\_ActionPlan.pdf](http://www.persga.org/UI/English/Download/SeaBirds_ActionPlan.pdf)

Regional Action Plan for the Conservation of Mangroves in the Red Sea and Gulf of Aden. PERSGA/GEF. 2004.

PERSGA, Jeddah.

[http://www.persga.org/UI/English/Download/Mangroves\\_ActionPlan.pdf](http://www.persga.org/UI/English/Download/Mangroves_ActionPlan.pdf)

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