IUCN Conservation Outlook Assessment 2017 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Sanganeb Marine National Park and Dungonab Bay – Mukkawar Island Marine National Park. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Sanganeb Marine National Park and Dungonab Bay – Mukkawar Island Marine National Park

SITE INFORMATION

Country:
Sudan
Inscribed in: 2016
Criteria:
(vii) (ix) (x)

Site description:

The property consists of two separate areas: Sanganeb is an isolated, coral reef structure in the central Red Sea and the only atoll, 25 km off the shoreline of Sudan. The second component of the property is made up of Dungonab Bay and Mukkawar Island, situated 125 km north of Port Sudan. It includes a highly diverse system of coral reefs, mangroves, seagrass beds, beaches and islets. The site provides a habitat for populations of seabirds, marine mammals, fish, sharks, turtles and manta rays. Dungonab Bay also has a globally significant population of dugongs. © UNESCO

SUMMARY

2017 Conservation Outlook

Good with some concerns

The property contains impressive natural phenomena, formations and areas of great natural beauty and is a relatively undisturbed area that serves as a standard to assess the health of the central Red Sea's regional ecosystems. Its marine habitats are well preserved and remain largely untouched and unspoiled, largely due to isolation and low visitation. However, some degradation of the site's biodiversity values through exploitation by the local community is a potential threat as are increasing impacts from climate change, given it is one of the northernmost tropical coral reef systems on earth. The protection and effective management of the property is hampered by a complex legal framework covering State and National legislation and limited resources. Home to the only atoll-like feature in the Red Sea, lagoons, islets, sand flats, seagrass beds, and mangrove habitats and displaying a diversity of reefs, from living reefs to ancient fossil reefs the property remains one of the worlds best dive areas but will require improved resources for management in the face of potential threats.

Current state and trend of VALUES

Good
Trend: Stable

The Sudanese Red Sea Coast, including the property, boasts high levels of endemism in marine fish and invertebrate species. A number of ecological and socio-economic characteristics of the area mean that the property is of national, regional and international importance for biodiversity conservation, reef resilience studies, interconnectivity, and for sustainable use of living marine resources. The relative isolation and low number of visitors to the site have helped to ensure its conservation and the near pristine status of its world heritage values.

Overall THREATS

Low Threat

The property is at risk from both direct and indirect impacts from activities both inside and outside its boundaries. However, it is currently subject to legal protection and management that recognises the range of potential impacts and is attempting to consider these in both the legal protection and on the ground management of the property. Direct threats from local communities are somewhat restricted but without careful management and planning could increase. Lack of facilities and infrastructure mean threats from tourism remain low but have the potential to increase, and impacts from climate change are only likely to increase.

Overall PROTECTION and MANAGEMENT

Some Concern

So far, human impact, including that from the communities situated within the buffer zone is relatively low. There is private ownership of land within the buffer zone but this is strictly controlled through the legal framework controlling the area. The laws defining and affecting the property provide for a complementary and generally harmonized suite of protection including to some degree instruments for co-management of the areas within the buffer zone of the property. There is, potentially, a need for greater integration of stakeholders in the management in areas surrounding the property and a greater awareness of the values of the site. Laws and regulations exist to control development within the buffer zone of the property and are consistent in their objectives to protect the key values of the property. Subsistence fishing and some tourism development exist within the property including the buffer zone and are covered by the existing regulations. However, greater monitoring of any impact from these activities is needed to ensure no adverse impacts on the values of the property.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **An outstanding example of the northernmost tropical coral reef systems on earth**
  Criterion:(ix)

  The property including Sanganeb Marine National Park (SMNP) and Dungonab Marine National Park (DMNP) lies on the western shore of the north-central Red Sea and is located in an ecologically and globally outstanding region (World Heritage Committee, 2016). It is found in the world's northernmost tropical sea and is a Global 200 priority biogeographic region (State Party of Sudan, 2013). The habitats of the property are diverse and mostly undisturbed, representing the transition between northern and southern Red Sea biogeographic zones. The property and its surrounding area include a variety of different bio-physiographic reef zones, the only atoll-like feature in the Red Sea, lagoons, islets, sand flats, seagrass beds, and mangrove habitats and displays a diversity of reefs, from living to ancient fossil reefs (State Party of Sudan, 2013; IUCN, 2014; World Heritage Committee, 2016).

- **Exceptional level of Biodiversity**
  Criterion:(x)

  The site hosts at least 361 fish species including both endemic and rare species. The site also provides important nursery and spawning grounds, and is host to populations of seabirds (20 species), marine mammals (11 species), fish (300 species), corals (260 species), sharks, manta rays and marine turtles and provides important feeding grounds for what is perhaps

the most northerly population of endangered Dugong in the Red Sea (State Party of Sudan, 2013; World Heritage Committee, 2016).
The whale and manta ray seasonal aggregations in DMNP are unique to the entire Western Indian Ocean Region. DMNP is also unique as a home to species from different biogeographic origins: both northern and southern Red Sea species are found here. SMNP lies in a regional hotspot for reef fish endemism (IUCN, 2014).The property generally supports a higher than average subset of endemics than found in the Red Sea, including the richest diversity of coral west of India and a number of coral species which are at the limits of their global range (World Heritage Committee, 2016).

► **Impressive natural phenomena, formations and areas of great natural beauty**
Criterion:(vii)

The property contains impressive natural phenomena, formations and areas of great natural beauty and is a relatively undisturbed area that serves as a standard to assess the health of the central Red Sea's regional ecosystems (World Heritage Committee, 2016). As a prime example of a deep-water offshore coral reef, Sanganeb provides an outstanding opportunity for comparative studies with similar systems in other regions including the Indian and Pacific Oceans and a place to understand the interactions of biota and the environment (IUCN, 2014). Located within the Red Sea's centre of biodiversity the remarkable clarity of the water makes it one of the best diving sites in the Red Sea and indeed the world.

Assessment information

Threats

Current Threats
Low Threat

It is noteworthy that the property and surrounding buffer zone are largely unaffected by human activity and the key threats to the property remain at a

relatively low level. Threats to the property are limited in both number and magnitude as a result of its relative isolation and the fact that both the property and the surrounding buffer zone are currently exposed to minimal, low intensity human activity. As a result of this the key threats to the property remain at a relatively low level. Any concerns regarding threats to the property are largely centred on possible future impacts. However, the property presently has almost no on-ground management presence, and unless rectified there will be very limited capacity to cope with emerging or escalating threats.

► Invasive Non-Native/ Alien Species

Data Deficient
Inside site, extent of threat not known
Outside site

Coral predators such as the Crown of Thorns starfish (Acanthaster plancii) and Drupella, a small gastropod snail, have been recorded within the property in high abundances at some sites (IUCN, 2014). The Crown of Thorns is a potentially serious threat, especially to the relatively small and isolated but very important and valuable coral communities inside Dungonab Bay. Monitoring of impacts from species such as these is required to assess the level of impact and threat.

► Temperature extremes

High Threat
Inside site, widespread(15-50%)
Outside site

Coral bleaching is considered to be the single most significant impact on the corals present in recent years (IUCN, 2014). In line with this as the most significant impact to date it is also the most pressing threat on the property. Previous surveys have indicated that reefs in the property were relatively healthy, supporting a diverse fish population, and bleached corals covered relatively small areas (IUCN, 2014). However, surveys have not been conducted recently and the impacts from this threat are likely to increase in the future.

► Shipping Lanes

Low Threat

Inside site, scattered(5-15%)
Outside site

While there is no evidence of impact from shipping traffic within the vicinity of the property at the moment, the threat posed from ships remains. Increasing levels of global shipping transport in areas adjacent to the site and the potential for impacts from accidents or physical damage from ships is also a potential threat, particularly in view of increasing use of the area by tourist and fishing vessels originating from Egypt and Port Sudan In the absence of adequate facilities for anchoring ships, there is an increasing risk of damage to corals caused by ship anchors.

► Marine/ Freshwater Aquaculture

Very Low Threat
Inside site, scattered(5-15%)
Outside site

Human activities have until very recently remained at relatively low levels with subsistence fishing being the key direct human impact on the property (IUCN, 2014). Previous surveys have indicated that reefs were relatively healthy, supporting a diverse fish population (State Party of Sudan, 2013). However, no recent surveys have been conducted to assess the impacts from subsistence fishing in the area and the baseline of such activities is unknown. The coastal components of the site are relatively barren with limited agriculture and as such impacts from agricultural activities are minimal.

► Fishing / Harvesting Aquatic Resources

Low Threat
Inside site, scattered(5-15%)
Outside site

While commercial fishing is permitted outside the property, there are some scattered but increasing occurrences of illegal commercial fishing inside the property, including with destructive fishing techniques such as trawling. This issue is complicated by the lack of demarcation of the marine boundaries of the property.

Potential Threats

Low Threat

The main potential threats to the site arise from issues such as increased tourism and associated development, coastal development in general, biological impacts, the expected consequences of climate change and increased activity from local residents. Currently the property is largely unaffected by threats, partly due to its isolation and limited visitation. While this is unexpected to change significantly limited management presence and virtually no available data on the baseline values of the property will make it difficult to not only respond but detect any impacts to the site.

► Tourism/ Recreation Areas

High Threat
Inside site, localised(<5%)

Despite limited infrastructure to support tourism there is growing interest in the site as a result of overcrowding in other similar locations within the Red Sea (IUCN, 2014). The resulting increases in recreational vessels, including live aboard dive vessels, could have an impact on the property. There is some concern over increasing interest by investors to start development projects both outside and within the property, and there is a lack of regulations to manage development activities in the area.

► Fishing / Harvesting Aquatic Resources

Low Threat
Inside site, scattered(5-15%)

There are currently two local communities residing within the buffer zone of the property and utilizing the area for subsistence fishing. Given the harsh conditions in the area and an expressed interest from the communities to move away from livelihoods dependant on fishing it is unlikely the communities will expand in number significantly. However, increased monitoring of impacts from fishing should be conducted to ensure no adverse impacts on the values of the property and further awareness of the natural values of the site and the boundaries of the Marine Park are needed.

► Commercial/ Industrial Areas

Low Threat
Outside site

It has been noted that there is growth of coastal development along the Sudanese Red Sea coastline, especially focussed in the 70kms of coastline south of Port Sudan to Suakin, where there are two major ports, oil refineries, a desalination plant, saltworks, power station, a shrimp farm and the new Red Sea Economy Free Trade Zone (IUCN, 2014). Increased development has also begun to spread northwards from Port Sudan. Whilst the property remains in good condition this context reinforces the need to protect landward areas which are integral to the values of the marine areas and to upscale resources and management capacity.

Protection and management

Assessing Protection and Management

► Relationships with local people

Some Concern

The MNP boundaries and inscription on the World Heritage List is likely to have had little impact on the activities of local people within the area. Local communities are allowed to fish within the Marine Park as well as the buffer zone with restrictions on fishing activities related to the kind of fishing gear used. There also appear to be no significant or ongoing cultural rights issues with the local communities. The IUCN evaluation mission to the property indicated there was limited evidence of consultation or awareness raising efforts with local communities (IUCN, 2014). In 2016, an IUCN / Arab Regional Centre for World Heritage (ARC-WH) mission to the property found that some progress is being made by the local authorities in considering consultation with local communities and involvement in certain aspects of management. For example, 40 young marine specialists from the local communities were recruited by the site management authority since late 2014.

► Legal framework

Mostly Effective

There is a commitment from the Government of Sudan at both the National and State level towards the protection and conservation of resources within its coastal waters, including the property. Several laws and regulations are in place and Sudan has signed and abides to regional and international protocols and conventions. Both SMNP (1990) and DMNP (2004) have been declared as marine protected areas by Presidential Decrees. Both are owned by the Federal Government of Sudan and as such are covered by various pieces of national legislation.

► Enforcement

Some Concern

The management of the property spans both national and state level Government with the main responsibility for management assigned to the Wildlife Conservation General Administration (WCGA), under the Ministry of Tourism and Wildlife at the National Level. The State level is also involved in the management through the Ministry of Agriculture, Animal Wealth and Natural Resources, which is responsible for all environmental matters in the Red Sea State. However it is not clear if and to what degree good collaboration occurs between the different levels of government and the relative strength of different pieces of legislation. There is a potential risk that the protection of the property may be compromised given the strongly growing regional push for increased coastal development, commercial fishing, aquaculture and oil exploration. At the time of the IUCN Evaluation Mission there were 15 rangers for both SMNP and DMNP and 7 marine biology graduates trained as park wardens, and 40 new staff members have been recruited from the local communities since late 2014, who all have a Bachelor degree in Marine Biology. However, staffing levels were evaluated as very poor and capacity remains low. To address these capacity gaps, various capacity building programmes are being developed by different institutions, including PERSGA, Cousteau, ARC-WH and IUCN Tabe'a Programme. While the level and degree of threats remain low the resources and capacity of management staff is such that it risks hindering on going effective management of the property, particularly in the face of increasing

tourism and other threats. In particular the Regional Organization for the Conservation of the Environment of the Red Sea & Gulf of Aden (PERSGA) noted that there was a lack of surveillance and enforcement of regulations in MPAs widespread across the region (PERSGA 2002; 2004).

► Integration into regional and national planning systems

Some Concern

A greater level of coordination and communication with neighbouring countries is definitely needed to ensure the site is included in regional planning and this is also true in regards to national level planning systems. In particular coordination at both the national and state level is needed in order to regulate the level of tourism with many live-aboard vessels now moving into the area during the peak tourism season. In addition threats from mineral exploration and pollution from neighbouring countries will require greater coordination if they are to be assessed and planned for and the role of the site in supporting resilience in other similar locations should be considered within the wider Red Sea environment.

► Management system

Mostly Effective

The Management Plan for DMNP has been updated in 2016. The Management Plan for SMNP is in the process of being updated, which is anticipated to be completed in 2017, alongside the development of an Integrated Management Plan for the property as a whole. The existing individual Management Plans commit the managing interests for the two components to common objectives and are detailed enough to assist with harmonized management until a single management plan for the property is developed. The management authorities of SMNP and DMNP have established a management committee for the World Heritage property to improve coordination and communication between the agencies at the Federal and State Level given the shared mandate for the management of environmental issues. This committee also includes other key stakeholders in the management of the property.

► Management effectiveness

Some Concern

The management of the property is complex as it spans both national and state level Government organisations. The main responsibility for management sits with the Wildlife Conservation General Administration (WCGA) under the National Government, however the state level government is also involved. The multi-agency and National and State level management presence in the area results in somewhat complex procedures. For example rangers from the National agency aware of infringements are required to report these to the relevant state level authority and then these incidents, if serious enough to warrant further action, are reported to the police. The 2014 IUCN evaluation mission raised serious concerns regarding the resources and management capacity applied to the protection of the property and the effectiveness of management actions, which was also highlighted for MPAs in the region in previous studies (PERSGA 2002; 2004).

► Implementation of Committee decisions and recommendations

Data Deficient

The majority of the World Heritage Committee decisions pertaining to the property have focussed on its evaluation for and subsequent inscription. The property was first presented for inscription in the 1980’s with the subsequent recommendation requesting the formal gazetting of the Marine Parks before inscription would be considered. As a result it was resubmitted in 2013 and evaluated in 2014. Since then the only decisions directly relevant are yet to be reported on (in 2018) and as such there is insufficient information to assess implementation.

► Boundaries

Mostly Effective

The boundary of the World heritage property aligns with the boundaries of the two marine national parks. Both SMNP and DMNP appear to be quite intact at the moment, both in terms of habitats and species and the boundaries are sufficient to include all the necessary conditions to protect the values for which it has been inscribed. The nominated property covers a wide range of habitats that are ecologically and functionally interconnected and are necessary to maintain viable plant and animal populations, including shallow coastal areas, reef formations and deep-sea areas. However, The 2014 IUCN evaluation noted a number of areas and features which have

potential Outstanding Universal Value and which exist outside the MNP boundaries and within the marine linking buffer zone. For example reefs extending from SMNP including the Wingate Reef to the south and to the fringing reefs in the west and north. As such consideration should be given in the future to revising the boundaries.

▶ Sustainable finance

Serious Concern

There is currently no detail available in regards to the level of financing for the property and in particular future prospects for conservation financing. It is therefore impossible to assess the current situation, trend and prospects for financing in the future or to comment on the adequacy of the current budget. The source of financing for management is from the Federal Ministry of Finance through the support provided to the Wildlife Conservation General Administration (IUCN, 2014). However, while no detail is available the Evaluation mission noted that very limited budgets are made available to the management agencies and there is a need to investigate and secure sustainable financing for the property. However, during a coordination meeting between different key institutions supporting Sudan, convened by IUCN Tabe'a Programme and ARC-WH, the State Party reported that it has increased the management budget by 500%. Nevertheless, the adequacy of the level of funding available to the property needs to be confirmed further.

▶ Staff training and development

Serious Concern

At the time of the IUCN evaluation of the property there were 15 rangers and 7 marine biology graduates trained as park wardens. Since then, 40 additional staff with Bachelors in Marine Biology have been recruited from the local communities. Given the extent of its area and the potential for infringements, staffing levels are very poor and capacity incredibly low. While the level and degree of threats remains low, the resources and capacity of management staff is such that it hinders effective management of the property, particularly in the face of increasing tourism and other threats. While the management authority has established 5 ranger stations for monitoring and patrolling, the small staff numbers lack even basic equipment and transport and there is no information available on staff training or

development.

► Sustainable use

Some Concern

So far, human impact, including that from the communities situated within the buffer zone is relatively low. There is private ownership of land within the buffer zone but this is strictly controlled through the legal framework controlling the area. Sustainable use activities are only allowed in the buffer zone and concentrate on artisanal fishing. However, a lack of boundary demarcation complicates enforcement of this regulation.

► Education and interpretation programs

Some Concern

There appears to be little if any education or awareness activities around the values of the property, either within local communities or with the limited number of visitors to the property. There is an aquarium based in Port Sudan with some information around the marine ecosystem but the majority of visitation is currently based on live aboard vessels and as such opportunities for education and awareness are limited. There is also a need for greater integration of stakeholders in the management in areas surrounding the property and a greater awareness of the values of the site.

► Tourism and visitation management

Some Concern

The property presently has almost no on-ground management presence with most management actions linked to tourism and visitation during the busiest season when live aboard dive vessels visit from other parts of the Red Sea. A general increase in tourism to the site and associated pressures could now occur, following World Heritage inscription but there is no information available at this time. Increases in visitation could potentially impact on the property through pollution from tourism activities, anchor damage from an increase in the number of vessels and direct damage to reef ecosystems from diving related activities including boat damage. Monitoring of impacts from tourism activities should be conducted to detect any impact on key habitat types and species in anticipation of increased visitation, but currently appears not to occur. Residential and resort/tourism development in

terrestrial areas both within the buffer zones and areas adjoining the property should be closely monitored to ensure population size and tourist numbers do not exceed the limits of infrastructure and ecosystems.

► Monitoring

Some Concern

There are no on-going monitoring activities conducted within the property, despite a lack of baseline data on populations and the status of the reef system. Increased monitoring of impacts from fishing should be conducted to ensure no adverse impacts on the values of the property and further awareness of the natural values of the site and the boundaries of the Marine Park are needed (IUCN, 2014).

► Research

Some Concern

There appears to be very little research being conducted within the property. There has been research in the past in regards to the populations of significant species such as the Dugong and other marine mammals but no recent records or results could be found from this research. On-going research and monitoring projects being conducted by the University of the Red Sea and collaborating scientists and researchers should be linked more closely with management of the property and used to inform management planning and actions. This includes recent research on the movements and population of dugongs as well as other globally important species found within the property.

Overall assessment of protection and management

Some Concern

So far, human impact, including that from the communities situated within the buffer zone is relatively low. There is private ownership of land within the buffer zone but this is strictly controlled through the legal framework controlling the area. The laws defining and affecting the property provide for a complementary and generally harmonized suite of protection including to some degree instruments for co-management of the areas within the buffer zone of the property. There is, potentially, a need for greater integration of

stakeholders in the management in areas surrounding the property and a greater awareness of the values of the site. Laws and regulations exist to control development within the buffer zone of the property and are consistent in their objectives to protect the key values of the property. Subsistence fishing and some tourism development exist within the property including the buffer zone and are covered by the existing regulations. However, greater monitoring of any impact from these activities is needed to ensure no adverse impacts on the values of the property.

▶ **Assessment of the effectiveness of protection and management in addressing threats outside the site**

Some Concern

There is a commitment from the Government of Sudan at both the National and State level towards the protection and conservation of the resource in the coastal waters. Several laws and regulations are in place and Sudan has signed and abides to regional and international protocols and conventions. Despite these commitments the level of management is very low, and it is only through combined efforts by various stakeholders, representing the public and private sectors, and the very low levels of visitation and surrounding development, that there is currently effective conservation of the property.

State and trend of values

Assessing the current state and trend of values

World Heritage values

▶ **An outstanding example of the northernmost tropical coral reef systems on earth**

Good
Trend:Stable

The site has developed in semi isolation with species adjusting to the unique conditions found within this region and remains in a pristine state with limited impacts or threats.

► Exceptional level of Biodiversity

Good
Trend:Stable

The property contains a high level of endemism and represents a complete and relatively intact marine ecosystem, in a significant biogeographic region of the Red Sea. It is home to a rich reef ecosystem, containing over 300 fish species and includes some of the most expansive regional seagrass beds representing at least 9 of the 10 regional species. It is also home to significant populations of globally important and endangered species including sharks, cetaceans, and marine turtles.

► Impressive natural phenomena, formations and areas of great natural beauty

Good
Trend:Stable

Sanganeb is an isolated, atoll-shaped coral reef structure in the central Red Sea, surrounded by 800 m deep water, the atoll is a largely pristine marine ecosystem and provides some of the most impressive dive sites on earth resulting from the very high diversity of physiographic zones and reefs characterised by an extraordinary structural complexity. The Dungonab Bay and Mukkawar Island areas of the property include highly diverse systems of coral reefs, mangroves, seagrass beds, beaches, intertidal areas, islands and islets.The clear visibility of the water, coral diversity, marine species and pristine habitats and colourful coral reef communities against a backdrop of the Red Sea Hills, rising over 1500 m, creates a scene of immense natural beauty.

Summary of the Values

► Assessment of the current state and trend of World Heritage values

Good

Trend: Stable

The Sudanese Red Sea Coast, including the property, boasts high levels of endemism in marine fish and invertebrate species. A number of ecological

and socio-economic characteristics of the area mean that the property is of national, regional and international importance for biodiversity conservation, reef resilience studies, interconnectivity, and for sustainable use of living marine resources. The relative isolation and low number of visitors to the site have helped to ensure its conservation and the near pristine status of its world heritage values.

Additional information

Benefits

Understanding Benefits

- **Importance for research, Contribution to education, Collection of genetic material**

  The site provides an outstanding opportunity for research and education and awareness for the local, national and international communities, about regional biodiversity. It also provides an important site for research as a prime example of a deep water offshore coral reef, providing an outstanding opportunity for comparative studies with similar systems in other regions including the Indian and Pacific Oceans. It also provides a place to understand the interactions of biota with the environment in an almost pristine system.

- **Fishing areas and conservation of fish stocks**

  Hosting at least 361 fish species with numerous endemic and rare species the property provides important nurseries and spawning grounds for key species.

- **History and tradition, Cultural identity and sense of belonging**

  The property is home to a number of local communities, many of which have inhabited the area for many generations. These communities were present prior to the designation of the National Park and World Heritage Property and

continue to undertake a relatively traditional way of life with many of them reliant on artisanal fisheries supported by the property.

► Outdoor recreation and tourism, Natural beauty and scenery

The site offers tourism activities which are significant to local, regional and international communities. Tourism is increasing in the area with local and regional tourists contributing to this increase and provides an opportunity for recreation and time in nature.

► Tourism-related income, Provision of jobs

Tourism levels remain low for the property but are likely to increase as a result of influences in other parts of the Red Sea. Any increase in visitation will require services to support them which are likely to be provided by local communities both within the property and through tourism related activities in other areas.

One of the reasons for tourists visiting the property are the current low levels of visitation, particularly in regards to diving. An increase in visitor numbers (over exploitation) may then have a negative impact on this benefit.

► Coastal protection

The complex reef systems contained with the property, mirroring the Red Sea Coast of Sudan provide protection from extreme weather conditions and protect the fragile coast line from the impacts of such events.

Summary of benefits

The benefits from the SMNP/DMNP are largely in the conservation value of the ecosystem, including the relatively pristine reef systems and the unique biodiversity found within the site. The reefs and other associated marine habitats provide a productive environment for a number of species of global conservation concern, as well as in providing food to local communities, and protection of local infrastructure and populations from extreme weather events, the frequency of which may increase under climate change. There are also economic benefits in terms of job creation and tourism.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	University of the Red Sea		Various projects monitoring endangered species and conducting species surveys.

REFERENCES

№	References
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4	State Party of Sudan (2013). Nomination of Sanganeb Marine National Park and Dungonab Bay/Mukkawar Island Marine National Park (Sudan - Red Sea).
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