Acronyms and Abbreviations

AOP: Annual Operation Plan
EIA: Environmental Impact Assessment
EU: European Union
GOE: Government of Egypt
IUCN: International Union for Conservation of Nature (World Conservation Union)
PAMU: Protected Area Management Unit
RMNP: Ras Mohamed National Park
CITES = Convention for International Trade in Endangered Species
MAO = Ministry of Agriculture
NGO = Non-Governmental Organization
UN = United Nations

BSP BEDOUIN SUPPORT PROGRAMME
EEAA EGYPTIAN ENVIRONMENTAL AFFAIRS AGENCY
LE EGYPTIAN POUND
NCS NATURE CONSERVATION SECTOR
SSRDP SOUTH SINAI REGIONAL DEVELOPMENT PROGRAMME. (EU FUNDED)
TDA TOURISM DEVELOPMENT AUTHORITY OF EGYPT
UNESCO UNITED NATIONS EDUCATIONAL AND CULTUAL ORGANISATION.

Management plan for Ras Mohamed National Park

Executive Summary (to be completed)

1. Introduction

Tourism in South Sinai is overwhelmingly sea resort tourism and largely mass (or package) tourism, which is very price sensitive. It is also overwhelmingly international in character. For example, in 2000/2001, 86% of tourists were foreign and only 14% Egyptian. Individual and small group tourists are a small segment of the market.
South Sinai is a major and growing destination for European holidaymakers. South Sinai and the Egyptian Red Sea Coast is the closest destination to Europe with a climate warm enough for year round beach and sea holidays, and can offer over 90% days of sunshine. With hundreds of kilometres of coastline, world-famous coral reefs, an unspoiled and largely uninhabited desert hinterland, and good basic tourism infrastructure, South Sinai is very well positioned in the huge European market for sun and sea getaways.
The typical tourist establishment in South Sinai is either a tourist village or resort hotel (2), with 4 to 5 star classifications. It will have 200 to 400 rooms (400 to 800 beds), 3-5 restaurants, two swimming pools, beachside activities, a sports/fitness centre, souvenir shops and convenience stores. It may also offer facilities such as a dive centre and other special recreational facilities such as a gambling casino. A typical tourist establishment will be likely to have its own source of power generation (at least as back up) and its own water desalination and sewage treatment plants. Ample trees and greenery will be irrigated from treated effluent. It will be, on average, somewhat over half full. With few exceptions, guests will be on organized package tours (in groups of 20-50 persons), which have been arranged from their countries of origin. Guests are most likely to be Italians, British, Germans, or Russians. Egyptians appear in large numbers only at local holiday peak times. The hoteliers' strategy is to offer guests everything they need (and everything they purchase) within the resort itself, with diving and other excursions arranged through the hotel. Half and full board accommodation is very common.

The resort nature of tourism in South Sinai has remained dominant since tourism took off in the 1980's. The aim of tourists remains to enjoy the sun and beaches and partake in sea-based activities. Scuba diving in South Sinai has an international reputation, and the rapid growth in South Sinai can be partly attributed to this diving reputation. A very small amount of cultural tourism (St. Katherine Monastery and Mount Sinai), desert safaris and other nature or ethnic adventures are being promoted, although in numbers terms, such non-resort tourism activities are insignificant.

Ras Mohammed National park RMNP was declared in 1983. The total area of ras mohammed is 480 km 2 (48 000 ha). The area classified into two parts, the marine part (part from Gulf of Suez and part from Gulf of Aqaba) which represent 70% and the terrestrial part representing 30%. The coast of the gulf of suez is low – lying sandy to muddy and influenced strongly by tidal variations. The tidal – intertidal zone of the East Coast of Gulf of Suez (ECGS) is very wide and may exceed 1 km at some areas, which give the chance to migratory and resident birds to rest and feed without

disturbance. The vegetation along the coast is very poor, the most common plant is Zygophylum coccinum. On the other hand the tidal – intertidal zone of the westren Coast of Gulf of Aqaba (WCGA) is narrow and representing a typical sea cliffs and fringing coral reefs, which considered as a key species to the other related marine habitats, like hundreds species of fish, sponges, snails and crustaceans. Birds is considered as an important species to the area e.g. storks, waders and herons, about 119 bird species were recorded in the area both of migratory and resident. Sea grasses, mangroves and vegetation are important species to turtles- fishes, shrimps, crustaceans - birds and rodents, respectively. Acacia radiana is the common tree which distibuted in 2 wadis at Ras Mohammed used by migratory passerines to hide and rest under shadow. The area is used for tourism purposes and research. The land and sea tourism activities represent the common threat to the natural habitat by direct or indirect effect. The second threat to coral ecosystem is a natural phenomena when the corals attacked by crown of thorn (Acanthaster planci); sea starfish with 13 - 16 arms, which digist and absorb the coral animal. Oil spill pollution is another threat to all ecosystems. These threats has been followed by the monitoring programmes to find rbid solutions to minimize the damage to the area.

Declared in 1983 and subjected to a comprehensive development program initiated in 1989, the Ras Mohammed National Park has since become an essential feature to the economic development on South Sinai.
The boundaries of the National Park extend from a point opposite the Qad Ibn Haddan lighthouse on the Gulf of Suez to the southern boundary of the Nabq Protectorate on the Gulf of Suez. The area includes the island of Tiran and all shorelines fronting the Sharm el Sheikh tourism development area.

Tourism in Southern Sinai is inherently linked to the natural resources of the area. Degradation of these natural resources as a result of tourism or development activities is not in the best interests of the investors or the tourists. The Protectorates program seeks to establish an equilibrium between development activities, tourism and the natural resource conservation measures needed to achieve sustainable economic development.

It is essential that all users recognize their individual responsibility to protect the natural resources of the area, remembering that these are common property resources, of international importance, and the heritage of future Egyptian generations.
Coral reef ecosystems found in the National Park are recognized internationally as among the world's best. This recognition is based primarily on the diversity of flora and fauna, clear, warm water devoid of pollutants, their proximity to shorelines and their spectacular vertical profile. The reef exists as an explosion of color and life in stark contrast to the seemingly barren desert adjacent to it. In reality, the desert is rich in fauna, mainly nocturnal. These ecosystems are intrinsically linked and thus must be managed as a single unit.

Protected Areas in South Sinai

	Land (km^2)	Sea (km2)	Total (km^2)
Ras Mohamed National Park	133	327	460
Tiran-Sanafir	100	271	371
Sharm el Sheikh	0	75	75
Nabq Managed Resource Protected Area (MRPA)	465	122	577
Abu Galum Managed Resource Protected Area (MRPA)	337	121	458
Taba Protectorate	2,800	0	2,800
Saint Katherine Protectorate	4,350	0	4,350
Total			

Ras Mohammed National Park occupies one of the world's most extraordinary settings: a slender, dramatically arid peninsula at the very southernmost tip of the Sinai, rising to a dramatic promontory that looks out over some of the most gloriously rich coral reefs that you will ever see. The Ras Mohammed peninsula marks the nexus of the shallow Gulf of Suez and the deep intercontinental chasm of the Gulf of Aqaba, itself a small portion of the Great Rift Valley that stretches deep into Africa. Declared a park in 1983, Ras Mohammed contains within its modest area an astounding variety of life, ranging from the gazelles of its northern desert area to the brilliant orange coral groupers of its skirting reefs.

The boundaries of Ras Mohammed extend far out into the surrounding waters, and even the most casual of visitors is struck by how much of the park is dominated by the sea. Even the dry land area of the park seems a part of the marine world: in the north, large dunes are interspersed with outcroppings of Miocene limestone in which are embedded an astonishing wealth and variety of marine fossils. In fact, the dramatic promontory that marks the Sinai's southernmost tip belongs in part to the sea, as it is in fact an enormous, fossilized coral reef, left high and dry tens of thousands of years ago.

For many visitors, Ras Mohammed's most stunning scenery is found underwater, in the broad, terraced coral reefs that encircle the peninsula. Fire corals and brilliant sea fans abound here, and among these lush reef corals roams a truly magnificent array of both reef and pelagic fish--over a thousand species in all.

1.1 Purpose of the Plan

This Management Plan provides strategies for future management and is based upon the desire to ensure that RMNP is protected and remain in an essentially natural condition for future generations. Increasing use of the area also has major environmental implications and it is important that the principle features that attract visitors to the area, its outstanding scenery and natural beauty, fringing reefs, beaches, bays, inlets and plants and animals are protected from threats such as pollution, introduced species, and human activities which may threaten them.

The challenge for the future is therefore to provide for a range of uses while ensuring the protection of natural, cultural and heritage values.This Plan provides for conservation of the natural, cultural and values of RMNP within a framework of ecologically sustainable use of, and minimal impact upon, the national and marine parks. It also aims to rationalise challenging uses and to provide for a wide range of nature-based recreation experiences.

The management plan is a result of experience accumulated during the early period of the protectorate's establishment in which revision of the resources, future development and problems are identified within a flexible framework depending on investigation, evaluation, and rational compromise. The philosophy of this plan based on a participatory approach with local communities.

1.2 Framework of the RMNP Management Plan

Wonderful areas such as Ras Mohammed National Park require active management to ensure that natural features are protected while allowing visitors to continue to enjoy the area's attractions. Management is also required to minimise conflicts between incompatible or conflicting activities. This management plan has been prepared to provide a framework within which broad outcomes can be achieved. These outcomes are:

1. Secure future for the natural environment of Gulf of Aqaba Protectorates.
2. Long term ecologically sustainable basis for activities occurring in the parks.
3. Rationalization of challenging uses of the parks;
4. An effective and participative involvement of the parks within the regional community and economy;
5. A management system which addresses the expected increasing demand for park use; and effective and efficient management of the parks.

This Plan provides clear directions for conservation, recreation and resource use by providing specific management objectives and strategies. A major purpose of the Plan is to prevent the degradation of natural Cultural and heritage values by the cumulative effects of small-unplanned decisions. The preparation of a management plan for RMNP is the responsibility of the Nature Conservation Sector (NCS) of the EEAA the governmental body responsible for the management of the National PA Network. The management of PAs in Egypt is subject to the provisions of Law 102/1983, which outlines and identifies the basic legal framework for managing a PA. In addition, the NCS has developed and adopted management planning standards that are being applied to the National PA Network. The RMNP management plan will be developed within this existing framework, taking into consideration local needs and limitations.

1.2.1 Ownership:

The land of RMNP is completely owned by the Egyptian Governorate (Egyptian Environmental Affairs Agency) as a whole but there are some areas inside the protected area are under either the ownership of these sites or the administrative control of those sites (South Sinai Governorate – Army –.etc.).

1.2.2 Legal rights:

Natural Protectorates Network in Egypt is established and supported by several laws that allow the EEAA to effectively conserve and manage this network. The basis for protected area management in the Arab Republic of Egypt (ARE) is summarized below.

Law 102/1983

The law 102 sets out the principles for the declaration of natural protectorates and stipulates development restrictions and activities within and adjacent to the protectorate.
The Law obliges the EEAA as the concerned administrative body to:

- Forbid actions leading to the destruction or deterioration of the natural environment, biota or which would detract from the aesthetic standards of the protectorate. [1]
- Regulate scientific research
- Develop management programmes for declared Protected Areas
- Increase Public Awareness
- Regulate recreational activities in protectorates to protect natural resources
- Establish control systems to enforce regulatory measures.

In addition the Law established the Natural Protectorates Fund specifically to finance the management of protected areas; this fund includes all revenue from donations, grants, sales, entrance fees, fines and subsidies. According to Article 6 the Fund can be used for;

1. supplementing the budget of the EEAA
2. enhancement of protectorates
3. undertaking surveys and field research
4. rewarding persons who provide information on offences or who apprehend offenders.

Ministerial Decree 1067/1983
It designates the Egyptian Environmental Affairs Agency as the authorized body to apply Law 102.

Prime Ministerial Decree 264/ 1994.
Sets out conditions, rules and procedures for definition and regulation of activities in natural reserve area and provides the Nature Protectorates Department of EEAA with executive administrative authority over natural protectorates. It has 6 articles and various conditions and rules and expressly forbids construction or development of any type without the permission of the EEAA.

Law 4/1994
It establishes principles and procedures to address all environmental issues in the ARE. This comprehensive law includes measures to address terrestrial, air and water pollution. Law 4 notes that the EEAA has the power to administer and supervise the natural protectorates.

Law 2/1973
Authorises the Ministry of Tourism as the administrative body for the supervision and exploitation of tourism areas.

Law 117/ 1983
Provides for the protection of antiquities and historical sites.

Presidential Decree 374/1991.
Establishes the General Authority for Tourism Development (TDA) to be responsible for allocation and sale of land in designated tourism areas. The local Governate approves development within recognised boundaries of urban areas.

Ministerial Decree 1611/1989 (Ministry of Justice)
Granted "police powers" to the manager of the EEAA Governate branch in which there is a protected area and to the manager of the protected area.

Ministerial Decree 1353/1996
Vests certain employees of the EEAA, including "Managers of Natural Protectorates" with the capacity of "Judiciary Seizure Officers" relative to infringements of the Environmental Code enacted by Law 4/1994 and its Bylaws, relative to their competence.

Law 53/1966 (Ministry of Agriculture)
Defines wild fauna protection regulations.

Decrees (Ministry of Agriculture) 28/1967, 5/1983, 1227/1998 and 90/1990.
Lists the protected species in Egypt.

Governate decree 16/1980 (South Sinai Governate)
Enforces the law forbidding hunting of all animals in area between Ras Mohammed and Gabal Katherine. Punishment for offenders includes imprisonment for between 6 months and 2 years.

Prime Ministerial Decree no1068 / Jan. 1983 and changed by Decree no 2035 / 1996 - Declared the area of Ras Mohammed as National

Prime Ministerial Decree 264/1994
Sets out conditions, rules and procedures for definition and regulation of activities in natural reserve areas and provides the NCS/EEAA with executive administrative authority over natural protectorates. It has six articles and various conditions and rules and expressly forbids construction or development of any type without the permission of the EEAA.

Prime Ministerial Decrees 33/1996
Declared that Gulf of Aqaba is protected Area, so that mean all the cost from Ras Mohammed in the south to Taba in north is protected by the prime ministerial decree 33/1996.

Law 4/1994 for the Environment
Establishes principles and procedures to address environmental issues in Egypt. This comprehensive law includes measures to address terrestrial, air, and water pollution. Law 4 notes that the EEAA has the power toadminister and supervise PAs. Importantly, the law specifies that all development is required to go through an appropriate EIA process.
Article 59 prohibits the construction of any establishment within 200 meters of the shoreline, except with the approval of the Egyptian General Authority for the Protection of Shores (GAPS), in co-ordination with EEAA, and after the approval of a satisfactory EIA. Furthermore, Article 60 prohibits all activities that cause any alteration or modification to the natural shoreline. Law 4/1994 also prohibits the hunting, possession, transport, and sale of those species of wild fauna (alive or dead) determined by Executive Statutes of the same law.

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Law 124/1983
Fisheries Law deals with all living aquatic resources, fishing grounds, vessels, fishing methods, pollution, licensing, fees, penalties, and other matters.
Presidential Decrees 190/1983; 465/1983; 362/1984

International Obligations
Egypt has ratified or signed a number of conservation related international conventions including the Bonn Convention, Ramsar Convention, CITES, Biodiversity Convention and the African Convention on conservation of nature and natural resources

1.3 Planning Period

The operational period for this management plan is 5 years starting from the date of official approval from the Egyptian Environmental Affairs Agency (recommended period from June 2006 to June 2010) with regular updates and revision each year to try over come any problems arising during the Implementation of this management plan

1.4 Plan Structure
This plan follows the structure formate developed in refrence to the Nature Conservation Sector inside the Egyptian Environmental Affairs Agency and IUCN. This plan begins with a general description of the PA and its natural resources and an overview of its legal and socio-economic setting; then it reviews proposed management objectives. The next section provide an extensive appraisal of management issues along with proposed policies and actions to address them; then there is an overview of management tools and resources; then funding issues are discussed and a proposed budget provided; and finally there is a brief discussion of implementation and evaluation. Additional supportive information and maps are provided in appendices.

1.5 Mission Statement
"To conserve the unique marine and natural resources and maintain the wildlife biodiversity inside Ras Mohamed National Park to ensure sustainable developmental growth as a result of effective management and promotion of its resources".

2. Description of Resources

2.1 Physical Description

2.1.1 General Description

Ras Mohammed National park RMNP was declared in 1983. The total area of ras mohammed is 480 km 2 (48 000 ha). The area classified into two parts, the marine part (part from Gulf of Suez and part from Gulf of Aqaba) which represent 70% and the terrestrial part representing 30%. The coast of the gulf of suez is low – lying sandy to muddy and influenced strongly by tidal variations. The tidal – intertidal zone of the East Coast of Gulf of Suez (ECGS) is very wide and may exceed 1 km at some areas, which give the chance to migratory and resident birds to rest and feed without disturbance. The vegetation along the coast is very poor, the most common plant is Zygophylum coccinum. On the other hand the tidal – intertidal zone of the westren Coast of Gulf of Aqaba (WCGA) is narrow and representing a typical sea cliffs and fringing coral reefs, which considered as a key species to the other related marine habitats, like hundreds species of fish, sponges, snails and crustaceans. Birds is considered as an important species to the area e.g. storks, waders and herons, about 119 bird species were recorded in the area both of migratory and resident. Sea grasses, mangroves and vegetation are important species to turtles- fishes, shrimps, crustaceans - birds and rodents, respectively. Acacia radiana is the common tree which distibuted in 2 wadis at Ras Mohammed used by migratory passerines to hide and rest under shadow. The area is used for tourism purposes and research. The land and sea tourism activities represent the common threat to the natural habitat by direct or indirect effect. The second threat to coral ecosystem is a natural phenomena when the corals attacked by crown of thorn (Acanthaster planci); sea starfish with 13 - 16 arms, which digist and absorb the coral animal. Oil spill pollution is another threat to all ecosystems. These threats has been followed by the monitoring programmes to find rbid solutions to minimize the damage to the area

2.1.2 Climate

The Sinai lies in the arid North African belt, with general conditions including high summer temperatures, mild winters, low humidity, and long rainless periods. There are two climatic regions in South Sinai Governorate, the Gulf of Suez is an extension of Mediterranean coastal conditions; arid, with annual rainfall between 20 and 100mm. The inland highlands and Gulf of Aqaba are classified as hyper arid with a cool winter (mean temperature of coldest month 0-100C) and hot summer. During the winter quarter winds flow into the central Red Sea low pressure belt from the northwest; essentially causing Mediterranean weather to penetrate down the Red Sea. During the second (spring) quarter the Southwest Monsoon develops, which then dominates the Arabian weather systems during the summer quarter. Winds rotate anti-clockwise around the Inter-Tropical Convergence Zone (ITCZ), now located over Iran and northern India. This causes prevailing winds to flow down the entire length of the Red Sea from the north. The second and fourth quarters (spring and fall), during the migration of the ITCZ, are unsettled with changeable winds. There are many complexities to be superimposed on this basic pattern. Most noticeable are the strong southerly winds, which blow for between 14 and 21 days per year. With a fetch of the entire length of the Red Sea, these southerly winds can generate significant waves. Land and sea breeze effects may develop daily in coastal areas.

Both temperature and precipitation vary across the governorate, diurnally, seasonally and

annually, as outlined in Table 3.1 and Figure 3.1. It is clear that across the peninsula rainfall generally declines from the North towards the South, although it increases in the plateaux and mountain regions. Dames & Moore report annual averages of 32mm in the plateaux region and 62mm in the southern mountains, with an annual average of 12mm in the Gulf of Suez. In the mountain region orographic effects can increase rainfall, and together with dew and fog and the occasional winter snow can give precipitation records as high as 300mm per year. Rainfall usually occurs between October and May. Due to the low soil & vegetation cover, steep slopes, and high relief that characterise the governorate, heavy rainfalls can cause major flash floods

Mean annual temperatures range from 10 to 26 0C, with the coldest months between December & February and the hottest between June & August. Lowest temperatures are in the southern mountains, where frosts are common in winter. In St. Katherine mean monthly winter temperatures range from -1 to 2 0C, with average minimum temperatures around -8 0C, (-20 0C with wind chill). Summer maximum temperatures in excess of 36 0C have been recorded throughout the Governorate. During winters the Gulf of Aqaba coastline is warmer than the Suez side. The low relative humidity of the peninsula, usually between 10 and 20% and rarely exceeding 50% results in high potential evaporation rates, in excess of 20mm/day in August. Seasonal Khamsin winds are characteristic of the region and bring very hot, dust-laden air between March and April.

Surface waters at Ras Mohamed have a fairly constant salinity of 40.5 parts per thousand (global average 33ppt), and a summer temperature between 26 and 280C. The Gulf of Aqaba joins the Red Sea at the Straits of Tiran, which restrict exchange between the two bodies of water. With high average temperatures, low humidity and no inflows of fresh water, the Gulf tends towards high levels of salinity of 42 ppt on average, reaching 44 ppt in the north, with water temperatures ranging between 20 and 260C. In the Gulf of Suez, humidity is relatively low and evaporation from the shallow water leads to a significant additional drop in water temperature, (below 180C during winter), coupled with an increase in salinity to more than 42.5ppt in the north. The sinking of this, cool, dense, water drives the water circulation in the northern Red Sea. The high salinity, low temperatures and high water turbidity are the principal environmental gradients affecting the distributions of species and habitats in the Gulf of Suez. All three bodies have low levels of suspended nutrients, facilitating the development of the region's coral reefs. In the Gulf of Aqaba wind-driven water circulation is driven by the prevailing north-easterly winds, with south-bound currents along both the Sinai and Saudi coastlines and a northerly current running up the centre of the Gulf. Consequent eddies may produce northward currents along the Sinai coast south of Nuweiba and south of Taba.
Typical wind speeds of 5-10 m s-1 generate surface currents of 15 – 25 cm s-1, sometimes higher. At the Straits of Tiran these positively or negatively interact with tidal currents, so the total outflowing current can reach several knots when northerly wind is combined with a falling spring tide. The Gulf of Aqaba is more subject to wave action than might be expected from its enclosure. Unprotected north-east shorelines and reefs can be exposed to moderately severe waves (up to 2m or more) for relatively long periods. The most severe wave action is generated by strong storms which blow occasionally from the south, affecting stretches of coast normally protected from the prevailing wind. Surface current patterns in the Red Sea generally follow the prevailing north-south winds. However, in the northern Red Sea currents are driven by the Gulf of Suez density gradient. This pulls surface waters from south to north due to the sinking of dense, highly saline water in the northern Gulf of Suez, returning as deep water currents into the main Red Sea

at the mouth of the Gulf of Suez. A shallow sill at the entrance to the Gulf of Aqaba prevents similar patterns in the eastern branch. This flow means that there is little difference in either temperature or salinity between the surface and deep water currents in the northern Red Sea. In this area of the open Red Sea, tidal currents are generally weak and wind induced currents dominate. In general, the average surface current speed varies between 20 and 30 cm s-1 throughout the year. In the Gulf of Aqaba, there is no significant phase difference between tides in the southern and northern extremes. The tidal current is strongest, up to 1.5 m s-1 at spring tides, at the Straits of Tiran, whilst it almost disappears (below 5cm s-1) a few kilometres to the north. Tidal currents flow north with rising tides, and flow south with falling tides. The enclosed nature of the Gulf of Aqaba results in a reduced, lake-type circulation, primarily driven by evaporation with replacement waters entering via the Straits of Tiran.
In the Gulf of Suez, tidal currents run north during rising tides, and south with falling tides, with the general direction of currents running parallel to shore. Currents along the coast, however, are gyratory. Velocity is highest along the central channel current, reaching a maximum of 75 cm. The prevailing north-west wind induces a southward current along the coast and a northward current up the central channel.

Ras Mohammed is situated at 28 N of latitude. Climate in the entire area is typical of that arid region with cool winters and a hot summer, throughout the year the weather is moderate by the effect of the sea breeze. Very little rainfall (less than 30 mm / year), but localized heavy rains can lead to floods.The flood is temporarly occured during the winter when the rain water is accumulated in the top of mountains near the area and running to the area, some are going toward the Gulf of Suez and other part is going toward the Gulf of Aqaba. Air temperature varies from 15 oC in short winter to more than 40 oC in the summer. The summer temperature may reach 45 oC in July and August and the air is slight to moderate humid. Winds are activated in the winter and almost it is coming from north but some others come from the west. The combined actions of temperature changes, wind and rain have eroded mountain areas and transported rocks and gravels down wadi systems to the coast.

2.1.3. Geology, Topography, and Geomorphology

The Sinai Peninsula covers an area of 61,000 km2. It is triangular in shape and is separated geographically from Egypt by the Suez Canal and the Gulf of Suez. It is continuous with the Asiatic continent for a distance of over 200 km between Rafa on the Mediterranean and the head of the Gulf of Aqaba. The core of the peninsula situated near its southern end, consists of an intricate complex of high and very rugged igneous and metamorphic mountain. The northern two-thirds of the peninsula is occupied by a great northward-draining limestone plateau which rises from the Mediterranean Coast extends southward, and terminates in a high escarpment on the northern flanks or the great igneous core.
The mountains which form the igneous core or Sinai rise to considerably greater heights than any of those in the African portion of Egypt, The highest peak, Gebel Katherina, attains an altitude of 2641 m above sea level. Many others peaks and crests rise above the 2000 m contour, conspicuous among which are Gebel Um Shomer (2586 m) and Gebel Serba1 (2070 m). The core of the peninsula is highly dissected; its gaunt mountains and deep rocky gorges form one of the most rugged tracts on the earth's surface.

The higher part of the limestone plateau which flanks the igneous core to the north is called Gebel

el- Tih. At the southern end of Gebel el- Tih there is the Egma Plateau which attains an altitude of 1620 m above sea level. The central portion of the plateau surface forms a fairly open country draining to the Mediterranean by numerous affluent of Wadi el-Arish (the river of Egypt). The eastern and western edges of this plateau are dissected by numerous narrow and deep rocky valleys draining to the Gulfs of Aqaba and Suez. In the northern parts of the peninsula the general northward dip slope of the plateau surface is broken by hill masses of considerable size. The principal or which are Gebels Yelleg (1090 m), Halal (890 m) and Maghara (735 m), beyond these, and extending nearly to the Mediterranean Cost, is a broad tract of sand dunes some of which attain heights or over 100 m above sea level (see Map Appendix) .

The landscape of Sinai differs radically from that of the Western Desert. The high relief of the former is responsible for the relatively wetter climate that produced the great water courses of these deserts. Most authorities agree that, although desert climatic conditions prevailed over Egypt for a long time. The mountainous areas of the Eastern Desert and Sinai seem to have received more moisture (Murray, 1951; Butzer, 1959). The abundance of flint implements scattered over the surface of the Eastern Desert and Sinai, and the variety of wild faunas depicted on Egyptian monuments are evidence that wetter conditions must have prevailed in the past. The Sinai geomorphological province is not only distinguished from other arid zones by the fact that it enjoyed an initial higher relief and wetter climatic conditions but also by the fact that it has an external drainage through the River Nile and the Red Sea.

The Eastern Desert and Sinai form one unit whose geomorphology is closely connected with its geological structure. The Arabo-Nubian massif made of the igneous and metamorphic rocks of the pre-Carboniferous basement complex occupies the eastern part of the Eastern Desert and extends to the southern part of the Sinai Peninsula across the Gulf of Suez. This massif consists of many fault blocks which were formed in conjunction with the great African rift valley, a movement that had its inception most probably during the Tertiary and which continued through the Pleistocene.

This massif has a pseudo-Appalachian relief and shows all the signs of youthful physiography. Numerous incised wadis that are everywhere showing signs of downcutting dissect it. Drainage in the horst block of southern Sinai is toward the Gulfs of Suez and Aqaba, while in the Red Sea range in the Eastern Desert it is toward the Red Sea. The Gulf of Suez or the Nile these great water courses issuing from the mountains excavates deep ravines with steep sides. A few of these drainage lines are graded. However, most of them have steep gradients. Their floors consist or bare rock, and falls or cataracts obstruct their path. Only in the main drainage channels, there is any evidence of fill. Largely the landscape is governed by the nature or the rock. The granite hills have a more or less rounded and smooth form and are light in color. Mountains, made up dominantly of sehists, have a dark aspect and a generally rounded form, though sharply serrated. Hard felsitic dikes traversing both sehists and granites give rise to elongated high ridges to which belong some of the highest mountain blocks of this massif. Flat-topped plateau-like masses with rugged scarps are capped by porphyritic acid sheets as in the Feirani range or Sinai.
Overlapping this nucleus 'of basement complex are the sedimentaries that occupy an extensive stretch coinciding roughly with the stable shelf of Egypt. This is the 'zone tabular' mentioned by many authors, and it is made of the vast more or less horizontal Paleozoic to Cenozoic sediments. These sediments form extensive flat-topped plateaus. Immediately overlying the Arabo-Nubian

massif in Sinai are the plateaus of low dip slopes consisting of the picturesque dark-colored purplish and reddish sandstones of Um Bogma which in parts are interbedded with thin bands of fossifirerous limestones or Carbonirerous age. To the north of Um Bogma plateau lies the great EI- Tih plateau bordered on all its sides by wall-like vertical scarps. The eastern and western questa like scarps are fault-determined and form part of the great rift valley occupied by the Gulfs of sues and Aqaba respectively. The northern boundary of this plalteau is also fault-determined; it was Shaped largely by erosion. Wadi el-Arish occupies the central part of the escarpment.

Belonging to this geomorphological zone are the series of almost horizontally-lying sedimentaries that are represented mainly by sandstones in the south and limestones in the north. Because of the attitude of the rocks, these sedimentaries form extensive plateaus of bare limestone rock that are occasionally strewn by quartz and chert pebbles. These extensive horizontal erosion surfaces developed as a result of lateral planation on a series of successive local base levels determined by a number of hard and resistant beds of the succession (Said. 1954). In contrast to these extensive plateaus several domal-like structures aligned in northeast areas lie to the north and are especially developed in northern Sinai. These areas form a zone that coincides roughly with the mobile shelf of Egypt. In places these anticline structure crop out, and in others they are buried beneath a veneer or coalescing clastics or blanket-like organogenie limestones.

The Red Sea has been separating Africa from Arabia for approximately 70 million years. Current rates of rifting average 2 cm per year and accounts for mild earthquakes occasionally experienced in the region. The Gulf of Aqaba, a continuation of the Red Sea rift separating the Sinai from Arabia, is approximately 150 km long and averages 16 km in width. The main trough varies from 1,100 m deep in the north to 1,420 m in the south, reaching a maximum depth of 1,829 m. The Gulf joins the Red Sea at the Straits of Tiran, just 6 km wide and 300 m deep, restricting water exchange between the two bodies of water. The Gulf of Suez is 280 km long and 20 to 40 km wide, with a flat, sediment bottom between 55 and 73 m deep, deepening from north to south. It appears to be spreading and exhibits normal faulting. It has no sill connection with the Red Sea, but opens into deeper waters at the Strait of Jubal, north of Ras Mohamed.

RMNP is composed of igneous and sedimentary rocks and is covered by loose recent deposit. The igneous rocks belong to the Pre-Cambrian basement rocks of Egypt, which is a part of Arabian – Nubian shield, and are represented by Monzogranites and alkali granites. The sedimentary rocks belong to Miocene and post Miocene covering about 29% of the area. The desert area of RM is comprized of high rising mountains, which meet the waterline, and drops to form the magnificent reef walls.

2.1.4. Hydrology

In the RMNP the surface water temperature vary between 18 and 26 and surface salinity between 40 % and 41 %. During summer, an upper, temperature - stratified water mass can be distinguished from the deeper and more homogenous mass. The water stratification is notably weaker in the winter. The average tidal range is 1 m, covering the intertidal flat of Gulf of Suez and the back reef of the Gulf of Aqaba.

Landscape

High alititude deserts , wadis, flattened desert areas, sea cliffs, flattened shoreline and sand dunes,

are the main landscape features of Ras Mohammed. Ahigh rising mountains ranging in colour from puce to blood red are found in the area. A description to the most important sites at the area is as follow:

Khoshbi hill: (GPS - 27o47'46''N, 34o12'40''E)
A hill near Ras Mohammed National Park accommodations is considered as the heights area at the park. Height of the hill - about 45 m above sea level. Distance from the Suez gulf shore - about 1.5 km. Distance from Marsa Bareika shore - 400 m. the constituents of the hill is sand and limestone.

Flats along Gulf of Suez: (GPS - 27o47'16''N, 34o05'48''E)
Monotypic overtidal flats, generally plane and with gradual slope towards the sea. Scattered low vegetation at places. Shoreline is straight for most of territory, but also couple of sand spits juts out, and few sandy islets available. Closest off shore water zone is shallow, and wading storks have been seen up to 200 m from the coast. Typical research visits were started from western border of the park, driving as long as very tip of Qad Ibn Khaddan, and then along the coast towards Ras Mohammed.

Hidden Bay area and Mangrove Channel: (GPS - 27°43'28''N, 34°15'05''E)
A shallow marine bay surrounded by sandy flats from SW side, and hilly area from NE, is a center of the area. Being about size of 1.5 x 2 km, the site has rather complex habitat structure and shape. There is also shallow channel overgrowing by mangroves, and sandy island at the very south. Shoreline is either sandy, rocky or ancient coral reef. This is very top of Sinai peninsula.

Wadi Khoshbi:
Wadi Khoshbi was defined stretching 3.5 km from NW corner of Marsa Bareika bay (Ras Mohammed accommodations) towards NW until the main road. GPS for southern end - 27o47'47''N, 34o13'02''E, and 27o49'44''N, 34o12'31''E for northern end. This is typical wadi with flat sand/rock bottom surrounded by rocky slopes, sandstone, and ancient fossil creatures. Few sandstone blocks stand also in center of wadi. Acacia trees grow scattered, especially along southern side of wadi and closer to main road. There is also some lower vegetation formed by dispersed hummocks of several unspecified plant species.

2.2 Biodiversity Resources

2.2.1 Habitats

Marine Habitats

The diversity and extent of the Gulf of Aqaba protectorates is a major reason for its high tourist visits and repetition. Fringing reefs in Ras Mohammed National Park region are most diverse and extensive adjacent to the northern protectorates and together with the outer reefs in Tiran Island support an abundance of reef life. The colourful corals, fish and other reef organisms are a major attraction for visitors to the environmental management area.
Mangroves, reef, soft bottom and seagrass communities throughout the area support internationally important species such as the green turtle (Chelonia mydas), loggerhead turtle (Caretta caretta) and the hawksbill turtle (Eretmochelys imbricata). Although Dugong (Dugong dugon) are also found in seagrass and these and mangroves are important nurseries for juvenile fish and prawns. Threats to marine values include degradation from commercial and private recreational activities, fishing, collecting and pollution. Many of these threats are cumulative and difficult to quantify and demonstrate accurately. Problem areas include Travco Harbour, the coastline at Sharm El sheikh and many of the fringing reefs popular for recreational activities.

In RMNP habitats are defined according to their dominant biota, physical environmental influences, and or substratum type. However, previous studies indicate that several defined marine habitats are existing inside the Park.

- coral reefs
- sea grass communities
- mangrove stands
- intertidal macroalgae
- subtidal sand, and
- pelagic

Coral reefs
Living hard coral cover is significantly higher in the Red Sea than in the Gulf of Aqaba. At 5m depth hard coral cover ranges from 16-67%, with an average of 45% in the Red Sea and 35% in the Gulf of Aqaba. Soft coral cover averages 10% in the Gulf of Aqaba. The distribution and development of reef-building corals is restricted in the Gulf of Suez by several factors, including temperature, sediment load, salinity and light penetration. Coral cover averages 16%, although this can be as low as 1% in areas heavily impacted by oil pollution.
Ras Mohammed national Park marine parts are of high biodiversity with up to 218 species of corals (hard corals ans soft corals). The most common corals are the branched corals like Acropora, Pocillipora and Millipora species. Coral reefs provide food and shelter for thousand of organisms, which co-exist in complex interaction, connected food chain. The most important barrier – fringing reef complex of the northern Egyptian Red Sea is found in the area. A barrier reef system of the Gulf of Suez differs from the fringing reef, such as those found in the gulf of Aqaba, by the wide lagoon which separates it from the shore. The outer reef in many instances not developed with a clear reef shape, comparable to the Gulf of Aqaba. Coral reefs provide protection for shoreline by acting as a fore line defense against incoming storms.

Coral reef ecosystems found in the National Park are recognized internationally as among the world's best. This recognition is based primarily on the diversity of flora and fauna, clear warm water devoid of pollutants, their proximity to shorelines and their spectacular vertical profile. The reef exists as an explosion of color and life in stark contrast to the seemingly barren desert adjacent to it. The National Park offers outstanding coral reef and nature viewing experiences to the visitor:

- The Eel Garden, named for its population of garden eels at 20m, also provides excellent and calm conditions.
- The Main Beach, often crowded, remains one of the best locations to see vertical coral walls. Access is restricted to the left side of the bay. The Old Quay, often calm but having more turbid water, has some of the best shallow water reef structure.
- Marsa Bareika, newly opened with superior corals, calm water and excellent beaches. Mangrove Channel - Hidden Bay are the best locations to view resident or migratory birds such as Herons, White Stark, Osprey, etc.
- Mangrove Channel - Hidden Bay are the best locations to view resident or migratory birds such as Herons, White Stark, Osprey, etc.

Sea grass communities

Seagrasses are fairly widespread along Sinai's coasts, concentrated in shallow water areas such as lagoons, sharms and mesas. In the Gulf of Aqaba, high concentrations of seagrasses are found in just a few sites in Ras Mohamed, Nabq, and Abu Galum. Although the majority of seagrasses occur in depths of less than 10m, communities in the Suez gulf are found as deep as 30m, and due to the more favourable conditions, they are more abundant.

Of the eleven seagrass species in the Red Sea, seven are known from the Gulf of Aqaba and eight from the Gulf of Suez. Studies of associated organisms from the Gulf of Aqaba found 49 species, 70% of which were gastropods, 10% bivalves and about 5% polychaetes.

Sea grass communities are amongst the most distinct habitats of RMNP, supporting similarly distinct communities of benthic fauna and fishes. Sea grasses are important food items for globally threatened Dugongs *Dugong dugon* and Green Turtles *Chelonia mydas*. However, little research has been done on the seagrasses of RMNP. Three species of seagrasses have been recorded from RMNP, which are *Thalassia Hemprchii*, *Halophila ovalis,* and *Cymodocea rotundata.* The most widespread species appears to be *Thalassia Hemprchii*. Species of sea grass consumed by dugongs in the Red Sea are: *Halophila stipulacea, Halodule uninervis, Thalassodendron ciliatum, Cymodocea rotundata* and *Syringodium isoetifolium* (Lipkin 1975).

Pelagic

This habitat includes the water column and ranges in depth from the surface to depths exceeding 1,000 m near the PA's eastern boundary. Weikert (1982) classified the central Red Sea water column into three zones based on zooplankton activity: epipelagic (0–100 m), mesopelagic (100–750 m) and bathypelagic (>750 m). It remains unclear whether these zones can be extrapolated to waters of the PA because no studies have been done to describe the composition and abundance of plankton found in deep waters off the PA.

Subtidal Sand

Subtidal sand is one of the largest habitats in terms of spatial extent. Like intertidal sand, it supports numerous species of invertebrates that live on or beneath the sediments. This habitat can be subdivided into shelf and slope sands, but no studies have been done to characterize the subtidal

sediment fauna of this region of Egypt, or how their abundance and distribution is influenced by water depth and its correlates.

Littoral Habitats

Mangrove Stands
Mangroves in Sinai are monospecific, with stands of Avicennia marina limited to Nabq and the Ras Mohamed channel. Unlike other regions of the world where large forests dominate several square kilometres, Red Sea mangal communities tend to be limited in extent. Sinai mangroves have a diverse associated ecosystem of over 114 species including algal, crustacean, fish, mollusc and insect elements. They also provide habitat and food resources for birds.

Wetland
The area of the wetland of Ras Mohammed extends up to 30 km length at Gulf of Suez. The average width is more than 5 km represented by (intertidal sand and salt flats and vegetated sediments including salt marshes and unvegetated mud) and at gulf of aqaba the wetlands extend to the southern boundary of Nabq protectorate represented by the (subtidal coral reefs, marine bays and straits and aquatic vegetation including kelp beds and sea grasses). Comparable with the other Egyptian wetland RM is the only National Park in Egypt and the area is considerably large. There are 2 protectorates in South Sinai Sector lying on the Gulf of Aqaba resemble RM, in addition to the marine islands of the Red Sea. There is no local population at RM, opposite with the other South Sinai Protectorates, which include the local population. The main important factor that affect RM wetland is the expansion of the tourism development because their near position to sharm el-shiekh. The negative effect is increasing the pressure on the natural resources of the wetlands especially on the coral reef areas, the positive effect is coming from the economic value, because the tourism industry is one of the main source of income to the government and the population. The site is a continuation of the ecological units of the Red Sea ecosystem, although it is unique in the geographical position, where it lies in the tip of Sinai peninsula, and limited resources .

Salt marshes, or sabkha, are broad expanses of periodically inundated mud flats, often encrusted with salt. These areas support significant microalgal growth when flooded, and may contribute significantly to the overall productivity of the Red Sea. The most important sabkhas in South Sinai are on the Suez coast and the salt lake of Ras Mohamed. Sabkha vegetation comprises a number of different community types, characterised by a dominant species. Community types include Halocnemum strobilaceum, Arthrocnemum macrostachyum, Halopeplis perfoliata, Limonium pruinosum, L. axillare, Aleurops spp., Zygophyllum album, Nitraria retusa, Suaeda monoica, and Tamarix mannifera. These community types are organised into zones (habitat types), with each zone occupied by one of these community types. Within in any one area only a few of these zones may be represented, and a zone may include a mosaic of more than one community depending on local topography and soil conditions.

Islands
There are two marine islands included in the PA, which are Tiran Island, and Sanafir Island. Marine islands offer an important habitat for many organisms. Seabirds and marine turtles intensively use these islands for nesting, due to the lack of predators and disturbance. Each of the

islands represents a unique natural evolutionary experiment, which could provide important insights into the ecological past of the region. Urgent, effective management of these islands should be a priority for future conservation efforts in the region.
The topography of Tiran island is made of a combined wadi systems and hills. Small wadis are one of the characteristic features of the landscape of the Island. These small wadis are the drainage system of existing hills, concentrating meager precipitation into limited areas, allowing vegetation and other life to get a foothold in a patchy fashion. Near the foothills, the wadis are wide with a sandy or silty bed.

2.2.2 Species

2.2.2.1. Flora

The area may encounter about 25 plant species, it diversified according to the habitat type, which are:
1. Hypersaline coastal mud flat,
2. Coastal fossil corals
3. Coastal plains, the most common types are mangroves (*Avicinia marina*), *Limonium axillare, Zygophyllum simplex* and *Schouwia thebaicor*. The most frequent vegetation type along Gulf of Suez is *Halocnemum strobilacem* growing on photogenic hillocks, this vegetation type is found for several kilometers along the coast. Sea grasses (mainly, *Halophila, Cymodocea* and *Thalassia)* are found at the coastal inter-tidal flat and sea bays. Gulf of Suez and Gulf of Aqaba is of high importance to the marine turtles and the dugong. The most common tree at RMNP is *Acacia radina* distributed in two wadis representing an important roost site to migratory passarines.

Seagrasses
Seagrasses are flowering plants able to live permanently in the marine environment and are represented by about 50 species within 12 genera. Eleven species of sea grass are known from the Red Sea (Sheppard et al. 1992). Many species are widespread, but *Halophila decipiens* has only been recorded from the Gulf of Suez and *H. ovata* from Jeddah, Saudi Arabia (Jones et. al. 1987). Most species are restricted to unconsolidated soft bottom areas that are shallower than 10m.

Mangrove Community
Mangroves are the main vegetation types in the protected intertidal areas along tropical and subtropical coastlines, which considered as threaten species. Mangroves are important habitat and feeding grounds for a range of benthic and pelagic marine animals and bird species. Mangroves have adapted to their saline environment. Their root systems, seen as leafles branches sprouting from the ground around each tree, act as a barrier, keeping out most of the salts from the seawater. The water with its dissolved nutrients then nourishes the tree. Salt not removed by the roots is exuded by the leaves and seen as salt crystals on underside of each leaf.
Mangroves at RMNP located at the southern part of the park inside a channel 250 m length add greatly to the structural diversity of the shore habitats, creating a multitude of niches for several animal species. Detritus accumulating and trapped among the respiratory roots support a variety of invertebrates like. Uca (*Tabalassuca tetragonon*), *Dotilla sulcata* and *Balanus amphitrite*, etc
Mangroves of Ras Mohammed is a key species, considered as a good roosting site for migrating White storks when they accumulated during the migrating season inside the channel at low tide to

rest and to feed. Reef heron, Striated heron, Night heron, Slender-billed gull, Caspian tern, are breeding in the area. Red Shank, Green shank, Kingfisher and Osprey are usually seen in this area.

2.2.2.2. Fauna

Coral

Fringing reefs: These are the most common reef type in the area. They occur along the entire coastline with a narrow (5 – 50m) well developed reef flat which is occasionally interrupted or becomes discontinuous at a few locations at the back of coastal embayment where freshwater run-off could occur via coastal wadis and drainage channels to form a number of small shallow sharms or marsas. The reef edge is exposed to significant wave action generated by the prevailing northeast wind; this has generated a shallow groove and spurs system along the reef edge. Below this, the reef slope drops steeply to depths ranging between 10 and 85m. On the reef slope coral growth is dominated by the branched hard corals *Acropora* spp. and *Pocillopora* spp., massive hard corals particularly *Porites* spp., *Favia* spp. and soft corals such as *Sinularia* spp. providing a live coral cover that typically range between 10 and 35% .

Offshore Patch reefs: These reef types occur in the Straits of tiran and in Ras Mohammed. Namely, Jackson Reef, Woodhouse Reef, Thomas Reef, Gordon Reef, Shark Reef and Yolande Reef are the major representatives. These reefs occur offshore and are surrounded by water from all directions forming little coral islets. The southern sector of these reefs is protected from winds and typically, shallow snady platforms extend seawards for distances ranging from 10 to 140m. The reef edge of the northern section is typically exposed to significant wave action generated by the prevailing northeast wind; this has generated a shallow groove and spur system along the reef edge. Below this, the reef slope drops steeply to depths ranging between 3 and 200m. On the reef slope coral growth is dominated by the branched hard corals *Acropora* spp. and *Pocillopora* spp., massive hard corals particularly *Porites* spp., *Favia* spp. and soft corals such as *Sinularia* spp. providing a live coral cover that typically range between 20 and 50%,

Discontinuous fringing reefs: Beyond almost the completely western side of Ras Mohammed occurs a shallow reef flat varying from 200 m. to 1800 m. in width, though typically about 650 m. wide. Apparently, the landward part of the reef flat is covered with a thin layer of sandy mud and supports thin algal mats and scattered patches of small macroalgae. In many places the central and outer reef flat is broken by scattered small pools (1 - 200 m. in diameter and 0.5 - 8 m. deep). Although coral reefs were categorized into three major reef types, these different habitats do not occur, or function, independently. There is extensive exchange of organic and inorganic nutrients and of species between them (Sheppard, 1992; Ogden and Gladfelter, 1983). In particular some reefs serve as nursery grounds for species that as adults reside in other habitats.

Zoo/phytoplankton

Sheppard et al. (1992) provides a comprehensive, albeit dated, review of the plankton of the Red Sea, while Beltagi (1997) reported that water column phytoplankton of the northern Red Sea was mainly represented by coccolithophorids and dinoflagellates.it is clear that no research studies on plankton are happen before for the Egyptian islands and such kind of researches is needed.

Fishes

The Red Sea fish fauna has been extensively reviewed by Ormond et al. (1984), Ormond and Edwards (1987) and Sheppard et. al. (1992). About 1,000 species are known from the Red Sea (Sheppard et al. 1992). Allen (in press) identified the Red Sea as the fourth most important global coral-reef fish hotspot in terms of the percentage of endemic species. His estimate was based on 900 species from the most specious families, of which 114 species (12.7 percent) are endemic to the Red Sea. species known to be found in the area, Coral grouper, butter fly, anaemon fish, parrot, snapper is the most common and effective species. Manta ray and eel moray is in low numbers

Reptiles

14 species had been recorded. The Sinai agama (Pseudotrapelus sinaitus) is the common species, in addition to Egyptian Dahab lizard and small spotted lizard. The threaten reptile species are the marine turtles.

Marine Turtles

Five species of marine turtles have been recorded from the Red Sea: hawksbill Eretmochelys imbricata, green Chelonia mydas, olive ridely Lepidochelys olivacea, loggerhead Caretta caretta, and leathery turtle Dermochelys coriacea. Three marine turtle species were found in the area (Green turtle, Logger head and Hawksbill), evidence for the breeding of the first 2 species are found in wide sandy beach which is closed area and named by Turtle beach..

Birds

The area was announced as an Important Bird Area (IBA) which considered as an important passage site for migratory birds. A bird expert called Agris celmins did the first organized survey in autumn 1998 (Celimens, 1998) to generate base line data about South Sinai birds and to train two rangers in bird identification, I was one of these two rangers. 119 bird species were recorded in Ras Mohammed the most prominant species are soaring birds, 24 kinds from raptors recorded in the area, the most common are Honey buzzard and common buzzard. White storks, Black storks. 275,000 white storks were recorded in autumn 1998, which considered globaly as threaten species. The breeding birds in the area are osprey (2 pairs), Sooty falcon (3 pairs) Reef heron, Night heron (3 pairs) Caspian tern, Slender-billed gull, White-eyed gull and Kentish plover. The migratory birds from storks and waders rest at many places along the intertidal flats along gulf of suez and many bays along gulf of aqaba. At Ras Mohammed some of these sites are permanently closed and the other are temporarily closed to provide full protection to all species.

2.3 Cultural Heritage Resources (To be completed)

2.4 Existing Land Uses, economic aspects and population

2.4.1. Present land use

The land use of the area is mostly used by the toursim companies which accompanied the toursist groups to the area for diving and snorkelling at the opened beaches. Also, the diving centers organized boat trips to the tourists for diving and snorkelling.7 beaches and 12 dive sites are avialable to the tourists .Public visits from the Univerisities, schools, and governmental organization are also taken place. There are two wadis in the area with some vegetations and accacia trees used for grazing by beduoin camels. Artisanal fishery are distributed after the park border (Gulf of suez coast), mainly net traps and line fishing are used in this area. Most of the fishermen are local Bedouins and they are controlled by the park rangers if they enterd the area. The fishing is allowed after 500 m a way from the reef edge by trolling.

1.2.3.3 past management - nature conservation

Bedouins have traditionally occupied the Sinai Peninsula, before declaration of the park the impacts was very low because bedouin culture has been founded on strict tribal laws and traditions. Tribal law prohibits the cutting of green trees, the penalty could be up to three 2 years old camels or their equivalent value. The relationship between coral reefs and fishermen is clearly understood and damage to reef areas is limitd.

Threats:

a) Natural threats

1 – Marsa Ghozlani has been subject to major flood event in 1996, its run off uploads the marine habitat with huge amounts of sediments which precipitated on the living benthic biota that eventually led to considerable decrease in the live percentage cover. The area is still suffering from that degrading effect, which is observable in the lowered species diversity and abundance.

2 – In March 2002 another event hit the area on the form of heavy storm, wave height ranged between 3 and 4 meters with a southern wind direction which is unusual for the area. The strong wave action caused smothering of the reef living components in addition to moderate coral breakage, big storms like this is unusual in the area, however it is likely to blow every several years.

3 - Sediment loading of the central areas of the reef is high due to high exposure to the terrestrial environment behind the reef from the side of the bay, unlike the area adjacent to the northern entrance of the bay,

4 – Sharm El- Sheikh and Ras Mohammed area has been subject to Crown of Thorns starfish outbreak during the period between 1998 and 2001. The massive coral mortality caused by the COTs outbreak have made it one of the major reef disturbing threats, although the area of Marsa Ghozlani have been spared from COTs attack during its outbreak, it has been indirectly effected by the event as the whole area has suffered lowered spawning potential of hard coral as a result of the massive elimination of living hard corals by the COTs feeding.

b) Anthropogenic threats

1 - The area is exposed to some visitor pressure, but in lower rates than that of the core zone of Ras Mohammed (Main beach – Yulanda bay). The shoreline entrance routes show only limited potential for damage to the reef flat at the front of the visitor center unlike the area inside the bay which is easily accessible from the shore as it is a sandy beach.
2 – The bay is a favorite mooring site used by diving and snorkeling boats for resting between dives; the bay contains 6 mooring buoys with maximum capacity of 18 boats at a time. The direct impact is caused by several factors, the boats effluents while moored and its shading effect on the hard corals, boat movement getting in and out of the bay in addition to the possible grounding accidents and the direct impact of the diving and snorkeling activity on the marine biota of the area, an activity like this must be kept within the sustainable limits and not to exceed the environmental carrying capacity of the site.
3 – Pollution from oil spills and leakages is one of the frequently occurring threats in the area, although the area has not witnessed a big accident during the last ten years, several minimum scale accidents took place. Usually leakages from the oil extraction platforms in the Gulf of Suez are carried by the water currents to Ras Mohammed core zone and the adjacent regions. On the other hand, the passing oil tankers to and from the strait of Tiran which is a moderately crowded navigational route often empties their balance water nearby the strait and thus considered another source of oil pollution in the area, in this case the spilled oil usually scatter into small oil drops and therefore become so difficult to combat. Fortunately the geographical position of Marsa Ghozlani and the prevalent current patterns protects it from the drifted oil pollutants. However, as this threat is usually occurring it must be taken into account.

2.5 RMNP Stakeholders

Besides the Egyptian Environmental Affairs Agency (EEAA) there are a number of direct and indirect stakeholders and participants in the Protectorate's activities. The stakeholders and their involvement with the Protectorate are briefly described.

2.5.1 Egyptian Environmental Affairs Agency

The EEAA is the main administrative body responsible for environmental protection in Egypt. It was established under decree N.631/1982 within the Prime Minister's Office, to act as the umbrella body to co-ordinate all government activities pertaining to the environment and conservation including the management and supervision of protected areas. The EEAA was restructured and a Nature Conservation Sector was created. The restructuring achieves the full participation of concerned ministries and authorities in the preparation and execution of the EEAA action plan.
As part of the restructuring of the EEAA in 1992, the Nature Conservation Sector (NCS) was created as the government body responsible for nature conservation undertaking the necessary policies, programs, studies and other actions to protect the nation's natural heritage. The organization is entrusted with overseeing compliance of habitat and species protection legislation and commitments to international conventions for the conservation of nature.

2.5.2 South Sinai Governate:

As elsewhere in Egypt, the main administrative responsibility for local development lies with the

Governorate. The Governorate of South Sinai is headed by a Governor appointed by the President, and is administered by the Governorate Executive Council, the members of which are the heads of the sectoral directorates the local administrative units, and the Governorate Diwan. The sectoral directorates (e.g. education, health, housing, social affairs, roads and bridges, etc.) are semi-autonomous. That is, they are technically under the control of their relevant national ministry, but administratively are part of the Governorate structure, each with budgets that are nominally allocated to the Governorate. The Governorate Diwan is headed by the Secretary General and undertakes general administrative tasks (e.g. budgeting and follow up, personnel, legal affairs, etc.). In practical terms, executive power in the Governorate is concentrated in the Office of the Governor.

2.5.3 Tourist Development Authority

The TDA, an agency of the Ministry of Tourism, has been assigned the responsibility for planning, developing, and managing coastal areas of South Sinai, which are not (1) within municipal boundaries; (2) designated as natural protected areas; or (3) allocated for petroleum exploitation or the military. In practical terms, this means that between 40 to 50% of the Governorate's coastal areas are under the TDA's control. Typically, TDA plans coastal areas, accepts and screens private investor proposals for individual sites, allocates land and imposes development standards, and monitors construction and operation of tourist establishments. TDA promotes the "integrated resort" approach, where a prime resort manager undertakes the infrastructure provision and organization of a large resort area, and then sells locations for individual tourist villages and hotels within the larger complex. Examples of this include Taba Heights, El Nabq, and on the Red Sea, Ras Abu Soma, Sahel Hashish, and Marsa Allam. The TDA, in association with the Ministry of Tourism, also undertakes tourist promotion campaigns and operates a tourism database. The TDA is located in Cairo, with a small office for South Sinai located in Sharm el Sheikh.

2.5.4 Higher Council for Antiquities

Has responsibility for surveying and protecting antiquities and archaeological sites.

2.5.5 Ministry of Interior

The Ministry of Interior has under its authority the Police (including its various branches). It is the executive authority for Egyptian civil legislation.

2.5.6 The General Organization for Roads and Bridges

It is responsible for the maintenance of existing roads and construction of new ones.

2.5.7 Local Communities:

the local Bedouin community is the traditional users of the natural resource base and as such is one of the main stakeholders in the Protectorate; their understanding and support of the Protectorate's objectives and close involvement in planning and implementing management interventions are critical. Local communities should be enabled to manage their own resources locally but as local communities may have to restrict their activities, and so pay the opportunity costs for conservation, they should be entitled to share tangible benefits from the management of the Protectorate to offset such costs and ensure their support.

2.5.8 City Council:

The city council is responsible for the municipal area of Nuweiba and its associated services such as local development, water and power supply, refuse collection and liquid waste disposal.

2.5.9 Ministry of Health:
The Health Service Directorate in El Tor supplies Government issued medicines to the PAMU for the primary health care service. The PAMU assist the HSD with health campaigns.

2.5.10 Social Fund for Development:
There is a large number of direct and indirect stakeholders and participants in the PA's activities. The main stakeholders and their involvement with the PA are briefly

2.5.11 Universities:
Egyptian, particularly Suez Canal University, and foreign universities have an important role in the Protectorate as they offer research expertise that will inform management decisions.

Petrleum companies in Gulf of Swez
Before 1967, most of Egypt's crude oil production came from the Abu Rudeis onshore fields. These are now largely depleted but, commencing in the 1970s, exploration and production concession blocks were let to foreign consortiums offshore in the Gulf of Suez. There are now a number of platform wells that produce significant quantities of crude oil, currently representing 60% of Egypt's total crude oil production. Map 4.2 Illustrates the location of oil and gas fields in the Gulf of Suez. The largest producer in the Gulf of Suez is the Gulf of Suez Petroleum Company (GUPCO), a joint venture between British Petroleum and the Egyptian General Petroleum Company (EGPC). Its offshore concession operations are mostly on the western and southern parts of the Gulf of Suez (Morgan and October fields), and oil field support as well as crude oil conveyance is mostly through Ras Shukair in the Red Sea Governorate. Production has fallen in recent years and GUPCO is attempting to slow the decline in its fields through significant investments in enhanced oil recovery as well as in increased exploration. It is currently in the middle of a US$450 million investment programme. The second largest producer in the Gulf of Suez is Petrobel, a joint venture of Agip Italy and EGPC. It operates the Belayim Offshore fields, as well as Belayim Onshore fields. Petrobel's support and conveyance operations are located at Belayim just south of Abu Rudeis. Crude oil is stored there and pumped through an onshore pipeline to Suez in order to feed the El Nasr Refinery (capacity 146,000 billion barrels of oil (bbl)/day). As with GUPCO, Petrobel is faced with declining production and is trying to enhance recovery. There are no known plans to exploit natural gas deposits in the northern part of the Gulf of Suez. There is one existing natural gas operation at East Zeit (north of Hurghada on the Red Sea). While significant in terms of economic value, crude oil production along the Gulf of Suez generates little direct employment in South Sinai, nor does it have a significant impact on the local economy, as the Belayim oil centre is of the typical enclave type. In 1996, the Census for South Sinai counted 358 workers in petroleum extraction and 450 employees in petroleum processing and refining. Besides the oil production mentioned above, there is one small oil refinery in South Sinai, the Wadi Feiran Refinery with a capacity of 8500 bbl/day.

3. Management Goals and Objectives

A summary of issues considered detrimental to or constraints to the protected area's conservation objectives for its natural and cultural resources are listed below. These goals and objectives of RMNP should reflect both national policies and priorities, and local circumstances and needs. In the same time RMNP management plan should adhere to the international standards in this field (IUCN). The implementation of these goals and objectives will face constrains and problems that will arise during the real implementation process by RMNP staff. Many of these constrains and problems are a consequence of deficiencies in centralized development planning combined with a lack of coordination between agencies with overlapping and often competing development mandates and a general absence of environmental awareness.

3.1 IUCN Protected Area Management Category

Ras Mohamed National Park and its management goals closely, match the definition and management objectives associated with the IUCN. According to the IUCN guidelines for protected area catogeries, RMNP is considered under the Protected Area Category number II (National Park). The PA under this II category is defined as: Natural area of land and/or sea, designated to; (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

IUCN Objectives of Management

- to protect natural and scenic areas of national and international significance for spiritual, scientific, educational, recreational or tourist purposes;
- to perpetual, in as natural a state as possible, representative examples of physiographic regions, biotic communities, genetic resources, and species, to provide ecological stability and diversity;
- to manage visitor use for inspirational, educational, cultural and recreational purposes at a level, which will maintain the area in a natural or near natural state;
- to eliminate and thereafter prevent exploitation or occupation inimical to the purposes of designation;
- to maintain respect for the ecological, geomorphologic, sacred or aesthetic attributes which warranted designation; and
- to take into account the needs of indigenous people, including subsistence resource use, in so far as these will not adversely affect the other objectives of management.

Guidance for Selection

- The area should contain a representative sample of major natural regions, features or scenery, where plant and animal species, habitats and geomorphological sites are of special spiritual, scientific, educational, recreational and tourist significance.
- The area should be large enough to contain one or more entire ecosystems not materially altered by current human occupation or exploitation.

3.2 National Objectives for Protected Areas

The department of environment aims at maintaining the diversity and viability of the various components of Eritrea's natural heritage, and to ensure their sustainable utilization, through conserving adequate representative examples of the country's natural ecosystems and landscapes, for the benefit of present and future generations: the intergenerational equity. The main national conservation objectives of Eritrea:

- To conserve representative examples of all the nation's main natural habitats and physiographic regions;
- To help maintain the nation's biological diversity;
- To help maintain the nation's ecological viability;
- To protect the nation's most outstanding landscape features;
- To optimize socio-economic return from the nation's natural systems in a fashion that ensures their long term sustainable maintenance;
- To support Eritrea's economic development strategies, particularly with regard to sustaining the tourism sector;
- To protect natural assets as future options available for economic diversification;
- To promote public understanding and appreciation of Eritrea's natural heritage.

3.3 RMNP Management Objectives

- To maintain the natural resources and conditions of the PA;
- To protect cultural heritage resources of the PA;
- To enhance the sustainable utility of natural resources in the PA through the establishment of appropriate management systems;
- To promote RMNP as a focal point for ecologically sensitive tourism, and economic activity base in the region;
- To enhance the environmental quality of the RMNP;
- To optimize socio-economic benefits to the indigenous population from the region's natural heritage;
- To prevent all actions that are likely to result in resource degradation and loss of biodiversity.

4. Management Issues, Policies, and Actions

This section reviews the main management problems, obligations, and opportunities for RMNP, providing specific proposed management objectives, policies, actions, and evaluation indicators for each.

4. Management for recreation and tourism.

South Sinai Protectorates are an important holiday destination. There are more than 25000 visitors for commercial tourism operations in Ras Mohammed National park and about 240 private boats are registered in Shram El Sheikh Region. Tourism is expected to increase rapidly in the future with some analysts predicting a 2.5 times increase in visitor nights by the year 2010 (see appendix 2).

A range of opportunities for ecologically sustainable recreational will be maintained in national and marine parks, including: water sports; sailing; scuba diving; snorkeling; fishing; sightseeing; camping. In some areas it may be necessary to exclude certain activities because of conflict with other users and/or the impact on natural values. However, no currently permitted recreation activity should be totally excluded from the development area unless it is ecologically unsustainable.

Recreation will be managed in accordance with the laws and Zoning Plans. This Plan provides for a more intensive level of management, the form of Management Areas. These specify recreation settings which range from areas of high visitor use, where facilities are highly developed, to remote natural settings with low visitor numbers and minimal or no visitor facilities.

Activities or the level of use will be managed to protect the environment and to rationalise use. Intensive use with well developed facilities and high visitor numbers will be restricted to existing resort areas. Areas that are now relatively undisturbed with low visitor numbers will be maintained to protect the remote, natural setting. Some sites and activities will be managed more intensively with restrictions on the number of visitors determined by the areas physical capabilities and/or desired setting.

The importance of existing resorts and other tourist ventures in catering for visitors is recognised and their activities will be permitted to continue within certain constraints. Where necessary the number and size of commercial activities will be restricted to protect natural, cultural and heritage values and to maintain the range of recreation settings and visitor experiences. It is proposed that

an investigation with industry and the general public be undertaken to consider any requirement for, and the practicality of, establishing limits on the number of certain types of commercial tourism permits and on all vessels (private and commercial in the development area).

5. Education opportunities

There are many opportunities in the Gulf of Aqaba Protectorates to enhance visitor experiences by providing educational and interpretive services. Nature Conservation Training Center at Sharm El Sheikh well placed to introduce and educate visitors to the Parks (see appendix 3 and 3.1). Interpretation is an essential component of the protection and management of the planning area. Public knowledge, understanding and appreciation of the natural and cultural features will be increased by the Public Contact Strategy. Currently Visitor information and interpretation services will be improved and commercial operators encouraged include interpretive programs in their activities.

The activities undertaken in resorts can affect the natural, cultural and heritage values in the development area. The Plan recognises the importance of close contact with the various authorities and leaseholders and seeks to encourage a cooperative approach to management of Sharm El Sheikh Area and south Sinai in general.

6. Research and monitoring

The Plan gives a high priority to research and monitoring to provide more and better information to assist in managing the area and identify additional priorities. The reef research survey and inventory program currently underway will be extended to assist in management of the area

7. Management Areas

While the principal objective of management is the protection of natural, heritage and cultural values, this Plan recognises that recreation and resource use are important and appropriate uses of the area provided that they do not threaten Park values, are ecologically sustainable and comply with legislative requirements.

To meet the conservation, recreation and resource use objectives the planning area has been divided into 'Environmental Management Areas'. The Management Areas:

- provide a guide to the activities and facilities which are appropriate;
- provide a basis for assessing management proposals; and
- indicate which management objectives have priority and are appropriate to particular sections of the Parks.

In deciding the Environmental Management Areas it was necessary to consider:

1. Areas of high nature conservation values, including:

- Fringing reefs; Mangroves; Seagrass beds;
- Seabird nesting areas; and
- Rare and threatened wild rife.

2. Areas or sites of cultural and heritage significance.

3. Areas of high scenic integrity and landscape and seascape sensitivity.

4. Recreational opportunity -outdoor recreation activities in the development area occur in settings which vary from relatively remote, unmodified environments to highly modified resort environments.

5. Existing infrastructure especially resorts.

6. Marine park zoning

-The marine park zoning plans regulate activities such as fishing and collecting within the planning area. Generally this Plan does not propose changes to the Zoning Plans but works within their provisions.

8. Management for marine conservation

The diversity and extent of the Gulf of Aqaba protectorates is a major reason for its high tourist visits and repetition. Fringing reefs in Ras Mohammed National Park region are most diverse and extensive adjacent to the northern protectorates and together with the outer reefs in Tiran Island support an abundance of reef life. The colourful corals, fish and other reef organisms are a major attraction for visitors to the environmental management area.

Mangroves, reef, soft bottom and seagrass communities throughout the area support internationally important species such as the green turtle (Chelonia mydas), loggerhead turtle (Caretta caretta) and the hawksbill turtle (Eretmochelys imbricata). Although Dugong (Dugong dugon) are also found in seagrass and these and mangroves are important nurseries for juvenile fish and prawns. Threats to marine values include degradation from commercial and private

recreational activities, fishing, collecting and pollution. Many of these threats are cumulative and difficult to quantify and demonstrate accurately. Problem areas include Travco Harbour, the coastline at Sharm El sheikh and many of the fringing reefs popular for recreational activities.

Objectives

- Preserve and protect the diversity and habitats of the marine environment and identify and ensure the highest habitat protection for rare, threatened and significant species and communities.
- Improve understanding of marine life.
- Provide opportunities for appropriate research.
- Provide opportunities for ecologically sustainable use within the provisions of the Zoning Plans.

Strategies

- Control anchoring on fringing reefs by introducing the following regulations :

i) Prohibit the casting, dragging, or placing of anchors in such a manner as to damage coral reef formations.

ii) Improve the use of mooring facilities installed along the cost of Sharm El Sheik (Environmental Management Area) and in the protectorates with the approval of park management where such facilities have been provided and in accordance with management directions regarding their use.

- Undertake education to increase public and commercial awareness about anchoring and diving practices and increase public understanding of the potential damage of their activities.
- Prepare in consultation with industry a diving Code of Practice, and prohibit resort style dives in sensitive locations.
- Management process and Coastal Protection Strategy to minimise the effect of adjacent land uses on reefs.
- Continue cooperation with city council and other authorities to minimise the risk to reefs from off park nutrients and pollutants with emphasis on controlling discharges.
- Require all permit holders with boats which stay overnight in the Park to install holding tanks within 3 months

- Support and where possible undertake research to determine the integrity of reefs including monitoring of anchoring damage at high use sites
- Investigate the appropriateness of eradicating crown-of-thorn starfish at those high level tourist sites where it is cost effective and can be undertaken in cooperation with commercial operators.
- Initiate a comprehensive study of conservation values and current and potential threats to inshore and fringing reefs.
- Establish, if appropriate, a community consultative committee with local authorities representation to consider the results of the study and means of reducing human impact, especially environmental management area,
- Manage Nama Bay and the other northern bays of Sharm El Sheikh,
- Recommend increased protection of Tiran Island in future re-zoning of the marine park to protect species abundance and coral cover.

8.1 Seagrass and mangrove communities

Seagrass beds are essential grazing and habitat for dugongs and turtles. Seagrass, mangroves and estuaries are also important nurseries for prawns and other marine life. Large areas of seagrass in Ras Mohammed National Park and Nabq Managed Resources Protected Area have a higher level of protection. All mangroves are protected.

Strategies

- Consider in the next review of the Zoning Plans any need to re-zone areas of seagrass.
- Encourage and where possible undertake research and monitoring of seagrass and Mangroves communities.
- Continue to develop interpretive material on the conservation values and threats to seagrass and mangrove communities.

8.2 Marine animals

There is a diversity and abundance of marine animal life in the Gulf of Aqaba protectorates including some threatened and significant species. Plans for the conservation of endangered, threatened and vulnerable species are required to be prepared.

Strategies

- Protect habitats for marine animal life in accordance with management strategies for reef communities, seagrass and mangrove communities.
- Encourage research into the distribution and behaviour of marine animals to determine management requirements.
- Continue to provide visitors with information on marine animals and design interpretive material to explain threats to marine life and appropriate visitor behaviour.

8.2.1 Turtles

Three species of marine turtles occur in the Gulf of Aqaba protectorates area. The green turtle (Chelonia mydas) is found in association with the Seagrass and algal beds around El Baera island and along the coast. Seagrass beds provide significant browsing areas especially in Tiran Island. The reef on Tiran Island provides an extensive turtle feeding area. The green turtle is the most common turtle in Environmental management area but nests in low numbers according to records from the turtle beach in Ras Mohammed National Park.

Endangered loggerhead turtles (Caretta caretta) migrate through the area on their way to and from nesting sites, although individual loggerhead turtles may also live in the Tiran Island.

Turtles are highly susceptible to human interference at nusting sites, and may also be injured by diving boats.

Strategies

- Identify significant turtle nesting and feeding areas.
- Restrict commercial access or close beaches where necessary to protect nesting sites.
- Negotiate with authorities of Transport to restrict boating activities to a maximum speed of 10 knots in significant turtle areas including Turtle beach and Tiran Island.
- Encourage research on turtle distribution and habitats within Gulf of Aqaba area, especially at: Tiran Island; El Baira Island; Turtle beach.
- Continue public education and interpretation about turtle conservation and the effects of visitor behaviour .

8.2.2 Dugong (dugong dugon)

The dugong is one of only four living members of the mammalian order Sirenia. Dugong occurs in relatively low numbers in the Environmental management area. Threats to dugong include fishing nets, diving boats, habitat degradation.

Plans for the conservation of the species are also required to be prepared.

Strategies

- Continue research on distribution and behavior of dugong within the protectorates.
- Continue public education and interpretation on dugong conservation.

8.2.3 Management of pollution

Pollution from the Gulf of Sues, Aqaba and vessels can seriously threaten the Gulf of Aqaba Protectorates, Park management will seek to prevent and minimise the risk of pollution. The Plan proposes that liaison occurs with marina and port authorities in the Travco region to ensure adequate waste oil and garbage reception facilities are provided and that relevant authorities are assisted with monitoring and enforcement.

9. Management for landscape and seascape conservation

The development area has high scenic values. Its character comes from a combination of land and marine forms, climate, vegetation and land and sea use. Apart from a core of development centered on Nama Bay Beach and the resorts, most alterations to the natural landscape and seascape are not evident to the casual observer. The natural landscape and seascape qualities of the area may be adversely affected by inappropriate siting and design of facilities and structures, alteration to native vegetation, anchor damage and human activities. A method for assessing landscape and scenic values along the coastline from Ras Mohammed to Taba is currently being developed as part of the gulf of Aqaba Management plan Strategy.

Objectives

- Protect the scenic diversity of the landscape and seascape, particularly in areas of highest scenic quality and viewer interest.

- Minimise the visual impact of human use and management in all landscapes and seascapes.

Strategies

- Control developments, including facilities and activities in the set back area.
- Ensure environmental impact assessments are undertaken prior to any site development works, taking into account the significance of view-sheds and vistas.
- Continue to provide comment on developments proposed by authorities, resorts and other landholders outside the development area which may have an effect on the environmental management area.

9.1 Management for nature conservation

Animal and plant species on south Sinai have developed in an environment where means that they are particularly vulnerable to disturbance from introduced species and human activities. Law number 102 for Protectorates gives Endangered Species the Protection required, management for those endangered species applied according to the Law.

9.2 Native vegetation

Vegetation of the protectorates and the Environmental management area is an essential component of the landscape represents a diverse and important range of ecosystems, provides habitat for native animals (see Appendix 5).

Objectives

- Identify and ensure the highest level of protection of rare, threatened and significant species and communities.
- Maintain the present diversity of indigenous plant communities and species, in particular Wadis with acacia trees like wadi Mander and wadi Keed.
- Preserve the scenic values afforded by the native vegetation.

Strategies

- Complete and update the annual vegetation survey of the planning area and identify conservation requirements.
- Minimise disturbance of native vegetation except where the long term survival of the species or community requires site manipulation.
- Restrict levels of use or activities where conservation values are threatened by human activities. This may be achieved by: limiting or excluding visitor use; visitor education programs; providing alternative areas for activities; engineering or construction solutions; rotation of sites.
- Continue systematic vegetation monitoring by staff in representative or specific sites to determine damage or changes to vegetation.
- Encourage the use of indigenous species for revegetation/landscaping works in and adjoining national parks.
- Increase public awareness about the conservation needs of rare and threatened species.
- Reintroduce burning into areas that require fire to maintain present diversity. Fire management
- Develop interpretive material and public awareness programs about vegetation conservation and its management in the Gulf of Aqaba Parks.

9.3 Native animals

There is limited detailed information on native animals in the development area, particularly for reptiles, birds and invertebrates. The protectorates support a number of significant animals which require special management consideration. These include the Sinai Leopard, Nubian Ibex, White Stork, Dorcas Gazelle.

Known significant species and habitats are shown in Figures ….. Many of these animals are listed as requiring special conservation attention under the protectorates and the environment legislation. The beaches of the environmental management area also represent important breeding habitats for birds, turtles and other animals.

The conservation of indigenous animals depends on maintaining habitats with an area sufficiently large and diverse to support viable populations habitats are normally the areas of greatest human use and are the most threatened by human impact. Some native animals have been introduced into Sharm El Sheikh ecosystems.

Objectives

- Preserve viable populations of native indigenous animals, particularly rare, threaten significant species.
- Improve the knowledge of animal diversity, distribution, behaviour, biology and ecology.

Strategies

- Manage native animal habitats.
- Manage rare, threatened and significant species.
- Encourage research projects and animal surveys to determine distribution and management requirements.
- Continue systematic animal observations by field staff and establish a local data base.
- Prohibit the transfer of native animals Sinai.
- Monitor present populations of introduced native animals and take action where indigenous wildlife is threatened.
- Design interpretive material to explain the conservation needs of rare and threatened species and threats caused by the introduction of native animals.
- Monitor existing populations of introduced native animals on South Sinai and undertake control measures if necessary.

9.3.1 Sinai Leopard

The Sinai Leopard is vulnerable species in South Sinai and it is one of the endangered species and needs a special management to conserve.

Strategies

- Support continued research into the distribution, ecology, behavior, population and habitat requirements.
- Prepare a Conservation Plan for Sinai Leopard.
- Develop interpretive material about the conservation significance and threats to Sinai Leopard.

9.3.3 Nubian Ibex

Nabq managed resources protected area, Abu Galum managed resources protected area and Taba protected area contains good population of the Nubian Ibex. It has been recorded at Abu Galum 17 records in June 2004.

Strategies

- Support continued research into the distribution, ecology, behaviour, population and habitat requirements of the Nubian Ibex.
- Ascertain the genetic importance of the isolated population on

9.3.4 Nesting Beach

Because of the low number of nesting pairs, Tiran Island is considered vulnerable to extjnction in Sinai. These birds nest and/or forage on beaches such as El Baira Island in Ras Mohammed national park. The species is sensitive to human disturbance and development area in Sharm El Sheikh.

Strategies

- Maintain the following beaches and wadis for low level use by minimising commercial and private access: Tiran island, Baira island , Turtule beach, Nabq scientific reserved closed area, Ain Qseb , Wadi El zalaga, Wadi El swan, Wadi El aqda.
- Close El Baira Island to visitors to protect bird nesting and habitat.
- Prepare a Conservation Plan for Tiran Island.
- Support surveys and research into the nesting beaches and Wadis.
- Develop interpretive strategies about the conservation significance and threats to nesting beaches.

9.3.5 Red Fox

The Red Foxes builds its nest behind beaches in Ras Mohammed . It occurs on most islands and nesting may be disrupted by human activities.

Strategies

- Remove camping and picnic activities from areas adjacent to nest mounds.

- Investigate the need to fence the nesting area , Aqaba beach , Turtle beach, the sentific and other sites as necessary to protect nesting areas.
- Monitor the effectiveness of fencing in protecting the nesting.
- Develop interpretive strategies about the conservation significance and threats to the nesting.

9.3.6 Raptors

Raptors in the protectorates include: osprey; white storck, etc. The nesting season of these species is April to November. Nests are often located on or near rock cliffs and outcrops and nesting pairs are often vulnerable to disturbance by human activities. Although some pairs may become adapted to human presence others desert their nests.

Strategies

- Prohibit new developments within 500 meters of nests.
- Prohibit commercial activities such as watersports, rock climbing and aerial operations within 500 meters of sensitive nest sites that may be vulnerable to disturbance.
- Support monitoring program of nesting sites and determine conservation needs.
- Develop interpretive strategies about the conservation significance and threats to raptors.
- The local populations represent some of the few breeding localities. Nesting occurs between October to March and the species is vulnerable to disturbance by human activates.
- Seasonally close access to Nesting area from October to March (inclusive) to protect nesting sites, except for scientific or management purposes.
- Develop interpretive strategies to inform visitors about the reasons for seasonal closures

9.3.7 Seabirds and shorebirds:

Significant seabird breeding and shorebird feeding sites in the planning area are shown in the map of the protectorates in Appendix 6 list all the birds records by the rangers during the previous five years. All seabirds nesting in colonies and shorebirds feeding are susceptible to disturbance from human activity.

Strategies

- Prohibit or restrict commercial and private aerial operations within 1500 feet above sea level and within 1 kilometer in lateral distance of significant seabird breeding sites.
- Monitor shorebird feeding and roosting concentrations and if necessary restrict inappropriate activities.

Investigate effective means of educating the public about the negative impacts of human disturbance on seabirds and shorebirds.

9.4 Geological features

It is important that geological features are protected from damage by human activities, such as damage, recreational use and resource utilisation. Beaches are a scarce resource within the environmental management area. Some beach works may be required immediately adjacent to resorts but the resource should be given a very high level of protection.

The south Sinai protectorates has determined 'set back area' along the coastline from Ras Mohammed in the south to Taba in the north ,according to the protectorates law as part of the protectorates, so any activities inside this area has to be provided with environmental impact assessment (EIA) to make sure that all the activities are not harmful to the environment and to the geological features.

Objectives

- Protect geological features from disturbance especially by human impacts.
- Improve knowledge and interpretation of geological features.

Strategies

- Ensure that development in the environmental management area consider the impact on geological features.
- All beach works are under supervision from the south Sinai protectorates management office in sharm el sheikh.
- Ensure that recreational activities which may have an impact on the geological features i.e. Bedouin dinner are appropriately sited and controlled.

9.5 Visitor facilities: marine

Facilities associated with marine activities in the Environmental management area include: small marker buoys; moorings; jetties; marinas; pontoons (see appendix 7).

As a result of increased tourism activities there has been a increase of marine facilities in Sharm El Sheikh area While the provision of facilities assist tourists to see the marine parks and can help to prevent damage to the environment, they can also damage the environment and affect the character of the landscape, seascape and amenity.

Strategies

- Manage facilities in accordance with the Management Areas.

9.5.1 Moorings and marker buoys

Moorings refer to any buoy or marker anchored to the seabed for the purpose of restraining a vessel or craft or for designating a position or area. Public moorings refer to those moorings installed in the diving sites for general public use. Any consideration for time allocation of public moorings will require further consideration. Although moorings reduce physical damage to reefs they can also affect the natural scenery and require continual maintenance. There has been considerable public support for mooring installation at sensitive sites (See appendix 7.1).

Strategies: Moorings

- Permit moorings adjacent to built environments in the Gulf of Aqaba protectorates dive sites where no other solution can be found to eliminate environmental damage.
- Minimise wherever possible the visual impact of mooring buoys by using less obtrusive colours (such as white).
- Provide moorings at sensitive sites to minimise anchor damage
- Require the use of public moorings in accordance with Section.

Regulate to provide for on-the-spot fines for misuse and non-use of moorings

Strategies: Marker Buoys

- Minimise the effect of marker buoys on the landscape and seascape as far as practicable.
- Permit marker buoys to clearly mark areas directly adjacent to resorts (eg to delineate watersport areas).

- Permit marker buoys for safety reason.
- Use marker buoys to mark out areas to minimise or remove environmental damage.

9.5.2 Pontoons

Pontoons are appropriate at some locations for off loading passengers at resorts or reefs. They are also an integral part of commercial operations and are used for a range of activities including reef viewing, snorkeling, diving etc.

Impacts from pontoons include damage from chains, shading and effects upon the scenery and amenity. They also concentrate large numbers of visitors within a small area and have the potential to cause environmental damage (see appendix 7).

Strategies

- Permit pontoons within Management Area after presenting Environmental Impact Assessment.
- Ensure that mooring arrangements for pontoons have minimal environmental impact.

9.5.3 Jetties

Jetties provide safe and convenient access for visitors to major facilities for diving along the cost of Sharm El Sheik. At present , the area has two Jetties (Travco jetty, Nama Bay jetty).

Strategies

- Manage jetties in the Environmental Management Area.
- Assess the potential visual and physical impact of proposed jetties prior to issuing a marine park permit.

9.5.4 Walking tracks

Walking tracks provide access for visitor enjoyment and appreciation of the natural environment. They are also used to manage visitor use and direct people away from sensitive areas. Unformed walking trails also provide access to more remote parts of the Parks.This Plan proposes that a number of new walking tracks be investigated and the upgrading of some existing tracks. Existing and proposed walking tracks are shown in the Map apendixises.

Strategies

- Maintain/improve existing tracks and construct new tracks in Ras Mohammed National Park, Nabq Managed Recourses Protected Area, Abou Galoum Managed Recourses Protected Area and Taba Protected Area.

10. Cooperation with City councils, other authorities, leaseholders and adjacent landholders:

The resorts and the properties of Sharm El Sheikh, provide facilities for a large number of residents and visitors. The activities and developments undertaken in these areas can have direct and indirect effects on the natural and cultural values and use of the Parks. Close contact between various authorities and leaseholders is essential for good regional planning.

Objectives

- Encourage a cooperative approach to the environmental management areas.
- Minimise bad impacts on the environmental management area resulting from developments.

Strategies

- Ensure that the management of the parks in the Gulf of Aqaba area follows the National Parks regulations and 102 law for the protectorates.
- Continue to communicate with landowners, Councils, resort managers and other appropriate authorities about park management issues, particularly issues related to recreation, and conservation.
- Continue to work closely with Suez Branch (EEAA) to ensure minimising any bad environmental impacts are observed.
- Continue to work with other government agencies as appropriate to coordinate planning and management of areas adjacent and potentially affecting the Parks.
- Continue to provide comment on proposed developments by authorities, resorts, or other landowners which may have an effect on the Environmental Management area.
- Encourage further representation on local committees dealing with park management issues.

- Continue connection with resorts through regular meetings of the proposed resort liaison committees.
- Establish if appropriate, a community consultative committee with local government representation to consider means of reducing human impact especially development area and shell collecting along the cost of Sharm El Sheikh.

11. Management structure and staff resources

The Environmental Management office in Sharm examines the day to day management (DDM) needs of the Gulf Of Aqaba Marine Protected Areas. The review recommended additional ten ranger staff for all the protected Areas. A more recent report reviewing the requirements of staff to fulfill the objectives of the Gulf of Aqaba Marine Protected Areas.

Objectives

- Ensure that staff resources are sufficient to undertake all tasks required in the planning area and to implement this Plan.

Strategies

- Provide additional staffing in accordance with the requirements of the Gulf of Aqaba Protectorates.

11.1 Volunteer program

A volunteer program has been established at Gulf of Aqaba office and volunteers assist with a variety of management activities such as provision of visitor information, campground maintenance, track and facility construction and maintenance.Volunteer groups can provide valuable assistance in managing the Gulf of Aqaba protectorates.

It's important that projects for volunteer groups are planned and supervised to ensure that works carried out are consistent with the management objectives of the Parks and are undertaken in an appropriate manner.

Objectives

- Continue to encourage volunteers and community groups to be involved in management of the Gulf of Aqaba Protectorates.
- Ensure that volunteers carry out useful and meaningful tasks.
- Ensure that volunteers derive satisfaction from their involvement and an awareness of environmental issues and park management objectives.

Strategies

- Continue the volunteer program established at the Gulf of Aqaba Protectorates.
- Ensure that works undertaken by volunteers are in accordance with the management objectives and Park regulations.
- Ensure that volunteers are supervised at all times.
- Ensure that volunteers are adequately trained.

11.2 Enforcement

Education is the primary method to ensure long term compliance with relevant management principles. An enforcement capacity also exists to enable a lega1 resolution where other methods fail. Enforcement has two functions; to act as a restrictive and to Stop illegal activities.

Observation and patrols are an integral part of enforcement. Surface and aerial observation play an important role in many other areas of park management, such as collation of data and monitoring. Cooperation and integrated enforcement is carried out with officers of other Departments such as Water Police and cost guard. Community awareness and information also play an important role in enforcement.

It is important that enforcement focuses on those areas where it is most necessary and that staff are adequately trained and resourced to effectively implement enforcement programs.

Objectives

- Ensure compliance with park legislation, regulations and policy.
- Ensure that staff are adequately trained and resourced to undertake effective enforcement.

Strategies

- Undertake regular training programs for enforcement staff.
- Maintain close cooperation with other enforcement agencies and wherever possible work together to ensure cost effective patrols.
- Ensure that visitors are aware of Park regulations by providing adequate signs and other written and verbal information (see Appendix 8).
- Cooperation with commercial operators, resort staff and other major user groups to ensure awareness and understanding of Park regulations and the requirements of this Plan.
- Encourage public assistance in observation.
- Upgrade the existing observation data base.

12. Management for community Information and education

The outstanding natural beauty of south Sinai region attracts large numbers of visitors seeking a diversity of recreation activities and experiences. Activities range from organised resort holidays to remote experiences which may be undertaken either privately or as part of a commercial tour. Visitor experiences can be enhanced by educational and interpretive information. There is also a need to encourage commercial operators including tour operators and resorts to provide accurate information to visitors and to develop awareness in their clients of the potential impact individuals can have on the reef and islands. Cooperation with other landholders, councils, resorts and commercial operators about the potential impact their activities may have on the areas values is also important.

Currently the Strategy of the Gulf of Aqaba protectorates is to identify interpretive messages for the entire Gulf of Aqaba protectorates. The Public Education Strategy will be implemented through the Nature Conservation Training Center in Sharm El Sheikh Plans, which will identify regional requirements for displays, printed material, signs, community events and programs, commercial operator programs and workshops and other needs.

Objectives

- Increase public and commercial operators knowledge, understanding and appreciation of the natural features in the Environmental Management area.

- Increase public and commercial operators knowledge, understanding and appreciation of Aboriginal and non-Aboriginal cultural and heritage values, including relics.
- Increase commercial and visitor awareness of the potential impacts that recreation and commercial activities may have on the natural, cultural values and encourage appropriate behavior.
- Increase commercial operators and public awareness about conservation needs of rare and threatened species and understanding of management strategies.
- Increase the awareness of other authorities, landholders and local councils of the potential impact of their activities on the areas natural, cultural and heritage values.
- Ensure commercial operators provide appropriate and accurate information to visitors.
- Increase public and commercial operators awareness of other users needs and preferred experiences to minimise conflicts between users.

Strategies

Develop interpretive themes, as part of the Public Education Strategy and the Regional Education Plan based on the following priority issues (see Appendix 8).

- Camping (see Appendix 8).
- Fish feeding (see Appendix 8).
- Fishing (see Appendix 8).
- Collecting (see Appendix 8).
- Anchor damage (see Appendix 8).
- Aboriginal cultural values (see Appendix 8).
- Pollution (see Appendix 8).
- Graffiti on rock faces (see Appendix 8).
- Introduced plant and animals (see Appendix 8).
- Wildlife, in particular rare and threatened species and turtle and bird nesting sites (see Appendix 8).
- Scuba and skin diver damage (see Appendix 8).
- Degradation of seagrass and mangrove communities (see Appendix 8).
- Geological features (see Appendix 8).

- Prepare displays, printed material, signs, commercial operator programs and workshops and other interpretive material addressing the above priority issues in accordance with the Public Education Strategy and the Regional Public Education Plan.
- Review the Training Center Plan annually (see Appendix 8).
- Encourage resort funding and development of interpretive material such as brochures and regulations etc (see Appendix 8).

13. Research and monitoring

The environments of the Gulf of Aqaba area provide an extensive range of research and monitoring opportunities. The Gulf of Aqaba Management office place a high priority on undertaking or encouraging research and monitoring and promoting the early incorporation of results into management programs. A Geographic Information System (GIS) is being developed to gather relevant data on the area and assist management.

13.1Research
A number of research projects are currently underway within the Gulf of Aqaba area these include:

- Sustainable Development of living Marine Resources (Sea Cucumber)
- Caring Capacity Assessment of the southern Sinai Diving Sites.
- Sustainable Development of living Marine Resources (Ornamental Fish)
- Reduction of from mar time accident and pollution.
- Corals rehabitation.

Objectives

- Identify research requirements.
- Establish priorities for research.
- Encourage/undertake research that is directly related to management needs.
- Ensure that information from research is used to its fullest and most effective extent and that It is distributed to appropriate agencies and the public (see Appendix 8).
- Ensure that research is ecologically sustainable.

Strategies

- Continue requirements for permits for research.
- Monitor research permits to ensure that permit conditions are complied with.
- Encourage appropriate research by external organisations.
- Continue current research programs.
- Ensure distribution of research results to Gulf of Aqaba protectorates and other appropriate agencies and individuals.
- Ensure research results are compatible with, and incorporated into the GIS.

13.2 Monitoring

Monitoring aims to detect change in the environment and user patterns. Important monitoring requirements in the Environmental Management area relate to changes in plant and animal populations, changes in environmental conditions and the environmental and social impacts of visitor use. Monitoring is often long term in nature and needs to be carefully designed and systematically carried out.

Objectives

- Provide an information base which can be used in management of the planning area.
- Ensure monitoring results are compatible with, and incorporated into, the GIS.

Strategies

- Continue existing monitoring programs.
- Prepare a comprehensive monitoring program for the planning area which will identify resources necessary and available and priorities for monitoring.
- Ensure data are compatible and are incorporated into GIS.
- Monitor the effectiveness and implementation of the Plan.

5. Management Tools

5.1 Zoning (To be completed)

5.3 Law Enforcement (To be completed)

5.4 Environmental Impact Assessment (EIA) (To be completed)

5.5 Licensing / Permits (To be completed)

5.6 Reporting (To be completed)

5.7 IT and GIS (To be completed)

5.8 Restoration and Rehabilitation (To be completed)

5.9 Public Education and Information (To be completed)

5.10 Signs and Signposting (To be completed)

5.11 Site Action Plans (To be completed)

5.12 Species Action Plans (To be completed)

5.13 Moorings (To be completed)

5.14 Visitor Facilities and Infrastructure (To be completed)

5.14.1 Visitor Centers (To be completed)

5.14.2 Outdoor Displays (To be completed)

5.14.3 Tracks (To be completed)

5.14.6 Bird watch points and hides (To be completed)

5.14.7 Shelters (To be completed)

5.14.8 Campsites (To be completed)

5.14.9 Waste Receptacles (To be completed)

5.14.10 Toilets (To be completed)

6. Management Resources

6.1 Staff Selection and Recruitment (To be completed)

6.3 PAMU Infrastructure

6.3.1 Office Space (To be completed)

6.3.2 Piers (To be completed)

6.3.3 Outposts (To be completed)

6.3.4 Accommodation (To be completed)

6.3.5 Maintenance Workshop and Storage (To be completed)

6.4 PAMU Equipment (To be completed)

6.5 Maintenance of Facilities (To be completed)

7. Finance:

7.1 Sources of Funding (To be completed)

7.2 Entrance Fees (To be completed)

8. Implementation and Evaluation

8.1 Management Priorities (To be completed)

8.2 Evaluation of Plan Implementation (To be completed)

8.3 Revisions (To be completed)

8.4 Annual Operational Plan (To be completed)

Appendices

Appendix1. Ras Mohammed Summary Description Sheet

PROTECTED AREA DESCRITPION SHEET	
GENERAL INFORMATION	Ras Mohammed National Park was declared in 1983 as the first National park in Egypt. Located at the most southern tip of South Sinai peninsula with 480 km^2 (48 000 ha). The tidal-intertidal wetlands of the East Coast of the Gulf of Suez (ECGS) and the West Coast of the Gulf of Aqaba (WCGA) are situated in the sea boundaries of South Sinai governorate. The geographical co-ordinates of the Gulf f Suez are 27^o 40^- N – 34^o 30^- E to 30^o 00^- N 32^o 40^- E, and for Gulf of Aqaba are 27^o 40^- N – 34^o 30^- E to 29^o 30^- N – 35^o 00^- E. To the north lies Sharm El-Sheikh city and Saint Katherine boundaries, from the east site the Arabian peninsula, the south lies the vast expanse of the Red Sea water and the from the west lies the flattened surface of gulf of Suez marked by big light house (Qad Ibn khaddan).
Name of the area	Ras Mohammed National Park
Category IUCN/National	II category – National Park
Date of declaration map (refer to figure 1)	Prime Ministerial Decree no1068 / Jan. 1983 and changed by Decree no 2035 / 1996 - Map Figure 1
Map	Map figure 2
Type	Marine and terrestrial Park with wetland and desert habitats
Area in hectares or square km	480 km^2
Land tenure and areas if more than one (state, private, others)	The area belongs to Egyptian Environmental Agency – Ministry of State for Environmental Affairs, Egyptian government
GEOGRAPHICAL AND ECOLOGICAL FEATURES	
Geographical description	The area is composed of, High altitude deserts, wadis, flattened desert areas, sea cliffs, flattened shoreline and sand dunes.
Climate	Ras Mohammed is situated at 28 N of latitude. Climate in the entire area is typical of that arid region with cool winters and a hot summer, throughout the year the weather is moderate by the effect of the sea breeze. Very little rainfall (less than 30 mm / year), but localized heavy rains can lead to floods. The flood is temporarily occurred during the winter when the rain water is accumulated in the top of mountains near the area and running to the area, some are going toward the Gulf of Suez and other part is going

	toward the Gulf of Aqaba. Air temperature varies from 15 ^{o}C in short winter to more than 40 ^{o}C in the summer. The summer temperature may reach 45 ^{o}C in July and August and the air is slight to moderate humid. Winds are activated in the winter and almost it is coming from north but some others come from the west. The combined actions of temperature changes, wind and rain have eroded mountain areas and transported rocks and gravel's down wadi systems to the coast.
Geology and paleontology	The area is composed of igneous and sedimentary rocks and is covered by loose recent deposit. The igneous rocks belong to the Pre-Cambrian basement rocks of Egypt which is a part of Arabian – Nubian shield and are represented by Monzogranites and alkali granites. The sedimentary rocks belong to Miocene and post Miocene covering about 29% of the area. The desert area of RM is comprised of high rising mountains, which meet the waterline and drops to form the magnificent reef walls. **Soils** The loose surface sediments cover about 62% of the area. They are mainly gravels and sands belonging to the Quaternary. These sediments either fill the wadis in the eastern side or cover the wide coastal plain in the western side. On the ECGS, they are mainly Sabakha with a wide range of their thickens.
Ecology, ecosystems, flora and fauna	**Flora** The area inhabits about 80 plant species, it spread over the area according to the habitat type which are: 1. Hypersaline coastal mud flat, 2. Coastal fossil corals 3. Coastal plains. The most common vegetation are, *Zygophyllum simplex and Schouwia thebaicor*. The most frequent vegetation type along Gulf of Suez is *Halocnemum strobilacem* growing on photogenic hillocks, this vegetation type is found for several kilometres along the coast. The most common tree is Acacia radiana found in 2 wadies (Wadi Khoshbi and Wadi Khraeta) in addition to flattened area at the park entrance. **Sea grasses,** occur in shallow, near shore coastal waters and lagoons, (mainly, *Halophila, Cymodocea* and *Thalassia*) at the coastal inter-tidal flat and sea bays of Gulf of Suez and Gulf of Aqaba is of high importance to the marine turtles and the dugong. The most common tree is *Acacia radina* distributed in 2 wadis representing an important roost site to migratory passerines. (List of plant species is attached). **Salt marshes,** consists of herbaceous, salt resistant plants growing mainly on the intertidal flat of Gulf of Suez and around the salt lake in the middle of the park. The salt tolerant species such as; *Limonium axillare, Halocnemum strobilacem, Aeluropus lagopoides* **Mangroves:** Mangroves are the main vegetation types in the protected intertidal coastline areas, which considered as threaten species. Mangroves are important habitat and feeding grounds for a range of benthic and pelagic marine animals and bird species. Mangroves have adapted to their saline environment. Their root systems, seen as leafless branches sprouting from the ground around each tree, act as a barrier, keeping out most of the salts from the seawater. The water with its dissolved nutrients then nourishes the tree. Salt not removed by the roots is exuded by the leaves and seen as salt crystals on underside of each leaf. **Mangroves** at RMNP located at the southern part of the park inside a channel 250 m length add greatly to the structural diversity of the shore

	habitats, creating a multitude of niches for several animal species. Detritus accumulating and trapped among the respiratory roots support a variety of invertebrates like. Uca (*Tabalassuca tetragonon*), *Dotilla sulcata* and *Balanus amphitrite*, etc. **Fauna** Many vertebrates and invertebrates species are found in the area, 14 species of reptiles, 119 recorded bird species, 10 species of mammals, over 350 fish species and 218 coral reefs species *(list of these all species is attached)*. **Invertebrates** can be classified according to their habitats into (1) Sandy shore which can be divided into, littoral fringe (e.g. *Ocypode spp., Coenobita seavola*), eulitoral zone (e.g. *Uca spp., Dotilla sulcata*), and sublittoral fringe (e.g. *Echinodiscus auritus, Clypeaster humilis*), (2) Rocky shore (e.g. *Grapsus spp*.). More than 1000 **fish** species known to be found in the area, Coral grouper, butterfly, anemone fish, parrot, snapper is the most common and effective species. Manta ray and eel moray is in low numbers. **Coral reef,** Ras Mohammed National Park coastal wetlands are of high biodiversity with up to 218 species of corals (hard corals and soft corals). Coral reefs consist of a large rigid structural mass of calcium carbonate formed by the cemented skeletal remains from the successive growth and development of reef building corals and coralline algae (zoozanthellae). The most common corals found in the area are the branched corals like *Acropora*, *Pocillipora* and *Millipora* species. They are mostly of the fringing type, meaning they occur adjacent to shore. The growth rate of

	corals is slow and varies between 2 cm / year for the massive corals and 10 cm / year for branching corals. Coral reefs provide food and shelter for thousand of organisms, which co-exist in complex interaction, connected food chain. A barrier reef system of the Gulf of Suez differs from the fringing reef, such as those found in the Gulf of Aqaba, by the wide lagoon which separates it from the shore. The outer reef in many instances not developed with a clear reef shape, comparable to the Gulf of Aqaba. Coral reefs provide protection for shoreline by acting as a fore line defence against incoming storms. From **reptiles** 14 species had been recorded. The Sinai agama (*Pseudotrapelus sinaitus*) is the common species, in addition to Egyptian Dahab lizard and small spotted lizard. The threaten reptile species are the marine turtles. Three marine turtle species were found in the area (Green turtle, Logger head and Hawksbill), evidence for the breeding of the first 2 species are found in wide sandy beach which is closed area and named by Turtle beach. Birds The area was announced as an Important Bird Area (IBA), which considered as important passage site for migratory birds. A bird expert called Agris celmins did the first organized survey in autumn 1998 (*Celimens, 1998*) to generate base line data about South Sinai birds and to train two rangers in bird identification; I was one of these two rangers. 229 bird species were recorded in Ras Mohammed the most prominent species are soaring birds, 24 kinds from raptors recorded in the area, the most common are Honey buzzard, common buzzard, White storks and Black storks. 275,000 white storks were recorded in autumn 1998, which considered globally as threaten species. The breeding birds in the area are osprey (2 pairs), Sooty falcon (3 pairs), Reef heron, Night heron (3 pairs) Caspian tern, Slender-billed gull, White-eyed gull and Kentish plover. The migratory birds from storks and waders rest at

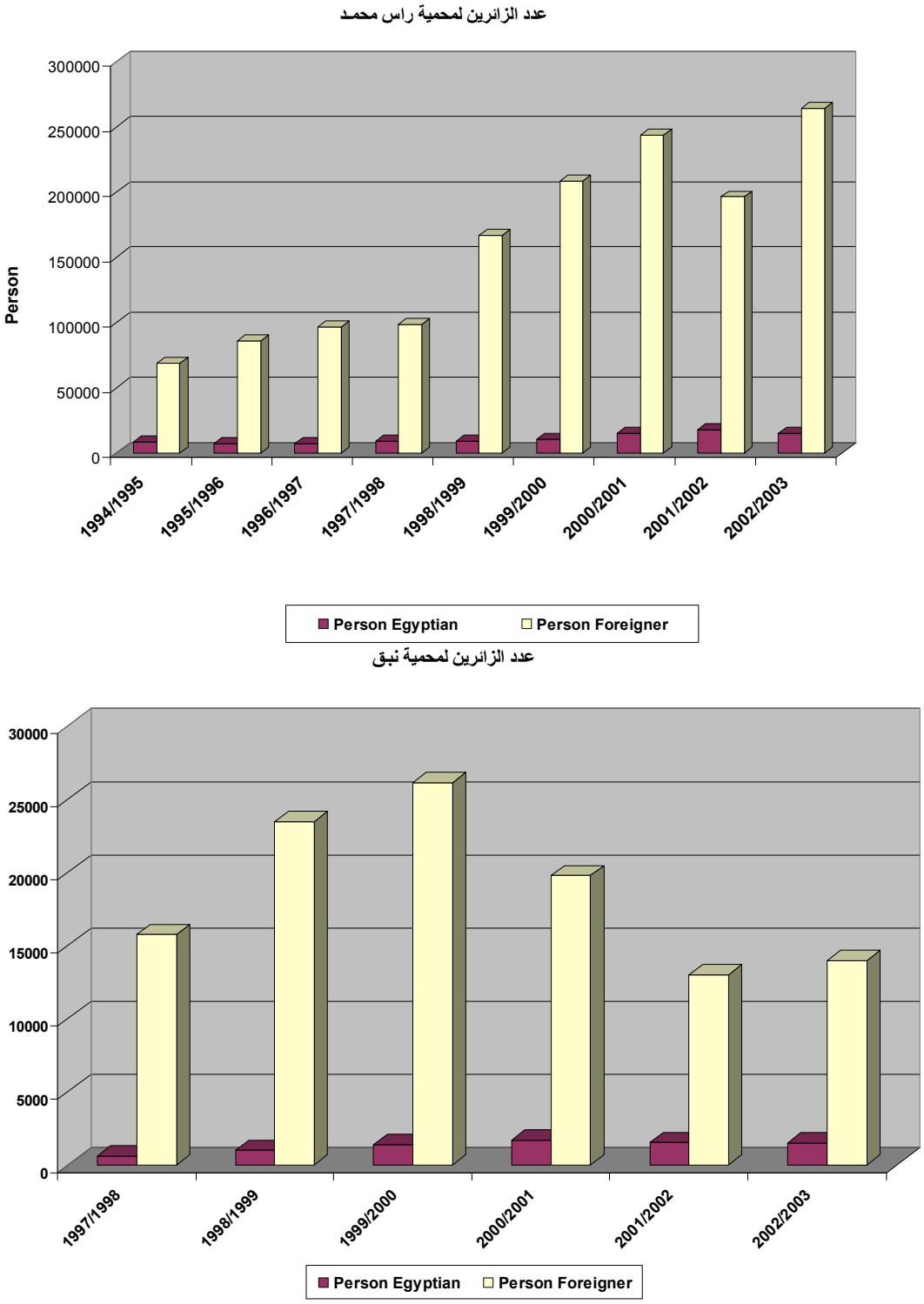
	many places along the intertidal flats along Gulf of Suez and many bays along Gulf of Aqaba. At Ras Mohammed some of these sites are permanently closed and the other are temporarily closed to provide full protection to all species. (List of bird species is attached). The Park hosts 10 **mammal** species. None of them are considered to be endangered except the *Dugong dugong* and *Dorcas gazelle*. *Dugong dugong* is endangered species in the area, very low number of dugong had been recorded in the area, also, *Dorcus gazelle* were displaced in recent years to adjacent wadis in Saint Katherine protectorates, which is considered as endangered sp. Dolphin is in low numbers but not endangered. The main visible mammals are the red fox and dolphins. Rodents (*Gerbillus gerbillus, Acomy cehirinus and Dipodillus dasyurus*) were found to be numerous with their burrows; these rodents form a basic food for Red Fox (*Vulpes vulpes*), Wild cat (*Felis sylvistris*). *Hyaena hyaena* known to be found throughout the area.
Special features: landscape, unique elements	**Landscape** High altitude deserts, wadis, flattened desert areas, sea cliffs, flattened shoreline and sand dunes, are the main landscape features of Ras Mohammed. A high rising mountains ranging in color from puce to blood red are found in the area. A description to the most important sites at the area is as follow: **Khoshbi hill** A hill near Ras Mohammed National Park accommodations is considered as the heights area at the park. Height of the hill - about 45 m above sea level. Distance from the Suez gulf shore - about 1.5 km. Distance from Marsa Bareika shore - 400 m. the constituents of the hill is sand and limestone. **Flats along Gulf of Suez** Monotypic overtidal flats, generally plane and with gradual slope towards the sea. Scattered low vegetation at places. Shoreline is straight for most of territory, but also couple of sand spits juts out, and few sandy islets available. Closest off shore water zone is shallow, and wading storks have been seen up to 200 m from the coast. Typical research visits were started from western border of the park, driving as long as very tip of Qad Ibn Khaddan, and then along the coast towards Ras Mohammed. **Hidden Bay area and Mangrove Channel** A shallow marine bay surrounded by sandy flats from SW side, and hilly area from NE, is a centre of the area. Being about size of 1.5 x 2 km, the site has rather complex habitat structure and shape. There is also shallow channel overgrowing by mangroves, and Sandy Island at the very south. Shoreline is sandy, rocky or ancient coral reef. This is very top of Sinai Peninsula. **Wadi Khoshbi** Wadi Khoshbi was defined stretching 3.5 km from NW corner of Marsa Bareika bay (Ras Mohammed accommodations) towards NW until the main road. GPS for southern end - 27°47’47’’N, 34°13’02’’E, and 27°49’44’’N, 34°12’31’’E for northern end. This is typical wadi with flat sand/rock bottom surrounded by rocky slopes,

	sandstone, and ancient fossil creatures. Few sandstone blocks stand also in centre of wadi. Acacia trees grow scattered, especially along southern side of wadi and closer to main road. There is also some lower vegetation formed by dispersed hummocks of several unspecified plant species.
Main threats to ecological features	Pressure from tourism activities (diving, snorkelling, etc.), physical damage to the coral ecosystem by walking on the back reef even by touching corals. Pollution of the sea by tourism boats (waste and garbage). Plastic bags and water bottles are the main problems because of the negative effects on the corals. Oil spill pollution, affecting all life forms: 2 accidents have been occurred within the last 10 years. Over fishing: certain problem comes from fishermen during seasonal migration of the Emperor fish to spawn in the area (from middle of April till end of may). Until April 200, this activity was legal. After 4 years of research and monitoring showing a decrease of the fish stock and interference with tourism activities, this activity was cancelled and fishermen given other opportunities. Crown of Thorn Starfish: the joint efforts of South Sinai Rangers and Diving Centres gathered to collect the COTs (considered as a natural threat to the coral reefs) from all diving sites. From 1998 to 1999 120,000 animals were collected, stopping the outbreak.
CULTURAL AND HISTORICAL FEATURES, TRADITIONAL USES	
Archaeological and historical sites	Sinai area is 60,000 km^2 representing about 1/6 of the total area of Egypt. Ras Mohammed area is part from South Sinai area which posses many of natural heritage places. The most important of these places are; Saint Katherine Monastery, Mousas Mountain and many canyons are world famous for safari tourism. In the past, the local communities from Bedouin populations, broken down into 8 tribes used the area for fishing and grazing and some tourism activities (like dinner at the moony nights). An old Bedouin story about the nominification of Ras Mohammed (Translate from the Arabic as Cape Mohammed), Ras: means head (part from the land emerges inside the water. Mohammed is the prophet of Islam.
Cultural sites	None known inside the boundaries of the Park.
Threats to cultural features	**Internal human induced factor** The human disturbance to the area is considered as one of the main constraints to the ecological value of natural resources of the area, which are: 1. Gradual irreversible degradation of both marine and terrestrial habitats in areas where tourism activities are allowed (diving, snorkelling, boat accident). Other sites are closed (70 %). 2. Vehicles driving off marked tracks will compact sand, destroying important burrowing invertebrate species. 3. Occasional fish feeding even if illegal. 4. Littering at sea (land is under full control). **External natural factors** Episodic rain flooding can destroy terrestrial and marine habitats as well as infrastructures.

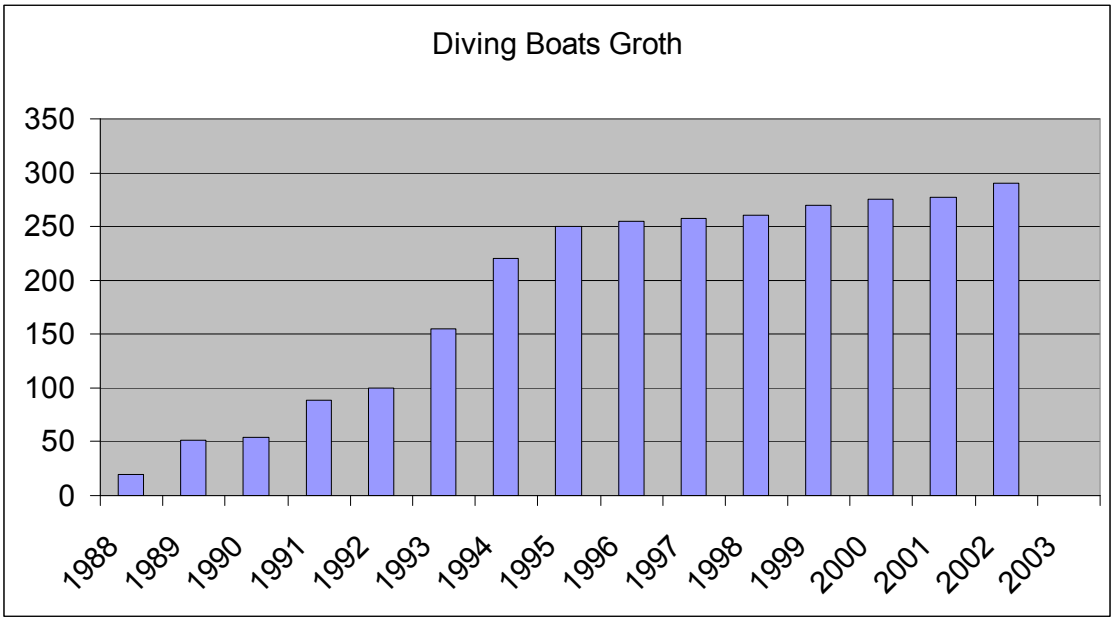
	External human induced factor Oil pollution caused by ship accidents or oil spill from Ras Gara petroleum wells (Gulf of Suez, 30 km north of the border of the park) are the major threats. Garbage transported by sea or wind is a minor concern controlled by the garbage collectors. **Factors arising from tradition** The Bedouin local population traditionally leaves the camels free for grazing. This traditional right may affect the natural vegetation (Acacia and bushes) in particular when the dry season is lasting numerous years.
SOCIO-ECONOMIC ASPECTS	
Population (inside and outside the protected area)	No resident inside. The nearest city is Sharm El Sheikh with numerous tourism facilities.
Main infrastructures (inside and outside)	**Buildings** Entrance Gate - Visitor center – Accommodation - Workshop for cars maintenance - Diving center – Laboratories (4) - Scraps store – Field accommodation at the camping site - Jetty at Marsa Khoshbi for the Park`s boats - Old gate (stone gate) ranger rooms. **Shelters:** 5 at the camping sites 2 large at Ghozlani. 3 large at Main Beach 3 large at Yolanda beach. 6 for the tourism police. **Dry Toilets:** 2 at the camping site. 4 at the main beach. 2 at the Yolanda beach. 1 at the entrance gate
Main economic activities (inside and outside)	Tourism and ecotourism activities
Threats due to socio-economic activities	**Internal natural factors** The main physical process affecting the coastal wetland of Ras Mohammed is the tidal variation. Different regions can be distinguished on the basis of the tidal amplitude. Any changes in this factor will cause changes in other factors influencing the system. The natural outbreak of the Crown of thorn, which feed on the coral animal resulting in wide areas of dead corals. **Internal human induced factor** The human disturbance to the area is considered as one of the main constraints to the ecological value of natural resources of the area, which are: - Gradual irreversible degradation of both marine and terrestrial habitats resulting from tourism related activities like diving, snorkelling and bad navigation. - Vehicles driving off marked tracks will compact sand, destroying important burrowing invertebrate species. - Fish feeding which upset the biological balance on the reef. - Litter carried out by sea and land tourists remains a major impact.

	External natural factors The big flood is unexpected which destroy marine habitats and infrastructure properties. **External human induced factor** Oil pollution caused by ship accidents or oil spill which results from Ras Gara petroleum wells (located at gulf of Suez, 30 km far away from the east border of the park), represent great challenge for the habitats biodiversity. Garbage coming from outside the park by the wind action makes a additional load on the garbage collector. **Factors arising from tradition** Bedouins are the local population. They are used to leave their camels inside the area as traditional rights which may affect the number of Acacia trees in the area, also they used the area for fishing as a traditional rights and this arising some conflicts between the park management and Bedouins.
MANAGEMENT	
Responsible authority	South Sinai Protectorates Sector – National Parks of Egypt – Egyptian Environmental Affairs Agency – Ministry of State of Environment
Other authorities and stakeholders (national, regional, local, NGO)	- Sharm EL Sheikh city counsels. - South Sinai Governorate. - Marine police. - Coast Guards - Central Security - Ministry of Petroleum - Ministry of Tourism - Ministry of Monuments - Bedouin
Staff	5 rangers, 2 ticket collectors, 3 security officers
Annual budget	Half a million Egyptian Pounds
Facilities and equipment	One full cabin Land Rover car Digital camera – Telescope - Two binocular - GPS - 3 portable VHF radios, 2 fixed VHF radio, 1 HF radio
Visitor, public awareness and education programs	- Visitor Center - Sign and information panels - General Brochure on South Sinai Protected Areas Network - Specific brochure on land features and management
MONITORING AND RESEARCH	
Monitoring programs (existing and needed)	EXISTING - Monitoring of flora. - Monitoring of bird migration seasonally - Marine turtle surveys
Research program	Coral reef rehabilitation Project (EEAA & Essen Univ., Germany)
Reference documents	List available at the Nature Conservation Training Centre

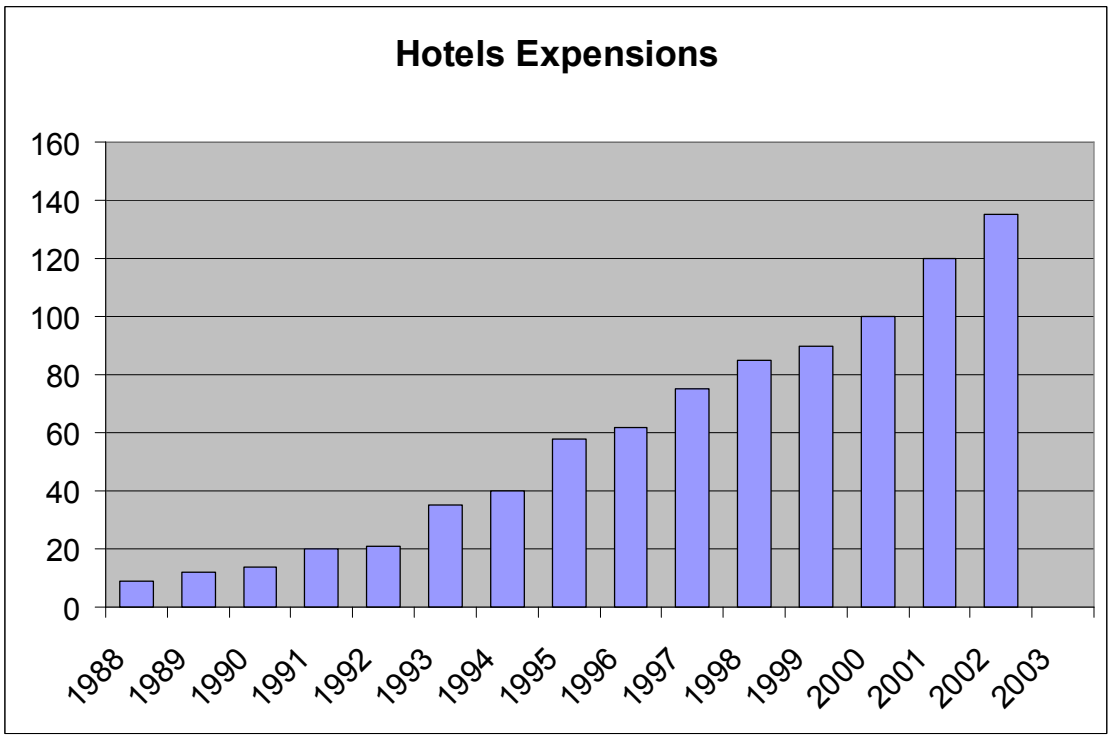
Appendix 2: Chart showing the visitor number in Ras Mohammed and Nabq



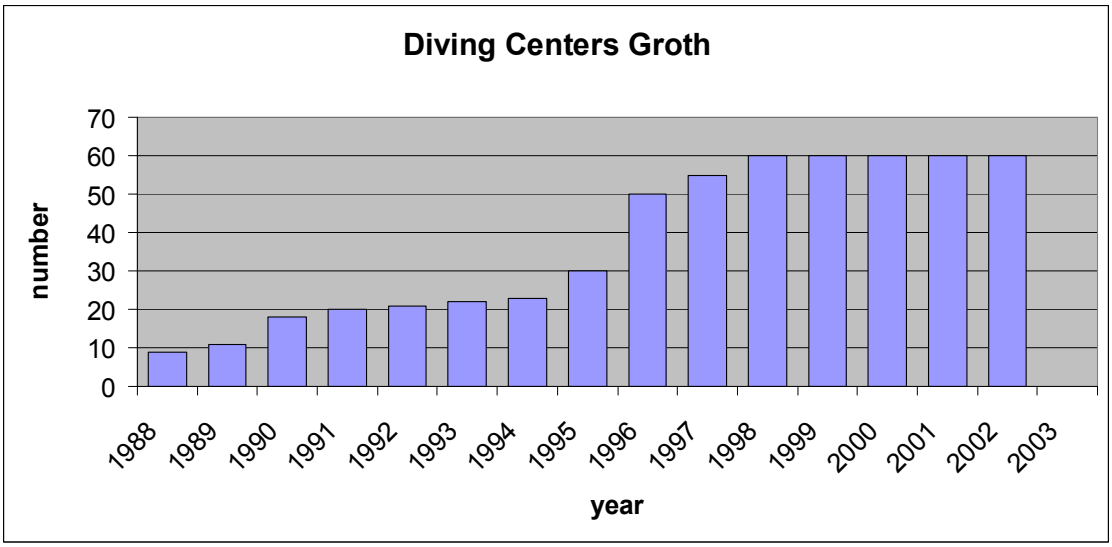
Appendix 2.1: Chart showing diving boats growth in Sharm El Sheikh:



Appendix 2.2: Chart showing Hotels Exensions in Sharm El Sheikh**:**



Appendix 2.3: Chart showing diving centers growth in Sharm El Sheikh:



Appendix 3: The Nature Conservation Training Centre in Sharm El Sheikh:

MINISTRY OF STATE FOR ENVIRONMENT
EGYPTIAN ENVIRONMENTAL AFFAIRS AGENCY
NATURE CONSERVATION SECTOR
NATURE CONSERVATION YRAINING CENTRE

Proposed Catalog of Training for

THE NATURE CONSERVATION TRAINING CENTRE

Sharm El-Sheikh - South Sinai
(October 2005)

NCTC provide natural heritage managers and particularly protected area managers from the world-wide with the motivation and relevant skills in order to manage, in co-operation with stakeholders, their areas & the associated natural resources in a sustainable and cultural accepted manner

As Director of the Nature Conservation Department in the Egyptian Environmental Affairs Agency, I have the honor of serving with you to conserve, protect, and enhance natural resources for the continuing benefit of Egypt. To succeed in meeting our mission, we must combine all of our individual efforts with the cooperative support of the government and private sector. After working for many years with universities, I am convinced that effective conservation of our natural resources depends on maintaining and strengthening the partnerships that we have forged with government, local authorities, industry, organizations, and private individuals.

NCTC provide natural heritage managers and particularly protected area managers from the world-wide with the motivation and relevant skills in order to manage, in co-operation with stakeholders, their areas and the associated natural resources in a sustainable and cultural accepted manner.

Fulfilling our mission requires us to base our decisions on the best science so we can make the wisest decisions. To do this we must keep our skills honed and stay up-to-date with the best scientific methods. The NCTC incorporate the concepts of scientific methodology into all appropriate courses, including supervisory and leadership programs. NCTC goal is to reinforce a sense of pride in the integrity of our science through all levels of the service to ensure it remains one of its core values. I believe strongly that investing in our people is the very best way to ensure that we have the knowledge we need to meet our mission.

General Information

What Is the Nature Conservation Training Center?

Egypt is endowed with a natural heritage as rich as its cultural heritage. The country's future is dependent on the wise use of its natural resources. The Government of Egypt is committed to the conservation of the country's renewal and non-renewable natural heritage, for the benefit of present and future generations. The establishment of a National Protected Areas Network aims at maintaining the diversity and viability of the various components of Egypt's natural heritage, and to insure the sustainable utilization of the natural resources within them. Since the

passage of law 102 for 1983 concerning the establishment of protected area, 24 protected areas have been declared in Egypt, representing several of the country's main natural regions.

One of the main developing tools for the improvement of qualification of the National Park staff has been to establish the Nature Conservation Management Training Centre. It is intended to serve as the future vehicle that will take the responsibility of creating and provide the staff standards requirements. This centre will play a great role of the conservation in Egypt in the future because, it take the lead to direct the brains of the new generations towards the best solutions for the problems of environment not here in Egypt only but also in the Middle East and Africa.

The NCTC is, a gathering place where conservation professionals from all sectors can learn together in an environment especially designed for them. It is a place where people from the government, organizations, corporate sectors, and other groups can come together in a non-threatening, collaborative setting to learn new skills, share perspectives, break down barriers, establish networks, find common ground, and move toward field-based solutions built on consensus and mutual interest.

Located approximately 500 km from Cairo, the NCTC building provides full-service residential facilities complemented by professional staff, cutting-edge programs and curricula, and the most advanced technology available to accomplish our mission.

Training plays a pivotal role in terms of rehabilitating and sustaining protected areas. One of the fundamental strategies of the NCTC is to create a new generation of managers who are equipped to deal with the key challenges facing protected area management. Closely linked with the training of conservation managers is the role that nature-based tourism is set to play in socio-economic development of Egypt, and in turn bringing greater areas under sustainable management. It is imperative that managers of protected areas are adequately trained for the task of custodianship of Egypt's natural resources, yet ever-important diverse wildlife populations and that a high priority is placed on doing so in association with local Bedouins.

The NCTC also aims to provide courses that will open career opportunities for existing personnel who do not have the formal qualifications to become protected area managers. The necessary bridging skills will be provided so these managers return to their places of work equipped with the means to manage their areas effectively and efficiently. This will play a pivotal role in ensuring that the use of our natural resources is sustainable.

NCTC objectives

- To provide and develop high quality courses for protected area and natural resource managers as well as other interested parties.
- To strive for recognition as a regional rather than a national institution by working closely with other Egyptian training initiatives.
- To provide accreditation of training courses that will attain recognition in their own right but will also complement and link in the spectrum of conservation management training options available in Egypt
- Use training as an environmental vehicle for the exchange of ideas,

information and expertise in order to promote co-operation between conservation organizations and cultures.
- Be a dynamic, flexible and service-orientated organization, which aims to become a role model for socially and environmentally responsible development.
- Promote an integrated approach to the management of protected areas that is appropriate to environment, focusing especially on "people and parks" issues.

For More Information
For general information on the NCTC, please call or write:

Mailing Address:
Egyptian Environmental Affairs Agency
Nature Conservation Department
Nature Conservation Training Center
Banks St., El-hadaba
Sharm El-Sheikh, South Sinai, Egypt
P.O. Box 19.

NCTC Contacts
For general information on NCTC facilities, and opportunities to reserve conference rooms or training facilities on a reimbursable basis, please call:

Tel/Fax. 002-069-3660559
Tel./Fax. 002-069-3660668

Applications may be submitted by Internet, mail, fax, or electronic mail. Applications will not be accepted via the phone.

The NCTC Building
The majority of NCTC courses are held at the NCTC building, located in the middle of Sharm El-Sheikh city just north of Ras Mohamed National Parks, South Sinai. The building consists of 4 training classrooms, one computer laboratories, four field biology laboratories, seminar and breakout rooms, 27 lodge rooms; On-site food service and physical training facilities are also available.

Classrooms
50 Seat (2)
150 Seat Auditorium (1)
U-shaped 36 Seat (1)

Laboratory Facilities
Biology Lab
Aquatic Resources Lab
Geological Lab
Flora Lab
GIS Classroom

NCTC Program Information
For more current information on specific courses, dates, and locations, please access This information is available via e-mail or the Internet at:
E-mail: Khaledallam4@hotmail.com
rady_enviro@hotmail.com

Lodging and Meals
The NCTC guest lodges are available to course and event participants on a space-available basis. . All participants, regardless of agency, are expected to pay for incidental costs (i.e., phone calls, shuttle fees) at the time of check-out. Cancellation policies apply to enrolled course and event participants. Please contact NCTC for additional information on cancellation policies.

Guests staying at the NCTC are housed in a guest room with a double bed and private bath.

Service Employees
NCD employees enrolled in an NCTC-course do not pay for lodging or meals.

On-site lodging for event participants is arranged through the event coordinator in accordance with the terms of agreement with the NCTC. All lodging arrangements off-site should be made independently by the participant or event coordinator. The NCTC can provide information on local off-site accommodations.

Transportation
The NCTC provides round-trip shuttle transportation from Sharm El-Sheikh Airport in Sharm, approximately 25 km from the NCTC building. The fee of $10.00 secures a one way or round trip service and is payable upon check-out.

Participants with Special Needs
We make every effort to ensure that training programs are accessible to all participants. Guests should advise their course leaders or event coordinators in advance to make appropriate arrangements based on their needs, such as special menus or accessibility; other requirements, such as interpreter services, should be provided to the event coordinator

Tuition
NCTC training is provided without charge to employees of the Nature Conservation Department. Tuition fees are charged to all other participants in NCTC-sponsored courses.

Accommodations are NOT included in tuition fees. For courses not sponsored by the NCTC, please refer to the course contact for more information on individual tuition charges.

For NCTC-sponsored courses, the following fees will be charged to all non- NCD participants:

1 day course $150
2 day course $300
3 day course $450
4 day course $550
5 day course $650
2 week course $1,300
3 week course $1,950

Exceptions to these charges are noted on the individual course listings for which they apply: Please note that courses that use the NCTC field laboratories and GIS laboratory are charged at a separate rate.

Tuition Billing
Tuition payment arrangements must be made prior to attending an NCTC course. Payment may be made by check, or cash.

Course Registration Procedures
Participants must submit a completed application and obtain supervisory approval to attend. The application can be found inside this training catalog.

Completed applications may be submitted by Internet, mail, fax, or electronic mail. Applications will not - be accepted via the phone.

Course Cancellation
Notify the course leader of cancellations AS SOON AS POSSIBLE if you are unable to attend a course.

Two weeks:
Course attendees, including Service personnel, who cancel their course attendance 14 days or less prior to the start of the course, and fail to provide a substitute, are charged **in full for both tuition and lodging costs. Tuition penalty assessment applies to all NCTC courses regardless of where the course is held.**

Other NCTC Training and Services

The primary focus of the NCTC is on the continuing training Needs of Service employees. The NCTC provides a variety of training and education services to enhance the knowledge of all conservation professionals. The NCTC will consider requests to design and deliver customized courses on a cost-reimbursable basis.

NCTC liaisons

NCTC liaisons coordinate the NCTC's training programs with the needs of other partner agencies and organizations. NCTC liaisons also design and host other educational events and workshops and serve as contacts for securing meetings and overnight space for the NCTC's partner agencies and organizations.

Facility Rental

In addition to sponsored courses, the NCTC's facilities are available for contract rental to conservation agencies and organizations for independent training, workshops, meetings, and other conservation-related functions. NCTC seminar and classrooms are furnished with speaker-friendly tack board walls, rear-screen audiovisual systems with touchpad and remote control, soundproof acoustic design, portable dry erase boards, and other amenities. Technical assistance, break service, and copy machine, fax machine, is provided with facility rental.

For more information about hosting your next meeting or training session at the NCTC, contact us for an event application and to inquire about space availability: The NCTC will plan your event logistics to ensure a successful day meeting, retreat, or a more elaborate conference.

Tel/Fax. 002-069-3660559
Tel./Fax. 002-069-3660668

NCTC Conservation Library

The NCTC Conservation Library provides access to information resources for students in training as they research and scope out critical issues in the field. The collection includes resources for trainers and employee development material, a core collection of marine management texts. The library's classic conservation collection is fast becoming an outstanding selection of materials, thanks to many generous donations. The NCTC Conservation Library provides literature searching tools for students while they are training at NCTC.

List of Courses

1. An Ecosystem Approach to Conservation
2. Conservation Biology: An Introduction
3. Ecological Services Basic Training.
4. Education Programs for Youth: School's Out
5. Environmental Education Methods
6. Introduction to Visitor Services
7. Introduction to Fish Health
8. Fish Disease Diagnostic Techniques
9. Fish Histology and Histopathology
10. Fisheries Techniques
11. Fisheries Management
12. Natural Resource Economics
13. Habitat Conservation Planning for Endangered / Species
14. Oil and Chemical Spill Response
15. Fish Stock Assessment '
16. Water Quality Monitoring
17. GIS Overview for Natural Resource Conservation
18. GIS Cartographic Design
19. Cultural Resources Overview
20. Natural Resource Law
21. Natural Resources Communications
22. Grant Writing for Conservation

An Ecosystem Approach to Conservation

This course presents an integrated ecosystem approach to conservation. Guiding principles of conservation biology, particularly landscape ecology precepts and conservation planning, are discussed and developed into an implementation framework. The course integrates ecological theory and application, theory and practice of public involvement, and adaptive management. Participants learn strategic methods to implement ecological principles through comprehensive class exercises using a hypothetical but realistic ecosystem conservation scenario.

Who should attend: Biologists, land managers, planners, and policy makers.

Length: 5 days/36 hours

Objectives: Describe genetic, population, species, and ecosystem concepts in biodiversity management;

Employ the population and community level approaches to ecosystem conservation;

Compare and contrast traditional and ecosystem management approaches;

Use adaptive management to implement ecosystem management;

Incorporate stakeholder involvement and participatory techniques in ecosystem conservation;

Employ strategic thinking in conservation issues; and

Describe a conceptual approach to managing ecosystems that includes human communities, ecology, and regulatory agencies.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Conservation Biology: An Introduction

This course offers an overview of conservation biology, including discussion of its fundamental biological and ecological principles. Instruction covers biological diversity, species concepts, uncertainty, and variation in natural systems. Other topics include population viability analysis, metapopulations, habitat fragmentation effects, and reserve design principles.

Who should attend: Biologists and managers requiring a background in current topics related to conservation biology.

Length: 4.5 days/36 hours

Objectives: Distinguish between species diversity and biological diversity;

Describe various species concepts and their implications for species protection;

Recognize the four major causes of uncertainty in ecological systems and the importance of natural variability;

Explain the concepts associated with population viability analysis, minimum viable populations, and metapopulations;

Discuss the implications of habitat fragmentation on sensitive species; and

Apply island theory, GAP analysis and other related concepts to reserve design, planning, and management.

Availability: Biannually
Contact: ----------
Phone: ++2 069 3660559/3660668

Ecological Services Basic Training

Participants are provided with an overview of core programs of Ecological Services, including: Habitat Conservation, Wetland Regulations, Coastal Ecosystems, Environmental Contaminants, and Endangered Species. The focus of the course is on cross-program issues, outreach, and partnerships.

Who should attend: NCD staff who have been in Ecological Services (ES) for six months to two years, or upon recommendation of supervisor.

Length: 5 days/36 hours

Objectives: Explain the major functions and responsibilities of the Endangered Species, Environmental Contaminants and Habitat Conservation programs and how they contribute to the conservation of the Service's trust resources;

Discuss policies and legislation that guide Ecological Services programs;

Identify and describe the importance and effectiveness of outreach, partnership development, and ecosystem approaches to conservation with NCD, Ecological Service programs, and the public;

Facilitate discussion on the integration of all ES programs to create more productive and effective cross-program coordination; and

Identify and discuss programmatic and regional similarities and differences.

Availability: Annually (multiple sessions)
Contact: ----------
Phone: ++2 069 3660559/3660668

Education Programs for Youth: School's Out

This course presents the elements of designing outdoor programs for youth (e.g., after school, day and residential camps, and weekend programs) in non-formal settings, such as parks. You will have opportunities to create or modify exciting, safe natural resource-focused youth programs that help to address site missions and/or management objectives. Participants will use a program design model to work on their own youth program during the course, then complete and implement it as a required post-course assignment.

Who should attend: outdoor recreation planners, park rangers, or any other land management employees who offer or wish to offer non-formal youth education programs in an outdoor natural setting.

Length: 3 days/21 hours

Objectives: Explain how your youth program meets your site's mission and goals;

Describe steps in planning and designing an outdoor education youth program;

Develop techniques for building staff leadership to work with youth;

Demonstrate activities that will rapidly build youth and staff cohesiveness; and

Present a sample component from your program plan to other course participants.

Availability: Every other year
Contact: ----------
Phone: ++2 069 3660559/3660668

Environmental Education Methods

Effective education strategies are used by conservation professionals to target specific resource management issues to the right audiences. This course helps participants incorporate evaluation strategies into program planning and implementation. Participants also learn about working with students, teachers, youth groups, and their leaders, both on and off public lands.

Who should attend: Resource managers, educators, outdoor recreation planners, law enforcement officers, and anyone whose job requires contact with the public or whose resource management efforts would be enhanced or supported by education initiatives.

Length: 4 days/32 hours

Objectives: Identify ways to work with the education community, including youth groups, public and private groups, home school, and other non-formal programs;

Identify ways that your agency can support educators and become a resource for them;

Describe elements of developing successful educational materials and programs based on state educational objectives;

Adapt existing programs and materials to meet resource management objectives;

Implement environmental education programs on- or off-site; and

Use a planning and evaluation process through all steps of project development and implementation.

Availability: Every other year
Contact: ----------
Phone: ++2 069 3660559/3660668

Introduction to Visitor Services

As visitation to National Parks of Egypt increases, managers are faced with the difficult challenge of protecting the resources while meeting the visitors' needs. This course familiarizes participants with the history, legislation, regulations, and policies related to visitor services in the NCD. Topics covered include: visitor services requirements, compatibility determination, planning/design principles, outreach efforts, funding issues, and evaluation techniques to help participants develop visitor service plans and programs at various levels in the NCD.

Who should attend: Anyone involved with visitor services or public use programs, including project leaders, natural resource managers, environmental educators, interpretive staff, outreach specialists, outdoor recreation planners, park rangers, and those working with community support groups.

Length: 4.5 days/32 hours

Objectives: Outline the history of visitor services in relation to current legislation, regulations, and policies.

Demonstrate a working knowledge of NCD planning policy, including the development and implementation of comprehensive conservation, visitor services, and outreach plans;

Determine compatible uses and apply visitor use requirements to plans and programs at NCD field centres; identify numerous design factors that increase resource tolerance yet.

Provide recreationists with a greater sense of leisure satisfaction; and Explain the NCD funding and budgeting process as it relates to visitor services.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Introduction to Fish Health

This introductory course is designed to help the beginning-level participant become familiar with the signs, causes, control, and prevention of both infectious and non-infectious fish diseases.

Who should attend: Any fisheries worker. **Length:** 5 days/38 hours

Objectives: Recognize and identify the external or gross signs of the more common fish diseases and parasites;

Stain slides for preliminary identification of common disease organisms;

Isolate and culture some disease organisms;

Calculate dosages or treatment levels;

Properly care for and package moribund or dead fish as specimens for shipment to diagnostic laboratories; and

Describe the causes and nature of fish diseases.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Fish Disease Diagnostic Techniques

This intermediate-level course demonstrates current field and laboratory techniques being used to diagnose infectious and non-infectious fish diseases. Classroom case studies are used to reinforce laboratory skills.

Who should attend: Laboratory and fishery technicians, fishery biologists, and hatchery managers. "Introduction to Fish Health" (FIS1120) is a prerequisite for this course.

Length: 5 days/36 hours

Objectives: Perform a diagnostic examination of diseased and moribund fish;

Prepare laboratory media and reagents for use in diagnostic procedures;

Discuss the relationship between predisposing factors and fish disease;

Collect and prepare fish tissue samples for the isolation and culture of disease agents; and

Prepare a case history report on the final diagnosis and prescribe a corrective treatment regime.

Availability: Biannually
Contact: ----------
Phone: ++2 069 3660559/3660668

Fish Histology and Histopathology

This intermediate-level course introduces participants to current practices in histology and histopathology of fish, as well as the techniques used to examine fish tissues. College Credit: 2 semester hours.

Who should attend: Clinical laboratory technicians, fish health biologists, fish pathologists.

Length: 4 days/32 hours

Objectives: Distinguish normal fish tissue from diseased or abnormal tissue;

Identify artifactual changes in tissues not related to a disease process;

Examine various fish tissue samples and describe the pathology;

Identify possible causes for the pathology found during microscopic examination of tissues; and

Discuss the collection, preparation, and staining of various fish tissues for microscopic examination.

Availability: By request
Contact: ----------
Phone: ++2 069 3660559/3660668

Fisheries Techniques

Participants in this course learn about the basics of fish and aquatic invertebrate anatomy and identification, water quality testing, physical habitat measurements, fisheries safety, and fish'sampling techniques. Additional topics include: age and growth, marking and tagging, and simple knot-tying. Two and one-half days are spent in the laboratory and two days are in the field (stream and lake environments). The training integrates lecture with ample hands-on practice.

Who should attend: Personnel with minimal fisheries experience involved with fisheries projects.

Length: 5 days/36 hours

Objectives: Identify fish and aquatic invertebrate species;

Perform aquatic habitat measurements;

Measure basic water quality parameters using meters and kits; and

Use common types of fish sampling equipment.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Fisheries Management

This course introduces the basic principles of fisheries management, integrating the biotic, habitat, and human components of management. Emphasis is placed on application of assessment tools to maximize the potential for successful management or restoration/creation of fisheries resources. Additional topics include sampling gear and biases, marking and tagging, and pond management. Participants learn how to apply management strategies through comprehensive class exercises.

Who should attend: Fisheries biologists, hatchery managers, and program administrators with a bachelor's degree and minimal experience.

Length: 4 days/32 hours

Objectives: Describe how recruitment, growth, and mortality interact and result in population size and age structure;

Relate the history/development and seasonal variations of various size, structure, biomass, condition, and abundance indices, calculate these indices, and describe their appropriate use;

Describe the use of fish stocking, purposeful hybrids, biomanipulation, and predator/prey relations as tools for managing the biotic component;

Summarize the use of aquatic vegetation, artificial structures, and reservoir water levels as tools for managing the habitat component; and

Apply harvest regulations based on knowledge of the history and types of such regulations as tools for managing the human component of a fishery.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Natural Resource Economics

It is important for field biologists to have defensible natural resource economic management indicators. These are necessary to show that spending is being allocated to achieve the greatest expected level of program benefits and also to illustrate the trade-offs associated with decisions to use conservation spending to achieve non-conservation goals.

This course provides a non-technical overview of the natural resource economic theory of benefit estimation and an overview of natural resource economic valuation methods and practical considerations for applying them.

Who should attend: Land management agency personnel and field biologists whose primary responsibilities include reviewing and writing reports that deal with natural resource-related economic issues.

Length: 5 days/36 hours

Objectives: Explain the basic theory and concepts of natural resource economic valuation for ecosystems;

Explain important definitions and concepts related to how economists approach ecosystem valuation;

Discuss the various dollar-based ecosystem valuation methods; and

Describe how ecosystem values are applied for decision making using cost-benefit analysis.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Habitat Conservation Planning for Endangered / Species

The course addresses the basic steps and processes regarding habitat conservation planning of the Endangered Species. Case studies and interactive exercises are used to reinforce lecture sessions.

Who should attend: Individuals responsible for assisting in the development of habitat conservation plans.

Length: 5 days/36 hours

Objectives:

Explain how to provide guidance in developing a Habitat Conservation Plan (HCP) that meets statutory and biological requirements;

List permit processing steps, from submission of the application to permit issuance;

Describe statutory permit issuance criteria and explain biological standards and NCD and EEAA policies involved in the permit issuance decision;

Identify post-issuance compliance and options for corrective actions; and

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Oil and Chemical Spill Response

Participants learn the NCD role in oil and chemical spills affecting NCD trust resources. Procedures are described for marine and freshwater environments. Emphasis is placed on planning for an emergency response, sample collection and handling, and coordinating the NCD response within the incident command system. Topics covered include development of area contingency plans, accessing the Oil Pollution, health and safety requirements for spill response, wildlife rescue operations, and damage assessment.

Who should attend: Natural resource personnel whose responsibilities include planning or participating in a spill response.

Length: 5 days/36 hours

Objectives: Describe the major types of oil products typically involved in spill events;

Describe spill response and cleanup techniques;

Learn MOI training and safety requirements for spill response workers;

Describe the role of the NCD in a multi-agency spill response; and

Describe spill-response reporting and accounting procedures required by the NCD

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Fish Stock Assessment

This course provides a working knowledge of fish population dynamics and stock assessment theories and techniques that help participants to: 1) understand the advantages and limitations of these techniques; 2) provide critical review of stock assessments; and 3) communicate effectively with experts in the fields of stock assessment and population dynamics.

Who should attend: Personnel dealing with harvest management issues.

Length: 5 days/38 hours

Objectives: Describe mortality rates in fish populations;

Select methods for estimating annual and fishing mortality;

Reconstruct cohort dynamics from historical harvest-at-age data;

Fit growth or stock recruitment models to fisheries data and evaluate the adequacy of the model;

Quantitatively compare the efficiency of different fishing regulations for improving management objectives;

Explicitly consider the influence of uncertainty on management decisions;

Describe the necessary, quantitative elements that are part of routine fish stock assessments; and

Integrate basic growth, mortality, and recruitment models into usable models for fish stock assessment.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Water Quality Monitoring

Participants in this course are introduced to water chemistry principles, sampling techniques, and monitoring protocols. Field sampling and testing techniques are performed using both chemical test kits and meters. Participants perform various water chemistry tests, analyze the results, and calculate chemical concentrations.

Who should attend: Any fisheries worker.

Length: 2 days/16 hours

Objectives: Describe basic water quality standards required for both fish culture and fishery management applications and perform analytical tests to measure for the standards;

Explain water quality requirements of common fish species;

Perform basic water chemistry tests;

Conduct field sampling and chemical testing; and

Design a water quality monitoring protocol.

Availability: By request
Contact: ----------
Phone: ++2 069 3660559/3660668

GIS Overview for Natural Resource Conservation

A geographic information system (GIS) is a: versatile computer tool that can assist in natural resource conservation planning and decision making for a community, region, watershed, or state. This overview course describes the basic principles of GIS and helps community-based conservation groups and watershed organizations assess how GIS can be used to support their goals. Topics include an overview of GIS and global positioning systems (GPS) technology, an evaluation of available GIS tools and data, and the basics of using GIS software. It can be offered in a general format or customized to meet the needs of a specific audience (community, watershed, county,)

Who should attend: Representatives from community-based conservation groups and watershed organizations, public agencies, and others interested in exploring the application of GIS to natural resource conservation.

Length: 1.5 day/12 hours

Objectives: Define GIS and GPS;

Describe the basic functionality of GIS;

Explain the availability of GIS tools and data;

Determine how GIS can be used in support of community-based natural resource conservation and watershed protection; and

Learn the basics of a GIS software package.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

GIS Cartographic Design

Learn how to design and create high quality thematic maps for public presentations, scientific publications, wayside exhibits, and general publication media/flyers. Students also learn how to use and interpret printed maps for spatial analysis and decision making. This course gives participants an overview of scientific visualization, cartographic design principles, and relevant mapping standards. Examples of existing government and private sector map designs are showcased for student instruction. This course includes practical, hands-on exercises with a variety of graphics and GIS layout tools.

Who should attend: Professionals working on conservation and natural resource mapping projects, including field station and park personnel who use GIS, outreach specialists, outdoor recreation planners, landscape architects, and others who desire to create professional maps and graphic products.

Length: 3 days/24 hours

Objectives: Describe the fundamental principles of cartographic design;

Produce high-quality cartographic products; and

Learn desktop software techniques for effective cartographic design.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Cultural Resources Overview

This course provides a basic overview of cultural resources management. The course covers important cultural resource issues, including the basic principles, regulations, laws, and policies affecting cultural resources. The course examines the necessary steps for assuring compliance with historic preservation laws prior to initiating a project.

Who should attend: Project leaders, biologists, and staff specialists.

Length: 4 days/32 hours

Objectives: Identify the steps necessary to comply with historic preservation laws;

Identify areas requiring cultural resource evaluation when projects are planned; and

Describe the effects of cultural resources on projects.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Natural Resource Law

This course provides an overview of the major conservation laws of interest to natural resource professionals. Sessions include information on case laws that are specific to habitat protection, pollution control, and trust responsibilities. Discussions include an historical overview of the development of wildlife and natural resource laws, legal authorities, and development in the courts, as well as current legal issues. Instruction is provided by, lawyers and professionals in the field of natural resource law

Who should attend: Personnel working with issues that require knowledge of environmental laws, regulations, and policies.

Length; 3 days/24 hours

Objectives: Identify major laws affecting the management of wildlife resources;

Describe recent court interpretations of the laws; and

Describe how these laws and policies affect management of natural resources.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Natural Resources Communications

This course is designed to help natural resource professionals communicate more effectively with both general and technical audiences through oral presentations. Topics include developing communication strategies for specific audiences, creating graphics, and solving equipment problems. Participants learn skills in planning, preparing, delivering, and evaluating oral presentations; using slide and computer-generated visual aids; and handling difficult, even hostile, audiences. The course combines lecture, role-playing, demonstration, and practice in making presentations on natural resource topics.

Who should attend: Those employees responsible for designing, planning, and implementing education and outreach programs; biologists, outdoor recreation planners, and employees involved with public affairs, partnerships, education, and outreach.

Length: 4.5 days/36 hours

Objectives: Develop a communication plan that outlines a strategy for communicating natural resource information to a target audience;

Design and prepare effective presentation graphics (title slides, data graphics, illustrations, etc.) using Microsoft PowerPoint software;

Operate and troubleshoot audiovisual projection equipment;

Deliver a 5- and 15-minute presentation using graphics prepared during the workshop; and

Evaluate others' presentations relative to the proper use of audiovisual presentation techniques.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Grant Writing for Conservation

Join us to learn how to interweave the grant proposal writing process and strategic thinking for successful grant management once the grant is awarded. Learn to cultivate relationships with partners or funding organizations to support projects that promote and maintain conservation and natural resource management. Topics include pre-project planning, alternative funding sources, and writing a solid grant proposal. Bring a potential grant project with you to work on during the course. You will develop a grant application and critique the critical parts of a successful grant proposal.

Who should attend: Resource managers, biologists, ecosystem teams, coordinators, managers, supervisors, outreach specialists, local community representatives, anyone (including non-government agency) seeking funding to support projects on public and private lands.

Length: 3 days/21 hours

Objectives: Review guidelines and ethics;

Conduct funding searches on-line;

Examine principles of strategic thinking, project proposal planning, and management;

Plan strategies for funding projects with partners;

Write an actual proposal with instructor assistance and critique;

Explain how to build relationships; and

Identify the complete proposal-writing process: planning, research, outreach, writing, accounting, tracking, reporting, and evaluation.

Availability: Annually
Contact: ----------
Phone: ++2 069 3660559/3660668

Appendix 5: List of Native Vegetation in Gulf of Aqaba Protectorates:

Acacia raddiana
Achillea fragrantissima
Adiantum capillus-veneris
Aerva javanica
Aizoon canariense
Alhagi graecorum
Anabasis articulata
Anthemis sp.
Arnebia decumbens
Artemisia herba-alba
Artemisia judaica
Asclepias sinaica
Asphodelus tenuifolius
Astragalus sp.
Astragalus spinosus
Avicennia marina
Blepharis ciliaris
Calotropis procera
Capparis sinaica
Capparis spinosa
Caylusea hexagyna
Centaurea sinaica
Centaurea sp.
Chrozophora oblongifolia
Cistanche phelypaea
Citrullus colocynthis
Cleome amblyocarpa
Cleome droserifolia
Cleome sp.
Cocculus pendulus
Cucumis prophetarum
Deverra tortuosa
Diplotaxis acris
Diplotaxis harra
Echinops glaberrimus
Echinops sp.
Erodium sp.
Fagonia arabica
Fagonia mollis
Fagonia scabra
Fagonia schimperi
Fagonia sp.

Forsskaolea tenacissima
Gymnocarpos decandrus
Haloxylon salicornicum
Heliotropium arbainense
Heliotropium sp.
Hyoscyamus muticus
Hyphaene thebaica
Indigofera arabica
Iphiona scabra
Juncus rigidus
Kickxia sp.
Launaea capitata
Launaea spinosa
Lavandula coronopifolia
Limonium axillare
Linaria sp.
Lotononis platycarpa
Lycium shawii
Nauplius graveolens
Neurada procumbens
Nitraria retusa
Ochradenus baccatus
Otostegia fruticosa
Panicum turgidum
Paracaryum rugulosum
Peganum harmala
Pennisetum divisum
Pergularia tomentosa
Phoenix dactylifera
Phragmites australis
Portulaca oleracea
Pulicaria crispa
Pulicaria incisa
Pulicaria sp.
Reaumuria hirtella
Reichardia tingitana
Reseda alba
Retama raetam
Rumex cyprius
Salvadora persica
Schouwia thebaica
Senna italica
Silene sp.
Solenostemma arghel
Spergula fallax
Stachys aegyptiaca
Stipagrostis plumosa

Suaeda sp.
Tamarix aphylla
Tamarix nilotica
Tephrosia apollinea
Teucrium polium
Teucrium sp.
Tribulus pentandrus
Trichodesma africanum
Trigonella stellata
Typha sp.
Zilla spinosa
Ziziphus spina-christi
Zygophyllum album
Zygophyllum coccineum
Zygophyllum dumosum
Zygophyllum simplex

Appendix 6: List of South Sinai Birds :

NO	English and Latin Name	Arabic name	Arabic (phonic)
1	**Great Crested Grebe *Podiceps cristus***	غطاس متوج	**Ghattaas Mutawwag**
2	**Little Grebe *Tachybaptus ruficollis***	زهوت	**Zahuut**
3	**Black-necked Grebe *Podiceps nigricollis***	غطاس اسود القبة	**Ghattas Aswad El-raqaba**
4	**Brown Booby** *Sula leucogaster*	اطيش	**Atiash**
5	**White Pelican** *Pelecanus onocrotalus*	بجع ابيض	**Baga'a Abiad**
6	**Green-backed Heron** *Butorides striatus*	واق اخضر الظهر	**Waaq Akhdar El Zahr**
7	**Night Heron** *Nycticorax nycticorax*	غراب الليل/ واق الشجر	**Waaq El Shagar**
8	**Cattle Egrett** *Bubulcus ibis*	ابو قردان	**Abou Kerdan**
9	**Squacco Heron** *Ardeola ralloides*	واق ابيض	**Wak Abiad**
10	**Western Reef Heron** *Egretta gularis*	بلشون بحرى	**Balashon Bahary**
11	**Great White Egrett** *Egretta alba*	بلشون ابيض كبير	**Balashon Abiad Kabeir**
12	**Little Egrett** *Egretta garzetta*	بلشون ابيض/ابو بليقه	**Balashon Abiad**
13	**Grey Heron** *Ardea cinerea*	بلشون رمادى	**Balashon Ramady**
14	**Striated heron *Butorides striatus***	بلشون مخطط	**Balashon Mukhatat**
15	**Purple Heron** *Ardea purpurea*	مالك الحزين/جحفة	**Ga'hfa /Malek Al Hazein**
16	**Black Stork** *Ciconia nigra*	لقلق اسود/عنز اسود	**Laklak Asowad**
17	**White Stork** *Ciconia ciconia*	لقلق ابيض/عنز ابيض	**Laklak Abiad**
18	**Glossy Ibis** *Plegadis falcinellus*	ابو منجل اسود	**Abou Mangal Asowad**
19	**Spoonbill** *Platalea leucorodia*	ابو ملعقة	**Abou Mel'aaka**
20	**Greater Flamingo** *Phoenicopterus ruber*	بشاروش/نحام	**Basharosh/Naham**
21	**Pintail** *Anas acuta*	بلبول	**Balbuul**
22	**Teal *Anas crecca***	شرشير	**Sharsheer**
23	**Garganey** *Anas querquedula*	شرشير صيفى	**Sharsheer Sayfee**
24	**Shoveler** *Anas clypeata*	كيش	**Keesh**
25	**Egyptian Goos *Alopochen aegyptacus***	وز مصرى	**Wizz Masree**
26	**Shelduck *Tadorna tadorna***	شهرمان	**Shahramaan**
27	**Wigeon *Anas Penelope***	صواى	**Siwwaay**
28	**Mallard *Anas platyrhynchos***	خضارى	**Khadaari**
29	**Pochard *Aythya ferina***	حمراى	**Humraay**
30	**Tufted Duck *Aythya fuligula***	زرقاى	**Zurqaay**
31	**Black- Shouldered Kite*Elanus caeruleus***	كوهية	**Kuuhiya**
32	**Black Kite** *Milvus migrans*	حداية سوداء	**Hidaya Sowdaa**
33	**Egyptian Vulture** *Neophron percnopterus*	الرخمة المصرية/انوق	**Rakhma Masriyya/Annuq**
34	**Griffon Vulture *Gyps fluvus***	نسر اسمر	**Nisr Asmar**
35	**Marsh Harrier** *Circus aeruginosus*	دراع	**Darraa**
36	**Pallid Harrier** *Circus macrouros*	مرزة بغشاء	**Murza Baghshaa**
37	**Montagu's Harrier** *Circus pygargus*	ابو شردة	**Abou Sharada**
38	**Sparrowhawk** *Accipiter nisus*	باشق	**Bashiq**
39	**Levant Sparrowhawk** *Accipiter brevipes*	باز/بيدق/باشق	**Baaz**
40	**Honey Buzzard** *Pernis apivorus*	حوام النحل	**Hawwaam El Nahl**
41	**Long-legged Buzzard** *Buteo rufinus*	صقر جراح	**Sakr Garra'h**
42	**Steppe Buzzard** *Buteo buteo vulpinus*		
43	**Lesser Spotted Eagle** *Aquila pomarina*	عقاب سفعاء صغرى	**Ooqap Saf'aa Soghra**

NO	English and Latin Name	Arabic name	Arabic (phonic)
44	**Spotted Eagle *Aquila clanga***	عقاب سفعاء كبرى	Ooqap Saf'aa Kubra
45	**White-tailed Eagle *Haliaeetus albicilla***	عقاب البحر	Oqaab El-Bahr
46	**Golden Eagle** *Aquila chrysaetos*	عقاب ذهبى	Ooqap Zahabee
47	**Steppe Eagle** *Aquila nipalensis*	عقاب السهول	Ooqap Al Sehool
48	**Imperial Eagle** *Aquila heliaca*	عقاب ملكى/خطية	Ooqap Malakee
49	**Bonelli's Eagle** *Hieraaetus fasciatus*	عقاب مسيرة كبرى	Ooqap Maserah Kobra
50	**Booted Eagle** *Hieraaetus pennatus*	عقاب مسيرة صغرى	Ooqap Maerah Sogha
51	**Osprey** *Pandion haliaeetus*	عقاب منسورى/نسارى	Ooqap Nassaree
52	**Short-toed Eagle** *Circaetus gallicus*	عقاب ابيض	Ooqap Abiad
53	**Saker / Lanner** *Falco cerrug / biarmicus*	صقر الغزال/صقر حر	Sakr El Ghazal/Sakr Huorr
54	**Kestrel** *Falco tinnunculus*	عوسق	Aowsaq
55	**Red-footed Falcon** *Falco vespertinus*	لزيق	Luziq
56	**Hobby** *Falco subbuteo*	كونج	Kunj
57	***Babary Falcon Falco pelegrinoides***	شاهين مغربى	Shaheen Maghrabee
58	**Sooty Falcon** *Falco concolor*	صقر الغروب	Sakr Al Ghroup
59	**Sand Partridge** *Ammoperdix heyi*	حجل الصخر	Hagal El Sakhr
60	**Quail** *Coturnix coturnix*	سمان/سلوى	Semman/Salowa
61	**Little Crake** *Porzana parva*	مرعة صغيرة	Mar'aa Sagherrah
62	**Corncrake** *Crex crex*	مرعة الغلة	Mar'aa Al Ghallah
63	**Water Rail** *Rallus aquaticus*	مرعة الماء	Mar'aa Al Ma'a
64	**Moorhen** *Gallinula chloropus*	دجاج الماء	Dagag Al Ma'a
65	**Coot** *Fulica atra*	غر	Ghurr
66	**Demoiselle Crane *Grus virgo***	كركى حبشى	Kurkee Habashee
67	**Crane** *Grus grus*	كركى/رهو/غرنوج	Kurkee / Rahuu
68	**Oystercatcher** *Haematopus ostralegus*	اكل المحار	Akel Alahhar
69	**Black-winged Stilt** *Himantopus himantopus*	ابو المغازل/ابو قصبة	Abou Al Maghaazil
70	**Stone Curlew *Burhinus oedicnemus***	كروان سنغالى	Karawaan Senghalee
71	**Cream-coloured Cursor** *Cursorius cursor*	الجليل/جروان	Al Galeel
72	**Collared Pratincole *Glareola pratincola***	ابو اليسر مطوق	Abou El-Yusr Mutwwaaq
73	**Black-Winged Pratincole *Glareola nordmanni***	ابو اليسر اسود الجناح	Abou El-Yusr Aswad El Genaah
74	**Little Ringed Plover** *Charadrius dubius*	قطقاط متوج صغير	Qatqaat MutawwagSagheer
75	**Ringed Plover** *Charadrius hiaticula*	قطقاط متوج كبير/زقزاق	Qatqaat MutawwagKabeer
76	**Kentish Plover** *Charadrius alexandrinus*	قطقاط ابو الرؤوس	Qatqaat Abou El Ru'uus
77	**Greater Sand Plover** *Charadrius leschenaultii*	قطقاط الرمل الكبير	Qatqaat El Raml El Kabeer
78	**Grey Plover** *Pluvialis squatarola*	قطقاط رمادى	Qatqaat Ramaadee
79	**White-tailed Plover** *Chettusia leucura*	قطقاط ابيض الزنب	Qatqaat Abiad Al Zanab
80	**Spur-winged Plover** *Hoplopterus spinosus*	قطقاط ابو زفر/ زقزاق	Qatqaat Abou Zufur/ Zaqzaaq
81	**Sanderling** *Calidris alba*	مدروان	Midrawaan
82	**Dotterel *Eudromias morinellus***	قطقاط اغبر	Qatqaat Aghbar
83	**Lapwing *Vanellus vanellus***	زقزاق شامى	Zaqzaaq Shaamee
84	**Little Stint** *Calidris minuta*	كروان الماء/دريجة	Karawaan Al ma'a/ Durrayga
85	**Temmink's Stint** *Calidris temminckii*	فطيرة تمنك	Futyra Temminck
86	**Curlew Sandpiper** *Calidris ferruginea*	دريجة كروانية	Durrayga Karawaanyya
87	**Dunlin** *Calidris alpina*	دريجة	Durrayga
88	**Broad-billed Sandpiper** *Limicola falcinellus*	طيطوى عريض المنقار	Tiytawaa Areed El Minqaar
NO	English and Latin Name	Arabic name	Arabic (phonic)

89	**Ruff** *Philomachus pugnax*	بياض/حجوالة/طوطو	Bbayyaad/ Hagwaala / Tawtaw
90	**Snipe** *Gallinago gallinago*	بكاشين/شنقب	Bakasheen/Shunqub
91	**Black-tailed Godwit** *Limosa limosa*	بقويقة سوداء الذنب	Biqwayqa Sudaa El Zanab
92	**Whimbrel** *Numenius phaeopus*	كروان الماء/الغيط الصغير	Karawaan Al ma'a Al Sagheer
93	**Curlew** *Numenius arquata*	كروان الغيط/الماء	Karawaan Al ma'a
94	**Spotted Redshank** *Tringa erythropus*	طيطوى احمر الساق ارقط	Tiytawaa Ahmar Al Saaq Arqat
95	**Redshank** *Tringa totanus*	طيطوى احمر الساق	Tiytawaa Ahmar Al Saaq
96	**Marsh Sandpiper** *Tringa stagnatilis*	طيطوى المستنقع	Tiytawaa El Mustanqa'a
97	**Greenshank** *Tringa nebularia*	طيطوى اخضر الساق	Tiytawaa Akhdar Al Saaq
98	**Green Sandpiper** *Tringa ochropus*	طيطوى اخضر	Tiytawaa Akhdar
99	**Wood Sandpiper** *Tringa glareola*	طيطوى الغياض	Tiytawaa El Ghiyaad
100	**Terek Sandpiper** *Xenus cinereus*	طيطوى نكات	Tiytawaa Nakkaat
101	**Common Sandpiper** *Actitis hypoleucos*	طيطوى	Titawwaa
102	**Turnstone** *Arenaria interpres*	قنبرة الماء	Qunburat Al Ma'a
103	**Great Black Headed Gull *Larus ichthyaetus***	نورس السمك	Nuuris El-Samak
104	**Black-headed Gull** *Larus ridibundus*	نورس اسود الرأس	Nuuras Aswad El Ra'as
105	**Slender-billed Gull** *Larus genei*	نورس قرقطى	Nuuras Qarqatee
106	**White-eyed Gull** *Larus leucophthalmus*	نورس عجمة	Nuuras Agama
107	**Sooty Gull** *Larus hemprichii*	نورس اسحم	Nuuras Asham
108	**Lesser Black-Backed Gull *Larus fuscus***	نورس دغبة	Nuurus Dughba
109	**Mediterranean Gull *Larus melanocephalus***	نورس البحر المتوسط	Nuurus El Bahr El Mutawasset
110	**Gull-billed Tern *Sterna nilotica***	خطاف نورسى المنقار	Khuttaf Nuurassee El-minqar
111	**Caspian Tern** *Sterna caspia*	خطاف ابو بلحة/ابو جرة	Khottaf Abou Balaha
112	**Lesser Crested Tern** *Sterna bengalensis*	خطاف متوج	Khottaf Mutawaag
113	**Little / Saunders's Tern** *Sterna albifrons / saundersii*	خطاف البحر الأحمر	Kottaf El Bahr EL Ahmar
114	**White-cheeked Tern** *Sterna repressa*	خطاف ابيض الخد	Khottaf Abyad El Khaad
115	**Black Tern** *Chlidonias niger*	خطاف اسود/خرشنة	Khottaf Aswad
116	**White-winged Black Tern** *Chlidonias leucopterus*	خطاف اسود ابيض الجناح	Khottaf Aswad Abyad Al Genaah
117	**Whiskered Tern** *Chlidonias hybrida*	خطاف أبو بطن	Khottaf Abou Batn
118	**Common Tern *Sterna hirundo***	خطاف البحر	Khuttaf El-Bahr
119	**Spotted Sandgrouse** *Pterocles senegallus*	قطا أرقط	Qataa Arqut
120	**Crowned Sandgrouse** *Pterocles coronatus*	قطا متوج	Qataa Mutawaag
121	**Lichtenstein's Sandgrouse** *Pterocles lichtensteinii*	قطا	Qataa
122	**Rock Dove** *Columba livia*	حمام جبلى	Hamaam Gabalee
123	**Collared Dove** *Streptopelia decaocto*	يمام متوج	Yamaam Mutawaag
124	**Turtle Dove** *Streptopelia turtur*	ترجول /قمرى	Turghul / Qimree
125	**Laughing Dove/Palm Dove** *Streptopelia senegalensis*	يمام بلدى	Yamaam Baladee
126	**Namaqua Dove *Oena capensis***	يمام الكاب/ بالوم	Yamaam El-Kaab/Baaluum
127	**Barn Owl *Tyto alba***	بومة مصاصة/ام الصخر	Buuma Massaasa / Umm El-Sakhr
128	**Short-eard Owl *Asio flammeus***	هامة	Hamma
129	**Alpine Swift** *Apus melba*	سمامة الصرود	Sammama El Suruud
130	**Swift** *Apus apus*	سمامة	Sammama
131	**Little Swift/House Swift *Apus affinis***	سمامة	Sammama
NO	English and Latin Name	Arabic name	Arabic (phonic)
132	**Kingfisher** *Alcedo atthis*	صياد السمك/رفراف	Sayaad El Samak/Refraaf
133	**Smyrna Kingfisher/White Breasted**	قاوند	Qaawanad

	Kingfisher *Halcyon smynrensis*		
134	**Pied Kingfisher *Ceryle rudis***	**صياد السمك الابقع/ كريللا**	**Sayaad El SamakEl-abqaa/Qirilla**
135	**European Bee-eater** *Merops apiaster*	**وروراوروبى**	**Warwaar Uuruubbee**
136	**Roller** *Coracias garrulus*	**غراب زيتونى**	**Ghourab Zaytunee**
137	**Hoopoe** *Upupa epops*	**هدهد**	**Hudhud**
138	**Wryneck** *Jynx torquilla*	**لواء/أم الواء**	**Lawwaa/ Umm El Waa**
139	**Crested Lark** *Galerida cristata*	**قنبرة متوجة**	**Quunburra Mutawwaga**
140	**Short-toed Lark** *Calandrella brachydactyla*	**قنبرة قصيرة الاصابع**	**Qunburra Qaseera El Asaabi**
141	**Desert Lark** *Ammomanes deserti*	**قنبرة البادية/الصحراء**	**Qunburra El Baadiya**
142	**Bar-tailed Desert Lark** *Ammomanes cincturus*	**قنبرة الصحراء موشمة الذنب**	**Qunburra El Saharra Muwshammat El Zanab**
143	**Hoopoe Lark** *Alaemon alaudipes*	**مكاء /أبو خميرة**	**Mukkaa**
144	**Bimaculated Lark *Melanocorypha***	**قنبرة الشرق الكبيرة**	**Qunburra El Sharq El-kabeera**
145	**Skylark *Alauda arvensis***	***قنبرة الغيط***	**Qunburra El Ghayt**
146	**Oriental Skylark *Alauda gulgula***	***قنبرة الشرق***	**Qunburra El Sharq**
147	**Rock Martin** *Ptyonoprogne fuligula*	**سنونو الصخر الباهت**	**Sunuunuu El Sakhr El Bahet**
148	**Sand Martin** *Riparia riparia*	**سنونو**	**Sunuunuu**
149	**Pale Crag Martin *Ptyonoprogne obsoleta***	**سنونو الصخر الباهت**	**Sunuunuu El-Sakhr El-Baahet**
150	**Red-rumped Swallow** *Hirundo daurica*	**عصفور الجنة احمر العجز**	**Usfuur El Ganna Ahmar El Agaz**
151	**Barn Swallow** *Hirundo rustica*	**عصفور الجنة**	**Usfuur El Ganna**
152	**House Martin** *Delichon urbica*	**سنونو أبيض البطن**	**Sunuunuu Abiyad El Batn**
153	**Richrad's Pipit** *Anthus novaeseelandiae*	**أبو فصية**	**Abou Fussiya**
154	**Tawny Pipit** *Anthus campestris*	**أبو فصية الصحراء**	**Abou FussiyaEl Saharaa**
155	**Tree Pipit** *Anthus trivialis*	**أبو فصية الشجر**	**Abou Fussiya El Shagar**
156	**Red-throated Pipit** *Anthus cervinus*	**أبو فصية أحمر الزور**	**Abou Fussiya Ahmar El Zoar**
157	**Meadow Pipit *Anthus pratensis***	**ابو فصية الغيط**	**Abou Fussiya El-ghayt**
158	**Water Pipit *Anthus spinoletta***	**ابو فصية الماء**	**Abou Fussiya El-Maa**
159	**White Wagtail** *Motacilla alba*	**أبو فصادة ابيض**	**Abou Fassada Ramaady**
160	**Yellow Wagtail** *Motacilla flava*	**أبو فصادة أصفر**	**Abou Fassada Asfar**
161	**Blue-Headed Wagtail *Motacilla flava flava***	**ابو فصادة ازرق الراس**	**Abou Fassada Azraq El-raas**
162	**Black Headed Wagtail *Motacilla flava feldegg***	**ابو فصادة اسود الراس**	**Abou Fassada Aswad El-raas**
163	**Citrine Wagtail** *Motacilla citreola*	**أبو فصادة أصفر شاحب**	**Abou Fassada Asfar Shaheb**
164	**Grey(Pied) Wagtail** *Motacilla cinerea*	**أبو فصادة رمادى**	**Abou Fassada Ramaady**
165	**Rufous Bush Robin** *Cercotrichas galactotes*	**البلبل الأحمر المغنى/دخلة حمراء**	**El Bulbul El Ahmar El Mughanni**
166	**Thrush Nightingale** *Luscinia luscinia*	**عندليب**	**Andaleeb**
167	**Nightingale** *Luscinia megarhynchos*	**العندليب الأسمر/هزار/عتباز**	**Andaleeb Asmar**
168	**Bluethroat** *Luscinia svecica*	**حسينى**	**Husaynee**
169	**BlackRedstart *Phoenicurus ochruros***	**حميراء سوداء**	**Homayraa Sawdaa**
170	**Redstart** *Phoenicurus phoenicurus*	**حميراء**	**Humayraa**
171	**Blackstart** *Cercomela melanura*	**قليعى أسود الذنب**	**Qulay'ee Aswad El Zanab**
172	**Whinchat** *Saxicola rubetra*	**قليعى احمر/فستوقة**	**Qulay'ee Ahmar**
173	**Stonechat *Saxicola torquata***	**قليعى مطوق**	**Qulay'ee Mutawaaq**
174	**Northern Wheatear** *Oenanthe oenanthe*	**أبلق أبو بليق**	**Ablaq Abou Bulayq**
175	**Isabelline Wheatear** *Oenanthe isabellina*	**أبلق اشهب**	**Ablaq Ashhab**
176	**Black-eared Wheatear** *Oenanthe hispanica*	**أبلق أسود الأذن**	**Ablaq Aswad El uzun**
NO	**English and Latin Name**	**Arabic name**	**Arabic (phonic)**
177	**Mourning Wheatear** *Oenanthe lugens*	**أبلق حزين**	**Ablaq Hazeen**
178	**White-crowned Black Wheatear** *Oenanthe*	**أبلق أبو طاقية**	**Ablaq Abou Taaqiya**

	leucopyga		
179	**Hooded Wheatear** *Oenanthe monacha*	أبو سليمان/ابو منقوت	**Abou Soliyman**
180	**Pied Wheatear** ***Oenanthe pleschanka***	ابلق ابقع	**Ablaq Abqaa**
181	**Desesrt Wheatear** ***Oenanthe deseti***	ابلق الصحراء/ ابو زارا	**Ablaq El-saharaa/ Abou Zara**
182	**Red-tailed Wheatear** ***Oenanthe xanthoprymna***	ابلق احمر الذنب	**Ablaq Ahmar El-zanabg**
183	**Red-rumped Wheatear** ***Oenanthe moesta***	ابلق احمر العجز	**Ablaq Ahmar El-aguz**
184	**Song Thrush** ***Turdus philomelos***	سمنة مطربة	**Sumna Mutriba**
185	**Savi's Warbler** ***Locustella luscinioides***	بلبل الغاب/هازجة المستنقع	**Bulbul El-ghaab/Hazegaa El-mostanqaa**
186	**Moustached Warbler** ***Acrocephalus melanopogon***	هازجة ام شارب	**Haazigaa Umm Shareb**
187	**Sedge Warbler** *Acrocephalus schoenobaenus*	هازجة السعد/وش الدبية	**Haazigaa ElSaad**
188	**Marsh Warbler** *Acrocephalus palustris*	هازجة البطائح	**Haazigaa El Bata'ih**
189	**Reed Warbler** *Acrocephalus scirpceus*	هازجة الغاب/دخلة	**Haazigaa El Ghaab**
190	**Great Reed Warbler** ***Acrocephalus arundinaceus***	هازجة القصب الكبيرة	**Haazigaa El-qasab El Kabeera**
191	**Olive-tree Warbler** *Hippolais olivetorum*	خنشع الزيتون الكبير	**Khansha El Zaytuun El Kabeer**
192	**Olivaceous Warbler** *Hippolais pallida*	خنشع زيتونى/زق	**Khansha Zaytuuny**
193	**Icterine Warbler** *Hippolais icterina*	خنشع ليمونى	**Khansha Laymuuny**
194	**Sardinian Warbler** *Sylvia melanocephala*	دخلة رأساء	**Dukhala Ra'asa'a**
195	**Subalpine Warbler** *Sylvia cantillans*	دخلة الصرود	**Dukhala El Suruud**
196	**Lesser Whitethroat** *Sylvia curruca*	زريقة فيرانى/دخلة فيرانى	**Dukhala Feeraanee Saghyra**
197	**Whitethroat** *Sylvia communis*	زريقة فيرانى/دخلة فيرانى	**Dukhala Feeraanee**
198	**Garden Warbler** *Sylvia borin*	زريقة البساتين	**Zurayqaa El Basateen**
199	**Blackcap** *Sylvia atricapilla*	أبو قلنسوة/دبسية	**Abou Qalansuwa**
200	**Barred Warbler** *Sylvia nisoria*	دخلة مخططة	**Dukhala Mukhatata**
201	**Orphean Warbler** *Sylvia hortensis*	دخلة مغنية	**Dukhala Mughanaya**
202	**Cyprus Warbler** *Sylvia melanothorax*	دخلة رأساء (قبرصية)	**Dukhala Ra'asa'a Qubrosiya**
203	**Chiffchaff** ***Phylloscopus collybita***	سكسكة/ شادية الخمايل	**Suksaka/Shadiyat El-khmaa-el**
204	**Bonelli's Warbler** *Phylloscopus bonelli*	نقشارة صفراء العجز	**Niqshara Safraa El Aguz**
205	**Wood Warbler** *Phylloscopus sibilatrix*	نقشارة الشجر	**Niqshara El Shagar**
206	**Willow Warbler** *Phylloscopus trochilus*	نقشارة الصفصاف	**Niqshara El Safsaf**
207	**Spotted Flycatcher** *Muscicapa striata*	خاطف الذباب الأنقط	**Khatef El Zubab El Anqat**
208	**Semi-collared Flycatcher** *Ficedula semitorquata*	خاطف الذباب شبه المطوق	**Khatef El Zubab Shebh El Mutauwaq**
209	**Red-breasted Flycatcher** *Ficedula parva*	خاطف الذباب احمر الصدر	**Khatef El Zubab Ahmar El Sadr**
210	**Golden Oriole** *Oriolus oriolus*	عصفور التوت /أبو صفير	**Usfuur El Tuut**
211	**Red-backed Shrike** *Lanius collurio*	دقناش أكحل	**Daqnaash Akhal**
212	**Lesser Grey Shrike** *Lanius minor*	دقناش صردى	**Daqnaash Surdee**
213	**Great Grey Shrike** *Lanius excubitor*	دقناش البادية	**Daqnaash Al Badiya**
214	**Woodchat Shrike** *Lanius senator*	دقناش نيلى	**Daqnaash Neelee**
215	**Masked Shrike** *Lanius nubicus*	دقناش قبطى	**Daqnaash Qubtee**
216	**Hooded Crow** *Corvus corone cornix*	غراب بلدى/غراب أبو برنس	**Ghuraab Baladee**
217	**House Crow** *Corvus splendens*	غراب المنزل الهندى	**Ghuraab El manzel Al Hendee**
218	**Raven** *Corvus corax*	غراب أسحم	**Ghuraab Asham**
219	**Brown-necked Raven** *Corvus ruficollis*	غراب نوحى	**Ghuraab Nuhee**
NO	**English and Latin Name**	**Arabic name**	**Arabic (phonic)**
220	**Rose-colord Starling** ***Sturnus roseus***	زرزور وردى	**Zarzuur Wardee**
221	**House Sparrow** *Passer domesticus*	عصفور دورى /عصفور الغيط	**Usfuur Dawree**

222	**Spanish Sparrow *Passer hispaniolensis***	**عصفور اسبانى**	**Usfuur Aspaanee**
223	**Chaffinch** *Fringilla coelebs*	**عصفور ظالم**	**Usfuur Zalem**
224	**Linnet *Carduelis cannabina***	**عصفور تفاحى**	**Usfuur Tuffaahee**
225	**Trumpeter Finch** *Bucanetes githagineus*	**زمار/طبال**	**Zammar**
226	**Ortolan Bunting** *Emberiza hortulana*	**درسة الشعير**	**Durrsa Al Shaeer**
227	**House Bunting** *Emberiza striolata*	**درسة مخططة**	**Durrsa Mukhattata**
228	**Cormorant** *Phalacrocorax carbo*	**غراب البحر**	**Ghuraab El Bahr**
229	**Cuckoo** *Cuculus canorus*	**وقواق/ هوهو**	**Waqwaaq/Huuhuu**

Appendix 7: List of Sharm El Sheik Bantoons , under water walkway, rooms and beds:

م	اسم مكان الاقامة	سقالة عائمة	سقالة مغمورة	عدد الاسرة	الغرف	الدرجة
1	فند ق هيلتو ن الشلالات	1		386	243	خمس نجوم
2	فندق سا فوى			725	422	خمس نجوم
3	فندق ابروتيل بالاس	1		510	255	خمس نجوم
4	فندق ابروتل جراند شرم	1	1	333	224	خمس نجوم
5	فندق الماريوت	1		882	441	خمس نجوم
6	جراند ريزورت	1		724	370	خمس نجوم
7	فندق كونراد ريزورت	1	1	628	351	خمس نجوم
8	فندق البا رون	1	1	714	370	خمس نجوم
9	قرية فورسيزونز	2	1	510	248	خمس نجوم
10	قرية ريف اوز يس	1	1	1162	608	خمس نجوم
11	قرية لا جونا فيستا ريزورت	1		500	245	خمس نجوم
12	قرية هيا ت ريجنسى	1		637	433	خمس نجوم
13	فندق الموفينبيك	2	1	734	367	خمس نجوم
14	فندق هيلتون شارم دريمزريزورت	1		494	312	خمس نجوم
15	فندق هوليدى ان	1	1	1060	520	خمس نجوم
16	قر ية شيراتون البا شا ريزورت	1		1025	621	خمس نجوم
17	فندق ريتزكارلتون	4	1	514	307	خمس نجوم
18	فندق انتركونتنتال شرم الشيخ	1		693	422	خمس نجوم
19	فندق الجولف جولى فيل	3	1	617	317	خمس نجوم
20	قرية دريمز بيتش	1	1	916	471	خمس نجوم
21	قرية تروبيكا نا جراند اوزيس	1	1	787	396	خمس نجوم
22	قرية كورال بى الشيخ كوست	4	2	3299	1176	خمس نجوم
23	فندق سونيستا بيتش	1	1	614	423	خمس نجوم
24	فندق بيرا ميرا	1		1755	836	خمس نجوم
25	فندق سوفوتيل	1	1	567	302	خمس نجوم
26	قرية كراون بلازا	1	1	560	329	خمس نجوم
27	قرية ماجيك لايف نبق	1	1	829	528	خمس نجوم
28	فندق رودان نعمة باى	1	1	420	210	خمس نجوم
29	قريةالد هبية راديسون ساس	1	1	513	332	خمس نجوم
30	فندق سويس اوتيل السلام	1		890	438	خمس نجوم
31	فندق نوفوتيل	1		271	192	خمس نجوم
32	قرية هوست مارك اورينتا ل ريزورت	1		551	287	خمس نجوم
33	قرية سيتى شارم	1		554	284	اربعة نجوم
34	قرية غزالة	1		526	263	اربعة نجوم

م	اسم مكان الاقامة	سقالة عائمة	سقالة مغمورة	عدد الاسرة	الغرف	الدرجة
35	قرية كو ين شرم	1		588	158	اربعة نجوم
36	قرية هيلتون الفيروز	1		746	424	اربعة نجوم
37	قرية تا ور	1		240	120	اربعة نجوم
38	فندق رويا ل بارادايز ريزورت	1		372	200	اربعة نجوم
39	قر ية سونستا كلوب	1		550	306	اربعة نجوم
40	فندق سن رايز نعمة	1		192	96	اربعة نجوم
41	فندق روزيتا تروبيكا نا			647	291	اربعة نجوم
42	كتراكت ريزورت			248	124	اربعة نجوم
43	فندق نيوتا ور	1	1	320	160	اربعة نجوم
44	فندق غزاله جاردن	1		342	176	اربعة نجوم
45	قريه جافى ريزورت			404	204	اربعة نجوم
46	قرية قمر سيناء			182	91	اربعة نجوم
47	فندق هلنان مارينا شارم	1		523	269	اربعة نجوم
48	فندق بيتش الباتروس	1		604	258	اربعة نجوم
49	فندق عايده			393	198	اربعة نجوم
50	فندق كهرمانه			240	110	اربعة نجوم
51	قريه شارم هوليداى	1		376	188	اربعة نجوم
52	فندق جراند شارم ريزورت	1		296	178	اربعة نجوم
53	قريه نوريا ريزورت	1		370	188	اربعة نجوم
54	قريه كورال بيتش تيرانا			673	367	اربعة نجوم
55	فندق ابروتيل كلوب فنار			441	262	اربعة نجوم
56	قريه القريه النوبيه	1		526	264	اربعة نجوم
57	فندق مكسيكانه ريزورت			332	166	اربعة نجوم
58	قريه جاردينا			684	144	اربعة نجوم
59	قريه دايف ريزورت			276	128	اربعة نجوم
60	قرية سينا جاردن/ سى ماستر	1		286	176	اربعة نجوم
61	فندق شرمان قمرين			186	93	اربعة نجوم
62	فندق هورايزون شرم			208	112	اربعة نجوم
63	كليوباترا استكس			264	132	اربعة نجوم
64	قريه كتركت ليالينا			226	98	اربعة نجوم
65	قريه كورال بيتش المنتزه			288	144	اربعة نجوم
66	فندق ابروتيل ليدو شارم			126	62	اربعة نجوم
67	قريه سىكلوب			750	350	اربعة نجوم
68	فندق تروبيكانا شارم			104	52	ثلاثه نجوم
69	فندق هلنان كليف توب			66	33	ثلاثه نجوم
70	فندق باراكودا			100	42	ثلاثه نجوم
71	قريه كينج سينيفرو			400	200	ثلاثه نجوم
72	فندق فا لكون الدياررريزورت			88	44	ثلاثه نجوم
	اسم مكان الاقامة	سقالة عائمة	سقالة مغمورة	عدد الاسرة	الغرف	الدرجة

م						
73	قرية ها لومى			148	74	ثلاثه نجوم
74	فندق كا زا بلا نكا بيك البا تروس	1		212	106	ثلاثه نجوم
75	فندق كلوب زد			192	96	ثلاثه نجوم
76	قرية كلوب ريف			260	128	ثلاثه نجوم
77	فندق تروبيكانا تيفولى			139	67	ثلاثه نجوم
78	فندق باليرموا			82	41	ثلاثه نجوم
79	فندق صنافير			122	61	ثلاثه نجوم
80	فندق روك			96	44	ثلاثه نجوم
81	فندق نيو تيران	1		123	48	ثلاثه نجوم
82	صن سيت			168	82	ثلاثه نجوم
83	فندق ايدن روك			117	60	ثلاثه نجوم
84	فندق فالكون هيلس			172	86	ثلاثه نجوم
85	اوشن كلب			126	70	ثلاثه نجوم
86	فندق يونى شارم (يونيفرسال			164	84	ثلاثه نجوم
87	فندق تركواز			111	66	ثلاثه نجوم
88	فندق شارم ريف	1		284	128	ثلاثه نجوم
89	فندق اوناس			40	20	ثلاثه نجوم
90	فندق ساندى			84	42	ثلاثه نجوم
91	فندق ومركز غوص الجمل			72	38	ثلاثه نجوم
92	قرية ديوان العمر			240	99	ثلاثه نجوم
93	قرية كنابش			136	58	ثلاثه نجوم
94	مخيم الخيمة			75	38	نجمتين
95	مخيم سفتى لاند			78	39	نجمتين
96	مخيم الواحة			40	20	نجمتين
97	مخيم بيت الحما م			136	68	نجمتين
98	فندق اوشن سا ندى			60	30	نجمتين
99	فندق ثرى كورترز با لميرا ريزورت			130	67	تحت التصنيف
100	حورس			50	24	تحت التصنيف
101	قرية هيلتون شاركى باى	1		398	300	تحت التصنيف
102	فندق صن رايز			221	109	تحت التصنيف
103	مدرسة الغوص سلطانة			16	8	تحت التصنيف
104	قرية امفوراس هوليداى ان	1		340	196	تحت التصنيف
105	فندق ردسى اوشن			96	48	تحت التصنيف
106	فندق ريجنسى شرم			80	40	تحت التصنيف
107	قرية ها ف مون			444	224	تحت التصنيف
108	فندق شارمنح ان ان	1		344	195	تحت التصنيف
109	قرية ها وزا	1		688	360	تحت التصنيف
110	مخيم قرية البا دية السيا حية			155	96	تحت التصنيف
	اسم مكان الاقامة	سقالة عائمة	سقالة مغمورة	عدد الاسرة	الغرف	الدرجة

م						
111	فندق فا نتا زيا			192	107	تحت التصنيف
112	بيت الشبا ب			256	76	تحت التصنيف
113	قرية مونا روزا	1		560	280	تحت التصنيف
114	فندق البستا ن	1		238	119	تحت التصنيف
115	قرية شا رم كلوب			240	120	تحت التصنيف
	الاجمالى	67		47482	24213	

Appendix 7.1: Diving Sites moorings (Existing and proposed):

مناطق الغوص		أعداد الشمندورات بمناطق الغوص	
مسلسل	منطقة الغوص	العدد الحالى (٢٠٠٣)	المخطط المستقبلى (٢٠٠٥)
1	دون ريفين	0	2
2	ألترناتيف	0	4
3	مرسى البعيرة	1	3
4	الأولد كى	5	5
5	يولندا ريف	0	2
6	شارك ريف	0	3
7	انيمونى سيتى	0	2
8	شارك اوبزرفاتورى	0	1
9	أيل جاردن	0	2
10	جاك فيش آلي	0	5
11	راس عطار	0	1
12	مرسى بريكة (جنوب)	7	7
13	راس غزلانى	1	2
14	مرسى غزلانى	4	5
15	شعاب المحمية	0	4
16	راس المية	2	2
17	راس كاتى	4	5
18	التمبل	7	7
19	راس أم سيد	2	2
20	باراديس	0	1
21	أمفوراس	0	1
22	التاور	0	1
23	صدفة	2	2
24	النير جاردن	3	4
25	الميدل جاردن	4	5
26	الفار جاردن	2	3
27	الشيخ كوست	1	3
28	خليج القرش	1	3

29	وايت نايت	3	3
30	راس بوب	2	2
31	راس نصرانى	3	3
32	راس جميلة	0	2
33	شعاب الجوردون	7	7
34	شعاب التوماس	0	1
35	شعاب الوودهاوس	0	1
36	شعاب الجاكسون	6	5
37	طرفة شبير	5	5
38	اللاجون الجنوبى	9	9
39	اللاجون الشمالى	1	3
39	المجموع الكلى	82	128

Appendix 8: Park regulations:

INSTRUCTIONS FOR TOURISM COMPANIES

To: …….

From: National Parks of Egypt
South Sinai Sector: Ras Mohammed National Park, Nabq Protected Area, Abu Galum Protected Area, Taba Protected Area, Saint Katherine Protected Area

The South Sinai Sector of the National Parks of Egypt is responsible for the implementation of the existing environmental legislation and of the specific management regulation applied in each protected area. Please note that the following regulations are applicable within protected areas:

General regulations

1. Do not collect, remove or damage any material, living or dead from protected areas (such as corals, shells, fishes, animals, plants, rocks, fossils, etc.)
2. Do not dispose garbage on land or in the water. Please use the garbage containers or take it back with you.
3. Do not enter closed area.
4. Do not damage fragile ecosystems (coral reefs, mangroves, dunes) and do not disturb the fauna or the flora. Fish feeding is strictly forbidden. It upsets the biological balance.
5. Fishing or spearfishing is strictly forbidden.

Entrance fees regulations

1. Ras Mohammed National Park and Nabq Protected Area are subject to daily entrance fees:
2. Egyptian: 5 LE per visitor ad 5 LE per car
3. Foreign (including resident): 5 US $ per visitor and 5 US $ per car
4. Bus and minibus: 10 US $
5. Free entrance for child less than 12 years old
6. Tickets are valid one day from sunrise to sunset
7. Camping is subject to the same rate per day and only allowed in Marsa Bareika sites.

Specific Vehicles Regulations

1. Do not drive out of marked tracks, on beach or on inter-tidal areas. Do not cross any barrier (stone, rope, chain).
2. Use parking areas (P), do not stop in the middle of the tracks.
3. Respect the speed limits: 60km/h on tarmac roads, 30km/h on tracks.
4. Do not use the horn.

Specific Camping Regulations

1. Specific areas are allocated for camping.
2. Do not camp without camping permit.

Specific Guests Regulations

1. Inform your guests of all the existing regulations
2. Ask your guest to respect the national tradition: wear a suitable swimming suit, no topless in public areas.

Regulations are subject to changes during the year, please respect any specific on-site instructions given to you by the National Park staff.

Companies owners or managers are responsible for any damage or violation from their employees.

Offenders are subject to:
1. Prosecution according to Law 102 on protected areas, Law 4 on the protection of environment and any other relevant legal texts including fines for environmental damage.
2. South Sinai Sector Decision of suspension of activities within all protected areas for a period of time defined by the Management Unit.

TAKE NOTHING WITH YOU, LEAVE NOTHING BEHIND
ENJOY YOUR STAY

INSTRUCTIONS FOR DIVING/SNORKELING CENTRES 2001/05)

To: …….

From: National Parks of Egypt
South Sinai Sector covering all the coasts of the Gulf of Aqaba, including Ras Mohammed National Park, Nabq and Abu Galum Protected Area.

The South Sinai Sector of the National Parks of Egypt is responsible for the implementation of the existing environmental legislation and of the specific management regulation applied in each protected area. Please note that the following regulations are applicable within marine protected areas.

General Regulations

1. Do not collect, remove or damage any material, living or dead from protected areas (such as corals, shells, fishes, rocks, fossils, etc.)
2. Do not dispose garbage in the water or on the shore. Please deliver it on land when returning to the nearest harbour.
3. Do not enter closed area.
4. Do not damage fragile ecosystems (coral reefs, mangroves) and do not disturb the fauna or the flora. Fish feeding is strictly forbidden.
5. Fishing or spearfishing is strictly forbidden.

Specific Mooring Regulations

1. Anchoring is strictly forbidden. Use the moorings or do a drift dive. Do not tie ropes to coral.
2. No more than three boats per mooring.
3. If mooring are damaged. Please inform the park for maintenance.
4. In Ras Mohammed National Park, safari boats can only use Yolanda mooring.

Specific Boats Regulations

1. Inform your guests of all the existing regulations
2. Boats are not allowed at night in the National Park
3. Entrance in Ras Mohammed National Park by any boat (diving, snorkeling, tour or safari) is subject to registration with the Coast Guards. Each boat will have on board a crew list and dated blue tickets of the Park valid only for one day.
4. Boats have to be identified on both sides by their name and their registration number.
5. Transfer from boat to land or from land to boat is forbidden except emergency.

Specific Diving and Snorkeling Regulations

1. Entrance to Shark Reef is restricted to diving boat (no snorkeling boats) according to a schedule. A slot reference number is attributed to diving centre by the park. Only drift dive.
2. Within Ras Mohammed National Park, snorkeling areas are Marsa Ghoslani, Marsa Bareika South and part of Old Quay.
3. When diving from shore, do not step and/or walk over corals. When available, use the underwater walkways access.

Ask your guests to respect the national tradition: wear a suitable swimming suit, no topless.

Regulations are subject to changes during the year, please respect any specific on-site instructions given to you by the National Park staff.

Companies owners or managers are responsible for any damage or violation from their employees.

Offenders are subject to:

1. Prosecution according to Law 102 on protected areas, Law 4 on the protection of environment and any other relevant legal texts including fines for environmental damage.
2. South Sinai Sector Decision of suspension of activities within all protected areas for a period of time defined by the Management Unit.

TAKE NOTHING WITH YOU, LEAVE NOTHING BEHIND
ENJOY YOUR STAY

INSTRUCTIONS FOR BEACH MANAGERS (2001/05)

To: …….

From: National Parks of Egypt
South Sinai Sector covering all the coasts of the Gulf of Aqaba, including Ras Mohammed National Park, Nabq and Abu Galum Protected Area.

The South Sinai Sector of the National Parks of Egypt is responsible for the implementation of the existing environmental legislation and of the specific management regulation applied in each protected area. Please note that the following regulations are applicable within marine protected areas.

General Regulations
Do not collect, remove or damage any material, living or dead from protected areas (such as corals, shells, fishes, animals, plants, rocks, fossils, etc.).
Do not dispose garbage on land or at sea. Use the garbage containers or take it back with you.
Do not damage fragile ecosystems (coral reefs, mangroves, dunes) and do not disturb the fauna or the flora. Fish feeding is strictly forbidden.
Fishing or spearfishing is strictly forbidden.

Specific Marine Regulations (moorings, buoys, boats, floatting and underwater structures)
Anchoring is strictly forbidden. Moorings of recreation boats (speed, glass bottom boats, etc.) can only be installed with National Park (EEAA) authorisation.
Lines of buoys (swimming, diving, access channels) can only be installed with National Park (EEAA) authorisation.
Boats have to be identified by the name of the company or the hotel and by their license number.
Floatting or underwater structures can only be installed with National Park (EEAA) authorisation.

Specific beach regulations (between the high water mark and the corniche)
The improvement of the amenities of the beach is subject to approval of National Park (EEAA). Improvement can only be open frame light structures. The approval by EEAA and the amelioration brought to the setback does not imply ownership of the setback which remains public.
A signpost specifying that the beach is public and part of the National Park must be erected. National Park regulations have to be indicated.
Users will not be charged any fee for using the beach and the sea. Users can be charged only if they use the amenities installed.
Temporary barriers erected during the works between a completed beach and another under improvement have to be removed once constructions are completed. A barrier separating the beach area from the corniche coul be erected, following agreement of National Park (EEAA) but would not exceed 30 cm high.

Specific Guests Regulations

Inform your guests of all the existing regulations
Transfer from boat to land or from land to boat is forbidden except emergency.
Do not step and/or walk over corals. When available, use underwater or floatting walkways access.
Ask your guest to respect the national tradition: wear a suitable swimming suit, no topless in public areas.

Regulations are subject to changes during the year, please respect any specific on-site instructions given to you by the National Park staff.

Companies owners or managers are responsible for any damage or violation from their employees.

Offenders are subject to:
Prosecution according to Law 102 on protected areas, Law 4 on the protection of environment and any other relevant legal texts including fines for environmental damage.
South Sinai Sector Decision of suspension of activities for a period of time defined by the Management Unit.

TAKE NOTHING WITH YOU, LEAVE NOTHING BEHIND
ENJOY YOUR STAY

INSTRUCTIONS FOR DEVELOPERS IN THE GULF OF AQABA (2001/05)

Background

The Egyptian Environmental Affairs Agency (EEAA) regulates activities in the shore setback on the basis of the provisions of the Law 102 of 1983 which stipulates that activities in areas adjacent to protected areas have to be controlled if they are likely to affect or impact the protected area.

The marine environment (from the high water mark over eleven years until 3 to 5 km offshore) of the whole coast of the Gulf of Aqaba has been declared a protected area by the Prime Ministerial Decrees 33 and 1053. This coast is subject to the application of setback regulations.

For the Gulf of Aqaba, the EEAA staff in South Sinai Sector of the National Parks of Egypt is responsible for the application of the setback regulations. The EEAA has successfully protected and managed coastlines, landscapes, marine resources and water quality in Sharm El Sheikh area through a process that establihes a close linkage netween individual investors and EEAA staff in South Siani. This close linkage is based on the understanding of the role of EEAA in the area which promotes the following principles:
the protection of environment and mnatural resources is necessary to insure a sustainable development and respect the national heritage for the benefit of future generation;
the sustainability of tourism is closely linked to the quality of environment;
the long term protection and management of the environment increases the value of the investments.

According to the law, the provisiion of an Environmental Impact Asessment is mandatory. This applies to the resort, to the improvement of the setback and of the marine environment. Such an EIA will have to include but is not limited to evaluation of possible impacts linked to desalination plants, sewage treatment plants, infrastructures, landscaping, planting, development of dry beaches.

Within this EIA and before any intervention, the owner and/or the developper will have to provide the layouts of the full project and information on the different phases if any. Mitigation measures for any potential impact and monitoring programmes have also to be included in the EIA. The transmission of these documents will have to be done officially to the CEO of the EEAA and accompanied by a letter of the owner or the developper.

Each development is treated individually and EEAA staff are availbale on request to resolve issues of mutual concern. The EEAA also inspects properties randomly and without notice to ensure that these are operating according to existing regulations. The regulations are based on the principle that setback areas and the sea are State owned, that they are administered by the State and that public access to setback areas and to the sea cannot be prevented by either the owners or managers of adjacent properties.

Marine and coastal regulations

Marine and coastal regulations applicable in a proposed development area are presented below but not restricted to:

Setback definition: All properties must respect the setback determined jointly by EEAA and the relevant authorities in area fronted by a declared protected area. The setback is decided on the basis of coastal morphology, exposure, stability of the coastline, nature of coastal resources and other relevant criteria. According to the law, the setback is 200 meters from the high water mark (defined by EEAA staff in South Sinai) but according to the above criteria, another distance can be afforded to some part of the shore. When the distance between the high water mark and the first public infrastructure (e.g. road) is less 200 meters, the area remains public. Setback distance is approved by the Chief Executive Officer (CEO) of the EEAA according to Law 4 of 1994.

Public corniche: The setback will be bordered by a public corniche connected between properties. Each individual owner will construct that section of the corniche fronting his property. Along the Gulf of Aqaba, this public corniche is located within a 15m width strip separating the setback from the first building.

Setback improvement: Setback area improvement is not permitted unless approved by EEAA-CEO representing the State. Improvements may be permitted if they enhance the amenity value of the frontage, do not affect the aesthetics of the area, do not block views

and do not affect the value of adjacent properties or areas. Access, light infrastructures, gardening and dry beaches are the only agreed improvements (see details further down). These improvements does not imply ownership of the setback area at the time of the improvement or in the future.

Marine improvement: All access requirements (jetties, marinas, pontoons, moorings, floatting or underwater walkways, etc.) must be approved by EEAA-CEO following an evaluation and recommendation by EEAA Staff in South Sinai (see details further down). The EEAA may request additional information or an environmental impact assessment (EIA) if these are considered essential to the decision making process.

Setback improvement definition: conditions and technical aspects

General comments:

Improvements in the setback does not imply ownership of the setback area at the time of the improvement or in the future. Owners or managers of the hotels cannot prevent public access.

Any alteration or change in the setback such as te construction of dry beaches, pathways, viewpoints, seating areas, beach access points must be approved by the EEAA.

The setback cannot be used as a temporary area for building equipment, facilities or wastes. These activities.

Light structures: Fixed structure are not permitted unless approved by the EEAA. Only open frame light structures could be considered. Installation of shades, umbrellas and sun beds can be authorised.

Artificial sandy beaches (Dry beaches): Dry beaches cannot be installed unless approved by the EEAA. Import of sand is subject to specific conditions such as the quality of the sand and the creation of retaining walls in order to avoid the spilling of sand towards the sea. The installation is supervised by EEAA staff in South Sinai.

Gardening: Vegetation and tree planting in the setback must be approved by the EEAA. Planted areas in the setback must be lined with a waterproof material to prevent any leaching of fresh water, fertiliser or pesticides. Watering is restricted to dropping (no sparkling).

***Corniche*:**

Fencing: Setback area must be maintained free of fencing or any material that defines boundaries or property lines. Temporary barriers can be erected between a completed property and adjacent properties under constructions. The barriers must be removed once constructions are completed.

Other infrastructures: All infrastructures (pipelines, cables, etc.) traversing the setback must be approved by the EEAA. All discharges must be specified before approval. Sewage discharge are not permitted regardless of the level of prior treatment. Desalination brine must be diluted prior to discharge to at least 10% of ambient salinity. Thermal discharges of sea water are not permitted without prior cooling to the temperature of the receiving waters.

Commercial activities: Commercial activities within the setback area are not permitted unless aprroval by the EEAA. (to be transferred to the section for hotel managers)

Marine improvement definition: condition and technical aspects

***General comments*:**

Improvements in the marine environment is subject to specific authorisation of the EEAA. The provision of an Environmental Impact Assessment (EIA) is mandatory according to Law 4 of 1994. Evaluation and recommendation are provided by EEAA staff in South Sinai.

The removal of any part of the marine environment is strictly forbidden. In particular any naturally occurring rock formation located between the high water mark over eleven years and the reef edge cannot be removed or dislodged without the specific authorisation of the EEAA afforded in very specific cases. This applies in particular to individual stones, beach rock pavement, fossil reef boulders, granitic boulders, conglomerates.

Offshore access: Offshore access facilities (jetties, marinas, floatting pontoons, etc.) must be approved by the EEAA. Definition of a jetty, of a marina and of floatting pontoons.

Nearshore access: Nearshore access facilities (floatting, underwater pathways, etc.) must be approved by the EEAA. Definition of floatting walkway and underwater walkway)

Other infrastructures: Any other infrastructure at sea (moorings, marking buoys, swimming pools, etc.) must be approved by the EEAA. Definition of moorings, …

Instructions to be respected during the works

In addition to the previous instructions and regulations, and according to the terms of Law 102 of 1983, during the works, the owners, developers or site engineers in charge will have to ensure that regulations applied to all the marine protected areas (the whole coast of the Gulf of Aqaba according to Prime Minister Decrees 33 and 1035 of 1996) are respected and in particular:

No collection, removal or damage of any material, living or dead, such as corals, shells, fishes, plants or fossils

No fishing, spear-fishing or collectiojn of living organisms

No littering, which means no palstic bags, cement bags or any other material sent or let free (for example transported by the wind) to go to the sea

The owners, developers and site engineers are jointly responsible for any violation occuring from the workers during the works.

SET BACK AND SEA REGULATIONS
(2001/05)

1. SET BACK IMPROVEMENT AND SET BACK USE REGULATIONS

Within the Gulf of Aqaba, the setback is part of the National Parks of Egypt and remains a public area. Developers can obtain authorisation for improvement and use of the set back. The following regulations are being applied:

Setback improvement

Before any activity in the setback area, an EIA has to be provided to and approved by the EEAA through the Governor for land under Governorate authority and through Ministry of Tourism for land under TDA authority

This EIA has to include all proposed facilities, drawings and cross section before and after improvement in case of proposed modification of the contours

Between (outside) the setback and the property, a public corniche or promenade has to be installed.

Specific regulations for setback improvement are available, ref. 2000

After improvement, a full description of any infrastructure (water, electricity, fixed light structure) has to be delivered to the National Park of Egypt (in the letter of authorisation)

Any modification is subject to a new authorisation

Set back use regulations

It is forbidden to charge entrance to the setback area

Normal cars and trucks are not allowed to deliver or collect any equipment only manually or by electrical vehicle

Between the corniche and the set back, a stone wall can be built but not more than 30cm high, greening near this wall cannot exceed 80cm high

The use of sun beds, chairs, umbrellas or any mobile equipment of the set back in the sea is strictly forbidden

Signs of the National Park have to be installed at each access

Developers are considered as responsible for any damage to the marine environment by their staff or their guests. Companies doing the installation are only responsible for the damage during the installation, guaranty period or if any during the maintenance contract. Staff from the developers can be trained on environmental maters in order to provide better service to their guests. For example the use on sun beds and chairs in the sea is strictly forbidden.

2. SEASIDE FACILITIES AND USE REGULATIONS

Within the Gulf of Aqaba, the seaside is part of the National Parks of Egypt and remains a public area. Developers can obtain authorisation for improvement of the seaside. The following regulations are being applied:

Sea side facilities

Before any activity at sea, an EIA has to be provided to and approved by the EEAA through the Governor for land under Governorate authority and through Ministry of Tourism for land under TDA authority

This EIA has to include all proposed facilities, drawings, cross section and detailed description of the marine environment. Discharge and effluents are not authorised.

Facilities that could be authorised include floating and underwater walkways, moorings, floating line for separation of activities. Any other infrastructure or facilities are subject to very specific studies and can be rejected by the National parks of Egypt.
After improvement, a full description (maps and technical description) of any infrastructure (greening, water, electricity, fixed light structure, etc.) has to be delivered to the National Park of Egypt in conformity with the description in the letter of authorisation. Any modification is subject to a new authorisation
Sea side use
It is forbidden to charge entrance to the sea side area
Floating walkways can only be use for access for recreational activities. Loading and unloading passengers are restricted to agreed jetties.
The National Parks of Egypt have the right to stop any activity potentially harmful for the marine environment
Signs of the National Park have to be installed at each access
Developers are considered as responsible for any damage to the marine environment by their staff or their guests. Companies doing the installation are only responsible for the damage during the installation, guaranty period or if any during the maintenance contract.
Staff from the developers can be trained on environmental maters in order to provide better service to their guests. For example the use on sun beds and chairs in the sea is strictly forbidden.

INSTRUCTIONS FOR DIVING/SNORKELING/RECREATION CENTRES OR BOATS (2001/04)

From: **National Parks of Egypt**

The South Sinai Region covers all the coasts of the Gulf of Aqaba, including Ras Mohammed National Park, Nabq and Abu Galum Protected Area. The South Sinai Region of the National Parks of Egypt is responsible for the implementation of the existing environmental legislation and of the specific management regulation applied in each protected area.

Please note that the following regulations are applicable within marine protected areas.

General Regulations

Do not collect, remove or damage any material, living or dead from protected areas (such as corals, shells, fishes, rocks, fossils, etc.)

Do not dispose garbage in the water or on the shore. Please deliver it on land when returning to the nearest harbour.

Do not enter closed area.

Do not damage fragile ecosystems (coral reefs, mangroves) and do not disturb the fauna or the flora. Fish feeding is strictly forbidden.

Fishing or spearfishing is strictly forbidden.

Specific Mooring Regulations

Anchoring is strictly forbidden. Use only the National Park moorings marked by a National Park buoy. Do not tie ropes to coral. Do not use old ropes or moorings without National Park buoy.

No more than three boats per mooring.

If mooring are damaged. Please inform the park for maintenance.

Safari boats can only use specific moorings (see next section items 8 and 9)

Specific Boats Regulations

Inform your guests of all the existing regulations

Boats are not allowed at night in Ras Mohammed National Park.

Boats and activities by sea are not allowed within closed areas: Mangrove island, from 500 to 2500 meters from Ras Attar eastward, Marsa Khoshbi, from Conny Bay to Turtle Beach and South of Sharm El Mina. Areas are marked with green and red signs. Access to the red side is forbidden.

Entrance in Ras Mohammed National Park by any boat (diving, snorkeling, tour or safari) is subject to registration with the Coast Guards. Each boat will have on board a crew list and dated entrance tickets of the Park valid only for one day.

Boats have to be identified on both sides by their name and their registration license number.

Transfer from boat to land or from land to boat is forbidden except emergency only after contacting the Park (channel 14).

Boats should have holding tank on board. Discharge is only authorised in coastal facilities or during motion (minimum speed 6 knots) and outside National Park area.

Moorings for safari boats are available at North and South Laguna, Temple, Ras Um Sid, Ras Cathy and Old Quay.
Safari boats are allowed to moor at night in the areas designated by Coast Guards (Temple and Ras Um Sid).

Specific Diving and Snorkeling Regulations
Entrance to Shark Reef Section (from Ras Attar to Mangrove Channel) is restricted to diving boats (no snorkeling boats) according to a schedule. A slot is attributed to diving centre by the park. Only drift dive. Existing Shark Reef Section Schedule is attached.
Safari boat access is out of the three daily slots.
Within Ras Mohammed National Park, snorkeling areas are Marsa Ghoslani, Marsa Bareika South and Old Quay.
When diving from shore, do not step and/or walk over corals. When available, use the underwater walkways.

Other notes
Ask your guests to respect the national tradition: wear a suitable swimming suit, no topless.
Regulations are subject to changes, please respect any specific on-site instructions given to you by the National Park staff.
Company's owners or managers are responsible for any damage or violation from their employees. If breaching the regulations, companies, boats or individuals will be suspended from entrance in the Park for a period to be decided by the Park Management.

Offenders are subject to:
Prosecution according to Law 102 on protected areas, Law 4 on the protection of environment and any other relevant legal texts including fines for environmental damage.
South Sinai Sector decision of suspension of activities within all protected areas for a period defined by the Management Unit.
Specific penalties will be applied to specific cases such as damage on reef or more than three boats on a mooring.

TAKE NOTHING WITH YOU, LEAVE NOTHING BEHIND
ENJOY YOUR STAY

INSTRUCTIONS FOR TOURS, SAFARIS, RENTING VEHICLES (CARS, MOTORBIKES, OTHERS) COMPANIES
(2002/05)

Please inform your guests that any trip is planned to cross part of the development area of Sharm El Sheikh, Dahab, Nuweiba to Taba or Saint Katherine and to enter the protected areas of the South Sinai Region of the National Parks of Egypt: Ras Mohammed, Nabq, Abu Galum, Taba and Saint Katherine.

The Law 102 of 1983 on protected areas defines the general regulations (inside the protected areas and in the adjacent areas and in particular it is strictly forbidden to:

Commit actions or carry out activities which will lead to the destruction or deterioration of the natural environment or harm the biota (terrestrial, marine or freshwater)
Detract the aesthetic standards
Hunt, transport, kill or disturb wildlife
Damage or remove any living organisms or natural features and resources (plants, soil, geological features)
Pollute the soil, water or air

In relation to this, specific site regulations are enforced by the National Parks environmental officers, rangers and community guards (Bedouins). These regulations include in particular:
no off track: stay on the marked tracks
no graffiti: do not mark the rocks or trees
no littering: take away your wastes

Respect these rules and you will be sure that others can enjoy the same quality of environment.

Respect these rules and you will not face any problems with the National Park Authority.

TAKE NOTHING WITH YOU, LEAVE NOTHING BEHIND
ENJOY YOUR STAY