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Tourism Potential & Management in Wadi El Gemal-Hamata

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Abbreviations/acronyms

AED	ACADEMY FOR EDUCATIONAL DEVELOPMENT
ARE	ARAB REPUBLIC OF EGYPT
CD	COMPACT DISC
EEAA	EGYPTIAN ENVIRONMENTAL AFFAIRS AGENCY
EEPP	EGYPTIAN ENVIRONMENTAL POLICY PROGRAM
EIA	ENVIRONMENTAL IMPACT ASSESSMENT
GEF	GLOBAL ENVIRONMENTAL FACILITY
GIS	GLOBAL INFORMATION SYSTEMS
GOE	GOVERNMENT OF EGYPT
IBA	IMPORTANT BIRD AREA
MSEA	MINISTRY OF STATE FOR ENVIRONMENTAL AFFAIRS
NCS	NATURE CONSERVATION SECTOR
PSU	PROGRAM SUPPORT UNIT
SFD	SOCIAL FUND FOR DEVELOPMENT
RSSTI	RED SEA SUSTAINABLE TOURISM INNITIATIVE
TDA	TOURISM DEVELOPMENT AUTHORITY
USAID	UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
US	UNITED STATES
WGHPA	WADI EL GEMAL-HAMATA PROTECTED AREA

Executive Summary

The Wadi El Gemal-Hamata Protected Area (WGHPA) was declared in January 2003 under Law 102/1983 for the Natural Protectorates. It is the 24th Protected Area to be declared to date and was designated due to its outstanding natural and cultural heritage resources. The NCS considers tourism one of the main economic uses of the Protected Areas in Egypt and is developing and managing these areas accordingly. Protected Areas around the world are leading destinations for nature-based tourism contributing to national and local economies. Ecotourism is being actively promoted as the most compatible form of tourism at these often sensitive natural and cultural heritage sites.

The key tourism assets of the Protected Area are the following:

- Spectacular natural landscapes and scenery.
- Interesting geological formations.
- Diverse habitats.
- Fascinating and rare plants and animals.
- A wealth of cultural heritage sites from prehistoric to modern times.
- Colorful traditional communities.

Additional attributes that make the park attractive for tourism are its warm subtropical climate, accessibility and availability of tourism facilities.

Wildlife ecotourists represents a large potential target market to the WGHPA and it is expected that there will are individuals that would spend longer durations in the Protected Area. The majority of wildlife tourists will be divers and snorkelers. Ecotourists represent a smaller potential market, most of whom would want a more general nature-cultural experience, with smaller numbers of visitors with more specialized interests, such as birdwatching.

The Protected Area will generate revenue and job opportunities in the public sector, private sector and local communities. Revenue can be generated by the Protected Area through admissions, concession and licensing fees that would be collected by the public sector to be reinvested back into the management and maintenance of the area. The public sector will also collect money from taxes and surcharges on tourism. As for the private sector, tour operators and hotels will be able to sell excursions to the Protected Area, ecolodges, cafeterias and other businesses can operate facilities and services inside the park and information and promotional materials can be produced and sold to visitors. Hotels and business outside the park will also profit from the tourists staying at and using their facilities. Local communities can also benefit through direct employment in the park and associated businesses and the provision and sale of goods and services to tourists.

As the cultural heritage sites are some of the most important tourist attractions in the Protected Area, they are expected to receive more intensive visitor use. In light of this, the utmost consideration should be given to the impacts on the landscapes, habitats and species resulting from tourism along the routes to these sites and at the sites themselves. Mitigation measures should be taken as appropriate to prevent or lessen environmental impacts.

There are several options for the coastal development zones that have been proposed by RSSTI and the TDA. The one preferred by this consultant is the Ecotourism option.Under this scenario, the development zones would be left in a natural state and developed as little as possible. Ecotourism or low impact tourism would be allowed in these areas such as: camping, picnicking, swimming, snorkelling and sunning on the beach. An ecolodge or lodges could be built. This option is the most appropriate and compatible form of land use for a Protected Area, minimizing environmental impacts and allowing sustainable use by the general public. It is felt that these zones would be best utilized as recreational areas serving the Marsa Alam tourism industry. It can be envisaged that many tourists staying in the resorts would want to visit undeveloped, unspoiled natural beaches as day trips. Furthermore it is considered sounder to increase occupancy at the existing hotels before constructing new developments, especially as there are growing concerns of a glut in the market and the economic viability of these facilities (Johnson 2003).

1 Introduction

1.1 Background

The Wadi El Gemal-Hamata Protected Area (WGHPA) was declared in January 2003 under Law 102/1983 for the Natural Protectorates. It is the 24th Protected Area to be declared to date and was designated due to its outstanding natural and cultural heritage resources. This marine and terrestrial Protected Area is situated in the Red Sea Governorate approximately 50 km south of Marsa Alam (see Figure 1). The WGHPA covers approximately 4,000 km of land area, in addition to about 1,600 km of marine waters (Baha El Din, S. in prep.). (See Figure 2, a map of the WGHPA.) The boundaries encompass a segment of the Red Sea coast some 44 km long and extends west some 50 km into the Eastern Desert to the Sheikh Shazli road. The Protected Area also includes Qarat El Hertway Bay and the offshore reefs and islands. Two of the most notable natural features are Wadi El Gemal and Hamata Mangroves for which the Protected Area is named. The management of the WGHPA falls under the Nature Conservation Sector (NCS) of the Egyptian Environmental Affairs Agency (EEAA) under the Ministry of State for Environmental Affairs (MSEA), the body responsible for the management of the National Protected Area Network.

The Egyptian Environmental Policy Program (EEPP), a joint undertaking between the Government of the United States and the Arab Republic of Egypt (ARE) is supporting the development of the WGHPA Management Plan as part of a Conservation Management Plan for the Southern Red Sea Sector. Studies in a number of fields of interest have been commissioned to provide information and recommendations for the development of the WGHPA management plan. This study aims to assess the nature based tourism potential of the WGHPA focusing in particular on non-marine wildlife tourism to provide input to the planning process to insure that tourism activities are developed in a manner conducive to the area's protected status and conservation management objectives. (Refer to Appendix 1 for the terms of reference.)

1.2 Methodology

Two field visits were made to WGHPA in March 2003, including a one-week trip from March 17th to 22nd with a team of national experts. The consultant also relied on experiences from previous visits to the area including visits to the islands in May 2002. Interviews were held with key stakeholders, among them tour operators, hotels, local communities, government officials and other experts. Information was compiled from various sources, including the internet. Existing reports about the tourism potential of the area were reviewed and incorporated into the study as appropriate.

It should be noted that other studies are being produced for the WGHPA management plan on the marine, archeological, botanical and geological aspects of the park that are expected to address the tourism potential of these resources, so these aspects are not discussed in detail in this report. Furthermore, more detailed information is being compiled on the habitats, land forms, terrestrial biodiversity and management needs of the Protected Area so this report seeks to augment and complement rather than duplicate this information.

Figure 1: Location of the WGHPA

Figure 2: Map of the WGHPA

Boundary of Wadi el-Gemal–Hamata Protected Area

2 Existing and Potential Tourism to the WGHPA

2.1 Overview of Tourism to Egypt

Between 4 to 6 million tourists annually visit Egypt, with two thirds of the foreign visitors from Europe (Egyptian State Information Service Website 2003, Trade Partners in Egypt Website 2002). Tourism is the leading sector of the national economy and generator of foreign exchange, so is considered essential for Egypt's national development to create jobs for its growing population (op. cit.). Culture heritage tourism was traditionally the main attraction, but during the past fifteen years leisure and entertainment has grown to become Egypt's leading tourism market, with the Red Sea and South Sinai the top tourist destinations after Cairo (op. cit.). It is estimated that coastal tourism today accounts for 40% of all tourism to Egypt (Egypt Almanac 2003). The Government of Egypt (GOE) aims to increase the numbers of tourists in the coming decade from 5 to 10 million annually, so vast resources are being invested in tourism development in Egypt, particularly along the Red Sea (Arab Communication Consult Website 2000).

The Ministry of Tourism has embraced ecotourism as means to diversify Egypt's tourism industry (International Herald Tribune 2000). Diversification is one of the objectives of a national tourism strategy as a means to help Egypt create employment, divert tourist pressure from heavily visited cultural heritage sites and create new markets that can withstand and respond to fluctuating world tourism markets. Furthermore, there is an awareness of the worldwide growth in nature-based and eco-tourism and a desire to increase the country's share of these emerging fields.

2.2 Nature-based Tourism in Egypt

Nature-based tourism represents a significant portion of Egypt's tourism industry. It is difficult to estimate the numbers of visitors engaging in nature tourism as there are no figures available, but is estimated that it ranges between one to two million tourists annually (Baha El Din in prep. b). A high percentage of tourists take part in nature-based tourism as secondary activities during their sightseeing or leisure holidays in Egypt. Nature-based tourism is dominated by foreign tourists, both visitors to Egypt and expatriates. Tourists from developed nations, particularly from Western Europe, are the visitors mainly engaging in nature and outdoor activities. Only a small segment of the national tourism market is interested in nature tourism, and on the whole tend to be younger and from more affluent and educated backgrounds.

Diving and snorkeling represents the largest share of Egypt's nature-based tourism industry with over a million tourists a year. Desert tourism forms the second largest nature-based tourism sector with tens of thousands of visitors coming annually to Egypt for the purpose of desert tourism, mainly to the Western Desert, while hundreds of thousands other tourists visit the desert via day trips during their stay at coastal resorts in South Sinai and the Red Sea (Baha El Din, M. in prep. b). There is a small, but growing market for bird watching tourism in Egypt. Several hundred persons come to Egypt especially for bird watching and thousands of others engage in bird watching while on holiday.

Only a small proportion of the nature-based tourism to Egypt is ecotourism, although there is growing interest in this field. Few tour companies operating in Egypt are specialized in ecotourism, but a number of tour operators are advertising tours under this heading and a handful of hotels are called "ecolodges". There is no system of

independent verification, but it is thought that the majority of ecolodges and ecotours operating in Egypt would not meet international ecotourism criteria. One of the peculiarities of ecotourism in Egypt is the low level of importance given to wildlife as an attraction; there is greater attention to natural scenery and formations, cultural heritage and local communities (Tourist Development Authority 1999).

The MSEA considers tourism within its plans and strategies as one of the main uses of biodiversity in Egypt. The MSEA views nature and ecotourism from a holistic perspective as having the following roles and benefits (Baha El Din, M. and Baha El Din, S. in prep.):

- A form of sustainable use and helps to fulfil commitments under international conventions, particularly obligations pertaining to biodiversity conservation and sustainable development.
- A regional development tool attracting visitors to remote locations not normally visited by tourists.
- Creates employment and alleviates poverty in local communities often the poorest and most marginalized.
- Gives value to natural habitats and wildlife and creates economic incentives generating awareness and support for conservation.
- Produces revenue that can be reinvested back into the management and conservation of nature.

The NCS considers tourism one of the main economic uses of the Protected Areas in Egypt and is developing and managing these areas accordingly. Protected Areas around the world are leading destinations for nature-based tourism contributing to national and local economies. A number of Protected Areas have been developed in Egypt for tourism and have become tourist attractions gaining national and international recognition. In 2001 there were an estimated over 1,250,000 visitors to Protected Areas in Egypt (Nature Conservation Sector 2002). Ecotourism is being actively promoted as the most compatible form of tourism at these often sensitive natural and cultural heritage sites.

2.3 Existing and Planned Tourism in the Southern Red Sea

It is estimated that there are upwards of two million tourists who annually visit the Red Sea Governorate. Of these, around 1.5 million are foreigners with the majority in the Hurghada area (Cesar 2003). This is likely to change in the future as more tourism developments open in the south. Tourism development in the Red Sea Governorate is best described as “strip development” with wall-to-wall tourism resorts lining the coast. Tourism resorts extend along the Red Sea from El Gouna 35 km north of Hurghada to Wadi Lahmi some 100 km south of Marsa Alam. According to one source, there are now 30,150 rooms on the Red Sea coast, with some 87,301 under construction and projections of 115,000 rooms between Hurghada and Marsa Alam by 2012 (Egypt Almanac 2003). The Tourism Development Authority (TDA) in the Ministry of Tourism is a driving force behind the tourism development along the Red Sea, having jurisdiction over the large tracks of coastline that it sells to investors.

Like elsewhere along the Red Sea coast, the southern Red Sea sector is undergoing rapid development for tourism. While Marsa Alam remains a small coastal community, to the north between Quseir and Marsa Alam a huge tourism center is

under development that will rival Hurghada and Sharm El Sheikh in terms of accommodation numbers. A number of tourism villages are open in this area, while dozens of others are planned or under construction. The largest of these resorts is Port Ghalib, a 18 km stretch including a marina having berths for 1000 yachts and hotels with 4000 room capacity along with a golf course and other facilities catering to tourists (internet and per. comm. Ed Coe). The construction and opening of an international airport north of Marsa Alam is expected to act as a catalyst accelerating tourism in this sector. While the airport is mainly serving chartered flights at present, scheduled local flights have begun and it is expected to receive millions of tourists annually.

The area south of Marsa Alam opened for tourism development and visitation only a little over five years ago. Approximately eight hotels are in operation or under construction between Marsa Alam and Wadi Lahmi, including tourist villages, dive camps and smaller eco-type lodges. Other hotels are planned in the area. Although there is a moratorium on tourism development south of Wadi Lahmi, rumours persist of plans to develop the Ras Banas area for tourism and the construction of a road between Aswan and Bernice linking the Nile Valley and the Red Sea.

There are at present three other Protected Areas in the Red Sea Governorate: the Red Sea Islands protectorates, incorporating the islands off Hurghada and the islands and coastal mangroves to the south not included in other Protected Areas; the Elba Protected Area from north of Shalateen to the border with Sudan; and the WGHPA. Currently, the Red Sea Islands and the marine areas of the WGHPA are open for tourism, while visitation to Elba is restricted. The Red Sea Protected Area Headquarters is located in Hurghada with satellite units at Quseir, Marsa Alam and Shalateen. Existing tourism management mainly focuses on monitoring and enforcing Law 4/1992 for the Environment and the regulations pertaining to coastal tourism development, patrolling and monitoring visitation to the protected islands, buoy establishment and monitoring reef damage by tourists. The management of WGHPA is still under formulation and the park manager and staff have yet to be appointed.

There are hotels adjacent to the Protected Area. The Shams Alam Hotel is situated in the northern buffer zone of the WGHPA, while the Zabargat and Lahmi Bay Hotels are found outside the peripheries of the southern boundaries of the park. There is a recent report of a new hotel under construction just north of the Shams Alam Hotel (per. comm. Sherif Baha El Din). Additional tourism development is planned and proposed inside the Protected Area by the TDA. Land was allocated to a developer at Marsa Umm El Abbas, the turtle nesting beach that is marked by a small wooden building housing a local guard. As part of the Protected Area decree, two development zones were designated along the coast for ecotourism, but the kinds of development to be allowed in these areas is still under discussion between the TDA and NCS (see Section 10 for a more detailed discussion).

There is a good road network supporting the Protected Area linking it with major tourism centers along the Red Sea (Hurghada, Quseir, Marsa Alam) and the Nile Valley (Luxor, Aswan). The main Red Sea coast road between Suez and the Sudanese boarder passes through the WGHPA. The Protected Area is also accessible from the Edfu-Marsa Alam Road via the asphalt road to Sheikh Shazli, which passes through the western section of the Protected Area. There is an extensive network of dirt tracks and asphalt roads in the Protected Area that were established by the mining concerns.

There is also a well developed tourism infrastructure catering to diving and marine based tourism in the vicinity. The largest marina is at Marsa Alam and there is a smaller marina at the ecolodges and dive camps to the south. Near the WGHPA, there is a marina at the Shams Alam Hotel, for boats that primarily visit the island and the reefs in the northern sections of the Protected Area and another marina at Hamata with boats that visits the reefs and islands in the southern section of the park. Most of the hotels maintain their own dive shops.

Tourism in the southern Red Sea mainly caters to the mass package tourism market. Most tourists come on package tours organized through foreign tour operators. The majority of tourists in the Marsa Alam area are either on diving or leisure holidays, with the later increasing in number. Leisure tourism mainly involves sunning, swimming and general relaxation.

There was a reported 63,0000 tourists in the Marsa Alam area in 2000, nearly all foreigners (Ceaser 2003). Formerly, the Germans were the most numerous nationality in the southern Red Sea, mainly coming for diving, but recently they have been overtaken by the Italians who mostly engage in leisure tourism (per comm. Karen van Opstral). The other nationalities reportedly visiting the area in smaller numbers are: the French, Russians, Americans and Scandinavians (Ceasar 2003). Tourism in the Marsa Alam area tends to be a higher quality clientele than at Hurghada to the north when measured in terms of how much money each group spends per day.

Local tour operators are contracted to provide the transfers and sightseeing excursions, which are sold as optional activities through the hotels and the foreign tour operators. In the Marsa Alam area sightseeing excursions are only offered by the tour operators contracted to work with a particular hotel. Excursions by independent contractors are only sold if they cannot be provided by the local tour operator (per comm. Karen van Opstral). Currently, the kinds of excursions being offered are limited; one of the most popular day trips is a visit to Shalateen to see the camel market.

Existing tourism in the WGHPA is mainly in the marine environment, with the highest visitor use in the vicinity of the Qulan Islands. Dive boats regularly visit the reefs in the area, with the numbers of boats and visitors increasing with the establishment of more hotels. Dive boats as well as day trippers are visiting the offshore islands. Lahmi Bay Hotel is organizing visits to one of the islands in the Qulan Island chain for picnics (per. comm. Tony Rouphael). Some snorkelling takes place along the coast, mainly off the hotel beaches. There has been some birdwatching by tourists to the islands and coastal mangroves.

Safari tours to the desert areas of WGHPA are currently limited due to security restrictions. According to Karen van Opstral, the Red Sea Governor ordered the Ministry of Interior not to allow visitation to desert areas until the Protected Area management has been established. The most popular form of desert tourism in the Eastern Desert is general adventure tours, camel rides, tea with the Bedouins and dinners in the desert (per. comm. Karen van Opstral). In the Marsa Alam area there are larger tourism companies and several small independent operators organizing desert safari tours. Red Sea Desert Adventures, operating out of the Saghara Hotel, organizes desert safari tours as both day trips and longer excursions that are more eco-tourism-oriented. Among the itineraries it offers is viewing the sunset, geology, visiting ancient gold and emerald mines and stargazing (Red Sea Desert Safari 2003). The only sites in WGHPA being advertised for desert safari tourism is Zabara and

Hafafait, although other cultural heritage sites in the area, in particular Nugrus and Sekeit, are known to be visited by small numbers of tourists. In their hotel lobby, Shams Alam Hotel is also advertising desert adventures on quad runners.

There is also national tourism in the Marsa Alam region in the form of pilgrimage to religious sites. There are a number of tombs belonging to Moslem saints in the area; the most important of these is Sheikh Shazli. These tombs are visited by Egyptians from the Nile Valley and the Red Sea coast, as well as by some individuals coming from abroad. While the tombs are visited throughout the year, the largest numbers of visitors are during the Mulids, celebrations lasting several days for the birthday of the saints. Over 120,000 individuals were estimated to have attended the Mulid at Sheikh Shazli in winter 2003. There are rest houses and other basic establishments in Sheikh Shazli catering to the pilgrims.

At present there is little local community involvement or benefit sharing from tourism. Local residents include the coastal fishing communities and the bedouins of the Ababda tribe inhabiting the desert regions of the park. While some of these communities reside in permanent settlements, others are of a more temporary nature, and come and go on a seasonal basis. Most of the local communities are extremely poor with little income earning potential. They also lack basic social services. Few locals are employed in the hotels and related businesses. Some bedouins are living off the garbage from the tourism resorts. There are three small towns in the buffer zone of the WGHPA: Abu Ghusun, a mining port, Hamata and Sheikh Shazli. All three contain basic facilities and suffer from environmental problems so are not attractive for tourism. There are also small settlements scattered throughout the Protected Area for local and itinerate workers working in the mining concessions.

There have been a number of projects launched to develop sustainable tourism and ecotourism in the Red Sea region. In the 90's the GEF Red Sea Project conducted a number of studies about the resources of the area and proposed management guidelines for tourism. USAID has been supporting sustainable tourism development in the Red Sea region since 1994. As part of this initiative, there is an on-going project between the TDA and RSSTI studying the ecotourism development potential of the southern Eastern Desert referred to as the "Deep Range".

While the aforementioned studies are a valuable source of information and recommendations on potential tourism development in the WGHPA, these studies do not reflect the area's status as a Protected Area, as it was only declared as such in January 2003. The TDA-RSSTI studies and plans in particular need to be revised to be consistent with the Protected Area regulations and management objectives, as well as incorporate the wealth of experience gained in ecotourism from other Protected Areas around the country, particularly those in South Sinai, Wadi El Rayan in El Fayoum and elsewhere in the Red Sea.

2.4 Potential of Tourism Development to WGHPA

The WGHPA has excellent potential for tourism development given its unique natural and cultural heritage resources. One of the chief attributes that make the area attractive to tourists is the fact that the area is remote, unpopulated and undeveloped, with the resources still in a relatively unspoiled, pristine natural state. Such destinations are increasingly rare in the modern world and are becoming more and more sought by tourists willing to pay a premium for the experience.

The key tourism assets of the Protected Area are the following:

- Spectacular natural landscapes and scenery.
- Interesting geological formations.
- Diverse habitats.
- Fascinating and rare plants and animals.
- A wealth of cultural heritage sites from prehistoric to modern times.
- Colorful traditional communities.

Additional attributes that make the park attractive for tourism are its warm subtropical climate, accessibility and availability of tourism facilities.

A range of nature based tourism activities can be envisaged taking place in the WGHPA, including leisure, recreation, adventure, cultural heritage, wildlife and eco-tourism (see Appendix 2 for a glossary of definitions). Diving, snorkeling and beach tourism are foreseen as the key tourism activities in the marine and coastal environments, while safari and cultural heritage tourism are likely to be the main activities in the desert areas of the Protected Area.

Wildlife and eco-tourists represent a large potential target market to the WGHPA and are expected to be individuals that would spend longer durations in the protected area. The majority of wildlife tourists will be divers and snorkelers. The eco-tourist represents a smaller potential market, most of whom would want a more general nature–cultural experience, with smaller numbers of visitors with more specialized interests, such as bird watching.

There are on-going discussions over the kinds of tourism development that should take place in the southern Red Sea. The area south of Marsa Alam has some of the last remaining pristine coastline left in Egypt. Most of the high quality marine-based tourism is visiting this area, as the coral reefs here are still intact. Given the importance and unspoiled nature of the resources, it has been recommended that the region south of Marsa Alam be developed for high quality ecotourism as a means to diversify Egypt's tourism industry and insure sustainable use to preserve the area and its resources for future generations.

Tourism planning for the WGHPA, however, must take into consideration the planned tourism development in the Marsa Alam area. In the next five to ten years the numbers of hotels and visitors within a 150 km radius will increase exponentially. Given the few other attractions and activities for tourists in the southern Red Sea sector, it is envisaged that the WGHPA will become a leading attraction and locus for tourism as the Protected Area becomes established and known. The popularity of WGHPA is expected to be similar to that of Ras Mohammed National Park and Nabq Protected Areas in South Sinai. Experience in Egypt has shown that declaring outstanding marine and desert areas as Protected Areas near tourism centers creates interest in and demand for visitation to such sites.

Two potential target markets to the Protected Area are foreseen:

As the majority of tourists in the Marsa Alam area are likely in the future to be package tourists on leisure holidays staying at the coastal resorts, it is expected many of these would be interested in taking a one day visit to the Protected Area. Such tourists would want to swim and sun on the pristine beaches and secluded bays, as well as experience the coral reefs, desert wilderness, cultural heritage sites, local

communities and any wildlife that can be readily seen. While the majority of conventional tourists would be satisfied with a visit to the more accessible areas of the park, tourists with a higher degree of interest in nature and willingness to pay would probably want to take desert safari excursions or boat trips to the outlying islands.

Wildlife ecotourists represents a large potential target market to the WGHPA and it is expected that there will are individuals that would spend longer durations in the Protected Area. The majority of wildlife tourists will be divers and snorkelers. The ecotourist represents a smaller potential market, most of whom would want a more general nature-cultural experience, with smaller numbers of visitors with more specialized interests, such as birdwatching.

The Protected Area will generate revenue and job opportunities in the public sector, private sector and local communities. Revenue can be generated by the Protected Area through admissions, concession and licensing fees that would be collected by the public sector to be reinvested back into the management and maintenance of the area. The public sector will also collect money from taxes and surcharges on tourism. As for the private sector, tour operators and hotels will be able to sell excursions to the Protected Area, ecolodges, cafeterias and other businesses can operate facilities and services inside the park and information and promotional materials can be produced and sold to visitors. Hotels and business outside the park will also profit from the tourists staying at and using their facilities. Local communities can also benefit through direct employment in the park and associated businesses and the provision and sale of goods and services to tourists.

Tourism development should be consistent with Law 102/1983 for the Natural Protectorates, as well as with the management objectives for the Protected Area. It is proposed that the tourism development objective for the WGHPA be to:

> Develop and support environmentally sound and sustainable tourism that ensures the conservation of the natural and cultural heritage resources, generates conservation awareness, and encourages local community involvement and benefit sharing.

The WGHPA is envisaged as a regional development tool to support the local tourism industry and national, regional, and local economic objectives. In this regard, tourism development and management of the WGHPA would aim to:

- Diversify tourism to the area
- Provide a quality tourism experience that would encourage word-of-mouth promotion and repeat tourism
- Maintain sustainability of tourism through maintaining the resources and visitor experience
- Create work and employment for local businesses such as hotels through attracting visitors and increasing the number of nights spent in the area.

It is recommended that the WGHPA and its resources be kept as much as possible in a pristine state to maintain the resource base and visitor experience. In this regard the protected area should be developed as much as possible for high quality eco-tourism, as this tends to be low impact tourism and would best realize the park's management objectives. However, all tourism to the protected area—leisure, recreational, and cultural heritage—should be encouraged to be as "eco-tourism oriented" as possible.

Tourism planning for the WGHPA must take into consideration the tourism development in the Marsa el Alam area that is projected to increase exponentially in the next 10 years. The popularity of WGHPA is expected to be similar to that of Ras Mohammed National Park and Nabaq Protected Areas in South Sinai. Experience in Egypt has shown that declaring outstanding marine and desert areas as protected areas near tourism centers creates interest in and demand for access to such sites.

A variety of tools, infrastructure, and manpower requirements are needed to develop and manage tourism to WGHPA. The highest priorities for tourism management should be locations with the highest visitor use, such as the coral reefs, islands, beaches and bays, mangroves and cultural heritage sites and locations with vulnerable and sensitive wildlife, habitats, land forms or cultural heritage sites, such as downstream Wadi el-Gemal. Mitigation measures should be taken as appropriate to prevent or lessen environmental impacts.

3 Ecotourism in the WGHPA

Given the WGHPA's unique combination of natural and cultural resources, the Protected Area has high potential for the development of ecotourism. It expected that the ecotourism experience to the WGHPA would combine one or more of the different facets of the park, including natural scenery, geology, plants, wildlife, cultural heritage and local communities. Ecotourism could also be developed to more unusual sites such as the mines. It is expected that the ecotourism will comprise a variety of activities including: recreation, relaxation, education, spiritual regeneration, adventure and nature appreciation. The development of ecotourism in WGHPA should follow internationally accepted criteria (see Appendix 3) to create an experience that is comparable to that found in other Protected Areas around the world and should capitalize on the lessons learned[1]

While the budget ecotourist is a potential market, it can be envisaged that the WGHPA would appeal to the more affluent, discriminating eco-traveller interested in an exotic natural and cultural experience. Both groups can be catered to through providing diversified services and facilities. Ecolodge development would be an important vehicle to stimulate ecotourism to the Protected Area. The ecotourism potential however corresponds directly with the kind of development allowed in the Protected Area, the more conventional tourism development, mass tourism and environmental degradation, the less attractive the area will be for high quality ecotourism.

The ecotourism development potential of the southern Eastern Desert has been assessed in studies produced by the TDA and RSSTI. These studies reflect the TDA's definition and views of ecotourism, which tend to be "investment-oriented" and were not developed with a Protected Area in mind (Tourist Development Authority in prep). Furthermore, studies have yet to be undertaken to inventory to ecotourism resources, particularly biodiversity or assess environmental impacts. In spite of their gaps and shortcomings, useful information can be derived from these studies about the potential for ecotourism and ecolodge development in the WGHPA.

1 There is considerable confusion over what constitutes ecotourism. There should be a distinction between the average visitor to the park and the ecotourist. Furthermore, it should be recognized that not all wildlife tourists fall in this category since ecotourism must meet specific criteria.

4 Wildlife Tourism in the WGHPA

The following section will evaluate the non-consumptive wildlife tourism potential of the WGHPA, since consumptive wildlife tourism e.g. hunting and fishing is not permitted in the Protected Areas according to Law 4/1994 for the Natural Protectorates. There is existing wildlife tourism to the WGHPA in the form of diving and snorkeling tourism, which represents a substantial market (see Section 2.2), while desert wildlife viewing and bird watching have both been limited to date. The WGHPA has the necessary resources to develop wildlife tourism.

4.1 Habitats

The park contains a diversity of marine and coastal and desert habitats each with its own unique plant and animal life.

4.1.1 Coral Reefs

The Red Sea coral reefs considered some of the most spectacular in the world, are the country's richest habitat in biodiversity and most important wildlife tourism asset.

4.1.2 Sea Grass Beds

Sea grass beds are important nurseries for marine life. These underwater meadows provide food resources to Sea Turtles and Dugongs and are good locations to encounter these animals having high tourist appeal.

4.1.3 Islands

There are a number of islands in the Protected Area. Wadi El Gemal Island is the largest situated in the north off the delta of Wadi El Gemal. It is a coralline island with a small mangrove stand in the southern part. The Qulan Islands off Hamata is an archipelago of four small sandy and coralline islands: Siyul, Showarit, Umm Ladid and Mahbis. These islands fringed by species rich coral reefs are important nesting sites for sea birds and Sea Turtles. The islands have been designated by Bird Life International as Important Bird Areas (IBAs). These attractive desert islands with their rich wildlife resources have high appeal for wildlife tourism

4.1.4 Mangroves

Mangroves, while a rather scarce habitat in the Egyptian Red Sea compared to other destinations with mangroves, are areas of relatively high biodiversity. WGHPA has a high percentage of Egypt's mangrove coverage. Hamata is one of the largest mangrove stands in Egypt, while smaller stands are found elsewhere on the coast and islands in the Protected Area. The tidal flats around the mangroves are important nurseries for marine life and are home to crustaceans and other tidal life. A number of bird species breed in the mangroves and many other species seek shelter in the vegetation and feed on surrounding the mud flats. Given the uniqueness of this habitat and abundance of wildlife, it is an important wildlife tourism attraction.

4.1.5 Desert

The Eastern Desert is a vast area of pristine wilderness with spectacular natural scenery. Although the desert is poor in species and animals are scarce, they are inhabited by rare and fascinating creatures adapted to the harsh arid environment.

Different species are found in the different desert habitats: the coastal plain, wadis, mountains and inland plains. The more densely vegetated wadis, wells and springs are important locations for observing desert wildlife as they tend to frequent such locations. While desert animals present challenges for wildlife viewing, the deserts of WGHPA have good wildlife tourism potential.

4.1.6 Man-made Environments

Hotel gardens and human settlements provide food and shelter attracting wildlife, many of which live in close proximity to man, so are attractive locations for wildlife tourism.

4.2 Species

The WGPA has a wide diversity of marine and desert species. While the Red Sea has a high degree of endemism, only a few animals are restricted to the southern Eastern Desert. Internationally important populations of some species occur in the Protected Area along with a number of globally threatened species that would be of interest to tourists.

4.2.1 Mammals

Rodents and Bats are the most numerous desert mammals. Mega fauna, such as the large mammals are few in number and difficult to see. Mammals with high wildlife tourism appeal are: Dugong, Dolphins, Gazelles, Ibex, Barbary Sheep, Foxes, Hyena, Wild Cats and Rock Hyrax.

4.2.2 Birds

Birds are the most numerous and visible terrestrial fauna in the WGHPA. The resident avifauna is composed of some 43 species, while a much larger diversity of species visit the area on a seasonal basis as either passage migrants, winter visitors and breeding and non-breeding summer visitors. It could be envisaged that between 150 to 200 bird species could potentially occur in the Protected Area. Birds would be of interest to the general tourists, as well as birding tourists alike, with the highest interest in certain species with tourism appeal like vultures and sandgrouse and impressive concentrations of birds such as breeding colonies.

- Red Sea Birds: There are 15 species (waterbirds, seabirds and birds of prey) associated with and largely confined to the marine environment. Internationally important concentrations of some species nest on the islands, including White-eyed Gull, an endemic seabird to the Red Sea. Only a few of the breeding birds on the islands are resident, most are summer breeding visitors. The mangroves are also home to herons, Osprey and other birds of interest to tourists.
- Desert Birds: The deserts are inhabited by a variety of species, including birds of prey, sandgrouse, larks, wheatears and finches. While some desert species are common and easy to observe, many are elusive and rare.
- Winter Visitors: Winter visitors occur in all habitats in relatively small numbers.
- Passage Migrants: The Red Sea is situated on important international migration routes. A wide diversity of passerines and near passerines pass

through the area in the spring and autumn, including swallows, bee-eaters, warblers, pipits, larks and shrikes. Exhausted migrants can be found sheltering and resting in the vegetation throughout the area. In the spring the mountains of the Eastern Desert are the main flyway for birds of prey, potentially more than 20 different species of raptor migrates through the area including eagles, buzzards, kites, falcons, vultures and harriers. Waterbird migration (ducks, herons, gulls, terns, waders) has been noted along the coast, particularly in the autumn when large concentrations of waders were reported stopping to feed and rest at the tidal flats near the Hamata Mangroves.

4.2.3 Reptiles

The WGHPA has a rich herpofauna, including snakes, lizards and marine turtles. Reptiles are one of the most numerous and widespread vertebrate fauna in the Protected Area. Although they do not have the same appeal as mammals and birds, reptiles are an important resource for wildlife tourism as they are relatively easy to find and observe. Reptile mega fauna with high appeal to tourists are: Spiny Agama, Oscillated Dab Lizard, Horned Viper and sea turtles.

4.2.4 Marine Life

The Red Sea coral reefs are the equivalent of an underwater tropical rainforest and boast an impressive diversity of marine species, including corals, fish, molluscs and crustaceans. The species most sought by tourists are the mega fauna, such as big fish like sharks and groupers, marine mammals and sea turtles.

4.2.5 Insects and Other Invertebrates

Invertebrates are by far the most numerous fauna, but the least known. There are several insects and invertebrates that are attractive for tourists, namely scorpions, dragonflies, moths and butterflies (Larsen 1990). It is interesting to note that some of the insects are migratory.

4.3 Wildlife Tourism Development Potential

There is high potential for more wildlife tourism development. Wildlife tourism can be developed for the general tourism market and for special interest groups.

Among the wildlife spectacles and experiences with the potential to be developed as tourist attractions are:

- Breeding bird colonies on the islands.
- Nesting sites for sea turtles.
- Soaring bird migration.
- Night walks or drives for seeing desert wildlife.
- Species with popular tourist appeal, such as birds of prey, sandgrouse, gazelles, ibex, dugong, dolphins and rock hyrax colonies.

While tourism activities can focus on seeing single species, there is greater opportunity to focus on the wildlife of a specific habitat such as the mangroves and deserts. Given that most large mammals are rare, unpredictable and difficult to see, wildlife tourism will probably have to rely more on micro fauna and make use of

tracks, nests, burrows, skulls and other remains. Interpretation, such as sign posting, verbal explanations and booklets will likewise be an important tool to enhance the visitor experience and educational value. Experienced and knowledgeable guides to accompany the groups would be the most effective means to show and inform visitors about wildlife.

Efforts can be made increase wildlife populations and make them easier for tourists to see. While this can be done through infrastructure establishment and reintroduction of animals, the most effective and economic means is through reducing hunting and disturbance to wildlife

Services and infrastructure are needed for wildlife tourism, with the utmost consideration in their development and operation to their educational and conservation value, as well as impacts on the resources. Excursions, such as boat, jeep, hiking and camel trekking trips can be developed to view wildlife. In addition to establishing hides, trails, tracks, sign posts, displays and other infrastructure to promote and manage wildlife tourism, artificial means can be used to attract wildlife and facilitate viewing, such as:

- Artificial waterholes for sandgrouse, ibex and other desert animals. Hides can be established around these with ultra violet light to facilitate night-time viewing.
- Feed station with dead animals to attract scavengers such as the vultures, foxes and hyenas. Hides can be erected around the sites with ultra violet light to facilitate night time viewing.
- A hatching station can be set-up on a sea turtle nesting beach.
- Hides, observation towers and view points can be erected to observe birds and other wildlife.

There is the opportunity to develop “ex-situ” and “in-situ” facilities to enable large numbers of visitors to experience and learn about wildlife. Exhibits about wildlife can be developed at the Protected Area visitor center. Video cameras can be set-up at nests of Osprey or seabirds to transmit footage to monitors. Tourism can also be developed around research center activities, such as a bird ringing station. A zoo or captive breeding center can also be developed as wildlife tourism attraction, but should be developed with both the national and foreign tourism markets in mind and managed in a professional manner with the utmost care given to the humane treatment and welfare of the animals. While there is great interest in Egypt in the establishment of zoos and captive breeding centers, “in-situ” tourism should receive higher priority as it is more feasible, economical, educational and conservationally sound.

One of the greatest appeals of the WGHPA is the fact that it has more than just wildlife and offers visitors the chance to combine wildlife tourism with other facets of the park.

4.4 Wildlife Tourism Markets

The main wildlife tourism markets envisaged are described below.

4.4.1 Diving and Snorkelling Tourism

Red Sea tourism is the largest potential wildlife tourism market of the WGHPA. The Marsa Alam area is now the most popular dive site in the country with 60-70% of all

tourists in the area on diving holidays, while 30-40% engage in snorkelling (Cesar 2003). The popularity of the area is due to the pristine nature of the sties and the abundance of species that appeal to divers such as sharks. It has been forecast that the value of the site from diving tourism will increase from US$48 to US$60 million over time (Cesar 2003). While dive tourism has only begun in the area, there are concerns that it will follow the pattern of reef tourism in the north and reef degradation will occur as the numbers of visitors expand beyond the carrying capacity of the reefs reducing the revenue generating potential.

4.4.2 Desert Safari Tourism

Desert tourism represents an under developed market in the WGHPA. While desert wildlife viewing can be developed as an activity in itself, more opportunity exists to incorporate it as part of a broader desert experience since there is more demand for such tours. 4-wheel drive vehicles or trekking offers the best opportunities for wildlife viewing, but wildlife can also be observed while riding camels.

4.4.3 Birdwatching Tourism

There is good potential for developing birding tourism to the WGHPA. Serious birders or listers are primarily interested in seeing new species for their world or regional lists. Egypt belongs to the region known as the Western Palaearctic and most birders visiting the country are Western Palaearctic listers who are from Europe. These birders are mostly interested in species with limited global distributions or distributions at the limits of their ranges, a number of which occur in the WGHPA. The main avifauna attractions are listed in Appendix 4. Birding tourism in the WGHPA would be developed around seeing these species and visiting the locations where they occur.

Key locations for birding tourism are:

- Red Sea Islands, particularly Wadi El Gemal, Siyul and Showarit Island.
- Hamata Mangroves.
- Sheikh Shazli.
- Wadi El Gemal downstream to Sekeit and Nugrus.
- Wadi El Rada–Gebel Hamata-Wadi Abu Hodan-Wadi Abu Ghusun circuit.

Season and time of day are the most critical factors in the best times to see certain bird species. In general spring (March-April-May) and autumn (mid August-September-October) are the best times of year to see the greatest numbers and diversity of bird life. Summer breeding birds on the islands are best observed from late April to early October. Facilities, excursions and special materials such as a field/site guide and checklists could be developed to facilitate birding tourism development. It should also be kept in mind that the hotel gardens along the coast also offer excellent opportunities for birdwatching, especially during migration.

It can be envisaged that birding tourists would stay upwards of five to seven days in the southern Red Sea, including a visit to Shalatein. Such tourists would either stay in hotels or ecolodges if available and would want to take boat trips to the islands and jeep excursions into the desert. They would also want to visit feeding and drinking

stations and hotel gardens, rubbish dumps and other man-made environments where birds can be observed.

4.5 Other Specialty Tourism

The WGHPA offers excellent opportunities for nature photography, especially for photographing birds and marine life.

There is also scope for scientific and volunteer tourism, such as participating in wildlife surveys and conservation efforts in the WGHPA, which if done in cooperation with Egyptians can help build national capacity. The provision of free accommodation to volunteers would be the optimal means to encourage such tourism.

4.6 General Nature Viewing Tourism

There is considerable potential to integrate wildlife tourism into tours catering to the conventional tourism market, which includes both foreign and national tourism. It can be envisaged that a high percentage of the leisure tourists staying at the coastal resorts in the southern Red Sea would engage in snorkelling, birdwatching or desert wildlife viewing if offered as an optional activity. The more specialist nature tourists are also interested in viewing all wildlife; for example, divers would want to visit the desert as day trips and birdwatchers would want to go snorkelling.

5 Routes and Sites of Interest for Tourism

The TDA along with RSSTI has been mapping various sites and routes of interest to tourists in the "Deep Range" of the southern Red Sea desert including the WGHPA. It is recommended that their work be the basis for the development of tourism routes in the Protected Area, subject to ecological and environmental impact evaluation. More detailed information would be needed to be collected with regards to the cultural and natural attractions along each of these proposed routes.

It is recommended that the routes in the WGHPA cater to the three different potential tourist markets:

- The conventional mass tourism through using existing asphalt roads e.g. coastal road and road to Sheikh Shazli;
- Desert safari tourism by routes using existing well established dirt tracks;
- Ecotourism in sensitive areas or sandy areas where vehicles are likely to go off track or in areas where there is no existing tracks.

Below is an assessment of the routes and sites visited by the consultant, with sites of exceptional importance for tourism marked with a (*):

Table 1: Assessed Sites and Routes of Interest in the WGHPA

SITE	RESOURCES	PROPOSED TOURISM	SENSITIVITY
Wadi El Gemal Island *	The largest island in the area, mangrove, bird colonies including Sooty Falcon and White-eyed Gull, nesting sea turtles	Ecotourism, wildlife, birdwatching	High
Mahabis Island	Bird colonies, nesting sea turtles.	Ecotourism, wildlife, birdwatching.	High
Siyul Island *	One of the most important islands in the area for nesting seabirds including large colony of Bridled Tern and potential breeding Crab Plover, nesting sea turtles.	Ecotourism, wildlife, birdwatching	High
Shawarit Island *	Birds including nests of Red-billed Tropicbird, mangrove.	Ecotourism, wildlife, birdwatching	High
Umm Ladid Island	Few seabirds nesting and occasional sea turtles.	Leisure	High
Wadi El Gemal Marsh and beaches including Ras Baghdadi *	Unique area in the Eastern Desert, scenic spring, interesting vegetation include Dom Palm and mangroves, nesting sea turtles, birds and other desert wildlife.	Ecotourism	High

SITE	RESOURCES	PROPOSED TOURISM	SENSITIVITY
Sharm El Luli	Scenic bay, fishing port.	Leisure, ecotourism.	Low
Ras Honkorab *	Scenic promontory with pristine beaches and secluded bays.	Ecotourism, leisure, recreation.	Medium
Marsa Umm El Abbas *	Sea turtle nesting beach near coast road.	Ecotourism.	High
Qulan Mangrove	Mangrove of moderate interest, fishing village.	Ecotourism.	High
Hamata Mangrove *	Mangrove stand that is the largest and most important in the area, birds including Goliath Heron, tidal life.	Ecotourism, wildlife, birdwatching.	High
Lahmi Mangrove	Mangrove of moderate interest.	Ecotourism.	High
Qarat El Hertway Bay *	Attractive bay, access currently restricted so could not be visited.	Ecotourism.	High
Wadi Ghadir-Wadi El Lawy, Wadi Umm Mafroga-Wadi El Zabaway-over the mountains *	Scenic and recommended tourism route in the northeast section of the park, a system of wadis with impressive geology, mines including emeralds, Roman antiquities (Zabara is the most spectacular cultural heritage site after Sekeit and Nugrus), wildlife including desert birds such as Crowned Sandgrouse and Sand Partridge and Rock Hyrax colonies along Wadi Ghadir .	Desert, ecotourism and wildlife.	Medium-High
Wadi Earear	Dead end, not particularly attractive for tourism, but needs to be further explored.	Ecotourism	High
Wadi El Gemal downstream to Sekeit and Nugrus *	Unique area in the Eastern Desert, scenic desert wadi with relatively lush vegetation and good wildlife viewing potential especially gazelles and desert birds such as Hume's Tawny Owl, interesting geology, impressive Roman antiquities	Ecotourism.	High
Wadi Nugrus and Wadi Sekeit *	Impressive Roman antiquities, emerald mines, scenic area with interesting geology, relatively low importance for biodiversity.	Ecotourism.	High

SITE	RESOURCES	PROPOSED TOURISM	SENSITIVITY
Wadi El Gemal upstream from Sheikh Shazli road to Sekeit and Nugrus	Scenic, but less so then further downstream, Roman antiquities.	Desert and ecotourism.	Medium
Wadi El Abeyad	Scenic and more pristine route between Wadi El Gemal and Wadi Shawab.	Ecotourism.	High
Wadi Abu Ghusun	Scenic wadi with an asphalt road from Abu Ghusoun up to the aluminium ore mine, easily accessible and central location, birdwatching tourism potential still needs to be investigated.	Conventional tourism, ecotourism and desert tourism route, birdwatching.	Low
Wadi Abu Ghusun-Wadi Shawab-Wadi Ghazal-Wadi El Gemal	Granite quarries and mines, rather degraded and unattractive, but a good, wide track and some scenic areas.	Best alternative route to Sekeit and Nugrus for ecotourism and desert tourism.	Medium
Wadi Renga	Scenic desert area.	Ecotourism.	Medium-High
Wadi El Rada –Gebel Hamata - Wadi Abu Hodan - Wadi Abu Ghusun *	Scenic and recommended route in the southern section of the park, attractive scenery, interesting geology and land forms, mines, local community, wells, Wadi el Rada scenic wadi good for wildlife, such as desert birds including Hume's Tawny Owl, Sand Partridge and Litchenstien's Sandgrouse.	Desert, ecotourism, wildlife, birdwatching	Medium
Sheikh Shazli road	Asphalt road, very scenic in parts as the road winds through the mountains and plains, local communities, potential for seeing wildlife.	Desert tourism for conventional tour groups, route for ecotourism, desert safari, wildlife and birdwatching.	Low
Sheikh Shazli road-Wadi Hafafyat-Wadi El Gemal	Mines, Roman ruins.	Desert and ecotourism	Medium

SITE	RESOURCES	PROPOSED TOURISM	SENSITIVITY
Sheikh Shazli road- Wadi Hallous- Wadi Marrasam- Wadi Abou Hamymed- Sheikh Shazli *	Very scenic tourism route recommended in the southwestern section of the park, prehistoric graves, sheikh tombs, wells, plants and wildlife, local communities.	Desert and ecotourism.	Medium-High
Sheikh Shazli	Settlement with sheikh's tomb, annual festival, local communities, birds including vultures and Pink-headed Dove, possibly other wildlife of interest.	Conventional tourism, desert, ecotourism, wildlife, birdwatching.	Low

6 Threats and Constraints

6.1 Potential Threats from Tourism Development

While there are benefits from tourism, there are also costs. Tourism can cause environmental degradation and negative social-cultural changes. These aspects must be taken into consideration in the planning and management of tourism in the WGHPA to preserve the resources that attract the tourists and maintain the visitor experience.

There are a number of existing threats in the WGHPA that are expected to increase as development, tourism and human habitation in the area grows. Table 2 shows the main threats as result of tourism and related development:

Table 2: Threats from Development

THREAT	IMPACTS	LOCATIONS OF CONCERN
Marine Environment		
1. Boats anchoring in the coral reefs.	1. Destruction of coral reefs.	All islands in area.
2. Excessive, uncontrolled tourism to the reefs.	2. Destruction of coral reefs.	
3. Boats discharging litter and sewage into the marine environment.	3. Pollution, hazard to wildlife, reduces the aesthetic appeal to tourists.	
4. Visitors leaving garbage on the islands.	4. Hazard to wildlife, destroys habitats, reduces aesthetic appeal to tourists.	
5. Uncontrolled visitation to the islands.	5. Distributing animals and reducing breeding success.	
6. Construction of developments and facilities on the islands.	6. Habitat destruction, including possible destruction of nesting sites, disturbance to wildlife reducing breeding success, possible introduction of invasive species, reduces the aesthetic appeal of the area to tourists.	
7. Use of vehicles on the islands.	7. Habitat destruction including nesting sites, disturbance to wildlife reducing breeding success, marring the landscape with tracks.	

THREAT	IMPACTS	LOCATIONS OF CONCERN
Coastal Plain		
1. Construction of tourism developments including hotels and related infrastructure, such as desalinisation plants.	1. Direct damage to coral reefs, sediment plumes from construction reduces sunlight and degrades the reefs, destruction of coastal habitats, disturbance to plants and animals, alters the water flow and can be a hazard to the environment and tourists if facilities built in a wadi bed, introduction of exotic species.	All hotels in the buffer zone, the planned hotel at the turtle nesting beach, tourism facilities if any constructed in the development zone.
2. Haphazard and inappropriate disposal of solid waste, including construction debris.	2. Destruction of habitats and breeding sites, potential injury to or poisoning of wildlife, reduces the aesthetics of the area.	
3. Excessive and uncontrolled tourism.	3. Destruction of habitats, disturbance to wildlife, reduces the visitor experience.	
Inland Desert		
1. Uncontrolled off-road vehicle use.	1. Marring the landscape, destruction of habitats, disturbance to wildlife, plants and topsoil causing erosion and desertification.	Wadi El Gemal Wadi Sekeit
2. Collecting and cutting of scare wood and vegetation resources.	2. Harms plants, destruction of vital resources to local communities, destruction of habitats and food resources for wildlife, soil erosion and desertification.	
3. Haphazard disposal of solid waste.	3. Destruction of natural habitats, can potentially harm wildlife, mars the landscape reducing the aesthetics of the area.	
4. Excessive and uncontrolled tourism.	4. Damage and destruction of natural habitats and antiquities, disturbance to wildlife and local communities, vandalism, including taking of artifacts and graffiti.	

6.2 Constraints to Tourism Development

There are a number of constraints in the development of environmentally sound and sustainable tourism in the WGHPA:

1. While national strategies call for sustainable and environmentally sound tourism, the actual policies and practices tend to run to the contrary. Current policies give preference to quantity rather than quality and aim at maximizing short-term economic gain. Mass package tourism is being promoted often at the expense of high quality tourism and the visitor experience. The objective is to increase the numbers of tourists, hotels rooms and nights spent rather than the amount of revenue generated per visitor (Arab Communication Consult Website 2002, Egyptian State Information Service Website 2003). In light of this there is low interest by the public and private sectors in developing ecotourism as this tends to cater to relatively small numbers of tourists. This is further exacerbated by the fact there is low awareness and appreciation of nature based and eco-tourism among the decision makers and local tourism industry at large. Moreover, mass package tourism detrimentally effects the resource base and visitor experience so constrains and deters the development of high quality nature-based tourism and ecotourism.
2. There are conflicting tourism development objectives for the WGHPA. The kinds of tourism development and related activities proposed for the Protected Area can affect the resource base and its long-term sustainability potentially making the area unattractive for high quality ecotourism (see above).
3. Other human activities in the Protected Area such as mining, hunting, fishing and over grazing can effect the attractions and resources reducing the amenity value of the area for tourism. Uncontrolled mining in the WGHPA is spoiling the natural formations and scenery that are among the area's most important tourism attractions. Of utmost concern is mining at the cultural heritage sites that could potentially destroy these sites, such as the Nuclear Authority's plans to start mining emeralds at Sekeit, Nugrus and other Roman sites in the Protected Area. Many animals, particularly the large mammals have become rare and shy due to over hunting and human disturbance. Commercial fishing is potentially having negative impacts on marine resources through excessive fishing, catching of marine life such as big fish, sea turtles and dugongs attractive for tourism and use of destructive fishing techniques. Litter is a widespread environmental problem in the Protected Area, particularly near tourism developments, human settlements and along the beaches.
4. There is insufficient information for management planning about the resources of the WGHPA and their current status, such as the species that can be seen, seasons and locations of importance.
5. Except in the diving industry, there is a lack of sufficient facilities, infrastructure, guides and other services catering to nature based tourism in WGHPA.
6. Security restrictions hamper desert tourism development.

7 WGHPA Tourism Management Objectives and Framework

7.1 Proposed Management Objectives for Tourism

The WGHPA is to be managed in accordance to Law 102/1983 for the Natural Protectorates. According to the legislation, all human activities in the Protected Area should be strictly regulated to prevent or reduce destruction, damage and disturbance to the natural habitats and species.

Tourism development should be consistent with the management category and objectives of the Protected Area. It is proposed that the tourism development objective of the WGHPA be to: "develop and support environmentally sound and sustainable tourism that insures the conservation of the natural and cultural heritage resources, generates conservation awareness and encourages local community involvement and benefit sharing".

The WGHPA is envisaged as a regional development tool to support the local tourism industry and national, regional and local economic objectives. Objectives for tourism development and management of the WGHPA would be based on the following:

- Diversify tourism to the area.
- Provide a quality tourism experience that would encourage word of mouth promotion and repeat tourism.
- Maintain sustainability of tourism through maintaining the resources and visitor experience and create work and employment for local businesses e.g. hotels and communities through attracting visitors and increasing the number of nights spent in the area.

It is recommended that the area and its resources be kept as much as possible in a pristine state to maintain the resource base and visitor experience. In this regard the Protected Area should be developed as much as possible for high quality ecotourism, as this tends to be low impact tourism and would best realize the park's management objectives. However, all tourism to the Protected Area e.g. leisure, recreational and cultural heritage, should be encouraged to be as "ecotourism-oriented" as possible and include the following components:

- environmentally sound,
- sustainable,
- educational,
- beneficial to local communities.

The highest management priority for tourism should be locations with the highest visitor use, namely: the coral reefs, islands, beaches and bays, mangroves and cultural heritage sites and locations with vulnerable and sensitive wildlife, habitats, land forms or cultural heritage sites, such as downstream Wadi El Gemal.

There are five main issues in managing tourism in Protected Areas that should be taken into consideration (Valentine 1992):

1. Define the appropriate types of tourism for the Protected Area.
2. Define the suitable relationships between park manager and tour operators.

3. Establish partnerships between tourism, the Protected Area and local communities.
4. Monitor and minimizing impacts of tourism on the Protected Areas.
5. Establish the appropriate carrying capacity levels.

To plan and manage tourism effectively, it is important to understand why the tourists are visiting the Protected Area. Thus, an experience-based management approach utilizing feedback from visitors is recommended for the development and management of tourism to the WGHPA. A participatory approach should likewise be employed, whereby key stakeholders would be consulted and involved in the tourism management planning and implementation process, including:

- Ministry of Tourism, TDA.
- Ministry of Interior (security).
- Ministry of Defence (coast guards).
- Red Sea Governorate (including tourism office).
- City Councils.
- Hotels.
- Tour Operators (dive boats and guides, desert safari companies).
- Local Communities.

It is recommended that the boundaries of the WGHPA be extended in the future to include all the key desert tourism routes to insure proper protection of resources and management of tourism. It is understood that the area was declared prior to the completion of inventory studies due to political considerations. It is proposed the northern boundary be extended to include Wadi Ghadir, the western portion of which is included in the Protected Area, while the southern boundary should be extended south to include Wadi Lahmi, another important potential tourism route. Another option may be to extend the western boundaries north to include more of the Sheikh Shazli asphalt road and encompass additional areas in the southwest in the Sheikh Shazli area that would have value for tourism. The extension of the boundaries should be carefully studied prior to proposing the amendment to the decree.

7.2 Proposed Management Framework

A Protected Area planning and management framework for tourism is proposed as follows (Lindberg 1998):

- Establish prescriptive management objectives.
- Choose biophysical and social indicators of change.
- Formulate standards.
- Monitor conditions.
- Compare conditions to standards.
- Evaluate and ID causal factors.
- Select appropriate management action.
- Implement management action.

8 Management Tools

A variety of management tools should be employed to facilitate the implementation of the management objectives of WGHPA:

8.1 Tourism Strategy

It is recommended that a tourism management strategy be created for the Protected Area. Such a strategy consists of four basic steps (Cebalous-Lascurain 1996):

1. Assess the current tourism situation and potential.
2. Determine a desirable tourism scenario.
3. Strategic planning to decide on the level and type of tourism desired.
4. Draft a formal tourism strategy document.

Local community and stakeholder participation in the development of the strategy is an essential component. Workshops should be held with the stakeholders to solicit their input and build consensus.

8.2 Visitor Management Plan

After the tourism strategy is developed, a plan needs to be formulated to manage visitation in the Protected Area. This plan should (Linberg 1998):

- Identify the area's special values, issues and concerns.
- Inventory existing resource and social conditions.
- Identify and describe recreational zones.
- Select indicators of resource and social change.
- Specify standards for resource and social conditions for zone.
- Identify alternative zone allocations.
- Identify management actions for each alternative.
- Evaluate and select preferred alternatives.

As part of the plan, the tourism routes would be identified along with visitor facilities (see below sections). It is expected that the resources, attractions, other features, zones, routes and facilities would be mapped using the GIS system.

8.3 Zoning

The Protected Area would be zoned for different tourism activities. These would be based on various studies including baseline, carrying capacity and environmental impact assessments. Zoning the area for different kinds of tourism would be the most effective means to manage tourism to maintain resource base and visitor experience. Different infrastructure and management guidelines would be developed for each zone.

Five management zones are envisaged, described below.

8.3.1 Strict Protection Zone

These areas would be off limits for tourism either for sensitive habitats or wildlife or monitoring purposes.

8.3.2 Restricted Use Tourism Zones

Areas where vehicle use and numbers of tourist is restricted, tourism by foot or camel would be encouraged in these areas.

These would be sensitive areas where there is important habitats or vulnerable wildlife or antiquities. Ecotourism or low impact tourism is recommended at these sensitive sites, such as upstream Wadi El Gemal, the islands, mangroves, turtle nesting beaches and the antiquities of Sekeit and Nugrus (proposed guidelines for ecologically sensitive hotspots are listed in Section 11).

8.3.3 Moderate Tourism Use Zones

Areas of moderate tourism use where activities would be controlled through a combination of restrictions, regulations and infrastructure.

Desert safari tourism catering to the package tourism market would fall under this category and would be contained to well established dirt tracks in the Protected Area, such as Wadi El Rada–Gebel Hamata-Wadi Abu Hodan-Wadi Abu Ghusun.

8.3.4 High Impact Tourism

Areas where high tourism use is expected and where park facilities are concentrated.

It is recommended that high impact tourism be contained along the asphalt roads inside the park.

8.3.5 Buffer Zones

Areas adjacent to the Protected Area. Special management guidelines would be developed for the buffer zones to insure that human activities in these areas do not negatively impact the Protected Area. It is recommended that important tourism routes currently outside the Protected Areas boundaries be included and managed as buffer zones until the decree can be amended to formerly include these areas inside the Protected Area. The adjacent hotels and settlements should also be included and managed under this category.

8.4 Identification of Tourism Routes

Establishing fixed tourism routes would be an optimal means to manage and regulate tourism in the park. It is proposed that these routes be managed according to their zonation (see above). Attention should be given to identifying and monitoring potential environmental impacts, especially on biodiversity.

8.5 Restriction of Number of Vehicles and Visitors

One of the most effective management tools is to restrict the numbers of visitors, vehicles, boats and camels. The appropriate numbers of visitors on particular routes or sites should be determined according to carrying capacity studies. Visitors could also be restricted at certain times of day and season. Recommended locations needing restricted visitor access are the Red Sea islands, downstream Wadi El Gemal and Wadis Nugrus and Sekeit.

8.6 Visitor Regulations and Operator Guidelines

Regulations should be developed for visitors (see Appendix 5 for some proposed visitor regulations). These should be posted and included in Protected Area literature as well as distributed to hotels and tour operators. Separate guidelines and best practices should be developed for tour operators and facilities operating inside the park.

8.7 Techniques for Managing Visitation

There are several potential approaches to organize and regulate visitation in the Protected Area, particularly recommended for restricted and medium tourism use zones:

8.7.1 Concessions

Concessions could be granted to certain companies who pay an annual fee to the Protected Area to operate tours inside the park. If there were repeat violations, the companies would loose their concessions. This is the option preferred by the consultant.

8.7.2 Licensing

Tour operators working the Protected Area could receive training, then take a test and be licensed to operate inside the park. If there were repeat violations, the operator or employee would loose their license. Licensing is suggested for boat captains and drivers of tour company 4-wheel drive vehicles operating in the Protected Area.

8.7.3 Guides

Individuals or groups would be accompanied by a certified guide such as from the local community or park rangers. The use of local guides, particularly from the Ababda tribe, is recommended to generate employment for these communities.

8.7.4 Park Operated Tours

The park could operate their own tours using their own vehicles or boats, but this approach is not recommended since the private sector has more expertise in organizing and promoting tours. However, on some tracks like through Wadi El Gemal or to antiquities as Sekeit or Nugrus there could be set tours where ranger vehicles escort tour groups and private vehicles. A similar system using park operated boat trips could likewise be developed for visitation to the islands.

8.7.5 Permit System

A permit system for backcountry travel could be developed for WGHPA similar to the one proposed for the St. Katherine Protectorate (St. Katherine Protectorate 2003). Local guides would be required to accompany such groups. The southern Eastern Desert is more arid and unpopulated so such tourism could be potentially hazardous and more difficult to supervise.

8.8 Visitor Fees

Admissions or users fees should be charged for self-financing of the Protected Area. It is recommended that the visitor fees system employ the willingness to pay principle and charge higher or additional fees for the more unique and pristine attractions, such

as Siyul and Wadi El Gemal Islands, Wadi El Gemal and Sekeit and Nugrus. An economic study should be undertaken to propose users fees and a collection system. It is suggested that the general admission fee be comparable to the fees charged at Protected Areas in South Sinai.

There are complications collecting admission fees for the WGHPA. It would be difficult to impose fees on vehicles travelling along the coast road and there are too many access points into the Protected Area. It is easier to collect fees from tour operators rather than from individual visitors. For repeat users, one option is to charge an annual fee and issue a sticker indicating admissions for a given duration.

The fee schedule should be widely publicized and signposted along the main roads, as well as at the hotels and marinas in the vicinity. Tickets for admissions or other fees would be purchased at certain collection points in the Protected Area, such as at visitor center and satellite stations. A fee collection booth could be set-up along the Sheikh Shazli road. The rangers would make regular spot checks to check on tickets. If a company or individual was found to be inside the park without a ticket, information about them could be recorded and a piece of identification taken that could be picked up at a retrieval point upon receipt of payment.

8.9 Fines

A system of fines should be devised for tourists and tour operators who violate the park regulations, along with the means to impose and collect the fines.

8.10 Environmental Impact Assessment (EIA)

Environmental impact assessments (EIAs) should be undertaken prior to the construction of any tourism facility inside the park. The EIAs should follow the Environmental Impact Assessment Guidelines (EEAA 1996), the Environmental Guidelines for the Development of Coastal Areas (EEAA 1996) and any relevant TDA guidelines. The final EIA should be reviewed by and approved by the Protected Area management to insure that the project complies with the park's regulations and management objectives.

8.11 Environmental Management

Various support programs would be needed to maintain the park and its infrastructure, such as solid and liquid waste management and maintenance of tracks and buoys. It is recommended that environmental conservation should be considered and employed as much as possible in the environmental management of the park, such as appropriate technologies like solar energy, water and energy conservation, importation of wood from the Nile Valley for sale as fuel for camping and avoidance of the introduction of invasive species.

There is also a need to study and monitor the environmental management of the hotels and settlements in the buffer zone. Solid waste management in particular needs to be investigated and proper management systems developed, such as a sanitary landfill and recycling.

8.12 Conservation Management

Certain tourism activities should be prohibited in the park and visitor activities carefully monitored, including the following:

- Except along the asphalt roads and specified dirt tracks, no unsupervised visitation should be allowed in the desert areas of the park.
- There should be no quad runners allowed inside the Protected Area.
- Vehicles should not be allowed to drive off the marked tracks. Tracks should be well marked with stakes or stones to keep vehicles on the tracks and block certain tracks as appropriate.
- Collecting of wood and vegetation for campfires should be discouraged and alternative fuel made available.
- Chasing wildlife in vehicles should be prohibited. Disturbance to wildlife should be kept at a minimum.
- Recreational hunting and fishing should be prohibited inside the park.

8.13 Contingency and Emergency Planning

There are a number of natural hazards that could threaten tourist's safety, which must be taken into consideration in park planning. Tourism needs to be carefully managed in wadis where flooding poses a high risk to visitors such as Wadi El Gemal. There also has to be traffic regulations to control the speed of vehicles inside the park. In addition, measures are needed to control tourism traffic on tracks where there is heavy use by mining vehicles. There needs to be contingency measures for rescue and first aid in case of accidents, such as car accidents, vehicles breaking down in the desert, injuries and snake bites.

8.14 Staffing

Rangers need to be hired to staff the reserve. Among their chief responsibilities will be to regulate tourism and deal with visitors. At least two staff persons should be assigned to be responsible for tourism, one to liaison with tourism authorities, hotels and tour operators and the other as an environmental education officer overseeing visitor programs. Rangers might also be expected to work as guides and operate and manage tourism facilities and excursions inside the park.

8.15 Patrols and Community Guards

The park rangers should make regular patrols of marine and terrestrial areas to insure that the park regulations are being observed by visitors and tourism facilities and enforce the regulations prosecuting any infractions as needed. Community guards would also be a valuable means to monitor tourism inside the park. A good communication network would be important to facilitate communication between the park headquarters, rangers and community guards. Volunteer rangers from the local businesses operating in the area and concerned individuals could be used as a means to supplement patrols and help monitor tourism in the WGHPA.

8.16 Maintenance

The Protected Area will need to devise a system to maintain the park visitor facilities and related equipment, such as to collect garbage, clean the toilets, maintain the tracks and trails and repair damages to structures. A ranger should be appointed to be responsible for maintenance and develop a plan and system for maintenance. A store of equipment and spare parts should be kept at the park headquarters. As appropriate,

the private sector and local communities can be subcontracted to undertake maintenance, such as solid waste management.

8.17 Monitoring

Monitoring programs are needed to assess impacts by tourists and provide information for decision making to evaluate and fine tune management programs. There is a need to identify indicators for monitoring programs from the onset. The Protected Area should collect statistics and other information on tourists in the Protected Area, as well as visitor feedback, such as through surveys.

8.18 Studies and Research

A number of independent studies will be needed to support the Protected Area planning and management process. A through inventory of the park's tourism resources and attractions will be needed, as well as baseline studies of the conditions of the resources. Carrying capacity studies should be undertaken of the different routes and sites. Research can be utilized as a tool to analysis problems to devise management measures.

8.19 Education and Public Awareness

An education and public awareness strategy should be developed for the Protected Area that would consist of the following steps:

- Identify the target audience.
- Define the message.
- Select a vehicle to deliver the message.
- Devise a means to evaluate the results.

Education and public awareness programs would subsequently be developed and conducted for visitors to the Protected Area to promote nature appreciation and conservation awareness. This could be through the park facilities such as visitor center, outdoor displays, sign posting and through interpretive programs conducted either by the park rangers or local guides. A variety of educational materials would produced for visitors to the park, such as brochures, booklets, posters, videos and CDs. One of the most important materials to make is a brochure with the visitor regulations and a map of the Protected Area showing the attractions, routes and visitor facilities.

To generate support for the conservation and encourage enforcement of park regulations, awareness raising programs are recommended for other target groups including decision makers, the media and the tourism sector such as hotels, tour operators and guides

8.20 Training

A variety of training programs are needed to support tourism development inside the Protected Area. The rangers require training about the Protected Area and its resources, interpretation and dealing with visitors. At least one staff person should be trained in environmental education. Training will also be needed in the tourism sector. Guides will need to receive general ecotourism training, as well as training in relevant disciplines such as antiquities, geology and wildlife. It is recommended that tour

operators, boat captions, drivers will also attend training programs before being allowed to operate inside the park. Training will also be need for ecolodge staff as well as local community operated tourism projects. Other specialized training might be needed such as in language, first aid and use of computers and other equipment.

8.21 Marketing

A marketing strategy should be developed for the Protected Area consisting of four basic steps (Cebalous-Lascurain 1996):

- Inventory of existing attractions and activities.
- Targeting of appropriate market segments of specific groups of tourists.
- Evaluation of the appeal of the various attractions and activities for each target group.
- Promotion.

Special promotional materials should be developed to promote tourism to the Protected Area, such as brochures, postcards and T-shirts and could be sold to raise funds for the park. An Internet site would be an important vehicle to promote and market the area, as well as a portable exhibit to be displayed at tourism fairs. It is expected that the Protected Area will be promoted by the private sector and word of mouth as it becomes popular.

8.22 Local Community Guidelines

Guidelines should be formatted to prevent and mitigate impacts of tourism on the local communities to insure that tourism respects their culture, traditions, knowledge and practices. Traditional ownership of natural resources, such as wells and trees should be respected, along with personal property. An adequate distance should be maintained from human habitation so as not to disturb the communities. Women in particular should not be approached without their consent. Photographs of locals should be not taken unless their permission has been granted. The distribution of sweets, pens and other goods to children should be discouraged. One of the problems that needs to be addressed is with dogs owned by the Bedouins who chase cars and bark at or threaten tourists.

8.23 Local Community Involvement

There should be initiatives to involve the local communities in the Protected Area and insure benefit-sharing from tourism. Regular consultations should be maintained with local representative, such as the sheikhs. Locals should be employed as community guards in the park and can provide services such as assist with waste management and trail maintenance. The Protected Area should also stipulate that locals are employed in the businesses and facilities operating inside the park. Among the potential jobs, locals can work as tour guides and operate excursions such as camel trekking. Locals can also provide fish and meat and other goods and services. Local community handicraft programs can be developed based on traditional crafts such as rug weaving. More innovated handicrafts and other natural products could be developed using local materials, such as jewelry from gemstones, sale of minerals and stones, carvings from granite, and soap and other healthcare products from talcum and wild plants. Through the Social Development Fund (SDF) grants can be provided to the local communities for the development of community businesses, such as cafeterias and ecolodges.

Locals could also own and operate the wildlife attractions such as the feeding and drinking stations.

9 Visitor Infrastructure and Facilities

The park would need to develop a wide variety of infrastructure and facilities to cater to visitors. There would have to be detailed studies of visitor's infrastructure and facilities prior to construction. The design, construction and maintenance of such facilities should take into consideration environmental impacts and utilize ecologically sound designs, traditional materials and appropriate technologies. It is suggested that these facilities be constructed from local materials such as stone, in particular the scrap granite in the mines around the park. It is also recommended that adaptive reuse be employed whenever appropriate. There are a number of abandoned buildings inside the park, which belong to the local communities and mines that could be converted for use as visitor facilities.

9.1 Visitor Center

The main visitor center is recommended to be situated along the coast road in either the northern or central section on an elevated location overlooking the sea, coastal plain and mangroves. It is proposed that this center be developed as a tourist attraction with exhibits, educational facilities, a cafeteria and gift shop. Smaller satellite visitor centers can be established in other areas of the park, such as Sheikh Shazli and Hamata marina.

9.2 Outdoor Displays

Outdoor displays can be set up at various sites for educational purposes. Such displays are recommended for sites of high visitor use, such as Wadi El Gemal Marsh, Hamata Mangroves, Marsa Umm El Abbas and the Wadi El Gemal entrance.

9.3 Sign Posting[2]

Signs would need to be posted throughout the Protected Area as a means to inform and educate visitors.

9.4 Tracks

Tracks would have to be marked and new tracks established and others enlarged. Some tracks would have to be closed for visitation, such as the track through Wadi El Gemal from the coast road up to the mountains.

9.5 Hiking Trails

Suitable areas for hiking trails would have to be identified. Trails are needed in the Wadi El Gemal Delta, as well as at Nugrus, Sekeit and Zabara.

9.6 Board Walks

A boardwalk is recommended at the Wadi El Gemal Delta and Hamata Mangroves to reduce destruction and disturbance to the vegetation.

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[2] The Academy for Educational Development (AED), a USAID supported project is in the process of designing interpretive and other signs for the WGHPA.

9.7 Observation Towers and Hides

Observation tower(s) and hides could be constructed at appropriate locations to facilitate viewing and minimize disturbance to the wildlife. It is recommended that an observation tower be constructed at the Hamata Mangroves and hides erected around the wildlife feeding and drinking stations.

9.8 Viewpoints

Along the asphalt roads and some desert tracks is recommended that lay-bys be established where vehicles could park to observe nature and photograph the scenery. Viewpoints are needed on the coast road, Sheikh Shazli road and track running along the edge of the coastal plain section of Wadi El Gemal.

9.9 Picnic Areas

Picnic areas can be developed at appropriate locations along the coastal and Sheikh Shazli asphalt roads.

9.10 Shelters

Permanent shelters providing shade from the sun could be built in suitable areas where there is high tourism use. Recommended sites for shelters are at swimming areas, picnic areas, campsites and next to visitor centers.

9.11 Camp Sites

Campsites would be identified in suitable areas throughout the park, including one on the coast at Ras Honkorab and another on the Sheikh Shazli road. Toilets, barbeques and other visitor amenities could be established at the high use sites mentioned above. It is recommended that campgrounds in the desert be simple sites sign posted where camping is permitted, perhaps with some waste receptacles.

9.12 Waste Receptacles

At various locations inside the park waste receptacles should be set-up, particularly high use areas such as picnic sites.

9.13 Toilets

Toilets might also be needed at various locations where there is high tourism use.

9.14 Buoys

Buoys are needed for boats to anchor at dive sites.

9.15 Piers

Piers may be needed at islands such as Siyul and Wadi El Gemal where wildlife tourism is developed to as a means to facilitate disembarkation of visitors from boats.

9.16 Wildlife Tourism Attractions

Feeding stations for wildlife would be established in a suitable location. A recommended site is Sheikh Shazli. Semi-natural or artificial waterholes for viewing sandgrouse and other desert wildlife would be established in appropriate locations,

such as at a well or spring near a campsite, ecolodge or human settlement. A bird ringing station could be set-up at the Wadi El Gemal Marsh.

10 Ecolodges

TDA-RSSTI has been studying the potential of ecolodge establishment in the "Deep Range" and has proposed that a network of ecolodges be set-up in the Protected Area.

While the TDA-RSSTI has developed baseline studies and guidelines for ecolodges, additional studies are needed to determine the appropriate locations, numbers of lodges, economic feasibly and design requirements. The carrying capacity of the PA should be one of the primary considerations along with environmental impacts and traditional land ownership. Trails, wildlife attractions and other visitor facilities would be constructed near the lodges as appropriate.

It is recommended that at least two ecolodges be developed at the beginning, one on the coast and another in the desert, with additional lodges established depending upon the success of the first two. Along the coast, it is recommended that a ecolodge be constructed at Ras Honkorab, while the desert lodge could be constructed close to Wadis Sukat and Nugrus in one of the tributaries (there is a good location in Wadi Nugrus where the Nuclear Authority camp was situated).

Another alternative for the desert ecolodge would be to employ adaptive reuse and convert existing buildings; two potential sites at mining concerns visited during the fieldwork (one off the Sheikh Shazli road and the other at the talcum mine near Wadi El Rada).

There are two options for ecolodge construction and operation:

1. Either the park could construct the lodges and they could be managed by a company or else,
2. A private investor could construct and maintain the lodges on a lease basis paying the Protected Area an annual concession fee that increases over time. One investor or management company could manage all the ecolodges in the park as proposed by TDA-RSSTI or they could be under separate management.

Appropriate locations for the ecolodges should be identified by the park authorities or in close cooperation with them. Ecolodges should be constructed and operated according to international and TDA guidelines (see Appendix 3 and 4). These facilities should also be managed and visitor activities conducted according to the park regulations and management plan.

11 Tourism Centers

11.1 Marsa Alam

It is recommended that a museum be established in the Marsa Alam area containing the artefacts collected from archaeological digs in the southern Red Sea. Such a museum could become a major tourist attraction supporting the local tourism industry. At present the artefacts are kept in a storehouse in Qift. There could also be exhibits in the Museum about the geology of the area, history, local communities and natural resources, including biodiversity.

11.2 Hamata and Abu Ghusun

One or both of these coastal communities could be developed for tourism employing innovative designs such as copying or utilizing the old British buildings or bedouin motifs. Among the enterprises envisaged are gift shops, grocery store, pharmacy, restaurants cafes and tour company offices. It is also recommended that a medical unit be established here. A local artisan community could be developed, such using local materials like rocks, gemstones and driftwood. Community development programs, particularly waste management are needed at both coastal communities. There is a need in Abu Ghusun to explore means to reduce pollution from the loading of ships or move this port.

11.3 Sheikh Shazli Eco Center

It is recommended that an Eco Center be developed in the Sheikh Shazli region in an attractive natural setting along the asphalt road. This eco center would serve as a tourist and information center with indoor and outdoor exhibits along with picnic and campgrounds. Among the outdoor exhibits could be a replica of a Roman antiquity and Bedouin house where jabana could be served. The wildlife feeding station could be set-up here or nearby at Sheikh Shazli along with a waterhole for seeing sandgrouse and other desert animals. The center would serve as a base for excursions into the western section of the Protected Area such as birdwatching trips, jeep safaris, hiking and camel trekking. Community owned and operated facilities could be constructed adjacent to this site such as an ecolodge, cafeteria and a shop selling locally produced crafts and other goods.

There is a need to launch a community development project to upgrade and enhance the city of Sheikh Shazli, particularly with regards to solid waste management and provision of health, education and other social services to the local communities. The tombs and other buildings in the city need renovation. Grants and loans could be provided to local communities to develop tourism facilities and services, such a project would address poverty alleviation. Given that the garbage in Sheikh Shazli is the major reason why wildlife is attracted to this area, this should be considered when planning solid waste management. It is recommended that a dumpsite be established in an appropriate location away from the city center and managed to attract wildlife as a tourism attraction.

12 Options and Proposed Guidelines for Development Zones

Two development zones have been designated along the coast inside the boundaries of the WGHPA, one in the north at Ras Honkorab and another larger one in the middle section of the park including the community of Abu Ghusun. According to the declaration, the development zones are to be utilized for ecotourism. The coastal zones of the WGHPA had been under the TDA jurisdiction, but with the declaration of the Protected Area these areas now fall under the management of the Nature Conservation Sector (NCS). Management sharing arrangements however are still unclear and need to be formalized between the two agencies. It is important for the EEAA and TDA to cooperate and work closely in the planning of these areas, as well as in monitoring during the construction and operation phases if any facilities are built.

There are several options for the coastal development zones that have been proposed by RSSTI and the TDA. These alternatives still need to be discussed by the EEAA and TDA as these agencies have different and sometimes conflicting views about how to develop these areas. Disputes also continue over the coastal land inside the Protected Area, most notabably Sharm El Luli. It is recommended the Red Sea Governor be consulted and an economic study conducted to assess the economic cost and benefits of the various scenarios to select the most appropriate and viable alternative.

Below are evaluations of the options and guidelines for the development zones:

12.1 Option One: Ecotourism

Under this scenario, the development zones would be left in a natural state and developed as little as possible. Ecotourism or low impact tourism would be allowed in these areas such as: camping, picnicking, swimming, snorkelling and sunning on the beach. An ecolodge or lodges could be built.

This is the recommended option for the two development zones given that it is the most appropriate and compatible form of land use for a Protected Area minimizing environmental impacts and allowing sustainable use by the general public. It is the alternative preferred by the consultant and the Red Sea PSU. It is felt that these zones would be best utilized as recreational areas serving the Marsa Alam tourism industry. It can be envisaged that many tourists staying in the resorts would want to visit undeveloped, unspoiled natural beaches as day trips. Furthermore it is considered sounder to increase occupancy at the existing hotels before constructing new developments, especially as there are growing concerns of a glut in the market and the economic viability of these facilities (Johnson 2003).

12.1.1 Potential Mitigation Measures

Apply the TDA's ecolodge guidelines, limit the number of ecolodges and identify appropriate areas based on carrying capacity studies, apply set-back, prohibit coastal modification, maintain adequate spacing between the lodges to maintain the visitor experience, apply strict restrictions on pollution, maintain natural habitats and landscapes as much as possible, restrict introduction of exotic species and use of pesticides, review EIAs to insure that they meet the guidelines and regulations for environmental management, particularly solid waste management and monitor construction and operation of the facilities.

12.2 Option Two: Ecotourism and Conventional Tourism Development

Under this option, land in the development zones would be developed both for ecotourism and conventional tourism development.

This would be the second best option and a compromise scenario if the TDA insisted on the construction of conventional tourism resorts in the development zones. It is inadvisable to have ecotourism and conventional tourism side by side as the latter distracts from the former so the development zones should be zoned accordingly. The optimal alternative would be that areas of the middle development zone near Abu Ghusun of low biological and ecological importance be compromised for conventional tourism development (see Option 3), while the development zone in the north at Ras Honkorab of the highest amenity value for tourism be utilized exclusively for ecotourism or low impact tourism and the establishment of an ecolodge (see Option 1).

12.2.1 Potential Mitigation Measures

Apply TDA ecolodge and coastal zone management guidelines, identify appropriate locations for facilities based on carrying capacity studies, limit numbers of resorts and ecolodges, establish spacing between the facilities, regulate room numbers, height of buildings and design, apply set-back, prohibit coastal modification, apply strict restrictions on pollution, maintain natural habitats and landscapes as much as possible, restrict introduction of exotic species and use of pesticides, review EIAs to insure they meet the guidelines and regulations for environmental management, particularly solid waste management, and monitor construction and operation of the facilities.

12.3 Option Three: Conventional Tourism Development

Under this scenario, the land in both development zones would be sold to developers for conventional tourism development.

This is the least acceptable option as the construction of conventional tourism villages, particularly wall to wall tourist resorts as built elsewhere along the Red Sea coast would be incompatible with the area's protected status, damage the resource base and reduce the amenity value of the area for tourism, particularly high quality ecotourism. By developing the Protected Area in this manner there would be little difference between this stretch of coastline and any other on the Red Sea. The risk of environmental damage to the WGHPA would be high, particularly the potential of a solid waste problem effecting coastal and marine environs of the Protected Area as is already occurring at the other resorts near the WGHPA. Furthermore, this option is not in keeping with the spirit of a Protected Area as land use by the general public and local communities would be restricted in these zones that would become the exclusive use of a handful of developers.

12.3.1 Potential Mitigation Measures

Apply coastal zone management guidelines, limit numbers of resorts, establish spacing between resorts, regulate room numbers, height of buildings and design, apply set-back, prohibit coastal modification, apply strict restrictions on pollution, maintain natural habitats and landscapes as much as possible, restrict introduction of exotic species and use of pesticides, review EIAs to insure they meet the guidelines

and regulations for environmental management, particularly solid waste management, and monitor construction and operation of facilities.

13 Proposed Guidelines for Ecologicially Sensitve Areas

Special management guidelines are needed for tourism to the following ecologically sensitive areas that have been identified to date in the WGHPA. Baseline, carrying capacity and environmental assessments should be undertaken of each of these sites prior to their development and opening for visitor access.

13.1 Islands

General visitor access to the Red Sea islands should be regulated and restricted, particularly during the main breeding season from March to October.

In the Qulan chain it can be considered allowing day use to one of the island's having the least importance for nesting seabirds or sea turtles. Under such a scenario one of the islands would be sacrificed for leisure tourism use either Umm Ladid or Mihbis so that visitor access to the other islands could be restricted. However, tourism to the island should be prohibited for at least a one year period and breeding birds and turtles studied prior to opening the island for visitation.

A set distance from the islands should be applied and maintained for dive boats during the breeding season to limit disturbance.

Tours to the islands to see wildlife should be conducted by companies with a concession or licensed tour or boat operator and/or accompanied by a ranger or trained local guide.

Tourism to the islands should be ecotourism. While visitor access can be allowed to certain areas, the majority of the island should be restricted for visitation during the breeding season. An acceptable distance from the colonies should be maintained by tourists to reduce disturbance to wildlife. Land points for boats should be identified along with any special infrastructure. There should also be an identification of the locations that tourists can visit on the islands along with potential routes marked as appropriate. Restricted areas should be sign posted and fenced in as needed. Studies can be conducted to investigate the establishment of infrastructure to facilitate viewing, such as platforms and hides.

The following actions are recommended:

- Prohibit construction of tourism developments and facilities on the islands except for ecotourism.
- Camping on the islands by tourists should be prohibited.
- Prohibit the use of quad runners and other vehicles on the islands.
- Prohibit any kind of tourism activity on the island that causes damage to habitats and nesting sites or undue disturbance to wildlife.
- There should be regular patrols of the islands by the rangers, particularly during breeding seasons.
- Monitoring programs should be developed to assess impacts of tourist activities on nesting seabirds and marine turtles.

13.2 Downstream Wadi El Gemal

Visitor access in the downstream part of Wadi El Gemal from the coast road up to Nugrus and Sekeit should be restricted. The main track through the wadi should be closed except to vehicles authorized to operate in this area. Another route should be developed to Nugrus and Sekeit.

The coastal plain track on north of the wadi can be developed for general visitation to see the wadi, with overlooks established along the wadi edge. Vehicles using this route would not be able to enter the wadi at the mountains, but there could be access by visitors on foot.

Tourism in downstream Wadi El Gemal should be ecotourism. Tours to Wadi El Gemal should be conducted either by companies with a concession or licensed tour operator or accompanied by a ranger or trained local guide or park operated vehicles. It is recommended that there be tours conducted at certain times of day with restricted numbers of visitors and vehicles allowed. Trekking by foot and camel trekking tours can be allowed in this area, but also on a restricted basis. Camping could be permitted at designated sites.

13.3 Wadi El Gemal Marsh

Visitor access to Wadi El Gemal Marsh should be carefully managed.

A parking site needs to be defined along with locations for visitation and routes for tourists.

Ecotourism should be encouraged in this area. Infrastructure such as a trail and boardwalks should be constructed to allow visitors to experience the area without damaging the vegetation or causing undue disturbance to wildlife.

Signposts will be needed in this area to restrict visitor access and possibly fencing.

There should be regular patrolling of the Wadi El Gemal Marsh by the rangers.

13.4 Mangroves

Visitor access to the mangroves should be restricted with some areas closed for visitation.

A track to the mangroves and parking site needs to be defined along with locations for visitation and routes for tourists.

Ecotourism should be encouraged in this area. Infrastructure such as boardwalks and observation towers should be constructed to allow visitors to experience the area without damaging the mangroves or causing undue disturbance to wildlife.

Signposts will be needed in these areas to restrict visitor access.

There should be regular patrolling of the mangroves by the rangers.

13.5 Turtle Nesting Beaches

Visitor access to the sea turtle nesting beaches should be restricted to protect nesting sites and reduce disturbance to animals.

There should be only ecotourism and no construction or beach tourism allowed in these areas. The TDA should be requested to move the developer at Marsa Umm El Abbas to another plot of land.

The area should be sign posted and as needed parts cordoned off with rope or wire.

Enclosures could be set up around the turtle nests if there was concern over visitor disturbance.

There should be regular patrols of this site by park rangers particularly during the nesting season.

13.6 Cultural Heritage Sites

A track should be developed in the upstream part of the Wadi El Gemal to allow visitor access to Nugrus and Sekeit without having to go through the downstream part of the wadi. It is recommended this track either come from the Sheikh Shazli road or use the route, Wadi Abu Ghusun-Wadi Shawab-Wadi Ghazal-Wadi El Gemal.

To reduce pressure on popular sites and distribute visitors more evenly, general desert tourism could be developed at a cultural heritage site in a less sensitive desert location or a replica of a Roman antiquity could be constructed as a tourist attraction (see section 19.8.3). It could be explored with the antiquities consultant if there is a suitable Roman site near the Sheikh Shazli road that could be developed for tourism.

14 References

Books , Reports and Papers

Ayoub-Geday et al, (2002), The Egypt Almanac 2002/3. American University in Cairo Press.

Baha El Din M. and Baha El Din S. (in prep. a), Status Report on Protected Areas in Egypt. IUCN-Italian Cooperation-EEAA.

Baha El Din M. (in prep. b). Case Study: Status, Potential and Needs for Sustainable Wildlife Tourism in Egypt. (submitted to the TDA sustainable tourism conference to be help in Egypt June 2003)

Baha El Din M. et. al. (2003) Status of Breeding Seabirds in the Egyptian Red Sea. PERSGA (for the Status Report and Conservation Action Plan for Breeding Seabirds in the Red Sea and Gulf of Aden under production)

Baha El Din M. (2002) Ecotourism and its Requirements in Egypt, with Birding Tourism as a Case Study, unpublished paper presented at the Protected Area and Sustainable Development Conference held in Sharm El Sheikh in September 2002

Baha El Din, M. (2000) Toward Sustainable Tourism and Ecotourism Development in the Siwa Region. Italian Cooperation and Egyptian Environmental Affairs Agency. Egypt.

Baha El Din, S.M. (in prep.), Wadi El Gemal – Hamata Protected Area Management Plan, PSU-NCS.

Baha El Din, S.M. (1999) Directory of Important Bird Areas in Egypt. BirdLife International, Egypt.

Baha El Din, S.M. (1998) Towards Establishing a Network Plan for Protected Areas in Egypt. Nature Conservation Section, EEAA-European Union (EU), Egypt.

Ceballos-Lascurain, H. (1996) Tourism, ecotourism and Protected Areas. IUCN, Switzerland.

Cesar H. (2003) Draft Economic Valuation of the Coral Reefs of Egypt (draft), EEPP-MVE.

Egyptian Environmental Affairs Agency (1996), Guidelines for Egyptian Environmental Impact Assessment, Environmental Management Sector

Egyptian Environmental Affairs Agency (1996), Guidelines for the Development of Coastal Areas, Environmental Management Sector

Egyptian Red Sea Coastal and Marine Resources Management Project (1998), Report 5: Red Sea Coastal and Marine Protected Area Strategy (Part 1 Strategy Development), TDA, EEAA, Red Sea Governorate.

Egyptian Red Sea Coastal and Marine Resources Management Project (1998), Report 5: Red Sea Coastal and Marine Protected Area Strategy (Part 2 Ecosystem Guidance and CMPA Action Plans), TDA, EEAA, Red Sea Governorate.

Fekri A.H. and Barakat H (2001), The Cultural and Ecotourism Development Potential of the Wadi El Gemal/Marsa Alam Region, Red Sea Hills, Eastern Desert, TDA.

Grieve A. and Millington L. 1999. The Breeding Birds of the Northern Red Sea Islands, Egypt, Unpublished

Hawkins D.E. (et. al.) (1995). The Ecolodge Sourcebook for Planners and Developers. The Ecotourism Society, USA.

Hegazy and Associates (2002), A Survey of Red Sea Tourists and Tourism Operator's Willingness to Pay for Coral Reef Conservation, EEPP.

Johnson A. (2003), The last place, Can part of the Red Sea coast be saved from the ravages of mass tourism?, Cairo Times. Vol.7/Issue 8.

Lindberg K. et. al (1998)., Ecotourism A Guide for Planners and Managers, Volume 2. Ecotourism Society.

Lindberg K. et. al (1993)., Ecotourism A Guide for Planners and Managers, Volume 1. Ecotourism Society.

Nature Conservation Sector (2002) Wadi el Rayan, Gateway to the Western Desert, Egyptian Environmental Affairs Agency, Egypt.

NCS / EEAA (2002). A study for the declaration of Wadi El Gemal – Hamata as Protected Area. Report submitted to the NCS / EEAA. (in Arabic)

NBU (1998). Egyptian biodiversity conservation strategy and action plan. NCS, EEAA.

PERSGA, 2001. Strategic Action Programme for the Red Sea and Gulf of Aden. PERSGA. Jeddah.

PSU (2003), Purpose Statement for the Wadi El Gemal – Hamata Protected Area Management Plan.

Red Sea Protectorates (2001), Red Sea Conservation and sites of interest, National Parks of Egypt.

Riegel, B. and Luke, K. (1997b). Red Sea coast and reefs Protected Area, "Egypt's Great Reef": Proposal and concept paper. Report to NCS, EEAA.

St. Katherine Protectorate (2003). The Management and Development Plan, Saint Katherine Protectorate, Nature Conservation Sector, EEAA.

Saenger, P. 2002. Rehabilitation, Conservation and Sustainable Utilization of Mangroves in Egypt: Ecological Assessment of Mangroves in Egypt, FOA.

Sung, H. H. (1996). Definition of adventure travel: Conceptual framework for empirical application. Unpublished Master's Thesis, Purdue University, West Lafayette, IN

Tourist Development Authority (in prep), Guidelines for Ecotourism Development in the Deep Range of the Red Sea Region, Egypt.

Tourist Development Authority (1999). Ecolodge Guidelines for Ecolodge Development in Egypt, Egypt.

Valentine, P.S (1992). Tourism in Protected Areas: The Challenges and Opportunities (Introductory Paper for Workshop IV.7)

WBM Oceans Australia and Gordon Claridge (1997), Guidelines for Managing Visitation to Seabird Breeding Islands, Great Barrier Reef Marine Park Authority.

Internet

Arab Communication Consult Website (2000), Egypt Investment Report 2000, Tourism Diversifying Egypt.
http://www.arabcomconsult.com/egyptr/diversifying.htm

Arabic News Website (2000), Mubarak's Directives to promote Egypt's tourism. Egypt, Politics, 1/22/2000, http://www.arabicnews.com/ansub/Daily/Day/
000122/2000012256.html

Birdingegypt (2003): www.birdingegypt.com

CRC, Sustainable Tourism Website (2003), Wildlife Tourism SubProgram,
http://www.crctourism.com.au/wildlife/

Colorado Arts Website (2003).
http://www.google.com/search?hl=en&ie=ISO-8859-1&q=Cultural+Heritage+Tourism+Definition&btnG=Google+Search

Egyptian State Information Service Website (2003). www.idsc.gov.eg

El-Beltagi (2000), Tourism Boom in Egypt. Wastingtonpost.com
http://www.washingtonpost.com/wp-adv/specialsales/spotlight/egypt/art7.htm

IHT Sponsored Section International Herald Tribune, (2001), Strategy / Development and Ecotourism. www.iht.com/articles/1525.htm

Ministry of Tourism (2003), Tour Egypt Website. http://www.touregypt.net/

Sport and Recreation Queensland Website (2003), http://www.sportrec.qld.gov.au/general/ industry_definition.cfm

Red Sea Desert Adventures (2003) http://www.redseadesertadventures.com/index_nn4.html

Trade Partners in Egypt Website (2002). Tourism and Leisure Market in Egypt. http://www.tradepartners.gov.uk/recreation/egypt/profile/overview.shtml

15 Appendix 1: Terms of Reference, Ecotourism and Nature-based Tourism Development Potential in the WGHPA

Background

The Egyptian Environmental Policy Program (EEPP) is a joint undertaking between the Government of the United States, acting through the U.S. Agency for International Development (USAID), and the Arab Republic of Egypt, acting through several government authorities. Representatives of these institutions signed an agreement in 1999 in which the Government of Egypt seeks to implement a set of environmental policy measures, using technical support and other resources provided by USAID.

Within the EEPP, the Program Support Unit (PSU) provides technical assistance to the Egyptian Environmental Affairs Agency (EEAA) of the Ministry of State for Environmental Affairs. The PSU also has certain crosscutting functions related to helping the EEPP as a programmatic whole. To help it fulfil its role, the PSU seeks the services of a specialist to provide background information and recommendations on ecotourism and nature based tourism development potential for the Wadi El Gemal – Hamata Protected Area. Tourism is one of the chief potentially sustainable economic activities in the Protected Area. External expertise input is required to the planning process to insure that tourism activities are developed in a manner conducive to the area's protected status and correspond with its conservation management objectives.

Wadi El Gemal – Hamata PA has a substantial potential for biodiversity-based tourism, particularly birdwatching, which is one of the best-developed and growing ecotourism activities in the world. Birds are the most visible terrestrial vertebrate fauna in the Wadi El Gemal – Hamata Protected Area. Internationally important migration routes and breeding sites for birds, including globally threatened species are found within the area. It is expected that the specialist will give special attention to developing birdwatching tourism

Scope and Tasks

The consultancy will consist of the following tasks:

- Review and evaluate existing information and identifying gaps in knowledge;
- Conduct field surveys of the most important potential terrestrial sites for tourism in Wadi El Gemal – Hamata PA identifying and mapping key ecotourism resources with emphasis on wildlife;
- Contact stakeholders as appropriate to establish an understanding of their views and interests;
- Compile information and briefly describe existing tourism activities identifying present uses, key users, facilities, infrastructure, environmental problems and constraints;
- Evaluate the nature based tourism and ecotourism development potential of the PA, with particular attention to terrestrial wildlife, assessing potential target markets considering existing and future tourism in the area;

- Make an inventory of the main attractions with emphasis on terrestrial biodiversity;
- Identify the potential ecologically sensitive tourism activities with particular attention to “the development zones”;
- Identify key sites and routes of potential interest, and the likely significant ecological impacts of each;
- Inventory birdwatching tourism resources and make recommendations on ways to develop birdwatching tourism to the PA;
- Incorporate as appropriate means for private sector, local community and NGO participation in ecotourism activities, with particular consideration to the involvement and benefit to indigenous communities living in and near the PA;
- Make recommendations on priority infrastructure and management needs of the Protected Area for nature based tourism and ecotourism giving adequate consideration to minimizing environmental impacts and insuring sustainability;
- Advise as requested on zoning and management guidelines.

16 Appendix 2: Glossary of Tourism Terms

Tourism is a broad term and encompasses many human activities that involve travel, leisure and recreation. There have been attempts to categorize and define the various forms of tourism; some of these terms are closely related and used interchangeably. It is generally recognized that tourism encompasses a wide variety of experiences that cannot be syntheses into a single category. However, for the purpose of this paper the main aim of the tourist's visit will be used to define the kind of tourism.

Leisure Tourism: Leisure refers to a broad range of cultural and recreational activities and experiences by which people engage in during their discretionary time to enhance the quality of their lives. It terms of this paper leisure tourism refers to activities conducted with the primary aim of relaxation.

Recreational Tourism: Recreational tourism is often used interchangeably with leisure tourism or in conjunction with sport tourism. There are many different definitions of recreation, but in terms of this paper it refers to a physical activity undertaken through casual or organised participation, often requiring physical effort or skill, for the purpose of relaxation or enjoyment (Sport and Recreation Queensland 2003).

Adventure Tourism: Adventure tourism is "a trip or travel with the specific purpose of activity participation to explore a new experience, often involving perceived risk or controlled danger associated with personal challenges, in a natural environment or exotic outdoor (Sung, H. H. 1996)".

Cultural Heritage Tourism: Cultural heritage tourism is defined as, "Travel for the purpose of discovery, understanding and enjoyment of the distinctive places, activities and artefacts that authentically represent peoples and their stores from past to present (Colorado Heritage History Partnership 2003)".

Nature or Nature-based Tourism: Nature or nature-based tourism is defined as "tourism directly dependent on the use of natural resources in a relatively undeveloped state, including scenery, topography, water features, vegetation and wildlife.(Ceballos-Lascurain 1996)". Nature and nature based tourism are primary used are used interchangeably throughout the paper.

Wildlife Tourism: Wildlife Tourism is "tourism based on wild animals in their natural environment or in captivity" (CRC, Sustainable Tourism Website 2003).

Ecotourism: Ecotourism is a subsidiary of nature and wildlife tourism that seeks to promote sustainable and environmentally sound tourism. There are many different definitions of ecotourism. This report uses the IUCN definition, "environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and accompanying cultural features – both past and present) that promotes conservation, has low visitor impact and provides for beneficially active socio-economic involvement of local population." (Ceballos-Lascurain 1996)

17 Appendix 3: International Ecotourism Critera

According to Ceballos-Lascurain (1996), for an activity to qualify as "ecotourism", it must demonstrate the following nine characteristics:

1. Promotes positive environmental ethics and fosters "preferred" behavior in its participants.
2. Does not degrade the resources.
3. Concentrates on intrinsic rather than extrinsic values.
4. Oriented around the environment in question and not around man.
5. Must benefit the wildlife and environment.
6. Provides a first-hand encounter with the natural environment.
7. Actively involves the local communities in the tourism process.
8. Level of gratification is measured in terms of education and/or appreciation.
9. Involves considerable preparation and depends on in-depth knowledge on the part of both leaders and participants.

18 Appendix 4: Birds of Interest to Birding Tourists

The following is a list of bird species found at the WGHPA of interest to world (*) and Western Palearctic listors[3]:

- Red Sea birds e.g. Red-billed Tropicbird, Brown Booby, Striated Heron, Reef Heron, Sooty Gull*, White-eyed Gull*, White-cheeked Tern*, Lesser Crested Tern and Bridled Tern
- Sahro-Sindian specialities eg. Sooty Falcon*, Sand Partridge*, Desert Lark* Litchenstien's Sandgrouse, Crowned Sandgrouse*, Spotted Sandgrouse*, Hume's Tawny Owl*, Pharaoh's Eagle Owl*, Bar-tailed Desert Lark*, Desert Lark*, Hoopoe Lark*, Pale Crag Martin, Mourning Wheatear*, Hooded Wheatear*, White-crowned Black Wheatear*, Trumpeter Finch*
- Afrotropical specialties e.g. Pink-headed Dove*, Lappet-faced Vulture, Goliath Heron, Crab Plover*
- Other birds of interest: Greater Sand Plover, Lanner Falcon, Lammergeyer, Egyptian Vulture, Bonelli's Eagle, Long-legged Buzzard, Southern Grey Shrike*, House Bunting
- Migration particularly raptor migration in the spring
- Rarities given WGHPA's unique situation on migration corridors, particularly eastern routes and proximity to Sudan interesting birds sporadically occur in the area.

3 Many of these bird species would appeal to the average tourist.

19 Appendix 5: Proposed Visitor Regulations

- Park in designated areas only.
- Stay on marked tracks and paths.
- Obey signposts and do not enter restricted areas.
- Maintain the posted speed limits.
- Place all garbage in the appropriate receptacles or take it with you.
- Loud music and undue noise is prohibited.
- Do not disturb, harass or feed the wildlife.
- Hunting and fishing is forbidden inside the park.
- Do not collect, remove or damage any objects living or dead (corals, shells, plants, and animals).
- Do not touch corals or walk on the reefs.
- It is prohibited to anchor in any reef area.
- It is prohibited to drive motorized vehicles on the beach.
- Taking of artifacts, fossils and mineral resources is prohibited.
- Excavation or vandalism of the antiquities is a serious offence.
- Graffiti and other marring of the natural landscape is prohibited.
- Do not collect wood or vegetation for firewood.
- Camp in designated areas only.
- Local wells are not safe for drinking and belong to the local communities so all water should be brought into the area.
- Respect the local people and their property.
- Do not photographic locals without their permission.
- Obey the park rangers and inform them of any violations.
- Offenders are liable to prosecution under Law 102/1983 for the Natural Protectorates.

20 Appendix 6: International Ecolodge Design Criteria[4]

- Respect the site's natural and cultural resources and minimize the impact of any development;
- Enhance appreciation of the natural environment;
- Use simple technology that is appropriate to the functional need and incorporates appropriate passive energy conserving strategies;
- Use natural building materials;
- Avoid use of energy-intensive, environmentally damaging, and waste-producing materials;
- Optimize use of space to minimize the overall building size and resources necessary for construction and operation;
- Provide equal access to people with physical or sensory disabilities;
- Consider phasing the development to allow for monitoring its impact on resources and to allow for adjustments in subsequent phases;
- Provide for further expansion and/or alternative uses with a minimal demolition and waste and with materials that can be easily reused or recycled.

[4] Hawkins, et al. 1995.

21 Appendix 7: TDA Guidelines for Ecolodge Development[5]

The Tourist Development Authority (TDA) in cooperation with USAID assistance produced guidelines for ecolodge design in Egypt. If a facility wants to receive a license to build an ecolodge on TDA land, then it must meet a list of mandatory criteria. There is an additional list of features and characteristics that are desirable, but not all necessary in order to qualify as an ecolodge.

It is recommended that the checklists below be used three times during the life of a project: earliest phases of development, then again during construction and finally after start-up of operations.

List I

A. Legal and Safety

An Environmental Impact Assessment must be submitted and approved by the EEAA before TDA will consider the granting of an ecolodge license.

Applicable Egyptian Government safety and emergency regulations must be followed with special attention to the following issues:

- Installation of fire fighting and first aid facilities
- Food preparation and storage
- In addition there must be:
- An emergency vehicle available 24 hours a day
- A minimum of one telephone or radio connection must be installed in the facility with secured and back-up connections
- A drinking water tank must be installed to provide the facility with water all full capacity for a minimum of two days.

B. Structural

Building materials must be natural and local

No building can be more than two stories high in the main facility (maximum of 8 meters above the natural surface level)

A closed integrated non-mechanical solid waste management system must be installed

No buildings are allowed in flood prone areas

No change in either the site topography or alternation to topsoil characteristics is allowed

C. Other

No exotic plants or animal species can be introduced to the site

No air conditioning or desert coolers are allowed in the facility

No discotheque or centralized music system allowed

Professional guides and or interpreters must be available for all outdoor activities.

[5] TDA, 1999.

List II

Must score above 75% (a minimum of 26 points), in conjunction with the fulfil mention of all criteria in Part I for the application to be judged successfully.

Accordingly, it is preferred that:

- Local materials are not transported to the construction site from a distance of more than 100 kms.
- Local and/or traditional builders/artisans have been employed in the construction of the facility.
- There are no other structures within 10kms.
- There are no fences.
- The facility caters to less than 100 guests and no more than a 150.
- The square meter per bedroom is $12m^2$ or more, excluding bathrooms and balconies.
- At least 75% of the rooms and no less than 50% have private toilets and showers/baths.
- The lodge uses a natural energy source which includes all energy generation technologies utilizing natural renewable resources and phenomenon such as solar and wind energy.
- The lodge is physically adjacent to a site of recognized environmental or cultural importance.
- Activities are linked with the sites environmental and cultural attraction.
- The lodge has an interpretation center to introduce the guests to the surroundings environment nature, culture and history.
- The lodge has a designated area to exhibit and/or market locally made and traditional crafts and products.
- It is desirable that handicapped people have access to all communal facilities .
- More than 50% and not less than 15% of the persons employed in the lodge are from the local community.
- The lodge runs a training program for local staff for skill improvement.

22 Appendix 8: Pictures

All photos by Mindy Baha El Din.

Photo 1 Wadi el-Gemal Island

Photo 2 Sooty Gull Nest

Photo 3 Bridled Tern Colony

Photo 4 Osprey Nest

Photo 5 Sooty Falcon

Photo 6 Species-rich Coral Reefs

Photo 7 Coast of the Wadi el-Gemal–Hamata Protected Area

Photo 8 Ras Honkorab

Photo 9 Secluded Bay at Ras Honkorab

Photo 10 Fossil Coral along the Coast

Photo 11 Mangroves at Lahmi

Photo 12 Close-up of Mangrove Foliage

Photo 13 Hermit Crab

Photo 14 Turtle Tracks at Umm el-Abbas

Photo 15 Scenic Beach at Qulan

Photo 16 Marsh at Wadi el-Gemal

Photo 17 Wadi Ranga Coastal Plain

Photo 18 Eastern Entrance to Wadi el-Gemal

Photo 19 Downstream Wadi el-Gemal

Photo 20 Butterfly on *Zygophilum*

Photo 21 Roman Outpost in Wadi el-Gemal

Photo 22 Lichenstein's Sandgrouse

Photo 23 Roman Building at Wadi el-Sakait

Photo 24 Archeological Dig at Wadi el-Sakait

Photo 25 Temple of Isis at Wadi el-Sakait

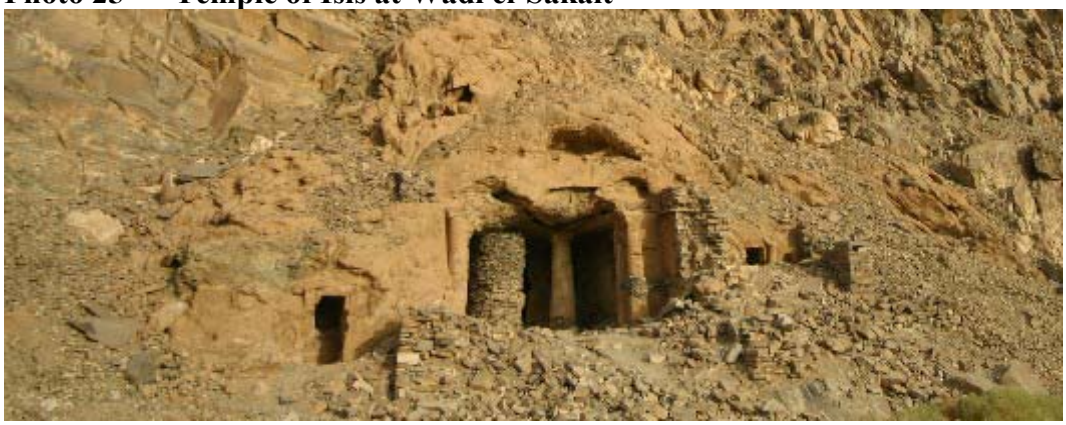


Photo 26 Wadi Nugrus

Photo 27 Emerald Mine at Wadi Nugrus

Photo 28 Upstream Wadi el-Gemal

Photo 29 Roman Antiquity Site, Upstream Wadi el-Gemal

Photo 30 Roman Fort, Upstream Wadi el-Gemal

Photo 31 Ocellated Dab Lizard

Photo 32 Gazelle Tracks

Photo 33 Grazing

Photo 34 Vehicle Tracks

Photo 35 ***Caparous decidua***

Photo 36 **Hargal**

Photo 37 ***Calatropus***

Photo 38 Vista, Upstream Wadi el-Gemal

Photo 39 Sheikh Ahmed's Tomb

Photo 40 Sheikh Shazli Road

Photo 41 Tomb of Sheikh Shazli

Photo 42 Pink-headed Dove

Photo 43 Lappet-faced Vultures

Photo 44 Downtown Sheikh Shazli

Photo 45 Children in Sheikh Shazli

Photo 46 Ababda Home in Sheikh Shazli

Photo 47 Feral Donkeys

Photo 48 Marsa Alam–Edfu Road

Photo 49 Example of Ababda Building Techniques

Photo 50 Ababda Shelter in Wadi Halous

Photo 51 Ababda Settlement

Photo 52 Ababda Man

Photo 53 Ababda Woman

Photo 54 Ababda Girls

Photo 55 Ababda Woman Weaving a Rug

Photo 56 Producing Charcoal

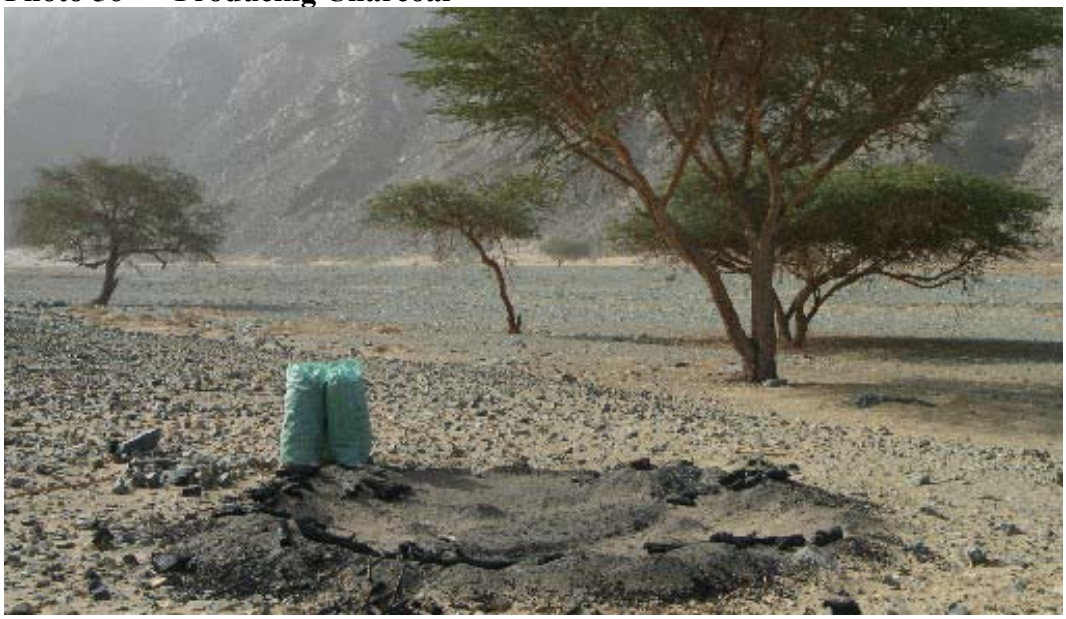


Photo 57 "Sherif's Head" Geological Formation in Wadi el-Gemal

Photo 58 Geological Formation in Gebal Hamata Area

Photo 59 Sheikh's Tomb

Photo 60 Inside Sheikh's Tomb

Photo 61 Wadi Rada

Photo 62 Wadi Ghadir, Early Morning

Photo 63 Well in Wadi Rada

Photo 64 Carpet Viper

Photo 65 Property Left in a Tree by a Local Bedouin

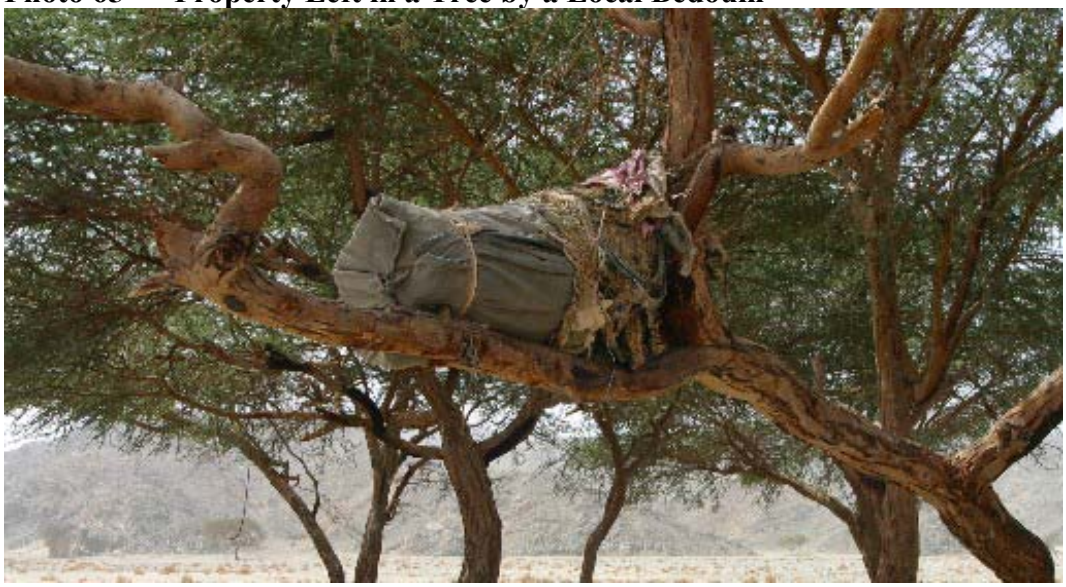


Photo 66 Tourism in the Wadi el-Gemal–Hamata Protected Area

Photo 67 Dike: An Interesting Geological Specimen

Photo 68 Granite Walls of the Wadi

Photo 69 Cemetery at the Entrance to Zabara

Photo 70 Entrance to Emerald Mine at Zabara

Photo 71 Roman Ruins at Zabara

Photo 72 Oven at Zabara

Photo 73 Iron Ore Mine

Photo 74 Acacia Tree

Photo 75 Migrating Masked Shrike

Photo 76 *Prisurus* Gecko

Photo 77 Disused Talcum Mine

Photo 78 Mine Workers

Photo 79 Granite Quarrying

Photo 80 Abandoned Mine Building

Photo 81 Garbage from Nearby Resort in the Southern Red Sea Area

Photo 82 Garbage Caught in Mangroves

Photo 83 Coastal Development

Photo 84 Grafitti

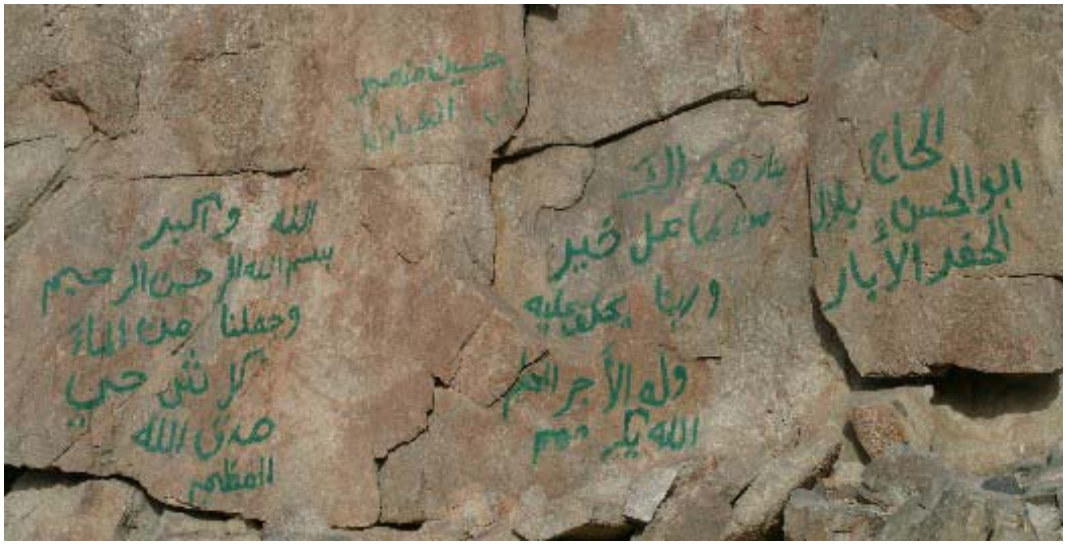
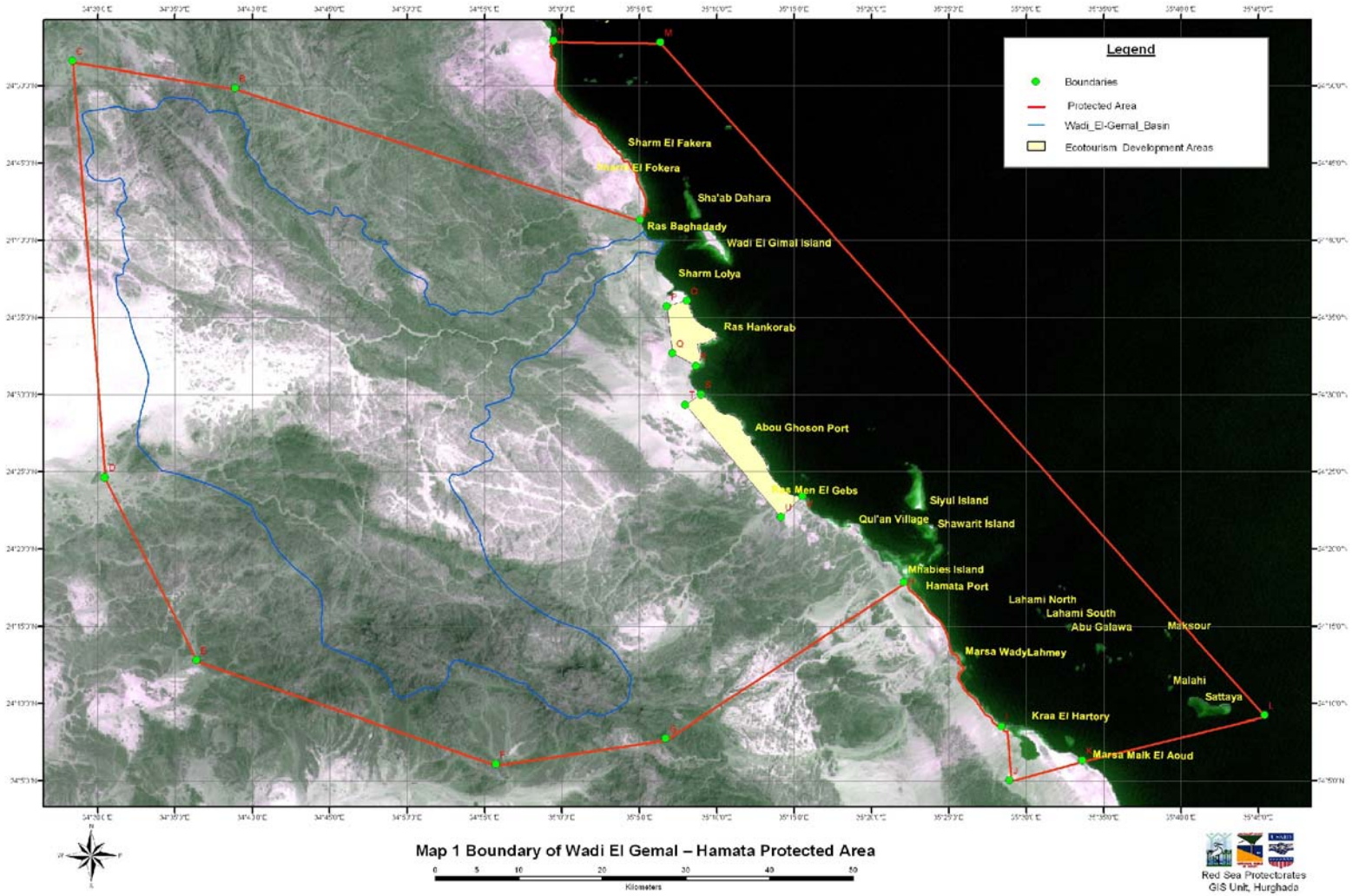
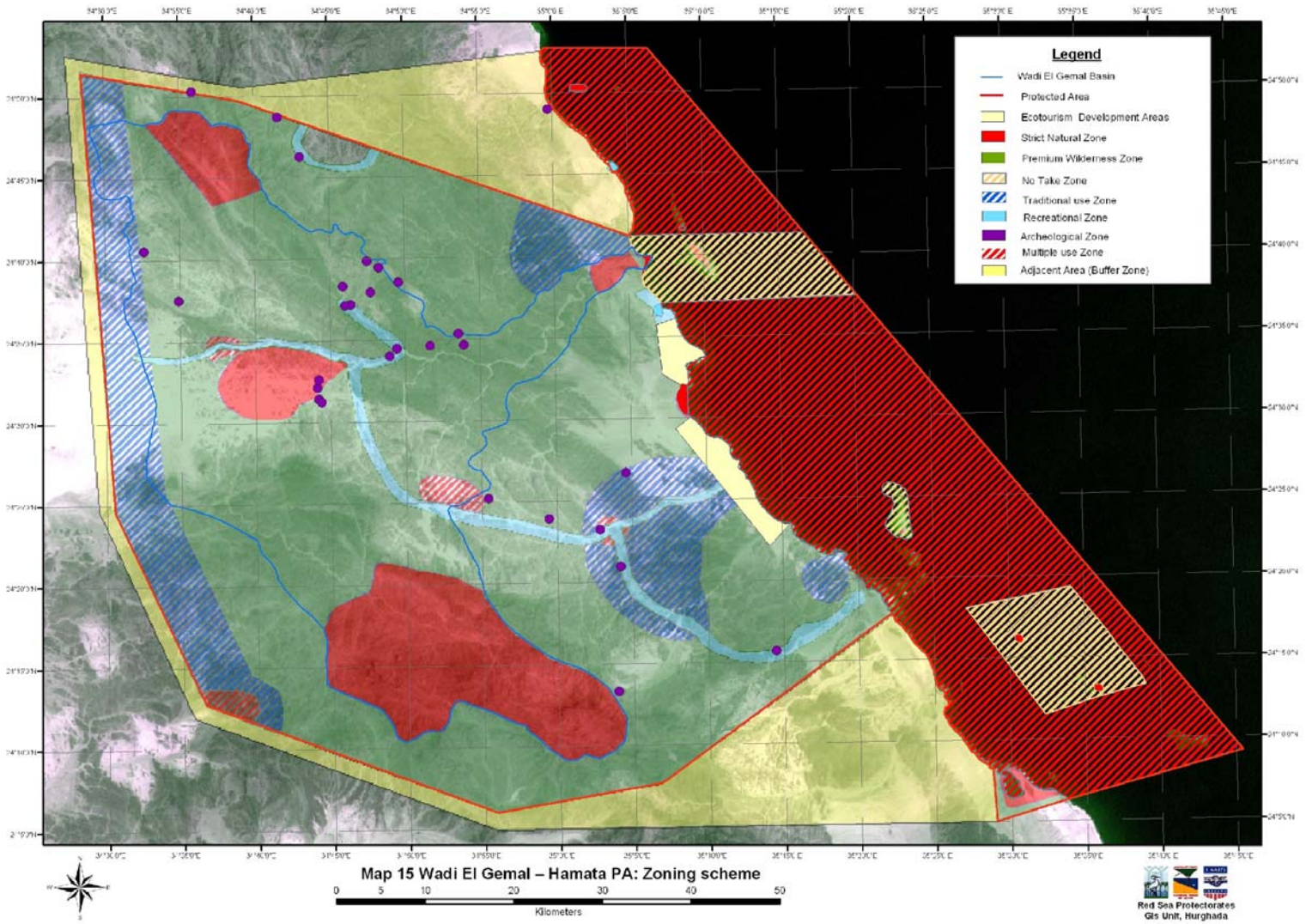
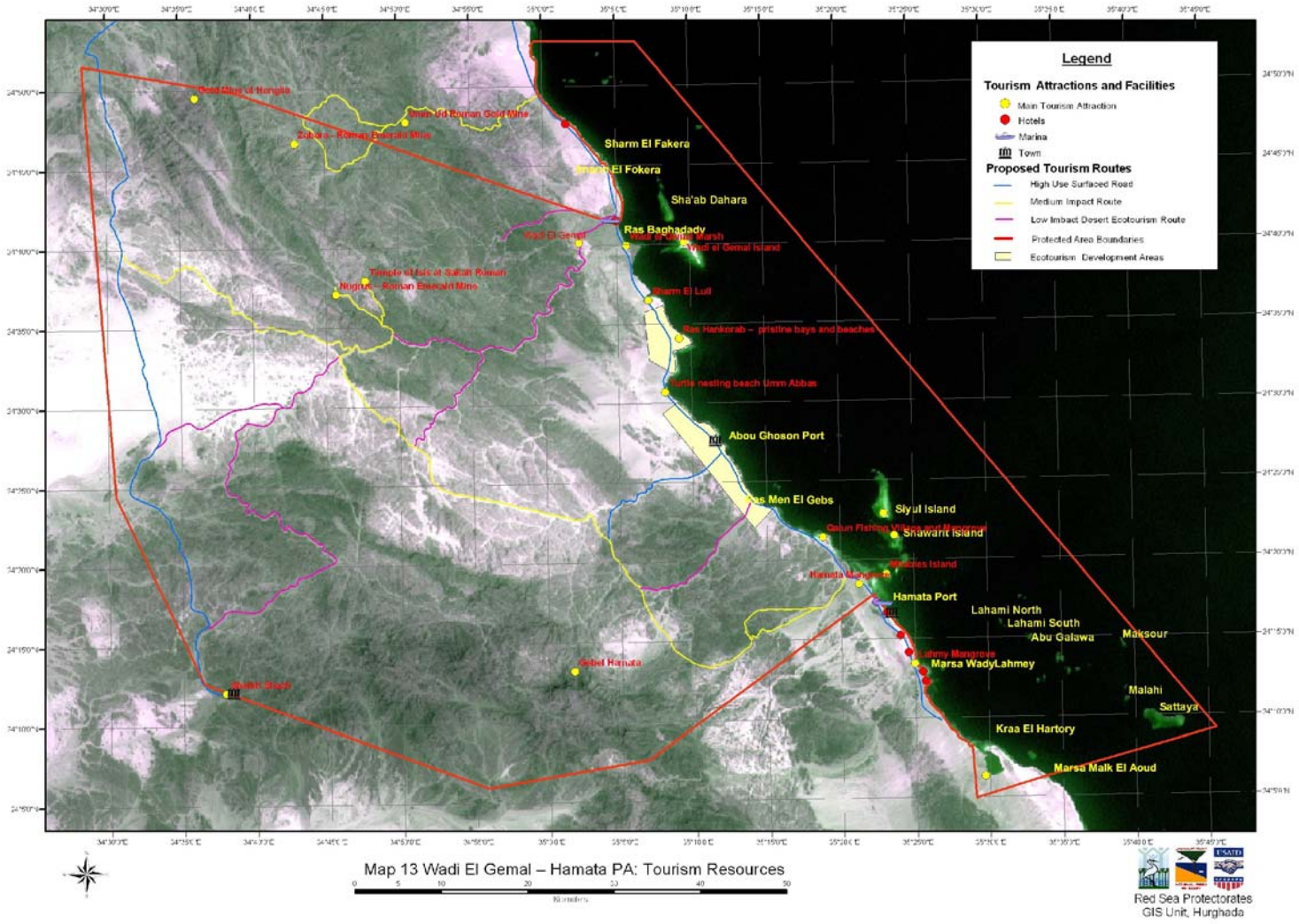


Photo 85 Ecolodge Development North of the Wadi el-Gemal–Hamata Protected Area

Photo 86 Traditional Resort in Buffer Zone


Legend
Boundaries
Protected Area
Wadi_El-Gemal_Basin
Ecotourism Development Areas
Sharm El Fakera
Sharm El Fokera
Sha'ab Dahara
Ras Baghadady
Wadi El Gimal Island
Sharm Lolya
Ras Hankorab
Abou Ghoson Port
Ras Men El Gebs
Siyul Island
Qul'an Village
Shawarit Island
Mrabies Island
Hamata Port
Lahami North
Lahami South
Abu Galawa
Maksour
Marsa WadyLahmey
Malahi
Sattaya
Kraa El Hartory
Marsa Malk El Aoud
Map 1 Boundary of Wadi El Gemal – Hamata Protected Area
0 5 10 20 30 40 50
Kilometers
Red Sea Protectorates
GIS Unit, Hurghada


Legend
Wadi El Gemal Basin
Protected Area
Ecotourism Development Areas
Strict Natural Zone
Premium Wilderness Zone
No Take Zone
Traditional use Zone
Recreational Zone
Archeological Zone
Multiple use Zone
Adjacent Area (Buffer Zone)
Map 15 Wadi El Gemal – Hamata PA: Zoning scheme
0 5 10 20 30 40 50
Kilometers
Red Sea Protectorates
Gis Unit, Hurghada


Legend
Tourism Attractions and Facilities
Main Tourism Attraction
Hotels
Marina
Town
Proposed Tourism Routes
High Use Surfaced Road
Medium Impact Route
Low Imbact Desert Ecotourism Route
Protected Area Boundaries
Ecotourism Development Areas
Sharm El Fakera
Sha'ab Dahara
Ras Baghadady
Sharm El Luli
Abou Ghoson Port
Siyul Island
Shawarit Island
Hamata Port
Lahami North
Lahami South
Abu Galawa
Maksour
Marsa WadyLahmey
Malahi
Sattaya
Kraa El Hartory
Marsa Malk El Aoud
Map 13 Wadi El Gemal – Hamata PA: Tourism Resources
Red Sea Protectorates
GIS Unit, Hurghada