

Protecting Marine Turtles in the Red Sea



Photo by Marina Costa

EXPEDITION BRIEFING

Everything you need to know before you go



Our Mission

The Hurghada Environmental Protection and Conservation Association (HEPCA) is a leading non-governmental organization (NGO) working in the field of marine and land conservation. Founded in 1992, HEPCA is actively working towards the goal of protecting and preserving the natural resources of Egypt and the Red Sea. With knowledge comes great responsibility. Over eight million visitors are drawn to Egypt and the Red Sea every year. Environmental deterioration is no longer a threat but a reality.

We work together with our members and partners to develop and maintain a large number of projects and campaigns that help to ensure the preservation and sustainability of the Red Sea environment for the future.

HEPCA believes in visionary thinking and progressive action to bring about positive change. As a non-profit organization, we rely on support from individuals and other organizations that believe in maximizing their contribution to our world.

We believe that achieving a sustainable future requires objective scientific data from the field and that the scientific process must engage the general public if it is to change the world. To that end, we involve people from all walks of life directly in global field research.

By volunteering in this project, you will work hands-on in the field to collect data on feeding and behavioral ecology of green and hawksbill turtles as well as their nesting activity. At present virtually no data is available for turtles of the Red Sea, with this project you will help gather important information to be used to enhance conservation efforts of Red Sea marine megafauna. This is not only a great opportunity to learn new skills but also to meet new people, and discover much about yourself.

Protecting Marine Turtles of the Red Sea

Table of contents:

General Information	4
The research.....	5
1. Project overview	5
2. Research Area	7
3. Staff	7
Daily life in the field.....	8
1. Volunteer training and assignments	8
1.1. Training.....	8
1.2. Assignments	8
2. Daily schedule and Tasks	10
3. Food and Accommodation	11
What to Bring with You.....	11
General information about Egypt	12
Booking Procedure	13

General Information

Project Title: Egyptian Red Sea Turtle Conservation Project

HEPCA Scientists: Dr Mahmud Hanafy, Dr Agnese Mancini

Study Area: Southern Egyptian Red Sea

Research Accommodation: HEPCA Research Station in Tondoba

Expedition Length: 9 days

Team Size min/max: 1-3 volunteers

Minimum Age of Participation: 18 years of age

Spoken Language: English

Prices and dates available at:

www.wildventure.co.uk

The research

1. Project overview

Four of the seven sea turtle species existing in the world can be found in the Egyptian Red Sea: green (*Chelonia mydas*; fig. 1) and hawksbill (*Eretmochelys imbricate*; fig. 2) turtles are known to feed and nest in the area, while leatherbacks (*Dermochelys coriacea*) and olive-ridleys (*Lepidochelys olivacea*) are seen feeding offshore. A fifth species, the loggerhead turtle (*Caretta caretta*) is usually seen in the Gulf of Aden and only rarely enters the Red Sea.



Figure 1. Green turtle resting on a seagrass bed (Picture from Natalia Pryanishnikova).

Sea turtles are long-living reptiles characterized by slow growth, late sexual maturity and high mortality rates during their first developmental stages (eggs, hatchlings, juveniles). For this reason, they are considered extremely vulnerable to every kind of over-exploitation and population recovery can take decades. These species are included in the IUCN Red List either as critically endangered (hawksbill and leatherback turtles), endangered (green and loggerhead turtles) and vulnerable (olive-ridley turtles), and are all enlisted in Appendix I of the Convention on International trade of Endangered Species (CITES) which forbid their trade in signatory countries.

Up to present, 25 nesting beaches have been identified as important nesting sites in the area of the Red Sea Governorate starting from Ras Gamasa in the north to Bir Shalatein village in the south (approximately 800km shore length). First estimates suggest that there are up to 1,500 and 200 nesting females per year for green and hawksbill turtles respectively. However,

virtually no data are available on their reproductive biology (i.e. mean nesting size, remigration intervals, number of clutches laid per season, hatching success). Reproductive data are crucial to understand the life history of these animals. Furthermore there is a complete lack of knowledge of sea turtle foraging grounds, in-water behavior, feeding ecology and high-use areas.



Figure 2. Hawksbill turtle (Picture from Elke Bojanowski).

In the region, major threats to marine turtles are represented by: intensive coastal development, deterioration of feeding grounds due to increasing of sedimentation rate, by-catch and in few cases hunting for turtle meat and collecting turtle eggs. In several cases turtles have been injured by collisions with high speed pleasure boats and sick turtles have also been reported. While general information on potential threats is available, detailed sources of mortality and quantitative data are substantially lacking.

Thus the overall goal of this project is to characterize both green and hawksbill turtle populations inhabiting the Egyptian coast of the Red Sea, focusing on feeding behavior, in-water behavior, reproductive biology and causes of mortality to come out with a clear applicable plan to conserve marine turtles and their nesting and feeding grounds, as well as reduce the mortality causes.

Specifically, we aim to:

1. Describe sea turtle population structure and in-water behavior;
2. Characterize foraging grounds;
3. Characterize sea turtle populations in nesting grounds;
4. Collect data on the nature and magnitude of sea turtle mortality.

2. Research Area

Wadi El Gemal National Park (WGNP) is located along the southern Red Sea Coast of Egypt. The park is endowed with natural beauty, diverse wild and marine life, and is the third largest *wadi* (dry river bed) in the Eastern Dessert. The area protects many different bird species, mammals, reptiles and fishes. The park is home to at least 20 globally threatened species, a large proportion of Egypt's mangroves resources, and one of the most important turtle nesting and feeding sites in Egypt. The park is known for its historical inhabitants, the Ababda tribe, who have dwelled in the park since pre-Christianity, and have a very strong economical dependence on the park. These ancient people are important for the park, and its and their sustainability, as they are also endangered. The park has historical importance, with many archeological sites from the Roman era: roads, watering stations, outposts, residential settlements, temples, and "emerald mountain" which was the only source of emeralds within the Roman Empire. Wadi El Gemal Park is known for its virgin beaches, coral reefs, and terrestrial beauty. Additionally, the mountain and desert area represents important eco-tourism potential.

Marsa Abu Dabab: Located 30 kilometres north of Marsa Alam, Marsa Abu Dabab is a sheltered, sandy bay with a depth range of 0 to 30 meters. The bay hosts large patches of seagrass that are used by sea turtles and dugongs as feeding grounds. At least four species of seagrass were recorded in the bay with *Halophila stipulacea* being the most abundant species. Due to the high pressure from the tourist industry, in January 2007, HEPCA, together with its partners, the Red Sea Governorate and the National Parks Authority of Egypt, proposed a management strategy to protect the bay and its inhabitants. This strategy includes a new zoning line to prevent motorized boat traffic inside the bay; the bay can be accessed only from shore and the number of visitors (either snorkelers or divers) is carefully controlled and, in addition, safari and daily boats are no longer allowed to send their guests inside the bay.

3. Staff



Dr. Mahmud Hanafy is the HEPCA Scientific Supervisor and a Professor at the Suez Canal University in the Marine Science department. Dr Hanafy has been working in the Red Sea for more than 20 years, as a consultant for the Red Sea Protectorate, the Red Sea Governorate and also the Ministry of Environment. His contribution was fundamental for the creation of the Wadi Gemal and Elba National Parks. His main interests are coral reefs and its associated marine megafauna, including sea turtles.



Dr Agnese Mancini, recently completed her Ph.D. at the Universidad Autonoma de Baja California Sur, in La Paz, Mexico. Her thesis focused on the causes and rates of sea turtle mortality throughout Baja California Sur (Mexico). Agnese has been working on sea turtles for several years now, and specifically on behavior on feeding grounds, reproductive ecology and human impacts (fishery and consumption) in Mexico, Thailand and now in the Red Sea.

Daily life in the field

1. Volunteer training and assignments

1.1. Training

On the first day volunteers will receive a talk about the project, the local environment, safety rules and responsible behavior while on the beach and at sea. Over the next few days, volunteers will receive training on how to identify turtles, collect data on the beach and at sea, and how to use any necessary equipment in a hands-on manner by assisting the field staff. The staff will give talks periodically, topics can vary according to the interest of volunteers but these can go from sea turtle biology and ecology, coral reef and sea grass ecology, the effects of climate change on marine biodiversity, mangroves and so on.

1.2. Assignments

Volunteers will take part in all aspects of the research and will have a chance to help observe in-water behavior, identify turtles, measure, tag and track the animals, record nest locations, and estimate hatchling success among others. Volunteers will work in groups under the supervision of a staff member. A rotation will be set up in which volunteers sign up for different responsibilities. This will ensure that everyone has an opportunity to get involved with each aspect of the research. Much of the data that needs to be collected will require working long and consistent hours. Once or twice per period of 9 days, during peak nesting season, volunteers will be asked to patrol sections of the nesting beach early in the morning.

Volunteers will be working in pairs or small groups and will always be accompanied by a staff member. According to the objectives of the projects, activities will include:

Objective 1: Describe sea turtles population structure and in-water behavior

- ✓ Collect morphometric data
- ✓ Take pictures of both facial sides for photo-identification;

- ✓ Observe in-water behavior by snorkeling.

Objective 2: Characterize foraging grounds

- ✓ Seagrass surveys along transects;
- ✓ Analysis of benthic data;
- ✓ Benthos mapping.

Objective 3: Characterize sea turtle populations in nesting grounds

- ✓ Walking the beaches to monitor nesting turtles;
- ✓ Tagging and measuring nesting turtles;
- ✓ Location of the nests;
- ✓ Count the number of laid eggs;
- ✓ Protect nests *in situ*;
- ✓ Excavation of hatched nests from the previous night to identify how many eggs successfully hatched, as well as collection of eggshells remaining.

Objective 4: Collect data on the nature and magnitude of sea turtle mortality

When dead turtles are spotted, morphometric data, picture and position will be taken. When possible the cause of mortality will be established through external examination of the carcass or (when possible) through a necropsy.



Figure 3. Rescuing and rehabilitating a juvenile hawksbill turtle after an oil spill.

Laboratory activities:

- ✓ Cleaning equipment, preparing tags and packing for the next day's activities;
- ✓ Enter data in the proper databases.

Other activities will include:

BleachWatch: This is part of the activities carried out by EPCA to survey the health status of coral reefs in the Egyptian Red Sea. After learning how to fill the BleachWatch form, volunteers will survey one or two sites per period of 10 days depending on the amount of free time.

Marine Megafauna Monitoring: This is part of the activities carried out by HEPCA to survey turtles, marine mammals and sharks of the Egyptian Red Sea. You will learn how to fill the monitoring form and will be asked to report on megafauna that you have seen during your daily activities.

2. Daily schedule and Tasks

Day 1: Arrival and Orientation

After meeting the team at the rendez-vous point, volunteers will be taken to the Field Station, where they will be shown the facilities and will have some time to unpack. In the afternoon/evening, they will be given an orientation talk and the volunteers, staff and project will be introduced. The house rules regarding safety, eating arrangements, daytime activities, work on the beach at night, and recreational time will also be discussed.

Days 2-8:

Work and activities will be posted at the station on a daily basis as the weather conditions dictate. The estimated timing of daily activities is described in the table below, however schedules can fluctuate due to weather, tides, and research needs.

Time	Activity
7:00-7:30	Breakfast
7:30:00-12:30	Turtle survey / Sea grass survey / Bleachwatch survey
12:30-13:30	Lunch
13:30-16:00	Turtle survey / Sea grass survey / Bleachwatch survey
16:00-18:00	Recreational time*/Lab activities
18:00-20:00	Dinner
20:00-22:00	Talks/ Movie night/Free time

*During recreational time, volunteers may choose to relax on the beach, go for a walk, or for a swim. We can also arrange special prices with the local dive centres if you are interested.

Volunteers who would like to have one day off during the 9-day period, can do so as long as there are enough people to help the staff conduct the research activities. We will propose a list of activities that we can organize for the volunteers during their day off (for an extra cost). These activities range from a trip in the desert, a visit to the local handcraft cooperative, diving in the Red Sea, or birdwatching in the Wadi Gemal National Park.

Day 9:

You will depart the field station in the afternoon of your last expedition day. Staff will transport you to the Marsa Alam International Airport.

3. Food and Accommodation

Our field base is located in Tondoba Bay in the new HEPCA Research Station. You will be sleeping in the research station and bungalows located in the Tondoba Eco-lodge. You are usually expected to share your room with at least another person, however special arrangements can be made (at extra cost) if you prefer to have your own room. You will also have access to shared showers and toilets facilities.



Figure 4. HEPCA headquarter in Tondoba Bay (left) and detail of the shared rooms (right).

In the research station there is a kitchenette where we will prepare our meals all together. As the study area is located 30 to 60 km from the research station, we will prepare our lunch in the morning before leaving and have lunch on the beach or on the boat. Do not forget to bring your own recipes and special ingredients. Meals will be mostly vegetarian. One night we will also have dinner in the restaurant of one of our supporters.

What to Bring with You

The weather in Egypt is warm to hot, thus exposure to the sun, wind and the sea are to be taken into consideration. In our expeditions, you will spend a significant amount of time under the sun. Sun protection, sunglasses, hats and appropriate clothing are paramount.

The following is a list of items you might find useful:

- ✓ comfortable shoes to walk along the beach;
- ✓ swim suit;
- ✓ a water proof jacket for the windy days;
- ✓ in the evening it could be fresh, a jumper could be very useful;
- ✓ a small rucksack so you can carry your packed launch and a bottle of water;
- ✓ sun protection is a must in Egypt especially in summer: bring your own sun cream and a hat!
- ✓ personal first aid kit;
- ✓ head lamp/head torch for night work;
- ✓ flask that you can refill with water;
- ✓ do not forget your camera! If you have a water-proof housing bring it with you, the visibility underwater is excellent and the fauna amazing.

General information about Egypt

Religion

Egypt is a predominantly Muslim country with Islam as its state religion. Around 90% of Egyptians are identified as Muslim. There is a large minority of Christians (nearly 10%) and an even smaller community of Jews of about 200, then a tiny number of Egyptians who identify as atheist and agnostic. Religion plays a central role in most Egyptians' lives, The Adhan (Islamic call to prayer) that is heard five times a day has the informal effect of regulating the pace of everything from business to media and entertainment, including weekend which is Friday and Saturday. Ramadan is the greatest religious observance in Islam and is an annual month of fasting, in 2010 it is expected to begin around mid August.

People

Egyptians are by far the largest ethnic group in Egypt at 91% of the total population. Ethnic minorities include the Abazas, Turks, Greeks, Bedouin Arab tribes living in the eastern deserts and the Sinai Peninsula, the Berber-speaking Siwis (Amazigh) of the Siwa Oasis, and the Nubian communities clustered along the Nile.

Food & Drink

Egyptian food reflects the country's melting-pot history; native cooks using local ingredients have modified Greek, Turkish, Lebanese, Palestinian, and Syrian traditions to suit Egyptian budgets, customs, and tastes. The dishes are simple and tasty, made with naturally ripened fruits and vegetables and seasoned with fresh spices. Developed and popularised in the Middle East, the drinking of ahwa (coffee) remains a national tradition. Tea, karkadé and fresh juices, as well as soft drinks are common. Bottled water is always available in all areas frequented by

tourists. Although devout Muslims refrain from drinking alcohol, imported and local beers, wines, and hard liquors are available in bars, restaurants, and some grocery shops.

Health and emergencies

It is advisable to stay away from raw fruit and vegetables, and drink plenty of liquids. Pharmacies are usually open from 10 a.m. to 10 p.m. and are staffed by competent professional. Hospitals in Hurghada and Marsa Alam areas include public and private structures. Recompression chambers are located in El Gouna, Hurghada, Safaga and Marsa Alam.

Weather

Throughout Egypt, days are commonly warm or hot, and nights are cool. Egypt has only two seasons: a mild winter from November to April and a hot summer from May to October. In Marsa Alam area average temperatures range from 24°C in January to 42°C in August.

Languages

Official language is Arabic, nonetheless, due to the tourism presence throughout the region, people speaking European languages are commonly found.

Local time: GMT +2 in winter and GMT +1 in summer (there is no summer time in Egypt)

International dial code: 0020

Local Currency: Egyptian Pounds (L.E.)

Average exchange

1USD = 5.62 L.E.

1 Euro = 7.58 L.E.

1 GBP = 8.53 L.E.

Electric current: 220 Volts

Emergency Numbers:

Police 122

Ambulance 123

Tourist Police 126

Booking Procedure

Please check www.wildventure.co.uk for information and booking.

Thank You for Your Participation!

Hurghada Environmental Protection and Conservation Association (HEPCA)

PO Box 104, Hurghada, Red Sea – Egypt

Tel: +20 65 344 5035

Fax: +20 65 344 6674

Email: info@hepca.com

Website: www.hepca.com

