# Naturally Morocco Limited

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**Why Choose a Natural History Holiday with us?**

We first visited Morocco 10 years ago to study its tremendous diversity of wildlife, geology & climate. There are 460 bird species, 90 reptiles (50% more than in the whole of Europe) and 3,600 recognised plants in Morocco of which 17% are endemic (IUCN, 1994)

Among the many reasons we chose to locate in Taroudant are the high biodiversity & many endemic species in varied habitats of the Souss Valley, High Atlas and Anti Atlas Mountains - most particularly in the Souss Valley which is a "crossroads" for flora and fauna from:

- the Mediterranean (the majority)
- the Sahara (next most important)
- the Tropics eg. *Argania spinosa*, the argan tree, and Geoffrey's ground squirrel.
- Montane zones (Mellado, 1988)

Current management practice of at least 3 important ecosystems in the study area - the argan forest, the steppe and the Euphorbia ecosystems - is leading to serious degradation. The argan forest is unique to the region; the steppe is an important feeding ground for the sole remaining wild colonies of the critically endangered bald ibis and the coastal Euphorbia ecosystem is recognised as internationally important by the (IUCN 1994b)

In each case ploughing and overgrazing contribute to:

- Wind and water erosion
- Loss of soil fertility
- Destruction of wildlife and their habitats.

This is exacerbated by open access grazing on common land (anyone can graze their animals). By contrast, ploughing rights apply only to people in the local community (each family has a recognised plot).

Fortunately the 1990's saw a rapid increase in the designation of **Protected Areas**, of which there are two internationally important reserves locally, the Argan Forest Biosphere Reserve & the Souss Massa National Park.

The Argan Forest **Biosphere Reserve**, which will protect parts of the argan forest in the High Atlas and Anti Atlas Mountains and the Souss Plain, was designated in Dec. 1998. This will provide extensive protection in 6 core zones, all of which are forests owned by the government e.g. parts of the Admine forest just east of the modern Agadir airport, at Tafingout, N of the Taroudant to Tiz n'Test road and an area of forest on the coast south of Cap Rhir. GTZ the German conservation organisation, have worked in partnership with the Moroccan government to set up this reserve. They have worked with illiterate women in 5 communities to assist them in realising their visions of sustainable development of the forest. This has involved the setting up of cooperatives to market organically certified products from the argan forest (honey, amalou and argan oil) in Europe. Other important work related to the argan forest is being carried out locally at the Institut Agronomique et Veterinaire, Ait Melloul & the University of Agadir

It was in this area that we chose to do most of our research on tortoise populations. *Testudo graeca graeca*, **the spur thighed tortoise**, is protected by C.I.T.E.S. schedule 2 i.e. trade is prohibited except by special licence, yet illegal trade of live specimens and, especially in the tourist areas, banjos and fire bellows made from carapaces (shells) continues. These are unfortunately often females chosen because of their larger size. We have examined the attitudes of tour operators, tourists and traders to this issue (Highfield & Bayley, 1996). We

studied wild populations, collecting data on population structure, in order to assess the impact of habitat loss, collecting for commercial or other purposes and agricultural change (Bayley & Highfield, 1996).

If a current application to the Department of the Environment is successful, we shall be involved in a Darwin Initiative project in the Argan Forest which would involve colloboration between academics in the UK & Morocco with the aim of promoting understanding of biodiversity & sustainability amongst the population at large and passing on expertise to Moroccans.

The **Souss Massa National Park**, a former Biosphere Reserve was designated in 1991 as a category 5 National Park (the highest international designation) (IUCN, 1994 b). The major biotypes found here are:

1. **Cultivated steppe** (`prairie') covers 45% of Park. Grain (usually barley which is salt tolerant) is grown on these unstable dune sands. Vegetation cover is naturally sparse - c.20% cover. Common species are yellow restharrow (Ononis natrix)
2. **Steppe** covers 24% of Park - stabilised dunes c.80% ground cover including Launea arborescencens, a distinctive low shrub with small dandelion-like flowers and seeds.
3. **Argan forest**. The endemic tree on stabilised soils is a very threatened habitat here.
4. **Euphorbia.** These succulents are the African equivalent of the cacti in America. Dominants are a tree spurge, E.regis jubae and the prickly E.beaumierana and E.echinus. This habitat is being cleared for agricultural use at an alarming rate and now covers less than 600ha. It has an important function in stabilising soil. It is an important habitat for tortoises.
5. **River habitats** are important as water bodies are so rare in this region - they support much wildlife including birds and the terrapin, Maeremys leprosa.
6. `**White' dunes** - young dunes cover 6% of the region and have spread considerably since 1970. Pose a threat - even to Agadir!

The **Bald Ibis Project**

Though the flora & reptiles are the National Park are fascinating, it is probably best known for its bird populations which includes many migrants, but most especially for its resident Bald Ibis population which is the world's last remaining colony breeding in the wild.

Several organisations including the RSPB & a team from Derby University are working to protect the Bald Ibis, Geronticus eremita, (l'ibis chauve in French). The population now stands at around 75 pairs of which a colony of 50 live in the Souss Massa N.P. and 25 live in the Tamri region, 60km N. of Agadir. Remarkably little was known of their ecology before the project started.

Threats to their survival include:

- Changing agricultural practice. In particular the use of pesticides e.g. in 1989 a large colony in Turkey was wiped out as a result of DDT passing up the food chain. Traditional management methods on the `prairie' in coastal S. Morocco seems to favour the ibis' prey.
- Human disturbance of roosting sites on the coast.
- Stability of the cliffs they nest on. Most of these seem to be composed of aeolinite (fossilised dune deposits). One of the sites near Tamri (N. of Agadir) was abandoned.

The objective of the project is to develop a management plan to ensure their survival. The data collected includes:

- a survey of their feeding grounds and their prey using faecal pellet analysis (insects and lizards are particularly important)

- a survey of agricultural practice: the frequency of cultivation (land is often left fallow for extended periods), the use of chemicals (very limited in the `prairie' zone)
- geomorphological investigations of the region, the aim of which is to determine the factors which have led to instability of the cliffs near Tamri & to suggest ways in which the nesting sites might be managed to increase stability.

Recently several new National Parks have been designated. There are now 9 parks compared with 3 in the early 1990s; these include 2 in the High Atlas, 2 in the Middle Atlas, 1 in the Rif Mts, 1 on the Mediterranean Coast, 1 in the extreme south and 1 on the coastal plain including the Souss and Massa estuaries. Gazelles and the African Ostrich have been reintroduced since 1994 in the Souss Massa National Park and have bred very successfully, so successfully in fact that some of their offspring are to be introduced into the new Badra National Park to the south of the Anti Atlas.

The above developments are indicative of the interest and commitment of the Moroccan government to conservation issues.

At the centre, you will have access not only to a great deal of literature & displays produced by Jane & her students but also to Said's local knowledge & expertise. We first met Said while we were doing fieldwork in 1993 & he quickly became an excellent field assistant which led to us setting up the project in Taroudant. Thanks to being brought up in the argan forest, followed by a degree in biology & geology & then experience as a guide with us since 1997, Said has a fine understanding of the local wildlife & related issues. He is extremely knowledgeable about all wildlife, but has a particular passion for botany & ornithology & he's a perfect gentleman too.

If you have any specific enquiries, please don't hesitate to be in touch with me.

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