ENVIRONMENT & WILDLIFE

Many species of wildlife benefit from a wide range of environmental programmes that have been put in place to protect the UAE's marine and terrestrial habitats.

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ENVIRONMENT

OVER THE LAST YEAR, FROM LATE 2006 until autumn 2007, the most significant news related to the environment of the UAE has come not from man's efforts to protect the environment, or even new discoveries in terms of the country's fauna and flora, although there has been progress in both of those fields. The news has, rather, been directly related to the impact of world weather on the Emirates.

From late November 2006 until April 2007, the UAE enjoyed its wettest winter for nearly a decade, breaking what had been several years of drought in much of the country. Moreover, the rains came not in two or three major storms, with the devastation that storms and floods can bring, but in a more benign manner – steady rains every few weeks that permitted the water to sink deep into the soil, recharging the stressed subterranean aquifers, benefiting agriculture and, of course, allowing the flora of the desert and mountains to bloom in profusion. Not only were the all-important seed-banks, of seeds produced by plants that then lie awaiting the next rains, re-stocked, but there was a direct benefit too up the food chain, from insects, small birds, small mammals and reptiles to the larger predators, reptiles, mammals and birds, that feed upon them.

Grey francolin *Francolinus pondicerianus*

NEW RECORDS

Not surprisingly, the UAE's avid natural historians made the best of the excellent winter rains to undertake fieldwork, in both the desert and the mountains. One plant species identified in the UAE for the first time, the grass *Cutandia dichotoma*, found on coastal sand dunes in Umm al-Qaiwain, was previously known in the Arabian Gulf from Kuwait, several hundred kilometres away – a remarkable addition to the national plant list. Several other plant species collected in the higher parts of the Hajar Mountains may also be new records for the Emirates, including a species of yellow

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Isabelline wheatear *Oenanthe isabellina.*

Pheasant's-eye *Adonis* sp., although final confirmed identifications were still awaited as the Yearbook went to press.

With the abundant plant life, and with temperatures remaining moderate well into April, much of the northern desert areas of the country resembled the steppes of Central Asia, rather than the more familiar dry dune landscape of the Emirates. That, in turn, may have been responsible for another remarkable scientific record – the first recorded indication of breeding by isabelline wheatears, a migrant bird species that is common in the Emirates from autumn to spring, but which generally breeds in South-west and Central Asia.

TROPICAL CYCLONES

The climatic delights of a mild and wet winter, however, were followed in June by the arrival of Tropical Cyclone *Gonu*, which produced heavy waves that caused flooding along much of the UAE's East Coast, though, fortunately, without the extensive damage and loss of life that occurred further to the south-west, in neighbouring Oman. *Gonu* was the strongest storm to hit the Emirates since weather records began over 40 years ago – indeed, records in Oman, which go back much further, suggest that it may have been the strongest storm to hit south-eastern Arabia for well over a hundred years.

Tropical cyclone *Gonu* was the strongest storm to hit the Emirates since weather records began over 40 years ago.

Tropical Cyclone *Yemyin*, which followed a few weeks later, and wreaked havoc along the coast of Baluchistan, in Pakistan, missed the UAE altogether, apart from slightly-increased wave heights on the East Coast, but was a further reminder that the vagaries of the weather and of climate should never be ignored, and their potential impact should never be under-estimated. Whether or not the winter rainfall and summer cyclones were an indication of global weather changes is, of course, as yet unproven, although the flooding caused by *Gonu* along the East Coast was a timely reminder that the United Arab Emirates, like all coastal states, needs to take precautions against the potential impact of global warming and sea level rises. With the greater part of its population resident in coastal areas, where the majority of new industrial and

residential development is also taking place, this is an issue that is being seriously studied by Government, and developers, for the years ahead.

CLEAN ENERGY

One development plan announced during the year indicates the seriousness with which the UAE is addressing the general issue of man's contribution to climate change and the process of global warming. Early in 2007, the Abu Dhabi Future Energy Company, wholly owned by the Abu Dhabi Government's Mubadala Development Company, launched its Masdar Initiative, a scheme for an environmentally-friendly mini-city in Abu Dhabi.

Due to be completed in late 2009, the walled township is being designed so that it has zero carbon emissions and complete recycling of waste. Intended to be car-free, it will be surrounded by wind and photovoltaic farms that will generate all of the energy that it requires.

'The coordination of infrastructure and environment policies is part of a determined commitment to ensure economic and industrial development in Abu Dhabi is delivered in a sustainable way, with the highest standards of community safety and a protected natural environment.'

www.uaeinteract.com/environmentandwildlife

HH Sheikh Mohammed bin Zayed with a young Arabian oryx, part of Abu Dhabi's captive breeding and release programme.

The logic behind the Masdar Initiative is that, although Abu Dhabi is well-supplied with conventional forms of energy, like oil and gas, there is also a need for it to take a lead in developing alternative and sustainable energy, since world energy demand is growing much faster than conventional energy supplies. There is also a need for a transition to cleaner, sustainable, and renewable forms of energy.

Abu Dhabi's specific environmental conditions provide excellent opportunities to develop and apply advanced technologies in clean and sustainable energy, while the large-scale CO_2 sequestration options in the local and regional oil and gas industries provide world-scale opportunities in solar, water, carbon management and hydrogen power.

RELEASE PROGRAMMES

Closer to home, there have also been significant developments over the past year in terms of conservation of the UAE's environment and wildlife. Perhaps the most important of those has been the release into the deep deserts of Abu Dhabi of 100 Arabian oryx *Oryx leucoryx*, marking the successful achievement of a long-held dream of former UAE President Sheikh Zayed bin Sultan Al Nahyan.

One of the largest of all of the antelope family, the stately black-and-white oryx, an ancient inhabitant of the Arabian desert, is the stuff of which legends are made. Literally so – for its long and slender back-curved horns, when seen at a distance from the side, can give the impression that the animal has only a single horn. And this, or so it is claimed, is the origins of the legend of the unicorn, that mythical beast of the East with near-magical powers.

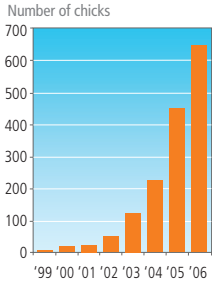
Specially equipped by physiological adaptation to live in harsh waterless deserts, where it obtains the moisture it needs from plants, it has been known to man for thousands of years as it roamed the vast expanse of the Arabian Peninsula and the deserts of Syria, Jordan and Iraq. Large herds of them survived throughout the region well into the early decades of the twentieth century.

Arabian oryx released into the wild are tracked with the aid of radio collars.

The coming of modern rifles, though, made it possible for hunters to shoot them at long range, while the introduction of motor vehicles into the deserts, particularly during and just after the Second World War, disrupted the balance of sustainable hunting that had prevailed until that time. The number of Arabian oryx in the wild declined dramatically, and by the early 1960s, with only a few animals surviving in Oman, it was apparent that the Arabian oryx was destined for extinction, except outside a few zoos in Europe and the United States.

Fortunately, the danger was recognised in time by Sheikh Zayed bin Sultan Al Nahyan, then Ruler's Representative in the Eastern Region of Abu Dhabi. He gave orders for a couple of pairs to be captured from the surviving wild stock, and had them brought to Al Ain, where they formed the nucleus of a captive-breeding programme. Over the years that followed, the number of Arabian oryx in the UAE grew to around 4000, out of a total world population of around 6000.

A dedicated conservationist – long before the term became fashionable – Sheikh Zayed always had the objective that one day Arabian oryx from the captive-bred stock should be reintroduced to the deserts of Abu Dhabi, to run free, like their ancestors.



Numbers of chicks produced in the houbara captive breeding programme in Abu Dhabi Emirate.

That dream, came true in March 2007, when the first phase of a reintroduction programme got under way with the release of a herd of 100 Arabian oryx into a huge desert reserve in the south-eastern corner of Abu Dhabi.

Organised by the Environment Agency – Abu Dhabi (EAD) in association with Al Ain Zoo, the release programme has the objective of re-establishing a self-sustaining wild population, first in a carefully-monitored and protected reserve area. Over the next four years, a hundred more captive-born oryxes, chosen from stock at Al Ain Zoo and from private collections, will be released during the cooler months throughout Abu Dhabi's deserts.

Another important reintroduction programme has involved the houbara, or Macqueen's bustard *Chlamydotis macqueenii*, the favoured quarry of the UAE's falconers. Following several years of extensive study, including satellite-tracking of migrant houbara between the UAE and their breeding grounds in Central Asia, a number of captive-bred houbara were released into the western deserts of Abu Dhabi, where several not only survived, but bred – the first proven breeding of the species in the country.

Houbara bustard displaying.

EAD officials installing a coral reef recruitment station to study coral reef regeneration around Al Yasat MPA.

ENVIRONMENTAL PROGRAMMES

EAD has also succeeded over the course of the last year in extending its protected areas programme, with the large Marawah Marine Protected Area, west of Abu Dhabi, now having been joined by further areas around the Yasat islands, in the extreme west of the country, and another substantial area from the western coastline of Abu Dhabi island to the neighbouring islands of Futaisi and Bahrani Bul Syayeet MPA. Planning for the formal designation of the oryx release site in south-eastern Abu Dhabi, near Umm az-Zamul, and of most of the mountain of Jebel Hafit, near Al Ain, also made progress during the course of the year.

Marawah MPA has been awarded the 'Biosphere Reserve' status by UNESCO.

Besides this, and its task as Abu Dhabi's regulatory body on environmental issues, EAD has also continued with an extensive scientific research programme, particularly on the marine environment, where studies have been undertaken on algal blooms, on the biology, distribution and conservation of dugongs and on finalising plans for the implementation of a conservation plan for marine turtles.

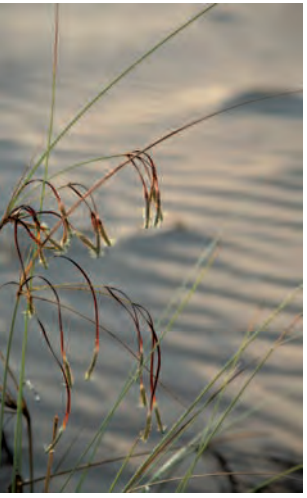
Other successful satellite-tracking programmes have also been carried out on the greater flamingo *Phoenicopterus roseus*, proving the interchange of populations throughout the coastal wetlands

The UAE signed the MoU on conservation and management of marine turtles and their habitats of the Indian Ocean and South-East Asia (IOSEA) in January 2007 as part of the regional and global cooperation programme on the protection of sea turtles.

of the UAE, including those in Abu Dhabi, Dubai, Sharjah, Umm al-Qaiwain and Ra's al-Khaimah, and onwards to the Caspian Sea, and on red-billed tropic-birds *Phaethon aethereus*.

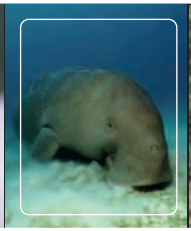
The expansion of the Emirates' protected areas programme, however, has not been confined to the Emirate of Abu Dhabi. One development of major significance during the year has been the agreement by the Fujairah government to provide formal protection to an area of the Hajar Mountains that encompasses the UAE's only permanent waterfall, at Wadi Wurrayah. The agreement follows a detailed study of the fauna and flora of the area undertaken by the Emirates Wildlife Society, the local affiliate of the international conservation body, the Worldwide Fund for Nature (WWF).

A largely-pristine area of mountain habitat, Wadi Wurrayah and its environs are home to some of the UAE's, and Arabia's rarest fauna, including one of three remaining UAE strongholds for the highly-endangered Arabian tahr *Hemitragus jayakari*. An important feature of the planning, undertaken in association with Fujairah Municipality, has been the involvement of the local population in the conservation scheme, in recognition of the fact that any successful conservation project must involve, rather than exclude, local stakeholders.



Another important initiative undertaken by the Emirates Wildlife Society has been the launching of a public campaign to promote recognition of the ghaf tree as the UAE's national tree. Largely confined to the plains in the eastern and northern parts of the country, the ghaf *Prosopis cineraria* has great value to the country's biodiversity, not just as a tree but as a micro-habitat or nesting area for a variety of birds, invertebrates and reptiles and was formerly a source of fuel and shelter for local inhabitants, but is now threatened by development.

Elsewhere in the country, Ra's al-Khaimah has re-structured its environmental legislation, replacing the former Environment Protection and Industrial Development Committee with the new Environment Protection and Development Authority. Headed by one of the country's leading marine biologists, the new Authority has devoted much attention to the gathering of baseline data,



Environmental programmes in the UAE have provided increased protection for a number of the country's key species.

Dhub (spiny-tailed lizard) *Uromastyx aegyptius microlepis.*

both onshore and offshore, to permit it in the future to designate areas for formal protection.

In Sharjah, the Environment and Protected Areas Authority has also been active, with a particular focus being on the continued development of the Emirate's Desert Park and the associated Breeding Centre for Endangered Arabian Wildlife. Separately, work is also well under way on the creation of the Wasit Nature Reserve, just on the edge of Sharjah City – an area that offers good views of migrant and resident birds, as well as a wide range of indigenous flora and other fauna.

As noted elsewhere in this *Yearbook*, the United Arab Emirates is currently engaged in a major programme of industrial and residential development, that is, inevitably, having a major effect on the country's natural habitats. Government, however, in association with private sector bodies, is endeavouring, as far as possible, to ensure that such development is undertaken sustainably. The challenges are huge, but the effort continues, unabated.

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