Our Vision:
To create an excellent city that provides the essence of success and comfort of living

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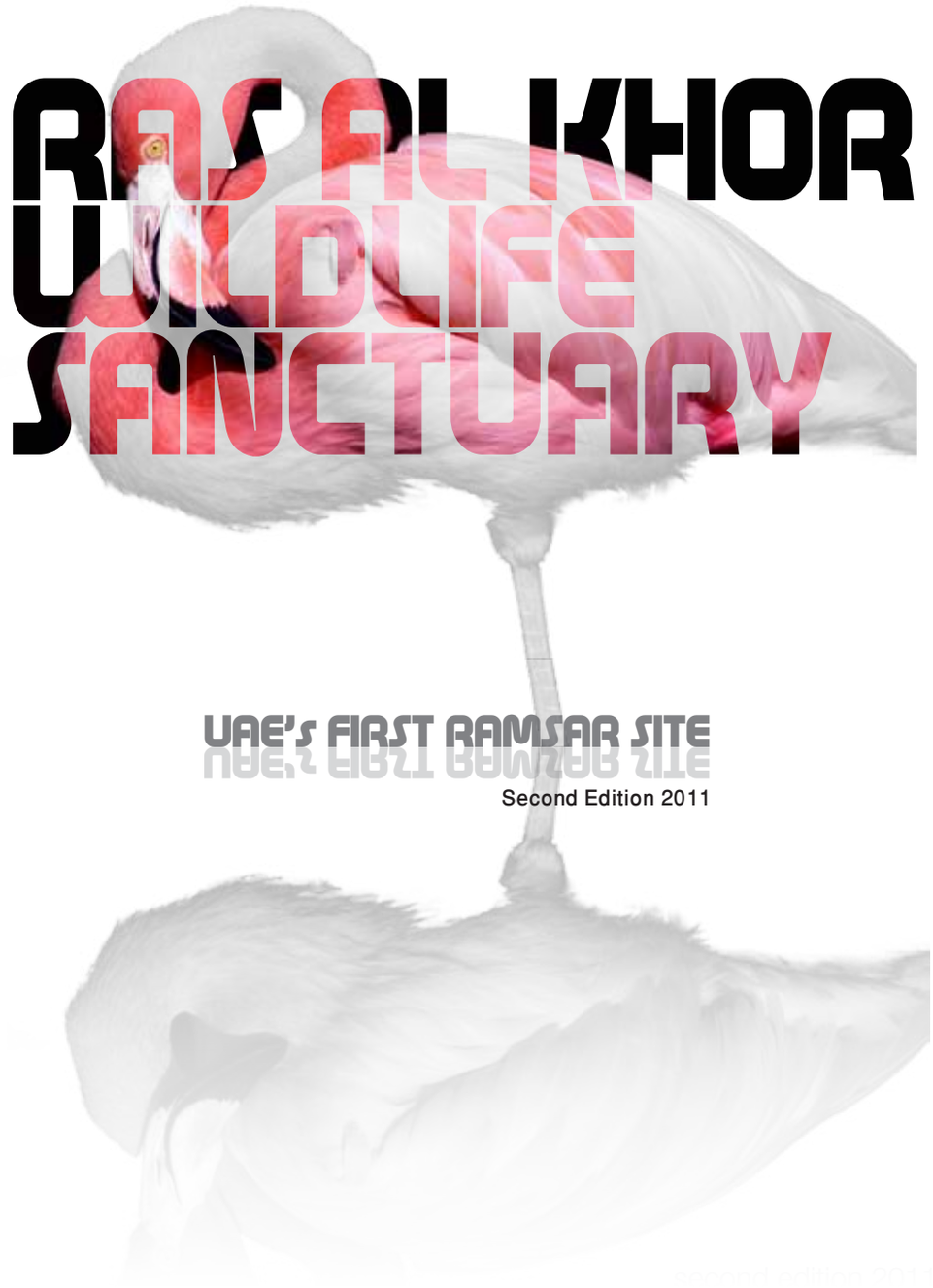
Our mission:
Working to plan, design, build and manage the municipal infrastructure and other related facilities and services through the appropriate investment in out human and other resources

GOVERNMENT OF DUBAI

Ramsar

DUBAI MUNICIPALITY



RAS AL KHOR WILDLIFE SANCTUARY

UAE's FIRST RAMSAR SITE

Second Edition 2011

FOREWORD

Lying in the heart of Dubai, the Ras Al Khor Wildlife Sanctuary (RAKWS) is a renowned protected area in the world uniquely engulf in an urban landscape. It has been listed as the first protected wetland in the United Arab Emirates that falls under the Convention on Wetlands, signed in Ramsar, Iran, in 1971, and ratified officially by the UAE government in December 2007.

As a wildlife sanctuary, it is a safe haven for a variety of plants and animals. Particularly for birds, RAKWS has become a central attraction for birdwatchers in the UAE. Since the hides were opened to the public on March 2005 until December 2010, more than thirty-four thousand (34,000) visitors and 114 nationalities have visited and witnessed the diverse concentration of bird species in the area.

The vital role it plays in the ecological balance and its enormous potentials for ecotourism, RAKWS has become a proud symbol of Dubai as well as a natural heritage for the Emirate. And to make sure that these significant attributes of RAKWS will be sustained, the Environment Department of the Dubai Municipality has instituted measures to protect the invaluable resources of the sanctuary while providing visitors better access to this unique bird's refuge. The Department built three hides/towers at strategic locations to give visitors a closer view of birds and other wildlife in the area. And waiting in the pipe line is a world class wetland center that will serve as venue for information, communication, education and public awareness not only on the importance of RAKWS but on the whole of Dubai biodiversity as well.

This publication aims to educate readers on the sanctuary's major attributes and significant milestones on government policies and initiatives in the protection and management of Dubai's vulnerable wildlife and their habitat.

It is hoped that all sectors of the population will be inspired and encouraged to support all efforts that geared towards the protection of the sanctuary, thus ensuring that the invaluable treasures of flora and fauna therein will not only be enjoyed by the present generation but also benefit the next generation as well.

I am thankful to all colleagues for their strong commitment and undying spirit for the protection and sustainable use of RAKWS and all natural resources of Dubai Emirate.

Hamdan Al Shaer
Director - Environment Department
Dubai Municipality

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For more information on Ras Al Khor Wildlife Sanctuary,
visit website: www.wildlife.ae

For visiting information refer to page 16.

For emergencies:
Tel : 800900

Ras Al Khor Wildlife Sanctuary (RAKWS) is one of the few urban protected areas. Located at the end of the 14 km long Dubai creek and lying at the interface between the Arabian Gulf and Al Awir Desert, it is a coastal wetland of global importance.

Covering a 6.2 km^2 area, the sanctuary holds approximately 450 species of fauna and 47 species of flora and is one of the best managed arid zone wetlands in the region.

Aerial view of RAKWS with location of hides

RAKWS: *A bird's haven*

INTRODUCTION

RAKWS was established in 1985 and was officially declared as a protected area on March 1, 1998 by Local Order No. (2) of 1998. In December 2003, His Highness, the Ruler of Dubai has promulgated Law No. 11 of 2003 on the Establishment of Protected Areas in the Emirate of Dubai giving RAKWS full protection from Dubai Municipality.

On August 29, 2007, RAKWS was declared as the UAE's first RAMSAR Site. It is also identified as a globally Important Bird Area (IBA) by Birdlife International and considered an exceptional wetland within the UAE.
The importance of RAKWS is beyond its aesthetic value. It serves as a beacon on the significance of biodiversity as a life support system for humanity's continual existence and an integral part of the cultural and traditional heritage of the UAE.

The Marine Environment and Wildlife Section (MEWS) of the Environment Department under the Dubai Municipality is the management authority of the Sanctuary vide Law No. 11 of 2003. The site enjoys protected area management provisions including a ban on hunting, shooting and disturbing wildlife within the area.

RAKWS management main objectives

- Conserve and improve the biological diversity of coastal and terrestrial ecosystems along the shores of Ras Al Khor
- Maintain the essential ecological processes within these systems
- Manage renewable resources sustainably
- Undertake studies and research for better management of the Sanctuary
- Protect and restore the faunal and floral diversity, as well as natural abundance of individual species through habitat conservation, management and restoration
- Educate the community about natural heritage, conservation and the wise use of wetlands and its resources
- Develop and implement an ecotourism programme in the wilderness area
- Implement plans and programs of the RAMSAR convention as part of its commitment/partnership/obligation to the treaty

The Ras Al Khor Wildlife Sanctuary is the first wetland ecosystem in the gulf region to be recognized as a RAMSAR site. It was declared on August 29, 2007. It was officially accepted on December 29, 2007 making the UAE the 156th member of the RAMSAR Convention.

What is RAMSAR Convention

The Convention on Wetlands of International Importance,

called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

The Ramsar Convention is the only global environmental treaty that deals with a particular ecosystem and the Convention's member countries cover all geographic regions of the planet.

As of October 2011, the convention's website published more than 1,900 sites in its "List of Wetlands with International Importance" in 160 countries covering a total area of about 188 million hectares.

Launaea mucronata
Hawa

RAKWS: A life support system

Wetlands are among the world's most productive environments. They are pockets of biological diversity that provide the water and primary productivity upon which countless plant and animal species depend for survival. Wetlands like RAKWS support high concentrations of birds, reptiles, amphibians, fishes and invertebrate species.

As a Contracting Party to the Convention on Biological Diversity, the UAE is required to implement in-situ conservation, i.e. establish system of protected areas, in which RAKWS is among the pioneers in the region.

Avifauna

Phalacrocorax nigrogularis
Socotra Cormorant

Pluvialis squatarola - Grey plover

Athya nyroca - Ferruginous Duck

Himantopus himantopus
Black Winged Stilt

RAKWS is an exceptional wetland within the UAE due to the combined availability of high densities of invertebrates, waders, shorebirds and flamingos. It has evolved as the most interesting bird watching spot in the UAE. The site regularly supports a number of globally threatened species of water birds that include Socotra Cormorant (*Phalacrocorax nigrogularis*) and Ferruginous Duck (*Athya nyroca*).

Although wildlife is abundant, most prominent is the large population of wintering and other migratory birds.

The maximum number of birds observed is during the month of January with up to 25,000 individuals of approximately 88 different species. The density of waders in the sanctuary is up to 21 birds per hectare in spring and autumn; and 60 birds per hectare in winter. This is higher than that found anywhere in the world.

There are also approximately 1,000 Greater Flamingoes that inhabit the sanctuary and draw quite an interest from Dubai residents and tourists alike. Their numbers peak during winter. Last January 2011, more than 3,000 flamingos have been recorded in the sanctuary. Abundance of invertebrate fauna, such as polychaete worms, mollusks and brachyuran crabs in RAKWS, keep its bird population quite stable. Out of the 88 wetland bird species, 9 occur in internationally important numbers (over 1% of world population).

A single ecosystem has an impact on all aspects of human existence.

RAKWS also hosts the largest wintering populations of mallard, pintail, common teal and pigeon. The population of raptors here constitutes a larger variety compared to anywhere else in the country, which includes 20 species birds of prey, amongst are imperial eagle, spotted eagle, lesser kestrel and osprey as recorded in the past 20 years.

Over an equivalent time span, a total of 185 bird species were recorded at the site.

Paraechinus aethiopicus
Ethiopian hedgehog

Dynamic and diverse avifauna can be observed in the sanctuary.

The sanctuary and its environs also supports a good population of Gerbil, Ethiopian hedgehog, Arabian hare and Ruppell's fox. Occasionally, dolphins visit the entrance of the Khor, but do not venture further inshore.

FISHERIES

The lagoon portion of the RAKWS, at the north and eastern border ,is teeming with several fish species that command high commercial value to local markets in the UAE. Presently, 31 species are documented. The protected status of the sanctuary, which bars any intrusion and fishing activities in the area, renders a safe refuge where anumber of them find the lagoon as their breeding ground.
Among the most notable of the fish species are the Milk Fish (*Chanos chanos*), Great Barracuda (*Sphyraena barracuda*) and Tilapia (*Tilapia nelatica*).

Epinephelus stoliczkae
Epaulet grouper

High value commercial species as well as threatened

Solea elongata
Elongate fish

FLORA

Mangroves constitute the most dominant ecosystem in RAKWS. The mangroves, locally known as “gurm”, are represented by a single species – *Avicennia marina*. A total of 45,000 mangrove seedlings were planted here from 1991 to 1994.

Since then, its quantity has multiplied and its condition improved. The grey mangrove is presently well established and flourishing; producing seedlings and spreading in the upper mid-intertidal zone of the wetlands. It is a nursery ground for polychaetes, crabs, fish, insects, mollusks, prawns and shrimps.

Avicennia marina
Grey Mangrove

Desert hyacinth

The plant community here also plays an important role in recycling nutrients and maintaining food chains.

The lagoon is surrounded by flat sabkha and low sandy parts that are over grown with salt tolerant flora. There is less vegetation in the mudflats/sabkha; only a few salt tolerant shrubs such as *Halopeplis perfoliata* and *Tamarix* sp. occur. The raised land around the lagoon shows denser and more diverse vegetation cover dominated by the perennials *Zygopyllum qatarense* and *Cyperus congllomeratus*. The parasitic plants *Cynomorium coccineum* are also common. Along the southern boundary of the site are found a few shrubs of *Calligonum comosum* and small stands of *Phragmites australis* in marshy locales.

During the spring, seasonal flowers such as *Arnebia hispidissima, Erodium sp, Zygophyllum simplex, Malva parviflora, Silene villosa, Moltkiopsis ciliate, Oligomeris linifolia* and *Amaranthus* sp. bloom in good numbers on higher sandy grounds.

Desert Hyacinth
Cistanohe tubulosa

Further, there are reed beds of *Phragmites australis* and *Typha domingensis*. The largest bush to be found is *Pluchea ovalis.*

Protection

There are a number of general threats to wetlands that are also of concern to RAKWS. The sanctuary is vulnerable to human disturbance like property development; pollution (risk is high due to proximity of the site to Dubai city and enclosed nature of the water body); poaching, incidences of illegal fishing, harvesting of bird eggs; and intrusion by alien species.

A perimeter fence delimits the intrusion of any individual who has no official business in the area. Regular patrolling of police, MEWS personnel, and guards further strengthens the enforcement of the law. Furthermore, a floating boom signals any water crafts from entering the protected area through the Dubai Creek hinders any floating debris that might pollute its waters.

Educational tours. The next generation is being educated on their role on maintaining a healthy environment

Nature Education

With the aim of enlightening its citizens on the value of the sanctuary as their natural heritage, the Dubai Municipality has introduced environmental education facilities in RAKWS that highlights the natural processes by which RAKWS will be sustained.

Bird watch hides were put up for visitors to view the plants ,animals and habitats in the area. The hides constitute the first step towards a comprehensive visitor education program.

Visitors are now officially allowed to enter the sanctuary and go to specific vantage points through the bird watch hides.

Lectures and practical demonstrations are among the initiatives organized by the MEWS for the public to better appreciate the importance of everyone's role in the environment.

Bird Flu Monitoring

Since the RAKWS is an important wintering area for waterbirds, the Dubai Municipality is implementing a comprehensive monitoring program on migratory birds in Dubai. This proactive mitigating measure is in anticipation for a possible spread of a disease, the Bird Flu or Avian Influenza in the Emirates.

wildlife.ae
Ras AL Khor Wildelfe Sanctury

To further widen the audience of the sanctuary, a website was developed. Anyone can witness its uniqueness by logging on to www.wildlife.ae and clicking on one of the web cameras installed in the hides to witness in real time the behavior of the avifauna in the sanctuary. Or one can click on the Photopoint 360° interactive videos for better control of specific areas to see.

The Bird Flu or Avian Influenza is a contagious disease of animals caused by viruses that normally infect birds, particularly the "Highly Pathogenic Avian Influenza (HPAI)" strain, which is fatal and can be transmitted to humans causing severe illness and possible death.The disease can spread from country to country through, migratory birds, including waterfowl, sea birds and shore birds.

Because of this proactive measures, RAKWS remains a safe haven for avifauna.

Water Quality Monitoring

The buffer zones of RAKWS are subject to major water development projects, despite their roles as major nesting and migration areas for a number of species of shorebirds.

The MEWS regularly monitors the water quality of the Dubai Creek. The monitoring program serves following purposes:

- Indicate the state of health of marine waters;
- Assess compliance with the statutory Water Quality Objectives (WQOs);
- Reveal long-term changes in water quality;
- Provide a basis for the planning of pollution control strategies

Fish sampling

Water sampling

Fisheries Management

The fish species found in the waters of the RAKWS commands high commercial as well as ecological values. Fish population surveys and presence of heavy metal studies in fishes are just among the management strategies that the MEWS is undertaking.
The sanctuary is a breeding ground for important commercial species. By managing the fish population, future generations will be assured of continual presence of fish in the Dubai Creek as well as in its coastal and marine environment.

Mangrove Management

The mangrove forest is highly productive and contributes food, fuel, fibre and fodder to different communities. It prevents coastal erosion, stabilizes the coastline, controls and enriches soil and the aquatic environment. Mangroves also act as wind breaks, thus protecting the coastal land from storm damage.

Since the mangrove planting done in the 1990's, the mangrove population in the RAKWS has been thriving. In some areas of the sanctuary, mangrove saplings were observed to be growing in adjacent habitats. Constant monitoring, proper waste management and effective law enforcement are among the factors that restored the health of the mangroves.

Mangrove monitoring.

Mangrove flowers.

Mangrove seed harvesting.

A Greater Spotted Eagle flying off
after resting among the mangroves.

Healthy pneumatophores (roots).

To ensure proper management of the mangroves, collaboration with other stakeholders are continuously being strengthened. Mangrove habitat surveys are being conducted to monitor its condition. Furthermore, private institutions also participate in cleaning the mangrove areas as part of the sanctuary's awareness program.

Mangroves in RAKWS are represented by a single species, Avicennia marina.

Research : Satellite Monitoring of Flamingoes

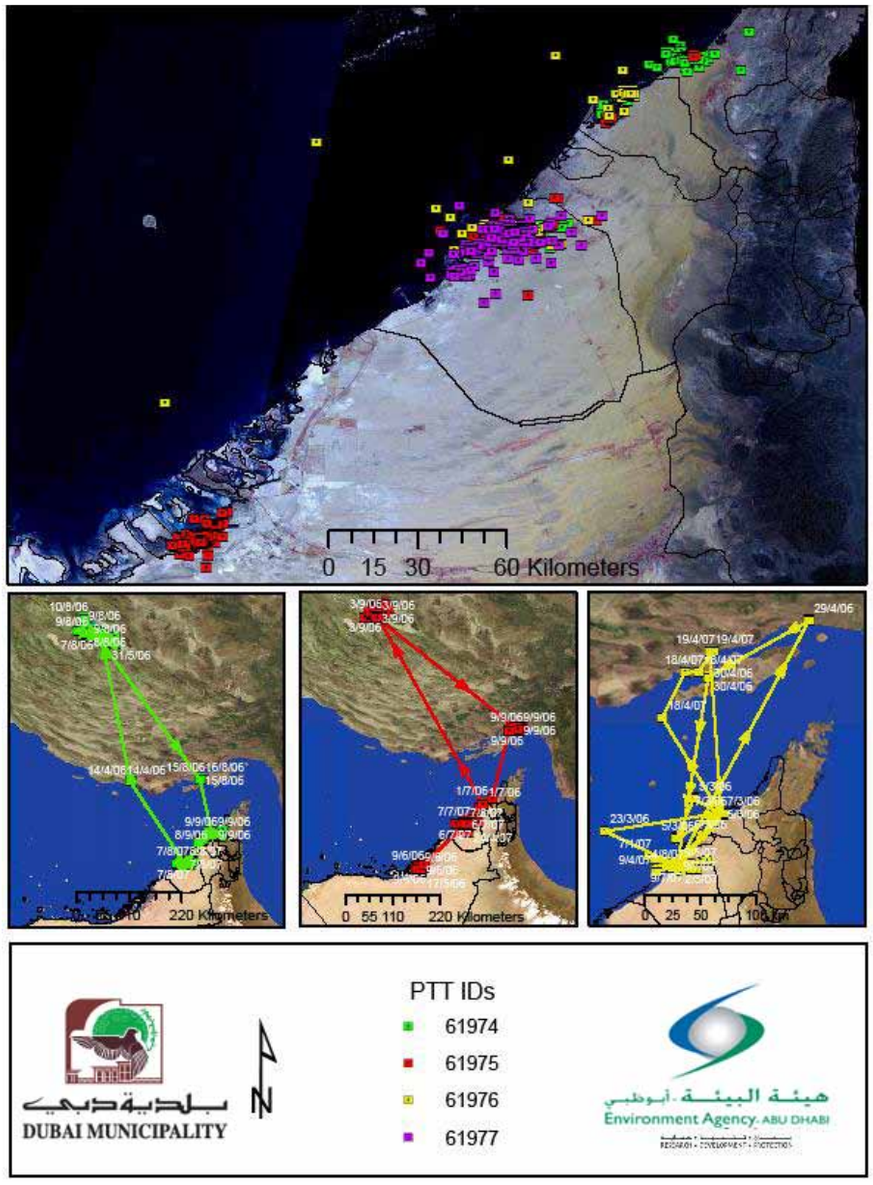
On instructions from His Highness, the Ruler of Dubai, a flamingo capture and satellite tagging operation was organized in February 2006 to understand the local movement and migration of flamingoes wintering at the Ras Al Khor Wildlife Sanctuary. The work undertaken was a collaborative effort between Environment Agency – Abu Dhabi and, Environment Department, Dubai Municipality.
In all, nine Flamingoes ranging from age classes 1-4 year birds were captured at 3 different sites in the RAKWS. All the flamingoes were marked with Darvic rings and some of the birds were tagged with satellite transmitters with IDs 61974, 61975, 61976 and 61977.

*Satellite tagged Greater Flamingo
Phoenicopterous ruber

As indicated in the Argos data for all the four satellite tagged from February 27 to August 31, 2007, the birds have shown considerable movement from the Iranian coast and mainland and then returned back to RAKWS.

Locations of Satelite Tagged Flamingoes, Captured and Marked at Ras Al Khor, Dubai

All Locations are based on higher accuracy Argos location classes from February 27 to August 31,2007



ACTIVITIES

BIRD WATCH HIDES

Among the distinguishing features of the sanctuary is the opportunity to observe wildlife in a close and personal manner without disturbing the normal behavior of the animals. Bird hides are strategically located for visitors to witness nature at its best.

The bird hides are receiving an increasing number of visitors each year. In 2008, more than 4000 visitors visited the hides. An increase has since been observed with more than 8,000 and 10,000 in 2009 and 2010, respectively. A total of 114 different nationalities have visited the sanctuary since its establishment. Different institutions, i.e. media, academics, tourists, NGOs, have likewise witness the beauty that the sanctuary has to offer.

This growing awareness and interest prompted the management to construct an appropriate a visitors' centre in the near future. This would further strengthen the sanctuary's goals and objectives.

Families and friends enjoy themselves inside the hides for educational and bonding moments.

Dr. Peter Bridgewater (RAMSAR Former Secretary General) visited one of the hides during assessment stage.

For the visitor's viewing comfort, there are three bird watch hides (see map - Page 2). These hides are situated at three strategic locations and named after important features of each site:

Hide One,	named "GURM / MANGROVE" is located near a mangrove forest and sabkha (salt flat) habitat off Ras Al Khor Road.
Hide Two,	named "FANTIR / FLAMINGO", is located near the flamingo roost, off the junction of Al Wasl and Oud Metha Roads.
Hide Three,	named "AL BUHAIRA/LAGOON", is located close to Business Bay.

Each bird hide offers a panoramic view of the Sanctuary and is equipped with spotting scopes and binoculars, as well as picture panels exhibited in the three sides. Publications are also available such as brochures, checklists of birds and other flora and fauna in the sanctuary for visitors' reference and guide.

Important Reminders Inside the Sanctuary Hide

Visiting days: Saturdays -Thursdays

Visiting hours: 9:00 AM – 4:00 PM

Entry process:

1) Individuals and families can go directly to the sanctuary and register on the visitors' logbook.

2) Group tours, media organizations or affiliates, academic institutions and companies must apply through the internet:
First, you have to register on the website **http//:www.dm.gov.ae**

a) If you still do not have a user name and password, follow the steps below:
- Click on "Register "
- Click "Company and Admin. User Registration", then follow procedure of registration;
- After registration, print the application form and let the CEO/Owner and Administrative Manager sign the document then submit it to the Information Technology Department, Dubai Municipality;
- Afterwards username and password will be send to the email address written on the application form.

Note: If company already have username and password just "Log-in".
Permits will be issued electronically and must be printed. A copy of the permit should be given to hide staffs in the sanctuary.
Apply only three days prior to visit. At least two working days are required to process the permits.

For any technical assistance in getting permits, comments and complaints please e-mail to: jcaguhob@dm.gov.ae, mahussain@dm.gov.ae
or call: 6066826, 6066822

WARNING

The following practices are prohibited and may result in heavy fines and legal actions:

- PARKING OUTSIDE THE DESIGNATED AREAS
- INTRODUCING PETS OR ALIEN SPECIES INTO THE SANCTUARY
- POLLUTING THE SOIL, WATER OR AIR OF THE SANCTUARY
- APPROACHING OR HARMING WILDLIFE
- DAMAGING VEGETATION OR GEOLOGICAL FORMATIONS
- COLLECTING OR TRANSPORTING PLANTS, ANIMALS OR PARTS THEREOF
- PRODUCING NOISE OR USING NOISE PRODUCING TOOLS/EQUIPMENT
- USING FIREARMS, HUNTING OR TRAPPING OF ANY KIND

REMINDER

Take nothing but photos
kill nothing but time
Leave nothing but footprints

Legal Framework

Existing Federal and Local Laws govern the protection and conservation of natural resources in Dubai Emirate .Some of the Federal Laws include, No. 9 of 1983 (Ban on Wildlife Hunting , Gathering and Destruction), No. 23 of 1999 (Exploitation , Protection and Development of the Living Aquatic Resources in the Waters of UAE and No. 24 of 1999 (Protection and Development of the Environment). At the Emirate level, among the relevant laws include Local Order No. 11 of 2003 (Establishment of Protected Area in the Emirate of Dubai), Local Order No. 61 of 1991 (Environmental Protection Regulations in the Emirate of Dubai) and Local Order No. 2 of 1998 (Declaration of Wildlife Sanctuaries in the Emirate of Dubai).

Local Order No. 11 of 2003 specifies:
"Any work, acts, activities or procedures which may destroy or damage wildlife, marine flora and fauna, and effect the aesthetic standard in protected areas, shall be prohibited; particularly the following:

- Hunting, transporting, killing or disturbing marine or other wildlife; or undertake any acts which lead to their destruction.

- Hunting, removal or transporting of any creatures or organic materials such as mollusks, coral reefs, rocks or soil for any purpose

- Destroying or transporting plants from the protected areas

- Damaging or disfiguring geological or geographical formations of areas considered to be the habitat of animal or plant species or their proliferation

- Introducing non-indigenous species to the protected areas

- Polluting the soil, water or air of the protected area by any means

- Constructing buildings, structures, roads using motorized vehicles or practicing any agriculture, industrial or commercial activities in the protected areas, or practice any activity, acts or works in areas surrounding the conservation area unless by a permit from the competent authority in accordance with approved conditions and rules

Violations of the rules and regulations will be prosecuted under the terms stipulated in the provisions of the Laws stated above.

Bird Species List

Phoenicopteriformes
Flamingos *(Phoenicopteridae)*
- Greater Flamingo *(Phoenicopterus roseus)*
- Lesser Flamingo *(Phoeniconaias minor)*

Anseriformes
Ducks, Swans and Geese *(Anatidae)*
- Black-bellied Whistling-duck *(Dendrocygna autumnalis)*
- Black Swan *(Cygnus atratus)*
- Greylag Goose *(Anser anser)*
- Greater White-fronted Goose *(Anser albifrons)*
- Lesser White-fronted Goose *(A. erythropus)*
- Egyptian Goose *(Alopochen aegyptiacus)*
- Ruddy Shelduck *(Tadorna ferruginea)*
- Common Shelduck *(Tadorna tadorna)*
- Eurasian Wigeon *(Anas penelope)*
- Gadwall *(Anas strepera)*
- Common Teal *(Anas crecca)*
- Mallard *(Anas platyrhynchos)*
- Northern Pintail *(Anas acuta)*
- Garganey *(Anas querquedula)*
- Northern Shoveler *(Anas clypeata)*
- Red-crested Pochard *(Netta rufina)*
- Common Pochard *(Aythya ferina)*
- Ferruginous Duck *(Aythya nyroca)*

Coraciiformes
Kingfishers *(Alcedinidae)*
- Common Kingfisher *(Alcedo atthis)*
- Lesser Pied Kingfisher *(Ceryle rudis)*

Bee-eaters *(Meropidae)*
- Little Green Bee-eater *(Merops orientalis)*
- Blue-cheeked Bee-eater *(Merops persicus)*
- European Bee-eater *(Merops apiaster)*

Rollers *(Coraciidae)*
Indian Roller *(Coracias benghalensis)*

Upupiformes
Hoopoes *(Upupidae)*
- Hoopoe *(Upupa epops)*

Apodiformes
Swifts *(Apodidae)*
- Pallid Swift *(Apus pallidus)*

Pelecaniformes
Pelicans *(Pelecanidae)*
- Great White Pelican *(Pelecanus onocrotalus)*

Cormorants *(Phalacrocoracidae)*
- Great Cormorant *(Phalacrocorax carbo)*
- Socotra Cormorant *(Phalacrocorax nigrogularis)*

Podicipediformes
Grebes *(Podicipedidae)*
- Little Grebe *(Tachybaptus ruficollis)*
- Great Crested Grebe *(Podiceps cristatus)*
- Black-necked Grebe *(Podiceps nigricollis)*

Pterocliformes
Sandgrouse *(Pteroclididae)*
- Pin-tailed Sandgrouse *(Pterocles alchata)*
- Chestnut-bellied Sandgrouse *(Pterocles exustus)*

Falconiformes
Osprey *(Pandionidae)*
- Osprey *(Pandion haliaetus)*

Hawks, Eagles and Kites *(Accipitridae)*
- Crested Honey Buzzard *(Pernis ptilorhynchus)*
- Black-winged Kite *(Elanus caeruleus)*
- Black Kite *(Milvus migrans)*
- Western Marsh Harrier *(Circus aeruginosus)*
- Pallid Harrier *(Circus macrourus)*
- Montagu's Harrier *(Circus pygargus)*
- Lesser Spotted Eagle *(Aquila pomarina)*
- Greater Spotted Eagle *(Aquila clanga)*
- Steppe Eagle *(Aquila nipalensis)*
- Eastern Imperial Eagle *(Aquila heliaca)*
- Bonelli's Eagle *(Hieraaetus fasciatus)*
- Booted Eagle *(Hieraaetus pennatus)*

Falcons *(Falconidae)*
- Common Kestrel *(Falco tinnunculus)*
- Peregrine Falcon *(Falco peregrinus)*

Columbiformes
Doves and Pigeons *(Columbidae)*
- Rock Dove *(Columba livia)*
- Eurasian Collared Dove *(Streptopelia decaocto)*
- Laughing Dove *(Streptopelia senegalensis)*

Strigiformes
Owls *(Strigidae)*
- Short-eared Owl *(Asio flammeus)*

Galliformes
Pheasants and Partridges *(Phasianidae)*
- Grey Francolin *(Francolinus pondicerianus)*

Gruiformes
Cranes *(Gruidae)*
- Grey Crowned Crane *(Balearica regulorum)*
- Demoiselle Crane *(Anthropoides virgo)*

Rails and Coots *(Rallidae)*
- Common Moorhen *(Gallinula chloropus)*

Ciconiiformes
Herons and Egrets *(Ardeidae)*
- Grey Heron *(Ardea cinerea)*
- Purple Heron *(Ardea purpurea)*
- Great Egret *(Ardea alba)*
- Little Egret *(Egretta garzetta)*
- Western Reef Heron *(Egretta gularis)*
- Cattle Egret *(Bubulcus ibis)*
- Striated Heron (Butorides striata)
- Black-crowned Night Heron *(Nycticorax nycticorax)*
- Little Bittern *(Ixobrychus minutus)*

Storks *(Ciconiidae)*
- Yellow-billed Stork *(Mycteria ibis)*
- White Stork *(Ciconia ciconia)*

Ibises and Spoonbills *(Threskiornithidae)*
- Sacred Ibis *(Threskiornis aethiopicus)*
- Glossy Ibis *(Plegadis falcinellus)*
- Eurasian Spoonbill *(Platalea leucorodia)*

Charadriiformes
Oystercatchers *(Haematopdidae)*
- Eurasian Oystercatcher *(Haematopus ostralegus)*

Avocets and Stilts *(Recurvirostridae)*
- Black-winged Stilt *(Himantopus himantopus)*
- Pied Avocet *(Recurvirostra avosetta)*

Coursers and Pratincoles *(Glareolidae)*
- Cream-coloured Courser *(Cursorius cursor)*

Plovers and Lapwings *(Charadriidae)*
- Northern Lapwing *(Vanellus vanellus)*
- Red-wattled Lapwing *(Vanellus indicus)*
- Sociable Lapwing *(Vanellus gregarius)*
- White-tailed Lapwing *(Vanellus leucurus)*
- Eurasian Golden Plover *(Pluvialis apricaria)*
- Pacific Golden Plover *(Pluvialis fulva)*
- Grey Plover *(Pluvialis squatarola)*
- Common Ringed Plover *(Charadrius hiaticula)*
- Little Ringed Plover *(Charadrius dubius)*
- Kentish Plover *(Charadrius alexandrinus)*
- Lesser Sand Plover *(Charadrius mongolus)*
- Greater Sand Plover *(Charadrius leschenaultii)*

Snipes, Sandpipers and Phalaropes *(Scolopacidae)*
- Pin-tailed Snipe *(Gallinago stenura)*
- Common Snipe *(Gallinago gallinago)*
- Black-tailed Godwit *(Limosa limosa)*
- Bar-tailed Godwit *(Limosa lapponica)*
- Whimbrel (Numenius phaeopus)
- Eurasian Curlew *(Numenius arquata)*
- Common Redshank *(Tringa totanus)*
- Marsh Sandpiper *(Tringa stagnatilis)*
- Common Greenshank *(Tringa nebularia)*
- Green Sandpiper *(Tringa ochropus)*
- Wood Sandpiper *(Tringa glareola)*
- Terek Sandpiper *(Xenus cinereus)*
- Common Sandpiper *(Actitis hypoleucos)*
- Ruddy Turnstone *(Arenaria interpres)*
- Sanderling *(Calidris alba)*
- Red-necked Stint *(Calidris ruficollis)*
- Little Stint *(Calidris minuta)*
- Curlew Sandpiper *(Calidris ferruginea)*
- Dunlin *(Calidris alpina)*
- Broad-billed Sandpiper *(Limicola falcinellus)*
- Ruff *(Philomachus pugnax)*

Gulls *(Laridae)*
- Sooty Gull *(Larus hemprichii)*
- Caspian Gull *(Larus cachinnans)*
- Steppe Gull *(Larus barabensis)*
- Heuglin's Gull *(Larus heuglini)*
- Great Black-headed Gull *(Larus ichthyaetus)*
- Black-headed Gull *(Larus ridibundus)*
- Slender-billed Gull *(Larus genei)*

Terns *(Sternidae)*
- Gull-billed Tern *(Gelochelidon nilotica)*
- Caspian Tern *(Hydroprogne caspia)*
- Sandwich Tern *(Sterna sandvicensis)*
- Common Tern *(Sterna hirundo)*
- Little Tern *(Sternula albifrons)*
- Saunders's Tern *(Sternula saundersi)*
- Whiskered Tern *(Chlidonias hybrida)*
- White-winged Tern *(Chlidonias leucopterus)*
- Great Crested Tern *(Sterna bergii)*
- Lesser Crested Tern *(Thalasseus bengalensis)*

Passeriformes
Larks *(Alaudidae)*
- Greater Hoopoe-lark *(Alaemon alaudipes)*
- Crested Lark *(Galerida cristata)*
- Black Crowned Finch Lark *(Eremopterix nigriceps)*

Swallows and Martins *(Hirundinidae)*
- Barn Swallow *(Hirundo rustica)*
- Common House Martin *(Delichon urbica)*

Pipits and Wagtails *(Motacillidae)*
- Tawny Pipit *(Anthus campestris)*
- Red-throated Pipit *(Anthus cervinus)*
- Richard's Pipit *(Anthus novaehollandiae)*
- Water Pipit *(Anthus spinoletta)*
- White Wagtail *(Motacilla alba)*
- Yellow Wagtail *(Motacilla flava)*
- Citrine Wagtail *(Motacilla citreola)*

Bulbuls *(Pycnonotidae)*
- White-eared Bulbul *(Pycnonotus leucotis)*
- Red-vented Bulbul *(Pycnonotus cafer)*

Thrushes *(Turdidae)*
- Blue Rock Thrush *(Monticola solitarius)*
- Song Thrush *(Turdus philomelos)*
- Mistle Thrush *(Turdus viscivorus)*
- Black-eared or Northern Wheatear *(Oenanthe hispanica)*
- Desert Wheatear *(Oenanthe deserti)*
- Isabelline Wheatear *(Oenanthe isabellina)*

Cisticolas and Allies *(Cisticolidae)*
- Graceful Prinia *(Prinia gracilis)*

Old World Warblers *(Sylviidae)*
- Common Chiffchaff *(Phylloscopus collybita)*
- Asian Desert Warbler *(Sylvia nana)*
- Menetries's Warbler or Ménétries's Warbler *(Sylvia mystacea)*
- Clamorous Reed Warbler *(Acrocephalus stentoreus)*
- Caspian Reed Warbler *(Acrocephalus (scirpaceus) fuscus)*

Sunbirds *(Nectariniidae)*
- Purple Sunbird *(Cinnyris asiaticus)*

Shrikes *(Laniidae)*
- Daurian Shrike *(Lanius phoenicuroides)*
- Turkestan Shrike *(Lanius arenarius)*
- Southern Grey Shrike *(Lanius meridionalis)*
- Lesser Grey Shrike *(Lanius minor)*
- Woodchat Shrike *(Lanius senator)*
- Masked Shrike *(Lanius nubicus)*

Crows and Jays *(Corvidae)*
- House Crow *(Corvus splendens)*
- Brown-necked Raven *(Corvus ruficollis)*

Starlings *(Sturnidae)*
- Common Myna *(Acridotheres tristis)*

Old World Sparrows *(Passeridae)*
- House Sparrow *(Passer domesticus)*

Waxbills *(Estrildidae)*
- Indian Silverbill *(Lonchura malabarica)*

Psittaciformes
Parrots and Macaws *(Psittacidae)*
- Rose-ringed Parakeet *(Psittacula krameri)*
- Alexandrine Parakeet *(Psittacula eupatria)*

Fish Species List

Common Name	Scientific Name
Epaulet grouper	*Epinephelus stoliczkae*
Silver grunt	*Pomadasys argenteus*
Great barracuda	*Sphyraena barracuda*
Milk fish	*Chanos chanos*
Gizzard shad	*Nematalosa nasus*
Bronze catfish	*Aris bilineatus*
Sea mullet head	*Mugil cephalus*
Two – bar Sea bream	*Acanthopagrus bifasciatus*
Yellow bar Angelfish	*Pomacanthus maculosus*
Common silver biddy	*Gerres oyena*
Whipfin silver biddy	*Gerres filamentosus*
Short-nosed tripodfish	*Triacanthus biaculeatus*
Mangrove red snapper	*Lutjanus argentimaculatus*
Terapon jarbua	*Terapon jarbua*
Towblotch ponyfish	*Leiognathus blochii*
Talang queenfish	*Scomberoides commersonnianus*
Snubnose emperor	*Lethrinus borbonicus*
Indian mackerel	*Rastrelliger kanagurta*
Black spot snapper	*Lutjanus russelii*
Orang spotted trevally	*Carangoides bajad*
Goldlined seabream	*Rhabdosargus sarba*
Bartail flathead	*Platycephalidae indicus*
Elongated	*Solea elongata*
Largetooth flounder	*Pseudorhombus arsius*
Sordid rubberlip	*Plectorhinchus sordidus*
Banded monocle bream	*Scolopsis taeniatus*
Tilapia	*Tilapia nelatica*
Picnic seabream	*Acanthopagrus latus*
Sobaity Sea bream	*Sparidentex hasta*
Jumping halfbeak	*Hemiramphus marginatus*
Yellowtail scad	*Atule mate*

Plant Species List

Common Name	Scientific Name	Family Name
Sedge	*Cyperus arenarius*	Cyperaceae
Desert papyrus	*Cyperus congllomeratus*	
Feather fingergrass	*Chloris virgata*	Poaceae
Halfa	*Sporobolus spicatus*	
Common Reed	*Phragmites australis*	
Glaucous Glasswort	*Arthrocnemum glaucum*	Chenopodiaceae
Ferit	*Salsola baryosma*	
Khoreiz	*Halopeplis perfoliata*	
Hawa	*Launaea capitata*	Asteraceae
Hawa	*Launaea mucronata*	
Conyza / Barnoof	*Pluchea dioscoridis*	
Qurmal	*Zygophyllum simplex*	Zygophyllaceae
Harm	*Zygophyllum qatarense*	
Bean-	*Zygophyllum hamiense*	
Kutob	*Tribulus arabicus*	
Arta	*Calligonum comosum*	Polygonaceae
Horbeith	*Lotus garcinii*	Fabaceae
Sweet Clover	*Melilotus indicus*	
Ashkhar	*Calatropis procera*	Asclepediaceae
Red Thumb	*Cynomorium coccineum*	Cynomoriaceae
Ramram	*Heliotropium kotschyi*	Boraginaceae
Prostrate Sandmat	*Euphorbia prostata*	Euphorbiaceae
Khubayzah	*Malva parviflora*	Malvaceae
Ragla	*Herniaria hemistemon*	Caryophyllaceae
Lineleaf Whitepuff	*Oligomeris linifolia*	Resedaceae
Purslane	*Portula sp.*	Portulaceae
Black Nightshade	*Solanum nigrum*	Solanaceae
Tamarisk	*Tamarix aucheriana*	Tamaricaceae
Mangrove	*Avicenia marina*	Aviceniaceae
GHaff	*Prosopis spicigera*	Leguminosae
Umbrella Thorn	*Acacia tortilis*	

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