Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.

2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.

3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

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DD MM YY

Designation date | Site Reference Number

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2. Date this sheet was completed/updated:

April 24, 2012

3. Country:

United Arab Emirates

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Ras Al Khor Wildlife Sanctuary

Name in Arabic: محمية رأس الخور للحياة الفطرية

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only)**:**
a) Designation of a new Ramsar site ☑; or
b) Updated information on an existing Ramsar site☐

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6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: ❑

or
If the site boundary has changed:
i) the boundary has been delineated more accurately ❑; or
ii) the boundary has been extended ❑; or
iii) the boundary has been restricted** ❑

and/or

If the site area has changed:
i) the area has been measured more accurately ❑; or
ii) the area has been extended ❑; or
iii) the area has been reduced** ❑

** **Important note**: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

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7. Map of site:
Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:
i**) a hard copy** (required for inclusion of site in the Ramsar List): ❑;

ii**) an electronic format** (e.g. a JPEG or ArcView image) ☑;

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ❑.

b) Describe briefly the type of boundary delineation applied:
e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The Ramsar Site is located at the end of the 14 km long Dubai creek that originates from the gulf, and its boundary follows that of the Ras Al Khor Wildlife Sanctuary. The core zone is enclosed with buffer area that is bounded by the Ras Al Khor Road on the south and Oud Metha Road on the west.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):
Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

25° 11' 29.84"N, 55° 19' 19.74 E

9. General location:
Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

Ras Al Khor Wildlife Sanctuary lies within the northern part of the Emirate of Dubai, which is located at the end of the 14 km long Dubai creek on the west coast of United Arab Emirates. The Sanctuary is engulfed with an urban landscape at the core of Dubai City. The Sanctuary is bounded and accessible by two main roads; Oud Metha Road in the west and Ras Al Khor Road in the south.

10. Elevation: (in metres: average and/or maximum & minimum)

At sea level

11. Area: (in hectares)

620 ha

12. General overview of the site:
Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The core zone with an area of 6.2 km² consists of sabkha (low-lying saline flats), lagoon, intertidal mud and sand flats and mangrove swamps. On the other hand, the buffer zone consists of sabkhas in the northern and eastern part of the sanctuary. Sabkha is an Arabic term for low-lying saline flats which are subject to periodic inundation (very close to local water table). High temperature causes evaporation, leaving behind deposits of salts, calcium carbonate, gypsum anhydrite, sodium chloride or halite. This geological formation is famous among geologists worldwide for its unique evolutionary significance.

Ras Al Khor Wildlife Sanctuary is an important coastal wetland. During the winter quarter, it regularly supports more than 20,000 waterbirds belonging to 67 species and acts as a critical staging ground for the wintering birds of the East African-West Asian Flyway. This wetland is a habitat for more than 450 species of fauna and 47 species of flora.. This is a protected area and one of the best-managed arid zone wetlands surrounding the adjacent gulf.

13. Ramsar Criteria:
Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	2	3	4	5	6	7	8	9
❑	☑	☐	☑	☑	☑	❑	❑	❑

14. Justification for the application of each Criterion listed in 13 above:
Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 2:
The site regularly supports a number of globally and nationally threatened species

Common name	Scientific name	IUCN status	CMS status	CITES status	National Status
Socotra Cormorant	*Phalacrocorax nigrogularis*	Vulnerable	II	-	VU
Grey Crowned Crane	*Balearica regulorum*	Vulnerable	-	-	VU
Eastern Imperial Eagle	*Aquila heliaca*	Vulnerable	I	-	VU
Greater Spotted Eagle	*Aquila clanga*	Vulnerable	I		VU
Sociable Lapwing	*Vanellus gregarius*	Critically Endangered	I		CR

Criteria 4
RAKW is one of the Important Bird Area (IBA) in the Anatolian-Iranian Desert biogeographic region, supporting a diversity of coastal waterbird species, especially in winter and during passage periods.

Important waterbirds species that use this area during their annual migration include the Broad-billed Sandpiper (*Limicola falcinellus)* during passage and the Greater Flamingo (*Phoenicopterus ruber)* in winter (see criteria 6 below). Other migrant species that use the site include Grey Heron (*Ardea cinerea)*, Ringed Plover (*Charadrius hiaticula)*, and Kentish Plover (*Charadrius alexandrinus)*, Lesser Sand Plover (Charadrius mongolus), Greater Sand Plover (*Charadrius leschenaultii)*, Redshank (*Tringa totanus)* and Black-headed Gull (*broicocephalus ridibundus)* (Richardson et al. 1994).

The site is also an important waterbird breeding site, with more than 500 pairs of Kentish Plovers (*Charadrius alexandrinus*) breeding sanctuary regularly. The second most important breeding waterbird is the Black-winged Stilt (*Himantopus himantopus*) with 150 pairs in 2010.

Criterion 5:
In January 1995 a total of over 21,000 birds were counted. Most numerous were Dunlin (5,330), Yellow-legged Gull (4,200), Black-headed Gull (3,700), Lesser Sand Plover (1,474) and Kentish plover (1,325).

Criteria 6:

Common name	Scientific name	Count	Year	Season/Reference	1% level*
Greater Flamingoes	*Phoenicopterus ruber*	2,700	2010	December	2,400
		3,100	2011	January	
Broad-billed Sandpiper	*Limicola falcinellus*	4,000	1986	Uttley et. al. 1988	630

*Delany and Scott (2006) Waterbird Population Estimates. 4th Edition.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):
Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:
Anatolian-Iranian Desert

b) biogeographic regionalisation scheme (include reference citation):
Udvardy, 1975

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16. Physical features of the site:
Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Geology and geomorphology
The general geology of Ras Al Khor area is known primarily from boreholes. The top 12 meter under the surface are composed of marine sands, including buff sands and grey Shelly sands containing some thin layers of shells, which could indicate shallowing of the ocean during deposition. They also include some lenses of beach rock, which appear to be laterally discontinuous, indicating a variable sea level. The beach rocks again indicate a shallowing of the basin. At 12 m D.M.D. (Double Meridian Distance) carbonate sandstone, known as Miliolite sandstone believed to be of aeolian origin, is found. The age of the sandstone is about 25,000 years and would thus fall clearly into the glaciation period preceding the Holocene transgression that flooded the Gulf. Beneath this sandstone are quartz sands and conglomerates, which alternate with carbonate deposits. The sequence comprises lithified coastal carbonate sands and gravels.

Origins
This wetland is the interface between the Gulf and the Al Awir Desert in the Emirate of Dubai. Most part of the Ras Al Khor is natural except for a few interventions like re-excavation of creek bed, which resulted in a small island.

Hydrology
Dubai creek has an overall length of 14 km and its width varies between about 100 m at its mouth and about 1.5 km at the head. The depth of the creek varies according to the tidal situation between 5.0 and 7.0 m, with a maximum tidal range of about 2.1 m. The maximum tidal difference between neap ebb and spring flood provided by Meteorological Office of Department of Civil Aviation, at Al Maktoum Bridge are -0.04 to 2.08 meters.

Soils
The natural intertidal sediments in the Ras Al Khor area consist mainly of fine sand with some gravel, silt and clay. Tigen (1982) gives some data on the substratum, stating that sand (grain size>63µm, <1.67 mm) is the predominant fraction (81.8%), while gravel (>1.67mm:13.7%), silt (>5.5µm, <63µm:3.8%) and clay (<5.5µm:0.7%) are of minor importance. Natural fine sand sediments exposed in the intertidal zone are rich in invertebrate biomass.
According to Alsharhan and Kendal (2003), evaporite sediments of the United Arab Emirates have been considered to be the analogues to similar carbonate and evaporites in the subsurface of the Gulf and other ancient carbonate –evaporites sequences from elsewhere in the world. Studies indicate that the Holocene carbonates of the United Arab Emirates have excellent analogies with the sabkhas of other regions to better understand geological feature.
A lack of understanding of how these ancient carbonate–evaporite systems developed has been a major motivation for studies of the Holocene sediments of the United Arab Emirates. The sabkha of the RAKWS is a valuable representative of this geological feature for research.

Water Quality
The creek is generally an alkaline water body (average pH of 8.7) and has similar salinity (38-40 ppt) to the Gulf. Water temperatures range from 21^0 C in winter and 34^0 C in summer. The portion of the creek from the entrance with the Gulf to Al Maktoum Bridge is considered to have generally good water quality; containing a relatively diverse range of animal and plankton species. Variation in dissolved oxygen (DO) is

wide (5.8 to 7.2 mg/L) but closer to the saturation level suggesting a good and balanced aquatic environment. Nutrients are not excessive in most parts but a bit higher at lower reach as because of treated effluents received from the Al Awir Sewage Treatment Plant. The salinity of the water in general is around 39.1 ppt., depending on the season and rainfall. In some parts of the Ras Al Khor area salinity can be lower due to ground water, run-off and treated effluent being discharged into the Khor.

Depth fluctuations and permanence in water and tidal variations:
The depth of the creek varies according to the tidal situation between 5.0 and 7.0m; with a maximum tidal range of about 2.1 m. Tides are basically semi-diurnal and unequal. The tidal currents in general depend on the cross-sectional area. Tidal velocities increase towards the mouth of the creek, and are greatest where the cross sectional area is at a minimum. Peak velocities are therefore found at the channel constricted at the Library bend, where current speeds up to 1.5 m/s are measured. In the lagoon area of Ras Al Khor on the other hand, current speeds are comparatively low.
Significant feature of the creek bathymetry is the very large volume located at its upstream end in the head of the lagoon.

Climate
Important climatic factors pertaining to the specific situation of Ras Al Khor include sea temperature, rainfall, prevailing wind direction and wind speed, and mean sunshine hours. These factors have a direct influence on the environmental conditions in the creek. The mean sea temperature in the creek ranges between 20^0 C and 34^0 C, with highest temperatures being reached in late summer. Temperatures can be strongly influenced by winds such as the northerly Shamal. Prevailing winds are light and from the south to southeast during the night time and from the west to northwest in the early morning. North to northeasterly winds may occur rarely at any season. The majority of rainfall is usually recorded in January and February. Mean sunshine is between 7 and 12 hours, highest in early summer with temperature between 43-50 degrees Celsius.

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17. Physical features of the catchment area:
Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The RAKWS does not have a catchment basin or is not a catchment basin.

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18. Hydrological values:
Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Climatic regime of the gulf region means that inland surface waters are extremely limited. There are no permanent sources of freshwater in the area. Intermittent watercourses exist further inland and are formed by drainage from mountainous areas. These watercourses are known as '*wadis*' (in Arabic the meaning is valley with hill streams). So, this very small patch of natural coastal land with mangroves is critical to the maintenance of the coastal landscape and its biological richness. Ras Al Khor also acts as an important reservoir for the treated wastewater (tertiary) and helping in recycle and pollution abatement. A pumping station was constructed to flood the southern part of the sanctuary. Underground water supplies most of the water but treated water is also being pumped in. It saturates the salinity of the sabkha making it more suitable for small invertebrates to proliferate. The coastal waters are generally shallow and offshore currents run north.

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19. Wetland Types

a) presence:
Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines.*

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:
List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

H - Intertidal marshes
G - Intertidal mud, sand and salt flats
I - Intertidal forested wetlands: mangrove swamps
6 - Water storage areas: Artificial Lagoon

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20. General ecological features:
Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The entire lagoon used to be shallow and connected to the Gulf by a 14 km long creek, intersecting Dubai city. The creek is much altered, but only less than half (the southwestern half) is still in the original state and shallow (<2m), while the northwestern part has been dredged for navigational purposes and is now 5.5m deep, to fall dry during low tides. This part is hardly of interest to birds. There are three islands; one in the shallow part, one (artificially constructed) in the dredged part and the other island is in the middle of the creek. The bottom of the shallow part is sandy and muddy, and with low tide there are many large banks exposed (up to 15 hectares). In the south, treated sewage effluent, irrigation run-off and hypersaline water from a ground pumping station run into the lagoon.

Main habitats of the Ras Al Khor area are: sabkha, intertidal mud and sand flats, mangroves and lagoons.

Sabkha is the low-lying saline flat subject to periodic inundation. The coastal Sabkha is flat but most of the surface is nevertheless above the level of normal high tides, so that it is flooded only by heavy rain. Gelatinous mats of blue green algae develop in high intertidal zone and trap fine calcareous sediment brought in by the tides. Lower in the intertidal zone, a species of crab (*Macrophthalmus depressus*) build burrows, which cement the surface of the calcareous mud over large areas. Gypsum crystals form within the sediments at the water table. Little by little these processes raise the level of the land surface and cause the shoreline to advance seaward. There is less vegetation in the Sabkha, only a few salt tolerant shrubs such as *Halopeplis perfoliata* and *Tamarix sp.* occur. Whereas the raised land around the lagoon show denser and diverse vegetation cover, dominated by the perennials *Zygopyllum qatarense*, and *Cyperus conglomeratus* with occasional *Cornulaca monacantha* and the annual *Senecio desfontanai*. The parasitic plants *Cynomorium coccineum* and *Cistanche tubulosa* 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 swales. A total of 45,000, small grey mangrove *Avicennia marina* was planted during 1991 and 1994. From then on no replenishment planting was conducted. The grey mangrove is now well established and flourishing, producing seedlings and spreading in the upper mid intertidal zone of the wetlands. In 2006 a survey conducted by the Wildfowl and Wetlands Trust, it determined that the mangrove forest has occupied more than 50 hectares and is continually expanding.

Currently, a mangrove survey is being conducted to determine its density, area and rate of expansion to appropriately manage the forest delimiting its encroachment to the nearby mudflats.

The lagoon is surrounded by flat sabkha and low sandy parts and overgrows with salt tolerant flora. In the eastern part of the wetland a dike has been made in 1993, separating the intertidal mudflats from halophyte zone; only along the southeastern side the water can still enter part of the sabkha. On the southern end a short dike penetrates the mudflats.

Along the edge of the southwestern part of the sanctuary, a halophyte zone is separated from the mudflats in many places by dirt roads and dikes. In the southern part an older mangroves strands are present. Mangroves have been planted below high tide level, but several parts of the area are suitable for natural mangroves. Between the mangroves the sediment is considerably richer in both nereids and other annelids. At the site between the mangroves, the nereids are relatively large and as a result biomass was considerably higher than at other sites. Two species of nereid's were found, one is *Tyloneries sp.* and the other is *Perineries sp.* At the center of the lagoon the sediment is much more sandy than in the southern part of the area. This site is rich in *Capitella* and relatively high nereid densities. Elsewhere on the central flat hermit crabs (*Diogenes*) are common in the tidal pools while the higher, northeastern parts are rich in burrows of *Scopimera crabricauda* (densities of 100/m^2).

Waders use the mudflats at the east of the mangroves as a high tide refuge and as foraging ground. A silty top layer on a thick layer of shell fragments characterized the sediment. The invertebrate community is quite different from that in the other sites. Densities of Nereidae are low but the smaller annelids are numerous; enormous densities of *Sabellidae* formed a one-centimeter thick crust of fused tubes on top of the sediment. Ostracods are also abundant. Many small tidal puddles are present in which fish fry often accumulate. The mud snail *Pirenella conica* reaches enormous densities especially around the puddles. It also occurs in high numbers on and underneath the algal mat between the mangroves.

Raptors are particularly observed in the winter months. They use the mangrove areas as roosting and hunting grounds where most of the fish congregate.

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21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

After the Garhoud Bridge both sides of the creek support some desert vegetation. The dominant plants being the Qurmal *Zygophyllum hamiense,*Khoreiz *Halopeplis perfoliata,* Ramram *Heliotropium spp.,* Al had *Cornulaca monacantha,* Horleith *Lotus garcinii,* Sesuvium *Sesuvium verrucosum,* Hamra *Frankenia pulverulenta,* Ploughman's spikenard *Pluchea ovalis,* Desert Hyacinth *Cistanche tubulosa,* Red Thumb *Cynomorium coccineum,* Buck's horn groundsel *Senecio glaucus,* Hawa *Launaea capitata,* Fagonia *Fagonia indica,* Silla *Zilla spinosa,* Foetid saltwort *Salsola baryosma,* Cyperus *Cyperus conglomeratus,* Turgid panic grass *Panicum turgidum, occasional* Sodom's Apple *Calotropis procera, ,* Salam *Acaia tortilis,* Twaim *Aerva javanica,* etc.

Rather good vegetation is prevalent in the area between the Awir road and Rashidiya. During spring and usually along the overflow of sewage discharge quite a number of seasonal flowers such as Arabian primrose *Arnebia hispidissima,* Cut-leaved crane's bill *Erodium sp,* Rebael *Zygophyllum simplex,* ,Desert campion *Silene villosa,* Callous-leaved gromwell *Moltkiopsis ciliata,* Dhinibab *Oligomeris linifolia,* Goosefoot *Chenopodium* sp., Amareeton *Amaranthus sp,* etc, may bloom in good numbers.

Within 100m northern boundary of the sanctuary, the chief vegetation comprised of Bean *Zygophyllum hamiense, Halopeplis perfoliata*, Tamarisk *Tamarix aucherina*, a few Ghaf *Prosopis cinerea* and Umbrella thorn *Acacia tortilis*.

The western side of the sanctuary is rather flat with a slight sloping towards the main creek. There are some small lagoons, mini canals, pools and quite a few tiny islands. Several sewage canal discharges treated water into this section. It is one the busiest, inter-emirate highways in Dubai. The area has some *Zygophyllum hamiense* on the dry soil and *Halopeplis perfoliata* on the wet soil and mini islands. A few clumps of jointed glasswort *Halocnemum strobilaceum grow* on either sides of a 50m by 4m promontory built for supplying food and freshwater to the flamingos and ducks.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS*.

The extensive mudflats of the Ras Al Khor wetland area are known to support a rich invertebrate fauna, mainly consisting of polichaete worms (mainly nerids), gastropod mollusks (mainly *Potamides conica*) and brachyuran crabs (mainly *Scopimera crabricauda* and *Ilyoplax frater).* The typical mangrove associated organisms found are the hard substrate species *Balanus amphitrite and Planaxis sulcatus* on stems and *pneumatophores* and the grapsid crab *Metopograpsus messor.* Nereid worms dominate the extensive lower intertidal area, and also bivalves *(Dosinia alta)* are available in the mudflats.

The large quantity of invertebrate biomass turns the area into important roosting site of migratory birds. According to Evans (1994) it is the most important area of mudflats in the U.A.E, supporting a more varied assemblage of waterbird species at much higher densities than any other site. The International Waterbird and Wetland Research Group (1998) found the density of waders in Ras Al Khor wetland to be 21 birds per hectare in spring and autumn and 60 birds per hectare in winter. In total around 67 bird species occur regularly in the area and at least nine of them in regionally and internationally important numbers based on IBA Middle East criteria. For some wader species this wetland is one of the last stopover sites before breeding and thus a vital refueling area.

Grey Herons *Ardea cinerea* were counted in hundreds (366 in late September 1994). Numbers of the second most-numerous heron species is Western Reef Egret.

Gulls are mainly winter visitors to the Ras Al Khor wetland (less than 38% of the total number of birds present), while terns are most common in spring. Yellow-legged gulls *Larus michahellis*, Black-headed Gulls *Chroicocephalus ridibundus*, Slender-billed Gulls *Chroicocephalus genei*, Sandwich Terns *Sterna sandvicensis*, and Caspian Terns *Hydroprogne caspia* are most common species.

In spring 1995, Greater Flamingoes, *Phoenicopterus ruber* were just arriving in April and numbers peaked on 28 April (8% of the total birds present). In autumn 1994, 124 individuals were counted, while in winter 372 stayed in the area. Most flamingoes are usually present in winter and during the years between 1985 and 1991 peaks numbers of over 2,000 were counted in this area (Platt 1994), but since then the numbers declined for unknown reasons (Aspinal 1996a). Numbers of flamingoes in Ras Al Khor are kept artificially high by regularly feeding pellets at the duck-feeder. During a recent monitoring of the flamingo population (WPO 2010) it is revealed that the numbers of flamingo has increased. During winter, quarter the number reached up to 2700 and in an average 500 individuals stayed in the sanctuary throughout the year. In January 2011, 3,100 Greater Flamingoes were observed. This is the highest congregation observed in more than a decade.

Broad-billed Sandpiper (*Limicola falcinellus*) has a small population size, is limited in distribution, has specialized foraging habits; habitat preference and peculiar migration strategy which renders the species vulnerable in terms of conservation. It apparently breeds mainly in the Fenno-Scandian taiga zone; distribution and population size in the adjacent Russian taiga zone are largely unknown but probably low (Svensson & Tomvich 1997). In autumn this Fenno-Scandian population migrates mainly in a southeastern direction across Europe. Large numbers are then found staging in the Sivash, Crimea, southern Ukraine (Van der Winden et. al. 1993, Losif Chernichko pers.comm.)). In autumn and spring, up to 4,000 (1986) Broad-billed Sandpiper migrate through the UAE, mainly through Ras Al Khor (Uttley et. al. 1988).

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Dubai Creek has attracted human settlement for many centuries, as a fish and pearl harbor. This creek is strategically located at the Gulf for inter-continental trading by sea from time immemorial.

The creek of Dubai is historically an important waterway, which not only acts as the trade route but also a very focal point for the social and cultural life of the people of Dubai. Dubai's pearling industry, which formed the main sector of the city's economy, was based primarily on expeditions in the creek, prior to the invention of cultured pearls in the 1930s. The traditional trade boat popularly known as *"dhow"* is still sailing between ports around the Gulf and is a dominant sight while one navigates in the creek. Cultural life of Dubai is very much encircled around the creek. Dubai creek is the heart of many socio-economical activities and acts as a traditional cultural image of the Emirate. Coffee/Tea shops, restaurants and other such establishments are scattered along the banks of the creek. Moreover, both the banks of the creek are commercial head quarter for the Emirate of Dubai.

The RAKWS added value to the importance of the Dubai Creek. Not only now that the creek is the heart of many socio-economic activities, it has become a unique case of successful environmental conservation amidst a bustling economic boom. The sanctuary has become an epitome of the Emirate's conservation efforts and an important landmark in the city.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box ❑ and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:
As a protected area, the Ras Al Khor Wildlife Sanctuary is a public land.

b) in the surrounding area:
Private-owned.

25. Current land (including water) use:

a) within the Ramsar site:
In the past, birds were hunted in the area. At present, the sanctuary is legally protected and managed hence, no consumptive resource use is allowed. The only allowed activities are related to the conservation of the site, such as bird watching (confined to the existing hides), flamingo feeding, research, monitoring and maintenance.

b) in the surroundings/catchment:
The establishment/construction of the various projects surrounding the sanctuary is on-going. Some are temporarily ceased. The projects are basically residential and commercial in nature developed to enhance the healthcare services of Dubai and cater its growing population.

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:
Problem of eutrophication in the lagoon of Dubai Creek is mainly due to high levels of nutrients being discharged from Al Awir sewage treatment plant. In one hand, this eutrophication leads to a high productivity resulting in high biomass; on the other hand, oxygen crises are likely to occur due to high amounts of decaying organic matter. Such conditions are in general known to reduce species numbers and biodiversity affected areas lead to impoverished faunal assemblages as observed in the wetland. However, since the discharge of nutrients has been reduced over the last few years a decrease in eutrophication is noticed

b) in the surrounding area:
Some of the activities adjacent to the sanctuary might have potential threats to the site for its natural ecosystem function intact. These are the rapid urbanization and development intervention at the close proximity of the sanctuary. As the site is located at the nearest periphery of the city center, the development intervention specially the property development projects would have some negative impact on the ecosystem if necessary mitigation measures not taken. The Projects mentioned above are at halt and no major construction is being undertaken. No negative impact so far has been observed

Several major projects are in progress at the fringe of the sanctuary's buffer zone: The Lagoons and Meydan Canal projects at the southeast and Business Bay Canal and Dubai Healthcare City on the northwest.

27. Conservation measures taken:
a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:
In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

At present, the sanctuary gets full protection from the government under the legislations of Local Order 61 of 1991, Local Order No. 2 of 1998 and Local Law 11 of 2003, where it is described as a Protected Area. The site enjoys all sorts of standard protected area management provisions including, no hunting, shooting and disturbing wildlife within the area. An indicative management plan has been developed and implemented.

Boundary of the site with provision of both core and buffer zone has demarcated. Outer boundary of the sanctuary is fenced. Entrance to the sanctuary is strictly prohibited. Regular monitoring of the habitat and the wildlife conducted by Inspectors and Officers from the Marine Environment and Wildlife Section. Special conservation measures are taken for the flamingo population with the construction of artificial pond and provision of artificial feeds for them. Fluctuation of water level in the ponds is maintained in a scientific manner. All protected area rules and regulations are strictly enforced in the area.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ❑;Ib ❑; II ❑; III ❑; IV ☑; V ❑; VI ❑

c) Does an officially approved management plan exist; and is it being implemented?:
None

d) Describe any other current management practices:

Very recently, a comprehensive enhancement programme for both species and habitat was implemented which includes mangrove management, pest management (rats and fox), intense monitoring for avian flu and botulism, construction of pond for waterbirds, extension of creek, water quality improvement, satellite wetlands networking, fencing of the area, putting live webcam that can be viewed on www.wildlife.ae website. Clean up operations are sometimes done with the participation of the students or other institutions. Inspectors from the Marine Environment and Wildlife Section regularly patrol the site and enforce laws and regulations. Hired securities man the hides during regular timing.

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28. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.

Recommendations of Ramsar Advisory Mission (2006) on the maintenance of habitat diversity, pollution abatement through biological methods and facilitate the CEPA organization in RAKWS towards a center of regional excellence has been taken as an important action for implementation. A 5 year mangrove management action plan was developed in 2011to make the sanctuary a replicable model for urban wetlands protected area in close collaboration with the Ramsar Convention.

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29. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

A well-equipped marine-biological field laboratory is stationed at the buffer zone of the sanctuary and the water quality has been regularly monitored. A permanent Mangrove Management Committee to appropriately manage the mangroves has been created. Experiments are conducted on improvement of the breeding facilities for flamingoes as well as its breeding population. An initiative has been taken to inventory the wildlife of the wetlands as well as its floral population. Single-species researches will be major undertakings in the upcoming years particularly on the Eurasian Spoonbill (*Platalea leucorodia).* The Marine Environment and Wildlife Section has its own research activities like study on the birds migration and breeding, assessment of biomass of selected species and mangrove afforestation, establishment of permanent transect to monitor the wildlife as well as condition of mangroves and its growth, etc.

Research carried out by the universities is allowed. Survey carried out on the macro benthos, on the avifauna and on the water quality. Research programme on satellite tracking of flamingo population has been taken from 2006. Survey carried out on the noise level in and around the sanctuary. Research on Bird Flu Monitoring is all year round.

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30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Both formal and non-formal environment conservation education and awareness program is on board. This includes the conduct of various fora and discussion during World Wetlands Day and Migratory Bird Day Celebrations. These activities highlighted the importance of wetlands and the protection of the environment in general.

On the average, at least three schools conduct nature watch trips for their school children every month. Private tour guide companies organize bird watch trip for their clients to the sanctuary hides. Special leaflets, brochure and posters on the wetland conservation are produced and distributed widely among various audiences. Exhibition on the wetlands biological diversity have been regularly organized. News media organized reporting on the important biodiversity component of the sanctuary

31. Current recreation and tourism:
State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Just in the city center of Dubai, Ras Al Khor Wildlife Sanctuary is one of the most important tourist attraction spot. The RAKWS hides have received almost 50,000 visitors from 114 countries. From 4,646 in 2005, the hides now receive an average of 10,000 visitors annually for the last three years.

In 2011, it catered almost 12,000 visitors from 86 countries. It has the most visitors during November with almost 3,000 individuals, 20% of which during the Eid Holidays. Most of the visitors come from India, the United Kingdom, Germany and Southeast Asia.

The wetland has been regularly visited by a large number of amateur birdwatchers and naturalists. Private companies have organized guided bird tour.

For nature tourism, a visitor center that will serve as the Regional Center for Excellence in Communication, Education and Public Awareness (CEPA) is on the pipeline. This center will be a venue to promote awareness of wetland ecosystems, wetland management and the Ramsar Convention. It will continue to cater visitors (local and foreign) to showcase the diverse flora and fauna of the Ras Al Khor Wildlife Sanctuary. Facilities in the center will support biodiversity researches, conduct of convention and meetings and resource center for schools and workshops.

The bird watch hides are well equipped to facilitate the visitor's bird viewing. Visitors have the free access to the optical aids (binoculars. and spotting scopes) and field guidebooks. A formal system of sanctuary visit permits is in place. A comprehensive ecotour guide and visitors code of conduct is available and practiced to make the nature watch eco-friendly.

32. Jurisdiction:
Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

a) Territorial Jurisdiction:
The territorial jurisdiction over the wetland lies with the Government of Dubai.

b) Functional Jurisdiction:
The responsibility of ensuring the protection of natural habitats and biodiversity of terrestrial as well as coastal and marine environment for the Emirate of Dubai is vested to Dubai Municipality. The functional jurisdiction to the sanctuary is vested upon the Environment Department under the Marine Environment and Wildlife Section

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

The Marine Environment and Wildlife Section of the Environment Department under Dubai Municipality is the official management authority of the wetland.

Name of the manager: Mr. Mohammed AbdulRahman Hassan Abdulla,
Address: P.O. Box 67, Dubai Municipality, Dubai, UAE;
E-mail: marabdulla@dm.gov.ae
Tel: (04) 606-6818

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

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Table 1. Bird Species of Ras Al Khor Wildlife Sanctuary and their Conservation Status

Common Name	Scientific Name	IUCN Status	CMS	UAE Status
Asian Desert Warbler	*Sylvia nana*	LC	-	-
Barn Swallow	*Hirundo rustica*	LC	-	-
Bar-tailed Godwit	*Limosa lapponica*	LC	-	-
Black Kite	*Milvus migrans*	LC	-	-
Black Swan	*Cygnus atratus*	LC	-	-
Black-bellied Whistling-duck	*Dendrocygna autumnalis*	LC	-	-
Black-crowned Night Heron	*Nycticorax nycticorax*	LC	-	-
Black-eared Wheatear	*Oenanthe hispanica*	LC	-	-
Black-headed Gull	*Larus ridibundus*	LC	-	-
Black-necked Grebe	*Podiceps nigricollis*	LC	-	-
Black-tailed Godwit	*Limosa limosa*	NT	-	-
Black-winged Kite	*Elanus caeruleus*	LC	-	-
Black-winged Stilt	*Himantopus himantopus*	LC	-	TV
Blue-cheeked Bee-eater	*Merops persicus*	LC	-	RUB
Bonelli's Eagle	*Hieraaetus fasciatus(Aquila fasciatus)*	LC	-	RUB
Booted Eagle	*Hieraaetus pennatus*	LC	-	
Broad-billed Sandpiper	*Limicola falcinellus*	LC	-	TV
Caspian Gull	*Larus cachinnans*	LC	-	-
Caspian Tern	*Hydroprogne caspia (Sterna caspia)*	LC		RUB
Cattle Egret	*Bubulcus ibis*	LC	-	-
Chestnut-bellied Sandgrouse	*Pterocles exustus*	LC	-	TD
Citrine Wagtail	*Motacilla citreola*	LC	-	-
Common Chiffchaff	*Phylloscopus collybita*	LC	-	-
Common Greenshank	*Tringa nebularia*	LC	-	-
Common House Martin (Northern House-martin)	*Delichon urbicum*	LC	-	-
Common Kestrel	*Falco tinnunculus*	LC	-	-
Common Kingfisher	*Alcedo atthis*	LC	-	-
Common Moorhen	*Gallinula chloropus*	LC	-	-
Common Myna	*Acridotheres tristis*	LC	-	-
Common Pochard	*Aythya ferina*	LC	-	-
Common Redshank	*Tringa totanus*	LC	-	-
Common Ringed Plover	*Charadrius hiaticula*	LC	-	-
Common Sandpiper	*Actitis hypoleucos*	LC	-	-

Common Shelduck	*Tadorna tadorna*	LC	-	-
Common Snipe	*Gallinago gallinago*	LC	-	-
Common Teal	*Anas crecca*	LC	-	-
Common Tern	*Sterna hirundo*	LC	II	-
Cream-coloured Courser	*Cursorius cursor*	LC	-	TD
Oriental Honey Buzzard	*Pernis ptilorhyncus*	LC	-	-
Crested Lark	*Galerida cristata*	LC	-	-
Curlew Sandpiper	*Calidris ferruginea*	LC	-	-
Demoiselle Crane	*Anthropoides virgo/Grus virgo*	LC	Appendix II	-
Desert Wheatear	*Oenanthe deserti*	LC	-	-
Dunlin	*Calidris alpina*	LC	-	-
Eastern Imperial Eagle	*Aquila heliaca*	VU	Appendix I	-
Egyptian Goose	*Alopochen aegyptiacus*	LC	-	-
Eurasian Collared Dove	*Streptopelia decaocto*	LC	-	-
Eurasian Curlew	*Numenius arquata*	NT	-	-
Eurasian Golden Plover	*Pluvialis apricaria*	LC	-	-
Eurasian Oystercatcher	*Haematopus ostralegus*	LC	-	-
Eurasian Wigeon	*Anas penelope*	LC	-	-
Ferruginous Duck	*Aythya nyroca*	NT	I and II	-
Gadwall	*Anas strepera*	LC	-	-
Garganey	*Anas querquedula*	LC	-	-
Glossy Ibis	*Plegadis falcinellus*	LC	Appendix II	-
Graceful Prinia	*Prinia gracilis*	LC	-	-
Pallas's Gull	*Larus ichthyaetus*	LC	Appendix II	-
Great Cormorant	*Phalacrocorax carbo*	LC	-	-
Great Crested Grebe	*Podiceps cristatus*	LC	-	-
Great Egret	*Ardea alba*	LC	Appendix II	-
Great White Pelican	*Pelecanus onocrotalus*	LC	Appendix II	-
Greater Flamingo	*Phoenicopterus roseus*	LC	-	P
Greater Hoopoe-lark	*Alaemon alaudipes*	LC	-	-
Greater Sand Plover	*Charadrius leschenaultii*	LC	-	-
Greater Spotted Eagle	*Aquila clanga*	VU	I and II	GTN
Green Sandpiper	*Tringa ochropus*	LC	-	-
Grey Crowned Crane	*Balearica regulorum*	VU	-	-
Grey Francolin	*Francolinus pondicerianus*	LC	-	-
Grey Heron	*Ardea cinerea*	LC	-	P
Grey Plover	*Pluvialis squatarola*	LC	-	-
Greylag Goose	*Anser anser*	LC	-	-
Gull-billed Tern	*Gelochelidon nilotica*	LC	-	
Heuglin's Gull	*Larus heuglini*	LC	-	-

Eurasian Hoopoe	*Upupa epops*	LC	-	RUB
House Crow	*Corvus splendens*	LC	-	-
House Sparrow	*Passer domesticus*	LC	-	-
Indian Roller	*Coracias benghalensis*	LC	-	-
Indian Silverbill /White-throated Munia	*Lonchura malabarica*	LC	-	-
Rufous-tailedShrike	*Lanius isabellinus*	LC	-	-
Kentish Plover	*Charadrius alexandrinus*	LC	-	-
Laughing Dove	*Streptopelia senegalensis/Stigmatopelia senegalensis*	LC	-	-
Lesser Flamingo	*Phoeniconaias minor*	NT	-	-
Lesser Sand Plover	*Charadrius mongolus*	LC	-	-
Lesser Spotted Eagle	*Aquila pomarina*	LC	-	-
Little Bittern	*Ixobrychus minutus*	LC	-	P
Little Egret	*Egretta garzetta*	LC	--	-
Little Grebe	*Tachybaptus ruficollis*	LC	-	-
Little Green Bee-eater	*Merops orientalis*	LC	-	-
Little Ringed Plover	*Charadrius dubius*	LC	-	-
Little Stint	*Calidris minuta*	LC	-	-
Little Tern	*Sterna albifrons*	LC	-	-
Mallard	*Anas platyrhynchos*	LC	-	-
Marsh Sandpiper	*Tringa stagnatilis*	LC	-	-
Montagu's Harrier	*Circus pygargus*	LC	-	-
Northern Lapwing	*Vanellus vanellus*	LC	-	-
Northern Pintail	*Anas acuta*	LC	-	-
Northern Shoveler	*Anas clypeata*	LC	-	-
Osprey	*Pandion haliaetus*	LC	-	TD
Pacific Golden Plover	*Pluvialis fulva*	LC	-	-
Pallid Harrier	*Circus macrourus*	NT	-	-
Pallid Swift	*Apus pallidus*	LC	-	-
Peregrine Falcon	*Falco peregrinus*	LC	-	-
Pied Avocet	*Recurvirostra avosetta*	LC	-	-
Pin-tailed Sandgrouse	*Pterocles alchata*	LC	-	IRBU
Pin-tailed Snipe	*Gallinago stenura*	LC	-	-
Purple Heron	*Ardea purpurea*	LC		-
Purple Sunbird	*Nectarinia asiatica*	LC	-	-
Red-crested Pochard	*Netta rufina*	LC	-	-
Red-necked Stint	*Calidris ruficollis*	LC	-	-
Red-vented Bulbul	*Pycnonotus cafer*	LC	-	-
Red-wattled Lapwing	*Vanellus indicus*	LC	-	-
Rock Pigeon	*Columba livia*	LC	-	-

Rose-ringed Parakeet	*Psittacula krameri*	LC		-
Ruddy Shelduck	*Tadorna ferruginea*	LC	-	-
Ruddy Turnstone	*Arenaria interpres*	LC	-	-
Ruff	*Philomachus pugnax*	LC	-	-
African Sacred Ibis	*Threskiornis aethiopicus*	LC	Appendix II	-
Sanderling	*Calidris alba*	LC	-	-
Sandwich Tern	*Sterna sandvicensis*	LC	-	-
Saunders's Tern	*Sterna saundersi*	LC	Appendix II	RR
Short-eared Owl	*Asio flammeus*	LC	-	-
Slender-billed Gull	*Larus genei*	LC	-	-
Sociable Lapwing	*Vanellus gregarius*	CE	Appendix I and II	-
Socotra Cormorant	*Phalacrocorax nigrogularis*	VU	-	GTN
Song Thrush	*Turdus philomelos*	LC	-	-
Sooty Gull	*Larus hemprichii*	LC	-	RR; T
Eurasian Spoonbill	*Platalea leucorodia*	LC	-	-
Southern Grey Shrike	*Lanius meridionalis*	LC	-	-
Steppe Eagle	*Aquila nipalensis*	LC	-	-
Steppe Gull	*Larus barabensis*	LC	-	-
Striated Heron	*Butorides striata*	LC	-	-
Tawny Pipit	*Anthus campestris*	LC	-	-
Temminck's Stint	*Calidris temminckii*	LC	-	-
Terek Sandpiper	*Xenus cinereus*	LC	-	-
Water Pipit	*Anthus spinoletta*	LC	-	-
Western Marsh Harrier (Western Marsh-harrier)	*Circus aeruginosus*	LC	-	-
Western Reef -Egret	*Egretta gularis*	LC	-	-
Whimbrel	*Numenius phaeopus*	LC	-	-
Whiskered Tern	*Chlidonias hybrida*	LC	-	-
White Stork	*Ciconia ciconia*	LC	-	-
White Wagtail	*Motacilla alba*	LC	-	-
White-eared Bulbul	*Pycnonotus leucotis*	LC	-	-
White-tailed Lapwing	*Vanellus leucurus*	LC	-	-
White-winged Tern	*Chlidonias leucopterus*	LC	-	-
Wood Sandpiper	*Tringa glareola*	LC	-	-
Yellow Wagtail	*Motacilla flava*	LC	-	-
Yellow-billed Stork	*Mycteria ibis*	LC	Appendix II	-

Notes:

1. Significance of the IUCN Red List criteria (IUCN 2007): CR: critically endangered, DD: data deficient, LC: least concern, NT: near threatened, VU: vulnerable, EN: endangered, EW: extinct in the wild

2. Significance of the UAE status (Hornby and Aspinall 1996): GTN: Globally Threatened (Near Threatened); T: Threatened in the UAE; RR: Restricted Range, IRBU: Important Rare Birds of the UAE; RUB: Rare Breeder of the UAE; P: Pioneer Species ; D – Declining; V - Vulnerable

Table 2. Bird Species in internationally and regionally important numbers occurring in Ras Al Khor Wildlife Sanctuary (Evans, 1994[1], Bird International, 2009[2]).

Bird Species	Season		Year	Criteria[3]
	Passage	Winter		
Grey Plover (*Pluvialis squatarola*)	727[1&2]	450-1000[1&2]	1990;1992	A4i; B1i
Kentish Plover (*Charadrius alexandrinus*)		1550-3500[1&2]	2011	A4i, B1i
Lesser Sand Plover (*Charadrius mongolus*)		1500-3000[1&2]	2011	A4i, B1i
Bar-tailed Godwit (*Limosa lapponica*)		700-1100[2]	1990	B1i
Eurasian Curlew (*Numenius arquata*)		141-350[2]	1990	B1i
Common Redshank (*Tringa totanus*)		460-1100[1&2]	2011	B1i
Dunlin (*Calidris alpina*)		2027-4701[2]	1990	B1i
Broad-billed Sandpiper (*Limicola falcinellus*)	4050	527-600[2]	1992; 1991	A4i, B1i
Black-headed Gull *(Larus ridibundus)*		11690-50380[2]	1990	A4i, B1i
Grey Heron (*Ardea cinerea)*		180-225[1]	2011	A4i
Ringed Plover (*Charadrius hiaticula)*	344[1]	500-1000[1]	2011	A4i
Greater Sand Plover (*Charadrius leschenaultii)*		500-1000[1]	2011	A4i
Total	5121	20225 - 67956		

[3] – Middle East IBA Criteria

A4i – The site is known or thought to hold, on a regular basis, ≥ 1% of a biogeographic population of a congregatory waterbird species.

B1i - The site is known or thought to hold ≥ 1% of a flyway or other distinct population of a waterbird species.

Table 3. List of Fishes in Ras Al Khor Wildlife Sanctuary lagoons and coastal waters

Scientific Name	Common Name	Local name
1. *Acanthopagrus cuviere*	Silvery black porgy	
2. *Acanthopagrus bifasciatus*	Double bar Seabream	Faskarah
3. *Aphanius dispar*	Arabian barred killifish	Fangal
4. *Chanus chanus*	Milkfish	Nemara, Eiffah
5. *Geres oyena*	Slenderspine mojarra	Bedha
6. *Lutjanus fulviflama*	Black spot snapper	Neisarah
7. *Euryglossa orientalis*	-	-
8. *Lutjamus lineolatus*	Bigeye snapper	Neisara, Safra
9. *Lutjanus argentimaculatus*	Mangrove Red Snapper	Umm Al Durais
10. *Lutjamus quinquelineatus*	Five lined snapper	Neisarah
11. *Mugil cephalus*	Fish Head mullet	Biah, Wagena
12. *Liza subviridis*	Oriental sole	Mizliganih
13. *Nematolosa nasus*	Gizzard shad	Yawafa
14. *Platecephalus indicus*	Bartail flathead	Waharah
15. *Pomadasys argenteus*	Silver grunt	Senkessar, Nagroor
16. *Pomadasys hasta*	Silver Grunt	Nagroor
17. *Pseudosynacya melanotiga*	-	-
18. *Pseudotriacanthus strigifer*	-	-
19. *Rhabdosargus sarba*	Gold-lined Seabream	Gabet
20. *Sardinella longiceps*	Indian-oil sardine	Ooma, Aifa
21. *Solea elongata*	-	-
22. *Sphyraena obtusata*	Obtuse Barracuda	Al Gidd
23. *Therapon jaobua*	-	-
24. *Terapon theraps*	Banded perch	-
25. *Therapon puta*	-	-
26. *Trachirotus blonchii*	Blochs dart, Sunbose one pompar	Al sibin
27. *Tylosurus crocodilus*	-	-
28. *Valmugil seheili*	-	-
29. *Arius sp.*	Blue spot mullet	Biah arabi
30. *Caranx sp.*	-	-
31. *Ilisa sp.*	-	-
32. *Gobiidae gen. sp.*	-	-
33. *Lethrinus sp.*	-	-
34. *Siganus sp.*	-	-
35. *Scomberoides sp.*	-	-
36. *Plechturincus sp.*	-	-

Table 4. List of plants in Ras Al Khor Wildlife Sanctuary

Scientific Name	Common Name	Local Name
Acacia tortilis	Umbrella Thorn Acacia	Samur, Salam
Aerva javanica	-	Al ara, twaim, efhe, tirf
Arnebia hispidissima	Arabian primrose, Prophet flower	Al hamra, kahil
Arthrocnemum macrostachyum	-	hamadh, shoo' shinan
Avicenia marina	Mangrove	qurm, gurm
Calligonum comosum	-	Arta, dhakar, abal
Calotropis procera	Sodom's apple	Ushar, shakjr
Cistanche tubulosa	-	dhunun
Cornulaca monacantha	-	Thallag, Ha'ath, 'araad, Al had
Cynomorium coccineum	Red thumb, maltese mushroom	Tartooth, Beesayl
Cyperus conglomeratus	Cyperus	Thenda, Ayzm
Fagonia indica	Fagonia	Shekka
Frankenia pulverulenta	-	Molleih, Hamra
Halocnemum strobilaceum	Jointed glasswort	Hanthad
Halopeplis perfoliata	String of beads	Khurrayz, Rutreit
Launaea capitata	-	Hawa, Hudhan
Lotus garcinii	-	
Malva aegypta	-	
Moltkiopsis ciliata	callous-leaved gromwell	halem, halamah
Oligomeris linifolia	-	Dhinibab
Panicum turgidum	Turgid panic grass	Thamam, habbay
Pluchea ovalis	-	
Phragmites australis	Common reed	Boos, Gasab
Prosopis cineraria	-	Ghaf
Salsola baryosma	Foetid saltwort	Ghadraf
Senecio glaucus	Buck's horn groundsel	Qorreis, murair
Sesuvium verrocusom	Sesuvium	Rohama, guwaifa
Silene villosa	Desert campion	Turba
Tamarix aucherina	-	Tarfa, athl
Zilla spinosa	-	silla', shaga
Zygophyllum simplex	-	Abu rukaiba
Zygophylum hamiense	-	

Table 5. List of Reptiles

Common Name	Scientific Name
Fringe-toed lizard	*Acanthodactylus schmidti*
Blue-headed agama	*Agama flavimaculata*
Sand Viper	*Cerastes sp*
Cliff racer	*Coluber rhodorachis*
Limbless lizard	*Diplometopon zaruduyi*
Saw-scaled viper	*Echis carinatus*
Arabian sand snake	*Psamophis schokari*
Small-scaled spiny tailed lizard	*Uromastyx aegyptius microlepis*
Desert Monitor	*Varanus griseus*

Table 6. List of Mammals

Common Name	Scientific Name
Gerbil	*Gerbillus sp.*
Brown rat	*Rattus norvegicus*
The desert hedgehog	*Paraechinus aethiopicus*
Arabian red fox	*Vulpes vulpes arabica*