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| WASIT NATURE RESERVE |
| |  |  |  | | --- | --- | --- | | Brendan Whittington-Jones & John Pereira | 1/3/18 | SHARJAH | |

# IUCN DEFINITION

Protected Area: A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

Summary

Wasit Nature Reserve is a wetland reserve established in 2007 by reclamation and rehabilitation of a waste water and rubbish dump. The nature reserve comprises a mix of terrestrial and aquatic habitats (trending from brackish to brine from winter to summer) fed by an underground fresh water source with origins in the interior of the emirate. Vegetation is a planted and recovered mix of native and exotic species partially irrigated with municipal Treated Sewage Effluent (TSE) water. The nature reserve habitats are particularly important for resident and migratory birds within a dense urban setting.

|  |  |  |  |
| --- | --- | --- | --- |
| IUCN Category | IV: Habitat/Species Management Area | | |
| Proclaimed | 2007 | | |
| Affection Plan | Yes | | |
| Fenced | Yes | Fence matches affection plan | Yes |
| Gazette/Decree | Yes – No. 7 | | |
| Ecosystems | Aquatic/Terrestrial | | |
| Size (km²) | 0.8 | | |

Introduction

Wasit Nature Reserve was proclaimed with the vision of transforming a severely degraded and polluted waste site (Ramthah tip) into an ecologically diverse, urban wetland. It is the only urban wetland reserve in Sharjah and is a publicly accessible green space that now also serves as a wetland educational facility with the addition of the Wasit Wetland Centre in 2014. The landscaping, planting, vegetation management and natural maturation of the location has led to the formation of a complex matrix of small habitats. These include low dunes vegetated with halophytic succulents and scrubland, dense stands of mixed-species woodlands (native and exotic species - predominantly lining the perimeter of the nature reserve). The water’s edge is in part sparsely vegetated, densely vegetated with halophytic species or fringed by dense stands of reed beds (*Phragmites australis*).

In addition to the water table levels of the surrounding landscape, the primary water inflow is fresh water from inland, underground drainage. Water levels at the wetland fluctuate seasonally and likely also as a result of numerous anthropogenic factors such as nearby extraction and urban infrastructure development. Water levels are lowest at the end of the summer months, corresponding with an increase in salinity concentrations. Increased salinity can adversely impact the populations of the only resident fish species, Arabian toothcarp (*Aphanius dispar dispar*) although their resilience and tolerances for change have enabled their persistence. Fluctuating water levels also expose or inundate mud flats used by foraging birds.

Between 2010 and 2017, 111 bird species have been recorded at the location, 54 of which are listed on Appendix II of the Convention of Migratory Species. Twenty five bird species are known to breed in the nature reserve. An abundance of Black-winged Stilt (*Himantopus himantopus -* Highest Individual Count – 334 in 2014), Kentish Plover (*Charadrius alexandrines -* Highest Individual Count – 348 in 2015) and Pacific Golden Plover (Pluvialis fulva - Highest Individual Count – 54 in 2016) have been counted at the site.

The urban refuge is also important for the many invertebrate species observed in the associated habitats, including numerous butterfly species and the small, abundant marine snail *Potamides conicus*.



**Figure 1:** Aggregation of Black-Winged Stilts in the shallow waters of Wasit Nature Reserve

Key Features for PA Designation

## Protected Area boundaries are clear, easily determinable and enforceable.

## Effectively protects and allows persistence of ecosystems and viable populations of species.

## Should ensure connectivity of ecosystems and species distributions.

## Should include breeding/nursery/spawning habitats and adult territories.

## Should allow for biodiversity and species distribution changes in response to climate change.

## Should be aligned with current and anticipated cultural, social and economic requirements.

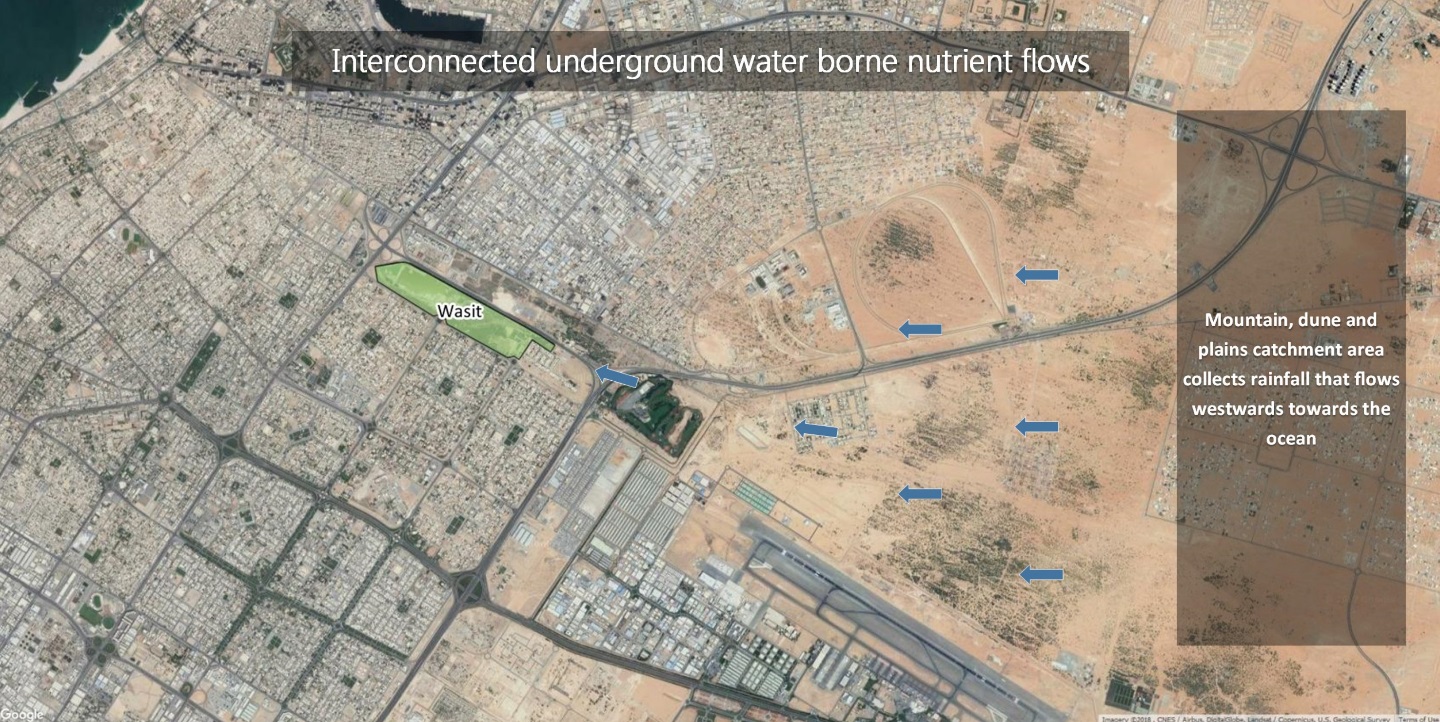
## Should include clear, enforceable regulations understood by the public.



**Figure 2:** Egg of a Black-Winged Stilt in shallow waters with abundance of small marine snails

An Ecosystem Approach to Protection

An ecosystem approach to protection of habitats and species safeguards the vital components that ensure health, resistance to change and resilience in response to change are maintained. Despite the density of urban development adjacent to Wasit Nature Reserve, connectivity to underground water sources is crucial to survival. This approach means that nutrients, energy and other biotic and abiotic components that influence survival of connected habitats are considered fundamentally important to the entire ecological system’s functioning. Disconnecting or degrading habitats can negatively impact or even destroy adjacent, visually different habitats.



**Figure 3:** Image depicts the importance of the eastern desert ecosystem connectivity for Wasit Nature Reserve. Despite the substantial surrounding urban development; the dune and plains environment is a crucial component to absorb and concentrate water flow and associated nutrient and mineral cycling (Photo: Google Earth)

Wasit Nature Reserve

As a wetland, Wasit Nature Reserve requires permanent sources of water to sustain the ecological integrity of the system. It is believed that current sources include both water table seepage and fresh water inflow percolating underground from distant dunes, plains and mountains to the east. Water extraction, urban and industrial and infrastructure development all pose significant potential hazards for the ecosystem both through disruption of water supply and the influx of potential pollutants. It is vital that consideration of these lifelines inform measures for persistence of this location despite it being a considerably transformed and landscaped environment. This complexity of water quality and flow interacting with the engineered and remediated habitats provides a significant urban refuge for the many associated birds and invertebrate species. The ecological importance of the site as an extension of the modified western coastal habitats in Sharjah and neighbouring Emirates is reflected by the bird species compositions which are similar in both Al Zorah mangrove to the north and Ras Al Khor to the south. The manipulation of finer scale ecological niches within Wasit Nature Reserve will be subject to prioritization of ongoing management measures.

Key Ecosystem Habitats

|  |  |
| --- | --- |
| Terrestrial | Marine |
| Permanent Saline, Brackish or Alkaline Marshes/Pools | Not Applicable |
| Low Sand Dunes - Vegetated |  |
| Reed Beds |  |
| Mud flats |  |



**Figure 4:** Wetland habitats within the Wasit Nature Reserve; 1 – Mud flats, 2 – Permanent brackish/saline pools, 3 – Reed beds (Photo: Pereira 2017)



**Figure 5:** Wetland habitats within the Wasit Nature Reserve; 1 – Mud flats, 2 – Permanent brackish/saline pools, 3 – Reed beds (Photo: Pereira 2017)



**Figure 6:** Landscaped sandy habitats within the Wasit Nature Reserve; 4 – Low sand dunes (vegetated) (Photo: Pereira 2017).

The Protected Area Aims

1. Secure foraging habitat for threatened and common, resident and migratory bird species
2. Protect a representative example of natural diversity of key habitats in an urban setting
3. Enable easily accessible public exposure to wetland habitat and the associated species
4. Facilitate education of the general public about wetland and migratory species conservation
5. Persist as an example of remediated, formerly degraded habitat as an ecologically dynamic, managed wetland
6. Secure a remnant wetland habitat connected to the desert ecosystems
7. Ensure scientific research opportunities

Management and Operational Objectives

## Monitoring, Research, and Evaluation:

* Baseline monitoring to understand habitat and species richness
* Long term monitoring of bird species abundance and diversity
* Long term monitoring of ecosystem ecological condition
* Long term evaluation of climate change impacts on species distribution and persistence

## Law Enforcement and Emergency Response:

* Ensure adequate enforcement of regulations to increase compliance

## Restoration:

* Remove litter and anthropogenic debris
* Ensure persistence of water sources
* Actively manage vegetation growth to facilitate habitat and associated species diversity

## Partnership Coordination:

* Develop a collaborative network to increase biodiversity knowledge
* Develop partnerships for community outreach and education to improve compliance and understand of wetland significance in arid environments



**Figure 7:** (Clockwise from top left) 1- Potamides conicus, 2 – Black-Winged Stilt, 3 – Sand Gazelle, 4 – Common Redshank (Photos: 1: Fadi Yaghmour, 2 & 4: John Pereira)

Species List

Biodiversity assessments have included repeatable bird surveys, camera trapping, occasional vegetation photographic assessments and general opportunistic observations.

**Table 1:** Summary of species recorded until (06-11-2017)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification** | **Order/Family** | **Common Name** | **Scientific Name** | **UAE Category** | **Red List** |
| Mammals | Carnivora | Arabian red fox | *Vulpes vulpes arabica* | Least Concern | Least Concern |
| Mammals | Muridae | Black rat | *Rattus rattus* | Introduced | Least Concern |
| Mammals | Bovidae | Sand Gazelle | *Gazelle marica* | Introduced | Vulnerable |
| Mammals | Felidae | Domestic Cat | *Felis catus* | Invasive | Not Listed |
| Reptiles | Gekkonidae | Baluch Rock Gecko | *Banopus tuberculatus* | N/A | Not Listed |
| Reptiles | Gekkonidae | Rough-tailed bow foot gecko | *Cyrtopodion scabrum* | N/A | Not Listed |
| Reptiles | Gekkonidae | Yellow-bellied house gecko | *Hemidactylus flaviviridis* | N/A | Not Listed |
| Reptiles | Gekkonidae | Red sea house gecko | *Hemidactylus robustus* | N/A | Not Listed |
| Reptiles | Gekkonidae | Rock semaphore gecko | *Pristurus rupestris* | N/A | Not Listed |
| Reptiles | Lacertidae | White spotted lizard | *Acanthodactylus schmidti* | N/A | Not Listed |
| Reptiles | Scincidae | Ocellated skink | *Chalcides ocellatus* | N/A | Not Listed |
| Reptiles | Varanidae | Desert monitor lizard | *Varanus griseus* | N/A | Not Listed |
| Reptiles | Amphisbaenidae | Zarudny's worm lizard | *Diplometopon zarudnyi* | N/A | Not Listed |
| Reptiles | Typhlopidae | Flowerpot snake | *Rhamphotyphlops braminus* | N/A | Invasive |
| Reptiles | Boidae | Arabian sand boa | *Eryx jayakari* | N/A | Not Listed |
| Reptiles | Colubridae | Afro-asian sand snake | *Psammophis schokari* | N/A | Not Listed |
| Reptiles | Viperidae | Saw-scaled viper | *Echis carinatus sochureki* | N/A | Not Listed |
| Birds | Anseriformes | Common Pochard | *Aythya ferina* | Visitor | Not Listed |
| Birds | Anseriformes | Eurasian Teal | *Anas crecca* | Visitor | Not Listed |
| Birds | Anseriformes | Gadwall | *Anas strepera* | Visitor | Not Listed |
| Birds | Anseriformes | Garganey | *Anas querquedula* | Migrant | Not Listed |
| Birds | Anseriformes | Mallard | *Anas platyrhynchos* | Visitor | Not Listed |
| Birds | Anseriformes | Northern Pintail | *Anas acuta* | Visitor | Not Listed |
| Birds | Anseriformes | Northern Shoveler | *Anas clypeata* | Visitor | Not Listed |
| Birds | Anseriformes | Tufted Duck | *Aythya fuligula* | Visitor | Not Listed |
| Birds | Anseriformes | Egyptian Goose | *Alopochen aegyptiacus* |  | Not Listed |
| Birds | Galliformes | Grey Francolin | *Francolinus pondicerianus* | Resident | Not Listed |
| Birds | Podicipediformes | Black-necked Grebe | *Podiceps nigricollis* | Visitor | Not Listed |
| Birds | Podicipediformes | Little Grebe | *Tachybaptus ruficollis* |  | Not Listed |
| Birds | Phoenicopteriformes | Greater Flamingo | *Phoenicopterus roseus* |  | Not Listed |
| Birds | Suliforms | Great Cormorant | *Phalacrocorax carbo* | Visitor | Not Listed |
| Birds | Suliforms | Socotra Cormorant | *Leucocarbo nigrogularis* | Resident | Not Listed |
| Birds | Pelecaniformes | Glossy Ibis | *Plegadis falcinellus* | Resident | Not Listed |
| Birds | Pelecaniformes | Eurasian Spoonbill | *Platalea leucorodia* | visitor | Not Listed |
| Birds | Pelecaniformes | Little Bittern | *Ixobrychus minutus* | visitor | Not Listed |
| Birds | Pelecaniformes | Cattle Egret | *Bubulcus ibis* | Migrant | Not Listed |
| Birds | Pelecaniformes | Great Egret | *Ardea alba* | Visitor | Not Listed |
| Birds | Pelecaniformes | Little Egret | *Egretta garzetta* | Visitor | Not Listed |
| Birds | Pelecaniformes | Black-crowned Night Heron | *Nycticorax nycticorax* | Visitor | Not Listed |
| Birds | Pelecaniformes | Grey Heron | *Ardea cinerea* | Visitor | Not Listed |
| Birds | Pelecaniformes | Purple Heron | *Ardea purpurea* | Visitor | Not Listed |
| Birds | Pelecaniformes | Striated Heron | *Butorides striatus* | Resident | Not Listed |
| Birds | Pelecaniformes | Western Reef Heron | *Egretta gularis* | Resident | Not Listed |
| Birds | Falconiformes | Crested Honey Buzzard | *Pernis ptilorhynchus* | Visitor | Not Listed |
| Birds | Falconiformes | European Honey Buzzard | *Pernis apivorus* | Visitor | Not Listed |
| Birds | Falconiformes | Greater Spotted Eagle | *Aquila clanga* | Visitor | Not Listed |
| Birds | Falconiformes | Montagu's Harrier | *Circus pygargus* | Visitor | Not Listed |
| Birds | Falconiformes | Western Marsh Harrier | *Circus aeruginosus* | Visitor | Not Listed |
| Birds | Falconiformes | Shikra | *Accipiter badius* | Resident | Not Listed |
| Birds | Falconiformes | Eurasian Hobby | *Falco subbuteo* | Migrant | Not Listed |
| Birds | Gruiformes | Common Moorhen | *Gallinula chloropus* | Resident | Not Listed |
| Birds | Gruiformes | Eurasian Coot | *Fulica atra* | Visitor | Not Listed |
| Birds | Charadriiformes | Black-winged Stilt | *Himantopus himantopus* | Resident | Not Listed |
| Birds | Charadriiformes | Pied Avocet | *Recurvirostra avosetta* |  | Not Listed |
| Birds | Charadriiformes | Common Ringed Plover | *Charadrius hiaticula* | Visitor | Not Listed |
| Birds | Charadriiformes | Eurasian Golden Plover | *Pluvialis apricaria* | Visitor | Not Listed |
| Birds | Charadriiformes | Grey Plover | *Pluvialis squatarola* | Visitor | Not Listed |
| Birds | Charadriiformes | Kentish Plover | *Charadrius alexandrinus* | Resident | Not Listed |
| Birds | Charadriiformes | Lesser Sand Plover | *Charadrius mongolus* | Visitor | Not Listed |
| Birds | Charadriiformes | Pacific Golden Plover | *Pluvialis fulva* | Visitor | Not Listed |
| Birds | Charadriiformes | Red-wattled Lapwing | *Vanellus indicus* | Resident | Not Listed |
| Birds | Charadriiformes | White-tailed Lapwing | *Vanellus leucurus* | Visitor | Not Listed |
| Birds | Charadriiformes | Common Snipe | *Gallinago gallinago* | Visitor | Not Listed |
| Birds | Charadriiformes | Jack Snipe | *Lymnocryptes minimus* | Visitor | Not Listed |
| Birds | Charadriiformes | Bar-tailed Godwit | *Limosa lapponica* | Visitor | Not Listed |
| Birds | Charadriiformes | Common Greenshank | *Tringa nebularia* | Visitor | Not Listed |
| Birds | Charadriiformes | Common Redshank | *Tringa totanus* | Visitor | Not Listed |
| Birds | Charadriiformes | Spotted Redshank | *Tringa erythropus* | Visitor | Not Listed |
| Birds | Charadriiformes | Broad-billed Sandpiper | *Limicola falcinellus* | Visitor | Not Listed |
| Birds | Charadriiformes | Common Sandpiper | *Actitis hypoleucos* | Visitor | Not Listed |
| Birds | Charadriiformes | Curlew Sandpiper | *Calidris ferruginea* | Migrant | Not Listed |
| Birds | Charadriiformes | Green Sandpiper | *Tringa ochropus* | Visitor | Not Listed |
| Birds | Charadriiformes | Marsh Sandpiper | *Tringa stagnatilis* | Visitor | Not Listed |
| Birds | Charadriiformes | Ruddy Turnstone | *Arenaria interpres* | Migrant | Not Listed |
| Birds | Charadriiformes | Little Stint | *Calidris minuta* | Visitor | Not Listed |
| Birds | Charadriiformes | Temminck's Stint | *Calidris temminckii* | Visitor | Not Listed |
| Birds | Charadriiformes | Dunlin | *Calidris alpina* | Visitor | Not Listed |
| Birds | Charadriiformes | Ruff | *Philomachus pugnax* | Migrant | Not Listed |
| Birds | Charadriiformes | Red-necked Phalarope | *Phalaropus lobatus* | Migrant | Not Listed |
| Birds | Charadriiformes | Common Black-headed Gull | *Larus ridibundus* |  | Not Listed |
| Birds | Charadriiformes | Slender-billed Gull | *Larus genei* | Visitor | Not Listed |
| Birds | Charadriiformes | Gull-billed Tern | *Gelochelidon nilotica* | Visitor | Not Listed |
| Birds | Charadriiformes | Saunders's Tern | *Sternula saundersi* | Visitor | Not Listed |
| Birds | Charadriiformes | Swift Tern | *Sterna bergii* | Visitor | Not Listed |
| Birds | Charadriiformes | Whiskered Tern | *Chlidonias hybrida* | Migrant | Not Listed |
| Birds | Charadriiformes | White-cheeked Tern | *Sterna repressa* | Visitor | Not Listed |
| Birds | Charadriiformes | White-winged Tern | *Chlidonias leucopterus* | Migrant | Not Listed |
| Birds | Columbiformes | Eurasian Collared Dove | *Streptopelia decaocto* | Resident | Least Concern |
| Birds | Columbiformes | European Turtle Dove | *Streptopelia turtur* | Visitor | Not Listed |
| Birds | Columbiformes | Laughing Dove | *Streptopelia senegalensis* | Resident | Least Concern |
| Birds | Psittaciformes | Rose-ringed Parakeet | *Psittacula krameri* | Resident | Not Listed |
| Birds | Cuculiformes | Common Cuckoo | *Cuculus canorus* | Migrant | Not Listed |
| Birds | Caprimulgiformes | Egyptian Nightjar | *Caprimulgus aegyptius* | Visitor | Least Concern |
| Birds | Caprimulgiformes | European Nightjar | *Caprimulgus europaeus* | Migrant | Not Listed |
| Birds | Apodiformes | Common Swift | *Apus apus* | Migrant | Not Listed |
| Birds | Apodiformes | Pallid Swift | *Apus pallidus* | Visitor | Least Concern |
| Birds | Coraciiformes | European Roller | *Coracias garrulus* | Migrant | Not Listed |
| Birds | Coraciiformes | Indian Roller | *Coracias benghalensis* | Resident | Least Concern |
| Birds | Coraciiformes | Common Kingfisher | *Alcedo atthis* | Visitor | Not Listed |
| Birds | Coraciiformes | Pied Kingfisher | *Ceryle rudis* | Visitor | Not Listed |
| Birds | Coraciiformes | Blue-cheeked Bee-eater | *Merops persicus* | Migrant | Least Concern |
| Birds | Coraciiformes | European Bee-eater | *Merops apiaster* | Migrant | Least Concern |
| Birds | Coraciiformes | Little Green Bee-eater | *Merops orientalis* | Resident | Least Concern |
| Birds | Coraciiformes | Eurasian Hoopoe | *Upupa epops* | Visitor | Not Listed |
| Birds | Passeriformes | Daurian Shrike | *Lanius isabellinus* | Visitor | Least Concern |
| Birds | Passeriformes | Turkestan Shrike | *Lanius isabellinus* | Migrant | Least Concern |
| Birds | Passeriformes | Lesser Grey Shrike | *Lanius minor* | Migrant | Not Listed |
| Birds | Passeriformes | Red-backed Shrike | *Lanius collurio* | Migrant | Not Listed |
| Birds | Passeriformes | Southern Grey Shrike | *Lanius meridionalis* | Resident | Not Listed |
| Birds | Passeriformes | Woodchat Shrike | *Lanius senator* | Migrant | Not Listed |
| Birds | Passeriformes | House Crow | *Corvus splendens* | Resident | Least Concern |
| Birds | Passeriformes | Crested Lark | *Galerida cristata* | Resident | Least Concern |
| Birds | Passeriformes | Red-vented Bulbul | *Pycnonotus cafer* | Resident | Not Listed |
| Birds | Passeriformes | White-eared Bulbul | *Pycnonotus leucotis* | Resident | Least Concern |
| Birds | Passeriformes | Barn Swallow | *Hirundo rustica* | Visitor | Least Concern |
| Birds | Passeriformes | Rock Martin | *Ptyonoprogne fuligula* | Visitor | Least Concern |
| Birds | Passeriformes | Sand Martin | *Riparia riparia* | Migrant | Not Listed |
| Birds | Passeriformes | Willow Warbler | *Phylloscopus trochilus* | Migrant | Not Listed |
| Birds | Passeriformes | Common Chiffchaff | *Phylloscopus collybita* | Visitor | Not Listed |
| Birds | Passeriformes | Clamorous Reed Warbler | *Acrocephalus stentoreus* | Resident | Not Listed |
| Birds | Passeriformes | Eurasian Reed Warbler | *Acrocephalus scirpaceus* | Migrant | Not Listed |
| Birds | Passeriformes | Eastern Olivaceous Warbler | *Iduna pallida* | Migrant | Not Listed |
| Birds | Passeriformes | Graceful Prinia | *Prinia gracilis* | Resident | Not Listed |
| Birds | Passeriformes | Menetries's Warbler | *Sylvia mystacea* | Migrant | Not Listed |
| Birds | Passeriformes | Upcher’s Warbler | *Hippolais languida* | Migrant | Not Listed |
| Birds | Passeriformes | Brahminy Starling | *Sturnus pagodarum* | Resident | Not Listed |
| Birds | Passeriformes | black-throated Thrush | *Turdus atrogularis* | Visitor | Not Listed |
| Birds | Passeriformes | Siberian Stonechat | *Saxicola group maura* | Visitor | Not Listed |
| Birds | Passeriformes | Common Redstart | *Phoenicurus phoenicurus* | Migrant | Not Listed |
| Birds | Passeriformes | Rufous-tailed Scrub Robin | *Cercotrichas galactotes* | Migrant | Not Listed |
| Birds | Passeriformes | Eurasian Wryneck | *Jynx torquilla* | Migrant | Not Listed |
| Birds | Passeriformes | Scaly-breasted Munia | *Lonchura punctulata* | Resident | Not Listed |
| Birds | Passeriformes | Bank Myna | *Acridotheres ginginianus* | Resident | Least Concern |
| Birds | Passeriformes | Common Myna | *Acridotheres tristis* | Invasive | Least Concern |
| Birds | Passeriformes | Pied Myna | *Sturnus contra* | Resident | Not Listed |
| Birds | Passeriformes | Bluethroat | *Luscinia svecica* | Visitor | Not Listed |
| Birds | Passeriformes | Desert Wheatear | *Oenanthe deserti* |  | Least Concern |
| Birds | Passeriformes | Pied Wheatear | *Oenanthe pleschanka* | Migrant | Not Listed |
| Birds | Passeriformes | Whinchat | *Saxicola rubetra* | Migrant | Not Listed |
| Birds | Passeriformes | Spotted Flycatcher | *Muscicapa striata* | Migrant | Not Listed |
| Birds | Passeriformes | Purple Sunbird | *Cinnyris asiaticus* | Resident | Not Listed |
| Birds | Passeriformes | House Sparrow | *Passer domesticus* | Resident | Least Concern |
| Birds | Passeriformes | Yellow-throated Sparrow | *Gymnoris xanthocollis* | Visitor | Not Listed |
| Birds | Passeriformes | Streaked Weaver | *Ploceus manyar* | Resident | Not Listed |
| Birds | Passeriformes | Citrine Wagtail | *Motacilla citreola* | Visitor | Not Listed |
| Birds | Passeriformes | White Wagtail | *Motacilla alba* | Visitor | Not Listed |
| Birds | Passeriformes | Yellow Wagtail | *Motacilla flava* | Migrant | Not Listed |
| Birds | Passeriformes | Striolated Bunting | *Emberiza striolata* | Resident | Not Listed |
| Plants | Poaceae | Foxtail/buffel grass, sand-burr | *Cenchrus ciliaris* | Common | Not Listed |
| Plants | Asclepiadaceae | Broom Bush | *Leptadenia pyrotechnica* | Common | Not Listed |
| Plants | Asteraceae |  | *Launaea capitata* | Common | Not Listed |
| Plants | Boraginaceae | Turnsole | *Heliotropium kotschyi* | Common | Not Listed |
| Plants | Chenopodiaceae |  | *Haloxylon salicornicum* | common | Not Listed |
| Plants | Chenopodiaceae | Sea Blite | *Suaeda vermiculata* | Common | Not Listed |
| Plants | Euphorbiaceae |  | *Euphorbia larica* | Common | Not Listed |
| Plants | Fabaceae |  | *Prosopis juliflora* | Invasive | Not Listed |
| Plants | Mimosaceae |  | *Acacia tortilis* | Common | Not Listed |
| Plants | Mimosaceae | Ghaf | *Prosopis cineraria* | Common | Not Listed |
| Plants | Neuradaceae | Creeping thorn rose | *Neurada procumbens* | Common | Not Listed |
| Plants | Tamaricaceae |  | *Tamarix aucheriana* | Locally Common | Not Listed |

APPENDIX 1

