



Key Biodiversity Survey of Southern Iraq

2009 Site Review

By

Mudhafar A. Salim, Ibrahim M. Abd, Nabeel A. Abdulhassan, and Muzher Sh. Minjal

Edited by

Daniel Hudson Burnham V and Anna Bachmann

December 2009
Nature Iraq
Sulaimani, Kurdistan, Iraq

Nature Iraq Report



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Nature Iraq Office
House #25, Street #27
Area 104, Ashti Quarter
Sulaimani, Kurdistan, Iraq

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Acknowledgements

The contents of this report are derived from work conducted in 2009. The program would not have been possible without the key partnership arrangements and personal commitment of colleagues at Nature Iraq (Dr. Azzam Alwash and Anna Bachmann), Minister Narmin Othman (Iraqi Ministry of Environment), and at BirdLife International in the United Kingdom (Mr. R. F. Porter), in Jordan (Mr. Sharif Jbour) and their national partner organizations in Syria (the Syrian Society for the Conservation of Wildlife), Jordan (the Royal Society for Conservation of Nature), Dr. Antony Miller and Dr. Sophie Neale from Royal Botanic Garden Edinburgh and also to Mauro Randone (Medingegneria Ltd. for the Italian Ministry of Environment, Land and Sea).

This program was initially supported by the Canadian International Development Agency from 2004-2006. From 2006 to the present, generous support has been provided by the Italian Ministry of Environment, Land and Sea.

The authors would like to thank the staff of the various government departments for their help and guidance to the team during the fieldwork, especially while surveying new sites in Central Iraq, eastern Missan, and eastern Wasit. These included the staff of the Environment Department of Karbala; the Environment Department of Missan; the Environment Department of Wasit, and the Water Resources Department of Badra District, Wasit government.

KBA Team

The Key Biodiversity Areas (KBA) team mainly consisted of staff from Nature Iraq (NI) and the Iraqi Ministry of Environment (MoE):

Birds – Mudhafar Salim (NI), Sadik Hadi Hussen (trainee), Kadhim Jawad Lefta (trainee), Laith Ali (trainee), and Mohammad Turki (trainee).

Fish – Ibrahim M. Abd (NI) & Haider Ibrahim (MoE)

Plant – Nabeel Abdulhassan (NI), Muzher Sh. Minjal (NI), Bassim M. Hbein (MoE) and Adil Abbas (Basra University)

In addition, local partners have assisted the project logistically and with information about the survey sites. These have included the many guards, guides, fisherman and hunters with whom the team has worked and we include them in our thanks.

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**KBA team in Samarra' Lake,
Central Iraq**



**KBA team in Ibn-Najm,
Middle Euphrates**



**KBA team talking to hunters in
Hammar, Southern Iraq**

Introduction

This document presents field observations from the Key Biodiversity Areas (KBA) Survey conducted in January/February and May/June 2009 in Southern Iraq. This report covers the findings in the governorates of Basrah, Missan, Thi-Qar, Kut, Qadisiya, Babylon, Najaf, Karbala. This survey is a joint effort between Nature Iraq (NI) and the Iraqi Ministry of Environment (MoE). The 2009 surveys represent the eighth and nine full winter and summer survey, respectively, conducted in Iraq since the start of the project in February 2005. Some new areas were added to the survey in eastern Wasit and Missan Governorates. The fieldwork focused on surveying the regional bird and fish populations in the winter (fish were only surveyed in winter) and then added plant observations in the summer. This site review provides the principal findings from each site of the species surveys in order to determine whether the site meets KBA criteria and its relative conservation status.

KBAs are sites that are large enough or sufficiently interconnected to support viable populations of the species to which they are an important habitat. Originally based upon the criteria of Important Bird Areas (IBA) developed by BirdLife International, the KBA criteria has been expanded to address a wide range of species. The KBA selection process uses four criteria based upon the presence of four categories of species for which site-scale conservation is appropriate:

1. Globally or regionally threatened species;
2. Assemblage of restricted-range species;
3. Congregations of species that concentrate in large numbers at particular sites during some stage in their life cycle;
4. Assemblages of biome-restricted species.

The KBA process is part of a large international effort to help in the establishment and prioritization of sites that are of global, regional and/or national importance. All sites are worthy of protection but conservation funds are limited and it is important to identify unique sites in Iraq that are at risk of being lost or irreversibly damaged. The environment in Iraq has, after decades of war and civil strife, faced massive changes and degradation. Few places exemplify these problems more than the Mesopotamian Marshlands of Southern Iraq. In a recent publication by the World Conservation Union (Langhammer et al., 2007), the two key variables that determine how sites should be prioritized are “Irreplaceability” and “Vulnerability”. A site is irreplaceable if it contains species that occur nowhere else or where an important segment of a

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species population utilizes the site consistently during part of the year (e.g. for migration or breeding). Vulnerability relates to sites where species can be found that are vulnerable or threatened by extinction either locally or globally. After over three years of surveys conducted by the KBA Program, it is clear that large areas within the Mesopotamian Marshlands of Southern Iraq embody the principles of irreplaceability and vulnerability and this unique Middle Eastern habitat requires urgent conservation action.

Survey Area

Sites in Iraq were initially selected based upon a publication called Important Bird Areas of the Middle East by M.I. Evans (1994). The following table includes the site names and site codes (along with the Evans code) with original GPS coordinates of the KBA Southern Survey sites.

Table 1: KBA South Survey Areas

Area	Site Name	Site Code #	Evans Code #	Season of survey ***		GPS Coordinates					
				W	S						
Missan	Umm An Ni'aaj	HZ1	032	X	X	31	35	35	47	34	56
Missan	Bushes Near Umm Al-Warid*	HZ9	032	X	-	31	34	5	47	30	4
Missan	Udhaim (<i>revised coordinates</i>)	HZ2	032	X	X	31	40	54	47	43	21
Missan	E'jayrda	HZ4	036	X	X	31	19	55	47	37	51
Basra	Majnoon	HZ8	036	X	X	31	5	41	47	34	38
Thi-Qar	Baghdadiya, South	CM1	038	X	X	31	1	28	47	0	57
Thi-Qar	Zichri	CM5	038	X	X	31	3	19	47	13	19
Thi-Qar	Fuhood, North	CM10	038	X	X	30	59	10	46	43	32
Thi-Qar	Abu Zirig	CM16	038	X	X	31	8	57	46	37	16
Thi-Qar	Teena, Northern	HA1	039	X	-	30	53	19	46	54	24
Thi-Qar	Buhaira Al Hilwa	HA3	039	X	-	30	46	54	47	3	1
Thi-Qar	Umm Al Tiyaar near Al Buhaira	HA4	039	X	-	30	53	59	46	51	59
Thi-Qar	Fifth Irrigation Channel/ Al Irwaai' Al Khaamis	HA5	039	X	-	30	52	18	47	5	9
Thi-Qar	Umm Nakhla	HA6	039	X	-	30	49	16	46	38	32
Thi-Qar	Khwaysa Area in Al Kermaashiya Marsh	HA7	039	X	X	30	46	41	46	39	27
Thi-Qar	Kermaashiya Marsh	HA8	039	X	X	30	47	56	46	37	25
Basra	Naggaara	HA 16	039	X	X	30	41	15	47	36	6.5
Basrah	Shilaychiya Marsh	HA17	039	X	X	30	37	32	47	37	32
Thi-Qar	Haffar Opening 2	HA 19	039	X	-	30	56	9.7	46	58	13
Basrah	Slein (south Rumaila) formerly Ghattar*	HA21	039	X	X	30	41	17	47	28	16
Thi-Qar	Abu Hedeeda**	HA22	039	-	X	30	48	10	46	48	49
Thi-Qar	Abu 'Ajaj**	HA23	039	-	X	30	52	18	46	48	11

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Area	Site Name	Site Code #	Evans Code #	Season of survey ***		GPS Coordinates					
				W	S						
Missan	Teeb oasis*	MN1	-	X	X	32	23	19	47	20	30
Missan	Zubaidaat*	MN2	-	X	X	32	23	40	47	23	27
Missan	Sinnaaf Area, Central-south	SM 4	030	X	X	31	52	18	47	19	27
Missan	Sinnaaf Area, Western	SM 5	030	X	X	31	52	51	47	12	56
Basrah	Euphrates & Tigris Junction	SA 1	040	X	X	30	34	59	47	46	18
Basrah	Ras Al Beesha (<i>revised coordinates</i>)	SA 4	040	X	X	29	55	31	48	35	28
Basrah	Khor Az Zubayr Canal/Kanat Khor Az Zubayr	KZ 3	041	X	-	30	5	19	47	57	6
Basrah	Khor Az Zubayr, Northwest**	KZ5	041	-	X	30	18	25	47	49	25
Qadissiya	Dalmaj Marsh, South B	ME2	023	X	-	32	6	26	45	35	0.1
Qadissiya	Dalmaj Marsh, South A	ME10	023	-	X	32	07	30	45	27	07
Wasit	Dalmaj Marsh, East	ME11	023	-	X	32	10	27	35	38	37
Qadissiya	Ibn Najm	ME4	026	X	X	32	9	35	45	17	2
Karbala'a	Razzaza Lake (<i>revised coordinates</i>)	ME5	021	X	X	32	40	50	43	52	17
Babil	Musayab*	ME6	018	X	-	32	48	29	44	16	32
Babil	Hindiya Barrage*	ME7	019	X	X	32	44	2	44	15	50
Babil	Ibn Najm, North*	ME8	026	X	X	32	18	55	44	24	25
Wasit	Shubaicha Marsh*	SM6	017	X	-	33	15	-	45	18	-
Wasit	Shuweicha Marsh* (<i>revised coordinates</i>)	SM7	020	X	X	32	42	33	45	48	32
Missan	Teeb* (<i>revised coordinates</i>)	SM8	-	X	X	32	9	24	47	24	12
Wasit	Jazman (Zurbatia)	WT1	-	X	X	33	08	50	46	04	30

* Sites that were visited for the first time during winter/summer 2009.

** Sites that were visited for the first time during summer 2009.

*** Some sites could not be visited due to security and logistical issues. Also some sites were visited for the first time.

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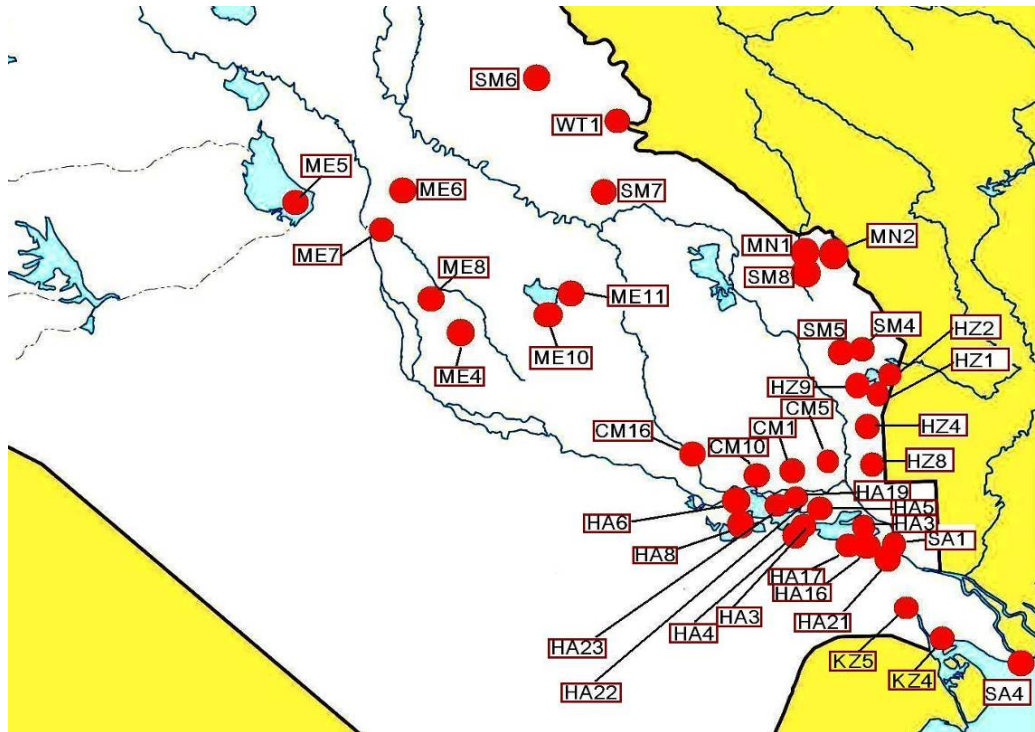


Plate 1: Map shows most of KBA-South sites.

Important Notes on Methods & Procedures

This document reports on bird and fish species observed in the Southern Mesopotamian Marshlands and Middle Euphrates region. A special focus was given to species of “conservation significance” or “conservation concern.” A complete list of all these species recorded for Iraq along with some plates of key species is presented in Annexes A and F.

Birds

Recording individuals or bird flocks was done using point count (for the sites that includes important birds); transect count (walking a transect between two (start and end) gps coordinates and counting important birds observed in larger areas), or whole-area count (when trying to cover as much area as possible) counting methods. In a few cases more than one method was used during the surveys in areas of special interest. More focus on breeding sites and nests locations was given during the breeding season over the summer surveys. Bird counts were conducted by direct observation, either from a motor-canoe that was used for moving over inaccessible or deep waters, or by wading within reed beds. Also, cars were used to cover the more accessible areas. Pairs of 8x30 and 8x42 binoculars were used to identify bird species. Occasionally a Kowa spotting scope (500 mm) was used for counting large flocks of birds. A

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map of 1:100000 scale was used to trace the field work path and to locate the selected sites with the aid of the aid of GPS system. Points were found by using the “go to” feature on a Garmin GPS device.

The following field guides were used during the field work: Mullarney, Svensson, Dan, & Grant (2001), Porter, Christensen, & Hansen (1996), and Salim, Porter, Christensen, Schiermaker-Hanson, & Jbour (2006). Allouse (1953 & 1963) was used to review and compare the bird populations over the area as a whole.

The amount of time that was spent performing observations varied according to the observation method, the size of the site, the logistic plan and the security conditions. To describe the conservation status of the threatened bird species, the following abbreviations are used in the text:

1. GT: Globally Threatened.
2. End: Endemic.
3. CC: Bird species of Conservation Concern.

Sites were assessed for their conservation significance in terms of the IUCN Red List (IUCN, 2008) status of the birds found at the site. This included birds of general conservation concern (CC), vulnerable species (VU), near-threatened species (NT) and globally threatened species (GT).

In the winter and summer surveys, field observations were entered into a new field database designed in Microsoft Access 2007. This database collected both information about the trip to the field sites and the individual bird observations. The following plates below show the user interface for both trip and field data portions of the database.

The screenshot displays the Microsoft Access 2007 user interface for the 'Trips' table. The window title is 'NBIRD DATABASE - South - Summer - 09 FINAL - Database (Access 2007) - Microsoft Access'. The interface is divided into several sections:

- Navigation Pane:** Located on the left, showing the 'Trips' table selected.
- Form Header:** 'NBIRD DATABASE' and 'Trips'.
- Trip Info:** Fields for Date (8/22/09), Time (7:45:00 PM), Date of Last Rain, Currency (NBA Summer 09 South), Site (HAS - Kermashya Marsh), Weather (Sun), Wind direction, and Wind speed (No winds).
- Field Data:** Fields for Date of Last Rain, Transportation Notes (Boat, Car, Foot), and Site Photos.
- Bird Type:** Method (Area) and Additional Notes: 'The bird observation stated from the intersection of Kermashya river with "Al-Arniya" Embankment till Eshan Khuwaisa to the west. This transect-like count (it is area count in fact) was conducted by both: car and foot which continued for about 10 km.'
- Status Bar:** Record: 1 of 1.

Plate 2: Trip Information User Interface for the Bird Database

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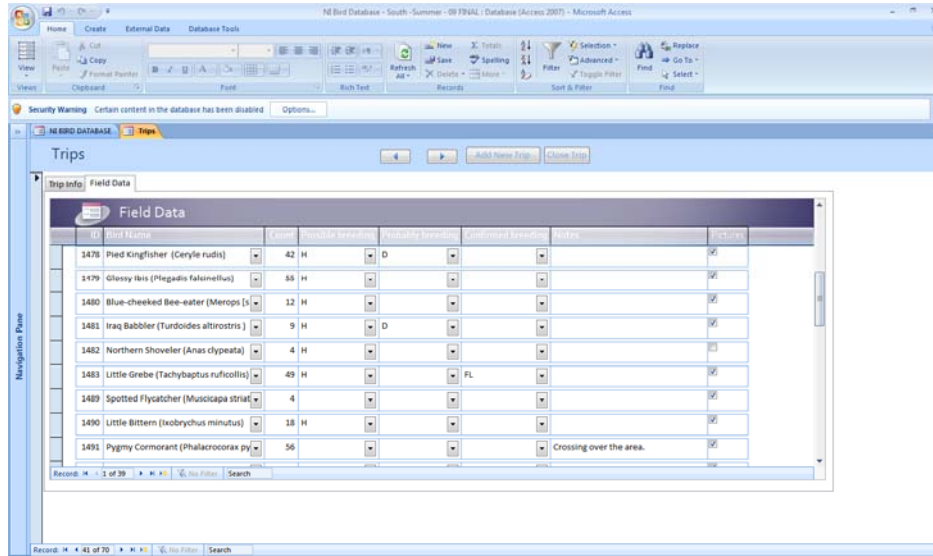


Plate 3: Field Data User Interface for the Bird Database

Fish

During the winter fish samples were taken by fishermen who caught them using various methods such as floating gill nets with mesh sizes of 0.5 to 4cm, fixed gill nets with mesh sizes of 0.5 to 4cm, seine nets with a mesh size of 0.5 cm. Occasionally, net fisheries were few or unavailable and samples were obtained from fisherman using electrofishing techniques to catch fish (no longer Nature Iraq Policy). Often the total catch was limited and the entire catch was assessed but if the catch was larger than 30 kilos, the team examined a random sample of approximately 20% to 25% of the catch and categorized the fish according to species groups after identifying them immediately in the field or in the laboratory after preservation in formaldehyde (10%). The following references were used for identification: Al-Daham (1982), Mahdi (1962) and the personal website of fish expert Brian Coad (www.braincoad.com). Photographs were taken using a Canon digital point & shoot camera.

For winter, fisheries observations were entered into a field database developed in Microsoft Access 2007. The following plates show the user interface for the fish database.

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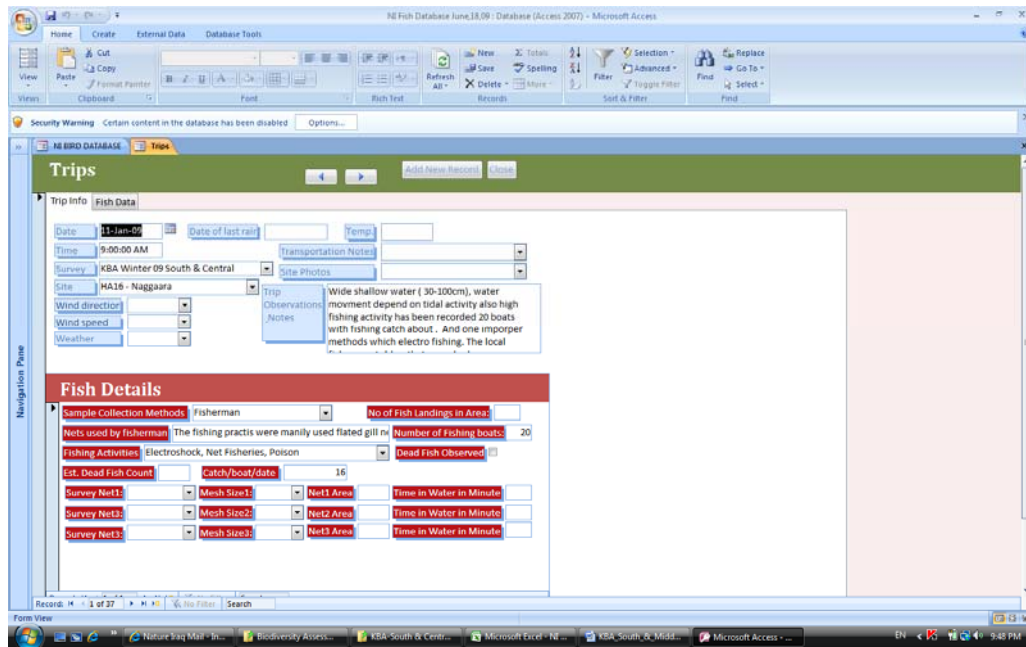


Plate 4: Trip Information User Interface for the Fish Database

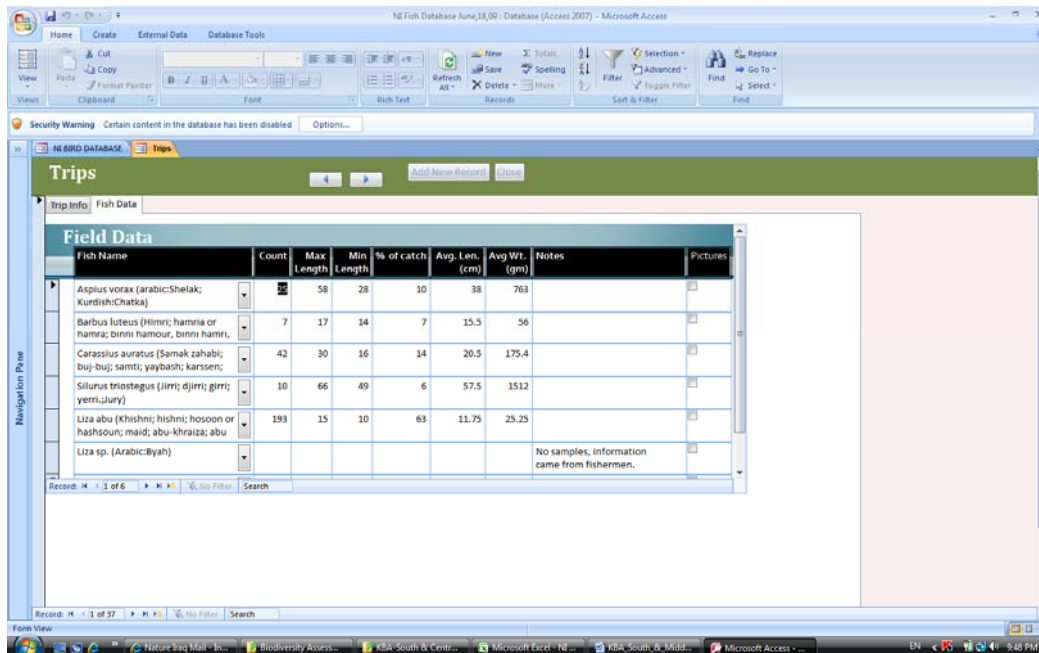


Plate 5: Field Data Information User Interface for the Fish Database

During the summer, a Fish Frame Survey was conducted only in the Central Marshes area and in East Hammar. These findings are provided in a different report.

Plants

Sample identification was primarily carried out in the field and the plants that could not be identified were collected and then identified in the lab using the following references: Townsend

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and Guest (1966), (1968), (1974), (1980a), (1980b) and (Saadi & Mayah, 1983). General information on habitats was based on Guest (1966). Field samples were collected in plastic bags and then pressed in order to dry them before being sent to the lab. Also, pictures were taken of the plants in order to aid in identification and to describe each plant's vegetation status (flowering, fruiting, etc.). Plant profiles (detailed, digital photographs of plant parts assembled into an electronic herbarium profile); determining GPS waypoints for sub-habitats within a site as well as the assigning of herbarium numbers to track individual specimens were techniques introduced to the 2009 KBA survey by the Royal Botanic Garden of Edinburgh (RBGE)/Center of Middle Eastern Plants (CMEP). More effort was made to determine the dominant species of trees, shrubs, herbs and grasses at each site. The amount of vegetation cover at each site was estimated based upon the percentage of non-vegetated area via direct observation. The ecological condition of the site was rated on a scale of 1 to 5 with 1 representing the least disturbed or impacted (best ecological condition and quality) and 5 representing the most disturbed or impacted (poorest ecological condition and quality). Though subjective, the goal of the survey was simply to conduct a rapid assessment of the overall plant species and status of habitats.

During the summer survey, a new database was introduced in order to record field observations for sites and waypoints. As with the other Nature Iraq databases, this was done using Microsoft Access 2007 and the user interfaces for entering plant data in the field are shown in the plates below.

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Trip Information

Date (DDMMYY): 5/25/2009
Time (HH:MM AM/PM): 8:30:00 AM
SurveyID: KBA Summer 09 South
Site Name_Code: CM16 - Abu Zirig
Wind direction: N
Wind speed: Medium winds
Weather: Sun
Date of last rain:
Temperature:
Transportation Notes: Boat, Car, Foot
Site Photos: Directional

Observations:
The site is close to Al-Eslah city near the relegant place which called Said-Yoshaa", the site located in the north of Abu Zirig at Thi-Qar governorate, the water level exceeding the 2m in the marsh but it have more than that in the chanas inside the marsh.

Additional Plant details

Area Ecological Condition: 2
Methodologies:
Additional Botany Notes: This marsh is more natural and the plant have a good growth
Dominant Tree:
Dominant Shrub:
Dominant Herb/Grass: Potamogeton lucens L.

Record: 1 of 1

Plate 6: Trip Information User Interface for the Plant Database

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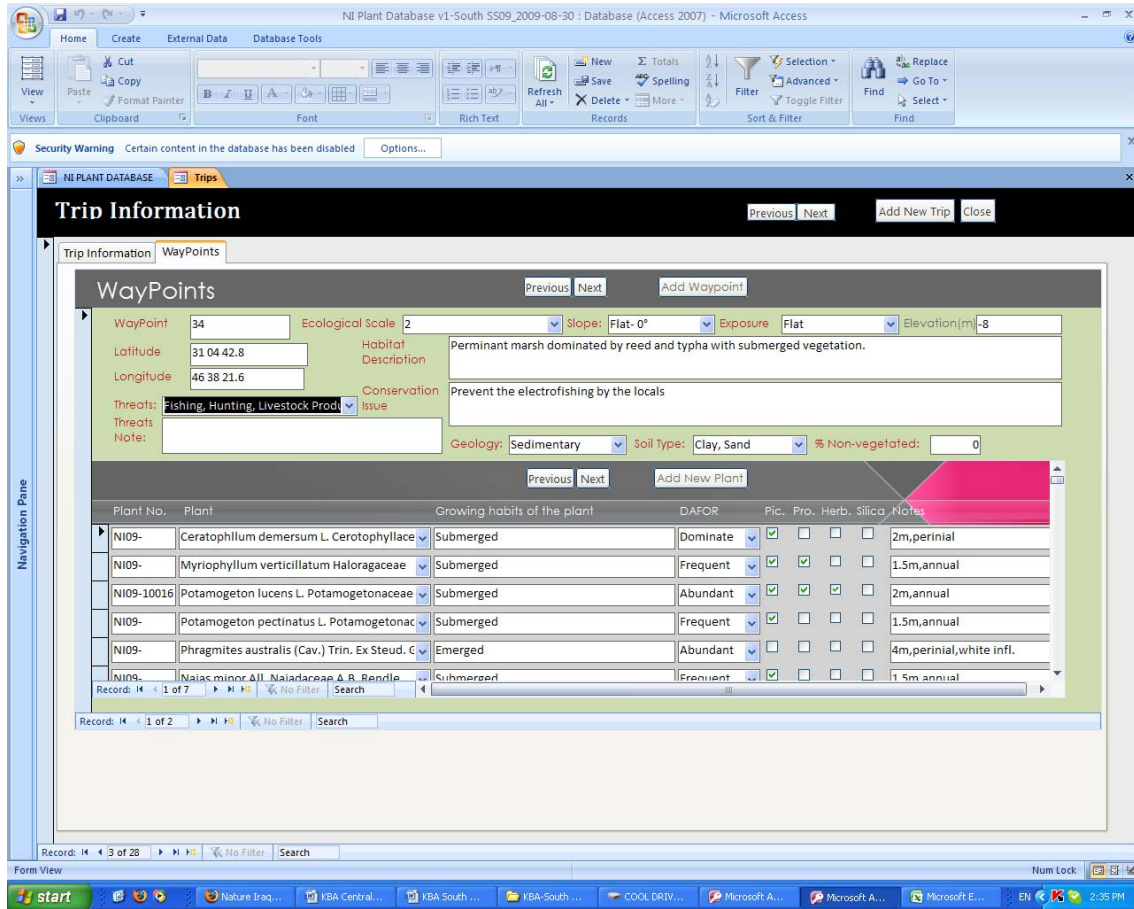


Plate 7: Waypoint Information User Interface for the Plant Database

Site Review

KBA HZ1-8 - Hawizeh Marshes (IBA 032 & 036)

General Description: The Hawizeh marshes described in Evans (1994) as IBA Site 36 was identified as “Haur Al Hawizeh”. Although Evans (1994) separates Umm An Nia’j Marsh (site 032) from Hawizeh Marsh (Site 036), the KBA Surveys considered these all part of one major marsh system with northern sites (HZ1, HZ2 & HZ3) already discussed above and southern sites (HZ4, HZ5, HZ6, HZ7 & HZ8). These marshes extend into Iran (called in Iran “Hor Al Azim”). Evans described this system of marshes on the east side of the Tigris River as covering an area of 220,000 hectares between Amarah & Basrah. Though never completely drained, large parts of these marshes were dried or partially dried by the former regime’s drainage programs (E’jayrda was dried completely). They were also impacted by the war with Iran (1980-88) with major battles often using chemical weapons being conducted on the border and southern regions of the marsh. Evans provides a lengthy description of these marshes which are fed by the Tigris and Karkheh Rivers and extend into Iran (the marsh here is called Hor Al Azim). Evans lists many globally and regionally threatened bird species that use the site, such as *Anser erythropus* and *Anhinga rufa*. He also listed restricted range species at the site (*Hypocolius ampelinus* and *Acrocephalus griseldis*). Other threatened and endemic wildlife listed for the site included *Canus lupus*, *Lutra perspicillata* and the endemic sub-species, *L. p. maxwelli*, and *Gerbillus mesopotamiae*. It should be noted that mammal records in the KBA Program have always been incidental and opportunistic. The following sites were visited in 2009.

KBA HZ1-Umm An Ni’aaj - (IBA 032) – Surveyed in Winter and Summer 09

Site Description: Originally listed in Evans as IBA site 32 “Haur Om Am Nyaj” and described as a large wetland (15,000 ha) about 20 km Southeast of Amarah “comprised of extensive reedbeds with many areas of open water and fast-running creeks, and is partly permanent and partly seasonal.” Today this site consists of a large lake on the northern side of Hawizeh with water coming from the Tigris, and has a depth ranging from 2 to 3.5 meters with low turbidity. There is good plant diversity with most of the plant communities found on the margins of the lake, except submerged plants, which are found in many areas. The *Phragmites australis* communities form aggregations floating on the lake which move from place to place according to wind direction and speed. This phenomenon is called “Tahala” in Arabic. In the recent visit the water quality was poor, the flow had decreased and there were decayed submerged plants (*Ceratophyllum*). The dominant submerged plant was *Ceratophyllum demersum*.

Umm An Ni’aaj is the biggest freshwater lake in Huwaiza. This body of water is known for its large expanse of open freshwater. It harbors many bird species, some of them in large numbers. The lake has very clear with beds of submerged plants that make it a very suitable habitat for the fish-consumers that catch their fish from the deeper water. This site is one of three unique sites in Hawizeh that always harbors the African Darter, Sacred Ibis and other important and endemic birds. This lake/marsh suffers greatly from overfishing (by electricity and nets) and hunting (by shotgun). In addition, as Iran is still constructing a soil embankment that runs from Majnoon (South Hawizeh) northward to reach northeastern Udham (North Hawizeh, which entirely cuts off the water resources from the Iranian side (Hor Al-Azim or Ezim), the water level in Umm An Ni’aaj is directly affected and subsequently, the wildlife and bird life over the whole area suffer.

The area is full of water but has recently started suffering from a water shortage. This observation was based on local reports in addition to the old line marking the water level. Heavy electrofishing was also observed contributing to the general overfishing in the ecosystem.

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Plate 8: Site Photo of Um Al-Ni'aaj in summer

Observations in winter were made on 25/1/2009 and in summer on 3/6/2009:

Winter -Birds: 35 species, 8054 individuals. The key bird species and their counts along with other interesting bird species that were observed during winter 2009 survey in this site were:

Pygmy Cormorant *Phalacrocorax pygmaeus* (2750), Grey Heron *Ardea cinerea*, Western Marsh Harrier *Circus aeruginosus*, Slender-billed Gull *Larus genei*, Little Egret *Egretta garzetta*, Little Grebe *Tachybaptus ruficollis*, Eurasian Coot *Fulica atra* (2870), Whiskered Tern *Chlidonias hybrida*, Armenian/Yellow-legged Gull *Larus armenicus/michabellis*, Gull-billed Tern *Gelochelidon [Sterna] nilotica*, Eurasian Teal *Anas crecca*, Great Black-headed Gull *Larus ichthyæetus*, Darter *Anhinga [rufa] melanogaster* (17), Hooded Crow *Corvus[corone] cornix*, Iraq Babbler *Turdoides altirostris*, Daurian Isabelline Shrike *Lanius isabellinus isabellinus*, Great Cormorant *Phalacrocorax carbo* (480), Black-crowned Night Heron *Nycticorax nycticorax*, Spanish Sparrow *Passer hispaniolensis*, and Armenian/Yellow-legged Gull *Larus armenicus/michabellis* (34).

Summer -Birds: 21 Species, 3077 individuals. The species observed were:

Black-crowned Night Heron *Nycticorax nycticorax* 37 (regular breeder), Little Egret *Egretta garzetta* 165 (regular breeder), Hooded Crow *Corvus corone cornix* 23 (resident breeder), Pygmy Cormorant *Phalacrocorax pygmaeus* 2150 (resident breeder), Spur-winged Lapwing *Vanellus hoplopterus spinosus* 11 (resident breeder), Common Tern *Sterna hirundo* 27 (breeding summer visitor), Cattle Egret *Bubulcus ibi* 76 (regular breeder), White Wagtail *Motacilla alba* 1, which is very irregular observation as it's a winter visitor. Squacco Heron *Ardeola ralloides* 92 (regular breeder), Whiskered Tern *Chlidonias hybrid* 41 (breeding resident), Darter *Anhinga rufa melanogaster* 19 (resident breeder), Glossy Ibis *Plegadis falcinellus* 28 (might breed), Purple Swamphen *Prophyrio prophyrio* 12 (resident breeder), Pied Kingfisher *Ceryle rudis* 8 (resident breeder), Little Grebe *Tachybaptus ruficollis* 275 (the Iraqi subspecies is resident breeder), Red-throated Pipit *Anthus cervinus* 1 (irregular observation), Slender-billed Gull *Larus genei* 36 (might breed), Graceful Prinia *Prinia gracilis* 7 (resident breeder), Purple Heron *Ardea purpurea* 28 (might breed), Crested Lark *Galerida cristata* 5 (resident breeder around the marsh).

Summer - Plants: This site had only one waypoint (Waypoint 58 -N: 31 35 33.2 E: 47 34 58.7) because there was only one primary habitat within which 8 plant species observed.

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The ecological scale was “3” (moderately disturbed) and there are three types of threats recorded: decreasing water levels, fishing and hunting. The dominant plants were reeds (*Phragmites australis*) which surrounded the marsh itself and were randomly distributed throughout the body of water. Also, along the edges of the marsh were semi-aquatic species such as *Bacopa monniera* which grew on the old aggregate root of the reed and benefited from the shelter they provide. In the same habitat, there are other similar species including *Samolus valerandi* and *Cynodon dactylon*. The submerged plants covered the marsh's open waters where no reeds grew. This submerged vegetation includes *Ceratophyllum demersum*, and the floating plant species *Lemna sp.* which grows in the spaces between the reed communities to avoid strong wind currents. *Capparis spinosa* was also present on the way to the site.

Summer - Other Fauna: Buffalo

Winter - Fish: Fishing with floating gill nets is practiced at the site by about 20 boats using nets with mesh sizes 0.5, 2, 3 and 4 cm. The daily catch was estimated to be approximately 8 kg/boat each day for gill nets, but extensive electro-fishing was practiced at the site with about 150 boats using this method in an estimated daily catch of about 26 kg/boat-day. No poisons were used.

Eight fish species were recorded: *Acanthobrama marmaid* (3% of the total catch), *Alburnus mossulensis* (3%), *Aspius vorax* (15%), *Barbus luteus* (25%), *Heteropneustes fossilis* (10%), *Silurus triostegus* (24%), *Liza abu* (20%) and *Mastacembelus mastacembelus* (no sample). There were no summer fish observations.

Conservation Significance:

Birds: The following conservation concern (CC) species utilize the site in winter: Darter *Anhinga [rufa] melanogaster* (CC), Hooded Crow *Corvus [corone] cornix* (CC), Armenian/Yellow-legged Gull *Larus armenicus/michabellis* (CC), Slender-billed Gull *Larus genei* (CC). Also, other species with various conservation statuses were found like: Pygmy Cormorant *Phalacrocorax pygmaeus*, Little Grebe *Tachybaptus ruficollis*, Iraq Babbler *Turdoides altirostris* (CC), White-tailed Lapwing *Vanellus leucurus* (CC). And in summer: Hooded Crow *Corvus corone cornix* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Purple Swamphen *Prophyrio prophyrio*, Little Grebe *Tachybaptus ruficollis*, and Slender-billed Gull *Larus genei* (CC).

Fish: This site has historically been an important spawning ground for Bunni, *Barbus sharpeyi*, which was not found in the winter survey, so it may be considered a threatened species locally.

Plants: All the identified plants were common in Iraq and there are four species of *Lemna* in Iraq. Three of them are rare and only one is commonly found, but we could identify only to the genus *Lemna* level.

Conservation Issues & Recommendations for the Site: This is one of the most important bodies of water in Iraq and it harbors a number of very important species that breed in the region's dense reedbeds. Several unique bird species such as the African Darter, Pygmy Cormorant and Sacred Ibis breed regularly at this site. Also, the site shows decreasing water levels due to the embankment built by Iran on the border and this will require active engagement and negotiations with Iran to remedy. This site must also be protected from human activities which are stressing the species inhabiting the site, such as over-hunting of birds and electro-fishing. Additional survey work should be done on the local fish population to determine the sustainable catch for the area and a community involvement process is needed to regulate the fisheries to achieve true sustainability. This site can be considered as an IPA (Important Plant Area) in Iraq because it is a threatened habitat and contains many important aquatic plants.

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KBA HZ2- Udham - (IBA 032) – Surveyed in Winter and Summer 09

Site Description: The northern part of Hawizeh Marsh near the Iraq-Iran border, Evans provides a lengthy description of these marshes which are fed by the Tigris and Karkheh Rivers and extend into Iran (the marsh here is called Hor Al Azim). Evans lists many globally and regionally threatened bird species that use the site, such as *Anser erythropus* and *Anhinga rufa*. He also listed restricted range species at the site (*Hypocolius ampelinus* and *Acrocephalus griseldis*). Other threatened and endemic wildlife listed for the site included *Canus lupus*, *Lutra perspicillata* and the endemic sub-species, *L. p. maxwelli*, and *Gerbillus mesopotamiae*. It should be noted that mammal records in the KBA Program have always been incidental and opportunistic. Now, this site is open water (Lake) bounded on the north by reeds. There are reed groups (*Tabala*) inside the lake and the bottom is covered by submerged vegetation. There is a border guard station close to the lake. During this winter survey, the team could not reach the lake from the northern side as usual. It was only possible when taking a motor-boat from Umm Al-Ni'aaj Lake northward via very narrow waterways within very dense reedbeds to reach Al-Udham lake and search for birds and fish.

The new KBA point in Udham is near the coordinates (N31 40 54.9, E47 43 21.0). No changes were noted to this wetland despite the low water levels conjectured based upon the original water line in the reed beds. A new Border Station was founded here as a floating police station.



Plate 9: Site Photo of Al Udham in summer

Observations in winter were made on 25/1/2009 and in summer were on 3/6/2009

Winter - Birds: Sixteen (16) bird species found in this, with a total of 1747 individuals, of which the most important species were: Daurian Isabelline Shrike *Lanius isabellinus isabellinus* 6, Armenian/Yellow-legged Gull *Larus armenicus/michabellis* 21, Water Pipit *Anthus spinoletta* 2, European Robin *Erithacus rubecula* 2, Common Chiffchaff *Phylloscopus collybita* 4, Hooded Crow *Corvus[corone] cornix* 34, Slender-billed Gull *Larus genei* 14, Great Black-headed Gull *Larus ichthyaetus* 6, Little Grebe *Tachybaptus ruficollis* 420, Armenian/Yellow-legged Gull *Larus armenicus/michabellis* 21, Common Moorhen *Gallinulua chloropus* 22, Western Marsh Harrier *Circus aeruginosus* 3, Darter *Anhinga [rufa] melanogaster* 14, Pygmy Cormorant *Phalacrocorax pygmaeus* 895 (resident breeder), Grey Heron *Ardea cinerea* 8, and White-throated Kingfisher *Halcyon smyrnensis* 2.

Summer - Birds: 31 species, 311 individuals. The most important species were:

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Black-crowned Night Heron *Nycticorax nycticorax* 18 (resident breeder), Purple Heron *Ardea purpurea* 12 (might breed), Darter *Anhinga rufa melanogaster* 19 (resident breeder), Pygmy Cormorant *Phalacrocorax pygmaeus* 110 (resident breeder), Whiskered Tern *Chlidonias hybrida* 30 (breeding resident), Hooded Crow *Corvus corone cornix* 37 (resident breeder), Little Grebe *Tachybaptus ruficollis* 22 (the Iraqi subspecies is a resident breeder), Common Moorhen *Gallinula chloropus* 3 (breeds), Blue cheeked Bee-eater *Merops superciliosus persicus* 35 (might breed around the marsh), Little Bittern *Ixobrychus minutus* 14 (probable breeder), Common Tern *Sterna hirundo* 4, Pied Kingfisher *Ceryle rudis* 3 (resident breeder), Basra Reed Warbler *Acrocephalus griseldis* 4 (probable breeder).

Winter-Fish: Border police did not allow the team to visit the site to conduct a fish survey due to security concerns.

Summer -Plants: There were two waypoints at this site. The 1st Waypoint 59, N: 31 39 21.7 E 47 39 29.5 was open water or lake (locally called Burga) surrounded by reeds. The 2nd was Waypoint 60, N: 31 40 54.9 E: 47 43 21.0 and it was also open water or lake (Burga) surrounded by reeds, these two waypoints had the same habitat type but waypoint 59 was taken because there was one rare species (*Utricularia australis*) observed there.

Waypoint 59: The ecological status of the site was rated at “2”, indicating that the site was only slightly disturbed because of only slightly decreased water levels. This waypoint is located on the waterway between the first site (HZ1) and the second (HZ2) due to the presence of several interesting plant species including the submerged species *Utricularia australis*, which had disappeared from the marshes approximately eight years ago. A specimen was observed in 2007 in the site adjacent to this waypoint during the KBA survey by NI’s botany team. This survey observed roughly 5-8 individuals with their yellow flowers that indicate the return of this plant species in the marshes. This plant was identified with a book of aquatic plant of Iraq (Saadi, 1983). Additionally, there are reedbeds (*Phragmites australis*) surrounding a 0.5 km² area of open water where the species *Utricularia australis* can be found.

Waypoint 60: This waypoint is very similar to the one above (The ecological status of the site was rated at “2”, indicating that the site was only slightly disturbed because of a slightly decreased water level). Eight plant species were observed at this site. *Phragmites australis* is the dominant species and is present in dense communities along the edge of the marsh. Also present are small, isolated communities within the body of water growing on the roots of the reedbeds including the climbing plant *Cynanchum acutum*, *Trachomitum venetum*, *Samolus valerandi*, *Cladium mariscus* and two additional unidentified species from the *Compositae* family. The only submerged plant present at the site is *Ceratophyllum demersum*.

Conservation Significance:

Bird: Conservation concern species in winter were: Darter *Anhinga [rufa] melanogaster* (CC), Hooded Crow *Corvus[corone]cornix* (CC), Armenian/Yellow-legged Gull *Larus armenicus/michabellii* (CC), Slender-billed Gull *Larus genei* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC). And for summer were: Darter *Anhinga rufa melanogaster* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Hooded Crow *Corvus corone cornix* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), and Basra Reed Warbler *Acrocephalus griseldis* (GT, End & CC).

Fish: This part of the Hawizeh Marsh was never drained and may be considered a refugia for many native fish species especially Bunni *Barbus sharpeyi*. Due to its fresh water, shallowness and thick vegetation it is consider an important nursery ground for many fish species.

Plants: *Cladium mariscus*, a rare species in Iraq only found in two (or possibly three) districts (Townsend, 1985), *Utricularia australis* is rare species according to the NI surveys but there are no

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detailed records of the species because this species is only present in the unpublished volumes of the Flora of Iraq.

Conservation Issues & Recommendations for the Site: Like the former site, this site is a very important breeding, nursery and rearing area for birds and fish as well as plants. It shares common threats with the previous site, and thus long-term planning is necessary to protect the region. This site is considered to be threatened habitat and contains many aquatic plants, and thus may qualify as an Important Plant Area (IPA).

KBA HZ4- E'Jayrda - (IBA 036) – Surveyed in Winter and Summer 09

Site Description: HZ4 is characterized by the presence of some vegetation and floating algae. Submerged plants are prevalent in this site, although there is also some open water amid areas of reeds and typha with “*Talabas*”. It is located towards the southern end of Hawizeh marshes and is itself a wide marsh divided by soil embankments into several areas. It was noted in summer that the reed community had increased very fast since the last survey in winter 2008 and this is due to the decrease in water depth to a level that is appropriate for the growth of reeds.

E'Jayrda area forms the central part of Huweiza, and it extends to the east to join the Azem part of the Hor in Iran. It is an open marsh that naturally extends across the boarder to the Iranian Ezaim. This part of the marsh contains vast, continuous bodies of water with scattered reedbeds and other emerged plants, creating continuous areas of open water which is ideal habitat for many kinds of Waterfowl. During the winter 2009 survey, it was observed that this marsh suffers from a serious lack of water that followed a continuous decrease in water-level. The main problem is the construction of the embankment that separated the Iranian marshland from Iraqi territory and completely blocked the water flow from these areas. Large amounts of hunting were observed at this site including bird hunting and electrofishing. Nature Iraq has been informed that many Goliath Herons and Marbled Duck were hunted the previous month before the survey.

The biggest problem for the E'Jayrda area is the severe shortage of water. Vast areas that were formerly fully covered with water were seen dried out during this survey.



Plate 10: Site Photo of E'Jayrda in summer

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Observations in winter were made on 26/1/2009 and in summer were on 1/6/2009:

Winter -Birds: 42 species, 8956 individuals. The most important species were:

Armenian/Yellow-legged Gull *Larus armenicus/michabellis*, Common Snipe *Callinago callinago*, Grey Heron *Ardea cinerea*, Little Egret *Egretta garzetta* 250, Darter *Anhinga [rufa] melanogaster* 12, Pygmy Cormorant *Phalacrocorax pygmaeus* 2100, Squacco Heron *Ardeola ralloides*, Hen Harrier *Circus cyaneus*, Eurasian Coot *Fulica atra* 3250, Hooded Crow *Corvus[corone] cornix*, Whiskered Tern *Chlidonias hybrida*, Gull-billed Tern *Gelochelidon [Sterna] nilotica*, Grey Wagtail *Motacilla cinerea*, Eurasian Teal *Anas crecca*, Eurasian Penduline Tit *Remiz pendulinus* 6, Western Marsh Harrier *Circus aeruginosus*, Little Grebe *Tachybaptus ruficollis* 220, Armenian/Yellow-legged Gull *Larus armenicus/michabellis*, Marbled Duck *Marmaronetta angustirostris* 143, Corn Bunting *Emberiza [Miliaria] calandra*, Greylag Goose *Anser anser* 55, Great White Egret *Ardea [Egretta] alba* 27, Bluethroat *Luscinia svecica*, Kentish Plover *Charadrius alexandrinus*, Little Ringed Plover *Charadrius dubius*, and Common Kingfisher *Alcedo atthis*.

Summer -Birds: 32 species, 2057 individuals. The most important species were:

Little Bittern *Ixobrychus minutus* 35 (probable breeder), Common Tern *Sterna hirundo* 22 (breeding summer visitor), Collared Pratincole *Glareola pratincola* 200 (probable breeder), Black-winged Stilt *Himantopus ostralegus* 1200 (probable breeder), Common Sandpiper *Actitis hypoleucos* 2, Sand Martin *Riparia riparia* 30, Pied Kingfisher *Ceryle rudis* 4 (probable breeder), Glossy Ibis *Plegadis falcinellus* 140 (might breed), Pygmy Cormorant *Phalacrocorax pygmaeus* 36 (resident breeder), White-tailed Lapwing *Vanellus leucurus* 14 (probably breeds), Little Egret *Egretta garzetta* 43 (probably breeds), Squacco Heron *Ardeola ralloides* 45 (probably breeds), Marbled Duck *Marmaronetta angustirostris* 72 (resident breeder), Spur-winged Lapwing *Vanellus hoplopterus spinosus* 13 (probably breeds), Little Grebe *Tachybaptus ruficollis* 25 (the endemic subspecies breeds regularly), Iraq Babbler *Turdoides altirostris* 9 (resident breeder), Basra Reed Warbler *Acrocephalus griseldis* 4 (resident breeder), Purple Swampphen *Prophyrio prophyrio* 5 (probably breeds), Barn Swallow *Hirundo rustica* 22, Black-tailed Godwit *Limosa limosa* 86, Purple Heron *Ardea purpurea* 4 (probably breeds), Grey Heron *Ardea cinerea* 6 (probably breeds), Graceful Prinia *Prinia gracilis* 8 (probably breeds), Eurasian Spoonbill *Platalea leucorodia* 1 (probably breeds), Woodchat Shrike *Lanius senator* 1, Blue-cheeked Bee-eater *Merops superciliosus persicus* 4, Common Moorhen *Gallinula chloropus* 6 (probably breeds), Little Ringed Plover *Charadrius dubius* 2, Kentish Plover *Charadrius alexandrinus* 8, Little Bittern *Ixobrychus minutus* 3 (probably breeds), Lesser Grey Shrike *Lanius minor* 1, Crested Lark *Galerida cristata* 6 (breeds around the marsh in the drylands).

Winter -Fish: Approximately 100 fishing boats are working in the area with a daily catch of about 13kg/boat each day. They utilize fixed and floating gill nets with mesh sizes of approximately 0.5, 2 and 3 cm. Electrofishing was also noted in the area.

Seven fish species were recorded: *Acanthobrama marmaid* (5% of the total catch), *Aspius vorax* (18%), *Barbus luteus* (11%), *Carassius auratus* (22%), *Mastacembelus mastacembelus* (3%), *Liza abu* (41%) and *Silurus triostegus* (no sample).

Summer -Plants: Only one waypoint was selected at this site. Waypoint 49, (N: 31 21 23.5 E: 47 38 57.3) because there is just one dominant habitat type of open marsh dominated by *schoenoplectus litoralis* and reeds.

Waypoint 49: The ecological status of the site was rated at “4,” indicating a more disturbed site because of the sharp decrease in water level and the decomposition of aquatic plants. Also, large parts of this marsh were dry during the summer survey. Ten plant species were observed in the area. The dominant herb was *Schoenoplectus litoralis* and the dominant shrub species were *Tamarix* sp., *Aeluropus lagapoides*, *Polyypogon monspeliensis*, *Cressa cretica* and *Suaeda* sp. Each of these terrestrial species grew along the edge of the marsh on the soil embankment which was made during the Iraq-Iran War during the 1980s. There are two emergent plant species, including the abundant

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reed *Phragmites australis* and also *Typha domingensis*. In addition, the submerged species *Ceratophyllum demersum* persists despite the arid conditions as well as an unidentified plant specimen from the *Compositae* family.

Summer -Other Fauna: Indian Mongoose (1).

Conservation Significance:

Bird: The following conservation concern species were noted at the site during the winter: Darter *Anhinga [rufa] melanogaster*, Hooded Crow *Corvus [corone] cornix*, Armenian/Yellow-legged Gull *Larus armenicus/michabellis*, Slender-billed Gull *Larus genei*, Marbled Duck *Marmaronetta angustirostris*, Pygmy Cormorant *Phalacrocorax pygmaeus*, Little Grebe *Tachybaptus ruficollis*, and White-tailed Lapwing *Vanellus leucurus*.

And in summer the conservation concern species were: Pygmy Cormorant *Phalacrocorax pygmaeus*, Marbled Duck *Marmaronetta angustirostris*, Little Grebe *Tachybaptus ruficollis*, Iraq Babbler *Turdoides altirostris*, Basra Reed Warbler *Acrocephalus griseldis*, Purple Swamphen *Prophyrio prophyrio*, Black-tailed Godwit *Limosa limosa*, Eurasian Spoonbill *Platalea leucorodia*.

Fish: No important fish were seen in winter.

Plants: *Cressa critica* is a native to Iraq (Al-Ani *et al*, 1971; Habib *et al*, 1971), and *Aeluropus lagopoides* is also native in Iraq (Flora of Iraq, Vol. 9, p420). The remaining plants were common in Iraq and/or in the unpublished volumes of the Flora of Iraq.

Conservation Issues & Recommendations for the Site: The site is severely lacking in water, which was very obvious when comparing conditions with the survey from the previous year as many areas at this site had gone completely dry. This has produced a negative effect on the plants, fish and bird life throughout the area. Urgent case-studies should be carried out to solve, even partially, the problem of the lack of water, as well as the issues of hunting and overfishing.

Our urgent recommendation for the Iranian government is to either remove the large embankment (which disfigures the region's natural landscape), or to put some pipes under the embankment to allow the natural movement of the water westward (though both would likely defeat the purpose of the embankment, which appears to be to stop water from entering into the Iraqi portion of the marsh). The solution to this problem is likely a political one.

KBA HZ8 - Majnoon - (IBA 036) – Surveyed in Winter and Summer 09

Site Description: This site is located at the southern end of the Hawizeh marshes. It is a wide marsh divided by soil embankments into several areas, each with open water areas and with groups of reeds and typha. Reed beds have increased in number since the last survey during winter 2008. Here, water depth has decreased to a level that is appropriate for the growth of reeds.

This area forms the southern part of Hawizeh. During the winter survey we found huge numbers of waterfowl in addition to Waders. The transect and area methods were used to count birds. The transect count started at N 31 08 41.5, E 47 35 46.3 ended at N 31 10 48.1, E 47 35 52.9 but was used only during winter survey to count the large numbers of Waterfowl that were dispersed through this area. We noted that there was considerable pressure on local bird life due to hunting as well as fishing by electricity. Compared to Nature Iraq's winter 2008 survey, the site's water levels had noticeably decreased, but the plant cover (reed and typha) was still well developed forming scattered reedbeds with plenty of open water. The depth of water might range between 1-0.75m.

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But it appeared that in summer an environmental disaster was taking place. It was observed during our summer survey that this important area which held thousands of key bird species had been entirely dried up. All the remaining water that once covered the entire area west of the road was reduced to a small patch of shallow water, which would not remain for long. All of the waterbirds that were recorded during this survey at Majnoon were concentrated in this tiny patch of water.



Plate 11: Site Photos of Majnoon in Winter (left) and Summer (right)

Observations in winter were made on 13/1/2009 and in summer were on 27/5/2009:

Winter Birds: 49 Species, 25,324 individuals. The most important species were:

Western White Stork *Ciconia ciconia* 800, Little Egret *Egretta garzetta* 1800, Great White Egret *Ardea [Egretta] alba* 2000, Grey Heron *Ardea cinerea* 110, Common Starling *Sturnus vulgaris* 60, Great Cormorant *Phalacrocorax carbo* 80, Greylag Goose *Anser anser* 30, Little Grebe *Tachybaptus ruficollis* 280, Mallard *Anas platyrhynchos* 80, Whiskered Tern *Chlidonias hybrida*, Slender-billed Gull *Larus genei* 5500, Eurasian Spoonbill *Platalea leucorodia*, Glossy Ibis *Plegadis falcinellus*, Eurasian Coot *Fulica atra*, Iraq Babbler *Turdoides altirostris*, Gadwall *Anas strepera* 140, Eurasian Teal *Anas crecca* 1900, Great White Pelican *Pelecanus onocrotalus* 160, Pygmy Cormorant *Phalacrocorax pygmaeus* 9000, Northern Shoveler *Anas clypeata*, Marbled Duck *Marmaronetta angustirostris* 410, and Black-tailed Godwit *Limosa limosa* 258.

Summer- Birds: 15 Species, 269 individuals. The most important species were:

Red-backed Shrike *Lanius collurio* 2, Graceful Prinia *Prinia gracilis* 12 (probable breeder), Crested Lark *Galerida cristata* 3 (resident breeder), Black Francolin *Francolinus francolinus* 1, Blue-cheeked Bee-eater *Merops superciliosus persicus* 3, Slender-billed Gull *Larus genei* 37 (resident breeder), Black-winged Stilt *Himantopus ostralegus* 130, Common Babbler *Turdoides caudata* 15, Eurasian Coot *Fulica atra* 50, Spotted Flycatcher *Muscicapa striata* 2, Iraq Babbler *Turdoides altirostris* 15, Collared Pratincole *Glareola pratincola* 2, Common Chiffchaff *Phylloscopus collybita* 3, Sand Martin *Riparia riparia* 8, Barn Swallow *Hirundo rustica* 13.

Winter- Fish: Fishing practices were good, with no improper techniques. The fishermen used fixed gill nets with fine mesh sizes of 1 to 2 cm, though pressure on the fish population is immense with about 100 boats working in the area and catches of approximately 8 kg/boat each day. Total price per catch per boat was about \$10 and no unsustainable fishing practices were noted.

Ten fish species were recorded: *Acanthobrama marmaid* (4%), *Alburnus mossulensis* (5%), *Aspius vorax* (20%), *Barbus luteus* (9%), *Heteropneustes fossilis* (2%), *Silurus triostegus* (3%), *Mastacembelus mastacembelus* (2%), *Liza abu* (38%), *Cyprinus carpio* (5%), *Barbus sharpeyi* (4%) and *Carassius auratus* (8%).

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Summer -Plants: Only one waypoint was chosen at this site in summer (Waypoint 38, N: 31 10 48.0 E: 47 35 55.7) because there is just one dominant habitat type of dry marsh with green vegetation (recently dried).

Waypoint 38: The site was dry during the summer 2009 survey. The ecological status of the site was rated at “5” because the site has become a dry marsh and there is no aquatic plant cover except the reed *Phragmites australis* with some of terrestrial plants present near the soil embankment including *Tamarix* sp., *Lactuca serriola* and *Hordeum glaucum* occasional spreading (at a low density of vegetation cover), but the total number of species observed was only four.

The area is flat with slope of 0° in all directions and the percentage of non-vegetated terrain was 70%. The geology and soil type at this waypoint were sedimentary and clay respectively.

Summer -Other Fauna: Buffalo, cows and Indian mongoose.

Conservation Significance:

Bird: The following conservation concern species were noted at the site in winter: Greater Spotted Eagle *Aquila clanga* (GT), Slender-billed Gull *Larus genei*, Slender-billed Gull *Larus genei*, Black-tailed Godwit *Limosa limosa* (GT), Marbled Duck *Marmaronetta angustirostris* (CC), Great White Pelican *Pelecanus onocrotalus* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Eurasian Spoonbill *Platalea leucorodia* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), Iraq Babbler *Turdoides altirostris* (End, CC), and White-tailed Lapwing *Vanellus leucurus* (CC). And in summer: Black Francolin *Francolinus francolinus* (CC), Slender-billed Gull *Larus genei* (CC), and Iraq Babbler *Turdoides altirostris* (End & CC).

Fish: Bunni, *Barbus sharpeyi*, which is declining throughout the Hawizeh Marsh, was recorded in this site so care should be taken to conserve this fish species. This site contains high fish diversity and requires greater protection.

Plants: All the observed plants are common in Iraq or their status is unknown (in the unpublished volumes of *Flora of Iraq*).

Conservation Issues & Recommendations for the Site: This area is very important for a number of bird species as an essential breeding and stop-over area. It suffers from an extreme lack of water and was almost entirely dry during the summer survey. This is directly reflected by the plant, fish and bird life in the southern part of Hawizeh. Also, this site should be included in a thorough study to search for solutions to the water supply issues. See recommendations for the previous site.

KBA HZ9 – Bushes near Umm Al-Warid - (IBA 036) – Surveyed in Winter 09

Site Description: The Bushes near Umm Il-Ward are an area west of Umm An Ni'aaj (HZ1) that might be subject for flooding occasionally due to the extra water from the surrounding fields, in addition to the water that comes from the nearby canal. It lies to the west of Umm Al-Warid border station and only one unpaved road (on an embankment) leads to the site that runs parallel to Al Adel River which feeds Umm Al-Warid Marsh with water from the Tigris. It is a dense, bushy area with *Acacia* bushes and some small groups of *Phragmites* along the wet areas. It is obvious that this area is important to Passerines for breeding purposes, particularly the restrict-range Dead Seas Sparrow (summer visitor) in addition to some other birds that prefer to have this type of habitat. Also, it might be important for medium-sized mammals such as the Golden Jackal, Jungle Cat, Rupelli Fox, and others.

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Plate 12: Site Photo of the Bushes near Umm Al-Warid in winter

Observations in winter were made on 25/1/2009 (the site was not visited in summer):

Winter - Birds: 31 species, 341 individuals. The most important species were:

Southern Grey Shrike *Lanius meridionalis*, Darter, *Anhinga [rufa] melanogaster* 3, Great Cormorant, *Phalacrocorax carbo* 12, Western Marsh Harrier *Circus aeruginosus* 1, Little Ringed Plover, *Charadrius dubius* 12, Temminck's Stint *Calidris temminckii* 4, Slender-billed Gull *Larus genei* 18, Pygmy Cormorant *Phalacrocorax pygmaeus* 23, Eurasian Stonechat *Saxicola torquatus* (*S. rubicola*), Rook *Corvus frugilegus* 33, Cetti's Warbler *Cettia cetti* 2, Water Pipit *Anthus spinoletta* 2, Spanish Sparrow *Passer hispaniolensis* 35, Black Francolin *Francolinus francolinus* 1, Bluethroat *Luscinia svecica* 1 Little Egret *Egretta garzetta* 27, White-cheeked Bulbul *Pycnonotus leucogenys* 4, Sacred Ibis *Threskiornis aethiopicus* 1, Glossy Ibis *Plegadis falcinellus* 19, Eurasian Bittern *Botaurus stellaris* 1, Black-crowned Night Heron *Nycticorax nycticorax* 3, Squacco Heron *Ardeola ralloides* 17.

Winter - Fish: near to a completely dry site, no fish were observed.

Conservation Significance:

Bird: The following conservation concern species were noted at the site in winter:

Darter *Anhinga [rufa] melanogaster* (CC), Eurasian Bittern *Botaurus stellaris* (GT), Slender-billed Gull *Larus genei* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), White-cheeked Bulbul *Pycnonotus leucogenys* (CC), Sacred Ibis *Threskiornis aethiopicus* (CC), and White-tailed Lapwing *Vanellus leucurus* (CC).

Conservation Issues & Recommendations for the Site: This was the first NI KBA visit to this site, so the bird team cannot accurately evaluate the importance of the site as yet. More surveys are required in the summer but access in summer was denied because border officials with the Ministry of Defence required additional letters and would not accept letters from the Ministry of Environment.

KBA CM 1-24 - Central Marsh Sites (IBA 038)

Site Description: Sites CM 1-24 are all considered Central Marsh sites, but they represent many diverse habitats from seasonal to permanent marshes. They can be roughly sub-divided into the

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following groups: Chubayish Marsh Area (CM1-8); Abu Zirig Marsh (CM9-10 & CM16-18); Al-Nassir/Al-Rifaa'ii/Al-Shatra Marshes (CM 11-15); Al-Emsundaig (CM19-20); Al-Saadia & Al-Saniya (CM21-22); and Al Auda & Al Rayan (CM-23-24). Some of these have already been discussed above, and the remainder will follow shortly. Though we provide site descriptions of all survey points, only the following sites were retained for KBA surveying in 2009. CM16-Abu Zirig is also considered a separate IBA Site.

Evans (1994) provided a description of the entire area as a vast complex of mostly permanent freshwater marshes with scattered areas of open water, to the west of the River Tigris and to the north of the River Euphrates. He describes a marsh system fed by both waters but today, even after re-flooding of some areas of the Central Marshes, many of the connections from the Tigris River to the Central Marsh remain severed. Evans lists globally threatened species that were winter visitors to the area (*Pelecanus crispus*, *Phalacrocorax pygmaeus*, and *Aquila heliaca*) as well as three species for whom 1% or more of their world population wintered in the Central Marsh (*Pelecanus onocrotalus*, *Ardea cinerea*, and *Larus cachinnans*/L. *Argentatus*). Other threatened or endemic species that were listed for the Central Marsh included *Lutra perspicillata* and its endemic sub-species *L. p. maxwelli*, two other endemic rodent species: *Gerbillus mesopotamiae* and *Erythronosokia bunnii*.

KBA CM1 - South Baghdadiya - (IBA 038) – Surveyed in Winter and Summer 09

Site Description: Part of the Chubayish district area in the Central Marshes, the site lies north of the city at the core of the Central Marshes. The site contains brackish water with very dense submerged and emergent vegetation; also, there are reed beds distributed randomly throughout the area. Additionally, there are small groups of *Typha* (reedmace bed) and *Schoenoplectus litoralis*. The water depth is low and ranged between 0.5-1m during the winter survey time. Most open areas were covered by decaying submerged plants. The weather was sunny and the wind was medium and northern. Eutrophication here has led to oxygen depletion and the decline of fish populations in the last few years.

The water level had shrunk severely by the time of the summer visit, and some areas that were once covered with water have turned into dry spots. The serious lack of water might prevent the breeding of some important birds like Marbled Duck, Ferruginous Duck and Red-crested Pochard that usually breed regularly in this area.



Plate 13: Site Photo of South Baghdadiya in summer

Observations in winter were made on 31/1/2009 and in summer were on 24/5/2009

Winter - Birds: 28 species, 11868 individuals. The most important species were:

Common Black-headed Gull *Larus ridibundus*, Purple Swamphen *Prophyrrio prophyrrio* 18, Marbled Duck *Marmaronetta angustirostris* 3000, Eurasian Teal *Anas crecca* 2000, Little Grebe *Tachybaptus*

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ruficollis, Eurasian Wigeon *Anas penelope* 1400, Whiskered Tern *Chlidonias hybrida*, Black-tailed Godwit *Limosa limosa* 1800, Greylag Goose *Anser anser*, Northern Shoveler *Anas clypeata* 1750, Western Marsh Harrier *Circus aeruginosus*, Great White Egret *Ardea* [Egretta] *alba*, Grey Wagtail *Motacilla cinerea*, Iraq Babbler *Turdoides altirostris*, Cetti's Warbler *Cettia cetti*, Common Kingfisher *Alcedo atthis*, Water Pipit *Anthus spinoletta*, Little Egret *Egretta garzetta*, Red-crested Pochard *Netta rufina* 1600, Northern Pintail *Anas acuta*, and Eurasian Coot *Fulica atra*.

Summer – Birds: 39 Species, 1435 of Individuals. Species seen were:

Little Bittern *Ixobrychus minutus* 35, Red-wattled lapwing *Vanellus Hoplopterus indicus* 25, Pied Kingfisher *Ceryle rudis* 140 (resident breeder), Common Moorhen *Gallinula chloropus* 12, Iraq Babbler *Turdoides altirostris* 30, Basra Reed Warbler *Acrocephalus griseldis* 70, Little Egret *Egretta garzetta* 12 (regular breeder), White-tailed Lapwing *Vanellus leucurus* 2, Little Grebe *Tachybaptus ruficollis* 4 (resident breeder), Common Tern *Sterna hirundo* 24 (breeding summer visitor), Little Tern *Sternula sterna albifrons* 5, Black-winged Stilt *Himantopus ostralegus* 450, Collared Pratincole *Glareola pratincola* 27, Kentish Plover *Charadrius alexandrinus* 22, Pygmy Cormorant *Phalacrocorax pygmaeus* 6 (resident breeder), Graceful Prinia *Prinia gracilis* 6 (probable breeder), Sand Martin *Riparia riparia* 25, Grey Heron *Ardea cinerea* 15, Common Ringed Plover *Charadrius hiaticula* 2, Slender-billed Gull *Larus genei* 7 (resident breeder), Common Kingfisher *Alcedo atthis* 5, Common Sandpiper *Actitis hypoleucos* 4, Barn Swallow *Hirundo rustica* 80, Marbled Duck *Marmaronetta angustirostris* 34, Eurasian Bittern *Botaurus stellaris* 1, Whiskered Tern *Chlidonias hybrida* 14 (breeding resident), Great Cormorant *Phalacrocorax carbo* 3, Purple Heron *Ardea purpurea* 2 (might breed), Purple Swamphen *Prophyrio prophyrio* 4 (resident breeder), Eurasian Coot *Fulica atra* 1, Little Ringed Plover *Charadrius dubius* 4, Spur winged Lapwing *Vanellus Hoplopterus spinosus* 8, Curlew Sandpiper *Calidris ferruginea* 8, White-throated Kingfisher *Halcyon smyrnensis* 3, Western Yellow Wagtail *Motacilla flava* 2, Black-crowned Night Heron *Nycticorax nycticorax* 16 (regular breeder), Glossy Ibis *Plegadis falcinellus* 300 (might breed), Great Reed Warbler *Acrocephalus arundinaceus* 2.

Winter - Fish: There were about 50 boats using fixed gill nets in the area with mesh sizes of 0.5, 2, 3 and 4 cm. The daily catch was approximately 5 kg/boat each day. Electrofishing was also practiced with a daily catch about 7 kg/boat each day. Nature Iraq visited the site on the day of the national election so no fish samples were obtained and only interviews were conducted.

Five fish species are reported: *Acanthobrama marmada*, *Barbus luteus*, *Heteropneustes fossilis*, *Liza abu*, and *Carassius auratus*.

Summer - Plants: Two types of aquatic habitat were observed in the site and two waypoints were identified in summer. Waypoint 31 (N: 31 02 20.9 E: 47 02 14.2) was permanent marsh vegetation and Waypoint 32 (N: 31 01 33.6 E: 47 02 13.3) was a small river surrounded by reed.

Waypoint 31: The permanent marsh was rated a “4” on the ecological scale due to the drying of the marsh which will in time kill all aquatic plant and organisms. Six plant species were observed, including *Phragmites australis*, *Schoenoplectus litoralis* and *Typha domingensis* as emerged plants with abundant vegetation densities. The remaining species were submerged, including *Najas marina*, *Ceratophyllum demersum* and *Potamogeton pectinatus*.

Waypoint 32: The small canal located to the south of the first waypoint was rated “3” (moderately disturbed) on the ecological scale on account of decreasing water levels and electrofishing. Ten plant species were observed at this waypoint: *Typha domingensis* was the dominant species in addition to other emerged plants such as *Phragmites australis* and *Schoenoplectus litoralis*. The submerged species included *Ceratophyllum demersum*, *Myriophyllum verticillatum*, *Potamogeton pectinatus*, *Potamogeton lucens*, *Vallisneria sp.* and *Potamogeton perfoliatus*. The third group of floating plant included just *Salvinia natans*.

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Summer- Other Fauna: Buffalo, cows and Indian mongoose.

Conservation Significance:

Bird: The following conservation concern species were noted at the site in winter: Black-tailed Godwit *Limosa limosa* (GT), Marbled Duck *Marmaronetta angustirostris* (CC), Red-crested Pochard *Netta rufina* (CC), Purple Swamphen *Prophyrio prophyrio* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), and Iraq Babbler *Turdoides altirostris* (End, CC).

And in summer the conservation concern species were: Iraq Babbler *Turdoides altirostris* (End & CC), Basra Reed Warbler *Acrocephalus griseldis* (GT, End & CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), Pygmy Cormorant *Phalacrocorax pygmaeus*, Slender-billed Gull *Larus genei*, Marbled Duck *Marmaronetta angustirostris* (CC), and Purple Swamphen *Prophyrio prophyrio* (CC).

Fish: This site is considered a nursing ground for many fish due to its shallowness., but it is also known for eutrophication (increasing nutrient NO₃ & PO₄) caused by stagnant water.

Plants: *Myriophyllum verticillatum* is not mentioned in the Flora of Iraq (unpublished volumes), although most of the recorded plant species are common in Iraq according to Flora of Iraq. *Potamogeton perfoliatus* is rare in Iraq, but it is widespread in the southern marshlands.

Conservation Issues & Recommendations for the Site:

This is an important area for plants, fish, birds, and even man but the lack of water in the Euphrates River, which is now feeding the Central Marshes, has affected the area very negatively. This was clearly reflected by the site itself as well as the fish, plants and bird life in the marsh. In addition, massive pressure from hunting and fishing can be seen everywhere in the area. Concerted efforts and resources will be needed to help the area recover its original status, mainly by continuous education and raising awareness programs, in addition to protecting the important areas for bird and fish breeding, nurseries and rearing areas. As this area, and some additional sites listed below, are to be contained within a proposed national park for the Central Marshes, strict policies and enforcement of those policies will be necessary to manage the area in a sustainable manner. During the summer survey, this area was very shallow and there were many completely dry areas in the middle of this site.

KBA CM5 - Zichri - (IBA 038) – Surveyed in Winter and summer 09

Site Description: This site is located 12 km north of Medina town. It is a brackish marsh area, which is a shallow part of the re-flooded Chibayish marshes. The area is divided by an unpaved road on a high embankment that goes north-south. The western part of the area is wet and covered by plants (mainly by reed beds) with few open areas. The reed beds of the western part are neither high nor extensive, and there are some *Tamarix* sp. shrubs scattered throughout the area. The eastern part of the road is completely dry and there is no source of water. It is covered by scattered terrestrial plants. Generally, the western side is the most affected by human activities, as there are significant amounts of reed-cutting and fishing. There was slightly more water in the northern area than the southern. Historically, this site was very rich in fish, birds and other species, both in population and species diversity. After draining the marshes, the area turned into desert. Since the re-flooding of the marshes in 2003, the entire system has changed although sufficient water was still not able to reach this area as it was too far from the new source of water (the Euphrates River), so it still suffers from a serious lack of water.

The area became completely dry because of the serious lack of water in the Central Marshes. There is only one small canal which has some water south of this site.

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Plate 14: Site Photo of Zichri in summer

Observations in winter were made on 29/1/2009 and in summer on 25/5/2009:

Birds: 7 species, 41 individuals. The most important species were:

Common Kestrel *Falco tinnunculus*, Little Egret *Egretta garzetta*, Spanish Sparrow *Passer hispaniolensis*, Eurasian Stonechat *Saxicola torquatus* *S. rubicola*, and Slender-billed Gull *Larus genei*.

Summer -Birds: 8 Species, 28 individuals. The species observed were:

Pied Kingfisher *Ceryle rudis* 5 (resident breeder), Barn Swallow *Hirundo rustica* 12, Graceful Prinia *Prinia gracilis* 3 (probable breeder), Crested Lark *Galerida cristata* 4 (resident breeder), Squacco Heron *Ardeola ralloides* 3 (regular breeder), Basra Reed Warbler *Acrocephalus griseldis* 5, Little Bittern *Ixobrychus minutus* 14, Common Moorhen *Gallinulua chloropus* 1, Collared Pratincole *Glareola pratincola* 3, Sand Martin *Riparia riparia* 21, Whiskered Tern *Chlidonias hybrida* 5, Common Kingfisher *Alcedo atthis* 1, Purple Swamphen *Prophyrio prophyrio* 1 (resident breeder).

Winter- Fish: a dry area with little trace of water; no fish and few birds.

Summer - Plants: Only one waypoint was chosen at this site. Waypoint 37 (N 31 00 09.2 E: 47 13 16.1) was dry marsh because this was the only habitat type at the site.

Waypoint 37: The ecological scale was rated a “5” because the site has become completely dry in summer. Three terrestrial species were frequently observed in the site including Tamarix sp., Alhagi graecorum and smaller amounts of Cressa cretica. The elevation was 12m and flat in all directions with a slope of 0° and 80% of the terrain was non-vegetated. The geology and soil type at this waypoint were sedimentary and clay respectively.

Conservation Significance:

Bird: The following conservation concern species was noted at the site: Slender-billed Gull *Larus genei* (CC). And in summer: Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), and Purple Swamphen *Prophyrio prophyrio* (CC).

Fish: Historically, Zichri was considered one of the most important lakes in Southern Iraq, but now it is mostly a desert area. This area was inhabited by many important native species.

Plants: There are native plants such as *Cressa cretica*, *Tamarix* sp. (Al-Ani *et al*, 1971; Habib *et al*, 1971).

Conservation Issues & Recommendations for the Site:

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At present, the site does not provide much adequate habitat for wildlife or human activities. To restore the site, water will need to be returned to the area in sufficient quantities either from north of Zichri from Al-Btiera (Tigris River) or by making openings in Al-Iz (Glory River) to ensure adequate reflooding of the area.

KBA CM10 – North Fhood - (IBA 038) – Surveyed in Winter and Summer 09

Site Description: The area is located few kilometers north Al-Fhood town. It receives water from the outlet of Abu Zirig Marsh, CM10, and is close to the Fhood-Chibayish motorway, so it is subject to various human threats and disturbance. It consists of an open body of water with scattered reedbeds of mainly *Phragmites* and *Typha*. There are small areas of open water within the reedbeds. The depth of water during the visit ranged between 0.5-1 m.

This site has a good amount of water that comes directly from the outlets of Abu-Zirig (CM16). The low soil embankment which divided the area into two separated parts is still used as a simple means of transportation. The site is still under heavy pressure as a result of the roadway between Nasiria and Chibaish. Heavy impact from electrofishing was also detected.



Plate 15: Site Photo of Fhood in summer

Observations in winter were made on 29/1/2009 and in summer on 25/5/2009:

Winter - Birds: 12 species, 140 individuals. The most important species were:

Little Grebe *Tachybaptus ruficollis*, Daurian Isabelline Shrike *Lanius isabellinus isabellinus*, Eurasian Coot *Fulica atra*, Western Marsh Harrier *Circus aeruginosus*, Slender-billed Gull *Larus genei*, Water Pipit *Anthus spinoletta*, Squacco Heron *Ardeola ralloides*, and Eurasian Stonechat *Saxicola torquatus S. (rubicola)*.

Summer - Birds: 13 Species, 78 individuals. The species observed were:

Pied Kingfisher *Ceryle rudis* 5 (resident breeder), Barn Swallow *Hirundo rustica* 12, Graceful Prinia *Prinia gracilis* 3 (probable breeder), Crested Lark *Galerida cristata* 4 (resident breeder), Squacco Heron *Ardeola ralloides* 3 (regular breeder), Basra Reed Warbler *Acrocephalus griseldis* 5, Little Bittern *Ixobrychus minutus* 14, Common Moorhen *Gallinula chloropus* 1, Collared Pratincole *Glareola pratincola* 3, Sand Martin *Riparia riparia* 21, Whiskered Tern *Chlidonias hybrida* 5 (breeding resident), Common Kingfisher *Alcedo atthis* 1, and Purple Swamphen *Prophyrio prophyrio* 1.

Winter - Fish: There were 15 boats using fixed gill nets with mesh sizes of 1, 2, 3 and 4 cm and a daily estimated catch of approximately 15 kg/boat per day. Also, electro-fishing is common in the area.

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Seven fish species were recorded: *Aspius vorax* (15% of total catch), *Liza abu* (32%), *Silurus triostegus* (8%), *Carassius auratus* (45%) *Barbus sharpeyi* (no sample), *Heteropneustes fossilis* (no sample), and *Mastacembelus mastacembelus* (no sample),

Summer- Plants: Only one way point was chosen at this site, Waypoint 36(N: 30 59 14.9 E: 46 49 28.8), which was permanent marsh vegetation dominated by Cattail (*Typha domingensis*) and submerged plants.

Waypoint 36: The ecological scale was rated a “3” (moderately disturbed) due to livestock over-grazing and road construction. Eleven plant species were observed at the site, the dominant species being *Typha domingensis*. Additionally, *Phragmites australis* and *Schoenoplectus litoralis* were frequently spotted in the area. Common submerged plant species included *Hydrilla verticillata*, *Ceratophyllum demersum* and *Potamogeton pectinatus* with an unidentified specimen lacking flowers. Only one species of floating plant called *Sagittaria natans* was observed along the edge of the marsh, while the three observed terrestrial species included *Aeluropus lagopoides*, *Alhagi graecorum* and an unidentified plant from the *Compositae* family.

Conservation Significance:

Bird: The following conservation concern species were noted at the site: Slender-billed Gull *Larus genei* (CC) and Little Grebe *Tachybaptus ruficollis* (EndR, CC). And in summer: Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), and Purple Swamphen *Prophyrio prophyrio* (CC).

Fish: The recording of Bunni, *Barbus sharpeyi*, which has disappeared in most Central Marshes sites, indicates that this is a high value site.

Plants: *Aeluropus lagopoides* is native in Iraq; *Hydrilla verticillata* is not mentioned in Flora of Iraq (only three plants of Hydrocharitaceae are mentioned in Flora of Iraq).

Conservation Issues & Recommendations for the Site:

This marsh needs sufficient water levels managed over the seasons by water regulation and control of the inlets and outlets. Overfishing was observed during the survey using electro-fishing techniques. Also, the area would benefit from an environmental awareness program to lessen the pressures on the fisheries and other wildlife from over-fishing and hunting.

KBA CM16 - Abu Zirig - (IBA 038) – Surveyed in Winter and Summer 09

Site Description: Abu Zirig is a freshwater marsh with good water flow and discharge. Water depth ranges from 0.5 to 1.5 meters or more in the main rivers and waterways. This area suffers from significant human disturbances such as reed harvesting, fishing, and bird hunting. Abu Zirig is known for the presence of dense plant vegetation in some areas, mainly *Phragmites* and *Typha*. The aquatic macro-invertebrate community at this site was quite diverse, which supports the opinion recorded by Al-Saffar (2006b) that this site and the surrounding areas have good water quality. It contains a canal approximately 2 m deep surrounded from two sides by reed beds of 2-3 m or more in height which mark the borders of canal above the water surface. This canal extends from north to south. There are areas close to the reed beds with dense and decayed submerged plants, and there is a narrow band in the middle where the water current is strongest without plants and deeper than the rest of area. Fieldwork concerning the bird and fish populations at this site has been conducted since 2004 as a part of the New Eden Project.

The water in this site during this visit was very good. The other natural conditions were in good shape as well due to the availability of a stable and continuous amount of water. Some dry land close to the marsh was covered by the survey as well.

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Plate 16: Site Photo of Abu Zirig in summer

Observations in winter were made on 2/2/2009 and in summer on 25/5/2009:

Winter - Birds: 23 species, 315 individuals. The most important species were:

Water Pipit *Anthus spinoletta* 3, Whiskered Tern *Chlidonias hybrid* 60, Barn Swallow *Hirundo rustica* 2, White-cheeked Bulbul *Pycnonotus leucogenys* 2, Armenian/Yellow-legged Gull *Larus armenicus/michabellis* 2, Western Marsh Harrier *Circus aeruginosus* 4, Tree pipit *Anthus trivialis* 1, Cetti's Warbler *Cettia cetti* 5, Eurasian Coot *Fulica atra* 30, Purple Swamphen *Prophyrio prophyrio* 4, Common Kestrel *Falco tinnunculus* 1, Little Egret *Egretta garzetta*, Grey Heron *Ardea cinerea*, Little Grebe *Tachybaptus ruficollis*, Red-crested Pochard *Netta rufina*, Marbled Duck *Marmaronetta angustirostris* 18, Eurasian Teal *Anas crecca* and Common Moorhen *Gallinulula chloropus*.

Winter - Fish: There were about 60 boats using fixed and floated gill nets with mesh sizes of 0.5 to 4 cm and an estimated daily catch of 12 kg/boat per day. Electro-fishing is not allowed. Due to the Iraqi national elections, no fish samples could be taken and information was obtained by interviewing local fishermen in the nearby town.

Summer – Birds: 31 Species, 280 Individuals. Species observed were:

Common Sandpiper *Actitis hypoleucos* 3, White-tailed Lapwing *Vanellus leucurus* 20, Iraq Babbler *Turdoides altirostris* 8, Glossy Ibis *Plegadis falcinellus* 2, Basra Reed Warbler *Acrocephalus griseldis* 9, Common Moorhen *Gallinulula chloropus* 15, Whiskered Tern *Chlidonias hybrida* 15 (breeding resident), Pied Kingfisher *Ceryle rudis* 20 (resident breeder), Graceful Prinia *Prinia gracilis* 8 (probable breeder), Common Kingfisher *Alcedo atthis* 3, Squacco Heron *Ardeola ralloides* 15 (regular breeder), Little Bittern *Ixobrychus minutus* 7, Sand Martin *Riparia riparia* 25, Grey Heron *Ardea cinerea* 6, Marbled Duck *Marmaronetta angustirostris* 12, Blue-cheeked Bee-eater *Merops superciliosus persicus* 17, Pygmy Cormorant *Phalacrocorax pygmaeus* 2 (resident breeder), Little Tern *Sterna albigrons* 5, Black crowned Night Heron *Nycticorax nycticorax* 10, Eurasian Coot *Fulica atra* 2, Purple Heron *Ardea purpurea* 6 (might breed), Little Grebe *Tachybaptus ruficollis* 8 (resident breeder), Purple Swamphen *Prophyrio prophyrio* 6 (resident breeder), Collared Pratincole *Glareola pratincola* 15, Crested Lark *Galerida cristata* 8 (resident breeder), Egyptian Nightjar *Caprimulgus aegyptius* 3, Kentish Plover *Charadrius alexandrinus* 6, Little Egret *Egretta garzetta* 6 (regular breeder), Black-winged Stilt *Himantopus ostralegus* 6, and Slender-billed Gull *Larus genei* 3.

Summer - Plants: Two waypoints in this site include: Waypoint 34 (N: 31 04 42.8 E: 46 38 21.6), which was a permanent marsh and Waypoint 35 (N: 31 04 05.9 E: 46 39 20.5) that was along a small river.

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Waypoint 34: This waypoint is a permanent marsh dominated by submerged vegetation like *Ceratophyllum demersum*, *Myriophyllum verticillatum*, *Potamogeton lucens*, *Potamogeton pectinatus*, *Najas minor* and *Hydrilla verticillata* with one of emerged plant also present: a small community of the reed *Phragmites australis*. Seven species were found altogether, and this site is considered a very natural site and as such is rated a “2” on the ecological scale.

Waypoint 35: This waypoint contains a small river located near Sid Yoshi'a town. It was rated a “3” on the ecological scale due to limited religious tourism near the site. Five species were present in this waypoint including *Typha domingensis* as the dominant plant species, *Phragmites australis* (frequent), *Ceratophyllum demersum* (frequent), and the floating species *Nymphoides indica* (occasional), and finally the terrestrial species *Tamarix* sp. was occasionally present on the edges of the waypoint.

Local fishermen told the team that there are nine fish species found in the area: *Aspius vorax*, *Barbus leutus*, *Barbus xanthopterus*, *Heteropneustes fossilis*, *Mastacembelus mastacembelus*, *Liza abu*, *Silurus triostegus*, *Cyprinus carpio* and *Carassius auratus*.

Summer - Other Fauna: Buffalo, cows and Indian mongoose.

Conservation Significance:

Bird: The following conservation concern species were noted at the site in winter: Armenian/Yellow-legged Gull *Larus armenicus/michabellis* (CC), Marbled Duck *Marmaronetta angustirostris* (CC), Red-crested Pochard *Netta rufina* (CC), Purple Swamphen *Prophyrio prophyrio* (CC), White-cheeked Bulbul *Pycnonotus leucogeny* (CC), and Little Grebe *Tachybaptus ruficollis* (EndR, CC).

And in summer: Iraq Babbler *Turdoides altirostris* (End, CC), Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), Marbled Duck *Marmaronetta angustirostris* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), Purple Swamphen *Prophyrio prophyrio* (CC), and Slender-billed Gull *Larus genei* (CC).

Fish: Gattan, *Barbus xanthopterus*, is one of the endemic fish species in Iraq and is also very important commercially due to its high market price but our results in the last KBA surveys show a significant decrease in Gattan population in terms of geographical distribution and the representative ratio in fish catches. This site is the only site where Gattan remained a significant percentage of the catch and achieved good size, so more attention is needed to protect this area.

Plants: *Nymphoides indica* was only present in this site among all KBA sites. Accordingly, it can be said to be an extremely rare species with no conservation record from the unpublished volumes of Flora of Iraq. *Hydrilla verticillata* is not mentioned in Flora of Iraq (only three plants of Hydrocharitaceae are mentioned in Flora of Iraq), and there are no details concerning *Myriophyllum verticillatum* although it is present in the unpublished volumes of Flora of Iraq and is relatively common based on the team's observations.

Conservation Issues & Recommendations for the Site:

This marsh is an important site as it has good diversity and water sustainability. The problem with this area is the disturbance and intrusive human activities impact the wildlife the wildlife populations. Fishing is the local's main occupation for those living near the, which can quickly lead to overfishing. A comprehensive survey of local fisheries should be conducted to fully understand the fisheries and their sustainable level of harvest. Also, the local bird population faces real threats from hunting and other disturbances, particularly during their breeding season. Long-term educational programs are needed to improve the environmental awareness within the community, particularly regarding the threatened fish and bird species.

KBA HA1-21 - Hammar Marsh Sites (IBA 039)

Site Description: Evans described the Hammar Marshes as areas of 3,500 km² of wetlands and included the largest open bodies of water in the lower Euphrates: a shallow, eutrophic lake approximately 120 km long by 25 km wide. It is bordered by the Euphrates to the north and the Shatt Al Arab on the east, with desert regions to the south and west. Evans provided a list of globally, regionally and restricted range bird species that were either resident, winter or summer visitors. Some of these include *Phalacrocorax pygmaeus* (winter visitor), *Botaurus stellaris* (winter visitor but possibly bred in the marshes) *Ardea goliath* (a rare resident), and *Acrocephalus griseldis* (a common summer visitor). In addition, Evans provided a long list of bird species for which 1% or more of their work were winter visitors to the marsh including species such as *Fulica atra*, *Anas crecca*, *Aythya fuligula* and *Anas platyrhynchos*.

For the KBA 2008 surveys, the survey effort was focused on just a few of the sites: Northern Teena (HA1), Umm At Tiyaar near Al Buhaira (HA4), Umm Nakhla (HA6), Kermaashiya Marsh (HA8), Ibn Maajid Lake (HA13), Naggaara (HA16) Shiaychiya Marsh (HA17) and one of the Haffar openings (No. 2, HA19). Site descriptions are provided below for all HA sites.

KBA HA1 – Northern Teena - (IBA 039) – Surveyed in Winter 09

Site Description: This is a re-flooded area with brackish water. A water canal called the Teena River is the main source of water to this area that brings the water directly from the Euphrates River. The dominant plants in this area are *Tamarix* and *Phragmites*. Al Teena canal, which branches from the Euphrates, is an irrigation canal edged by two embankments. There is thick *Typha* in the eastern edge of canal. The original site (HA1) cannot be visited at present because there are people living on the street and the cars cannot go through to reach the old site.



Plate 17: Site Photo of Teena in winter

Observations in winter were on 1/2/2009:

Winter – Birds: 15 species, 162 individuals. The most important species were:

Spanish Sparrow *Passer hispaniolensis* 30, Hen Harrier *Circus Cyaneus* 1, Common Starling *Sturnus vulgaris* 20, Little Grebe *Tachybaptus ruficollis* 9 (resident breeder), Eurasian Bittern *Botaurus stellaris* 1, Common Kestrel *Falco tinnunculus* 1, Western Marsh Harrier *Circus aeruginosus*, Common Sandpiper *Actitis hypoleucos*, Green Sandpiper *Tringa ochropus*, Common Moorhen *Gallinula chloropus* 13, and Pygmy Cormorant *Phalacrocorax pygmaeus* 21.

Fish: Electrofishing was common in this area. Our team visited the site at mid-day and no fishermen were present. Additionally, the road was so impassable by car and the survey information came from a young boy who lived near the site.

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It was learned during interviews that the four species living in site were: *Barbus lentus*, *Carassius auratus*, *Heteropneustes fossilis*, and *Liza abu*.

Conservation Significance:

Bird: The following conservation concern species were noted at the site:

Eurasian Bittern *Botaurus stellaris* (GT), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), and Little Grebe *Tachybaptus ruficollis* (EndR, CC).

Fish: From the information gained during interviews, there appear to be no species of conservation concern present in the site at this time.

Conservation Issues & Recommendations for the Site:

A decreasing water supply is the main threat faced by the northwestern part of Al-Hammar. Small-scale fishing and hunting was occasionally observed in the area during the survey. The main occupation of the locals is buffalo farming and thus grazing and reed-cutting are the main issues facing the habitat of the site.

KBA HA3 – Buhaira Al Hilwa - (IBA 039) – Surveyed in Winter 09

Site Description: This marsh is surrounded by an artificial embankment and receives water from Al-Wafa' Canal that carries the water from Thi-Qar to Basra. This lake was created to prevent flooding in the canal, so any extra water that might cause flooding in the canal flows into this lake via small, short canal. The lake has very dense reedbed of *Phragmites* with few open patches. It is a very good habitat for breeding and harboring birds as it is being flooded or wet throughout the year.



Plate 18: Site Photo of Buhaira Al Hilwa in winter

Observations in winter were on 30/1/2009:

Winter - Birds 13 species, 121 individuals. The most important species were:

Little Egret *Egretta garzetta*, Western Marsh Harrier *Circus aeruginosus*, Little Grebe *Tachybaptus ruficollis*, Spanish Sparrow *Passer hispaniolensis*, Eurasian Teal *Anas crecca*, White-throated Kingfisher *Halcyon smyrnensis*, Iraq Babbler *Turdoides altirostris*, Daurian Isabelline Shrike *Lanius isabellinus isabellinus*, and Northern Shoveler *Anas chrypeata*.

Fish: In winter, due to rainy weather, no fishermen were seen but the area is believed to have a number of fish species of conservation concern.

Conservation Significance:

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Bird: The following conservation concern species were noted at the site: Little Grebe *Tachybaptus ruficollis* (EndR, CC) and Iraq Babbler *Turdoides altirostris* (End, CC).

Fish: No fish could be obtained from this site.

Conservation Issues & Recommendations for the Site:

This site lies in a remote area and there is very low human habitation or disturbance nearby. Nevertheless, some hunters and fishermen visit the area in addition to the breeding buffalos. This site, like all parts of Al-Hammar, needs sufficient but stable water to ensure sustainable shelter and food resources for fish and bird species.

KBA HA4 - Umm Al Tiyaar near Al Buhaira - (IBA 039) – Surveyed in Winter 09

Site Description: This marsh is part of Al-Hammar, which is located in the south-central part of the historical body of water just west of the upper site (HA3). The water level in this site is very unstable, due to the continuous fluctuation of water levels flowing out of the Euphrates. This site adjacent to the northern part of Al-Wafa' canal that carry drinkable water to Basra city.



Plate 19: Site Photo of Umm Al Tiyaar in winter

Observations in winter were on 30/1/2009:

Winter – Birds: 22 species, 1456 individuals. The most important species were:

Mallard *Anas platyrhynchos*, Marbled Duck *Marmaronetta angustirostris* 122, Common Shelduck *Tadorna tadorna* 65, Grey Heron *Ardea cinerea*, Northern Shoveler *Anas chyeata* 155, Western Marsh Harrier *Circus aeruginosus*, Eurasian Teal *Anas crecca* 345, Spanish Sparrow *Passer hispaniolensis*, Armenian/Yellow-legged Gull *Larus armenicus/michabellis*, Common Black-headed Gull *Larus ridibundus*, Slender-billed Gull *Larus genei*, Gadwall *Anas strepera*, Eurasian Wigeon *Anas penelope*, Whiskered Tern *Chlidonias hybrida*, and Eurasian Stonechat *Saxicola torquatus* (*S. rubicola*).

Fish: In winter, due to rainy weather, no fishermen were seen but the area is believed to have a number of fish species of conservation concern.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site:

Armenian/Yellow-legged Gull *Larus armenicus/michabellis* (CC), Slender-billed Gull *Larus genei* (CC), and Marbled Duck *Marmaronetta angustirostris* (CC).

Fish: No fish could be obtained at this site.

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Conservation Issues & Recommendations for the Site:

See issues and recommendations for HA3.

KBA HA5- Fifth Irrigation Channel/ Al Irwaa'i Al Khaamis - (IBA 039) – Surveyed in Winter 09

Site Description: This site is located in the middle of the historical Hor Al-Hammar beside an unpaved road running north to south 15 km southeast of Chibayish town. It is subject to flooding either seasonally or when the area receives extra water from the Euphrates. Therefore, the occurrence of various bird species fluctuates during each survey. There are very dense and continuous reedbeds along the drainage canal network in the area, and also there are scattered *Tamarix* bushes and some low herbs within the area. No buildings exist around the site, but it is subject to various human activities like reed-harvesting, buffalo grazing, fishing, and hunting.



Plate 20: Site Photo of the Fifth Irrigation Channel in winter

Observations in winter were on 30/1/2009:

Birds: No bird surveys were held during winter 2009 because of very heavy rains.

Fish: No fish surveys were held because of the heavy rains at this site in winter.

Conservation Significance:

Not possible to assess at this time under such bad weather conditions.

Conservation Issues & Recommendations for the Site:

Supplying the area with sufficient water from the Euphrates is essential to maintain the bird and fish life in the area. Also, there should be educational campaigns that target the local community to raise environmental awareness and encourage people to take care of their surroundings. Additional summer and winter surveys are necessary to assess the area.

KBA HA6 - Um Nakhla - (IBA 039) – Surveyed in Winter 09

Site Description: This site is located in the northeastern part of Hor Al-Hammar. It is a brackish water site at the end of the Um Nakhla River that branches from the southern side of the Euphrates. HA6 is characterized by the presence of thick plant vegetation with almost stagnant water flow and the presence of date palm plantations and rice cultivation. The main source of water is the Um-Nakhla River that brings water from Euphrates River at the “Garmat Bani-Saeed” regulator. The main plant cover throughout the site is *Phragmites* reedbeds; also there

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are *Typha* along the edge of the marsh and some other terrestrial plants. There is village close to the site, and a small canal that is used to drain the water from the fields to the marsh.



Plate 21: Site Photo of Um Nakhla in winter

Observations in winter were on 30/1/2009:

Birds: 20 species, 139 individuals. The most important species were:

Western Marsh Harrier *Circus aeruginosus*, Daurian Isabelline Shrike *Lanius isabellinus isabellinus*, Water Pipit *Anthus spinoletta*, Squacco Heron *Ardeola ralloides*, Little Grebe *Tachybaptus ruficollis*, Barn Swallow *Hirundo rustica*, Little Egret *Egretta garzetta*, Glossy Ibis *Plegadis falcinellus*, Common Kestrel *Falco tinnunculus*, Eurasian Stonechat *Saxicola torquatus (S. rubicola)*, and Greater Spotted Eagle *Aquila clanga*.

Fish: The site was visited at mid-day when no fishermen were present. People from the village of Abu Al jasim were interviewed to collect information. Eight fishing boats were working in the area with a daily catch of approximately 8 kg/boat each day. The fishermen were using fixed gill nets with mesh sizes of 0.5, 1, 2 and 3 cm. Traditional spear fishing was also recorded in site along with electrofishing.

Eight fish species were reported in the area according to interviews with local residents: *Aspius vorax*, *Barbus leutus*, *Silurus triostegus*, *Mastacembelus mastacembelus*, *Heteropneustes fossilis*, *Liza abu*, *Cyprinus carpio* and *Carassius auratus*.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site: Greater Spotted Eagle *Aquila clanga* (GT), Little Grebe *Tachybaptus ruficollis* (EndR, CC), and White-tailed Lapwing *Vanellus leucurus* (CC).

Fish: No species of conservation concern were reported here.

Conservation Issues & Recommendations for the Site:

Controlling the water level in this part of Al-Hammar is vital to help restore the area and support bird and fish populations. Also, as in many other locations, an environmental awareness program is needed in the area. Also, because this part of Al-Hammar depends mainly on the drainage water from the rice field at this area, which due to the recent drought over the past few years have not been planted, it is very necessary to supply more water to the area to restart the rice crops and insure better incomes for the locals as well as to benefit this important part of Hammar. This will decrease the pressure on the marsh from over-fishing and bird-hunting.

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KBA HA7 & HA8 -Khwaysa Area of Al Kermaashiya Marsh– Surveyed in Winter and Summer 2009

Site Description: This site is located in the western part of Hor Al-Hammar, south of the Euphrates and 9 km southeast of Garmat Bani-Saeed town. It is close to the main embankment called “Saddah Al-‘Amniya” that separates the marsh at that point into two parts. There are still pipes that connect the bodies of water together on each side. The embankment continues southeast to include the Khwaysa area which is part of the site. Generally, the water depth ranges between 0.2-1.3m, but the eastern parts of the site suffer from a serious lack of water and were dry. The plant cover consists of mainly *Typha* and *Phragmites* reedbeds. There are also some sedges and other low plants in addition to the submerged plant species that are found throughout in the area. The marsh suffers from intense human activities in hunting, grazing, and electrofishing. There are people live along the embankment for a distance of about 10km.

During the Summer 2009 survey, the area was obviously suffering from a serious water deprivation that was reflected by the habitat in general and on the amount of bird life at the site. This area provides a very important breeding ground for many bird species including important (key) birds. Some of the buffalo keepers left the area because of the lack of water, but there is a great amount of hunting, reed cutting and other human activities in the area.



Plate 22: Site Photo of Al Kermaashiya in summer

Observations in winter were on 30/1/2009 and in summer were on 23/5/2009:

Winter - Birds: 19 species, 306 individuals. The most important species were:

Western Marsh Harrier *Circus aeruginosus*, Black-crowned Night Heron *Nycticorax nycticorax*, Common Black-headed Gull *Larus ridibundus* 20, Slender-billed Gull *Larus genei*, Little Egret *Egretta garzetta*, Barn Swallow *Hirundo rustica* 20, Great Cormorant *Phalacrocorax carbo*, Little Grebe *Tachybaptus ruficollis* 38, Squacco Heron *Ardeola ralloides*, Spotted Redshank *Tringa erythropus*, and Whiskered Tern *Chlidonias hybrid*.

Summer - Birds: 39 Species, 612 Individuals. Summer observations were:

Common Woodpigeon *Columba palumbus* 3, Red-wattled lapwing *Vanellus hoplopterus indicus* 16, Squacco Heron *Ardeola ralloides* 38 (regular breeder), Little Egret *Egretta garzetta* 12 (regular breeder), Black-crowned Night Heron *Nycticorax nycticorax* 11 (regular breeder), Black-winged Stilt *Himantopus ostralegus* 6, White-tailed Lapwing *Vanellus leucurus* 8, Crested Lark *Galerida cristata* 13 (resident breeder), Pied Kingfisher *Ceryle rudis* 42 (resident breeder), Glossy Ibis *Plegadis falcinellus* 55 (might breed), Blue-cheeked Bee-eater *Merops superciliosus persicus* 12, Iraq Babbler *Turdoides altirostris* 9, Northern Shoveler *Anas chrypeata* 4, Little Grebe *Tachybaptus ruficollis* 49 (resident breeder), Spotted Flycatcher *Muscivora striata* 4, Little Bittern *Ixobrychus minutus* 18, Pygmy

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Cormorant *Phalacrocorax pygmaeus* 56 (resident breeder), Purple Swamphen *Prophyrio prophyrio* 4, Great Cormorant *Phalacrocorax carbo* 3, Basra Reed Warbler *Acrocephalus griseldis* 27, Whiskered Tern *Chlidonias hybrida* 5 (breeding resident), White-throated Kingfisher *Halcyon smyrnensis* 9, Sand Martin *Riparia riparia* 26, Slender-billed Gull *Larus genei* 4 (resident breeder), Graceful Prinia *Prinia gracilis* 5 (probable breeder), Cattle Egret *Bubulcus ibis* 27 (regular breeder), Grey Heron *Ardea cinerea* 1, Purple Heron *Ardea purpurea* 2 (might breed), Eurasian Coot *Fulica atra* 1, Common Tern *Sterna hirundo* 12 (breeding summer visitor), Great Reed Warbler *Acrocephalus arundinaceus* 1, Red-backed Shrike *Lanius collurio* 5, Common Kingfisher *Alcedo atthis* 12, Marbled Duck *Marmaronetta angustirostris* 36, White-cheeked Bulbul *Pycnonotus leucogenys* 3, Common Moorhen *Gallinula chloropus* 23, Common Redstart *Phoenicurus phoenicurus* 1 which is abnormal record as for the type of habitat in addition to the time of recording for its being common winter visitor.

Winter- Fish: three fish species were present in site *Aspius vorax* (20% of total catch), *Carassius auratus* (35%) and *Liza abu* (45%), but the interview with local show that four fish species also present but no sample available which is *Alburnus mossulensis*, *Barbus luteus*, *Heteropneustes fossilis* and *Mastacembelus mastacembelus*.

Summer -Plants: Only one waypoint was chosen at this site. Waypoint 30 (N: 30 47 54.3 E: 46 37 52.3) was a marsh dominated by reeds and cattails.

Waypoint 30: The site was rated a “3” on the ecological scale due to decreasing water levels and over grazing. Five species were observed and the dominant one is the reed *Phragmites australis*. The remainder include: *Typha domingensis* (frequent), *Schoenoplectus litoralis* (frequent), *Najas marina* (abundant) and *Ceratophyllum demersum* (frequent). The local elevation was 9 m with a flat slope of 0° exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 5%.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site in winter: Slender-billed Gull *Larus genei* (CC) and Little Grebe *Tachybaptus ruficollis* (EndR, CC). And in summer: Iraq Babbler *Turdoides altirostris* (End, CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Purple Swamphen *Prophyrio prophyrio* (CC), Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), Slender-billed Gull *Larus genei* (CC), Marbled Duck *Marmaronetta angustirostris* (CC).

Fish: No fish of conservation concern were found at this site in this survey.

Plants: All the observed plant species were common in Iraq.

Conservation Issues & Recommendations for the Site:

The lack of water is the main problem facing this site. Controlling the water level and ensuring sufficient amount of water from the Euphrates River will encourage the plants, fish and bird life to flourish. Because this area contains a human population, it is necessary to implement regular environmental educational campaigns and raise the awareness of the community regarding the threatened bird and fish species.

KBA HA16 - Naggaara - (IBA 039) – Surveyed in Winter and Summer 09

Site Description: This site is part of Eastern Al-Hammar, west of Al-Deer to the Northern Rumaila oil fields. It is open marshland with a water depth of approximately 1 m. The area is affected by subtidal which create a good habitat for waders. There is a high diversity of bird in the area including waterfowls, passerines, and waders. Local plant cover consisted mainly of *Phragmites* and *Typha* reeds in addition to submerged plants. There is a large amount of bird

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hunting and fishing which pressures the wildlife throughout the whole area. Electrofishing is very common but some fish netting was observed.

Compared with Nature Iraq's previous observations, no big changes were seen in this area during the summer survey. The amount of water is relatively good and for the time being ensures good bird populations and general habitat. The plant cover and reedbeds were in good condition as well.



Plate 23: Site Photo of Naggara in summer

Observations in winter were on 11/1/2009 and in summer were on 29/5/2009:

Winter-Birds: 33 species, 2425 individuals. The most important species were:

Greater Spotted Eagle *Aquila clanga* 3, Caspian Tern *Hydroprogne [Sterna] caspia* 8, Slender-billed Gull *Larus genei* 170, Black-tailed Godwit *Limosa limosa* 80, Little Grebe *Tachybaptus ruficollis* 30, Iraq Babbler *Turdoides altirostris* 6, White-tailed Lapwing *Vanellus leucurus* 8, Little Egret *Egretta garzetta*, Citrine Wagtail *Motacillia citreola*, Long-legged Buzzard *Buteo rufinus*, Squacco Heron *Ardeola ralloides*, Great Cormorant *Phalacrocorax carbo* 80, Whiskered Tern *Chlidonias hybrida* 800, Desert Wheatear *Oenanthe deserti*, Black-tailed Godwit *Limosa limosa*, and Iraq Babbler *Turdoides altirostris*.

Summer-Birds: 19 Species, 247 individuals. The species observed were:

Blue-cheeked Bee-eater *Merops superciliosus persicus* 3, Pied Kingfisher *Ceryle rudis* 15 (resident breeder), Squacco Heron *Ardeola ralloides* 95 (regular breeder), Black Francolin *Francolinus francolinus* 1, Common Kingfisher *Alcedo atthis* 1, Collared Pratincole *Glareola pratincola* 2, Black winged Stilt *Himantopus ostralegus* 15, Crested Lark *Galerida cristata* 12 (resident breeder), Little Egret *Egretta garzetta* 8 (regular breeder), Black-crowned Night Heron *Nycticorax nycticorax* 2 (regular breeder), Red-backed Shrike *Lanius collurio* 2, Iraq Babbler *Turdoides altirostris* 3, Little Tern *Sternula Sterna albifrons* 18, Sand Martin *Riparia riparia* 25, Barn Swallow *Hirundo rustica* 13, Little Ringed Plover *Charadrius dubius* 5, Common Sandpiper *Actitis hypoleucos* 1, Basra Reed Warbler *Acrocephalus griseldis* 14, and White-tailed Lapwing *Vanellus leucurus* 12.

Winter - Fish: There was considerable fishing activity in this area, with 20 boats and an estimated catch was approximately 16 kg/boat each day. The regular fishing techniques included floating gill nets (which are called locally 'Hylaa') with mesh sizes of 1 to 3cm, Seine nets with a fine mesh size (0.5 cm), fixed gill nets with mesh sizes of 2 to 4 cm and instances of electrofishing. The local fisherman told the team that some people were using poisons to kill the fish periodically as well.

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Six fish species were recorded: *Aspius vorax* (10% of the catch), *Barbus leutus* (7%), *Silurus triostegus* (6%), *Liza abu* (63%), *Carassius auratus* (14%) and *Liza spp.* (no sample).

Summer - Plants: Only one waypoint was chosen at this site. Waypoint 41 (N: 30 41 34.3 E: 47 33 41.9) was permanent marsh vegetation.

Waypoint 41: The ecological scale was rated at “3” (moderately disturbed) due to local threats including fishing, hunting and water pollution from boats. Four plant species were observed with the submerged *Ceratophyllum demersum* as the dominant species. The remaining species include *Typha domingensis*, *Phragmites australis* and *Schoenoplectus litoralis*.

The local elevation was 19 m, and the surrounding area was flat with a slope of 0° exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 20%.

Other Fauna: Indian Mongoose, *Herpestes javanicus*. Only a single animal was found close to the site.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site in winter: Greater Spotted Eagle *Aquila clanga* (GT); Caspian Tern *Hydroprogne [Sterna] caspia*; Slender-billed Gull *Larus genei*; Black-tailed Godwit *Limosa limosa* (GT); Little Grebe *Tachybaptus ruficollis* (EndR, CC); Iraq Babbler *Turdoides altirostris* (End, CC); and White-tailed Lapwing *Vanellus leucurus* (CC). And in summer: Black Francolin *Francolinus francolinus* (NT), Iraq Babbler *Turdoides altirostris* (End, CC), Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC).

Fish: No economically important fish species were found.

Plants: There were no species of conservation significance recorded for this site and all species were common.

Conservation Issues & Recommendations for the Site:

Due to hunting and obvious overfishing, we recommend working with local police to control the hunting at this area. Also, it is important to reach out to the community with regular educational programs that raise environmental awareness and promote responsibility regarding the key and important species.

KBA HA17 – Shilaychiya Marsh - (IBA 039) – Surveyed in Winter and Summer 2009

Site Description: This area belongs to Basrah Governorate; it is part of the eastern Al-Hammar located southeast of the Rumaila oil fields. The Main Outfall Draing (MOD) runs through the area and the main road parallels the MOD along a high embankment. There is very little water south of the MOD save for scattered ponds with reed cover. The plant cover at the area is mainly the reed *Phragmites* and stretches of semi-arid plants. There is some grazing and hunting in the area. The southern area below the road and MOD is subject to subtidal action.

The water level and plant cover were good throughout the site. The quality of water, as we learned from the locals, has improved and this may be due to the decreasing flow of the MOD to the Gulf via the Khor Al-Zubayr canal caused by the closing of the Khor Al Zubayr regulator. This is the main regulator on the Shatt Al Basrah Canal north of Khor Al Zubayr and it regulates the water level between Khor Al Zubayr (where the tidal effect is very active) and the lower parts of Al-Hammar. Recently (during the summer survey time), they decided to close this regulator to keep the water at a good level in Shilaychiya Marsh.

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Plate 24: Site Photo of Shilaychiya Marsh in summer

Observations in winter were made on 11/1/2009 and in summer on 29/5/2009:

Winter- Birds: 30 species, 1549 individuals. The most important species were:

Pin-tailed Sandgrouse *Pterocles alchata*, Iraq Babbler *Turdoides altirostris*, Northern Shoveler *Anas chrypeata*, Gadwall *Anas strepera* Pygmy Cormorant *Phalacrocorax pygmaeus* 20, Great Cormorant *Phalacrocorax carbo* 53, Slender-billed Gull *Larus genei* 220, Marbled Duck *Marmaronetta angustirostris* 55, and Black-tailed Godwit *Limosa limosa* 155.

Winter - Fish: There was a large reservoir produced by flood water from the MOD near Munasfa village. The water was very saline and affected by tidal activity from Khor Al-Zubayr canal, with a shallow water depth of 30-150 cm. No fishing was recorded in the winter but in summer fishing became a common activity according to the local residents. Fishing techniques included the use of fixed gill nets with a mesh size of 1 to 3 cm and floating gill nets with a mesh size of 1 to 3 cm and a notable absence of unsustainable practices such as poison or electrofishing.

Summer -Birds: 14 Species, 176 individuals. The species observed were:

Red-backed Shrike *Lanius collurio* 2, Purple Swamphen *Prophyrio prophyrio* 2 (resident breeder), Common Tern *Sterna hirundo* 5 (breeding summer visitor), Squacco Heron *Ardeola ralloides* 12 (regular breeder), Pied Kingfisher *Ceryle rudis* 8 (resident breeder), Graceful Prinia *Prinia gracilis* 60 (probable breeder), Slender-billed Gull *Larus genei* 40 (resident breeder), Little Egret *Egretta garzetta* 9 (regular breeder), Whiskered Tern *Chlidonias hybrida* 3, (breeding resident), Black-winged Stilt *Himantopus ostralegus* 7, Eurasian Collared Dove *Streptopelia decaocto* 3, Caspian Tern *Hydroprogne sterna caspia* 1, Little Ringed Plover *Charadrius dubius* 6, Kentish Plover *Charadrius alexandrinus* 25.

Plants: Only one waypoint was surveyed at this site. Waypoint 42 (N: 30 39 52.3 E: 47 30 29.4) was open water (Burga) located in the edges of the MOD (Main Outfall Drain) River.

Waypoint 42: The site was rated a “3” on the ecological scale due to water pollution by boats and the villages close to the site. Four plant species were observed in this site including the reed *Phragmites australis* as the dominant species. *Schoenoplectus litoralis* was occasionally present as an emerged species, while the two remaining species were the submerged plants *Najas minor* and *Ruppia maritima*.

The area was flat and fully exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 70%.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site:

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Slender-billed Gull *Larus genei*, Black-tailed Godwit *Limosa limosa* (GT), Marbled Duck *Marmaronetta angustirostris* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Iraq Babbler *Turdoides altirostris* (End, CC), Spur-winged Lapwing *Vanellus (Hoplopterus) spinosus*. And in summer: Purple Swamphen *Prophyrio prophyrio* (CC), and Slender-billed Gull *Larus genei* (CC).

Fish: No fish sample was obtained.

Plants: All the observed plant species were common.

Conservation Issues & Recommendations for the Site:

It is important to control the water level in this area in order to provide a stable habitat. Also, the presence of humans leads to a variety of environmental impacts. Thus, it is recommended to carry out local environmental campaigns that raise ecological awareness. It is also obvious that the water level in this area was better than before likely due to the closing of the regulator on the MOD downstream of the marsh. As a local says, “Yes, it is saline water, but better than nothing or we would have to leave our area!”

KBA HA19 – Haffar Opening 2 - (IBA 039) – Surveyed in Winter 09

Site Description: This region has been re-flooded by water newly introduced to the site in 2007 after the creation of a small waterway from the southern side of the Euphrates River into Al Hammar marshes. The main plant cover consisted of *Phragmites* with some *Typha* reedbeds scattered throughout the area. This opening is used as main passage between Euphrates River and northern Al-Hammar by boat. At the same time, it blocked entirely the unpaved motorway along the southern embankment of the Euphrates River.



Plate 25: Site Photo of Haffar in winter

Observations in winter were made on 2/1/2009 (no summer observations)

Birds: The number of bird species found in this site was 22, which makes the total count 5826 individuals, of which the most important species were:

Common Starling *Sturnus vulgaris* 5500, White Wagtail *Motacilla alba* 3, Crested Lark *Galerida cristata* 12, Barn Swallow *Hirundo rustica* 1, Caspian Tern *Hydroprogne [Sterna] caspia* 2, Pied Kingfisher *Ceryle rudis* 25, Water Pipit *Anthus spinoletta* 2, Great Cormorant *Phalacrocorax carbo* 1, Whiskered Tern *Chlidonias hybrid* 160, Eurasian Collared Dove *Streptopelia decaocto* 54, Little Egret *Egretta garzetta* 25, Eurasian Teal *Anas crecca* 7, Squacco Heron *Ardeola ralloides* 4, Marbled Duck *Marmaronetta angustirostris* 5, Glossy Ibis *Plegadis falcinellus* 8, Common Black-headed Gull *Larus*

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ridibundus 3, Green Sandpiper *Tringa ochropus*, Black-winged Stilt *Himantopus ostralegus* 2, Common Moorhen *Gallinula chloropus* 3, Western Marsh Harrier *Circus aeruginosus* 4, Little Grebe *Tachybaptus ruficollis*, and Grey Heron *Ardea cinerea*.

Fish: The fish team did not visit this site.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site:

Caspian Tern *Hydroprogne [Sterna] caspia* (CC), Marbled Duck *Marmaronetta angustirostris* (CC, GT), and Little Grebe *Tachybaptus ruficollis* (EndR, CC).

Conservation Issues & Recommendations for the Site:

This area is close to Chibaish town, and it is affected by the presence of humans for fishing, reed cutting and even bird hunting. Due to the low bird diversity of this site and the high level of disturbance, our recommendation is to continue surveying this site and continue to monitor its status because this site will be close to the National Park area. In addition, it would benefit the area to include locals in educational programs to raise their environmental awareness.

KBA HA21 – Slein (south Rumaila) - (IBA 039) – Surveyed in Winter and Summer 2009

Site Description: This site was added for the first time to the KBA plan during the Winter 2009 surveys. It was formerly called Ghattar but locals refer to the area as Slein (South Rumaila. HA21 is located at the eastern part of Hammar about 30 km west of Shileichiya (HA17). The area is cut by the MOD that runs eastward to join the Basrah Canal in Western Basrah. It was added to the KBA sites because it regularly harbors considerable numbers of wintering waterfowl in addition to endangered species like the Marbled Duck. A road and embankment runs parallel to the MOD at this site. The main road was recently paved to link Shileichiya with the Rumaila Oilfields. A large number of waterfowl were observed but most of them were unidentifiable due to the vast the distances involved and the inaccessibility of the southern margins on the marsh north of the main road. The water level in the area looks shallow but there are still scattered reedbeds. The area (mainly south of the MOD) is affected by tidal effects that might bring various kinds of fish and attracts birds to the area.

This area faces the serious threat of cut-and-dry activities that have been implemented by the oil company that occupies the area. Huge areas are being surrounded by embankments and dried out to increase the area of the oil fields that belongs to Rumaila Oil Company. Therefore, large areas of suitable habitats for waterfowl are being destroyed and turned into oil extraction areas that drain their pollutants to the surrounding marsh areas.

The northern part of Slein (formerly Al-Ghattar) was fully covered by the water from the MOD and covered by scattered reedbeds, while parts of the southern section of the site were suffering from obvious dryness and consisted of vast but shallow open-water patches that run along the south side of the road. The most noticeable threats at the area were the oil industry expansion and overhunting especially during the breeding season.

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Plate 26: Site Photo of Slein Marshes in summer

Observations in winter were made on 15/1/2009 and in summer on 29/5/2009:

Winter - Birds: 38 Species, 7641 individuals. The most important species were:

Spanish Sparrow *Passer hispaniolensis* 27, Western White Stork *Ciconia ciconia* 280, Red-wattled lapwing *Vanellus (Hoplopterus) indicus* 8 Pied Avocet *Recurvirostra avosetta* 32, Black-winged Stilt *Himantopus ostralegus* 12, Western Marsh Harrier *Circus aeruginosus* 6, Red-crested Pochard *Netta rufina* 76, Great White Pelican *Pelecanus onocrotalus* 21, White tailed Lapwing *Vanellus leucurus* 6, Great White Egret *Ardea [Egretta] alba* 40, Great Cormorant *Phalacrocorax carbo* 510, Greater Flamingo *Phoenicopterus [ruber] roseus* 1120, Common Shelduck *Tadorna tadorna* 345, Gadwall *Anas strepera* 520, Mallard *Anas platyrhynchos* 60, Northern Shoveler *Anas chrypeata* 520, Eurasian Teal *Anas crecca* 960, Marbled Duck *Marmaronetta angustirostris* 1660, Water Pipit *Anthus spinoletta* 12, Pied Kingfisher *Ceryle rudis* 35, Little Egret *Egretta garzetta* 65, Graceful Prinia *Prinia gracilis* 6, Little Ringed Plover *Charadrius dubius* 13, White-cheeked Bulbul *Pycnonotus leucogenys* 3, Eurasian Stonechat *Saxicola torquatus (S. rubicola)* 2, Barn Swallow *Hirundo rustica* 2, Common Swift *Apus apus* 4, Eurasian Collared Dove *Streptopelia decaoct* 2, Whiskered Tern *Chlidonias hybrid* 62, Slender-billed Gull *Larus genei* 850, Little Stint *Calidris minuta* 46, Common Greenshank *Tringa nebularia* 4, Common Redshank *Tringa tetanus* 9, Black-tailed Godwit *Limosa limosa* 205, Kentish Plover *Charadrius alexandrinus* 69, and White Wagtail *Motacilla alba* 28.

Summer - Birds: 23 Species, 3653 individuals. The species observed were:

Marbled Duck *Marmaronetta angustirostris* 22, Little Grebe *Tachybaptus ruficollis* 31 (resident breeder), Little Bittern *Ixobrychus minutus* 8, White-tailed Lapwing *Vanellus leucurus* 11, Crested Lark *Galerida cristata* 16 (resident breeder), Iraq Babbler *Turdoides altirostris* 19, Slender-billed Gull *Larus genei* 1370 (resident breeder), Common Moorhen *Gallinula chloropus* 4, Graceful Prinia *Prinia gracilis* 13 (probable breeder), Basra Reed Warbler *Acrocephalus griseldis* 5, Kentish Plover *Charadrius alexandrinus* 530, Ferruginous Duck *Aythya nyroca* 24, Pied Kingfisher *Ceryle rudis* 6 (resident breeder), Caspian Tern *Hydroprogne Sterna caspia* 5, Sand Martin *Riparia riparia* 3, Blue-cheeked Bee-eater *Merops superciliosus persicus* 3, in addition to 332 individuals of various unidentified Duck species.

Winter - Fish: Not visited by the Fish team

Plants: Only one waypoint was visited here. Waypoint 43 (N: 30 42 54.8 E: 47 13 07.3) was a wetland that is part of the MOD.

Waypoint 43: This site was rated a “3” (moderately disturbed) on the ecological scale. The main threats to this site were road construction and oil pollution. Three plant species were observed

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on the site including the reed *Phragmites australis* as the dominant plant, *Tamarix* sp. (frequent) while at the edges of this wetland was found *Salicornia* sp. (abundant).

This waypoint's elevation was 4 m and the area was flat with a slope 0° and exposure in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated areas was 20%.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site: Slender-billed Gull *Larus genei* (CC), Black-tailed Godwit *Limosa limosa* (CC, GT), Marbled Duck *Marmaronetta angustirostris* (CC, GT), Red-crested Pochard *Netta rufina* (CC), Great White Pelican *Pelecanus onocrotalus* (CC), Greater Flamingo *Phoenicopterus [ruber] roseus* (CC), White-cheeked Bulbul *Pycnonotus leucogenys* (CC), and White-tailed Lapwing *Vanellus leucurus* (CC).

And in summer: Marbled Duck *Marmaronetta angustirostris*, Little Grebe *Tachybaptus ruficollis*, Iraq Babbler *Turdoides altirostris* (End & CC), Slender-billed Gull *Larus genei*, Basra Reed Warbler *Acrocephalus griseldis* (GT, End & CC), Ferruginous Duck *Aythya nyroca* (CC), Caspian Tern *Hydroprogne Sterna caspia* (CC).

Fish: No important fish species.

Plants: There are some references referring to the species *Tamarix* sp. as a native species in Iraq (Al- Ani et al, 1971; Habib et al, 1971).

Conservation Issues & Recommendations for the Site:

The most urgent action that should be taken is stopping the construction of embankments and checking the expansion of the oil fields in the area. Also, based on the huge numbers of waterfowl seen at the area, it would be advisable to design some kind of ecologically protected area in cooperation with the local police and the Sheikhs of the region. Also, the locals near this site require educational programs with a focus on habitat destruction and bird conservation.

KBA HA22 – Abu Hedeeda - (IBA 039) – Surveyed in Summer 09

Site Description: Hor Abu Hedeeda (HM22) is a new site that was just added to the KBA list. It lies at the center of the western half of Hammar just southeast of the old KBA site "Al-Teena" (HA1). The core coordinates for this new site are N30 48 10.9, E46 48 49.1. It is a vast marsh with wide open waters with dense reedbeds and sedge that forms places suitable for feeding and sheltering large numbers of waterfowl. The most notable characteristic of this site is the absence of any human disturbance, as there are few residents near the site and no strange occurrences were observed in the heart of this vast marsh.

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Plate 27: Site Photo of Abu Hedeeda in summer

Observations in summer only were made on 5/26/2009:

Summer -Birds: 21 Species, 2386 individuals. The species observed were:

Birds: Little Grebe *Tachybaptus ruficollis* 9 (resident breeder), Pygmy Cormorant *Phalacrocorax pygmaeus* 18 (resident breeder), Little Bittern *Ixobrychus minutus* 13, Squacco Heron *Ardeola ralloides* 17 (regular breeder), Black crowned Night Heron *Nycticorax nycticorax* 27, Purple Heron *Ardea purpurea* 3 (might breed), Great White Egret *Ardea egretta alba* 14, Little Egret *Egretta garzetta* 48 (regular breeder), Grey Heron *Ardea cinerea* 2, Marbled Duck *Marmaronetta angustirostris* 585, Red-crested Pochard *Netta rufina* 460 which were observed with their chicks of different stages of development (this is the first record of the breeding of this bird in Iraq), Ferruginous Duck *Aythya nyroca* 1100 (same as Red-crested Pochard, it is the first record of breeding of this bird in Iraq). Common Moorhen *Gallinula chloropus* 9, Common Chiffchaff *Phylloscopus collybita* 2, Basra Reed Warbler *Acrocephalus griseldis* 28, Whiskered Tern *Chlidonias hybrida* 2 (breeding resident), Little Tern *Sternula sterna albifrons* 5, Common Tern *Sterna hirundo* 3 (breeding summer visitor), Caspian Tern *Hydroprogne sterna caspia* 1, Black-tailed Godwit *Limosa limosa* 29, and Purple Swamphen *Prophyrio prophyrio* 11 (resident breeder).

Plant: As this was the first visit to the site, for security reasons the botany team did not assess the site but hopes to in the future.

Other Fauna: A few individuals of Wild Boar, *Sus scrofa*, were seen; also some tracks of an otter were found. In addition, many unidentified snakes (up to 20) of which some exceeded a meter long were found in this area.

Conservation Significance:

Birds: Little Grebe *Tachybaptus ruficollis* (EndR, CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Marbled Duck *Marmaronetta angustirostris* (CC), Red-crested Pochard *Netta rufina* (CC), Ferruginous Duck *Aythya nyroca* (CC), Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), Black-tailed Godwit *Limosa limosa* (CC), and Purple Swamphen *Prophyrio prophyrio* (CC).

Conservation Issues & Recommendations for the Site:

During the first visit to this site, which appeared to have no human disturbance, we observed that the water was running out of the marsh towards the canals. Also, based on the old tracks of the previous water-level, we concluded that this important area suffers from serious but continuous shortages of water, and if this continuing, it means serious (if not entire) damage for this very important habitat. More attention should be given to direct the efforts towards supplying the area with more water that ensures sustainability of the life in general, and to save the

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endangered and breeding species at this site. This might be possible through liaising and following up with MoE and Ministry of Water Resources in addition to the local stakeholders.

KBA HA23 – Abu 'Ajaj (IBA 039) – Surveyed in Summer 09

Site Description: Abu 'Ajaj (HM23) is a new site that was added to the KBA list during the summer survey. It is a typical marsh that has emergent and submerged plants and much open water. The plant cover of the area consists mostly of *phragmites* and *typha* in addition to compacted beds of sedge. This site lies north of the previous site (HA22). The core coordinates of this new site are N30 52 18.8, E46 48 11.7.



Plate 28: Site Photo of Abu Ajaj in summer

Observations in summer were made on 5/26/2009:

Summer -Birds: 21 Species, 2386 individuals. The species observed were:

Birds: Little Grebe *Tachybaptus ruficollis* 18 (resident breeder), Pygmy Cormorant *Phalacrocorax pygmaeus* 63 (resident breeder), Little Bittern *Ixobrychus minutus* 52, Black-crowned Night Heron *Nycticorax nycticorax* 14 (regular breeder), Squacco Heron *Ardeola ralloides* 29 (regular breeder), Cattle Egret *Bubulcus ibis* 17 (regular breeder), Purple Heron *Ardea purpurea* 19 (might breed), Little Egret *Egretta garzetta* 345 (regular breeder), Grey Heron *Ardea cinerea* 12, Glossy Ibis *Plegadis falcinellus* 31 (might breed), Ruddy Shelduck *Tadorna ferruginea* 4, Northern Shoveler *Anas chipeata* 2, Marbled Duck *Marmaronetta angustirostris* 55, Red-crested Pochard *Netta rufina* 31, Ferruginous Duck *Aythya nyroca* 26, Graceful Prinia *Prinia gracilis* 8 (probable breeder), Basra Reed Warbler *Acrocephalus griseldis* 19, Little Tern *Sternula sterna albifrons* 7, Common Tern *Sterna hirundo* 5 (breeding summer visitor), Whiskered Tern *Chlidonias hybrida* 13 (breeding resident), Slender-billed Gull *Larus genei* 9 (resident breeder), Iraq Babbler *Turdoides altirostris* 3, Purple Swamphen *Prophyrio prophyrio* 41 (resident breeder), Eurasian Collared Dove *Streptopelia decaocto* 7, Barn Swallow *Hirundo rustica* 40, and Daurian Isabelline Shrike *Lanius isabellinus isabellinus* 1.

Plant: See HA22.

Other Fauna: some unidentified snakes were found and one Wild Boar *Sus scrofa*.

Conservation Significance:

Birds: Little Grebe *Tachybaptus ruficollis* (EndR, CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Marbled Duck *Marmaronetta angustirostris* (CC), Red-crested Pochard *Netta rufina* (CC), Ferruginous Duck *Aythya nyroca* (GT), Graceful Prinia *Prinia gracilis* (CC), Basra Reed Warbler

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Acrocephalus griseldis (GT, End, CC), Slender-billed Gull *Larus genei* (CC), Iraq Babbler *Turdoides allirostris* (End, CC), and Purple Swamphen *Prophyrio prophyrio* (CC).

Conservation Issues & Recommendations for the Site:

Similar to the Abu-Hedeeda area above as both sites are similar habitats with similar conditions.

KBA SM4 - Central-south Sinnaaf & KBA SM5 - Western Sinnaaf Area (IBA 030)

Site Description: Evans described this area as part of a large complex of marshes on the east of the River Tigris, to the north of Hawizeh Marsh and listed many globally, regionally and restricted range species that utilized the area. In winter 2009, both sites were surveyed.

KBA SM4 Sinnaaf Area, Central-south - (IBA 030) – Surveyed in Winter and Summer 2009

Site Description: This seasonal marsh was receiving water from the highlands northeast of Amarah city that comes from the Iranian mountains across the border. Because of the lack of water, most of this area was turned into agricultural farms. Still, there are some scattered ponds which appear to be from groundwater sources that do not exceed one hectare. These attract a small number of waders in addition to the birds that normally occur over dry areas and farms.

Some parts of the area were turned into agricultural farms and some parts between the embankment and the main road of Amara-Msharah were turned into fish pools. The entire area was dry during this visit save for the fish pools and the newly-irrigated fields.



Plate 29: Site Photo of Central-south Sinnaaf in summer

Observations in winter were made on 24/1/2009 and in summer on 31/5/2009:

Winter -Birds: 9 Species, 166 individuals. The most important species were:

Eurasian Skylark *Alauda arvensis*, Crested Lark *Galerida cristata*, Spanish Sparrow *Passer hispaniolensis*, Great Black-headed Gull *Larus ichthyaetus*, Pied Avocet *Recurvirostra avosetta*, Water Pipit *Anthus spinoletta*, and Whiskered Tern *Chlidonias hybrida*.

Summer -Birds: 9 Species, 183 individuals. The species observed were:

Collared Pratincole *Glareola pratincola* 65, Kentish Plover *Charadrius alexandrinus* 18, Little Ringed Plover *Charadrius dubius* 2, Crested Lark *Galerida cristata* 8 (resident breeder), Sand Martin *Riparia*

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riparia 21, Barn Swallow *Hirundo rustica* 4, Red-wattled lapwing *Vanellus boplopterus indicus* 2, and White-tailed Lapwing *Vanellus leucurus* 7.

Winter- Fish: Shallow bodies of water surrounded by small man-made embankments near the main road of Ammarh Musharah are fed by sewage of Ammarh city as evidenced by bad odors and water color. Also, there are two pump stations which push sewage toward the old marsh. No fishing or fish exist in the site.

Summer - Plants: Only one waypoint was visited here. Waypoint 46 (N: 31 51 41.8 E: 47 17 38.1) was dry land dominated by herbs.

Waypoint 46: This site was rated a “3” (moderately disturbed) on the ecological scale as there are agricultural fields and significant water loss in the site. Six plant species were observed, including as the most prevalent species *Tamarix* sp. and *Aeluropus lagapoides*. The remainder included *Cressa cretica*, *Suaeda* sp., *Alhagi graecorum* and *Rumex* sp.

The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 50%.

Conservation Significance:

Birds: No birds of conservation concern were observed during winter and summer surveys.

Plants: *Aeluropus lagapoides* is native in Iraq (Townsend C. a., Flora of Iraq. Vol. 9., 1968, p420) and some references refer to *Cressa critica* as native plants in Iraq (Al- Ani et al, 1971; Habib et al, 1971).

Conservation Issues & Recommendations for the Site:

At the present time, this site has no conservational importance with regard to bird life because of the drought over the recent years. However, it might recover its original status as an IBA site with better rainfalls in the higher, eastern parts of northeast Missan that will flow directly to this site. Also, it is not an important area for plant diversity due to its agriculture cultivation.

KBA SM5 - Western Sinnaaf - (IBA 030) – Surveyed in Winter and Summer 2009

Site Description: This area used to receive the water from the highlands northeast of Amarah city. Currently, due to the lack of water areas of shallow open water with no vegetation sometimes form during winter. In addition, this site receives water from the sewage pipes from Amarah city, which might remain year-round. In summer and winter, the water attracts large populations of various bird species, mostly waders and waterbirds. This area is a tribally protected by hunters who are netting the wintering waterfowl and flamingos each year. Large flocks of Flamingo and other duck species were observed during the Winter 2009 survey.

The sewage that is consistently pumped into the area creates permanent shallow ponds without plant cover, which is obvious throughout the year. This created suitable habitat for a huge numbers of waders. However, overhunting is still the main threat affects birds at this site and water quality of the site, since the water that is available is from sewage, is likely also a concern for long-term health of wild species.

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Plate 30: Site Photo of Western Sannaaf in summer

Observations in winter were made on 24/1/2009 and in summer on 31/5/2009:

Winter- Birds: 17 species, 13178 individuals. The most important species were:

Greylag Goose *Anser anser*, Greater Flamingo *Phoenicopterus [ruber] roseus* 2100, Northern Shoveler *Anas chrypeata* 6000, Great Black-headed Gull *Larus ichthyaetus*, Slender-billed Gull *Larus genei*, Desert Wheatear *Oenanthe deserti*, Eurasian Wigeon *Anas penelope*, Eurasian Teal *Anas crecca*, Gadwall *Anas strepera*, White Wagtail *Motacilla alba*, and Black-tailed Godwit *Limosa limosa* 24.

Summer -Birds: 20 Species, 5997 individuals. The species observed were:

Black-winged Stilt *Himantopus ostralegus* 1750, Slender-billed Gull *Larus genei* 2900 (resident breeder), Greater Flamingo *Phoenicopterus ruber roseus* 90, Little Stint *Calidris minuta* 85, Western White Stork *Ciconia ciconia* 3, Crested Lark *Galerida cristata* 6 (resident breeder), Little Ringed Plover *Charadrius dubius* 850, Red-wattled lapwing *Vanellus boplopterus indicus* 18, Spur-winged Lapwing *Vanellus boplopterus spinosus* 9 (resident breeder), White-tailed Lapwing *Vanellus leucurus* 5, Pied Avocet *Recurvirostra avosetta* 48, Red-necked Phalarope *Phalaropus lobatus* 8, Curlew Sandpiper *Calidris ferruginea* 6, Terek Sandpiper *Xenus cinerea* 3, Gull-billed Tern *Gelochelidon sterna nilotica* 7, Little Egret *Egretta garzetta* 22 (regular breeder), Pin-tailed Sandgrouse *Pterocles alchata* 24 (crossing over the area), Kentish Plover *Charadrius alexandrinus* 130 Sand Martin *Riparia riparia* 18, and Barn Swallow *Hirundo rustica* 15.

Winter- Fish: The site includes a shallow body of water surrounded by a small man-made embankment near the main road to Amarah-Musharah. The site is fed by sewage from Amarah city as evidenced by bad odors and the water color. Also, there are two large pump stations which divert sewage into the marsh. No fishing or fish appeared to be present.

Plants: Only one waypoint was surveyed. Waypoint 47 (N: 31 53 14.3 E: 47 13 06.9) was seasonal marsh (dry in the summer).

Waypoint 47: The site was rated a “4” on the ecological scale due to the large amounts of sewage in the site. Four terrestrial plant species were present along the edge of the body of water which include *Aeluropus lagapoides* as the dominant species as well as *Suaeda* sp., *Tamarix* sp. and *Alhagi graecorum*. There were no aquatic plants observed, possibly due to the high pollution levels.

The local elevation was 3 m and the area was flat with a slope of 0° exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 80%.

Conservation Significance:

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Birds: The following conservation concern (CC) species were noted at the site in winter: Slender-billed Gull *Larus genei*, Black-tailed Godwit *Limosa limosa* (GT), and Greater Flamingo *Phoenicopterus [ruber] roseus* (CC). And in summer: Slender-billed Gull *Larus genei* (CC), Greater Flamingo *Phoenicopterus ruber roseus* (CC), and Pin-tailed Sandgrouse *Pterocles alchata* (CC).

Plants: *Aeluropus lagapoides* is native in Iraq. There is no information in the Flora of Iraq about the status of *Suaeda* sp. because they are in the unpublished section of the Flora of Iraq, but there are some references to species of *Suaeda* as being native to Iraq (Al- Ani *et al*, 1971; Habib *et al*, 1971).

Conservation Issues & Recommendations for the Site:

Based on our observations in winter 2009, this site is important to the regional conservation effort. We strongly recommend continuing to survey this site on a regular basis. Also, the local inhabitants who manage the site for the purpose of hunting should be targeted with educational campaigns and discussions on the sustainable management of the site for both hunting and species protection. Special efforts should be done to communicate with the local police to properly protect the area particularly during winter when thousands of flamingos and other waterfowl arrive at the site. Lastly, although the sewage water has helped to attract many birds and likely other species to the area, but there are other problems resulting from untreated sewage water being dumped on the site that may cause long-term health effect to these species and to people consuming hunted species. These issues require further investigation and mitigation.

KBA SA1-5 - Shatt Al Arab Marshes (IBA 040)

Site Description: Evan (1994) described marshes lining approximately 165 km of the Shatt Al Arab River primarily between Qurnah and Basrah and including “Haur Al Shaibah, Qarmat Ali, Khamisiyah” and “Shafi”. Globally threatened bird species that Evans listed were *Pelecanus crispus*, *Marmaronetta angustirostris* (which used the area for breeding) and *Aquila heliaca*. A restricted range summer visitor was *Acrocephalus griseldis*. And the area also supported 1% or more of the world population of *Larus ridibundus*. Evans described a research station set up by the University of Basrah at Shafi wetland, but this did not survive the Iran/Iraq war. At a site review meeting in November 2007, Sites SA1 and SA4 were recommended for continuing IBA monitoring and these were surveyed in winter and summer but a brief site description is provided on all sites. There are a number of shipwrecked boats particularly in the lower end of the Shatt Al Arab.

KBA SA1 – Euphrates & Tigris Junction - (IBA 040) – Surveyed in Winter and Summer 2009

Site Description: This area consists of the junction of Euphrates and Tigris rivers near Garmat-Ali town. It includes date-palm orchards and some reed and typha plant cover along the edges of the rivers. No large populations of birds used to be observed in this area because it is highly disturbed by boats and human activity in addition to the houses and farms around the site. There is a large power station that uses oil to produce electricity close to the site called Al-Najeebiya.

The area suffers from high environmental impact due to the large amount of water pollution and garbage in the area. Also, the site is full of crossing fish nets, indicative that overfishing may be taking place.

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Plate 31: Site Photo of Euphrates and Tigris Junction in summer

Observations in winter were made on 14/1/2009 and in summer on 30/5/2009:

Winter - Birds: 15 species, 96 individuals. The most important species were:

Slender-billed Gull *Larus genei*, Caspian Tern *Hydroprogne [Sterna] caspia*, Red-wattled lapwing *Vanellus (Hoplopterus) indicus*, Common Swift *Apus apus*, White-cheeked Bulbul *Pycnonotus leucogenys*, Iraq Babbler *Turdoides altirostris*, Hooded Crow *Corvus[corone] cornix*, Little Egret *Egretta garzetta*, and Little Grebe *Tachybaptus ruficollis*.

Summer -Birds: 6 Species, 53 individuals. The species observed were:

Common Tern *Sterna hirundo* 17 (breeding summer visitor), Eurasian Collared Dove *Streptopelia decaocto* 4 , Common Woodpigeon *Columba palumbus* 2, Sand Martin *Riparia riparia* 15, Barn Swallow *Hirundo rustica* 7, and Slender-billed Gull *Larus genei* 8 (resident breeder).

Winter- Fish: There is high fishing in area; about 50 boats were seen active in the area. The daily catch was approximately 12Kg/boat per day, and the local fishing techniques include floating gill nets with mesh sizes ranging from 1-3 cm, seine nets with a fine mesh size (0.5cm) as well as electrofishing and the use of poison. Also, the surrounding urban areas result in tremendous water pollution and garbage floating in the water.

Five fish species were recorded in the local fishermen's catch: *Aspius vorax* (15%), *Barbus keersin* (9%), *B. luetus* (13%), *Carassius auratus* (16%) and *Liza abu* (47%). But the fishermen told us during interview that there are five fish species which occasionally occur in the catch including *Liza subviridis*, *Cyprinus carpio*, *Heteropneustes fossilis*, *Mastacembelus mastacembelus*, *Silurus triostegus*.

Summer- Plants: Only one waypoint was visited at this site. Waypoint 45 (N: 30 34 55.4 E: 47 46 16.7) was along the junction of the Euphrates & Tigris Rivers

Waypoint 45: The site was rated a rated a "4" on the ecological scale because the site has many threats such as water pollution, trash and road construction. Seven species were recorded: the dominant species was *Phragmites australis* and *Typha domingensis*, while *Phoenix dactylifera* was cultivated around the site. The remaining plants were submerged species including *Ceratophyllum demersum*, *Potamogeton crispus*, *Potamogeton lucens* and *Hydrilla verticillata*.

The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 50%.

Conservation Significance:

Birds: Conservation Concern species seen in winter were: Hooded Crow *Corvus[corone] cornix* (En, CC), Caspian Tern *Hydroprogne [Sterna] caspia* (CC), Slender-billed Gull *Larus genei* (CC), White-

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cheeked Bulbul *Pycnonotus leucogenys* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), and Iraq Babbler *Turdoides altirostris* (CC). And in summer: Slender-billed Gull *Larus genei* (CC).

Fish: *Barbus kersin*, which is extinct in all the Southern and Central Iraqi sites were present in this site, possibly due to additional water coming from Iranian rivers which connect to the Shatt Al-Arab River. Thus, this site is particularly important as a mixing area between Iraqi and Iranian water sources, and is affected by tidal movement.

Plants: *Hydrilla verticillata* is not mentioned in Flora of Iraq and may be a recent arrival in Iraq. However, it is a common sight in the marshes according to our observations.

Conservation Issues & Recommendations for the Site:

A large amount of septic and sewage discharge enters this site from the surrounded area in addition to pollution from motor-boats. Also, Al-Najeebiya Power Station discharges hot water into the river. Consequently, it is important to engage local government officials and other stakeholders in a critical dialogue concerning the future of this important site and finding ways to restore it. Also some discussions and research should be conducted with fishermen to determine what is the sustainable catch and enact rules to regulate the fishing in the area.

KBA SA4 - Ras Al Beesha - (IBA 040) – Surveyed in Winter and Summer 2009

Site Description: This site is located along the coastline in the southernmost part of Iraq near the end of the Shatt Al-Arab River. It is along a channel to the sea, but in 2007 work was begun to dredge the channel and by the winter 2009 survey much of the previously inundated area was now dry or drying. As a result, during the winter survey there was little water in the tidal wetlands of Ras-Al-Beesha and some of the former wetland at the site was dried out and has negatively impacted fish and wildlife populations. Locals at the site indicate that this is being done for development and investment projects. The area is covered with thick and inaccessible reedbeds. The height of the reeds ranges between 2-3 m or higher in some areas. Some new embankments and road construction has been carried out in the area. These new developments include paving the new network of roads in the area, a considerable improvement over the former dirt roads. A number of bird hunters were found hunting within the reedbeds, and there is some low-scale grazing in the site. Apparently, the drainage of the area noticeably affected the bird population in the area.

Due to the creation of some new dirt roads in the area, it was not possible for the team to reach the original "Ras Al-Beesha" KBA point (SA4). An alternative point was created not far away from the original one, and has been designated the permanent KBA for future surveys in this area (N29 55 31.4, E48 35 28.9). The new network of roads at the site disfigured the natural habitat in Fao wetlands and turned many scattered ponds and marshes and even reedbeds into dry areas.

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Plate 32: Site Photo of Ras Al Beesha in summer

Observations in winter were made on 12/1/2009 and in summer on 28/5/2009:

Winter - Birds: 20 species, 127 individuals. The most important species were:

Iraq Babbler *Turdoides altirostris*, Little Grebe *Tachybaptus ruficollis*, Hooded Crow *Corvus[corone] cornix*, Kentish Plover *Charadrius alexandrinus*, Grey Heron *Ardea cinerea*, Desert Wheatear *Oenanthe deserti*, Caspian Tern *Hydroprogne [Sterna] caspia*, and Gull-billed Tern *Gelochelidon [Sterna] nilotica*.

Summer -Birds: 19 Species, 186 individuals. The species observed were:

Little Tern *Sternula Sterna albifrons* 8, Black winged Stilt *Himantopus ostralegu* 5, Hooded Crow *Corvus scorone cornix* 2 (resident breeder), Pied Kingfisher *Ceryle rudis* 3 (resident breeder), Iraq Babbler *Turdoides altirostris* 12, White-cheeked Bulbul *Pycnonotus leucogenys* 3, Red-wattled lapwing *Vanellus Hoplopterus indicus* 2, Graceful Prinia *Prinia gracilis* 18 (probable breeder), Red-backed Shrike *Lanius collurio* 2, Slender-billed Gull *Larus genei* 95 (resident breeder), Western Reef Heron *Egretta gularis* 2, Gull-billed Tern *Gelochelidon Sterna nilotica* 8, Kentish Plover *Charadrius alexandrinus* 2, Little Ringed Plover *Charadrius dubius* 1, Squacco Heron *Ardeola ralloides* 1, Eurasian Collared Dove *Streptopelia decaocto* 2, Barn Swallow *Hirundo rustica* 7, and Caspian Tern *Hydroprogne Sterna caspia* 1.

Winter - Fish: Just a few locals were seen fishing in the channel, while fishing in the Gulf is still year-round as there is a fishing landing site nearby. The team visited the site on the day after the 10th of Muharam holiday so many fishermen had already gone to sea that morning. Fish samples were obtained by from a local market in Fao, 3 km away and represent fish from the Gulf as opposed to this specific site.

Nine fish species has been observed: *Liza subviridis* (30% from the total catch), *L. cephalus* (10%), *Trachinotus mookalee* (10%), *Otolithes ruber* (10%), *Johnius belengerii* (10%), *Tenualosa ilisha* (15%), *Ilisha elongate* (5%), *Scomberomorus commerson* (5%), and *Siliago sibama* (5%).

Summer- Plants: One waypoint was visited at this site. Waypoint 40 (N: 29 55 44.8 E: 48 55 41.2) was a wetland on the edge of the Shatt Al-Arab effected by the tide.

Waypoint 40: The site was rated a “2” on the ecological scale and the site remains nearly undisturbed for the time being, although in the past this area represented a war zone. Four plant species were observed with the reed *Phragmites australis* as the dominant species, while *Tamarix sp.* (Occasional) *Capparis spinosa* and *Aster tripolium* (frequent) were seen growing at the edges of this wetland.

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The local elevation was 3 m, the area was flat with a slope of 0° exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 30%.

Conservation Significance:

Birds: The following conservation significance species were noted at the site in winter: Hooded Crow *Corvus [corone] cornix* (End, CC), Caspian Tern *Hydroprogne [Sterna] caspia* (CC), Slender-billed Gull *Larus genei* (CC), Little Grebe *Tachybaptus ruficollis* (End,CC), and Iraq Babbler *Turdoides altirostris* (End,CC). And in summer: Hooded Crow *Corvus scorone cornix* (End, CC), Iraq Babbler *Turdoides altirostris* (End,CC), Slender-billed Gull *Larus genei* (CC), and Caspian Tern *Hydroprogne Sterna caspia* (CC).

Fish: Fao (Ras Al Beesha) is an estuary where fresh water from the Shatt Al Arab mixes with sea water. In this area, highly salt-tolerant but unique species of fish could be found, which are adapted to living in habitats with rapidly changing salinity levels due to tidal action.

Plants: No plants of conservation significance were recorded here.

Conservation Issues & Recommendations for the Site:

This site represents an important spawning ground and nursery for many migratory fish but there is little environment management and extensive pollution coming from oil refineries and shipping, which have negative impacts on the area. Also, during the winter survey, construction was underway to create a paved asphalt roadway, and thus filling in and destroying some marshes along the road's path. Road building guidelines should avoid and mitigate such actions.

Future surveys in this area (and others) should take into account the fishing schedule along with holidays so that direct assessments can be done with local fishermen.

KZ1-5 - Khor Az Zubayr (IBA 041)

Site Description: Evans described this site as a tidal inlet with intertidal mudflats at the head of the Gulf and approximately 40 km southeast of Basrah. This area was heavily impacted by the Iran/Iraq war, which as Evans stated, led to the construction of the Shatt Al Basrah Canal that connected to the eastern edge of the Hammar Marshes. There are four KZ sites in the KBA monitoring program. All are described here but only Khor Az Zubayr Canal (KZ2) and Hachaam Areas (KZ4) were surveyed in 20008. There are a number of shipwrecks either partially submerged or completely underwater.

KBA KZ3 – Khor Az Zubayr Canal/Kanat Khor Az-Zubayr - (IBA 041) – Surveyed in Winter 2009

Site Description: This area is located in southern Basra close to the Kuwaiti border. It is a mudflat along an artificial canal subject to the tidal effect which resulted in the surrounding muddy terrain. There are some water channels over the area where the water runs through during the tide, and when the water leave these canals it turned into very soft mud. The area is affected by oil pollution which caused continuous degradation of plant life throughout the area which used to be covered by water. No bird hunting was observed at the area, it is under the protection of the Iraqi Army near the border. The area can be reached before Um-Qasr city near the northern side of Um-Qasr port.

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Plate 33: Site Photo of Khor Az Zubayr Canal in winter

Observations in winter were made on 14/1/2009 (no observations in summer):

Birds: 19 species, 184 individuals. The most important species were:

Little Ringed Plover *Charadrius dubius*, Kentish Plover *Charadrius alexandrinus* 44, Common Greenshank *Tringa nebularia*, Slender-billed Gull *Larus genei*, Eurasian Spoonbill *Platalea leucorodia*, Eurasian Skylark *Alauda arvensis*, Grey Heron *Ardea cinerea*, Western Reef Heron *Egretta gularis*, Gull-billed Tern *Gelochelidon [Sterna] nilotica*, Eurasian Curlew *Numenius arquata*, Caspian Tern *Hydroprogne [Sterna] caspia*, and Great Cormorant *Phalacrocorax carbo*.

Fish: The local fishing industry is very large, and includes 15 ships over 25 meters and 500 small boats of 15 m length, with an estimated catch of approximately 8 tons/large ship per week. No unsustainable fishing methods were used but the level of fishing should be studied further to determine if the area is being over-fished. The local fishing techniques included siene nets and trawling nets.

The team obtained samples from the market close to the site and selected samples from three different fish shops in addition to interviews with local fishermen.

Six fish species recorded: *Liza subviridis* (32% of fish for sale), *Pompus argenteus* (10%), *Otolithes ruber* (18%), *Tenuulosa ilisha* (20%), *Siliago sibama* (12%), and *Epinephelus diacanthus* (8%).

Conservation Significance:

Birds: The following conservation concern (CC) species were found in this area: Caspian Tern *Hydroprogne [Sterna] caspia* (CC), Slender-billed Gull *Larus genei* (CC), Eurasian Spoonbill *Platalea leucorodia* (CC), and Spur-winged Lapwing *Vanellus (Hoplopterus) spinosus* (CC).

Fish: This site is considered to be a spawning ground and nursing for many marine fish of the northwest Gulf.

Conservation Issues & Recommendations for the Site:

This site harbors many unique bird and fish species, but it is threatened by oil pollution. Government and local action is urgently needed to clean up the area and prevent further pollution and environmental damage from the oil shipping industry.

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KBA KZ5 - Khor Al-Zubayr, northwest (IBA 041) – Surveyed in summer 09

Site Description: Northwest Khor Az Zubayr (KZ5) is a point on the eastern side of the Upper Khor Az Zubayr Canal (N30 18 25.8, E47 49 25.0). It was created during the Summer 2009 survey as an alternative point to be surveyed regularly instead of Lower Khor Az Zubayr (KZ4) due to logistical and security conditions. The area is subject to regular, daily flooding by the tide which creates a highly unique habitat. It is covered mainly by low herbs of *Salicornia*.



Plate 34: Site Photo of Khor Al-Zubayr in summer

Observations in summer only were made on 30/5/2009:

Summer -Birds: 7 species, 16 individuals. The species observed were:

Caspian Tern *Hydroprogne sterna caspia* 2, Little Egret *Egretta garzetta* 2 (regular breeder), Crested Lark *Galerida cristata* 3 (resident breeder), Eurasian Collared Dove *Streptopelia decaocto* 3, Kentish Plover *Charadrius alexandrinus* 4, Common Tern *Sterna hirundo* 1 (breeding summer visitor), and Slender-billed Gull *Larus genei* 1.

Plants: Only one waypoint was visited at this site. Waypoint 44 (N: 30 18 25.8 E: 47 49 25) was reparation wetland with halophytic vegetation in the edges of this canal and there were no plants inside this canal due to the high level of salinity.

Waypoint 44: The site was rated a “3” (moderately disturbed) on the ecological scale and had saline water with three species halophytic vegetation, the dominant species being *Salicornia sp.*, with abundant specimens of *Phragmites australis* and some individuals of *Suaeda sp.* distributed on the edge of the canal which lacked aquatic plant life due to the high level of salinity.

The area was flat and exposure in all directions. The geology of this area was sedimentary, the soil type was sand-clay, and the percentage of non-vegetated terrain was 50%.

Conservation Significance:

Bird: Species of Conservation Concern seen in summer were: Caspian Tern *Hydroprogne sterna caspia* (CC), and Slender-billed Gull *Larus genei* (CC).

Plants: *Salicornia sp.* and *Suaeda sp.* of the *Chenopodiaceae* family are listed in the unpublished volumes of the Flora of Iraq and not much is known of their status. All others were common species in Iraq.

Conservation Issues & Recommendations for the Site:

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This patch of the eastern edge of Khor Al-Zubayr canal, like all the areas along the canal, lies within an important complex of large factories and other industrial institutions. So it is recommended to include the staff of these institutions and the guards in environmental education programs, to reduce the current and expected threats on this vital area. The most serious issues here it the pollution from oil and other chemical materials that might be thrown into the canal directly.

KBA ME10 and ME 11 (ME2, ME3) – Dalmaj Marsh, East & South - (IBA 023) – Surveyed in Winter and Summer 09

Site Description: Little information is provided by Evans regarding this area other than a description of the site as a large isolated marsh to the west of the Tigris River approximately 35 km southwest of Kut. The body of water is an open water lake and marsh with dense reedbeds that receives water from the Main Outfall Drain (M.O.D.) and discharges again to the M.O.D. During the summer 2008 visit, the marsh was threatened with drying out, but during summer 2009, we found that a large amount of M.O.D. water had been transferred into the marsh. Obviously, there is no stable water-level in Dalmaj, because the Ministry of Water Resources (which this waterbody is controlled by) uses this depression as one of the stations along the M.O.D to control the water in this great canal regardless the natural/biodiversity concerns of this marsh. The water depth ranges from 0.5 m in the marshy areas to more than 2 meters in the lake proper. There are islands inside the marsh which are good places for breeding some colonial birds including the Slender-billed Gull. There are embankments surrounding the marsh that keep the body of water contained within this area. The bottom is partially covered by *Potamogeton pectinatus*, and there is *Tamarix* sp. inside the marsh because the marsh it is so shallow. There are many fishermen but all were using nets and do not practice fishing by electricity or poisons.

Dalmaj wetland is a very important area in Iraq for two reasons: it receives consistently large numbers of wintering waterfowl and other bird species in addition to the resident birds. Unfortunately, these large populations of waterfowl suffer continuous hunting pressure from net and gun hunting. This body of water includes two types of wetlands, the open lake and the dense-vegetated wetland that includes intensive reedbeds of *Phragmites* and *Typha* in addition to the submerged plants and the plants along the edge of the wetland. The wetland is surrounded by arid and semi-desert areas. The latter consists of sand dunes which is a unique feature of this area (marshlands close to sand dunes). This allows for a wide range of biodiversity, and subsequently desert bird species are found in close proximity to water bird populations.

Note: ME10 & ME11 are the sites that were visited in winter and summer of 2009. ME2 & ME3 were were replaced because they could not be reached in 2009. ME11 (East Dalmaj) was a new site visited for the first time in the summer of 2009.

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Plate 35: Site Photo of Hor Ad Dalmaj (ME10 & ME11) in winter

Observations in winter were made on 20/1/2009 (no observations in summer):

Birds: 38 species, 2710 individuals. The most important species were:

Eurasian Coot *Fulica atra* 700, Great Cormorant *Phalacrocorax carbo* 120, Whiskered Tern *Chlidonias hybrida*, Northern Lapwing *Vanellus vanellus*, Red-crested Pochard *Netta rufina* 65, Common Starling *Sturnus vulgaris* 480, Greater Spotted Eagle *Aquila clanga*, Spotted Redshank *Tringa erythropus*, Great Black-headed Gull *Larus ichthyaetus*, Armenian/Yellow-legged Gull *Larus armenicus/michabellis*, Water Pipit *Anthus spinoletta*, Great White Egret *Ardea [Egretta] alba* 21, Western Marsh Harrier *Circus aeruginosus* 6, Northern Shoveler *Anas chryseata*, Eurasian Bittern *Botaurus stellaris*, Black-tailed Godwit *Limosa limosa* 51, Hen Harrier *Circus cyaneus*, Marbled Duck *Marmaronetta angustirostris* 135, Greylag Goose *Anser anser* 115, Eurasian Teal *Anas crecca*, Pygmy Cormorant *Phalacrocorax pygmaeus*, Citrine Wagtail *Motacillia citreola*, Iraq Babbler *Turdoides altirostris*, Common Babbler *Turdoides caudata*, Little Grebe *Tachybaptus ruficollis*, Little Egret *Egretta garzetta*, Grey Heron *Ardea cinerea*, Common Snipe *Callinago callinago*, Little Stint *Calidris minuta*, Slender-billed Gull *Larus genei*, and Northern Pintail *Anas acuta*.

Fish: The Bunni stock in this marsh appears to be the last healthy stock found in southern Iraq according to past Nature Iraq KBA surveys and might be an important source of stock for the re-introduction of this species into the southern marshes of Iraq. Also many healthy fish species were recorded in the marshes. Fishing practices in the marsh include the use of fixed gill nets with mesh sizes of 2 to 3 cm, cast nets with a mesh size of 1cm, floating gill nets with mesh sizes of 2 to 3cm and seine nets with a fine mesh size of 0.5 cm. The approximate number of fishermen was 150 boats with an estimated daily catch of 10 kg/boat each day, although in spring the catch increases to approximately 70 kg/boat each day. No electrofishing or fishing by poisoning was observed in this site.

Six fish species were recorded: *Aspius vorax* (15% of the total catch), *Barbus luteus* (8%), *Barbus sharpeyi* (50%), *Carassius auratus* (7%), *Cyprinus carpio* (10%) and *Liza abu* (10%).

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site in winter: Greater Spotted Eagle *Aquila clanga* (GT), Eurasian Bittern *Botaurus stellaris* (GT), Armenian/Yellow-legged Gull *Larus armenicus/michabellis* (CC), Slender-billed Gull *Larus genei* (CC), Black-tailed Godwit *Limosa limosa* (GT), Marbled Duck *Marmaronetta angustirostris* (CC), Red-crested Pochard *Netta rufina* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC) (might breed in this marsh), Little Grebe *Tachybaptus ruficollis* (End, CC), and Iraq Babbler *Turdoides altirostris* (NT, End, CC).

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Fish: Bunni, *Barbus sharpeyi*, exists in this site in a considerable ratio (50%) from the total catch and shows good growth (33 cm length average and 359 gm weight average). This site is managed by a contractor who supplies the brood stock of Bunni for the Suwaira hatchery (Ministry of Agriculture) and as such more attention should be paid to conserving this site as an important habitat for Bunni.

Conservation Issues & Recommendations for the Site:

Today, this site is under private management via a legal rental from the Ministry of Agriculture but the contractor is disinterested concerning environmental issues such as nature conservation. Overfishing may be a significant impact at the site in the future and immediate effort is needed to implement waterfowl protection in this area due to the widespread hunting of these birds. It should begin by communicating with the Agriculture Department and local police to stop or reduce the over-hunting and over-fishing in this area, particularly during the spawning period for fish and migration and breeding periods for birds.

KBA ME10 – Dalmaj Marsh, South A, surveyed in Winter 2009

Site description: South Dalmaj (ME10) is a new site that was added to the KBA list. The core coordinate of the site is N32 07 30.3, E45 27 07.3. It lies at the southern part of Dalmaj Lake just between the southern embankment and the body of water. It is a mudflat with scattered bushes and plants on the dry ground, while the wetland proper consists of scattered *Phragmites* and *Typha* reedbeds in addition to submerged plants. Many waders and waterfowl were observed at the site in addition to Passerines, most of whom were observed breeding.



Plate 36: Site Photo of South Hor Ad Dalmaj A in summer

Observations were made in summer only on 10/6/2009:

Summer -Birds: 33 Species, 2011 individuals. The species observed were:

Sand Martin *Riparia riparia* 35, Barn Swallow *Hirundo rustica* 21, Water Pipit *Anthus spinoletta* 2, Blue-cheeked Bee-eater *Merops superciliosus persicus* 55 (might breed), Slender-billed Gull *Larus genei* 105 (regular breeder), Common Kestrel *Falco tinnunculus* 1, Kentish Plover *Charadrius alexandrinus* 175, Common Sandpiper *Actitis hypoleucos* 4, Black-winged Stilt *Himantopus ostralegus* 330 (regular breeder), Whiskered Tern *Chlidonias hybrida* 42 (breeding resident), Purple Swampphen *Prophyrio prophyrio* 17 (regular breeder), Grey Heron *Ardea cinerea* 3, Little Egret *Egretta garzetta* 66 (regular breeder), Dead Sea Sparrow *Passer moabiticus* 180 (regular breeder in very considerable numbers), Collared Pratincole *Glareola pratincola* 110, Crested Lark *Galerida cristata* 18 (resident breeder), Graceful Prinia *Prinia gracilis* 7 (probable breeder), Ferruginous Duck *Aythya nyroca* 480 (breeds in this marsh as locals' reporting and being the bird stays regularly each summer at this site),

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Rufous-tailed Scrub Robin *Cercotrichas erythropygia galactotes* 4, Cream-colored Courser *Cursorius cursor* 7 (regular breeder), Gull-billed Tern *Gelochelidon sterna nilotica* 23, Spur-winged Lapwing *Vanellus hoplopterus spinosus* 19 (regular breeder), Greater Hoopoe Lark *Alaemon alaudipes* 4 (probable breeder), Glossy Ibis *Plegadis falcinellus* 38 (might breed), Black-tailed Godwit *Limosa limosa* 133, Common Redshank *Tringa tetanus* 3, Pied Avocet *Recurvirostra avosetta* 41, Basra Reed Warbler *Acrocephalus griseldis* 7 (regular breeder), Common Moorhen *Gallinula chloropus* 24, Little Grebe *Tachybaptus ruficollis* 32 (regular breeder), Eurasian Oystercatcher *Haematopus haematopus* 1, House Sparrow *Passer domesticus* 6, and Marbled Duck *Marmaronetta angustirostris* 18 (regular breeder).

Plants: Two waypoints were chosen at this site. Waypoint 62 (N: 32 07 30.3 E: 45 27 07.3) was dry land with terrestrial vegetation and Waypoint 63 (N: 32 07 52.3 E: 45 27 17.3) was a marsh with submerged vegetation.

Waypoint 62: The recently drained portions of this site contained both terrestrial and aquatic plant species. The species identified at this waypoint were *Tamarix aucherana* (the dominant shrub), *Aeluropus lagopoides* (abundant), *Cyperus sp.*, *Phragmites australis* (the dominant herb), *Alhagi graecorum* (frequent) and

The habitat was primarily dry land with terrestrial vegetation and the ecological condition of this waypoint was rated at a “4” (very disturbed). This is due to a decrease in water as well as other threats such as livestock production and grazing. The local elevation was 8 m and the area was flat with a slope of 0° exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 60%.

Waypoint 63: This flooded habitat was a marsh with submerged vegetation. The ecological condition was rated a “4” (disturbed) due to a decrease in water levels in addition to water pollution as well as overfishing and bird-hunting at the site. The dominant plant at this waypoint was *Potamogeton pectinatus* (submerged plant) as well as two other plants *Phragmites australis* and *Tamarix aucherana* which were frequently distributed at the waypoint.

The area was flat and exposed in all directions. The percentage of non-vegetated terrain was 30%. The geology and soil type at this waypoint were sedimentary and clay respectively.

Conservation Significance:

Birds: Slender-billed Gull *Larus genei* (CC), Purple Swamphen *Prophyrio prophyrio* (CC), Dead Sea Sparrow *Passer moabiticus* (CC), Ferruginous Duck *Aythya nyroca* (CC), Cream-colored Courser *Cursorius cursor* (CC), Black-tailed Godwit *Limosa limosa* (NT), Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), Marbled Duck *Marmaronetta angustirostris* (CC).

Plants: All the identified plants are common in Iraq. *Aeluropus lagopoides*, *Potamogeton pectinatus* and *Tamarix aucherana* are natives in Iraq.

Conservation Issues & Recommendations for the Site:

This is the first time the team has visited this part of Dalmaj and it is not possible to make comprehensive recommendations for the site yet. It might require one more survey to have a basic picture about what is happening here. But, generally, the pressure of hunting birds and fishing were the main issues that threaten the biodiversity of the area.

KBA ME11-Dalmaj Marsh, East –Surveyed in Summer 2009

Site Description: The East side of Dalmaj (ME11) is a new site that was added to the KBA list. It lies southeast of Al-Dalmaj at the embankment that contains the eastern edge of Dalmaj Lake.

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The core coordinates of the site are N32 10 27.7, E35 38 37.5. The site also includes part of Dalmaj Lake which lies inside the embankment and consists entirely of deep, open water. The other portion lies on the eastern side of the embankment which consists of shallow marshes and a dense strip of reedbeds and *Tamarix* bushes.



Plate 37: Site Photo of East Hor Ad Dalmaj in summer

Observations were made in summer on 7/June/2009:

Birds: 34 Species, 949 individuals. The species observed were:

Marbled Duck *Marmaronetta angustirostris* 145, Eurasian Coot *Fulica atra* 11, Common Moorhen *Gallinulna chloropus* 41, Iraq Babbler *Turdoides altirostris* 28, Ferruginous Duck *Aythya nyroca* 32, Black-winged Stilt *Himantopus ostralegus* 39, Graceful Prinia *Prinia gracilis* 12 (probable breeder), Spur-winged Lapwing *Vanellus hoplopterus spinosus* 18 (resident breeder), White-tailed Lapwing *Vanellus leucurus* 7, Eurasian Collared Dove *Streptopelia decaocto* 31, Barn Swallow *Hirundo rustica* 65, Sand Martin *Riparia riparia* 47, Little Egret *Egretta garzetta* 18 (regular breeder), Little Ringed Plover *Charadrius dubius* 29, Little Grebe *Tachybaptus ruficollis* 41 (resident breeder), Whiskered Tern *Chlidonias hybrida* 35 (breeding resident), Blue cheeked Bee-eater *Merops superciliosus persicus* 49, Pied Kingfisher *Ceryle rudis* 9 (resident breeder), Common Tern *Sterna hirundo* 13 (breeding summer visitor), Squacco Heron *Ardeola ralloides* 19 (regular breeder), Kentish Plover *Charadrius alexandrinus* 45, Basra Reed Warbler *Acrocephalus griseldis* 3, Crested Lark *Galerida cristata* 17 (resident breeder), Slender-billed Gull *Larus genei* 38 (resident breeder), Dead Sea Sparrow *Passer moabiticus* 75, Little Bittern *Ixobrychus minutus* 8, White-winged Tern *Chlidonias leucopterus* 30, Black-crowned Night Heron *Nycticorax nycticorax* 5 (regular breeder), Red-crested Pochard *Netta rufina* 8 (probably breed), European Turtle Dove *Streptopelia turtur* 3, Purple Swamphen *Prophyrio prophyrio* 4 (resident breeder), Armenian/Yellow-legged Gull *Larus armenicus/michabellis* 3, and Glossy Ibis *Plegadis falcinellus* 6.

Plants: One waypoint was visited here. Waypoint 75 (N: 32 09 49.2 E: 45 38 49.60) was permanent marsh (with open water or lake).

Waypoint 75: There is an embankment which divided the area into two different habitats: wetland (open lake water) and dry land with terrestrial vegetation. The terrestrial plants were *Tamarix sp.* (shrub) and *Suaeda sp.* (herb). The aquatic plants were *Phragmites australis* (grass), *Najas marina* (herb) and *Potamogeton pectinatus* (herb).

The site was rated a “4” on the ecological scale. The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 80%.

Conservation significance:

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Birds: Marbled Duck *Marmaronetta angustirostris* (CC), Iraq Babbler *Turdoides altirostris* (End, CC), Ferruginous Duck *Aythya nyroca* (CC), Little Grebe *Tachybaptus ruficollis* (End, CC), Basra Reed Warbler *Acrocephalus griseldi* (GT, End, CC)s, Slender-billed Gull *Larus genei*, Dead Sea Sparrow *Passer moabiticus* (CC), Red-crested Pochard *Netta rufina* (CC), Purple Swamphen *Prophyrio prophyrio* (CC).

Plants: All the identified plants are common in Iraq.

Conservation Issues & Recommendations for the Site:

Because it was the first time to visit this part of Dalmaj, it is not possible to determine recommendation for the site at this time and may require one more survey to develop a basic picture about what is happening here. But, generally, the pressure of hunting birds and fishing were the main issues that threat the biodiversity of the area.

KBA ME4 – Ibn Najm - (IBA 026) – Surveyed in Winter and Summer 2009

Site Description: Though Evans provides little information on this IBA site, it was listed as a seasonal freshwater lake east of the Euphrates River and approximately 130 km south of Baghdad in the Babil Governorate, although it is actually situated in Diwaniya. Today, the region is a broad marsh where *Typha* is dominant. Water drains from agricultural fields (particularly rice fields) to the site and there is village close to the survey point. During the summer visit, the site was somewhat difficult to access as there are no boats on the marsh due to its dryness. The marsh was almost dry in summer 2008. The reed and *Typha* areas were dry except in the areas closest to the drainage channels

The original body of water at Hawr Ibin-Najm had shrunk down to scattered marshes inside the triangle formed by the three governorates of Babil, Najaf, and Qadissiya. After a period of intense agricultural expansion, these lands were used as rice farms and date-palm orchards. The plant cover in this site is well-developed, forming reedbeds of *Phragmites* and *Typha* in addition to submerged plants and those found on the margins of the wetland. There are some patches among the reedbeds forming good habitat for the birds to play and feed as well as good, close shelter when necessary. A network of canals and embankments has disfigured the marsh's original landscape. The main threat that faces the area is the drought, followed by intensive fishing and unsustainable hunting of Waterfowl.

During the visit of summer survey of KBA, the team found that the local Ministry of Water Resources office had drained the marsh via canals, turning it into dry land. Nevertheless, some water birds were observed in the canal and flying around the area.



Plate 38: Site Photo of Ibn Najm in Winter (left) and Summer (right)

Observations in winter were made on 18/1/2009 and in summer on 11/6/2009:

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Winter - Birds: 33 species, 501 individuals. The most important species were:

Whiskered Tern *Cblidonias hybrida* 4, Pied Kingfisher *Ceryle rudis* 9, Western Marsh Harrier *Circus aeruginosus*, Squacco Heron *Ardeola ralloides*, Hooded Crow *Corvus [corone] cornix*, Black-crowned Night Heron *Nycticorax nycticorax* 27, Rook *Corvus frugilegus* 70, Little Egret *Egretta garzetta*, Eurasian Bittern *Botaurus stellaris*, Grey Heron *Ardea cinerea*, Glossy Ibis *Plegadis falcinellus*, Citrine Wagtail *Motacillia citreola* 1, Spanish Sparrow *Passer hispaniolensis*, Northern Lapwing *Vanellus vanellus* 8, Indian Roller *Coracias benghalensis*, Barn Swallow *Hirundo rustica*, Pied Avocet *Recurvirostra avosetta*, Kentish Plover *Charadrius alexandrinus*, Common Sandpiper *Actitis hypoleucos*, Common Snipe *Callinago callinag* 4, and Green Sandpiper *Tringa ochropus*.

Summer - Birds: 24 Species, 267 individuals. The species observed were:

Pied Kingfisher *Ceryle rudis* 8 (resident breeder), Common Kestrel *Falco tinnunculus* 1, Indian Roller *Coracias benghalensis* 2, Blue-cheeked Bee-eater *Merops superciliosus persicus* 13, Crested Lark *Galerida cristata* 9 (resident breeder), Black-winged Stilt *Himantopus ostralegus* 21, Red-wattled lapwing *Vanellus boplopterus indicus* 3, Eurasian Collared Dove *Streptopelia decaocto* 6, Collared Pratincole *Glareola pratincola* 18, Hooded Crow *Corvus corone cornix* 17 (resident breeder), Black-crowned Night Heron *Nycticorax nycticorax* 3 (regular breeder), Graceful Prinia *Prinia gracilis* 5 (probable breeder), Sand Martin *Riparia riparia* 29, Barn Swallow *Hirundo rustica* 4, White-tailed Lapwing *Vanellus leucurus* 7, Iraq Babbler *Turdoides altirostris* 18, Black Francolin *Francolinus francolinus* 2, Common Tern *Sterna hirundo* 1, Little Tern *Sternula sterna albifrons* 5, Little Egret *Egretta garzetta* 6 (regular breeder), White-cheeked Bulbul *Pycnonotus leucogenys* 12, Common Woodpigeon *Columba palumbus* 22.

Winter- Fish: Fishing was by conducted via fixed gill nets with mesh sizes of 0.5 and 1 cm; also electrofishing was noticed at the site. About 10 boats were recorded practicing both methods with an estimated catch of approximately 7 kg/boat each day.

Twelve fish species recorded: *Liza abu* (50% of the total catch), *Alburnus mossulensis* (5%), *Aspius vorax* (10%), *Barbus luteus* (10%), *Carassius auratus* (5%), *Cyprinus carpio* (10%), *Silurus triostegus* (10%) and some fish recorded depend on interview such as: *Barbus xanthopterus* (no sample), *Barbus sharpeyi* (no sample), *Heteropneustes fossilis* (no sample), *Mastacembelus mastacembelus* (no sample), *Silurus triostegus* (no sample), and *Acanthobrama marmid* (no sample).

Summer- Plants: One waypoint was visited at this site. Waypoint 65 (N: 32 08 25.0 E: 44 34 32.5) was dry marsh.

Waypoint 65: Both aquatic and terrestrial plant species were found in the recently drained sections of the site. The aquatic plants were *Typha domingensis* (dominant at this site), *Phragmites australis* (frequent) and *Cyperus aucheri* (frequent). The terrestrial plants were *Tamarix sp.* (abundant), *Cressa cretica* (frequent), *Cynodon dactylon* (abundant), *Capparis spinosa* (occasional), *Alhagi graecorum* (abundant), *Aeluropus lagapoides* (occasional), *Alyssum sp.* (frequent), *Polygogon maritimus* (rare), *Trachomitum venetum* (occasional) and an unspecified plant from the *Compositae* family (frequent).

The habitat is a dry marsh and the ecological condition was rated a “5” (Most disturbed). The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 50%.

Other Fauna: Buffalo and Indian mongoose.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site in winter: Eurasian Bittern *Botaurus stellaris* (GT), Hooded Crow *Corvus [corone] cornix* (End, CC), and White-tailed

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Lapwing *Vanellus leucurus* (CC). And in summer: Hooded Crow *Corvus corone cornix* (CC), Iraq Babbler *Turdoides altirostris* (End, CC), and Black Francolin *Francolinus francolinus* (CC).

Fish: This site was considered a spawning and nursing ground for the surrounding governorates (Najaf, Hilla, and Diwaniya) on the Euphrates River due to the local habitat, which was well suited to this purpose.

Plants: The local ecological conditions were highly disturbed. Threats such as changes in nearby land use, drying of wetlands, livestock production, grazing and road construction all exist in the area. However, there were many aquatic plants in addition to the terrestrial plants. All the plants identified at this waypoint are common in Iraq except *Polypogon maritimus* which is very rare in Iraq and has been previously reported only once (Townsend, 1968, p314) and was recorded in this area for the first time. There are some references such as Ani *et al*, (1971) and Habib *et al*, (1971) who referred to *Tamarix* sp. and *Cressa cretica* as natives in Iraq. *Aeluropus lagapoides* is native in Iraq (Townsend, 1968, p420).

Conservation Issues & Recommendations for the Site:

This important marsh area should be well-managed and protected. But there were major changes in the local landscape, which include the local people making a canal for agricultural use that has in turn converted the marsh into dry land with dead aquatic plants and other organisms.

Because it is located near heavily populated and agricultural zones, additional effort are needed in order to educate the locals and raise their environmental awareness while helping them to understand their responsibility in helping this marsh to recover. A sufficient and sustained water source is also urgently needed.

KBA ME5-Razzaza Lake - (IBA 021) – Surveyed in Winter and Summer 2009

Site Description: In Evans (1994), this area in Karbala is listed under the name “Bahr Al Milh” but is more commonly referred to as Lake Razzaza. Evans states that the lake was formed in the 1970s as a second storage reservoir below Habbaniya Lake to control floods on the Euphrates. This is a large lake in a natural depression and is threatened today by drought as the regulator on canal Sin-Al-Thibbaan—the main source of lake water from Lake Habbaniya—has been closed for several years. Since this occurrence, the water level has seriously decreased, forming islands inside the lake. The only other significant source of water to the Lake at this time is a small sewage canal from the city of Karbala (this may also carry some agricultural run-off as well) but there may be some wadis on the western side of the lake that might drain water to the lake in times of rain. This was a very deep lake but locals report that water levels have declined and the lake is likely now to be only 5-10 meters deep. There is virtually no fishing (though there was in the past) and only a salt tolerant species, *Achanthopagrus latus* (called “Shanag” in the local vernacular) was reported. A few of these fish were observed dead on the margins of the lake and the locals informed the team that the fish population of the lake had sharply decreased during the last five years. There is a police station on the eastern edge of the lake. Salinity is high, and there were no plants inside the lake.

The islands in the lake are breeding areas for gulls, terns, waders and flamingos. During the winter survey, large populations of wintering birds (particularly Waterfowl) were observed with noticeable concentrations at the eastern part of the lake.

During the summer 2009 survey, the team selected different points than the original survey marker. This point lies at the estuary of a canal brings in agricultural drainage and sewage from Karbala into the lake at the coordinates N32 40 50.0, E43 52 17.5. There were dense reedbeds

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(not shown in the picture) and mudflats around this point which are suitable for wide range of waterfowl and waders.



Plate 39: Site photos of Razzaza Lake in summer

Observations in winter were made on 17/1/2009 and in summer on 14/6/2009:

Winter - Birds: 36 species, 11179 individuals. The most important species were:

Slender-billed Gull *Larus genei* 210, Great Cormorant *Phalacrocorax carbo* 400, Armenian/Yellow-legged Gull *Larus armenicus/michabellis* 340, Black-necked Grebe *Podiceps nigricollis* 11, Greater Flamingo *Phoenicopterus [ruber] roseus* 5100, Great Crested Grebe *Podiceps cristatus* 9, Pied Avocet *Recurvirostra avosetta*, Common Shelduck *Tadorna tadorna*, Mallard *Anas platyrhynchos* 220, Marbled Duck *Marmaronetta angustirostris* 2350, Red-crested Pochard *Netta rufina* 450, Eurasian Coot *Fulica atra* 315, Common Kestrel *Falco tinnunculus*, Northern Shoveler *Anas clypeata* 180, Ferruginous Duck *Aythya nyroca*, Great White Egret *Ardea [Egretta] alba* Great White Pelican *Pelecanus onocrotalus* Black-crowned Night Heron *Nycticorax nycticorax* Grey Heron *Ardea cinerea* Little Stint *Calidris minuta* Western Marsh Harrier *Circus aeruginosus* Western Marsh Harrier *Circus aeruginosus* Long-legged Buzzard *Buteo rufinus* and Greater Hoopoe-Lark *Alaemon alaudipes*.

But the most interesting observations in this site during the winter survey were the presence of four Grey Plover (*Pluvialis squatarola*) which is coastal bird.

Summer -Birds: 23 Species, 2366 individuals. The species observed were:

Birds: Slender-billed Gull *Larus genei* 27 (resident breeder), Blue-cheeked Bee-eater *Merops superciliosus persicus* 8, Caspian Tern *Hydroprogne sterna caspia* 2, Spur-winged Lapwing *Vanellus boplopterus spinosus* 17 (resident breeder), Little Tern *Sternula sterna albifrons* 172, Little Egret *Egretta garzetta* 17 (regular breeder), Black-winged Stilt *Himantopus ostralegus* 400, Pied Avocet *Recurvirostra avosetta* 1100, Greater Flamingo *Phoenicopterus ruber roseus* 1, Ruddy Shelduck *Tadorna ferruginea* 35, Graceful Prinia *Prinia gracilis* 11(probable breeder), Eurasian Coot *Fulica atra* 17, Grey Heron *Ardea cinerea* 10, Kentish Plover *Charadrius alexandrinus* 430, Little Ringed Plover *Charadrius dubius* 22, Northern Shoveler *Anas clypeata* 40, Great White Pelican *Pelecanus onocrotalus* 25, Great White Egret *Ardea egretta alba* 6, Purple Heron *Ardea purpurea* 5 (might breed), Purple Swampphen *Prophyrio prophyrio* 1, Barn Swallow *Hirundo rustica* 3, and Crested Lark *Galerida cristata* 14 (resident breeder).

Winter- Fish: Significant pressure exists on the local fish population due to the approximately 300 boats that once fish the area in the past with an estimated daily catch of approximately 50 kg/boat per day. At the time of the survey, only 20 to 25 boats were seen but no active fishing

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was taking place. From an interview with an old fisherman at the site, only one fish species is found in the lake which is called Shanak, *Acanthopagrus latus*, which is a marine fish in origin and is stocked at the site by the government to support fishing in the lake. According to the interview, fishing was done by nets with mesh sizes of 0.5 to 3 cm and no unsustainable fishing methods were used. Many fishermen have left the lake due to a decrease in the fish stock due to the declining water supply.

Only one fish species of *Acanthopagrus latus* was obtained from the lake by fishermen; Specimens from Razzaza had a length average of 13.5 cm and weight average of 65 gm, which is considered low growth rate compare with Fao Shanak as example which is achieved 30 cm length and 468 gm weight in KBA-2007 survey.

Summer- Plants: One waypoint was surveyed in this site. Waypoint 68 (N: 32 40 50.0 E: 43 52 17.5) was semi-dry lake (with salty water).

Waypoint 68: The local terrain consists of saline lake water surrounded by terrestrial vegetation. The existing plants at this waypoint were *Tamarix macrocarpa* (shrub), *Suaeda* sp. (herb), *Phragmites australis* (grass), *Cressa cretica* (herb), *Salicornia* sp. (herb) and *Aeluropus lagapoides* (grass).

The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 80%. The ecological condition at this waypoint was rated a “4” (very disturbed).

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site in winter: Greater Spotted Eagle *Aquila clanga* (GT), Ferruginous Duck *Aythya nyroca* (GT), Armenian/Yellow-legged Gull *Larus armenicus/michabellis* (CC), Slender-billed Gull *Larus genei* (CC), Marbled Duck *Marmaronetta angustirostris* (CC), Red-crested Pochard *Netta rufina* (CC), Finsch’s Wheatear *Oenanthe finschii* (CC), Great White Pelican *Pelecanus onocrotalus* (CC), Greater Flamingo *Phoenicopterus [ruber] roseus* (CC), and White-tailed Lapwing *Vanellus leucurus* (CC). And in summer: Slender-billed Gull *Larus genei* (CC), Caspian Tern *Hydroprogne sterna caspia* (CC), Greater Flamingo *Phoenicopterus ruber roseus* (CC), Great White Pelican *Pelecanus onocrotalus* (CC), and Purple Swamphen *Prophyrio prophyrio* (CC).

Fish: Only a non-native fish was found and is stocked in this lake.

Plants: All the plants identified at this site are common in Iraq. *Aeluropus lagapoides* is native in Iraq (Townsend & Guest, 1968, p420). *Suaeda* sp. and *crissa cretica* are natives in Iraq (Al-Ani *et al*, 1971 and Habib *et al*, 1971).

Conservation Issues & Recommendations for the Site:

This lake harbors considerable numbers of waterfowl (particularly the globally threatened Marbled Duck) and its mudflats attract large number of waders and shorebirds during their passage. It also has a considerable number of inaccessible marshlands that are important for breeding birds. For this lake to offer an adequate habitat for birds and fish, water must be released into the lake from Habbaniya Lake via the Sin-Al-Thibban Canal, and the overall water resources that might allow this should be assessed. Additional water in Razzaza will improve the circulation of water, reduce the increasing salinity of the lake and allow more space for more bird, plant and fish species to live in the lake once again. Communication and coordination with the regional governmental bodies are also necessary to start any restoration of this important lake. Given the current drought conditions, there may be a tendency to try and save water upstream, which causes increased downstream drought conditions. Some of these issues may require better coordination between different governorates to manage these limited resources more sustainably for all communities as well as for biodiversity. In addition, educational

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programs on environmental and conservational issues that target the local residents and policemen will be necessary.

KBA ME6-Musayab - (IBA 018) – Surveyed in Winter 09

Site Description: The Musayab IBA site is located on the eastern side of Euphrates River close to a small island in the middle of the river. The area in general comprised of farms and orchards, and there is no undisturbed wilderness space remaining. Few birds were observed at the site but some of them are endemic to the region. No hunting or fishing was observed in the area but the main threat facing the area is that of agricultural intensification. The area includes some pools for aquaculture.



Plate 40: Site Photo of Musayab in winter

Observations in winter were made on 19/1/2009 (no observations in summer):

Birds: 21 species, 242 individuals. The most important species were:

Common Woodpigeon *Columba palumbus* 11, European Robin *Erithacus rubecula* 1, Iraq Babbler *Turdoides altirostris* 12, White-cheeked Bulbul *Pycnonotus leucogenys* 5, Hooded Crow *Corvus[corone] cornix* 3, Little Egret *Egretta garzetta* 14, Eurasian Coot *Fulica atra* 19, Pygmy Cormorant *Phalacrocorax pygmaeus* 5, White-throated Kingfisher *Halcyon smyrnensis* 3, Common Moorhen *Gallinulua chloropus* 5, Slender-billed Gull *Larus genei* 38, Spur-winged Lapwing *Vanellus (Hoplopterus) spinosus* 3, Red-wattled lapwing *Vanellus (Hoplopterus) indicus* 2, White-tailed Lapwing *Vanellus leucurus* 4, Spotted Redshank *Tringa erythropus* 4, Armenian/Yellow-legged Gull *Larus armenicus/michabellis* 13 and Great Cormorant *Phalacrocorax carbo* 17.

Fish: All fishing was done by nets and electrofishing but the team did not see any fishing activity in the area at the time of the winter survey because the site is near an electricity plant and thus security restrictions limit fishing at the site.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site:

Hooded Crow *Corvus[corone] cornix* (CC), Armenian/Yellow-legged Gull *Larus armenicus/michabellis* (CC), Slender-billed Gull *Larus genei* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), White-cheeked Bulbul *Pycnonotus leucogenys* (CC), Iraq Babbler *Turdoides altirostris* (End, CC), Spur-winged Lapwing *Vanellus (Hoplopterus) spinosus* (CC), and White-tailed Lapwing *Vanellus leucurus* (CC).

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Fish: Fishing in this area was forbidden due to security reason.

Conservation Issues & Recommendations for the Site:

The site was visited only during the winter 2009 survey but could not be visited in summer for security reasons, so no clear image has been resolved as yet. It is recommended that the site be visited again to gather more information and compare results to historical information.

KBA ME7-Hindiya Barrage - (IBA 019) – Surveyed in Winter and Summer 2009

Site Description: Hindiya Barrage is a complex series of waterways. It is largely comprised of the Euphrates River blocked by large barrage, and the branching canals and river channels that precede it. It also includes the main trunk of the Euphrates and Shatt-Al-Hilla River in addition to some surrounding marshes. Large numbers of waterfowl were found. Mostly, they were coot, cormorant, and various kinds of gulls. The police prevent humans from trespassing in the area, which allows large assemblages of waterfowl to stay safely in this area. Fishing and hunting are expressly forbidden in this area for security reasons.

Comparing the summer survey observations with those of the winter, no visible changes were seen.



Plate 41: Site Photo of Hindiya Barrage in summer

Observations in winter were made on 19/1/2009 and in summer on 13/6/2009:

Winter - Birds: 32 species, 1598 individuals. The most important species were:

Great White Egret *Ardea [Egretta] alba* 2, Northern Shoveler *Anas chrypeata* 13, Eurasian Teal *Anas crecca* 28, Little Grebe *Tachybaptus ruficollis* 10, Little Bittern *Ixobrychus minutus* 7, Common Black-headed Gull *Larus ridibundus* 213, Water Pipit *Anthus spinoletta* 4, Bluethroat *Luscinia svecica* 2, European Robin *Erithacus rubecula* 2, Iraq Babbler *Turdoides altirostris* 11, Sedge Warbler *Acrocephalus schoenobaenus* 2, Barn Swallow *Hirundo rustica* 20, Hooded Crow *Corvus[corone] cornix* 12, Black-crowned Night Heron *Nycticorax nycticorax* 13, Slender-billed Gull *Larus genei* 330, Grey Heron *Ardea cinerea* 11, Armenian/Yellow-legged Gull *Larus armenicus/michabellis* 43, Temminck's Stint *Calidris temminckii* 14, Common Sandpiper *Actitis hypoleucos* 7, Black-tailed Godwit *Limosa limosa* 31, White-tailed Lapwing *Vanellus leucurus* 19, Red-wattled lapwing *Vanellus (Hoplopterus)*

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indicus 7, Eurasian Coot *Fulica atra* 225, Water Rail *Rallus aquaticus* 2, Pygmy Cormorant *Phalacrocorax pygmaeus* 32, Little Egret *Egretta garzetta* 26, Great Cormorant *Phalacrocorax carbo* 410, White-throated Kingfisher *Halcyon smyrnensis* 6 and Common Moorhen *Gallinulua chloropus* 29.

Summer -Birds: 26 Species, 290 individuals. The species observed were:

Little Grebe *Tachybaptus ruficollis* 17 (resident breeder), Common Moorhen *Gallinulua chloropus* 5, Squacco Heron *Ardeola ralloides* 14 (regular breeder), Barn Swallow *Hirundo rustica* 70, White-cheeked Bulbul *Pycnonotus leucogenys* 8, Eurasian Collared Dove *Streptopelia decaocto* 12, Little Tern *Sternula sterna albifrons* 9, Common Woodpigeon *Columba palumbus* 11, Hooded Crow *Corvus corone cornix* 7 (resident breeder), Basra Reed Warbler *Acrocephalus griseldis* 2, Slender-billed Gull *Larus genei* 16 (resident breeder), Blue-cheeked Bee-eater *Merops superciliosus persicus* 13, Red-wattled lapwing *Vanellus hoplopterus indicus* 4, Pied Kingfisher *Ceryle rudis* 2, Graceful Prinia *Prinia gracilis* 3 (probable breeder), Little Egret *Egretta garzetta* 31 (regular breeder), Purple Swamphen *Prophyrio prophyrio* 7 (resident breeder), Cattle Egret *Bubulcus ibis* 17 (regular breeder), Rock Dove *Columba livia* 7, Black Francolin *Francolinus francolinus* 1, Black-crowned Night Heron *Nycticorax nycticorax* 6 (regular breeder), Pygmy Cormorant *Phalacrocorax pygmaeus* 7 (resident breeder), Little Bittern *Ixobrychus minutus* 4, Iraq Babbler *Turdoides altirostris* 6, and White-throated Kingfisher *Halcyon smyrnensis* 3.

Winter- Fish: Fishing is forbidden at the site for security reasons.

Summer - Plants: One waypoint was surveyed here. Waypoint 67 (N: 32 43 56.2 E: 44 15 46.5) was along a river with reed beds at the margins.

Waypoint 67: There were 22 plant species identified at this waypoint including the aquatic plants in the river as well as the terrestrial plants at the margin of the river. The dominant tree species was *Populus euphratica*, the dominant shrub species was *Prosopis farcta*, the dominant grass species was *Phragmites australis* and the dominant herb species was *Alhagi graecorum*.

The overall habitat was comprised of river habitat with reed beds at the margins. This was surrounded by agricultural farms with terrestrial plants. This site was rated a “4” on the ecological scale, given the many threats facing this site such as dams, livestock production, grazing and water pollution. The area was flat with a slope of 0° exposed in all directions. The geology of this area was sedimentary and the soil type was clay. The percentage of non-vegetated terrain was 30%.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site:

Hooded Crow *Corvus [corone] cornix* (CC), Armenian/Yellow-legged Gull *Larus armenicus/michabellis*, Slender-billed Gull *Larus genei* (CC), Black-tailed Godwit *Limosa limosa* (GT), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), Iraq Babbler *Turdoides altirostris* (End, CC), White-tailed Lapwing *Vanellus leucurus* (CC). And in summer: Little Grebe *Tachybaptus ruficollis* (EndR, CC), Hooded Crow *Corvus corone cornix* (CC), Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), Purple Swamphen *Prophyrio prophyrio*, Black Francolin *Francolinus francolinus* (CC), Pygmy Cormorant *Phalacrocorax pygmaeus* (CC), and Iraq Babbler *Turdoides altirostris* (End, CC).

Fish: Fishing is not allowed and thus no samples were obtained.

Plants: All the plants identified at this site are common. *Tamarix sp.*, *Suaeda sp.* and *Cressa cretica* are natives in Iraq (Al- Ani et al, 1971 and Habib et al, 1971). *Hydrilla verticillata* is not mentioned in the Flora of Iraq (Townsend and Guest, 1985, Vol. 8, p2) where only three species of *Hydrocharitaceae* are mentioned and *Hydrilla* was not one of them.

Conservation Issues & Recommendations for the Site:

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It is important to communicate with the local police (or anybody responsible in guarding the barrage) and to have regular educational lessons on the importance of the area and to protect the peak seasons for bird migration, breeding and fish spawning.

KBA ME8-North Ibin Najm - (IBA 026) – Surveyed in Winter and Summer 2009

Site Description: North Ibn-Najm or Garrat Sayid Jafar is small, isolated marsh that receives water from the surrounding network of drainage canals that brings the water from the agricultural fields and orchards around the site. It located south of Hilla city on the road between Hilla and Najaf. The center of the marsh lies at the coordinates: N32 18 55.7, E44 24 25.8. There are dense reedbeds of *Phragmites* and *Typha* in addition to many of aquatic plants. Large numbers of ducks were found at the area, though some amount of hunting was observed at the site. Electrofishing was found to be the most common fishing technique in the area.

This site suffers from an acute water shortage. During the KBA team summer visit to this site some key bird species were found either sheltering inside the reedbeds or in the water at the nearby canal.



Plate 42: Site Photo of North Ibn Najm in Winter (left) and Summer (right)

Observations in winter were made on 21/1/2009 and in summer on 12/6/2009:

Winter - Birds: 35 species, 2984 individuals. The most important species were:

Black-crowned Night Heron *Nycticorax nycticorax* 4, Black-winged Stilt *Himantopus ostralegus* 60, Eurasian Coot *Fulica atra* 370, Common Moorhen *Gallinula chloropus* 53, Purple Swampphen *Prophyrio prophyrio* 8, Western Marsh Harrier *Circus aeruginosus* 8, Great Cormorant *Phalacrocorax carbo* 11, Greylag Goose *Anser anser* 13, Grey Heron *Ardea cinerea* 32, Black-tailed Godwit *Limosa limosa* 8, Eurasian Bittern *Botaurus stellaris* 7, Little Grebe *Tachybaptus ruficollis* 46, Eurasian Teal *Anas crecca* 275, Mallard *Anas platyrhynchos* 16, Eurasian Wigeon *Anas Penelope* 26, Little Egret *Egretta garzetta* 44, Whiskered Tern *Chlidonias hybrid* 180, Common Starling *Sturnus vulgaris* 55, Sedge Warbler *Acrocephalus schoenobaenus* 1, Cetti's Warbler *Cettia cetti* 3, Barn Swallow *Hirundo rustica* 3, Pied Kingfisher *Ceryle rudis* 50, Northern Lapwing *Vanellus vanellus* 13, White-throated Kingfisher *Halcyon smyrnensis* 14, Spur-winged Lapwing *Vanellus (Hoplopterus) spinosus* 2, Slender-billed Gull *Larus genei* 25, Common Black-headed Gull *Larus ridibundus* 75, Temminck's Stint *Calidris temminckii* 80, Little Stint *Calidris minuta* 80, Common Sandpiper *Actitis hypoleucos* 6, Common Redshank *Tringa tetanus* 1, Northern Shoveler *Anas chrypeata* 500, Common Kingfisher *Alcedo atthis* 9 and Marbled Duck *Marmaronetta angustirostris* 900.

Summer -Birds: 26 Species, 243 individuals. The species observed were:

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Collared Pratincole *Glareola pratincola* 18, Blue-cheeked Bee-eater *Merops superciliosus persicus* 14, Black Francolin *Francolinus francolinus* 4, Little Grebe *Tachybaptus ruficollis* 12 (resident breeder), Barn Swallow *Hirundo rustica* 4, Crested Lark *Galerida cristata* 11 (resident breeder), Little Egret *Egretta garzetta* 6 (regular breeder), Basra Reed Warbler *Acrocephalus griseldis* 13, Iraq Babbler *Turdoides altirostris* 14, Eurasian Collared Dove *Streptopelia decaocto* 21, Sand Martin *Riparia riparia* 32, Black-winged Stilt *Himantopus ostralegus* 4, Kentish Plover *Charadrius alexandrinus* 10, Red-wattled lapwing *Vanellus hoplopterus indicus* 6, Spur-winged Lapwing *Vanellus hoplopterus spinosus* 5 (resident breeder), Cream-colored Courser *Cursorius cursor* 1, Pied Kingfisher *Ceryle rudis* 2, Common Woodpigeon *Columba palumbus* 6, Graceful Prinia *Prinia gracilis* 4 (probable breeder), Squacco Heron *Ardeola ralloides* 1, Rufous-tailed Scrub Robin *Cercotrichas erythropygia galactotes* 2, Little Tern *Sterna sterna albifrons* 11, Black crowned Night Heron *Nycticorax nycticorax* 2, White-tailed Lapwing *Vanellus leucurus* 6, and Slender-billed Gull *Larus genei* 7 (resident breeder).

Winter - Fish: Fishing was conducted by electrofishing and by fixed gill nets with mesh sizes of 0.5 and 1 cm. Approximately 10 boats were recorded with an average catch was 7 kg/boat per day for electrofishing while the gill net catch was 3kg/boat per day.

Seven fish species recorded: *Alburnus mossulensis* (5% of the total catch), *Aspius vorax* (10% of the total catch), *Barbus luteus* (10%), *Carassius auratus* (5%), *Cyprinus carpio* (10%), *Silurus triostegus* (10%) and *Liza abu* (50%).

Summer- Plants: Only one waypoint was surveyed here. Waypoint 66 (N: 32 19 16.1 E: 44 24 27.0) was dry marsh with a small canal.

Waypoint 66: There were 10 plant species (terrestrial and aquatic) found at this site in the former wetland habitat in summer. The dominant aquatic plant species was *Phragmites australis* while the dominant terrestrial plant species growing in the same area was *Tamarix* sp., which indicates the transitional nature of the habitat at this site. The habitat is a dry marsh with small canals, and thus was rated a “5” (most disturbed) on the ecological scale. Threats to the site include draining wetlands, livestock production, grazing and road construction. The area was flat and exposed in all directions. The percentage of non-vegetated terrain was 60%. The geology and soil type at this waypoint were sedimentary and clay respectively.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site:

Eurasian Bittern *Botaurus stellaris* (CC), Slender-billed Gull *Larus genei* (CC), Black-tailed Godwit *Limosa limosa* (CC, GT), Marbled Duck *Marmaronetta angustirostris* (CC, GT), Purple Swamphen *Prophyrio prophyrio* (CC), Little Grebe *Tachybaptus ruficollis* (EndR, CC), Spur-winged Lapwing *Vanellus (Hoplopterus) spinosus* (CC). And for summer: Black Francolin *Francolinus francolinus* (CC), Little Grebe *Tachybaptus ruficollis*, Basra Reed Warbler *Acrocephalus griseldis* (GT, End, CC), Iraq Babbler *Turdoides altirostris* (End, CC), Cream-colored Courser *Cursorius cursor*, and Slender-billed Gull *Larus genei* (CC).

Fish: The water's shallowness and the highly vegetated nature of this site make it valuable as a spawning and nursery ground for fish.

Plants: Most of the plant species identified are common in Iraq. There are some references such as Al- Ani *et al*, 1971 and Habib *et al*, 1971 who referred to *Tamarix* sp., and *crissa cretica* as natives in Iraq. *Aeluropus lagapoides* is native in Iraq (Flora of Iraq, Vol.9, p420). *Hydrilla verticillata* is not mentioned in the Flora of Iraq (Townsend and Guest, 1985, Vol. 8, p2) where only three plants of *Hydrocharitaceae* are mentioned and *Hydrilla* sp. was not one of them.

Conservation Issues & Recommendations for the Site:

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This site was identified as a good site to Nature Iraq through word of mouth and after visiting this area the team discovered that it harbors a considerable diversity of bird species including various “key” and “important” species. Thus, it is recommended to communicate with others about such environmental issues to discover more potential KBA areas. Also, it is very important to protect the area by cooperating with the local government, particularly during the breeding season of the Marbled Duck. Conducting educational talks and distribution of posters of Marbled Duck would be necessary at this site. Considering the plants and habitat at the site, this area needs the restoration of its water supply in order to restore the growth of aquatic plants, which in turn will support bird and other species at the site.

KBA SM6-Shubaicha - (IBA 017) – Surveyed in Winter 2009

Site Description: Hor Shubeicha is a seasonal marsh that gets water mainly from the eastern uplands in Iran and the waters of an agriculture drainage network east of the Tigris. It was known to be a part of the eastern Tigris seasonal marshes and a stopover and feeding site for huge numbers of waterfowl and waders. During the winter visit, when the site should normally have been filled with water due the time of year, it was almost dry except for some small patches of water. Some areas of the site were not secure, and as a result the birdwatching took place on the west side of the marsh.



Plate 43: Site Photo of Shubaicha in winter

Observations in winter were made on 5/2/2009 (no observations in summer):

Birds: Twelve species, 944 individuals. The most important species were:

Red-wattled lapwing *Vanellus (Hoplopterus) indicus* 3, White Wagtail *Motacilla alba* 29, Common Starling *Sturnus vulgaris* 125, Eurasian Skylark *Alauda arvensis* 27, Rock Dove *Columba livia* 6, Common Redshank *Tringa tetanus* 4, Long-legged Buzzard *Buteo rufinus* 4, Hen Harrier *Circus Cyaneus* 2, Eurasian Teal *Anas crecca* 480, Greylag Goose *Anser anser* 170, and Pin-tailed Sandgrouse *Pterocles alchata* 85.

Fish: Mostly dry area. No fish.

Conservation Significance:

Birds: The following conservation concern (CC) species was noted at the site in winter: Pin-tailed Sandgrouse *Pterocles alchata* (CC).

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Conservation Issues & Recommendations for the Site:

This site was only visited during winter 2009 KBA survey (in summer security conditions were bad in this area and the site was not visited), so it still relatively unfamiliar. It is recommended to continue surveying this site (if security again improves) to discover more about the breeding, migrant and wintering bird population, then to design the proper conservation if the site merits it.

KBA SM7-Shuweicha Marsh - (IBA 020) – Surveyed in Winter and Summer 2009

Site Description: The Shuweicha area is a seasonal marsh with no plant cover save low, scattered specimens that is located east of the Tigris River and north of Kut city. It receives its seasonal water during winter after the rainy seasons from the uplands at the eastern part of the site that brings water directly from the Iranian mountains. This area was highly affected by the recent drought and there were very few patches of water during the time of the survey in winter but most of the visited areas contained muddy or wet ground which hindered transportation throughout the area.

The site is entirely dry in summer. An alternative location to the point that had been visited in the winter 2009 survey was selected for security reasons. The coordinates were N32 42 33.5, E45 48 32.3. The locals told us that this area had witnessed a severe drought as the streams that used to feed it had been blocked on the Iranian side of the border.



Plate 44: Site Photo of Shuweicha in summer

Observations in winter were made on 4/2/2009 and in summer on 16/6/2009:

Winter - Birds: 7 species, 31 individuals. The most important species were:

Pin-tailed Sandgrouse *Pterocles alchata* 13, Northern Wheatear *Oenanthe oenanthe* 1, Eurasian Skylark *Alauda arvensis* 11, Crested Lark *Galerida cristata* 3, Daurian Isabelline Shrike *Lanius isabellinus* 1, Desert Wheatear *Oenanthe deserti* 1 and Southern Grey Shrike *Lanius meridionalis* 1.

Summer -Birds: 3 Species, 4 individuals. The species observed were:

Crested Lark *Galerida cristata* 2 (resident breeder), Eurasian Collared Dove *Streptopelia decaocto* 1, and Barn Swallow *Hirundo rustica* 1.

Winter- Fish: Wide dry area, no fish.

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Summer - Plants: Only one waypoint was visited. Waypoint 70 (N: 32 42 33.5 E: 45 48 32.3) was dry, seasonal marsh (desert).

Waypoint 70: This former marsh is now dry and there were not many plants except in the area close to the road between Al Kut city and Badra city. All the existing plants were herbs including *Suaeda* sp., *Cressa cretica*, and *Carthamus oxyacantha*.

The ecological condition was rated a “4” (disturbed). The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay and the percentage of non-vegetated terrain was 90%.

Conservation Significance:

Birds: The following conservation concern (CC) species was noted at the site only in winter: Pin-tailed Sandgrouse *Pterocles alchata* (CC).

Fish: No fish were found.

Plants: The area was entirely desert and there were few plants, all of which are common in Iraq. *Suaeda* sp. and *Cressa cretica* are natives in Iraq (Al- Ani et al, 1971 and Habib et al, 1971).

Conservation Issues & Recommendations for the Site:

This site was visited during the winter and summer 2009 KBA surveys and it was dry during both surveys. During visiting the site at 2009, the team was informed that Iran has closed off the branches and blocking water that fed this area from their side. But this could not be confirmed and this is possibly not the only source of water to this area, so the site may simply be affected by current drought conditions. It is recommended to continue surveying this site to discover more about the migrant and wintering bird populations, then to design a proper conservation or restoration plan if the site merits it. The site may be dry in winter due to the regional drought that is affecting Iraq but water may be lacking for other reasons and due to the importance these seasonal marshes for many migratory species, it would be important to learn more about the local hydrology to determine if water can be resupplied to the area in winter.

KBA WT1-Jazman (Zurbatia) – Surveyed in Winter and Summer 2009

Site Description: Jazman (Zurbatia) (WT1) is a dry area with rich plant cover that was surveyed for the first time in 2009. It located at the northeastern of Kut city, close to the Iranian border. The area receives water from a small seasonal river called “Galala Badra” that feeds the orchards and farms in the area. Generally, herbs and a small number of shrubs are characteristic of the plant cover of the area. The area is close to the Himreen Mountain chain on the Iranian side of the border. The area is rich in canals and small dry channels. The area appeared good for migratory raptors and passerines, and is also very famous for gazelle that escape to the Iranian heights when they face pressure from hunters. The team surveyed around the point (N33 08 50.9, E46 04 30.9).

During the summer visit to this site, some key bird species were found and might breed here. Although the site is generally dry, there was a small canal that brings water from a nearby well. This water goes to irrigate nearby farms and attracted birds while the weather was hot. These birds were either drinking or having a bath at various points along the canal. Some other birds were using date palm trees for shelter.

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Plate 45: Site Photo of Jazman in summer

Observations in winter were made on 5/2/2009 and in summer on 16/6/2009:

Winter - Birds: Nine species, 129 individuals. The most important species were:

Finsch's Wheatear *Oenanthe finschii* 3, Northern Wheatear *Oenanthe oenanthe* 2, Black Redstart *Phoenicurus ochruros* 2, Eurasian Skylark *Alauda arvensis* 18, Crested Lark *Galerida cristata* 4, Eurasian Collared Dove *Streptopelia decaocto* 65, Rock Dove *Columba livia* 22, Steppe Buzzard *Buteo b. vulpinus* 3 and House Sparrow *Passer domesticus* 10.

Winter- Fish: Dry, no fish.

Summer -Birds: 11 Species, 194 individuals. The species observed were:

Eurasian Collared Dove *Streptopelia decaocto* 53, Laughing Dove *Streptopelia senegalensis* 11, See-see Partridge *Ammoperdix griseogularis* 5, Grey Hypocolius *Hypocolius ampelinus* 9, White-cheeked Bulbul *Pycnonotus leucogenys* 23, Common Babbler *Turdoides caudata* 31, European Roller *Coracias garrulus* 1, Blue-cheeked Bee eater *Merops superciliosus persicus* 6, Rufous-tailed Scrub Robin *Cervotrichas erythropterygia galactotes* 7, and Crested Lark *Galerida cristata* 13 (resident breeder).

Summer- Plants: One waypoint was visited here. Waypoint 69 (N: 33 08 51.0 E: 46 04 31.3) was dry land dominated by dry herbs.

Waypoint 69: There were more than 26 plant species at this way point. The ecological condition was rated a "3" (moderately disturbed). The dominant shrub species was *Prosopis farcta*, the dominant herb species was *Alhagi graecorum* and the dominant grass species was *Avena fatua*.

The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the ecological condition at this waypoint was rated a "3" (moderately disturbed). The habitat was dry land dominated by dry herbs and the percentage of non-vegetated terrain was 60%.

Other Fauna: The team was informed that the northern and the eastern part of the area is well-known for harboring large numbers of gazelle and some other important mammal species, though further investigation and research is needed to document this.

Conservation Significance:

Birds: The following conservation concern (CC) species was noted at the site: Finsch's Wheatear *Oenanthe finschii* (CC). And for summer: Grey Hypocolius *Hypocolius ampelinus*.

The site is considered to hold some important mammal species.

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Plants: The ecological scale was rated a “3” (moderately disturbed), however, there were two endemic plants at this waypoint and they are *Silybum marianum* and *Notobasis syriaca*. Also, the native species *Cressa cretica* was documented.

Conservation Issues & Recommendations for the Site:

This site was only visited during the 2009 KBA surveys, so it still relatively unfamiliar. It is recommended that surveying continue at this site to discover more about the breeding, migrant and wintering bird populations then to design a proper plan of conservation if the site merits it. Many plant species couldn't be identified for during the summer survey as they had already dried and such areas need botanical assessments much earlier in the year when many of these species are in flower.

KBA SM8-Teeb – Surveyed in Winter and Summer 2009

Site Description: This site is a seasonal wetland located about 40km north of Amarah city and 6 km from the Iranian border. It receives water from the Iranian uplands and mountains after the rainy season. The main road to Al-Teeb crosses this area and water traces are noticeable on both sides of the road. It was expected that during the survey to find the site filled with water, but the general lack of rain in addition to the Iranian closure of the site's primary water source resulted in drought conditions. No prominent plant cover was observed, though there remained mainly short grasses and semi-desert plants, though no reeds were found. This site is located on the migration route for waterfowl. Thus, in the event it was provided with sufficient amounts of water, it would be an excellent stopping area for various kinds of birds. The core coordinates of the surveyed area is N32° 9'24.86", E47°24'12.20".



Plate 46: Site Photo of Teeb in summer

Observations in winter were made on 27/1/2009 and in summer on 2/6/2009:

Winter - Birds: 11 species, 85 individuals. The most important species were:

Dunlin *Calidris alpina*, Pied Avocet *Recurvirostra avosetta* 6, Common Redshank *Tringa totanus*, Greater Spotted Eagle *Aquila clanga*, Asian Imperial Eagle *Aquila beliiaca* 1, Southern Grey Shrike *Lanius meridionalis*, and Northern Wheatear *Oenanthe oenanthe*.

Summer -Birds: 17 Species, 261 individuals. The species observed were:

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Collared Pratincole *Glareola pratincola* 15, Sand Martin *Riparia riparia* 32, Barn Swallow *Hirundo rustica* 65, Pin-tailed Sandgrouse *Pterocles alchata* 52, Eurasian Collared Dove *Streptopelia decaocto* 4, Rock Dove *Columba livia* 3, Crested Lark *Galerida cristata* 11, Grey Hypocolius *Hypocolius ampelinus* 16, Red-wattled lapwing *Vanellus hoplopterus indicus* 4, Little Tern *Sternula sterna albifrons* 2, Blue-cheeked Bee-eater *Merops superciliosus persicus* 4, Western Yellow Wagtail *Motacilla flava* 3, Little Ringed Plover *Charadrius dubius* 18, Kentish Plover *Charadrius alexandrinus* 22, Grey Heron *Ardea cinerea* 2, Spotted Sandgrouse *Pterocles senegallus* 1.

Winter - Fish: A dry site.

Summer - Plants: Only one waypoint was visited here. Waypoint 51 (N 32 10 02.9, E 47 23 43.9) was dry land.

Waypoint 51: This site was rated a “3” (moderately disturbed) on the ecological scale due to over grazing and road construction, which threaten plant diversity in the site. The dominant species were *Aeluropus lagopoides*, *Suaeda* sp.(frequent), *Schoenoplectus litoralis* (frequent), *Tamarix* sp. (occasional), and *Lycium* sp.(occasional). Altogether, five species were present in the site.

The area was flat and exposed in all directions. The geology of this area was sedimentary, the soil type was clay, and the percentage of non-vegetated terrain was 70%.

Other Fauna: Rupelli Fox (1).

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site: Greater Spotted Eagle *Aquila clanga* (GT) and Asian Imperial Eagle *Aquila beliiaca* (GT). And in summer: Pin-tailed Sandgrouse *Pterocles alchata* (CC), Spotted Sandgrouse *Pterocles senegallus* (CC).

Plants: All the plant species identified are common in Iraq. *Aeluropus lagopoides* is native in Iraq (Townsend, 1968), *Lycium* sp. and *Suaeda* sp. belong to one of the missing families in the Flora of Iraq books and there is no information regarding the distribution of these plants in Iraq. However, previous surveys supported the recent conclusion that these plants are common in the southern marshlands of Iraq.

Conservation Issues & Recommendations for the Site:

This site was only visited during the 2009 KBA survey, so it still unfamiliar. It is recommended to continue surveying this site to discover more about the breeding, migrant and wintering bird populations, then to design a proper conservation or restoration plan if the site merits it.

KBA MN1-Al-Teeb Oasis – surveyed in Winter and Summer 09

Site Description: Al-Teeb Oasis (MN1) is an oasis in a semi-desert area (N32 23 19.2, E47 20 30.3), which was surveyed for the first time in 2009. It is located in the foothills that rise eastward to meet the mountainous border with Iran. It is located 60 km directly north of Amarah city. The oasis is of fresh, spring water and the shepherds and locals visit it to fill their tanks from the source of the water. This area is rich with plant cover compared with the surrounding area, which makes it an attractive area for birds and other animals and insects. There are some trees within the site in addition to medium-sized shrubs of thorny plants as well as grasses beneath the larger plants.

This site is important for migrant birds and in particular passerines in addition to the resident birds. It was observed that this site is frequented for recreation and picnics; subsequently, it is highly disturbed during the spring and autumn when many people visit the site leaving a great deal of rubbish behind them (particularly plastics). No hunting was observed at this site. There is

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another oasis several kilometers southwest, a sulfur oasis called “Ein Al-Kibreet” with a distinct sulfur smell. Around the sulfur oasis there are small farms and trees which are also attractive for birds.

This is one of several oases that occur in the Al-Teeb desert northeast of Amarah city near the Iranian border. The permanent water source and the plant cover create a very attractive habitat for the desert bird species to congregate in a relatively small spot which is important for studying the birds of this area as well as migratory birds such as passerines.



Plate 47: Site Photo of Teeb Oasis in summer

Observations in winter were made on 27/1/2009 and in summer on 2/6/2009:

Winter- Birds: 16 species, 136 individual. The most important species were:

A group of interesting bird was found in this area like during winter: Red-wattle Lapwing *Vanellus Hoplopterus indicus*, black redstart *Phoenicurus ochruros*, Desert Finch *Rhodospiza obsoletus* (28), Linnet *Carduelis cannabina*, Eurasian Blackbird *Turdus merula*, White-cheeked Bulbul *Pycnonotus leucogenys*, Laughing Dove *Streptopelia senegalensis*, and Water Pipit *Anthus spinoletta*.

Summer -Birds: 11 Species, 159 individuals. The species observed were:

Grey Hypocolius *Hypocolius ampelinus* 24, Eurasian Collared Dove *Streptopelia decaocto* 13, Rock Dove *Columba livia* 8, Crested Lark *Galerida cristata* 19, Eurasian Golden Oriole *Oriolus oriolus* 2, European Turtle Dove *Streptopelia turtur* 2, Yellow throated Sparrow *Gymnoris petronia xanthocollis* 18, Common Babbler *Turdoides caudata* 29.

Winter- Fish: The fish team did not visit the site because it is primarily a terrestrial site.

Summer- Plants: Two waypoints were visited within this site. Waypoint 56 (N: 32 23 16.7 E: 47 20 31.5) was along a small stream (~50 cm in width coming from a spring) and Waypoint 57 (N: 32 23 14.6 E: 47 20 59.9) was dry land habitat.

Waypoint 56: The site contains a small stream 50 cm in width which receives its water from the spring. Six plant species were observed, though the site was dominated by cultivated trees such as *Populus euphraticam*. Elsewhere, the dominant shrub species was *Capparis spinosa* and the dominant herb species was *Alhagi graecorum*. The remaining plants included *Pinus halepensis*. (frequent and cultivated), *Zizphus* sp. (abundant) and *Salsola* sp. (frequent). The site was rated a “3” (moderately disturbed) on the ecological scale due to overgrazing and road construction.

Waypoint 57: The site is dry land containing only terrestrial plants The site was rated a “3” (moderately disturbed) on the ecological scale due to the livestock production, grazing and pervasive trash that threaten the waypoint. Six plants species were observed, with *Alhagi*

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gracorum, as the dominant herb species, in addition to *Pinus* sp. and *Capparis spinosa* as frequent residents near this waypoint while *Calotropis procera*, *Zizphus* sp. and *Heliotropium* sp., were occasionally seen in this waypoint.

Conservation Significance:

Birds: The following conservation concern (CC) species were noted at the site in winter: White-cheeked Bulbul *Pycnonotus leucogenys* (CC). And in summer: Grey Hypocolius *Hypocolius ampelinus* (End, CC), Common Babbler *Turdoides caudata* (CC), Eurasian Golden Oriole *Oriolus oriolus* (CC), Eurasian Golden Oriole *Oriolus oriolus* (CC), and European Turtle Dove *Streptopelia turtur* (CC).

Fish:

Plants: *Calotropis procera* is the only species of the rare genus *Calotropis* that is found but also occasionally cultivated in Iraq (Townsend, 1980).

Conservation Issues & Recommendations for the Site:

This site was visited during the winter and summer 2009 KBA survey, so it still unfamiliar. It is recommended to continue surveying this site to discover more about the breeding, migrant and wintering bird populations then to design the proper conservation plan in case the site merits it. So far, the main threat for this site is the rubbish and disturbance that are caused by the picnickers during vacation days. So, more educational efforts are needed to keep this area as clean and natural as possible.

KBA MN2-Zubaidaat – Surveyed in Winter and summer 2009

Site Description: The Zubaidaat area (MN2) is a dry, hilly region northeast of Amarah with many rich valleys (wadies) close to the Iranian border. There are oil fields, pipeline networks and roads in the area but it is largely an uninhabited region still retaining tracts of relatively untouched wilderness. It was an area that suffered great damage during the Iran/Iraq War during the 1980s and there are still traces of the war including bombs, bombshells, and ammunition boxes. The area is an important passageway for passerines in addition to other birds during migration. The central GPS-point of the survey area was taken at 32°23'39.69"N, 47°23'27.20"E.



Plate 48: Site Photo of Zubaidaat in summer

Observations in winter were made on 27/1/2009 and in summer on 2/6/2009:

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Winter- Birds: 7 species, 22 individuals. The most important species were: Chukar Partridge *Alectoris chukar*, Northern Wheatear *Oenanthe oenanthe*, Common Starling *Sturnus vulgaris*, Common Kestrel *Falco tinnunculus*, and Swift *Apus apus*.

Summer -Birds: 5 Species, 19 individuals. The species observed were:

Eurasian Eagle Owl *Bubo bubo* 1 (might breed), Crested Lark *Galerida cristata* 7 (resident breeder), See-see Partridge *Ammoperdix griseogularis* 5 (probable breeder), Hume's Wheatear *Oenanthe albonigra* 6 (probable breeder), and Red-rumped Swallow *Cecropis daurica* 12 (probable breeder).

Winter- Fish: Dry site, no fish.

Summer- Plants: Only one waypoint was visited here. Waypoint 55 (N: 32 23 37.3 E: 47 23 14.2) was dry land (hills).

Waypoint 55: The site is dry and contains only terrestrial vegetation. Most of the plants present in the site were dry during the survey time, and only eleven species could be positively identified. The ecological condition was rated a "3" (moderately disturbed) due to the accumulation of trash and the residual damage caused from the Iranian-Iraqi War legacy. The dominant shrub species was *Tamarix* sp. and the dominant herb species was *Parlatoria* sp., while the remaining species included *Silybum marianum*, *Heliotropium* sp., *Anchusa* sp., *Oliveria decumbens*, *Chrozophora tinctoria*, *Cichorium* sp., *Carthamus oxyacantha*, *Onopordum* sp. and *Centaurea bruguieran*.

Conservation Significance:

Bird: none of the observed birds were of conservation concern.

Plants: *Silybum marianum* is an endemic species in Iraq (Ghahraman, 1987), while the other species are either unknown (perhaps included in the unpublished volumes of Flora of Iraq) or are common sightings in Iraq.

Conservation Issues & Recommendations for the Site:

This site was visited during winter and summer 2009 KBA survey, so it still relatively unfamiliar. It is recommended to continue surveying this site to discover if any conservation concern species utilize the site at any time and then to design a proper conservation plan in case the site merits it. Some bird species of conservation concern might use this area for breeding, but it requires more visits and research. Overgrazing may be an issue at this site but locals report that the biggest problem in the area is the drought.

Summary & Conclusions

Introductory remarks

During winter 2009, the KBA fieldwork consisted of only bird and fish observations and for summer, the focus was on birds and plants. There were also some new sites added to the KBA list within the southern KBA sites.

Some important observations regarding bird diversity and populations were made at various KBA sites in Iraq including at some of the new ones. The most important observation was the occurrence of large populations of waterfowl in sites such as Majnoon (HZ8), Umm An-Ni'aaj (HZ1), Ejayrda (HZ4), Baghdadiya (CM1), Umm At-Tyaar (HA4), Dalmaj (ME2), Shilaychiya (HA17), Slein (south Rumaila, HA21), Razzaza (ME5), Hindiya (ME7), North Ibn Najm (ME8), Samarra Dam (SD1), Habbaniya Lake (AN2), and West Sanaf (SM5).

Data regarding local fish populations were gained directly from fisherman or indirectly through interviews, depending on the circumstances. Much of the information was dependent on the daily catch of local fishermen at various sites where the team procured whole baskets of fish in a random fashion and categorized the fishermen's daily catch of fish according to species. Afterwards, the team calculated the ratio of each species in the sample as well as their length and weight before calculating the overall species ratio for the total catch based upon sample data.

What type of fishing gear the locals used was also recorded, including net type and mesh size. Other Questions for the local fishermen included the overall number of fishing boats on their body of water as well as their average yield with various types of equipment. Due to the variation in the circumstances at and between sites, the information presented in this report should be mainly considered as qualitative data with some indications of quantitative trends.

With regards to plants, surveys of selected wetlands and arid regions in Southern Iraq were conducted in order to evaluate the general ecological status of these sites, estimate the vegetation cover by observing all the present plants in each site and insert the results in the plant database. The results showed that most of the surveyed marshes were threatened by drought because of the severe decreasing water levels in the Euphrates and Tigris Rivers, low winter rainfall, and human activities to divert water. Subsequently, many wetlands that were surveyed became completely dry such as Majnoon marsh and Zichri. Many plant species which had historically existed in these areas were no longer present, such as: *Utricularia minor*, *Utricularia gibba*, *Ceratopteris thalictroides*, *Limnophila indica*, *Marsilea capensis*, *Mentha aquatic*, and *Ottelia alismoides*.

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Important Bird Areas

The table below shows the most important sites after matching them with the Important Bird Area (IBA) criteria of the Middle East by Evans (1995), which was updated later by BirdLife International. The sites are arranged according to their priority of conservation status, based on the 2009 winter and summer surveys. It is important to match these areas against the IBA criteria basing on the 7 previous surveys in winter and summer since Nature Iraq's original surveys in 2005.

Table 2: KBA sites and their criterion, only according to winter and summer 2009 surveys

Site Name	Site Code	A Category ¹			
		A1	A2	A3	A4
Umm An Ni'aaaj	HZ1	X	X	-	X
E'jayrda	HZ4	X	X	-	X
Majnoon	HZ8	X	X	-	X
Baghdadiya, South	CM1	X	-	-	-
Dalmaj, South**	ME10	X	-	-	-
Razzaza Lake	ME5	X	-	-	-
Udhaim	HZ2	X	X	-	-
Abu Hedeeda**	HA22	X	-	-	-
Abu Ajaaj**	HA23	X	-	-	-
Ibn Najm	ME4	X	-	-	-
Dalmaj, East**	ME11	X	-	-	-
Abu Zirig	CM16	X	-	-	-
Ibn Najm, North*	ME8	X	-	-	-
Fuhood, North	CM10	X	-	-	-
Sinnaaf Area, Western	SM5	X	-	-	-
Kermaashiya Marsh (HA7, the Khwaysa Area in Al Kermaashiya Marsh was merged with this site)	HA8	X	-	-	-
Naggaara	HA16	X	-	-	-
Shilaychiya Marsh	HA17	X	-	-	-
Buhaira Al Hilwa	HA3	X	-	-	-
Slein (south Rumaila) formerly Ghattar *	HA21	X	-	-	-
Teeb oasis*	MN1	X	-	-	-
Shuweicha Marsh*	SM7	X	-	-	-
Umm Nakhla	HA6	X	-	-	-
Ras Al Beesha	SA4	X	-	-	-
Khor Az Zubayr Canal/Kanat Khor Az Zubayr	KZ3	X	-	-	-
Musayab*	ME6	X	-	-	-
Dalmaj marsh, South A	ME2	X	-	-	-
Hindiya Barrage*	ME7	X	-	-	-

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Site Name	Site Code	A Category ¹			
		A1	A2	A3	A4
Umm Al Tiyaar near Al Buhaira	HA4	X	-	-	-
Shubaicha Marsh*	SM6	X	-	-	-
Teeb*	SM8	X	-	-	-
Euphrates & Tigris Junction	SA1	X	-	-	-
Haffar Opening 2	HA19	X	-	-	-
Zubaidaat*	MN2	-	-	-	-
Bushes Near Umm Al-Warid*	HZ9	-	-	-	-
Teena, Northern	HA1	-	-	-	-
Zichri	CM5	-	-	-	-
Fifth Irrigation Channel/ Al Irwaa' Al Khaamis	HA5	-	-	-	-
Sinnaaf Area, Central-south	SM4	-	-	-	-
Jazman (Zubaidat)	WT1	-	-	-	-

¹A: Important Bird Areas - Global importance

- A1. Globally threatened species
- A2. Restricted-range species
- A3. Biome-restricted species
- A4. Congregations

²B: Important Bird Areas - Middle Eastern importance

- B1: Regionally important congregations
- B2: Species with an unfavourable conservation status in the Middle East
- B3: Species with a favourable conservation status but concentrated in the Middle East

To know more about the Middle East IBA criteria, please visit:

http://www.birdlife.org/datazone/sites/middle_east_criteria.html

* Sites that were surveyed for the first time during winter 2009.

**Sites that were surveyed for the first time during summer 2009.

Important Fish Areas

Some sites within the KBA survey can be considered to be important areas for fish based on the winter 2009 survey. These include:

- Majnoon (HZ8): This site appears to be a typical shallow marsh with stagnant but clear water. However, fish diversity was the highest of all the KBA sites (with eleven species) with approximately 100 boats fishing in the area on a daily basis with a catch of approximately 8kg/boat per day. Also, the threatened *B. sharpeyi* species can be found here, increasing the site's conservation value.
- Dalmaj Marsh (ME2, ME10): A water reservoir fed by irrigation water collected from agricultural field around Baghdad and to the south, this site is managed by a private contractor. They are concerned with monetary gain, however, and roughly 150 boats fish

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the lake daily netting a catch of about 70kg/boat per day. Although no conservation plan exists for this lake, the fishermen do employ legal fishing techniques.

The team recorded six fish species at this site: one of those fish is Bunni (*B. sharpeyi*) which is considered to be a threatened species. Also, the growth of fish populations was good by comparison to other southern sites.

- Umm An-Ni'aaj (HZ1): At the core of Hawizeh marsh, this site held eight fish species and approximately 10 fishing boats were employing gill nets for a daily catch of about 8kg/boat per day. But it is important to note that about 150 boat practice electrofishing techniques for a daily catch of about 26kg/boat per day. Hawizeh was considered to be a habitat for Bunni, but in the winter 2009 survey no Bunni specimens were found.
- Abu-Zirig (CM16): A small marsh by volume, but one with high fish diversity (Nine species). Abu-Zirig also shelters unique specimens of Kattan *B. xanthopterus*, a species which has disappeared in all other sites in Southern Iraq. The diverse habitat in this marsh, ranging from wide, deep river to shallow, slow-moving water make this site very important for fish as spawning and nursing ground. The high vegetation also provides food and shelter for the local fish population.
- Kanat Khor Al-Zubayr (KZ2): This canal is considered to be a spawning and nursery ground for large numbers of marine fish. The amount of fishing is high, especially in spring and summer when migratory fish enter the fresh water to spawn. Approximately 15 large boats and 500 small ones fish in the area netting a weekly catch about 10 tons and 6 tons respectively. Fish diversity is average overall, but highest in the winter when few boats put out on the open water.
- Ras Al-Besha (SA4): This unique habitat in Iraq is a tidal mud-flat with salt water. This site is primarily a landing for fishermen at sea, and it is Nature Iraq's goal to assess this catch in the future. Nine fish species were observed but the real number is likely more than three times that number as the team's visit was coincided with a religious holiday when the fishermen were exempt from work.

The figure below compares the diversity of fish species between several selected sites where fish samples could be obtained directly from fishermen in the winter 2009 survey. This indicates that Majnoon (with 11 species) and Tharthar Lake (with 10 species), which is a site in Central Iraq, are the richest sites in terms of species. Umm An Ni'aaj had eight species in winter 2009 but previous surveys have shown up to 12 species and this may indicate the deterioration of the water quality and quantity caused by the drought and the Iranian embankment.

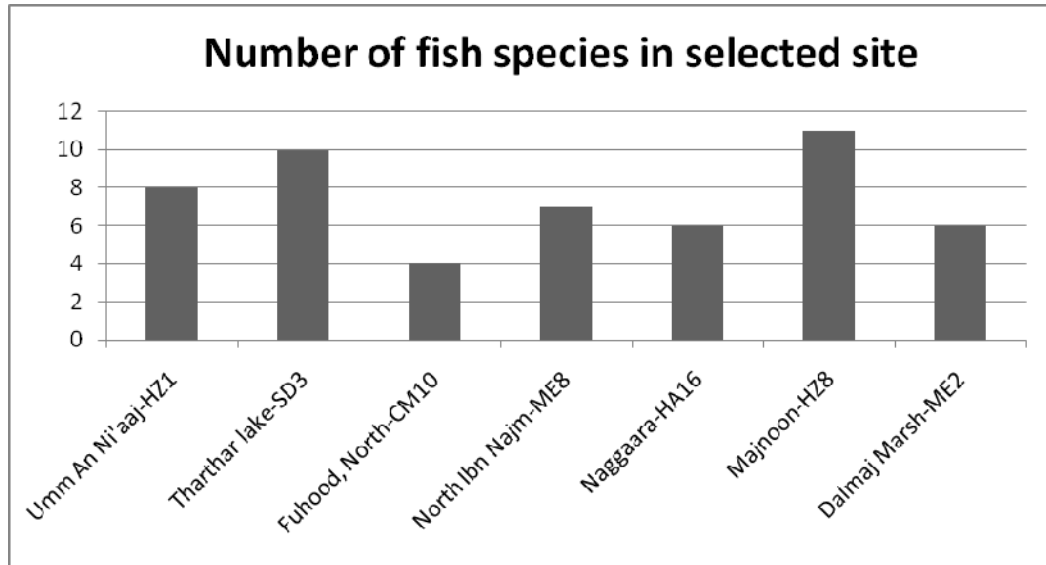


Figure 1: Number of fish species in selected site

The growth rate of fish differs in surveyed sites affected by food availability, water quality and any environmental stresses that might be present at the site. The two figures below show the average length and weight for six commercial fish species at selected surveyed sites where fish samples could be obtained directly from fishermen; data that may reflect the quality of the local habitat for specific fish species:

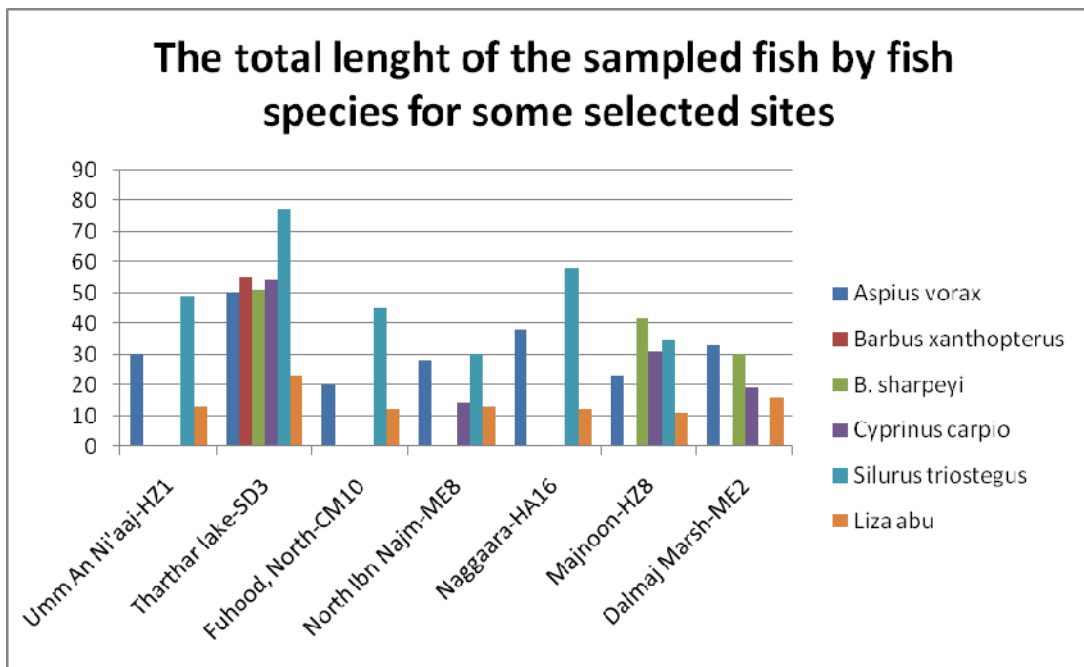


Figure 2: The total length of the sampled fish by fish species for some selected sites.

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The following graph shows the total weight of the sampled fish by fish species for selected sites and six selected fish species where fish samples could be obtained directly from fishermen in winter 2009. It should be noted that this is simply an estimate of weights achieved by these species at these sites. The weight of each commercial fish across different sites may show decision-makers which site has a good stock and production capacity when compared with poorer sites, which may need work to improve their environmental status.

Our result shows that Tharthar Lake had the best growth rate for commercial fish, specifically Kattan (*Barbus xanthopterus*), which had the best weight in Tharthar lake, possibly indicating that the Kattan habitat is healthy in this lake. While it appears that North Ibn Najim may have the lowest growth rate of the selected sites, possibly due to the water quality and quantity, which was very poor in North Ibn Najim in 2009. Also, in this latter site the KBA team recorded extensive use of electrofishing, which will likely harm overall fish growth or kill the necessary organisms which supply food for the upper level of the food web.

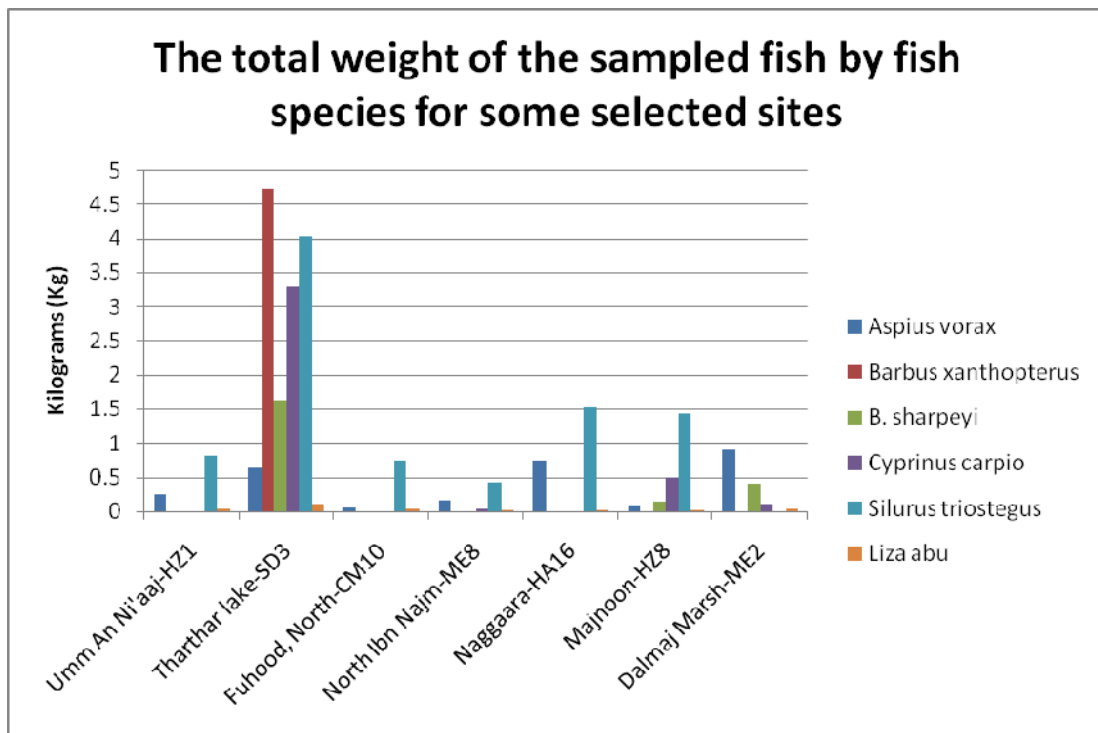


Figure 3: The total weight of the sampled fish by fish species for some selected sites.

Important Plant Areas

By evaluating the sites based on their plant species richness (strictly number of plant species), the highest quality sites were: Umm An Ni'aaj (HZ1), Udhaim (HZ2), E'jayrda (HZ4), Abu Zirig

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(CM16), and Ibn Najm (ME4), Zubaidaat (MN2), Hindiya Barrage (ME7), Jazman (Zurbatia) (WT1), and Shilaychiya Marsh (HA17).

The sites were also evaluated on their overall ecological condition on a scale of 1-5, where 1 indicates 0% disturbance or no impact and 5 represents 100% disturbance or impact. Given the massive drainage campaign of the 1990s in the Southern Mesopotamian marshlands, no site can be considered to have no impact or disturbance. This scale is considered a rough estimate of ecological recovery. Umm An Ni'aaj (HZ1), Udham (HZ2), Abu Zirig (CM16), Ras Al Beesha (SA4), Al Kermaashiya (HA8) were rated at 2 (25% disturbed); E'jayrda (HZ4), Al Baghdadiya (CM1), An Naggaara (HA16) and Shilaychiya (HA17), were rated at 3 (50% disturbed), Euphrates & Tigris Junction (SA1), Razzaza Lake (ME5) and Dalmaj marsh (ME10) were rated at 4 (75% disturbed), Majnoon (HZ8), Zichri (CM5) and Ibn Najm (ME4), were rated at 5 (100% disturbed).

PlantLife International, an organization involved in international plant conservation, has developed criteria for the designation of Important Plant Areas (IPAs) throughout the globe. According to PlantLife International's website, the criteria for the IPA project have been developed over a period of ten years by consulting specialists from many countries (PlantLife, 2008).

PlantLife states that the identification of IPAs is based on three broad criteria listed below. A site qualifies as an IPA if it fulfills one or more of these criteria.

1. Threatened species (sites that hold significant populations of species of global or regional concern),
2. Botanical richness (sites with exceptionally rich flora in a regional context in relation to its bio-geographic zone), and
3. Threatened habitats (sites that are outstanding examples of a habitat type of global or regional importance).

Evaluation of sites based on their richness and habitat types is still an on-going process within the Nature Iraq KBA Project. This discussion presents only preliminary findings from the last survey. A list of sites that match these criteria is not complete yet but there are some sites that might match one or two of these criteria. The Mesopotamian marshlands in particular should be considered a key, threatened habitat of regional and global importance. Sites such as Umm An Ni'aaj (HZ1), Udham (HZ2), E'jayrda (HZ4), Bushes Near Umm Al-Warid (HZ9), Al Baghdadiya, South (CM1), Abu Zirig (CM16), Jazman (Zurbatia) (WT1) and Zubaidaat (MN2) are relatively rich in plant species. Some sites can be considered as threatened habitats due to the

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the high level of disturbance especially the drought (see the table below). A complete list of threatened, rare and/or endemic plants is not yet available for Iraq but an initial assessment was done in this report giving the status of most of the plants identified during the last survey (Summer 2009, see Annex E). The following table attempts a preliminary evaluation of all sites based on the IPA criteria discussed above. Based on this assessment, those sites that meet two or more criteria are highlighted and could be considered priority sites.

Table 3: Comparing all criteria for plants (based on IPA Criteria 1, 2 & 3 above)

Site Name	Site Code	1. Rare and/or Endemic Species*	2. Botanically Rich	3. Threatened Habitat	Ecological Condition of 3 or lower
Abu Zirig	CM16		x	x	x
Bushes Near Umm Al-Warid*	HZ9		x	x	x
E'jayrda	HZ4		x	x	x
Ibn Najm	ME4	x		x	
Shilaychiya Marsh	HA17				x
Umm An Ni'aaj	HZ1		x	x	x
Baghdadiya, South	CM1		x	x	x
Jazman (Zurbatia)	WT1	x	x		
Kermaashiya Marsh	HA8			x	x
Naggaara	HA16			x	x
Ras Al Beesha (<i>revised coordinates</i>)	SA4			x	x
Shuweicha Marsh* (<i>revised coordinates</i>)	SM7	x		x	
Udhaim (<i>revised coordinates</i>)	HZ2	x	x	x	
Zubaidaat*	MN2	x	x		
Buhaira Al Hilwa	HA3			x	
Dalmaj, East	ME11			x	
Dalmaj, South	ME10			x	
Euphrates & Tigris Junction	SA1			x	
Fifth Irrigation Channel/ Al Irwaa' Al Khaamis	HA5			x	
Fuhood, North	CM10			x	
Haffar Opening 2	HA 19			x	
Ibn Najm, North*	ME8			x	
Khor Az Zubayr Canal/Kanat Khor Az Zubayr	KZ3			x	
Khor Az Zubayr, Northwest**	KZ5			x	
Khwaysa Area in Al Kermaashiya Marsh	HA7			x	
Majnoon	HZ8			x	
Musayab*	ME6			x	
Razzaza Lake (<i>revised coordinates</i>)	ME5			x	
Shubaicha Marsh*	SM6			x	
Sinnaaf Area, Central-south	SM4			x	

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Site Name	Site Code	1. Rare and/or Endemic Species*	2. Botanically Rich	3. Threatened Habitat	Ecological Condition of 3 or lower
Sinnaaf Area, Western	SM5			x	
Slein (south Rumaila) formerly Ghattar*	HA21			x	
Teeb oasis*	MN1			x	
Teeb* (<i>revised coordinates</i>)	SM8			x	
Teena, Northern	HA1			x	
Umm Al Tiyar near Al Buhaira	HA4			x	
Umm Nakhla	HA6			x	
Zichri	CM5			x	
Hindiya Barrage*	ME7				

**Rare and/or endemic is not identical to threatened species in the IPA Criteria but rare and endemic species may be an indicator for the presence of such species. Note also that the endemic and rare species identified in the survey are merely preliminarily identified as such.*

Conservation Issues for Sites

The following plates show some examples of common threats in the southern Marshlands and Middle Euphrates.



Pollution and smoke



Oil industry development



Oil piping networking



Daming and earth moving



Electrofishing equipment



Overhunting

Plate 49: Examples of different threats at the sites

Drought and severe shortage of water were the most serious threat that were observed over all the wetlands of Mesopotamia during the winter and summer 2009 surveys. The pictures below were taken for the same site in Al-Hammar Marsh in winter (upper) and summer (lower).

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Plate 50: Evidence of current drought conditions in Al Hammar Marsh

The table below is only based on an assessment of the sites visited in the winter and summer 2009 surveys. The table also includes some of the positive qualities of each site.

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Table 4: Threats and Positive qualities of KBA Survey Sites in Southern Iraq

#	Site Name	Site Code	Threat										Positive qualities			
			Dryness/lack of water/drainage	Oil pollution	Hunting	Agriculture	Removing of plant cover/Grazing	Constructions & Roads	Garbage and/or Sewage	Electro-fishing	Over fishing	Other	The site of infrastructure that helps conservation efforts	The locals willing to help in conservation efforts	Hunting/Fishing ban	
1	Umm An Ni'aaj	HZ1	X	X	X	-	X	X	-	X	X	X	X	X	X	-
2	E'jayrda	HZ4	X	-	X	X	X	X	-	X	X	X	X	X	X	-
3	Majnoon	HZ8	X	-	X	-	X	X	-	X	X	X	X	X	X	-
4	Baghdadiya, South	CM1	X	-	X	-	X	-	-	X	X	X	X	X	X	-
5	Dalmaj Marsh	ME2	X	-	X	X	X	-	-	-	X	X	X	X	X	-
6	Razzaza Lake	ME5	X	-	X	-	-	-	X	-	X	X	X	X	X	-
7	Udhaim	HZ2	X	-	X	-	X	-	-	X	X	X	X	X	X	-
8	Ibn Najm	ME4	X	-	X	X	X	X	X	X	X	X	X	X	X	-
10	Abu Zirig	CM16	X	-	X	-	X	-	X	-	X	X	X	X	X	X
13	Ibn Najm, North*	ME8	X	-	X	X	X	X	X	X	-	X	X	X	X	-
14	Fuhood, North	CM10	X	-	X	-	X	X	X	X	X	X	X	-	X	-
15	Sinnaaf Area, Western	SM5	X	-	X	-	X	X	-	X	X	X	X	-	?	-
16	Kermaashiya Marsh	HA8	X	-	X	-	X	X	X	X	-	X	-	X	X	-
17	Naggaara	HA16	X	-	X	-	X	-	-	X	X	X	X	X	X	-
18	Shilaychiya Marsh	HA17	X	-	X	-	X	-	-	-	X	X	-	X	X	-
19	Buhaira Al Hilwa	HA3	-	-	X	-	X	-	-	-	-	X	X	X	X	-
20	Slein (south Rumaila) formerly Ghattar*	HA21	X	X	X	-	X	X	X	-	-	X	-	X	X	-
21	Teeb oasis*	MN1	-	-	X	-	-	-	X	-	-	X	X	X	X	-
22	Shuweicha Marsh*	SM7	X	-	X	-	-	-	-	-	-	-	-	-	-	-
23	Umm Nakhla	HA6	X	-	X	X	X	X	-	X	-	X	-	X	X	-
25	Ras Al Beesha	SA4	X	X	X	-	X	X	-	-	-	X	X	-	-	-
26	Khor Az Zubayr Canal/Kanat Khor Az Zubayr	KZ2	-	X	-	-	-	-	X	-	-	X	-	-	-	-
27	Musayab*	ME6	-	-	-	X	-	-	-	-	-	X	-	X	X	X*
28	Hindiya Barrage*	ME7	-	-	X	X	-	X	-	-	-	X	-	X	X	X*

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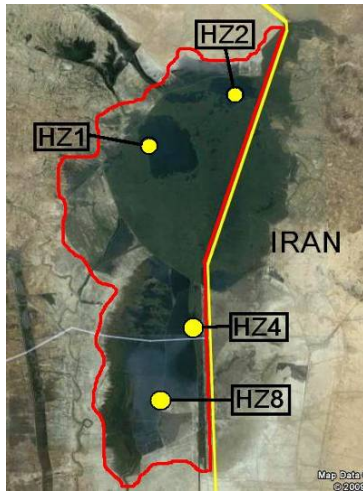
#	Site Name	Site Code	Threat										Positive qualities			
			Dryness/lack of water/drainage	Oil pollution	Hunting	Agriculture	Removing of plant cover/Grazing	Constructions & Roads	Garbage and/or Sewage	Electro-fishing	Over fishing	Other	The site of infrastructure that helps conservation efforts	The locals willing to help in conservation efforts	Hunting/Fishing ban	
29	Umm Al Tiyaar near Al Buhaira	HA4	X	-	X	-	X	-	-	-	-	-	X	X	X	-
30	Shubaicha Marsh*	SM6	X	-	X	-	-	-	-	-	-	-	-	-	-	-
31	Teeb*	SM8	X	-	X	-	-	-	-	-	-	-	-	-	-	-
32	Euphrates & Tigris Junction	SA1	-	X	-	X	-	X	X	X	X	X	-	-	-	-
33	Haffar Opening 2	HA19	X	-	X	X	X	-	-	-	-	-	X	-	X	-
35	Zubaidaat*	MN2	-	-	X	-	-	-	-	-	-	-	-	-	-	-
36	Bushes Near Umm Al-Warid*	HZ9	-	-	X	X	X	-	-	X	X	-	X	-	-	-
37	Teena, Northern	HA1	X	-	X	-	X	X	-	X	-	X	-	-	-	-
38	Zichri	CM5	X	-	X	X	X	X	-	-	-	-	X	-	X	-
39	Fifth Irrigation Channel/ Al Irwaa' Al Khaamis	HA5	X	-	X	-	X	X	-	-	-	-	X	-	X	-
40	Sinnaaf Area, Central-south	SM4	X	-	X	-	X	-	-	-	-	-	X	-	-	-
41	Abu Hadeeda	HA22	X	-	X	-	-	-	-	-	-	X	X	-	-	-
42	Abu Ajaaj	HA23	X	-	X	-	-	-	-	-	-	X	X	-	-	-
43	Jazman (Zurbatia)*	WT1	?	?	?	?	?	?	?	?	?	?	?	?	?	?

*Sites were visited for the first time during 2009 KBA surveys.

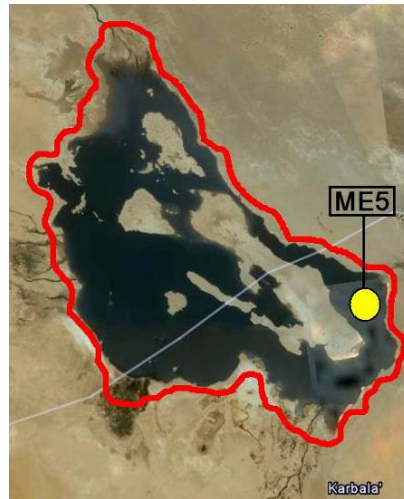
? New site; requires more surveys to assess.

KBA Site Delineation

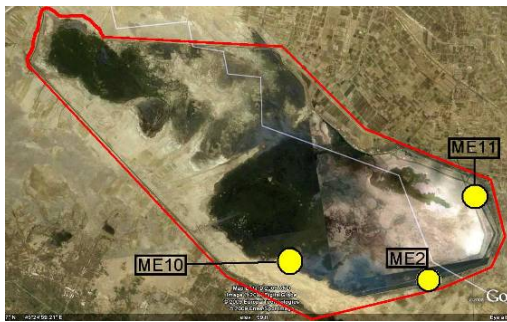
Delineation of any proposed KBA is very necessary in order to have better understanding of the boundaries of the area and where to address and focus our conservational activities. The following maps show four of our top-listed KBA sites that are of priority for conservation. The boundaries of the proposed delineated areas are still rough (and in the case of Hawizeh may differ slightly from a previous delineation conducted for submission of this site as a Ramsar wetland site of international importance). This is only a suggested boundary that needs additional refinement based on the evaluation of sites, species requirements at these sites, threat assessments and other considerations (cultural/heritage sites, sites important for other human uses). The process of delineation is an iterative one but it is essential to place a boundary on a map to begin moving forward with the vital discussions and advocacy work needed to turn these sites into protected areas.



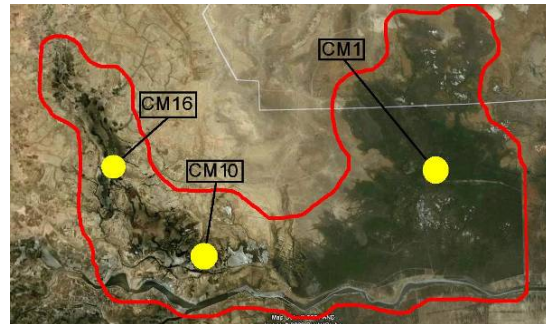
Hawiza Wetlands with KBA sites



Razzaza Lake with KBA site



Dalmaj Marsh with KBA sites



Central Marshes with KBA sites

Plate 51: Four draft site delineations

Recommendations for Sites

Based on the results and field observations gained from the survey team, a clearer picture emerges concerning the most important KBA sites in Iraq given our present knowledge. For the important sites that have suffered serious degradation and for sites of “lesser importance,” in term of overall conservation, the bird team has come up with the following recommendations:

- More coordination with the government sector including the related Ministries and Universities needs to occur when planning for conservation activities such as education and awareness-raising programs or taking action that may result in impacts to the biological diversity of a site, for example building and designing new roads. In many cases, an environmental impact assessment should be done for new development projects to ensure that adverse effects are mitigated.
- Coordination with the local police around the important or “key” sites to control hunting and fishing especially during the breeding and migration periods.
- Doing more in terms of education and publishing informational materials that target various the communities, children, hunters, fishermen and other stakeholders.
- Designing special activities that might be implemented by local children, and communicating with local Education Departments to implement these activities focusing on those who reside near the important KBA sites.
- Establishment of Local Conservation Groups (LCG) around the important KBAs, and involve them in training and conservation efforts.
- Communicating and coordinating with the national hunting associations, and keeping in contact with key, well-known hunters around each important KBA. This might include training and educating them in modern sustainable hunting techniques and making them aware of the status of threatened species and how to protect them by conserving their habitat.
- Comprehensive surveys for other species including mammals, reptiles, amphibians, and insects are needed throughout Iraq but many of these types of survey require different survey methodology, training, and equipment as well as additional funding.
- Collect more detailed information to refine the delineation of the KBA sites according to their priority.
- Begin an advocacy program to set up a network of protected area sites throughout Iraq with the major function of safeguarding Iraq’s irreplaceable biological diversity.

Regards fish species there are some general recommendations that can be made:

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- Comprehensive water management practices, rules, regulations and enforcement to conserve water quality and quantity in Iraq's wetlands and inland waterways is urgently needed throughout the country. Some political solutions are needed immediately with Iraq's neighboring countries to ensure that Iraq is supplied with adequate waters to meet both human and wildlife needs even in drought conditions.
- Improper fishing, specifically electrofishing, has been noticed in many sites without any precautions or legal liability. This is an extremely damaging and unsustainable practice that decreases future fish harvests for the very people who practice this method. Thus, it is necessary to frame legal codes to stop improper fishing at once, but this should be done in a way that does not unduly penalize people who feel they have been forced into using this method out of economic necessity.
- Also, the size of nets employed by local fishermen needs to be regulated to avoid fishing smaller fish.
- Some key fish species suffer from overfishing due to their market price, such as Kattan and Bunni. Consequently, the fish stock and fish sizes/weights have significantly decreased throughout Iraq so special laws should be adopted to protect threatened species. These laws need to go hand in hand with comprehensive, scientific fisheries surveys to assess the stock and determine the sustainable harvest level of wild fish. Prior to the summer survey, the Twin Rivers Institute for Scientific Research conducted a training on Aquaculture and Fisheries surveys. Some of the methodologies taught in that course were followed during the summer survey, which included doing a Fish Frame survey in the proposed National Park area and in East Hammar. This survey was not completely successful because the drought had essentially halted fishing in many of the survey areas, but some important information was obtained and will be released in a separate report. More such research activities are needed to understand the complexities of the Iraqi fisheries.
- Overfishing threatens many sites, especially those with good stock such as Tharthar Lake in Central Iraq as well as Majnoon, Abu Zirig and Umm Al-Ni'aaj. Teaching sustainable fishing practices and regulating local water levels will help sustain fish stocks in Iraq.

From the standpoint of the botany survey, the KBA team recommends the following:

- Further surveys are needed of the following sites that have the highest species richness and best ecological conditions that are also considered threatened habitats: Umm An Ni'aaj (HZ1), Udham (HZ2), E'jayrda (HZ4), Majnoon (HZ8), Baghdadiya (CM1), Zichri (CM5), Abu Zirig (CM16), (HA4), Kermaashiya (HA8), An Naggaara (HA16),

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Shilaychiya (HA17), Ad Dalmaj Lake (ME10), Ibn Najm (ME4), Ras Al Beesha (SA4), Jazman (Zurbatia-WT1), Hindiya Barrage (ME7) and Zubaidaat (MN2).

- There is a need for more than one survey per year in order to catalog seasonal plant life throughout its lifecycle including the flowering and fruiting periods that occur in spring and fall. Thus, it is highly recommended to have an additional field survey during the spring season for better plant identification.
- Different types of field work are needed for determining sustainable grazing/harvesting levels in many of the diverse habitats from the reed marshlands and semi-arid and arid grasslands. This type of work is necessary to increase our understanding of how to maintain these environments and address the problem of desertification.

Overall many of these recommendations made in this document require more focused survey efforts and dedicated funding for scientific field work, capacity building and public/stakeholder education. At this time, limited work is done through academic and ministerial programs but Nature Iraq recommends a larger commitment that brings a host of different players to the table including non-governmental organizations, fisheries associations, hunting clubs, school children, and the general public. All of whom are vested in the protection of Iraq's biological diversity.

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Annex A: List of Bird Species seen in southern KBA survey in 2009 with Provisional Status

Order	Latin Name	Common Name	Conservation Status	Iraq Status	Breeding Status
GALLIFORMES	<i>Alectoris chukar</i>	Chukar Partridge		Resident	Confirmed
GALLIFORMES	<i>Ammoperdix griseogularis</i>	See-see Partridge		Resident	Confirmed
GALLIFORMES	<i>Francolinus francolinus</i>	Black Francolin		Resident	Confirmed
ANSERIFORMES	<i>Anser anser rubrirostris</i>	Eastern Greylag Goose		Resident; Winter visitor	Confirmed
ANSERIFORMES	<i>Tadorna tadorna</i>	Common Shelduck		Winter visitor	
ANSERIFORMES	<i>Tadorna ferruginea</i>	Ruddy Shelduck		Resident; Winter visitor & Passage migrant	Confirmed
ANSERIFORMES	<i>Anas strepera</i>	Gadwall		Winter visitor & Passage migrant	
ANSERIFORMES	<i>Anas penelope</i>	Eurasian Wigeon		Winter visitor & Passage migrant	
ANSERIFORMES	<i>Anas platyrhynchos</i>	Mallard		Winter visitor & Passage migrant.	
ANSERIFORMES	<i>Anas clypeata</i>	Northern Shoveler		Winter visitor & Passage migrant; may breed.	Possible
ANSERIFORMES	<i>Anas acuta</i>	Northern Pintail		Winter visitor & Passage migrant	
ANSERIFORMES	<i>Anas crecca</i>	Eurasian Teal		Winter visitor & Passage migrant	
ANSERIFORMES	<i>Marmaronetta angustirostris</i>	Marbled Duck	Conservation Concern (CC)	Resident; Winter visitor	Confirmed
ANSERIFORMES	<i>Netta rufina</i>	Red-crested Pochard	Conservation Concern (CC)	Winter visitor & Passage migrant	
ANSERIFORMES	<i>Aythya ferina</i>	Common Pochard		Winter visitor & Passage migrant	
ANSERIFORMES	<i>Aythya nyroca</i>	Ferruginous Duck	Globally Threatened (GT), Conservation Concern (CC)	Resident; Winter visitor & passage migrant	Confirmed
PODICIPEDIFORMES	<i>Tachybaptus ruficollis</i>	Little Grebe	Conservation Concern (CC), Endemic Race	Resident (only endemic race); Winter visitor.	Confirmed
PODICIPEDIFORMES	<i>Podiceps cristatus</i>	Great Crested Grebe		Resident; Winter visitor	Confirmed
PODICIPEDIFORMES	<i>Podiceps nigricollis</i>	Black-necked Grebe		Resident; Winter visitor	Confirmed
PHOENICOPTERIFORMES	<i>Phoenicopterus roseus</i>	Greater Flamingo	Conservation Concern (CC)	Winter visitor & Passage migrant	
CICONIIFORMES	<i>Ciconia ciconia</i>	Western White Stork		Breeding summer visitor; Passage migrant & Winter visitor	Confirmed
CICONIIFORMES	<i>Threskiornis aethiopicus</i>	African Sacred Ibis	Conservation Concern (CC)	Resident	Confirmed
CICONIIFORMES	<i>Plegadis falcinellus</i>	Glossy Ibis		Winter visitor & Passage migrant; may breed	Possible
CICONIIFORMES	<i>Platalea</i>	Eurasian	Conservation	Resident;	Confirmed

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Order	Latin Name	Common Name	Conservation Status	Iraq Status	Breeding Status
	<i>leucorodia</i>	Spoonbill	Concern (CC)	Breeding summer visitor; Passage Migrant	
CICONIIFORMES	<i>Platalea leucorodia</i>	Eurasian Spoonbill	Conservation Concern (CC)	Resident; Breeding summer visitor; Passage Migrant	Confirmed
CICONIIFORMES	<i>Botaurus stellaris</i>	Eurasian Bittern	Conservation Concern (CC)	Resident; Winter visitor & Passage migrant	Confirmed
CICONIIFORMES	<i>Exobrychus minutus</i>	Little Bittern		Breeding summer visitor; Passage migrant; some winter.	Confirmed
CICONIIFORMES	<i>Nycticorax nycticorax</i>	Black-crowned Night Heron		Resident; Breeding summer visitor; Passage Migrant	Confirmed
CICONIIFORMES	<i>Ardeola ralloides</i>	Squacco Heron		Resident; Breeding summer visitor; Passage Migrant	Confirmed
CICONIIFORMES	<i>Bubulcus ibis</i>	Western Cattle Egret		Resident; Breeding summer visitor; Passage Migrant	Confirmed
CICONIIFORMES	<i>Ardea cinerea</i>	Grey Heron		Winter visitor & Passage migrant	
CICONIIFORMES	<i>Ardea purpurea</i>	Purple Heron		Resident; Breeding summer visitor; Passage Migrant	Confirmed
CICONIIFORMES	<i>Ardea alba</i>	Western Great Egret		Winter visitor & Passage migrant	
CICONIIFORMES	<i>Egretta garzetta</i>	Little Egret		Winter visitor & Passage migrant; May breed.	
CICONIIFORMES	<i>Egretta schistacea</i>	Indian Reef Heron		Resident; Winter visitor	Confirmed
PELECANIFORMES	<i>Pelecanus onocrotalus</i>	Great White Pelican	Conservation Concern	Winter visitor & Passage migrant	
PELECANIFORMES	<i>Phalacrocorax pygmeus</i>	Pygmy Cormorant	Conservation Concern (CC)	Resident; Winter visitor	Confirmed
PELECANIFORMES	<i>Phalacrocorax carbo</i>	Great Cormorant		Winter visitor & Passage migrant	
PELECANIFORMES	<i>Anhinga rufa</i>	African Darter	Conservation Concern (CC)	Resident	Confirmed
FALCONIFORMES	<i>Circus aeruginosus</i>	Western Marsh Harrier		Breeding resident; Winter visitor & Passage migrant;	Confirmed
FALCONIFORMES	<i>Circus cyaneus</i>	Hen Harrier		Winter visitor	
FALCONIFORMES	<i>Buteo buteo vulpinus</i>	Steppe Buzzard		Resident; Winter visitor & passage migrant	Confirmed
FALCONIFORMES	<i>Buteo rufinus</i>	Long-legged Buzzard		Resident; Winter visitor & passage migrant	Confirmed
FALCONIFORMES	<i>Aquila clanga</i>	Greater Spotted Eagle	Globally Threatened	Winter visitor & Passage migrant	

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Order	Latin Name	Common Name	Conservation Status	Iraq Status	Breeding Status
			(GT), Conservation Concern (CC)		
FALCONIFORMES	<i>Aquila heliaca</i>	Eastern Imperial Eagle	Globally Threatened (GT), Conservation Concern (CC)	Winter visitor & Passage migrant	
FALCONIFORMES	<i>Falco tinnunculus</i>	Common Kestrel		Resident; Winter visitor	Confirmed
GRUIFORMES	<i>Rallus aquaticus</i>	Water Rail		Winter visitor & Passage migrant	
GRUIFORMES	<i>Porzana parva</i>	Little Crake		Winter visitor & Passage migrant	
GRUIFORMES	<i>Porphyrio porphyrio</i>	Purple Swamphen	Conservation Concern (CC)	Resident	Confirmed
GRUIFORMES	<i>Gallinula chloropus</i>	Common Moorhen		Resident; winter visitor & passage migrant	Confirmed
GRUIFORMES	<i>Fulica atra</i>	Eurasian Coot		Resident; Winter visitor & passage migrant	Confirmed
CHARADRIIFORMES	<i>Haematopus ostralegus</i>	Eurasian Oystercatcher		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Himantopus himantopus</i>	Black-winged Stilt		Resident; Winter visitor & Passage migrant	Confirmed
CHARADRIIFORMES	<i>Recurvirostra avosetta</i>	Pied Avocet		Resident; Winter visitor	Confirmed
CHARADRIIFORMES	<i>Vanellus vanellus</i>	Northern Lapwing		Winter visitor	
CHARADRIIFORMES	<i>Vanellus spinosus</i>	Spur-winged Lapwing	Conservation Concern (CC)	Resident; Passage migrant.	Confirmed
CHARADRIIFORMES	<i>Vanellus indicus</i>	Red-wattled Lapwing		Resident	Confirmed
CHARADRIIFORMES	<i>Vanellus leucurus</i>	White-tailed Lapwing	Conservation Concern (CC)	Resident; probably winter visitor	Confirmed
CHARADRIIFORMES	<i>Pluvialis squatarola</i>	Grey Plover		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Charadrius hiaticula</i>	Common Ringed Plover		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Charadrius dubius</i>	Little Ringed Plover		Breeding summer visitor; Passage migrant	Confirmed
CHARADRIIFORMES	<i>Charadrius alexandrinus</i>	Kentish Plover		Resident; Winter visitor & Passage migrant .	Confirmed
CHARADRIIFORMES	<i>Gallinago gallinago</i>	Common Snipe		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Limosa limosa</i>	Black-tailed Godwit	Globally Threatened (GT), Conservation Concern (CC)	Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Numenius arquata</i>	Eurasian Curlew		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Tringa erythropus</i>	Spotted Redshank		Winter visitor & Passage migrant	

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Order	Latin Name	Common Name	Conservation Status	Iraq Status	Breeding Status
CHARADRIIFORMES	<i>Tringa totanus</i>	Common Redshank		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Tringa stagnatilis</i>	Marsh Sandpiper		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Tringa nebularia</i>	Common Greenshank		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Tringa ochropus</i>	Green Sandpiper		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Tringa glareola</i>	Wood Sandpiper		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Xenus cinereus</i>	Terek Sandpiper		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Actitis hypoleucos</i>	Common Sandpiper		Breeding summer visitor; Passage migrant	Confirmed
CHARADRIIFORMES	<i>Calidris minuta</i>	Little Stint		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Calidris temminckii</i>	Temminck's Stint		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Calidris ferruginea</i>	Curlew Sandpiper		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Calidris alpina</i>	Dunlin		Winter visitor & Passage migrant	
CHARADRIIFORMES	<i>Phalaropus lobatus</i>	Red-necked Phalarope		Passage migrant	
CHARADRIIFORMES	<i>Cursorius cursor</i>	Cream-coloured Courser	Conservation Concern (CC)	Resident or migrant breeder	Confirmed
CHARADRIIFORMES	<i>Glareola pratincola</i>	Collared Pratincole	Conservation Concern (CC)	Breeding summer visitor; Passage migrant	Confirmed
CHARADRIIFORMES	<i>Chroicocephalus genei</i>	Slender-billed Gull	Conservation Concern (CC)	Resident; Breeding summer visitor; Winter visitor & passage migrant.	Confirmed
CHARADRIIFORMES	<i>Chroicocephalus ridibundus</i>	Common Black-headed Gull		Resident or breeding summer visitor; Winter visitor	Confirmed
CHARADRIIFORMES	<i>Larus ichthyaetus</i>	Great Black-headed Gull		Winter visitor	
CHARADRIIFORMES	<i>Larus armenicus</i>	Armenian Gull	Conservation Concern (CC)	Winter visitor	
CHARADRIIFORMES	<i>Gelochelidon nilotica</i>	Gull-billed Tern		Resident/breeding summer visitor; Passage migrant.	Confirmed
CHARADRIIFORMES	<i>Hydroprogne caspia</i>	Caspian Tern	Conservation Concern (CC)	Winter visitor & Passage migrant; may breed	
CHARADRIIFORMES	<i>Sternula albifrons</i>	Little Tern		Breeding summer visitor; Passage migrant	Confirmed
CHARADRIIFORMES	<i>Sterna hirundo</i>	Common Tern		Breeding summer visitor; Passage migrant	Confirmed
CHARADRIIFORMES	<i>Chlidonias hybrida</i>	Whiskered Tern		Resident; Breeding summer visitor; Winter	Confirmed

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Order	Latin Name	Common Name	Conservation Status	Iraq Status	Breeding Status
				visitor & passage migrant	
CHARADRIIFORMES	<i>Chlidonias leucopterus</i>	White-winged Tern		Breeding summer visitor; Passage migrant.	Confirmed
CHARADRIIFORMES	<i>Pterocles albata</i>	Pin-tailed Sandgrouse	Conservation Concern (CC)	Resident.	Confirmed
CHARADRIIFORMES	<i>Pterocles senegallus</i>	Spotted Sandgrouse	Conservation Concern (CC)	Resident.	Confirmed
COLUMBIFORMES	<i>Columba livia</i>	Rock Dove		Resident	Confirmed
COLUMBIFORMES	<i>Columba palumbus</i>	Common Woodpigeon		Resident: winter visitor	Confirmed
COLUMBIFORMES	<i>Streptopelia turtur</i>	European Turtle Dove	Conservation Concern (CC)	Breeding summer visitor; passage migrant.	Confirmed
COLUMBIFORMES	<i>Streptopelia decaocto</i>	Eurasian Collared Dove		Resident	Confirmed
COLUMBIFORMES	<i>Streptopelia senegalensis</i>	Laughing Dove		Resident	Confirmed
STRIGIFORMES	<i>Bubo bubo</i>	Eurasian Eagle Owl		Resident	Confirmed
CAPRIMULGIFORMES	<i>Caprimulgus aegyptius</i>	Egyptian Nightjar		Breeding summer visitor; Passage migrant.	Confirmed
APODIFORMES	<i>Apus apus</i>	Common Swift		Breeding summer visitor; Passage migrant.	Confirmed
CORACIFORMES	<i>Coracias benghalensis</i>	Indian Roller		Resident	Confirmed
CORACIFORMES	<i>Coracias garrulus</i>	European Roller	Globally Threatened (GT), Conservation Concern (CC)	Breeding summer visitor; Passage migrant	Confirmed
CORACIFORMES	<i>Halcyon smyrnensis</i>	White-throated Kingfisher		Resident	Confirmed
CORACIFORMES	<i>Alcedo cristata</i>	Common Kingfisher		Resident; Winter visitor & Passage migrant	Confirmed
CORACIFORMES	<i>Ceryle rudis</i>	Pied Kingfisher		Resident	Confirmed
CORACIFORMES	<i>Merops persicus</i>	Blue-cheeked Bee-eater		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Lanius collurio</i>	Red-backed Shrike		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Lanius isabellinus</i>	Daurian Isabelline Shrike		Winter visitor & Passage migrant	
PASSERIFORMES	<i>Lanius minor</i>	Lesser Grey Shrike		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Lanius meridionalis</i>	Southern Grey Shrike		Resident	Confirmed
PASSERIFORMES	<i>Lanius senator</i>	Woodchat Shrike		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Oriolus oriolus</i>	Eurasian Golden		Breeding summer	Confirmed

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Order	Latin Name	Common Name	Conservation Status	Iraq Status	Breeding Status
		Oriole		visitor; Passage migrant.	
PASSERIFORMES	<i>Corvus frugilegus</i>	Rook		Winter visitor	
PASSERIFORMES	<i>Corvus cornix</i>	Hooded Crow		Resident	Confirmed
PASSERIFORMES	<i>Hypocolius ampelinnus</i>	Hypocolius	Conservation Concern (CC), Endemic	Breeding summer visitor	Confirmed
PASSERIFORMES	<i>Remiz pendulinus</i>	Eurasian Penduline Tit		Winter visitor	
PASSERIFORMES	<i>Alaemon alaudipes</i>	Greater Hoopoe-Lark		Resident	Confirmed
PASSERIFORMES	<i>Galerida cristata</i>	Crested Lark		Resident	Confirmed
PASSERIFORMES	<i>Alanda arvensis</i>	Eurasian Skylark		Winter visitor	Confirmed
PASSERIFORMES	<i>Pycnonotus leucotis</i>	White-eared Bulbul	Conservation Concern (CC)	Resident	Confirmed
PASSERIFORMES	<i>Hirundo rustica</i>	Barn Swallow		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Cecropis daurica</i>	Red-rumped Swallow		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Cettia cetti</i>	Cetti's Warbler		Resident; Probably winter visitor.	Confirmed
PASSERIFORMES	<i>Phylloscopus collybita</i>	Common Chiffchaff		Winter visitor & Passage migrant; may breed	Possible
PASSERIFORMES	<i>Acrocephalus griseldis</i>	Basra Reed Warbler	Globally Threatened (GT), Conservation Concern (CC), Endemic	Breeding summer visitor	Confirmed
PASSERIFORMES	<i>Acrocephalus arundinaceus</i>	Great Reed Warbler		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Prinia gracilis</i>	Graceful Prinia		Resident	Confirmed
PASSERIFORMES	<i>Turdoides altirostris</i>	Iraq Babbler	Conservation Concern (CC), Endemic	Resident	Confirmed
PASSERIFORMES	<i>Turdoides buttoni</i>	Afgan Babbler		Resident	Confirmed
PASSERIFORMES	<i>Sturnus vulgaris</i>	Common Starling		Winter visitor; may breed	Possible
PASSERIFORMES	<i>Turdus merula</i>	Eurasian Blackbird		Resident; Winter visitor	Confirmed
PASSERIFORMES	<i>Erythacus rubecula</i>	European Robin		Winter visitor	
PASSERIFORMES	<i>Luscinia svecica</i>	Bluethroat		Winter visitor & Passage migrant	
PASSERIFORMES	<i>Cercotrichas galactotes</i>	Rufous-tailed Scrub Robin		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Phoenicurus ochruros</i>	Western Black Redstart		Rare resident (semirufus); Winter visitor	
PASSERIFORMES	<i>Phoenicurus phoenicurus</i>	Common Redstart		Breeding summer visitor; Passage migrant.	Confirmed

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Order	Latin Name	Common Name	Conservation Status	Iraq Status	Breeding Status
PASSERIFORMES	<i>Saxicola rubetra</i>	Whinchat		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Saxicola rubicola</i>	European Stonechat		Winter visitor; may breed	Possible
PASSERIFORMES	<i>Oenanthe isabellina</i>	Isabelline Wheatear		Breeding summer visitor; Winter visitor & Passage migrant.	Confirmed
PASSERIFORMES	<i>Oenanthe oenanthe</i>	Northern Wheatear		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Oenanthe deserti</i>	Desert Wheatear		Winter visitor and Passage migrant; may breed.	Possible
PASSERIFORMES	<i>Oenanthe finschii</i>	Finsch's Wheatear	Conservation Concern (CC)	Resident; Winter visitor	Confirmed
PASSERIFORMES	<i>Oenanthe albonigra</i>	Hume's Wheatear	Conservation Concern (CC)	Rare resident; probably breeds	Probable
PASSERIFORMES	<i>Muscicapa striata</i>	Spotted Flycatcher		Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Passer domesticus</i>	House Sparrow		Resident	Confirmed
PASSERIFORMES	<i>Passer hispaniolensis</i>	Spanish Sparrow		Resident	Confirmed
PASSERIFORMES	<i>Passer moabiticus</i>	Dead Sea Sparrow	Conservation Concern (CC)	Resident; Breeding summer visitor.	Confirmed
PASSERIFORMES	<i>Gymnoris xanthocollis</i>	Yellow-throated Sparrow	Conservation Concern (CC)	Breeding summer visitor; Passage migrant.	Confirmed
PASSERIFORMES	<i>Motacilla flava</i>	Western Yellow Wagtail (includes all races)		Passage migrant	
PASSERIFORMES	<i>Motacilla citreola</i>	Citrine Wagtail		Rare winter visitor	
PASSERIFORMES	<i>Motacilla cinerea</i>	Grey Wagtail		Resident; Winter visitor	Confirmed
PASSERIFORMES	<i>Motacilla alba</i>	White Wagtail		Resident; Winter visitor	Confirmed
PASSERIFORMES	<i>Anthus trivialis</i>	Tree pipit		Passage migrant; may breed	Possible
PASSERIFORMES	<i>Anthus cervinus</i>	Red-throated Pipit		Passage migrant	
PASSERIFORMES	<i>Anthus spinoletta</i>	Water Pipit		Winter visitor & Passage migrant	
PASSERIFORMES	<i>Carduelis cannabina</i>	Common Linnet		Resident; Winter visitor	Confirmed
PASSERIFORMES	<i>Rhodospiza obsoletus</i>	Desert Finch		Winter visitor; may breed	Possible
PASSERIFORMES	<i>Emberiza calandra</i>	Corn Bunting		Resident; Winter visitor	Confirmed

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Annex B: Some Key Bird Species seen in the winter 2009 Survey (Photos by M. Salim, NI):



Ferruginous Duck (GT), Samarra'



Black-tailed Godwit (GT), Dalmaj



Imperial Eagle (GT), Teeb



Slender-billed Gull (CC), Iraq



African Darter (CC), Hawiza



Great Spotted Eagle (GT), Hammar



Esabeline Shrike (CC), Hammar



Pygmy Cormorant (CC), Hawiza



Spoonbill (CC), Khawr Al-Zubear



Grey Plover, rare bird, Al-Razzaza



Hooded Crow, Iraqi endemic race



Marbled Teal (GT), Babylon



Greater Flamingo (CC), Sinnaf



White-cheeked Bulbul (CC), Teeb



Little Grebe, Iraqi endemic race

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Annex C: List of Iraqi Fish Species with Provisional Conservation Status

No	Fish species	Conservation status	Economical value	Notes
1	<i>Acanthobrama marmaid</i>	Not important fish	low	Small fish with low value at market.
2	<i>Alburnus mossulensis</i>	Not important fish	low	Small fish with low value at market.
3	<i>Aspius vorax</i>	Mid	mid	Medium fish size and demands at market.
4	<i>Barbus xanthopterus</i>	high	high	Market demands are high due to test and size.
5	<i>Barbus luteus</i>	low	low	Small fish with low value at market.
6	<i>Barbus sharpeyi</i>	high	high	Market demands are high due to test and size.
7	<i>Carassius auratus</i>	Mid	mid	Middle fish size high demands at market. It is an exotic fish.
8	<i>Cyprion kais</i>	low	low	Small fish with low value at market.
9	<i>Cyprinus carpio</i>	low	high	Market demands are high due to test and size. It is an exotic fish.
10	<i>Heteropneustes fossilis</i>	low	nothing	This fish is not eaten in Iraq due to religious reasons. It is an exotic fish.
11	<i>Mastacembelus mastacembelus</i>	low	nothing	This fish is not eaten in Iraq due to religious reasons.
12	<i>Silurus triostegus</i>	low	mid	Eaten only in Central and Northern Iraq due to religious reasons.
13	<i>Ctenopharyngodon idella</i>	low	high	Market demand for this fish is good , but it is an exotic fish.
14	<i>Chondrostoma regium</i>	Mid	Mid	Medium size and market demand.
15	<i>Liza abu</i>	Low	low	Low market demands.
16	<i>Liza subviridis</i>	Mid	Mid	Middle market demand. It is a marine fish.
17	<i>Liza cephalus</i>	Mid	Mid	Middle market demand. It is a marine fish.
18	<i>Acanthopagrus latus</i>	Mid	Mid	Middle market demand. It is a marine fish.
19	<i>Barbus keersin</i>	high	high	Market demand is high due to test and size.
20	<i>Pompus argenteus</i>	High	high	Market demand is high due to test and size, it is a marine fish.
21	<i>Otolithes ruber</i>	Unknown	high	Market demand is high due to test and size, it is a marine fish.
22	<i>Tenualosa ilisha</i>	High	high	Market demand is high due to test and size, it is a marine fish..
23	<i>Ilisha elongata</i>	Unknown	high	Market demand is high due to test and size, it is a marine fish.

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No	Fish species	Conservation status	Economical value	Notes
24	<i>Scomberomorus commerson</i>	Unknown	high	Market demand is high due to test and size, it is a marine fish.
25	<i>Epinephelus diacanthus</i>	Unknown	high	Market demand is high due to test and size, it is a marine fish.
26	<i>Trachinotus mookalee</i>	Unknown	mid	Market demand is high due to test and size, it is a marine fish.
27	<i>Johnius belengerii</i>	Unknown	Low	Market demand is high due to test and size, it is a marine fish.
28	<i>Siliago sihama</i>	Unknown	low	Market demand is high due to test and size, it is a marine fish.

Annex D: Photos of important fish and fisheries at KBA sites (Photos by I.M. Abd, NI)



Plate 52- *Barbus xanthopterus* (Kattan)



Plate 53- *Barbus sharpeyi* (Bunny)



Plate 54- *Liza abu*, the dominant fish in number



Plate 55- *Silurus triostegus*, the largest fish



Plate 56- Dalmaj marsh



Plate 57- Majnoon landing



Plate 58- Khor Al-Zubayr fish market

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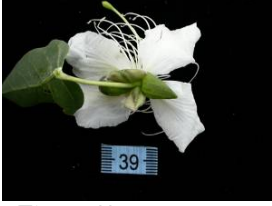


Annex E: Plants Species List with Provisional Conservation Status and Site Codes with the following Species:

#	Plant Species & Family	Status in Iraq	Sites Cod
1	<i>Aeluropus lagapoides</i> (L.) Trin. Gramineae	Native	CM10, SM4, HZ4, SM8, ME10, ME4, ME8, ME5
2	<i>Alhagi graecorum</i> Boiss. Papilionaceae	Common	CM10, CM5, SM4, SM5, MN1, ME10, ME4, ME8, ME7, WT1
3	<i>Alyssum</i> sp. Cruciferae	Common	ME4
4	<i>Anchusa</i> L. Boraginaceae Lindl.	unknown	MN2
5	<i>Aster tripolium</i> L. Compositae	Common	SA4
6	<i>Avena fatua</i> L. Gramineae	Common	WT1
7	<i>Bacopa monniera</i> (L.) Hayata & Matsum. Scrophulariaceae Juss.	Common	HZ1
8	<i>Brassica</i> sp. Cruciferae	unknown	WT1
9	<i>Bromus</i> sp. Gramineae	unknown	WT1
10	<i>Calotropus procera</i> (Aiton) Ait.f. Asclepiadaceae	Cultivated	MN1
11	<i>Capparis spinosa</i> L. Capparaceae	Common	SA4, MN1, HZ1, ME4, WT1
12	<i>Carthamus oxyacantha</i>	Endemic	MN2, SM7
13	<i>Centaurea bruguierana</i> (DC.) Hand.-Mzt. Compositae Giseke	unknown	MN2
14	<i>Centaurea</i> sp. Compositae Giseke	unknown	WT1
15	<i>Ceratophyllum demersum</i> L. Ceratophyllaceae	Common	HA8, CM1, CM16, CM10, HA16, SA1, HZ4, HZ1, HZ2, ME8
16	<i>Chrozophora tinctoria</i> (L.) Raf. Euphorbiaceae	unknown	MN2
17	<i>Cichorium</i> sp. Compositae Giseke	unknown	MN2
18	<i>Cladium mariscus</i> (L.) Pohl Cyperaceae	Rare	HZ2
19	<i>Convolvulus</i> sp. Convolvulaceae	unknown	ME7, WT1
20	<i>Cressa cretica</i> L. Convolvulaceae J. D. Choisy	Native	CM5, SM4, HZ4, ME4, ME8, ME7, ME5, WT1, SM7
21	<i>Cuscuta</i> sp. Cuscutaceae	unknown	ME7
22	<i>Cynachum acutum</i> L. Asclepiadaceae	Common	HZ1, HZ2, ME4, WT1
23	<i>Echinops</i> sp. Compositae Giseke	unknown	WT1
24	<i>Heliotropium</i> sp. Boraginaceae Lindl.	unknown	MN1, MN2
24	<i>Hordeum glaucum</i> Steud. Gramineae	Common	HZ8
26	<i>Hydrilla verticillata</i> Hydrocharitaceae	unknown	ME7, ME8, CM10, CM16, SA1
27	<i>Lemna</i> sp. Lemnaceae	unknown	HZ1
28	<i>Lolium</i> sp. Gramineae	unknown	WT1
29	<i>Lycium</i> sp. Solanaceae A.L. De Jussieu	unknown	SM8, WT1
30	<i>Medicago</i> sp. Papilionaceae	unknown	WT1
31	<i>Mentha</i> sp. Labiatae A.L. De Jussieu	unknown	ME7
32	<i>Myriophyllum verticillatum</i> Haloragaceae	unknown	ME8, ME7, CM1, CM16
33	<i>Najas marina</i> sp. Najadaceae A.B. Rendle	Common	HA8, CM1, ME7, CM16
34	<i>Najas</i> sp. Najadaceae	unknown	ME11
35	<i>Notobasis</i> sp. (Cass.) Cass. Compositae Giseke	unknown	WT1
36	<i>Nymphoides indica</i> Menyanthaceae	unknown	CM16
37	<i>Oliveria decumbens</i> Vent. Umbelliferae A.L. De Jussieu	unknown	MN2
38	<i>Onopordum</i> sp. Compositae Giseke	unknown	MN2
39	<i>Parlatoria</i> sp. Cruciferae	unknown	MN2
40	<i>Phalaris</i> sp. Gramineae	unknown	WT1
41	<i>Phoenix dactylifera</i> L. Gramineae	Cultivated	SA1, ME7, WT1
42	<i>Phragmites australis</i> (Cav.) Trin. Ex Steud.	Common	HA8, CM1, CM16, CM10, HZ8,

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#	Plant Species & Family	Status in Iraq	Sites Cod
	<i>Gramineae</i>		SA4, HA16, HA17, HA21, KZ5, SA1, HZ4, HZ1, HZ2, ME10, ME4, ME8, ME7, ME5, ME11
43	<i>Pinus sp. Pinaceae</i>	unknown	MN1
44	<i>Plantago lanceolata L. Plantaginaceae Lindl.</i>	unknown	ME7
45	<i>Polyopogon maritimus Willd. Gramineae</i>	Rare	ME4
46	<i>Polyopogon monspeliensis (L.) Desf. Gramineae</i>	Common	HZ4
47	<i>Populus euphratica Oliv. Salicaceae</i>	Common	MN1, ME7, WT1
48	<i>Potamogeton crispus L. Potamogetonaceae J. Hutchinson</i>	Common	SA1
49	<i>Potamogeton lucens L. Potamogetonaceae J. Hutchinson</i>	Common	CM1, CM16, SA1
50	<i>Potamogeton pectinatus L. Potamogetonaceae J. Hutchinson</i>	Common	CM1, CM16, CM10, ME10, ME7, ME11
51	<i>Potamogeton perfoliatus L. Potamogetonaceae J. Hutchinson</i>	Rather rare in Iraq previously, now is common	CM1
52	<i>Prosopis farcta (Banks & Soland.) Macbride Caesalpinaceae</i>	unknown	ME7, WT1
53	<i>Rumex sp. Polygonaceae Juss.</i>	unknown	SM4
54	<i>Ruppia maritima L. Ruppiaaceae</i>	Common	HA17
55	<i>Salicornia sp. Chenopodiaceae</i>	unknown	HA21, KZ5, ME5
56	<i>Salix sp. Salicaceae</i>	unknown	ME7
57	<i>Salsola L. Chenopodiaceae Vent.</i>	unknown	MN1
58	<i>Salvinia natans (L.) All. Salviniaceae</i>	unknown	CM1, CM10
59	<i>Samolus valerandi Primulaceae</i>	unknown	HZ1, HZ2
60	<i>Schoenoplectus litoralis (Schrad.) Palla Cyperaceae</i>	Common	HA8, CM1, CM10, HA16, HZ4, SM8, ME8
61	<i>Silybum marianum (L.) Gaertn. Compositae Giseke</i>	Endemic	MN2, WT1
62	<i>Suaeda sp. Chenopodiaceae</i>	unknown	KZ5, SM4, SM5, HZ4, SM8, ME7, ME5, SM7, ME11
63	<i>Tamarix aucherana (Decne ex Walp.) Baum Tamaricaceae</i>	Native	ME10
64	<i>Tamarix macrocarpa (Ehrenb.) Bunge Tamaricaceae</i>	Common	ME5
65	<i>Tamarix sp. Tamaricaceae</i>	unknown	CM16, CM5, HZ8, SA4, HA21, SM4, SM5, HZ4, SM8, MN2, ME4, ME8, WT1, ME11
66	<i>Taraxacum sp. Compositae</i>		ME7
67	<i>Trachomitum venetum (L.) Woodson Apocynaceae</i>	Common	HZ2, ME4
68	<i>Triticum sp. Gramineae</i>		WT1
69	<i>Typha domingensis Pers. Typhaceae</i>	Common	HA8, CM1, CM16, HA16, SA1, HZ4, ME4, ME8, ME7
70	<i>Umbelliferae A.L. De Jussieu Ulmaceae</i>	unknown	WT1
71	<i>Utricularia australis R. Br Lentibularaceae</i>	Rare	HZ2
72	<i>Vallisneria sp. Hydrocharitaceae J. Hutchinson</i>	unknown	CM1
73	<i>Xanthium sp. Compositae Giseke</i>	unknown	WT1
74	<i>Zizphus sp. Rhamnaceae</i>	unknown	MN1
	Total species=74	unknown	

Annex F: Some Selected Plants Photos from the Summer Survey (Photos by M. Shibil & N. Abdulhasan, NI):

 <p>Figure 4: <i>Utricularia australis</i></p>	 <p>Figure 5: <i>Utricularia australis</i></p>
 <p>Figure 6: <i>Nymphoides indica</i></p>	 <p>Figure 7: <i>Nymphoides indica</i></p>
 <p>Figure 8: <i>Calotropus procera</i></p>	 <p>Figure 9: <i>Calotropus procera</i></p>
 <p>Figure 10: <i>Capparis spinosa</i></p>	 <p>Figure 11: <i>Capparis spinosa</i></p>
 <p>Figure 12: <i>Myriophyllum verticillatum</i></p>	 <p>Figure 13: <i>Myriophyllum verticillatum</i></p>