

ARTIFICIAL WETLAND BIODIVERSITY IN DESERT COUNTRIES, EXAMPLE OF WADI HAM DAM IN FUJAIRAH EMIRATE, UAE - A CALL FOR A PROPER NATIONAL MONITORING OF UAE WETLANDS AND WATERBIRDS.

Christophe Tourenq<sup>1</sup> & Maral Khaled Shuriqi<sup>2</sup>

<sup>1</sup>Emirates Wildlife Society (EWS)-World Wide Fund for Nature (WWF), P.O. Box 45977, Dubai, UAE. E-mail: [ctourenq@ewswwf.ae](mailto:ctourenq@ewswwf.ae) . <sup>2</sup>Environment Protection & Development Department, Fujairah Municipality, Fujairah, UAE. Email: [1geologist@gmail.com](mailto:1geologist@gmail.com)

### Introduction

Artificial wetlands (*i.e.* salt pans, rice fields, gravel pits, sewage ponds, fish farms, etc...) are attractive for waterbird species particularly in arid environments (Dugan 1993, Evans 1994, Scott 1995). In the United Arab Emirates (UAE), some of these artificial wetlands have been recognised as a hotspot for biodiversity, especially waterbirds, and some have benefited from official protection, such as Al Wathba Lake created by the release of wastewater from a treatment plant of the city of Abu Dhabi. In 1999 Al Wathba recorded the first breeding success of the Greater Flamingo (*Phoenicopterus roseus*) in the Arabian Peninsula since 1922 (Aspinall and Hellyer 1999, Javed and Khan 2003).



Figure 1. Location of the Ham dam complex in Fujairah. The dam is shown in yellow solid line. The dash yellow line shows the spillway collecting the discharge of the main dam to the auxiliary dam "D" near the Fujairah Tennis and Country Club (indicated with a red star).

On July 21, 2009, we visited the Wadi Ham Dam "D" reservoir located behind the Fujairah Tennis Club (N 25.13778, E 056.29805). The reservoir is made of an auxiliary dam connected by a spillway collecting the discharge of the Ham dam built in 1982 to minimise downstream flood risk and recharge groundwater levels at the entrance of Fujairah town (Figure 1). To our surprise, the reservoir of Ham "D" dam was still filled with water (Figure 2). As there is no stream or spring feeding the lake, the water present at the time of the visit was obviously the result from the last March 2009 heavy rainfall events recorded in Fujairah. The water level scale indicated 3 metres. Four months later (October, 15, 2009), the water level was 1.40 metres.

Species	IUCN Red List Status 2009	21/07/09	6/09/09	15/10/09	20/10/09	16/11/09
Greater Flamingo ( <i>Phoenicopterus roseus</i> )	LC				1	
Little Grebe ( <i>Tachybaptus ruficollis</i> )	LC	11	27	28	29	6
Eurasian Teal ( <i>Anas crecca</i> )	LC		5			
Grey Heron ( <i>Ardea cinerea</i> )	LC		1			
Black winged Stilt ( <i>Himantopus himantopus</i> )	LC	171	122	140	64	40
Kentish Plover ( <i>Charadrius alexandrinus</i> )	LC	1				
Black-tailed Godwit ( <i>Limosa limosa</i> )	NT		1			
Ruff ( <i>Philomachus pugnax</i> )	LC			1		
Common Snipe ( <i>Gallinago gallinago</i> )	LC					7
Common Redshank ( <i>Tringa tetanus</i> )	LC		1		1	
Common Sandpiper ( <i>Actitis hypoleucos</i> )	LC	1	3		1	
Temminck's Sandpiper ( <i>Calidris temminckii</i> )	n.a.			1	5	
Little Stint ( <i>Calidris minuta</i> )	LC					64
Whiskered Tern ( <i>Chlidonias hybrida</i> )	LC		2			
<b>Total</b>		<b>184</b>	<b>162</b>	<b>170</b>	<b>81</b>	<b>113</b>

#### Wadi Ham Dam D waterbirds

During the first visit, 11 Little Grebe (*Tachybaptus ruficollis*) including 2 chicks, 171 Black winged Stilt (*Himantopus himantopus*) including 4 chicks and 40 fledging juveniles, one Kentish Plover (*Charadrius alexandrinus*) in breeding plumage, as well as one pair of Little Green Bee-eater (*Merops orientalis*) and three pairs of European Bee-eater (*Merops apiaster*) were observed (Table 1). Subsequent visits showed the presence, among others, of Greater Flamingo (*Phoenicopterus roseus*), Whiskered Tern (*Chlidonias hybrida*) and even the endangered Black-tailed Godwit (*Limosa limosa*); Little Grebe and Black winged Stilt remaining the most numerous. The September 6, 2009, visit revealed 5 Eurasian Teal (*Anas crecca*), suggesting a stopover on the lake during their migration, as well as the presence of a Dhofar Toad (*Bufo dhufarensis*), an endemic of the Arabian Peninsula.

In UAE, Little Grebe and Black winged Stilt are opportunist breeders able to colonise ephemeral sites very quickly (Richardson 1990; Aspinall 1996; Richardson 2003; <http://www.uaebirding.com>). Nesting in the reservoir was possible due to several inlets surrounded by water preventing disturbance and predation (feral dogs mostly), as well as the abundance of aquatic food (mostly Copepodae and Chironomidae). Populations of both species are classified as "Least Concern" regionally and internationally (Delany *et al.* 2009; IUCN 2009; Porter *et al.* 2009).

#### A call for an updated wetland monitoring and protection

Because of the recent development of the country, a lot of wetlands mentioned a decade ago (Evans 1994; Aspinall 1995; Richardson and Aspinall 1998) have shrunk considerably or vanished, such as Jebel Ali in Dubai, Khor Al Beideh or Al Jazirah Khor in the Northern Emirates. Some of these wetlands are however still mentioned in the UAE Important Birds Areas (IBA) list (BirdLife International 2009). The workshop on shorebirds of the 10th Conservation Workshop for the Fauna of Arabia (CAMP) organised by the Breeding Centre for Endangered Arabian Wildlife (BCEAW) and Environment and Protected Areas Authority (EPAA) of Sharjah, highlighted the urgent necessity to review and update Arabian wetland IBA datasheets and publish national IBA inventories and work towards legal protection of



**Figure 2. View of Ham dam D reservoir**

the key sites for species (Porter *et al.* 2009).

Since 2000, the year of the last waterfowl census organised in the UAE under the International Waterfowl Census (IWC) scheme from Wetlands International, there have been no officially published waterbird counts for the country with the exception of some book chapters (e.g. Javed 2008). The status of the only endemic bird of UAE: the White-collared Kingfisher (*Todirhamphus chloris kalbaensis*) inhabiting the only mangrove of the East Coast, is still based on the 44 pairs counted in 1995 and the maximum 15 birds in 2000 (Aspinall 1996; Richardson 2003). This mangrove has been under a lot of human pressure lately.

Updates are necessary for the conservation of wetland habitats and species and the application of two main international conventions signed by the UAE: the Convention on Biological Diversity (CBD) in 2000 ([www.cbd.int](http://www.cbd.int)) and the Ramsar Convention for the conservation and wise use of wetlands and their resources in 2007 ([www.ramsar.org](http://www.ramsar.org)). For a sustainable development that does not curtail environmental benefits for future generations, it is imperative that UAE decision makers are well informed on environmental issues, on the conservation status of wildlife and its habitats, and in general, on the probable impacts of development on biodiversity.

## References

- Aspinall, S. 1995. United Arab Emirates. In Scott, D.A (ed.) (1995). A Directory of the wetlands in the Middle East. Gland, Switzerland, IUCN and IWRB Slimbridge, UK. Available online on: <http://www.wetlands.org>
- Aspinall, S. 1996. Conservation and Status of the Breeding Birds of the United Arab Emirates. Hobby, Dubai & Liverpool. ISBN 1-872839-04-5
- Aspinall, S. and Heyer, P. 1999. The history and development of Al Wathba lake, Abu Dhabi, Tribulus, 9: 22-25.
- BirdLife International. 2009. Data Zone. Available online on: <http://www.birdlife.org/datazone/index.html>
- Delany, S., Scott, D., Dodman, T. and Stroud, D. 2009. An Atlas of Wader Populations in Africa and Western Eurasia. Wetlands International, Wageningen, The Netherlands.
- Dugan, P. (ed.) 1993. Wetlands in Danger, A Mitchell Beazly World Conservation Atlas. IUCN and Mitchell Beazley, London: 122-127.

- Evans, M.I. (ed.). 1994. Important Bird Areas of the Middle East. BirdLife Conservation Series No.2. BirdLife International, Cambridge, U.K.
- IUCN. 2009. IUCN Red List of Threatened Species. Version 2009.2. Available online on: [www.iucnredlist.org](http://www.iucnredlist.org).
- Javed, S. 2008. Birds of the United Arab Emirates with special reference to the Abu Dhabi Emirate. In R.J. Perry (ed) Terrestrial Wildlife of the Abu Dhabi Emirate. Environment Agency Abu Dhabi, United Arab Emirates. Pp 219-280.
- Javed, S. and Khan, S. 2003. Monitoring bird populations at Al Wathba Wetland Reserve. TERC-ERWDA Internal Report, Abu Dhabi, UAE.
- Porter, R., Samraoui, B., Livet, J., Mallon, D., and Budd, K. 2009. Proceedings of the 10th Conservation Workshop for the Fauna of Arabia-Shorebirds of the Arabian Peninsula. Breeding Centre for Endangered Arabian Wildlife, Sharjah, United Arab Emirates.
- Richardson, C. (1990) The birds of the United Arab Emirates. Hobby publications, Dubai & Warrington UK. ISBN 1-872839-00-2
- Richardson, C. (compiler) 2003. Emirates Bird Report No. 20. Emirates Bird Record Committee. Dubai.
- Richardson, C. and Aspinall, S. 1998. The Shell Birdwatching Guide to the United Arab Emirates. Hobby, Liverpool & Dubai. ISBN 1-872839-05-3
- Scott, D.A. (ed.) 1995. A Directory of Wetlands in the Middle East. IUCN, Gland, Switzerland and IWRB, Slimbridge, U.K.