

SEARCHING FOR SLENDER-BILLED CURLEWS IN IRAN, JANUARY-FEBRUARY 2000

T.M. van der Have, G.O. Keijl, J. Mansoori, V. V. Morozov



Working Group International
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Research

WIWO-report 72
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Front page:

Slender-billed Curlew *Numenius tenuirostris*, collected in Chernomorsky Reserve, Black Sea coast of Ukraine probably 1961. (Museum Chernomorsky Reserve, May 1990).

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SEARCHING FOR SLENDER-BILLED CURLEWS IN IRAN, JANUARY-FEBRUARY 2000

Results of a coastal wetland survey in the Islamic Republic of Iran,
with special attention for Slender-billed Curlews.

T.M. van der Have, G.O. Keijl, J. Mansoori, V. V. Morozov

WIWO-report 72



Working Group International Waterbird and Wetland Research
(Foundation WIWO)
The Netherlands

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for the

Convention on the Conservation of
Migratory Species of Wild Animals (CMS)

Zeist
January 2001

COLOPHON

This project is project nr. 9 (Protocol 760/6796) of the Preliminary Memorandum of Understanding between the Islamic Republic of Iran (I.R.I.), Department of Environment (DoE) and the Department of Nature Management of the Ministry of Agriculture, Nature Management and Fisheries, The Kingdom of The Netherlands. This MoU refers only to the participants of the DoE and Foundation WIWO.

The project was carried out under the auspices of the Department of Environment, Tehran, I.R.I. and within the framework of and funded by the Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention) of the United Nations Environment Programme (UNEP). A Letter of Agreement was concluded between UNEP/CMS (Bonn Convention) and Foundation WIWO on 12 January 2000 (MS/1200-98-04-2236; MoD No. 0-29-09002).

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Plate 1. View on the Alborz Mountains from Tehran, Iran, 22 January 2000.

SUMMARY

(1) Between 13 January and 3 February 2000 about 20 wetlands were visited to count waterbirds and pay special attention to the presence of Slender-billed Curlews *Numenius tenuirostris*, a globally threatened species. At least 1,200 Eurasian Curlews *N. arquata* and 250 Whimbrels *N. phaeopus* were checked individually, as well as several hundreds of Bar-tailed Godwits *Limosa lapponica* and Black-tailed Godwits *L. limosa*, but no Slender-billed Curlews were observed.

(2) More than 53,000 waterbirds of 82 species were counted during the survey, including Globally Threatened Species like Dalmatian Pelican, Marbled Teal, Ferruginous Duck, White-tailed Eagle, Greater Spotted Eagle, and Imperial Eagle. Only a small part of the wetlands along the Iranian Gulf coast were counted, which suggests that the total Iranian Gulf coast is very important for waterbirds and in particular for waders and Dalmatian Pelican. Several wader species were observed which are rare in Iran (Great Knot, Spur-winged Lapwing, Pacific Golden Plover) as well as good numbers of Broad-billed Sandpiper and White-tailed Lapwing.

(3) The Hilleh Protected Area (42,600 ha) and Monde Protected Area (46,700 ha) were found to be suitable for Slender-billed Curlew, as well as much of the surrounding area up to Bushehr and Monde River Delta, and consist of irrigated wheat fields, extensive salt marshes, marshland and intertidal mudflats. Both areas have a favourable conservation status. At least three weeks of field works is needed to survey this extensive area thoroughly for the presence of Slender-billed Curlews.



Plate 2. Slender-billed Curlew *Numenius tenuirostris* and Whimbrel *N. phaeopus*, collected in Chernomorsky Reserve, Black Sea coast of Ukraine probably 1961. (Museum Chernomorsky Reserve, May 1990).



Plate 3. Lagoon of Bandar-e-Moqam, 23 January 2000, with 10,000 bathing Black-headed Gulls *Larus ridibundus* and 600 Slender-billed Gulls *L. genei*.

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This project is activity nr. 9 (Protocol 760/6796) of the Preliminary Memorandum of Understanding between the Islamic Republic of Iran, Department of Environment and the Department of Nature Management of the Ministry of Agriculture, Nature Management and Fisheries, The Kingdom of The Netherlands. Please note that this MoU refers only to the participants of the DoE and Foundation WIWO.

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Plate 4. Mangroves *Avicennia marina* in Hara Protected Area, Khouran Straits, 24 January 2000.

1 INTRODUCTION

Background

The Slender-billed Curlew *Numenius tenuirostris* is a Critically Endangered species (Collar *et al.* 1994) with an unknown world population size (probable less than 100 individuals) and unknown breeding range (Gretton 1991, Belik 1994). No regular wintering areas are known since 1995 and only a few birds have been observed on passage in recent years (BirdLife International database). The Slender-billed Curlew used to be common as a wintering bird in the Mediterranean and occurred regularly in southern Europe in the 19th century. The apparent absence of the species in Iran in the 1970's initiated the interest in the species and its fate elsewhere (D.A. Scott & A.J. Prater, in Gretton 1991).

Regular observations of a small number of Slender-billed Curlews along the Persian Gulf coast were made during recent midwinter waterbird surveys in the 1980's and 1990's (Gretton 1991, BirdLife International database). Therefore, the Slender-billed Curlew Working Group identified a midwinter survey of the Iranian gulf coast with a focus on the Slender-billed Curlew to be a high priority. A waterbird census of the Gulf coast of Iran was identified as a research priority in the Foundation WIWO Forward Plan 1999-2003 (WIWO 1999) as particularly waders have not been counted in detail before.

The project carried out in January - February 2000 was project nr. 9 (Protocol 760/6796) of the Preliminary Memorandum of Understanding (MoU) between the Department of the Environment, Islamic Republic of Iran, and the Department of Nature Management of the Ministry of Agriculture, Nature Management and Fisheries, The Kingdom of The Netherlands. This MoU refers only to the participants of the DoE and Foundation WIWO.

The scientific names of bird species can be found in Annex 1.

Aims

The aims of this project were:

- (1) to carry out a survey of the Persian Gulf coast of the Islamic Republic of Iran, to find Slender-billed Curlews;
- (2) to carry out and assist in a general midwinter wader and waterbird count, focusing on Eurasian Curlew and Whimbrel wintering in this area;
- (3) to design a follow-up study for a complete waterbird survey of the Persian Gulf coast of the Islamic Republic of Iran and carry out Slender-billed Curlew surveys in specific localities.

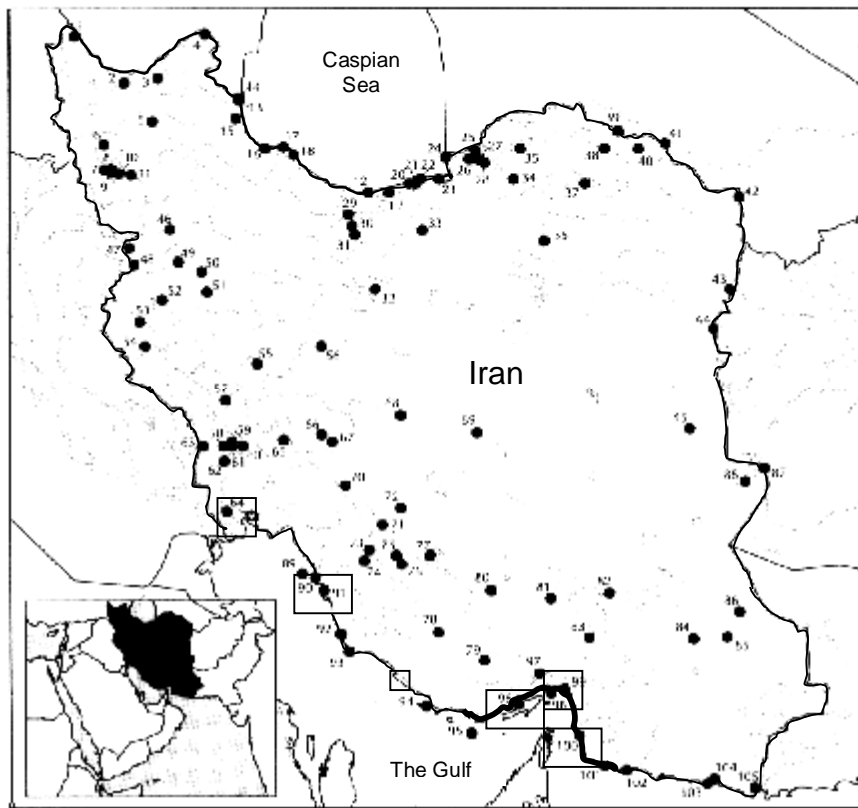


Figure 1. Important Bird Areas in Iran with the areas visited between 23 January and 3 February 2000 indicated (squares and thick line) (Evans 1994).

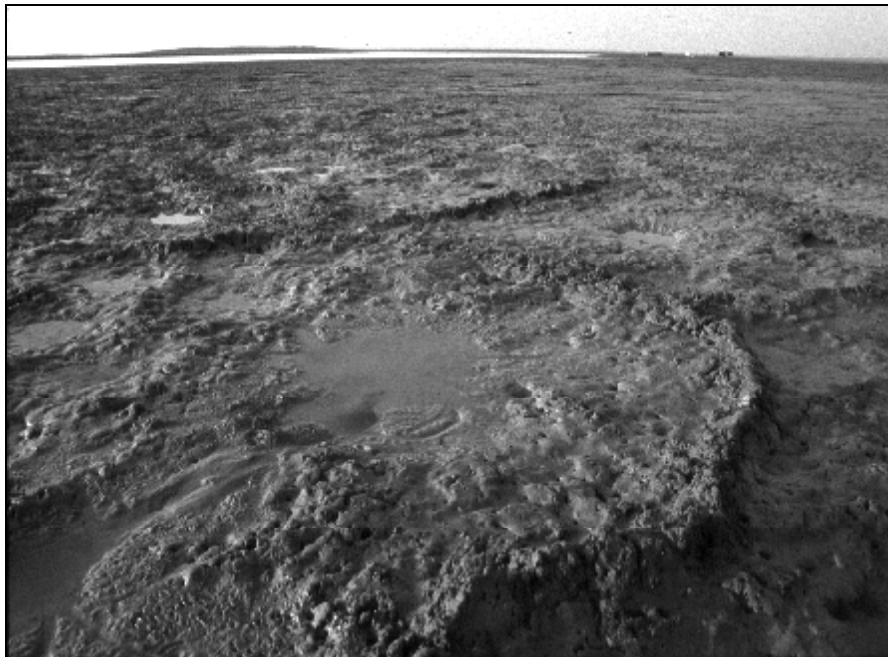


Plate 5. Mudflats of Khor Kargan, 28 January 2000, with holes and territories of mudskippers, showing intense bioturbation.

2 STUDY AREAS AND METHODS

Study areas

Between 13 January and 3 February 2000 about 20 different wetlands, ranging from small and large estuaries, lagoons (khor), intertidal mudflats, mangroves (hara) and fresh water marshes, were briefly visited. All these wetlands are situated along the Persian Gulf coast of Iran between the Hilleh River Delta (29°10'N 50°50'E) near Bushehr in the north down to Jask (25°40'N 57°40'E) in the south along the Indian Ocean. Many of the visited wetlands (Figure 1) are described in Scott (1995) and Evans (1994); several were identified as Important Bird Areas according to BirdLife International criteria (Table 1, Evans 1994).

The following areas were visited on foot and by car, except four areas which were visited by boat: Shadegan & Khor Musa region, Nayband Bay, Monde Protected Area, Bandar-e-Moqam harbour, Bandar-e-Moguyeh, Hara Protected Area (boat, two times), Khur Surru, Tijab (boat), Sirik lagoon and beach, Jask Khur, Jask harbour, Jask Khur, Azini Khur (boat), Mubarak Khur (boat), Surgum Khur, Kargan, Bandar Abbas harbour, Hilleh River Delta, Rud-e-Shuhr, Bandar Rig (Tables 1 & 2). Each wetland listed below has been given a number in Table 2 to ease cross reference to Tables 1, 3, 4, 5 and Table A1 in Annex 4. The total wetland area along the Gulf coast is about 700,000 ha, which includes approximately 160,000 ha of intertidal mudflats (Table 2, Zwarts *et al.* 1991). A gazetteer of localities visited is included in Annex 5. A full list of GPS positions is given in Annex 6.

Table 1. The following wetlands along the Gulf coast of Iran were identified as IBA's in Evans (1994) and several of them were visited during our survey. The IBA number of Evans (1994) is given, as well as wetland number (see Table 2), province name and approximate size in hectares (see Figure 1).

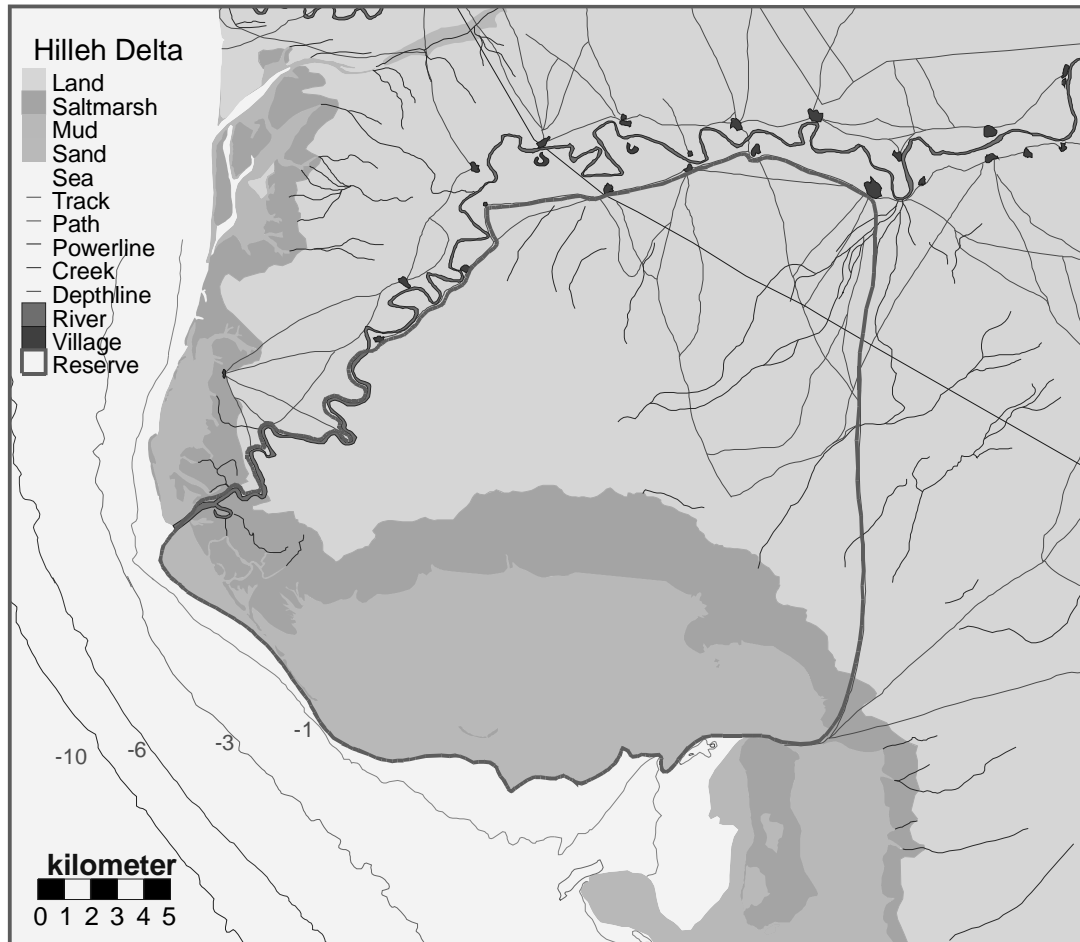
IBA#	name wetland #	province	area (ha)
64	Shadegan Marshes, Khor Musa 2	Khuzestan	425,140
64	Bandar-e-Shahpur, Khor Musa 3	Khuzestan	
64	Bandar-e-Mashar, Khor Musa 4	Khuzestan	
90	Hilleh River Delta (Hilleh Protected Area) 7	Bushehr	42,600
91	Bushire Bay	Bushehr	27,000
92	Monde River Delta (Monde Protected Area) 8	Hormuzgan	46,700
96	Khouran Straits (Hara Protected Area) 11	Bandar Abbas	100,000
99	Rud-i-Shur, Rud-i-Shirin, Rud-i-Minab 14-18	Hormuzgan	11,800
100	Rud-i-Gaz, Rud-i-Hara	Sistan/Baluchistan	15,000
101	Khor Jask 19	Sistan/Baluchistan	11,500

1-4. Shadegan and Khor Musa region IBA 064 (13/14-1-2000). Four localities were visited: (1) Kurin River (mudflats), (2) Shadegan Marshes (floodplain), (3) Bandar-e-Shahpur (salt marsh), (4) Bandar-e-Mahshur (salt pans). The floodplain area (282,500 ha) consists of fresh to brackish sedge marshes and salt-tolerant *Tamarix* vegetation. The Khor Musa coastal zone (123,440 ha) consists of shallow lagoons with salt marshes, mud flats and salt pans. It is designated as a Ramsar Site (400,000 ha) and Wildlife Refuge (296,000 ha).

5. Bandar-e-Rig (2-2-2000). Sandy mudflats near the town of Bandar-e-Rig with much disturbance by fishermen and a lot of pollution (garbage).

6. Rud-e-Sur (2-2-2000). Fresh water marsh and part of the river Rud-e-Sur (crossed by a road) outside the Hilleh Protected Area.

51°00'



50°35'

29°00'

29°20'

Figure 2. Map of the Hilleh River Delta, Iran, with the Hilleh Protected Area reserve (thick line). Recently developed shrimp ponds north of the river mouth are not included.

7. Hilleh River Delta, Hilleh Protected Area, Bushehr (1, 2, 3-2-2000) IBA 090

Large delta, in part created by diverging the Hilleh river for irrigation of arable fields in the 1970's and consisting of large reedbeds and salt marshes, which are inundated by fresh water during winter period. Extensive arable fields outside Hilleh Protected Area apparently also extend into the Protected Area. The salt marshes are grazed by sheep, goats and cows. Small rodents are abundant in the arable fields and drier parts of the salt marshes. The southern coastline is bordered by extensive mudflats (not visited).

8. Monde Protected Area IBA 092 (19-1-2000). This area includes the Delta of the Monde river. It has a large creek system and an extensive area of coastal dunes. The lower reaches of the river meanders across a broad sandy plain with steppe vegetation and oxbow lakes. Other habitats include sandy beaches, intertidal mudflats with sand spits and small areas of irrigated wheat cultivation. The wetland area covers about 26,870 ha, the total protected area is 46,700 ha.

9. Nayband Bay (20-1-2000). Coastal area with salt marshes and mudflats.

10. Bandar-e-Moqam, Nahilu estuary (23-1-2000). Estuary, consisting of a sandy lagoon with sparsely vegetated salt marsh and sandy dunes.

11. Bandar-e-Moguyeh, estuary (23-1-2000). Estuary, consisting of a sandy lagoon with sparsely vegetated salt marsh and sandy dunes.

12. Bandar-e-Khamir, Hara Protected Area (24-1-2000; 29-1-2000) IBA 096 The Hara Protected Area, which includes the Mehran Delta, lies in the Khouran Straits (26°50'N 55°40'E, IBA096 in Evans 1994) and has a protected area of 85,686 ha (Ramsar site and Biosphere Reserve). The Khouran Straits form the mouth of the southern Persian Gulf and lie between the Mehran and Rasul deltas and the island of Ghesm. It consists of sandy and rocky islands, mangrove, mudflats, sand bars and creeks. The area was visited twice by boat during high tide (on 24-1) and low tide (on 29-1). During high tide many birds are not visible, because they roost behind the mangroves, while during low tide many birds are not visible either in the small creeks. In some places, the mudflats are very muddy and almost impossible to walk on.

Ghesm (Qesm), Bandar Paleh, Laft near Hara Protected Area (29-1-2000). Rocky island opposite Bandar-e-Paleh with small town of Laft bordering Hara Protected Area. Extensive mudflats with large fukes or fishing nets. Huge crabs are locally abundant.

13. Khur Surru, Bandar Abbas (25-1-2000). In the centre of town a small estuary is situated, consisting of a fresh water lagoon with muddy creeks and salt marshes. It is surrounded by sand dunes and scattered acacia trees. The area is very polluted and littered with garbage, but 'protected' by a large fence. This provides some shelter against disturbance, resulting in surprising numbers of waterbirds in the center of Bandar Abbas.

14. Khor Tijab (26-1-2000) IBA 099 Lagoon with extensive sandy mudflats along the coastline.

15. Khor Kargan (Menab) (28-1-2000). Lagoon with creek and mudflats with mudskippers and crabs, bordered by extensive salt marshes and scattered mangroves.

16. Sirik (Menab) (27-1-2000). Sandy beach along dunes bordered by extensive sandy mudflats.

17. Khur Azini (Menab) (27-1-2000). Creek and small sand bars bordered by small stands of mangroves with extensive sandy mudflats.

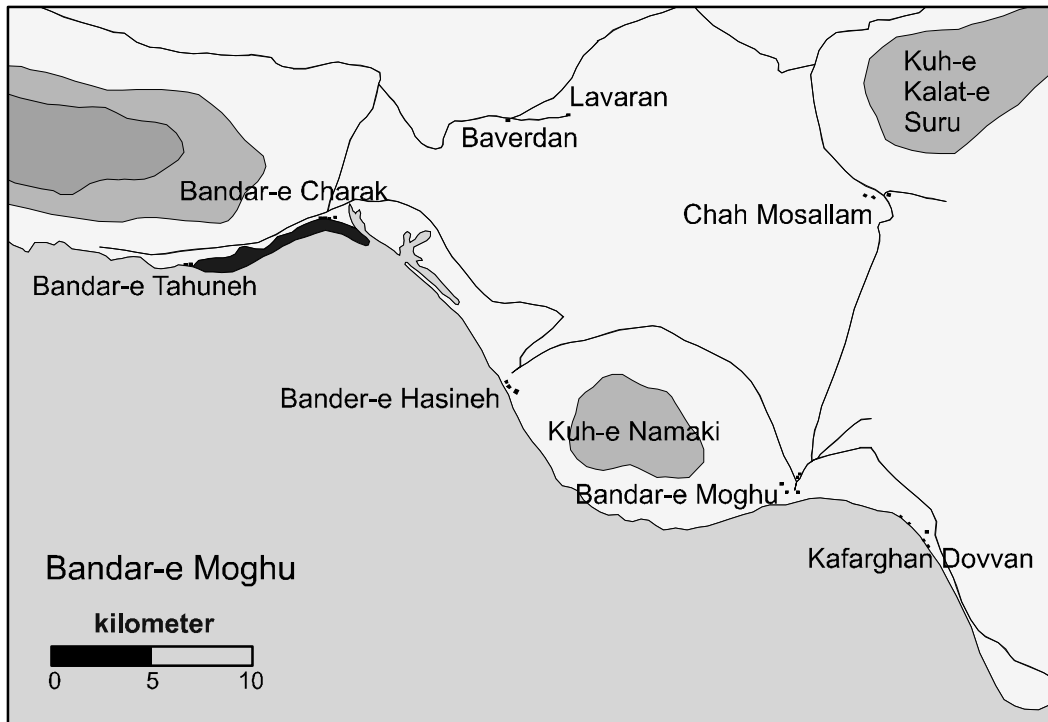


Figure 3. Map of Bandar-e-Moguyeh area.

18. Mubarak lagoon (Menab) (27-1-2000). Extensive steppe salt marsh dominated by huge rock (Mubarak), gradually sloping into vast mudflats.

19. Khor Jask (27-1-2000) **IBA 101** Sandy lagoon with extensive mangroves and salt marshes. Muddy mudflats between mangroves with mudskippers and crabs.

20. Khor Surgum (28-1-2000). Large lagoon with sandy mudflats, some parts muddier and covered with green algae, bordered by extensive sandy dunes.

Methods

Most areas were surveyed on foot, by car and by boat, with a focus on roosts of curlews and Black-tailed Godwits, in tidal and non-tidal areas. Van der Have *et al.* (1998) proposed a method to locate Slender-billed Curlews in the wintering range. This method includes locating (night) roosts of Eurasian Curlew and/or Black-tailed Godwit, but could not be carried out due to the very short time available. Most counts were partial counts of the wetlands, because time per visit was very limited. In the tidal wetlands the tide was often not optimal for counting. In several intertidal wetlands sample or spot counts were made during low tide, which permits an extrapolation to larger intertidal areas and a comparison with the estimates of waders in the Gulf area (Zwarts *et al.* 1991). All geographical positions were taken by GPS, stored, and used in combination with a maritime map (Annex 6). For scientific and vernacular bird names see Annex 1.

Table 2. List of 20 wetlands along Gulf coast of Iran visited in January-February 2000, with total area (in hectares), intertidal area (derived from marine maps), main type of habitat and shoreline characterization.

#	wetland	province	area total	area intertidal	habitat	shoreline
1	Kurin River	Khuzestan		0	marsh	floodplains
2	Shadegan Marshes	Khuzestan	282,500	0	marsh	floodplains
3	Bandar-e-Shahpur, Khor Musa	Khuzestan	142,640	50,000	intertidal	salt marsh
4	Bandar-e-Mahshar, Khor Musa	Khuzestan	1,000	1,000	salt pans	salt marsh
5	Bandar-e-Rig	Bushehr	3,000	3,000	intertidal	salt marsh
6	Rud-e-Sur	Bushehr	2,000	2,000	marsh/intertidal	salt marsh
7	Hilleh River Delta	Bushehr	42,600	10,000	marsh/intertidal	salt marsh
8	Monde River Delta	Bushehr	46,700	8,000	marsh/intertidal	salt marsh
9	Nayband Bay	Bushehr	3,000	3,000	intertidal	salt marsh
10	Mogham lagoon	Bandar Abbas	500	450	intertidal	salt marsh
11	Moguye estuary	Bandar Abbas	500	50	intertidal	salt marsh
12	Hara Protected Area (Khouran Straits)	Bandar Abbas	100,000	30,000	intertidal	mangrove
13	Khur Surru lagoon	Bandar Abbas	1,000	1,000	intertidal	salt marsh
14	Khor Tijab	Hormuzgan	10,000	10,000	intertidal	mangrove
15	Khor Kargan lagoon	Hormuzgan	10,000	10,000	intertidal	mangrove
16	Sirik beach	Hormuzgan	4,000	4,000	intertidal	mangrove
17	Azini Khur	Hormuzgan	15,000	15,000	intertidal	mangrove
18	Mubarak lagoon	Hormuzgan	1,000	1,000	intertidal	mangrove
19	Jask lagoon	Sistan/Baluchistan	11,500	11,500	intertidal	mangrove
20	Khur Surgum	Sistan/Baluchistan	1,000	1,000	intertidal	beach
	total wetland area		677,440	161,000		

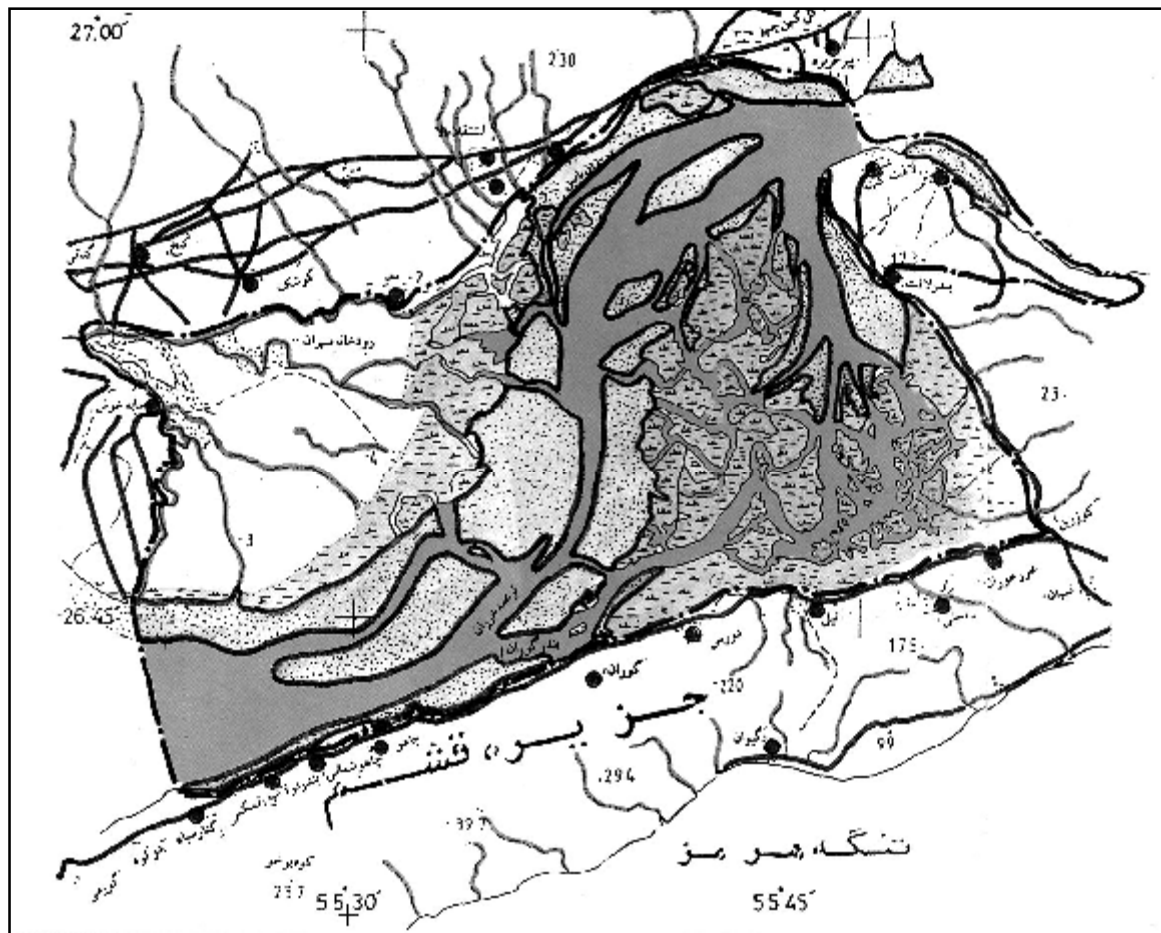


Plate 4. Map of Hara Protected Area, Khouran Straits (from Zehzad & Madjnoonian 1998).

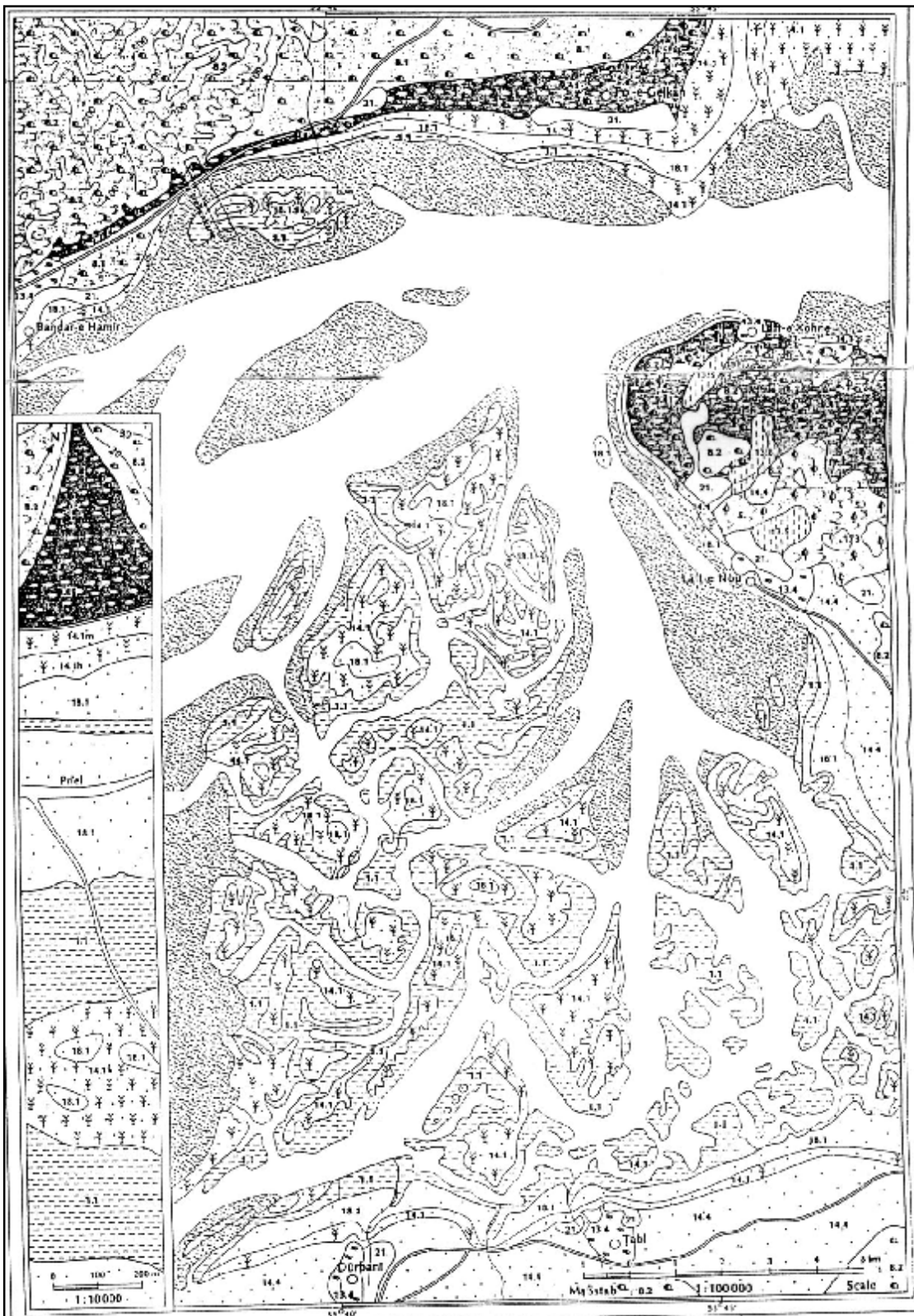


Plate 5. Map of vegetation types in Hara Protected Area (from Zehzad & Madjnoonian 1998).



Plate 6. Dalmatian Pelicans and Eurasian Spoonbills, Hara Protected Area, 24 January 2000.

3 RESULTS

3.1. Introduction

The aim of this survey was to maximise the number of sites visited and to improve the chance of finding Slender-billed Curlews. A variety of wetlands and habitats was checked to get an idea how to organise a full waterbird count in the future. At every wetland site all available time was used to count a specific, relatively small area, but time was usually too short to carry out density counts. Therefore, the waterbird counts should be considered as incomplete. We will present and discuss the total waterbird numbers in 20 wetlands and compare some estimates of the total number of waders present with previous surveys in Iran (1968-1976) and with a survey in Saudi Arabia (1986). The negative outcome of the search for Slender-billed Curlew is briefly discussed. Eight wetlands have been identified as Important Bird Area (IBA) and six of these were visited during the survey (Table 1).

3.2. Waterbird count

About 53,000 waterbirds of 82 species were counted in about 20 different wetlands (Table 2) (all 43 counts are given in Annex 4). The number of waterbirds reflects the types of habitats, ranging from fresh to brackish in the north to exclusively marine in the south. The intertidal mudflats in the north are fringed by saltmarshes, while they are fringed by mangroves in the south. It should be noted that the intertidal flats in the north were visited only briefly, but those in the south more thoroughly (Hara Protected Area to Khor Surghum).



Plate 7. Mudskipper *Boleophthalmus boddarti* on mudflats of Mubarak, 27 January 2000.

Ducks (including Globally Threatened Species like Marbled Teal and Ferruginous Duck) and flamingoes were more abundant in the north, fish eating birds (cormorants, gulls, terns) more common in the south. Dalmatian Pelicans were present in most wetlands and in total 196 were counted (2% of the world population). The total number of Dalmatian Pelicans present along the entire Gulf coast must be very significant. The species observed are also discussed in Annex 1 and 2.

Other wetland dependent species observed during the survey, like Kingfisher, Pied Kingfisher, Marsh Harrier, Osprey and Greater Spotted Eagle, are included in Tables 7 and A1. Other Globally Threatened (or near-threatened) species observed were White-tailed Eagle, Imperial Eagle, Pallid Harrier, and possibly Iraq Babbler at a new location (Hilleh River Delta; see also Annex 2). In addition, a new major wintering site for Dead Sea Sparrow, a Middle East restricted range species, was found in the Hilleh Protected Area. Herons were more or less evenly spread out from north to south, but Goliath Heron *Ardea goliath* was not observed. The total number of waterbirds counted in each wetland varied from a few hundred up to several thousands and comprised up to 53 different waterbird species (Hara Protected Area, Table 3). As mentioned earlier, it should be noted that these counts are not complete and cover on average 1-5% of the total wetland area. In Hara Protected Area the coverage was considerably higher (up to 20%), as the area was visited twice, at high and low tide.



Plate 9. Crab Plovers and Terek Sandpipers in Hara Protected Area, 24 January 2000.

Searching for Slender-billed Curlews in Iran, January-February 2000

Table 3. Number of waterbirds in 20 wetlands along the Gulf coast of Iran, January-February 2000, ranked from north to south (excluding waders).

Location																				
	Kurin River	Shadegan M.	B.-e-Shahpur	B.-e-Mahshar	Bandar-e-Rig	Rud-e-Sur	Hilleh R. Delta	Mond R. Delta	Nayband Bay	B. Moghan	Hara Pr. Area	Khur Surru	Tijab	Sirik	Azimi Khur	Mubarak	Jask harbour	Khur Surgum	Khur Kargan	
wetland #	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17	18	19	20	
<i>Tachybaptus ruficollis</i>							2													
<i>Podiceps cristata</i>				9				3		1			2							3
<i>Podiceps nigricollis</i>	6			200									1							
<i>Phalacrocorax carbo</i>	1			13					200		145	2		1	636	16		6	75	
<i>Pelecanus crispus</i>			1					15			57			6	22	25		12	11	
<i>Ardeola grayii</i>											2									
<i>Bubulcus ibis</i>							460													
<i>Egretta garzetta</i>		28				2	1		1						1					
<i>Egretta gularis</i>	1		4	34		3		49	14	3	72	26	3	6	9	6	3	6	6	
<i>Casmerodius albus</i>			20	36		2		4	5	3	27	3	2	1	27			3	4	
<i>Ardea cinerea</i>	2	2	17	17		1	12	8	7	4	23	8	4	2	5	1	1	52	4	
<i>Nycticorax nycticorax</i>							20												0	
<i>Platalea leucorodia</i>				30				20	1		21	1	2	2	3	3		9		
<i>Phoenicopterus ruber</i>	4500		9	2000	38		480	107	3	7	17	86	1					55		
<i>Anser anser</i>			1				461			2										
<i>Tadorna tadorna</i>	11		510	650		89	52	37		22		52								
<i>Anas penelope</i>			6				80				4									
<i>Anas acuta</i>			2				10													
<i>Anas crecca</i>			10			22	880													
<i>Anas strepera</i>							18													
<i>Anas platyrhynchos</i>				210			2	4												
<i>Aythya ferina</i>			3																	
<i>M. angustirostris</i>			330																	
<i>Gallinula chloropus</i>							3													
<i>Fulica atra</i>							5	21												
<i>Grus grus</i>							7													
<i>Larus hemprichii</i>																		1		
<i>Larus ridibundus</i>						7		100	20	10000		25	4				17			
<i>Larus genei</i>	60		100	2000				10	1300	800	1	18	167	59	349	51	4	22	220	
<i>Larus heuglini</i>	3							153	10				4				16	25		
<i>Larus cachinnans</i>	12		32					200					8				9	53		
<i>L. cachinnans/heuglini</i>											499			212	4690	220	104	342	150	
<i>Larus ichthyaetus</i>								50	55	7	1			34	50	50		2	30	
<i>Gelochelidon nilotica</i>	1	49		23			20	12	7		42	14	38		108		1	23		
<i>Sterna caspia</i>				22					9		7	1	4	30	20	2		3		
<i>Sterna bergii</i>											1			97	50	10				
<i>Sterna bengalensis</i>									320		17	40	10	150	50	200				
<i>Sterna sandvicensis</i>											1		1	104	145					
<i>Sterna saundersi</i>																			4	
<i>Chlidonias leucoptera</i>							1													
<i>Pandion haliaetus</i>									1	1	2	1			1	1		1	1	
<i>Aquila clanga</i>							2					1	1		1				3	
<i>Aquila heliaca</i>																				
<i>Haliaeetus albicilla</i>		1																	1	
<i>Circus aeruginosus</i>		4					17		1		3	1	2	1	1			1	3	
<i>Alcedo atthis</i>		1							2		3			1	3		1			
<i>Ceryle rudis</i>		8		2			8		1											
grand total	4956	133	1303	6082	57	1581	2879	1013	2228	10861	4185	1452	505	790	6779	1608	195	1944	3407	



Plate 10. Flock of Crab Plovers in Hara Protected Area, 29 January 2000 (above).

Plate 11. Great Stone Plovers at Mubarak, 27 January 2000 (below).

3.3. Waders

Totals and distribution

A total of 15,691 waders of 37 different species were observed during the survey (Tables 4-5). A few species were present in many wetlands and were observed in over 40% of the counts (presence, see Table 7). These are in decreasing abundance: Dunlin, Bar-tailed Godwit, Curlew, Mongolian Plover, Terek Sandpiper, Redshank, Grey Plover and Whimbrel. These species were also found to be the dominant ones in a survey of the Saudi Gulf coast (Zwarts *et al.* 1991; Table 7). Other species were found mainly in the northern Gulf (Avocet, Black-winged Stilt, Black-tailed Godwit) or in the southern part (Oystercatcher, Great Stone Plover, Crab Plover). Densities of waders appeared to be higher in the southern part of the Gulf, but this may be caused by the better coverage of the intertidal mudflats.

Some notes on individual species

(a) Large numbers of Crab Plovers were observed, in particular in the Hara Protected Area (a total of 940, representing at least 21% of the local breeding population). The total present along the entire Gulf coast must be very significant and probably much higher than the estimate in Summers *et al.* (1987) (1,250-1,750).

(b) Several groups of displaying White-tailed Lapwings (a total of 80) were observed in just a small part of the Hilleh Protected Area on 1 and 3 February, suggesting that large numbers started to breed in the rest of the area.

(c) Broad-billed Sandpipers were counted at several sites (a total of 238 counted), only in the south of the country. Hara Protected Area is a key site (>250 estimated) for this vulnerable species.

'Guestimates' of total number of waders

We estimated that less than 5% on average of the Iranian Gulf coast wetlands was visited. Therefore, a conservative estimate of the total number of waders present can be calculated from the totals over all 20 wetlands by multiplying the totals with a factor 20. This procedure results in a total of about 280,000 waders (Table 6) and probably refers to less than half of the total intertidal area along the Persian Gulf coast of Iran (1600 km²). This rather crude estimation leads to an overall density of 4-5 wader per hectare and suggests that at least 500,000 waders may be wintering along the total Persian Gulf coast of Iran. The overall presence of a species was calculated and expressed as the percentage of the counts (43 in total) in which a species occurred (Table 6). In addition, the relative abundance was calculated for each species as the percentage of the total number of waders counted (Table 6).

Table 4. List of wetlands visited during the survey, with total wetland area (in hectares), intertidal area (ha), total number of waders, waterbirds, and number of waterbird species, counted in each wetland. The wetlands are ordered from north (Kurin River) to south.

wetland #	area (ha) total	area (ha) intertidal	waders N _{total}	waterbirds N _{total}	waterbirds N _{species}
1 Kurin River			359	4,956	20
2 Shadegan Marshes	282,500	0	40	133	9
3 Bandar-e-Shahpur	142,640	50,000	258	1,303	22
4 Bandar-e-Mahshar	1,000	1,000	836	6,082	25
5 Bandar-e-Rig	3,000	3,000	19	57	8
6 Rud-e-Sur	2,000	2,000	1,455	1,581	16
7 Hilleh River Delta	42,600	10,000	332	2,879	36
8 Mond River Delta	46,700	8,000	220	1,013	27
9 Nayband Bay	3,000	3,000	271	2,228	34
10 Bandar Moghan	500	500	0	10,841	10
11 Bandar Moguye	50	50	11	20	6
12 Hara Protected Area	100,000	30,000	4,473	4,185	53
13 Khur Surru	1,000	1,000	1,173	1,452	35
14 Tijab	10,000	10,000	251	505	34
15 Khor Kargan	10,000	10,000	2,916	790	24
16 Sirik	4,000	4,000	84	6,779	36
17 Azini Khur	15,000	15,000	608	1,608	27
18 Mubarak	1,000	1,000	1,023	195	19
19 Jask harbour	11,500	11,500	38	1,944	35
20 Khur Surgum	1,000	1,000	1,324	3,407	24
total	677,440	161,500	15,691	51,958	82



Plate 12. Bivalves in sandy mudflats of Khor Surgum, 28 January 2000.

Searching for Slender-billed Curlews in Iran, January-February 2000

Table 5. Numbers of waders observed in 20 wetlands along the Gulf coast of Iran, January-February 2000. All 43 counts are presented in Annex 4.

Date	13- jan	13- jan	14- jan	14- jan	2-feb	2-feb	3-feb	19- jan	20- jan	23- jan
Location	Kurin River	Shadegan M.	B.-e-Shahpur	B.-e-Mahshar	Bandar-e-Rig	Rud-e-Sur	Hilleh R. Delta	Mond R. Delta	Nayband Bay	B. Moghan
wetland #	1	2	3	4	5	6	7	8	9	10-11
<i>Haematopus ostralegus</i>										
<i>Esacus recurvirostris</i>										
<i>Recurvirostra avosetta</i>	1		118	250		350		20		
<i>Himantopus himantopus</i>		34		21			10		2	
<i>Dromas ardeola</i>										
<i>Vanellus indicus</i>							20			
<i>Vanellus leucurus</i>							94			
<i>Charadrius dubius</i>									3	
<i>Charadrius hiaticula</i>			2			1	1		1	
<i>Charadrius alexandrinus</i>			20	53		26		8	53	
<i>Charadrius mongolus</i>	8			20				16		
<i>Charadrius leschenaultii</i>								3	84	
<i>Pluvialis fulva</i>										
<i>Pluvialis squatarola</i>	15							8	3	
<i>Calidris tenuirostris</i>										
<i>Calidris canutus</i>										
<i>Calidris alba</i>										
<i>Calidris minuta</i>		6	14	37			7			
<i>Calidris ferruginea</i>										
<i>Calidris alpina</i>	150		25	59		50	29	40	12	3
<i>Limicola falcinellus</i>										
<i>Philomachus pugnax</i>							5			
<i>Gallinago gallinago</i>							1			
<i>Limosa limosa</i>	1		76	350		1	85	8		
<i>Limosa lapponica</i>								19	38	
<i>Numenius phaeopus</i>							3		7	
<i>Numenius arquata</i>	20		1	13	19	8	25		32	
<i>Tringa totanus</i>	12		2	19		18	42	55	13	
<i>Tringa erythropus</i>							1			
<i>Tringa stagnatilis</i>							2		1	
<i>Tringa nebularia</i>	1			2		1		16	6	2
<i>Tringa ochropus</i>							4			
<i>Tringa glareola</i>										
<i>Xenus cinereus</i>	1						3	27	2	
<i>Actitis hypoleucos</i>									2	2
<i>Arenaria interpres</i>										4
<i>Phalaropus lobatus</i>				12						
small wader	150					1000			12	
large wader										
total	359	40	258	836	19	1455	332	220	271	11

Searching for Slender-billed Curlews in Iran, January-February 2000

Table 5. Continued.

Date	24- jan	29-jan	25- jan	26- jan	28- jan	27- jan	27- jan	27- jan	28- jan	28-jan
Location	Hara area	Hara P.A.	Khur Surru	Tijab	Khur Kargan	Sirik	Azini Khur	Mubarak	Jask harbour	Khur Surgum
wetland #	12	12	13	14	15	16	17	18	19	20
<i>Haematopus ostralegus</i>	57		42	14		11	65	14		274
<i>Esacus recurvirostris</i>	2		4			13	1	3		
<i>Recurvirostra avosetta</i>		9		4	110	40				
<i>Himantopus himantopus</i>			13		310					
<i>Dromas ardeola</i>	205	658								79
<i>Vanellus indicus</i>										
<i>Vanellus leucurus</i>					10					
<i>Charadrius dubius</i>										
<i>Charadrius hiaticula</i>	2		1							
<i>Charadrius alexandrinus</i>	2		19	11		1	1	3	8	36
<i>Charadrius mongolus</i>	780	1	5	13			1	4	5	51
<i>Charadrius leschenaultii</i>	2									8
<i>Pluvialis fulva</i>		8								
<i>Pluvialis squatarola</i>	30		24	8		7	71	126	1	18
<i>Calidris tenuirostris</i>				2						
<i>Calidris canutus</i>				12						
<i>Calidris alba</i>				22	2	8		204		107
<i>Calidris minuta</i>	40	17	1		2000					
<i>Calidris ferruginea</i>	24				9					
<i>Calidris alpina</i>	202	48		9	260	2	31	10	9	5
<i>Limicola falcinellus</i>	189				14		48			1
<i>Philomachus pugnax</i>			1							
<i>Gallinago gallinago</i>										
<i>Limosa limosa</i>			50		6					
<i>Limosa lapponica</i>	215	6	96	49			86	58		72
<i>Numenius phaeopus</i>	97	101	8	8			8	1		
<i>Numenius arquata</i>	305	366	63	29	15	1	16	64	3	10
<i>Tringa totanus</i>	32	12	58	27			46	7	7	12
<i>Tringa erythropus</i>			20							
<i>Tringa stagnatilis</i>		1								
<i>Tringa nebularia</i>	2	1	3	5	150	1	6	2	1	2
<i>Tringa ochropus</i>										
<i>Tringa glareola</i>			1							
<i>Xenus cinereus</i>	571	5	64	34	15		24	24	2	95
<i>Actitis hypoleucos</i>	3			1			3		2	
<i>Arenaria interpres</i>				3			1	3		14
<i>Phalaropus lobatus</i>										
small wader	480		600		15		180	500		540
large wader			100				20			
total	3240	1233	1173	251	2916	84	608	1023	38	1324

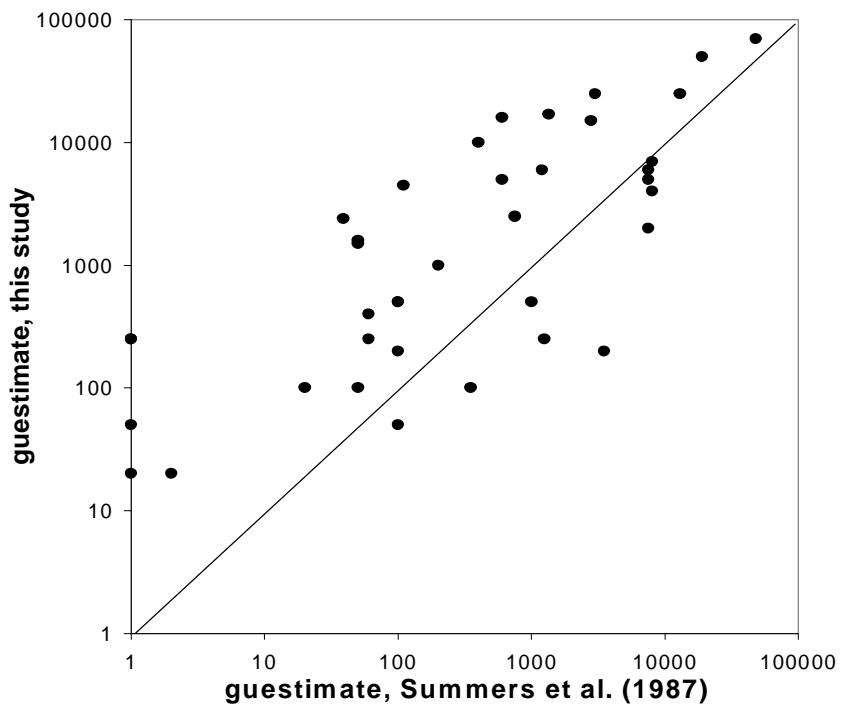


Figure 6. The number of waders 'guestimated' for the Persian Gulf coast in January-February 2000 plotted against the 'guestimates' of Summers *et al.* (1987) for the period 1968-1976. See also Table 6.



Plate 15. Crab Plovers in Hara Protected Area, 29 January 2000.

Table 6. Totals of 37 wader species counted and estimated in January-February 2000 in 20 wetlands along the Gulf coast of Iran, compared with estimates in 1968-76 (Summers *et al.* 1987). Differences of one order of magnitude are underlined, larger differences are given in bold. See also Figure 6.

Species	this study count	this study count * 20	this study guestimate	Summers 1968-76 guestimate
<i>Haematopus ostralegus</i>	203	4,060	4,000	8,000
<i>Esacus recurvirostris</i>	23	460	500	100
<i>Recurvirostra avosetta</i>	803	16,060	16,000	600
<i>Himantopus himantopus</i>	80	1,600	1,600	50
<i>Dromas ardeola</i>	863	17,260	17,000	1,350
<i>Vanellus indicus</i>	20	400	500	1,000
<i>Vanellus leucurus</i>	94	1,880	1,500	50
<i>Charadrius dubius</i>	3	60	50	100
<i>Charadrius hiaticula</i>	8	160	200	3,500
<i>Charadrius alexandrinus</i>	307	6,140	6,000	7,500
<i>Charadrius mongolus</i>	1,158	23,160	25,000	3,000
<i>Charadrius leschenaultii</i>	89	1,780	<u>2,000</u>	<u>7,500</u>
<i>Pluvialis fulva</i>	8	160	200	100
<i>Pluvialis squatarola</i>	302	6,040	<u>6,000</u>	<u>1,200</u>
<i>Calidris tenuirostris</i>	2	40	50	
<i>Calidris canutus</i>	12	240	250	
<i>Calidris alba</i>	234	4,680	5,000	7,500
<i>Calidris minuta</i>	122	2,440	<u>2,500</u>	<u>750</u>
<i>Calidris ferruginea</i>	24	480	500	100
<i>Calidris alpina</i>	670	13,400	70,000	48,000
<i>Limicola falcinellus</i>	237	4,740	5,000	600
<i>Philomachus pugnax</i>	6	120	100	20
<i>Gallinago gallinago</i>	1	20	20	
<i>Limosa limosa</i>	573	11,460	10,000	400
<i>Limosa lapponica</i>	2,567	51,340	<u>50,000</u>	<u>19,000</u>
<i>Numenius phaeopus</i>	242	4,840	4,500	110
<i>Numenius arquata</i>	1,222	24,440	25,000	13,000
<i>Tringa totanus</i>	357	7,140	7,000	8,000
<i>Tringa erythropus</i>	21	420	400	60
<i>Tringa stagnatilis</i>	4	80	100	350
<i>Tringa nebularia</i>	54	1,080	1,000	200
<i>Tringa ochropus</i>	4	80	100	50
<i>Tringa glareola</i>	1	20	20	
<i>Xenus cinereus</i>	770	15,400	15,000	2,800
<i>Actitis hypoleucos</i>	11	220	250	60
<i>Arenaria interpres</i>	11	220	250	1,250
<i>Phalaropus lobatus</i>	12	240	250	
small wader (e.g. Dunlin)	3,072	61,440		
large wader	120	2,400	2,400	
totals	14,310	286,200	280,240	136,250

Table 7. The presence (percentage of counts in which the species occurred), total number counted, and relative abundance of 37 wader species along the Iranian Gulf coast (this study) and of 21 species along the Saudi Arabian Gulf coast (Zwarts *et al.* 1991), in January-February 2000 and January-February 1986, respectively. Species are ranked according to their abundance. Large differences are indicated in bold.

Species	presence this study %	presence Zwarts %	numbers counted this study	numbers counted Zwarts	relative abundance this study	relative abundance Zwarts
<i>Calidris alpina</i>	56	79	4,296	9,792	27.6	35.3
<i>Limosa lapponica</i>	44	46	2,639	1,717	17.0	6.2
<i>Numenius arquata</i>	77	75	1,235	1,132	7.9	4.1
<i>Charadrius mongolus</i>	44	75	1,214	3,123	7.8	11.2
<i>Dromas ardeola</i>	26		942		6.1	
<i>Xenus cinereus</i>	49	50	867	435	5.6	1.6
<i>Recurvirostra avosetta</i>	21		803		5.2	
<i>Limosa limosa</i>	21	6	573	263	3.7	0.9
<i>Haematopus ostralegus</i>	26	27	477	187	3.1	0.7
<i>Tringa totanus</i>	56	56	376	2,298	2.4	8.3
<i>Charadrius alexandrinus</i>	49	44	351	72	2.3	0.3
<i>Calidris alba</i>	14	15	341	9	2.2	0.0
<i>Pluvialis squatarola</i>	44	67	321	1,912	2.1	6.9
<i>Numenius phaeopus</i>	40		242	1	1.6	
<i>Limicola falcinellus</i>	19	4	238	320	1.5	1.2
<i>Calidris minuta</i>	23	35	122	4,128	0.8	14.9
<i>Charadrius leschenaultii</i>	12	69	97	1,033	0.6	3.7
<i>Vanellus leucurus</i>	5		94		0.6	
<i>Himantopus himantopus</i>	12		80		0.5	
<i>Tringa nebularia</i>	37	27	57	97	0.4	0.3
<i>Arenaria interpres</i>	14	49	25	175	0.2	0.6
<i>Calidris ferruginea</i>	7	31	24	295	0.2	1.1
<i>Esacus recurvirostris</i>	12		23		0.1	
<i>Tringa erythropus</i>	5		21	1	0.1	
<i>Vanellus indicus</i>	5		20		0.1	
<i>Actitis hypoleucos</i>	19		13		0.1	
<i>Calidris canutus</i>	2		12		0.1	
<i>Phalaropus lobatus</i>	2		12		0.1	
<i>Charadrius hiaticula</i>	14	40	8	764	0.1	2.8
<i>Pluvialis fulva</i>	2		8		0.1	
<i>Philomachus pugnax</i>	5		6	13	0.0	
<i>Tringa stagnatilis</i>	7		4		0.0	
<i>Tringa ochropus</i>	5		4		0.0	
<i>Charadrius dubius</i>	2		3		0.0	
<i>Calidris tenuirostris</i>	2		2		0.0	
<i>Gallinago gallinago</i>	2		1		0.0	
<i>Tringa glareola</i>	2		1		0.0	
totals			15,552	27,767	100.0	100.0



Plate 16. Salt marsh near Koreband, Hilleh Protected area, 3 February 2000.

Plate 17. Slender-billed Curlew and Whimbrel collected in Chernomorsky Reserve, Black Sea coast of Ukraine, probably in 1961. (Museum Chernomorsky Reserve, May 1990).

3.4. Slender-billed Curlew survey

Previous reports of Slender-billed Curlews in Iran

The winter observations of Slender-billed Curlew along the Persian Gulf coast of Iran in the period 1991-1998 which were reported (without further documentation, e.g. photographs) by the Department of Environment to BirdLife International (Dr. Umberto Gallo-Orsi *in litt.*) are listed in Table 8. All observations are in January, except the one in Monde Protected Area (February). Six of these localities were visited during the study in January-February 2000.

Survey in January - February 2000

Six out of seven localities along the Persian Gulf coast of Iran (provinces of Bushehr and Hormuzgan) where Slender-billed Curlews were observed in the period 1991-1998 were visited in January-February 2000 (Table 8). The results of the waterbird counts in these 20 wetlands are presented in Table 5 and Table A1 (Annex 4).

As many Eurasian Curlews and Whimbrels as possible were checked for the presence of Slender-billed Curlews, but other waterbirds were usually counted as well. In most areas spot-checks were done. No Slender-billed Curlews were found, even though over 2,100 curlews and godwits were checked (Table A1). Total number checked: Eurasian Curlew 1.235. Whimbrel 242. Bar-tailed Godwit 582. Black-tailed Godwit 573 (see also Annex 1).

The Hilleh and Monde Protected Areas seem to have suitable habitat for Slender-billed Curlews, as it looks similar to the last regular wintering area, Merja Zerga, Morocco (pers. obs.). Particularly the combination of irrigated wheat fields, extensively grazed salt marsh, fresh water marshes and extensive intertidal mudflats seem highly suitable. This was also suggested by foraging Eurasian Curlews and Black-tailed Godwits in the arable fields and salt marshes, both wader species known to have occurred together with Slender-billed Curlews (Gretton 1991).

Table 8. Localities of winter observations (January-February) of Slender-billed Curlews along the Gulf coast of Iran in the period 1991-1998 (source: BirdLife International). The localities marked with an asterisk (*) were visited in January-February 2000. Khor Keretan is close to Azini. Khor-Kohe-Mobarakeh is close to Mubarak (see gazetteer Annex 5).

locality (province)	co-ordinates	N	years
1. Hilleh Protected Area (Bushehr)*	29°01N 59°00E	7	1994
2. Monde Protected Area (Bushehr)*	29°10N 52°40E	2	1995
3. Nayband Bay (Hormuzgan)*	27°53N 52°40E	4,4,2	1993,95,98
4. Hara Protected Area (Hormuzgan)*	26°50N 55°40E	4,2	1994,1995
5. Khor Keretan (Hormuzgan) (near Azini)*	26°17N 57°10E	2	1994
6. Khor-Kohe-Mobarakeh (Hormuzgan)*	25°55N 57°35E	2	1995
7. Pozm Tiab (Hormuzgan)	25°40N 59°00E	3	1994



Plate 18. Fresh water lagoon, Rud-i-Sur, 2 February 2000 (above).

Plate 19. Potential feeding habitat of Slender-billed Curlews: irrigated wheat fields near Koreband, Hilleh Protected Area, 3 February 2000 (below).

4 DISCUSSION

4.1. Waterbird numbers and diversity

The total number of 82 waterbird species (including several wetland-dependent raptors and kingfishers) is quite considerable, considering the fact that the survey was carried out in winter. Most of species potentially occurring in the region were observed (Porter *et al.* 1996). The total number of waterbird species in every wetland varied mainly according to its size (Figure 7). This relationship may be caused by the higher number of wetland types in the northern Persian Gulf area, e.g. floodplains, marshland, salt marshes, salt pans and intertidal mudflats present in the larger wetlands in the Shadegan - Hilleh River Delta region. However, the Hara Protected Area includes only a limited set of habitat types, such as salt marsh, mangrove and intertidal mudflats, but had the highest diversity (53 species). This may be caused by the longer observation time (two visits), but the higher diversity in this region may also be related to the more subtropical climate of the southern Persian Gulf coast. Several species from the Indo-Asian region (e.g. Indian Pond Heron, Great Stone Plover, Pacific Golden Plover) were found here. Furthermore, the generally unsurveyed benthic communities of the intertidal mudflats may well be very different and consequently sustain different waterbird species.

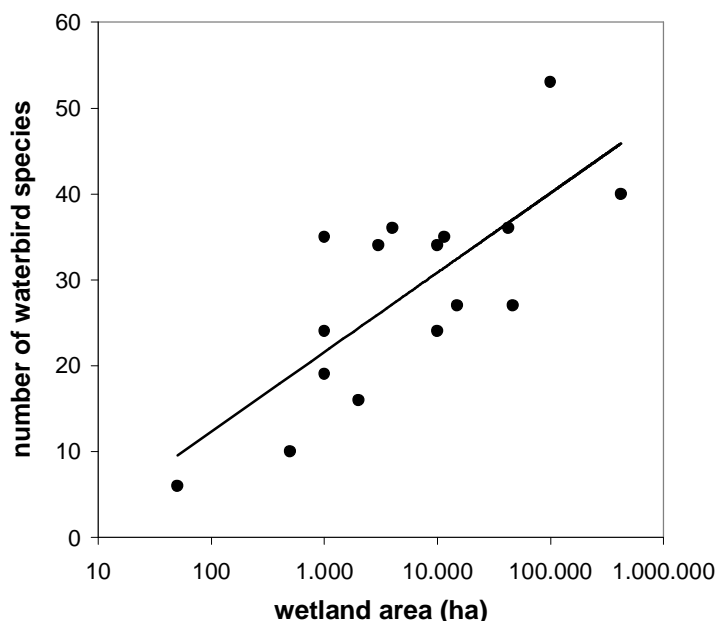


Figure 7. The relationship between total number of waterbird species observed during the survey of the Gulf coast of Iran, January - february 2000, and wetland size (in hectares) of 16 different wetlands. Four wetlands in the Shadegan region were combined.

4.2. Total numbers and density of waders

The rather crude estimate for the total number of waders along the Persian Gulf coast can be compared to earlier estimates in the period 1968-1976 (Summers *et al.*

1987, based on counts made by D.A. Scott and the Department of the Environment). There is an overall agreement in numbers, although most estimates in January/winter 2000 are somewhat higher than the earlier estimates (points above the line of equality in Figure 6). A few species were not mentioned in Summers *et al.* (1987; Red-necked Phalarope, Wood Sandpiper, Common Snipe, Red Knot and Great Knot, probably because they were not seen in the past, or because they are locally rare or vagrant). Several species were noted in somewhat higher numbers in January/winter 2000: Grey Plover, Little Stint and Bar-tailed Godwit. These differences could be caused by the relatively 'crude' counting method. For seven species the differences are particularly large: Avocet, Crab Plover, White-tailed Lapwing, Mongolian Plover, Broad-billed Sandpiper, Whimbrel and Terek Sandpiper. This may be caused by the slightly better coverage of the southern Gulf area in 2000. The use of better optical equipment and improved identification guides may be one reason for the differences in the numbers of Mongolian Plover compared to those of Greater Sand Plover (lower numbers in 2000).

Our survey can be compared with the survey of Zwarts *et al.* (1991) of the Persian Gulf coast of Saudi Arabia in January - February 1986. The total number of wader species is much higher on the Iranian Gulf coast (37) compared to the Saudi side (21). In the United Arab Emirates, the number of wintering wader species was even more comparable (32; S. Aspinall in Keijl *et al.* 1998). This difference may well be caused by the much higher variety of habitats along the Iranian coast, in particular the occurrence of marshland and floodplains with species like White-tailed Lapwing, Red-wattled Lapwing, and the presence of saltpans with Black-winged Stilts and Red-necked Phalaropes. For other wader species the results are rather similar (Table 7). The overall presence is similar for Dunlin, Bar-tailed Godwit, Eurasian Curlew, Terek Sandpiper, Oystercatcher, and Kentish Plover which rank among the most abundant waders and have a presence above 40% in both surveys. Notably different are the occurrence and relative abundance of Grey Plover, Greater Sand Plover, Turnstone, and Ringed Plover, all more abundant and with a higher presence in the Saudi Arabian study. This may well be caused by general differences in the intertidal habitat and/or prey availability, and is clearly an issue for further study. The variety of wetlands and intertidal habitats along the Gulf coast of Iran make it an ideal area for the study of waders and their food resources, as well as for ecosystem studies (Höpner & Kazem 1999).

4.3. Slender-billed Curlews in Iran: future surveys

Although no Slender-billed Curlews were observed during this survey, it is very well possible that (small) numbers winter along the Persian Gulf coast, particularly in the Hilleh Protected Area and the surrounding salt marshes. It will be very difficult however, to monitor the numbers with respect to the size of the suitable areas.

A good method to locate Slender-billed Curlews in their wintering range, namely is-locating (nocturnal) roosts of Eurasian Curlews, and perhaps even Black-tailed Godwits (van der Have *et al.* 1998), was not possible during this survey due to the limited time available. However, the survey in January 2000 was similar to the midwinter counts of the Gulf coast carried out by the DoE (*e.g.* Delany *et al.* 1999), during which several Slender-billed Curlews were observed in recent years (Table 8).

Future surveys should include, or perhaps better: focus, on a thorough survey of the Hilleh Protected Area and wide surroundings. In this area foraging Eurasian Curlews and Black-tailed Godwits should be scrutinized for the presence of Slender-

billed Curlews during daytime, while nocturnal roosts should be tried to be located and checked as well. Total duration of such a study would take three weeks.

4.4. Future waterbird studies

A midwinter survey of the Iranian Gulf coast has never been fully performed. Hence, numbers of wintering waders and other waterbirds, including Globally Threatened Species such as Dalmatian Pelican, or Vulnerable Species such as Broad-billed Sandpiper or Crab Plover, of which we know that a large (but unknown) part of the population spends the winter here, are almost completely unknown. Also, we are completely ignorant of any changes in numbers. Recently, several counts during migration time in the Gulf area have become available (e.g. Smart 1983, DSP 1987, Uttley *et al.* 1988, Evans & Keijl 1993a, Hirschfeld 1994, Keijl *et al.* 1998), showing that the Gulf coast is used both during spring and autumn by important numbers, as well as some during winter (e.g. Zwarts *et al.* 1996, S. Aspinall in Keijl *et al.* 1998), but these studies are far apart both in time and space, rendering direct comparison impossible. For instance, the coast of the UAE is better covered than the much longer one of Iran. There is also great need of surveys which can be used as baseline information, for instance when establishing the impact of disasters such as the oil spill during the 1990 Gulf War (cf. Evans & Keijl 1993b).

A midwinter survey of the complete Iranian Gulf coast and the coast bordering the Indian Ocean could be part of a Slender-billed Curlew survey as outlined above. A midwinter wader survey would have to be carried out by a large boat, which is used as 'mothership', and two small boats (zodiac), to survey the coastal wetlands and intertidal areas from the sea side. The Iranian Gulf coast between Khor-e-Musa in the north and Jask in the south could conceivably be surveyed in a period of about five weeks with a team of at least six experienced waterbird counters.

4.5. Conservation status of some key areas

The mangrove forest of Hara Protected Area, near Bandar Abbas in the south of the country, has a protected status. Although there are no guards, the area seems not to be threatened by human exploitation of any kind (excepting oil pollution, which is a great risk considering the situation of the area, at the mouth of the Persian Gulf).

The wetland area of the Hilleh River Delta is huge both within and outside the Protected Area. The conservation status of the Hilleh Protected Area is very good with a tight control on illegal hunting. The changes in land use however need to be monitored, in particular the development of 1400 ha. of shrimp farms immediately outside the Hilleh Protected Area, east of the Hilleh mouth, which uses the water of the river to dilute the sea water, and the extension of arable fields within the Protected Area.

The general selection and descriptions of IBA's in Evans (1994) was found to be very accurate. More detailed surveys of the coast between Bandar Abbas and Jask, which include the IBA's 99 and 100 (roughly between the rivers Rud-i-Gaz and Rud-i-Minab), will probably lead to the identification of more IBA's, considering the occurrence large numbers of waterbirds and the presence of a variety of wetlands, particularly intertidal mudflats.



Plate 20. Dalmatian Pelicans in Azini Khur with Heuglin's Gulls and Slender-billed Gulls, 2 January 2000.

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Plate 21. Heuglin's Gulls *Larus heuglini* in Hara Protected Area, 29 January 2000. Note moulting outer primaries indicating that moult started in the wintering areas (above).

Plate 22. Flock of Dunlins *Calidris alpina* with Broad-billed Sandpipers *Limicola falcinellus*, Hara Protected Area, 29 January 2000 (below).

Annex 1.

List of bird species observed along south coast of Iran, January - February 2000.

In this avifauna records are presented on 151 species observed during a trip along the coast between Jask in the south and the Hilleh Protected Area in the northwest of Iran, between 21 January and 3 February 2000 (see Figure 1). (Only the observation of Spur-winged Lapwings, on 14 January, is included in this avifauna.) The number of individuals (n) is given for most waterbirds. Names and sequence are according to Sibley & Monroe (1990). Numbers before the species names correspond to those in Porter *et al.* (1996).

For numbers of waders and other waterbirds per area, see Table 1. For areas visited during this trip see Chapter 3 and Figure 1. See also Annex 5-6 for exact locations (in N° and E°) of the sites visited. Details on some rare or interesting species observed during this trip will be published separately (Keijl *et al.* in press), but are also given in Annex 2.

4 Little Grebe *Tachybaptus ruficollis*
1-3 February - several (heard only) in the reed beds of Hilleh Protected Area.

5 Great Crested Grebe *Podiceps cristatus*
23 January - 1 winter plumage Bandar Mogham.
26 January - 2 winter plumage Tijab mangroves.
28 January - 3 winter plumage Kargan.

8 Black-necked Grebe *Podiceps nigricollis*
26 January - 1 winter plumage Tijab mangrove.

36 Great Cormorant *Phalacrocorax [carbo] sinensis*
n = 806
Common along the coast in the south.

43 Dalmatian Pelican *Pelecanus crispus*
n = 144
Fairly common in the south of the country, mainly in mangrove areas.

49 Night Heron *Nycticorax nycticorax*
n = 114
24 January - 1 heard at night Bandar Abbas.
29 January - flock of 93 individuals standing in the open on a mudflat at Qeshm, Hara Protected Area.
1 February - about 20 individuals heard at night near reedbeds of Hilleh Protected Area.

52 Indian Pond Heron *Ardeola grayii*
n = 4
Only observed on mudflats in the mangroves of Hara Protected Area.

53 Cattle Egret *Bubulcus ibis*
n = 415
Only observed in and around Hilleh Protected Area, in marshland and on arable fields.

54 Western Reef Egret *Egretta gularis*
n = 143
Predominantly observed in mangrove areas in the south, but also in the north along the coast.

55 Little Egret

Egretta garzetta

n = 13

Observed at Azini Khur (one, 27 January), and in fresh water marshes at Rud-e Shuhr (2 February) and in Hilleh Protected Area (3 February).

57 Great White Heron

Casmerodius albus

n = 70

Highest number was counted in Azini Khur on 27 January (27). Common in most areas, but usually in small numbers.

59 Grey Heron

Ardea cinerea

n = 114

Seen in most areas, mostly in marine habitat. Largest flock (52) on 28 January in Khur Surgum.

72 Eurasian Spoonbill

Platalea leucorodia

n = 41

In coastal areas, usually in small flocks, but one flock of 19 in Hara Protected Area (24 January).

67 White Stork

Ciconia ciconia

1 February - 2 in Hilleh Protected Area.

74 Greater Flamingo

Phoenicopterus ruber

n = 684

Usually in small numbers, but one flock of 480 on 1 February near Hilleh Protected Area.

82 Greylag Goose

Anser anser

n = 463

23 January - 2 in Bandar Mogham. All the other birds were observed in Hilleh Protected Area.

87 Shelduck

Tadorna tadorna

n = 207

Most (133) were seen in Hilleh Protected Area.

90 Wigeon

Anas penelope

n = 84

24 January - 4 (2 males, 2 females) in Hara Protected Area. All others were seen in Hilleh Protected Area.

92 Gadwall

Anas strepera

1 February - 18 in Hilleh Protected Area.

93 Teal

Anas crecca

n = 722

Only observed in Hilleh Protected Area.

94 Mallard

Anas platyrhynchos

Two small flocks (3 and 2) in Hilleh Protected Area.

95 Pintail

Anas acuta

1 February - 10 in Hilleh Protected Area.

117 Black Kite

Milvus migrans

Observed near Bandar Abbas (one flock of 300 over a salt marsh on 25 January), just outside Bushehr (one flock of 50 on 1 February) and in Hilleh Protected Area (a few small flocks of 1-15 individuals on 1-3 February).

121 White-tailed Eagle

Haliaeetus albicilla

28 January - 1 adult Khur Surgum.

131 Marsh Harrier

Circus aeruginosus

n = 19

Seen in most coastal areas, with maximum of 8 individuals in Hilleh Protected Area, where birds were flying to the roost in the reedbeds on 1 February. Of the 14 birds sexed, 8 were adult males, the others were in female-like plumage.

132 Hen Harrier

Circus cyaneus

1 February - 1 female Hilleh Protected Area.

133 Pallid Harrier

Circus macrourus

Only observed in and around Hilleh Protected Area (1-3 February), comprising at least five different individuals (2 females, 1 immature female, 2 adult males).

138 Sparrowhawk

Accipiter nisus

About 20 individuals seen scattered along the coast.

139 Shikra

Accipiter badius

24 January - 1 immature near Bandar Khamir.

1 February - 1 adult in Koreband, near Hilleh Protected Area.

See Annex 2 for details.

142 Common Buzzard

Buteo buteo

A few individuals observed in Hilleh Protected Area. All had very dark plumage and therefore probably belonged to the nominate subspecies.

143 Long-legged Buzzard

Buteo rufinus

27 January - 1 between Mubarak and Jask.

31 January - 2 between Bul Heir and Bushehr.

Common in Hilleh Protected Area, with at least 15 different individuals. On 1 February a dark morph was observed here.

146 Greater Spotted Eagle

Aquila clanga

n = 9

Singles seen in most mangrove areas and in Hilleh Protected Area. On 1 and 3 February a juvenile of the pale type 'fulvescens' was observed in Hilleh Protected Area.

148 Steppe Eagle

Aquila nipalensis

Only observed in Hilleh Protected Area, with at least 4 different individuals. Adults were not observed.

149 Imperial Eagle

Aquila heliaca

29 January - 1 adult 10 km east of Bandar Pahl.

152 Booted Eagle

Hieraaetus pennatus

3 February - 1 pale morph near border of Hilleh Protected Area. See Annex 2 for details.

- 154 Osprey** *Pandion haliaetus*
n = 7
Seen at several places along the coast (see Table 1).
- 156 Kestrel** *Falco tinnunculus*
Seen throughout, always in singles.
- 160 Merlin** *Falco columbarius*
3 February - 1 female type Hilleh Protected Area.
- 165 Saker Falcon** *Falco cherrug*
24 January - 1, Hara Protected Area, this species or Lanner *F. biarmicus*. Although the bird was soaring very high up in the sky, it caused great panic among the waders.
28 January - 1 adult in Khur Surgum, together with Barbary Falcon.
- 167 Barbary Falcon** *Falco pelegrinoides*
28 January - 1 adult Khur Surgum, together with Saker Falcon.
- 175 Black Francolin** *Francolinus francolinus*
Only observed in Hilleh Protected Area, where up to 6 birds were observed on 1-3 February, close to reedbeds and in saltmarsh vegetation.
- 189 Moorhen** *Gallinula chloropus*
1-3 February - up to 2 individuals seen together in reedbeds of Hilleh Protected Area.
- 194 Coot** *Fulica atra*
1-3 February - up to 3 individuals seen together in reedbeds of Hilleh Protected Area.
- 195 Crane** *Grus grus*
1 February - 3 on arable fields in Hilleh Protected Area.
3 February - family of 2 adults and 2 juveniles in Hilleh Protected Area, and a flock of 5 individuals there, all feeding on arable fields.
- 204 Oystercatcher** *Haematopus ostralegus*
n = 477
28 January - 274 in Khur Surgum was largest concentration.
- 205 Black-winged Stilt** *Himantopus himantopus*
n = 25
24 January - 2 Bandar Abbas. See also Table 1.
- 206 Avocet** *Recurvirostra avosetta*
n = 403
2 February - 350 in Rud-e Shuhr was largest flock.
- 212 Great Stone Plover** *Esacus recurvirostris*
n = 23
27 January - 13 together at Sirik harbour was largest flock. Not observed in northern part of the country.
- 219 Ringed Plover** *Charadrius hiaticula*
n = 5
Only observed in Khur Surru, Hara Protected Area and Hilleh Protected Area. Note however the large number of unidentified small waders in several areas (Table 1).

- 221 Kentish Plover** *Charadrius alexandrinus*
n = 107
Most were seen in Khur Surgum (36), but note large number of unidentified small waders in several areas (Table 1).
- 222 Mongolian Plover** *Charadrius mongolus*
n = 860
Most were seen in Hara Protected Area. Note however the large number of unidentified small waders in several areas (Table 1).
- 223 Sand Plover** *Charadrius leschenaultii*
n = 10
Most were seen in Khur Surgum (7), but note large number of unidentified small waders in several areas (Table 1).
- 227 Pacific Golden Plover** *Pluvialis fulva*
29 January - 8 individuals in Hara Protected Area (GPS 59, see Annex 6). See also Annex 2 for details.
- 229 Grey Plover** *Pluvialis squatarola*
n = 312
Most were seen in Mubarak lagoon (126 on 27 January).
- 232 Red-wattled Lapwing** *Vanellus indicus*
n = 22
Most were seen in Hilleh Protected Area and surroundings. Apart from these observations:
27 January - 1 near Sirik,
27 January - 1 near Azini.
- 234 White-tailed Lapwing** *Vanellus leucurus*
n = 80
Only observed in small and very wet part of Hilleh Protected Area, mostly in flocks of 5-20 individuals.
- 230 Spur-winged Lapwing** *Vanellus spinosus*
14 January - 3 individuals along the road from Akhvaz to Abadan, at the outskirts of Akhvaz, Khuzestan province, by VVM and JM. See Annex 2 for details.
- 237 Knot** *Calidris canutus*
26 January - 12 in winter plumage near Tijab. See Annex 2 for details.
- 236 Great Knot** *Calidris tenuirostris*
26 January - 2 in winter plumage near Tijab. See Annex 2 for details.
- 238 Sanderling** *Calidris alba*
n = 341
Most were seen in Mubarak lagoon (204 on 27 January).
- 246 Curlew Sandpiper** *Calidris ferruginea*
n = 24
Only observed with certainty in Hara Protected Area, but note the large number of unidentified small waders in several areas (Table 1).

247 Dunlin

Calidris alpina

n = 398

Largest numbers in Hara Protected Area, but note the large number of unidentified small waders in several areas (Table 1).

240 Little Stint

Calidris minuta

n = 65

Most were seen in Hara Protected Area, but this species is certainly overlooked in most areas. Note also the large number of unidentified small waders in several areas (Table 1).

248 Broad-billed Sandpiper

Limicola falcinellus

n = 238

Only observed in Hara Protected Area, Azini Khur and Khur Surgum, but numbers are expected to be (much) larger in at least Hara Protected Area. Note also the large number of unidentified small waders in several areas (Table 1).

260 Bar-tailed Godwit

Limosa lapponica

n = 787

Largest numbers in Hara Protected Area, Khur Surgum and Khur Mubarak.

259 Black-tailed Godwit

Limosa limosa

n = 136

Largest numbers in Khur Surru on 25 January (42) and in Hilleh Protected Area (two flocks, together 85 individuals, on their way to the night roost).

261 Whimbrel

Numenius phaeopus

n = 234

Largest numbers in Hara Protected Area. On 24 January one individual showing characters of the subspecies *alboaxillaris* was seen. It was larger than the two accompanying Whimbrels, while the very white underwings and axillaries were noted independently by three observers.

263 Curlew

Numenius arquata

n = 1218

Largest numbers in Hara Protected Area.

250 Ruff

Philomachus pugnax

25 January - 1 male Khur Surru.

3 February - 5 (2 males of which 1 satellite male, 3 females) Hilleh Protected Area.

265 Spotted Redshank

Tringa erythropus

n = 22

Largest flock in Khur Surru (25 January - 20).

266 Redshank

Tringa totanus

n = 261

Largest numbers in Hara Protected Area and Azini Khur.

267 Marsh Sandpiper

Tringa stagnatilis

29 January - 1 mudflats Hara Protected Area.

1 February - 2 in marshes of Hilleh Protected Area.

268 Greenshank

Tringa nebularia

n = 26

Most in Azini Khur and in the creeks in Tijab.

- 270 Wood Sandpiper** *Tringa glareola*
25 January - 1 close to Bandar Abbas.
- 269 Green Sandpiper** *Tringa ochropus*
1-3 February - total of 4 in Hilleh Protected Area.
- 271 Terek Sandpiper** *Xenus cinereus*
n = 822
Largest numbers in Hara Protected Area.
- 272 Common Sandpiper** *Actitis hypoleucos*
n = 11
Almost all (9) observed in the southern part, mainly in marine habitat.
- 274 Turnstone** *Arenaria interpres*
n = 25
Most in Khur Surgum on 28 January (14).
- 252 Common Snipe** *Gallinago gallinago*
3 February - 1 Hilleh Protected Area.
- 278 Pomarine Skua** *Stercorarius pomarinus*
24 January - 1 adult in winter plumage chasing terns at sea, between Bandar Mogham and Bandar Moguye.
- 283 Sooty Gull** *Larus hemprichii*
28 January - 1 adult in winter plumage in Jask harbour.
- 289 Black-headed Gull** *Larus ridibundus*
n = 10,063
Most were seen in a single flock in the estuary Bandar Mogham on 23 January (estimated at 10,000).
- 292 Slender-billed Gull** *Larus genei*
n = 1471
Most were seen on 23 January between the large flock of Black-headed Gulls at Bandar Mogham (c. 800), on 27 January in Azini Khur (250) and on 26 January at Tijab (167).
- 285 Great Black-headed Gull** *Larus ichthyaetus*
n = 144
Most were seen on 27 January at Azini Khur (50) and at the lagoon at Mubarak (50).
- Caspian/Heuglin's Gull** *Larus cachinnans/heuglini*
n = 6067
The largest numbers were counted on 27 January at Azini Khur (4620). See Annex 2 for details.
- 296 Caspian Gull** *Larus cachinnans*
n = 168
Called Yellow-legged Gull in Porter *et al.* (1996). See Annex 2 for details.
- 295 Heuglin's Gull** *Larus heuglini*
n = 51
Treated as a subspecies of Lesser Black-backed Gull *L. [fuscus] graellsii* by Porter *et al.* (1996). See Annex 2 for details.

301 Gull-billed Tern

Gelochelidon nilotica

n = 305

Largest numbers seen on 27 January in Azini Khur (100) and in the the Hilleh Protected Area (50). The latter flock was feeding over an arable field, associated with Cattle Egrets and Curlews.

302 Caspian Tern

Sterna caspia

n = 67

Most were seen on 27 January on the beach near Azini Khur (30) and in the lagoon itself (20).

303 Swift Tern

Sterna bergii

n = 157

Most were seen on 27 January on the beach near Azini Khur (97) and in the lagoon itself (50). Several Swift Terns were seen feeding at sea, but these are not included in Table 1.

304 Lesser Crested Tern

Sterna bengalensis

n = 467

Most were seen on 27 January on the beach near Azini Khur (150), in the lagoon itself (50) and at Mubarak (200). Several Lesser Crested Terns were seen feeding at sea, usually together with Swift and Sandwich Terns, sometimes in sizeable flocks (hundreds) but also in singles, but these are not included in Table 1.

305 Sandwich Tern

Sterna sandvicensis

n = 251

Most were seen on 27 January on the beach near Azini Khur (104) and in the lagoon itself (140). A few were also seen feeding at sea, mostly in flocks together with Lesser Crested and Swift Terns, but these are not included in Table 1.

313 Saunders's Tern

Sterna saundersi

28 January - 4 Khur Surgum. The feeding birds were identified on basis of the relatively extensive amount of black on the upperwing (three or more black primaries), and grey rump and tail, not contrasting with the remainder of the upperparts.

316 White-winged Tern

Chlidonias leucopterus

29 January - 1 first winter bird on the mudflats in Hara Protected Area.

325 Black-bellied Sandgrouse

Pterocles orientalis

2 February - 6 and 25 individuals near Bandar Rig.

331 Wood Pigeon

Columba palumbus

31 January - 3 individuals near Kangan.

1 February - 2 Hilleh Protected Area.

328 Feral Pigeon

Columba livia

Fairly common (flocks of tens) in most towns and villages.

334 Collared Dove

Streptopelia decaocto

About 8 individuals seen along the road, both in the south and in the north along the coast.

340 Palm Dove

Streptopelia senegalensis

Common in towns and villages, but nowhere numerous.

351 cuckoo

Cuculus spec.

31 January - 1 along the road between Bul Heir and Bushehr. See Annex 2 for details.

378 Pallid Swift

Apus pallidus

30 January - at least 15 about 10 km east of Bandar Pahl, together with 1 Little Swift.

31 January - 1 between Bul Heir and Bushehr.

1-3 February - some tens regularly seen feeding above the reedbeds in Hilleh Protected Area.

382 Little Swift

Apus affinis

26 January - 60 at Tijab.

30 January - 1 about 10 km east of Bandar Pahl, together with at least 15 Pallid Swifts.

384 White-breasted Kingfisher

Halcyon smyrnensis

26 January - 1 in palm grove at Minab.

387 Common Kingfisher

Alcedo atthis

n = 8

Singles present in most coastal wetlands.

389 Pied Kingfisher

Ceryle rudis

n = 5

Only observed in Hilleh Protected Area.

391 Little Green Bee-eater

Merops orientalis

Common throughout.

396 Indian Roller

Coracias benghalensis

Common throughout.

430 Indian Sand Lark

Calandrella raytal

26 January - 1 in harbour of Tijab; also heard singing.

27 January - 1 in the harbour of Sirik.

429 Lesser Short-toed Lark

Calandrella rufescens

Fairly common along the coast in the south, mostly in small flocks (5-30 individuals) in arable fields and salt marshes.

431 Crested Lark

Galerida cristata

Ubiquitous.

434 Skylark

Alauda arvensis

Common in Hilleh Protected Area.

433 Oriental Skylark

Alauda gulgula

23 January - 1 Bandar Moguye.

1 February - a few in Hilleh Protected Area.

422 Calandra Lark

Melanocorypha calandra

Only observed in and around Hilleh Protected Area, with a maximum of about 20 in a single flock, together with Skylarks.

437 Brown-throated Sand Martin

Riparia paludicola

27 January - 4 near Azini harbour.

1 February - 4 in Hilleh Protected Area.

See Annex 2 for details.

- 440 Crag Martin** *Hirundo obsoleta*
Widespread, but always 1-3 together, usually near bridges along the road. According to Kees Roselaar (pers. comm.) African Rock Martin *H. fuligula* occurs exclusively in Africa (cf. Porter *et al.* 1996).
- 442 Barn Swallow** *Hirundo rustica*
Widespread in low numbers, most frequent near villages.
- 446 Red-rumped Swallow** *Hirundo daurica*
31 January - 1 just north of Bandar-e Taheri, about 40 km south of Bandar Kangan.
- 459 Water Pipit** *Anthus spinoletta*
Numerous in Hilleh Protected Area and surroundings in fresh water marshes and on wet arable fields.
- 450 Tawny Pipit** *Anthus campestris*
2 February - 1 and 2 individuals in Hilleh Protected Area.
- 464 White Wagtail** *Motacilla alba*
Ubiquitous. In the evening, thousands were seen on their way to the roost in mangroves in Hara Protected Area and in the reedbeds in Hilleh Protected Area.
- 462 Citrine Wagtail** *Motacilla citreola*
28 January - 1 Khur Surgum
1-3 February - at least 4 different individuals in Hilleh Protected Area.
- 489 Black Redstart** *Phoenicurus ochruros*
1 February - 1 adult male, probably of subspecies *ochruros*.
1-2 February - 1 adult male probably of subspecies *semirufus* (or perhaps the larger *phoenicuroides*).
- 490 Common Redstart** *Phoenicurus phoenicurus*
2-3 February - 1 female in Koreband with obvious pale wing panel, probably belonging to subspecies *samamisicus*.
- 496 Black Stonechat** *Saxicola caprata*
31 January - possibly 3 near Bul Heir.
- 495 Siberian Stonechat** *Saxicola maura*
31 January - 1 male north of Bul Heir. Apparently, the species is rare south of Bul Heir. On 1-3 February tens of birds were seen, mainly in the surroundings of Hilleh Protected Area.
- 497 Isabelline Wheatear** *Oenanthe isabellina*
31 January - 2 between Kangan and Bul Heir. North of this town the species was more regularly observed in and around Hilleh Protected Area with at least 20 individuals.
- 503 Desert Wheatear** *Oenanthe deserti*
23 January - 1 male north of Bandar Moguye.
27 January - 1 female Azini.
- 508 Mourning Wheatear** *Oenanthe lugens*
23 January - 1 south of Bandar Moguye.
31 January - 3 between Kangan and Bul Heir.
See Annex 2 for details.

- 506 Iranian Wheatear** *Oenanthe chrysopygia*
Regularly observed along the road, with at least 15 individuals.
- 507 Eastern Pied Wheatear** *Oenanthe picata*
Ubiquitous. All birds belonged to the nominate race.
- 520 Blackbird** *Turdus merula*
2 February - 1 female Koreband.
- 532 Graceful Prinia** *Prinia gracilis*
Fairly common (subspecies *lepida*).
- 538 Moustached Warbler** *Acrocephalus melanopogon*
1 February - 1 in Hilleh Protected Area.
- 546 Clamorous Reed Warbler** *Acrocephalus stentoreus*
24 January - 4 heard singing mangroves Hara Protected Area, Khouran Strait.
1 and 3 February - at least 3 heard singing in Hilleh Protected Area.
- 584 Chiffchaff** *Phylloscopus collybita*
23 January - 1 singing Bandar Lenge.
26 January - 3 Minab.
- 582 Plain Leaf Warbler** *Phylloscopus neglectus*
1 February - 1 seen well, Koreband. Tiny bird, feeding in an acacia tree. It behaved extremely active, constantly hawking and flitting between the branches for small insects, and thus more resembled Goldcrest *Regulus regulus* or Pallas's Warbler *P. proregulus* than Chiffchaff. It was initially identified as Plain Leaf Warbler *P. neglectus* on basis of the small size and relatively short tail, but the call was more like that of Chiffchaff, thus very different from that described by Cramp (1992) and Porter *et al.* (1996) for Plain Leaf Warbler (described as 'chick' or 'churr'); it also lacked the fairly large head of that species. Perhaps it belonged to the population which is sometimes separated as *P. (collybita) brevirostris* (Cramp 1992), although we don't know if this form is as small as Plain Leaf Warbler. On 2-3 February up to 4 similar individuals were observed on the same site.
- 577 Hume's Warbler** *Phylloscopus humei*
31 January - 1 in Bord Khum. See Annex 2 for details.
- 615 Penduline Tit** *Remiz pendulinus*
2 February - 1 along Hilleh River. See Annex 2 for details.
- 597 Iraq Babbler** *Turdoides altirostris*
3 February - 1 unidentified babbler, possibly this species, seen briefly in reedbeds in Hilleh Protected Area. See Annex 2 for details.
- 598 Common Babbler** *Turdoides caudatus*
Common in desert habitat.
- 617 Purple Sunbird** *Nectarinia asiatica*
Fairly common in towns and villages.
- 465 White-eared Bulbul** *Pycnonotus leucogenys*
Common in towns and villages.
- 624 Isabelline Shrike** *Lanius isabellinus*

Only observed with certainty in Hilleh Protected Area, although a few unidentified pale shrikes were seen further south.

629 Southern Grey Shrike *Lanius meridionalis*
Fairly common throughout.

652 Starling *Sturnus vulgaris*
31 January - 1 between Naybant and Kangan
Fairly common in Hilleh Protected Area. One individual with pale sandy-coloured body and white wings was seen in a large flock. Several thousands came to roost in the reed beds in Hilleh Protected Area on 1 February.

645 Brown-necked Raven *Corvus ruficollis*
Widespread in desert in low numbers.

643 Hooded Crow *Corvus cornix*
Common in Teheran, where it also breeds in small colonies.

659 House Sparrow *Passer domesticus*
Common in towns and villages.

660 Spanish Sparrow *Passer hispaniolensis*
29 January - one flock in the desert NE of Bandar Abbas.
2-3 February - large flocks in Hilleh Protected Area, admixed with Dead Sea Sparrows.

662 Dead Sea Sparrow *Passer moabiticus*
2-3 February - large flocks in Hilleh Protected Area, admixed with Spanish Sparrows. See Annex 2 for details.

688 Linnet *Carduelis cannabina*
Only observed in and around Hilleh Protected Area. Several individuals showed a whitish rump and very red underparts, characteristic for the subspecies *bella*.

722 Corn Bunting *Miliaria calandra*
Only observed in and around Hilleh Protected Area, with a maximum of 20 on the way to their roosting site on 1 February.

Annex 2.

Some interesting bird observations along the coast of Iran, January-February 2000

GUIDO O. KEIJL, TOM M. VAN DER HAVE, JAMSHID MANSOORI and VLADIMIR V. MOROZOV

(submitted to *Sandgrouse*)

In this note some interesting records are presented of birds which were observed during a trip from 12 January to 3 February 2000 along the southern coast of Iran, between Jask in the south and the Hilleh River Delta in the northwest. Most of the species mentioned are indicated as rare in Iran, or have never been observed there, according to Porter *et al.* (1996). Co-ordinates were measured in the field with GPS. A complete list of bird species observed on this trip will be published later in Van der Have *et al.* (2001, in prep.). The observations were done while performing a survey of coastal waders in 21 wetlands, with special attention to Slender-billed Curlews *Numenius tenuirostris*, organised by Working Group International Waterbird and Wetland Research WIWO in co-operation with the Department of the Environment, Tehran.

More than 53,000 waterbirds of 82 species were counted during the survey, including Globally Threatened Species like Dalmatian Pelican *Pelecanus crispus*, Marbled Teal *Marmaronetta angustirostris*, Ferruginous Duck *Aythya nyroca*, White-tailed Eagle *Haliaeetus albicilla*, Greater Spotted Eagle *Aquila clanga*, and Imperial Eagle *A. heliaca*. Only small parts of wetlands along the Iranian Gulf coast were counted, suggesting that the total Iranian Gulf coast is very important for waterbirds, in particular waders and Dalmatian Pelican. No Slender-billed Curlews were observed, although extensive and apparently suitable habitat still remains in or near the Hilleh River Delta, a nature reserve in Bushehr Province.

***Accipiter badius* Shikra**

On 24 January an immature passed overhead at approximately 10 m distance near Bandar Khamir. Although the observation was short (probably not more than five seconds), the following characters could be seen: yellow iris, vertical throat stripe, fairly short rounded wings (resembling Sparrowhawk), limited dark on wing tips not sharply demarcated from remainder of underwing, spotted underparts, rather plain, pale underwings. Levant Sparrowhawk *A. brevipes* could be ruled out on basis of the positive observation of the yellow iris and the rounded wings, and Sparrowhawk *A. nisus*, of which about 20 were seen during this trip and a few the same day, on basis of spotted underparts, throat stripe and dark wing tips. No attention was paid to tail shape, while tail bands on the upper tail could not be seen. According to Porter *et al.* (1996) Shikra is a rare winterer in the SE of the country. Another individual, an adult, was observed on 1 and 2 February, Koreband, near Hilleh Protected Area.

***Hieraaetus pennatus* Booted Eagle**

On 3 February a light morph individual was seen well near the border of Hilleh Protected Area. Apparently, Booted Eagles have hitherto not been observed in Iran in winter (Porter *et al.* 1996).

***Vanellus spinosus* Spur-winged Lapwing**

Three individuals were seen at a refuse dump along the road from Akhvaz to Abadan, at the outskirts of Akhvaz, Khuzestan province, on 14 January. The birds were observed for about 10 minutes while they were feeding among the garbage. Diagnostic characters were the black upperhead, breast and upper belly, brown upperparts, and white cheeks and vent. They were easily separated from the nearby feeding Red-wattled Lapwing *V. indicus*. According to Porter *et al.* (1996) Spur-winged Lapwings are vagrant in Iran.

***Pluvialis fulva* Pacific Golden Plover**

One observation: on 29 January a flock of eight individuals, three of which still with juvenile plumage on upperparts (rich golden colour), were seen on the mudflats among mangroves in Hara Protected Area (26°46' N, 55°43' E). The species is considered a vagrant according to Porter *et al.* (1996), but because of its regular appearance in other countries bordering the Persian Gulf in winter (e.g. Bahrain: Hirschfeld 1995, United Arab Emirates: Richardson 1990, Keijl *et al.* 1998) it is probably more common in Iran than previously thought.

***Calidris canutus* Knot**

On 26 January twelve Knots were observed feeding and resting on mudflats near Tijab (27°04' N, 56°47' E) from a distance of approximately 30 m. All were in winter plumage. Important characters were the overall size (for instance, larger than Dunlin *C. alpina* and Sanderling *C. alba*, but smaller than Redshank *Tringa totanus*, all of which were in the immediate vicinity) and shape, stout and straight black bill and greenish legs. This observation constitutes the first documented record for Iran. Although Porter *et al.* (1996) state that Knots are rare visitors to Iran, which is probably true, we know of no specific (published) observations. Elsewhere in the Persian Gulf the species is very rare and we know of only one record: one individual in summer plumage at Al Awamiyah, Saudi Arabia, on 9 April 1991 was the first for this country (Evans & Keijl 1993). Aspinall (1994) pointed out that the few other records of Knot from the Gulf could in fact have been misidentified Great Knots *C. tenuirostris*. A regular wintering site of Knots appears to exist on the southeast side of India, in the Gulf of Mannar, where up to 300 individuals are counted each winter (Balachandran 1998). Interestingly, Balachandran (1998) supposed that these Knots belong to the East-Siberian subspecies *C. c. rogersi*, based on measurements. Knots reaching the Persian Gulf could therefore well be birds that 'missed' their Indian wintering grounds. However, measurements of the Indian Knots seem to fit better with those breeding on Taymyr Peninsula or the New Siberian Islands, and these belong to the nominate *C. c. canutus* (*cf.* Tomkovich 1992).

***Calidris tenuirostris* Great Knot**

On 26 January, during a low tide count on a mudflat near Tijab (27°04' N, 56°47' E) two foraging individuals in winter plumage were observed through telescopes for several minutes from a distance of approximately 100-200 m. Decisive were large size (about as large as nearby Redshank), heavy, 'pot-bellied' appearance, medium-long slightly decurved bill, and a few black spots on the side of the breast. Because of the fairly large distance and light conditions, the leg colour could not be established. It is now known that small numbers regularly spend the winter in the Persian Gulf (e.g. Aspinall 1994) and Oman (Green *et al.* 1994), but to our knowledge, this is the first documented record for Iran.

***Larus cachinnans* Yellow-legged Gull**

Caspian Gull *Larus cachinnans* and Heuglin's Gulls *L. heuglini*

Large gulls of either taxon were present almost anywhere along the coast, but largest numbers were counted on 27 January at Azini Khur (4,620). The two could not always be identified with certainty, as differences in mantle colour were sometimes hard to establish due to light conditions, and because attention was focused on waders. Only on a few occasions special attention was paid, and only adults were specifically identified.

Caspian Gull (n = 168) was identified on basis of the smaller size, paler grey upperparts, bright yellow legs, yellow, grey or dark iris colour, and fairly long bill in comparison with Heuglin's Gull. Heuglin's Gull (n = 51) was identified by large size, heavy bill and darker upperparts (like Lesser Black-backed Gull *L. graellsii*) than Caspian Gull.

Apart from these two taxa no other large white-headed gulls were identified, except for two large gulls near Bandar Rig, which showed characters of Armenian Gull *L. armenicus*. These birds had a medium-dark grey mantle, dark iris, bright yellow legs and a dark vertical band across the tip of bill (gonys). However, they were about the size of a Heuglin's Gull and

thus seemed too large for this species. Armenian Gull is a common breeding bird on Lake Urumieh in the north of the country (Evans 1994), but is by no means common in the Persian Gulf in winter (e.g., Hirschfeld 1995, Symens & Alsuhaibany 1996, pers. obs.).

***Cuculus spec.* cuckoo spec.**

On 31 January an unidentified cuckoo was seen from the car between Bul Heir and Bushehr. The bird perched on an electricity wire along the road. It was about the size of a Common Cuckoo *C. canorus*, had grey upperparts, long tail, long pointed wings, which were held slightly drooped, and a small head with small pointed bill. The underparts were not seen. There are no cuckoo species known to occur in Iran in winter (cf. Porter *et al.* 1996), and only two species could be involved: Common Cuckoo, which is a summer visitor to the north of the country, but apart from Africa also winters on the Indian subcontinent, and Indian Cuckoo *C. micropterus*, which is a resident on the Indian subcontinent. Other species which cannot be ruled out however, are Horsfield's *C. horsfieldi* and (the smaller) Asian Lesser Cuckoo *C. poliocephalus* (cf. Payne 1997).

***Riparia paludicola* Brown-throated Sand Martin**

Two observations: on 27 January four near Azini harbour and on 1 February four in Hilleh Protected Area. Although both flocks were flying by and could therefore be observed only briefly, Sand Martin *R. riparia* could be ruled out because a dark throat and lack of breast band were positively observed. The upperparts were much paler than of Sand Martins breeding in Europe. Differences in tail pattern could not be established. This would be the first record of this species, of which the nearest breeding grounds are found in Afghanistan and Pakistan. The subspecies involved would probably be *R. p. chinensis*, which is indeed small and pale.

***Oenanthe lugens* Mourning Wheatear**

According to Porter *et al.* (1996) Mourning Wheatear is a summer visitor in Iran, but according to Cramp (1988) it winters in very small numbers. Apart from Eastern Pied Wheatear *O. p. picata*, which was ubiquitous, we observed at least 41 individuals of other wheatear species. Four of these were identified as Mourning Wheatear: one was seen in flight, showing much white in the flight feathers, on 23 January, south of Bandar Moguye, and three were seen on 31 January between Kangan and Bul Heir.

***Phylloscopus humei* Hume's Warbler**

On 31 January one was seen and heard in Bord Khum. The winter distribution of this species in the Middle East is still little known.

***Remiz pendulinus* Penduline Tit**

On 2 February one individual was heard calling several times in reedbeds along the Hilleh River. Penduline Tit breeds in N and NW-Iran, but the Hilleh River area is outside the range of this species according to the map in Porter *et al.* (1996).

***Turdoides altirostris* Iraq Babbler**

Not observed with certainty, but a single unidentified babbler was briefly observed in reedbeds of Hilleh Protected Area on 3 February. Although Common Babbler *T. caudatus* is common throughout desert areas and cultivations in Iran, it apparently does not occur in marshland and reedbeds. This habitat however is characteristic for Iraq Babbler. In this context, it is interesting to note that the single stuffed babbler present in the bird exhibition of the Bushehr Research Center, Department of the Environment, in Bushehr, which apparently displays birds collected in the region, is an Iraq Babbler. The occurrence in Hilleh Protected Area would be a significant range extension of this near-endemic species.



Plate 23. Mixed flock of Dead Sea Sparrows *Passer moabiticus* and Spanish Sparrow *Passer hispaniolensis* in Hilleh Protected Area along Hilleh River, 3 February 2000.

***Passer moabiticus* Dead Sea Sparrow**

On 2-3 February several flocks of hundreds of Dead Sea Sparrows were seen in Hilleh Protected Area, mixed with Spanish Sparrows *P. hispanicus*. Although several individuals were checked, the race *yattii* was not observed. Dead Sea Sparrow is a species with a restricted range and occurs only in the Middle East (Evans 1994). The wintering areas are largely unknown (Cramp & Perrins 1994, Snow & Perrins 1998). Considering the number seen by us in a relatively small area, the Hilleh River Delta and probably other areas along the northern shores of the Persian Gulf must be important as wintering areas for this species (*cf.* Evans 1994).

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Plate 24. Humpback Dolphin *Sousa chinensis* in Hara Protected Area, 29 January 2000.

Annex 3.

List of mammal species observed along Persian Gulf coast of Iran, January - February 2000.

Black Finless Porpoise *Neophocaena phocaenoides*

24 January - 2 seen surfacing about 20 times at close quarters in Hara Protected Area (GPS positions 9-10, see Annex 6). A ridge was seen on the back of the individuals.

Humpback Dolphin *Sousa chinensis*

29 January - 1 large individual seen well (and photographed) in Hara Protected Area (GPS positions 54 and 44, see Annex 6).

dolphin spec. *Tursiops/Delphinus spec.*

24 January - 4 individuals seen very briefly (surfacing only once) Khouran Strait may have been Bottle-nosed Dolphins *Tursiops cf. truncatus*.

Dugong *Dugong dugon*

29 January - 1 seen briefly close by in Hara Protected Area (GPS positions 9-10, see Annex 6).

Jackal *Canis aureus*

28 January - 1 dead on the road between Kargan and Bandar Abbas. 2 February - 2 seen well during daylight near Koreband.

Red Fox *Vulpes vulpes*

2 February - 1 dead on the road near Rud-e Shuhr (photographed).

Indian Grey Mongoose *Herpestes edwardsii*

27 January - 1 Minab; 27 January - 1 Sirik; 1 February - 1 Hilleh Protected Area

Cat *Felis spec.*

29 January - 1 dead on the road between Bandar Abbas and Hara Protected Area. About the size of a domestic cat, but with uniform sandy colour, and possibly with ear-plumes. Swamp Cat *Felis chaus* seems the most likely species.



Plate 25. Western Reef Egret, dark morph, Hara Protected Area, 29 January 2000 (above).

Plate 26. Western Reef Egret, pale morph, Hara Protected Area, 29 January 2000 (below).

Annex 4.

Table A1. Waterbirds observed along Gulf coast of the Islamic Republic of Iran, January-February 2000.

Date	13-jan	13-jan	14-jan	14-jan	19-jan	20-jan
Location	Kurin River	Shadegan M.	B.-e-Shahpur	B.-e-Mahshar	Monde R. Delta	Nayband Bay
Habitat	mudflats	floodplain	salt marsh	salt pans	mudflats	mudflats
GPS #						
Species						
<i>Tachybaptus ruficollis</i>	-	-	-	-	-	-
<i>Podiceps cristata</i>	-	-	-	9	3	-
<i>Podiceps nigricollis</i>	6	-	-	200	-	-
<i>Phalacrocorax carbo</i>	1	-	-	13	-	200
<i>Pelecanus crispus</i>	-	-	1	-	15	-
<i>Ardeola grayii</i>	-	-	-	-	-	-
<i>Bubulcus ibis</i>	-	-	-	-	-	-
<i>Egretta garzetta</i>	-	28	-	-	-	1
<i>Egretta gularis</i>	1	-	4	34	49	14
<i>Casmerodius albus</i>	-	-	20	36	4	5
<i>Ardea cinerea</i>	2	2	17	17	8	7
<i>Nycticorax nycticorax</i>	-	-	-	-	-	-
<i>Platalea leucorodia</i>	-	-	-	30	20	1
<i>Phoenicopterus ruber</i>	4500	-	9	2000	107	3
<i>Anser anser</i>	-	-	1	-	-	-
<i>Tadorna tadorna</i>	11	-	510	650	37	-
<i>Anas penelope</i>	-	-	6	-	-	-
<i>Anas acuta</i>	-	-	2	-	-	-
<i>Anas crecca</i>	-	-	10	-	-	-
<i>Anas strepera</i>	-	-	-	-	-	-
<i>Anas platyrhynchos</i>	-	-	-	210	4	-
<i>Aythya ferina</i>	-	-	3	-	-	-
<i>Marmaronetta angustirostris</i>	-	-	330	-	-	-
<i>Gallinula chloropus</i>	-	-	-	-	-	-
<i>Fulica atra</i>	-	-	-	-	21	-
<i>Grus grus</i>	-	-	-	-	-	-
<i>Haematopus ostralegus</i>	-	-	-	-	-	-
<i>Esacus recurvirostris</i>	-	-	-	-	-	-
<i>Recurvirostra avosetta</i>	1	-	118	250	20	-
<i>Himantopus himantopus</i>	-	34	-	21	-	2
<i>Dromas ardeola</i>	-	-	-	-	-	-
<i>Vanellus indicus</i>	-	-	-	-	-	-
<i>Vanellus leucurus</i>	-	-	-	-	-	-
<i>Charadrius dubius</i>	-	-	-	-	-	3
<i>Charadrius hiaticula</i>	-	-	2	-	-	1
<i>Charadrius alexandrinus</i>	-	-	20	53	8	53
<i>Charadrius mongolus</i>	8	-	-	20	16	-
<i>Charadrius leschenaultii</i>	-	-	-	-	3	84
<i>Pluvialis fulva</i>	-	-	-	-	-	-
<i>Pluvialis squatarola</i>	15	-	-	-	8	3
<i>Calidris tenuirostris</i>	-	-	-	-	-	-
<i>Calidris canutus</i>	-	-	-	-	-	-
<i>Calidris alba</i>	-	-	-	-	-	-
<i>Calidris minuta</i>	-	6	14	37	-	-
<i>Calidris ferruginea</i>	-	-	-	-	-	-
<i>Calidris alpina</i>	150	-	25	59	40	12
<i>Limicola falcinellus</i>	-	-	-	-	-	-
<i>Philomachus pugnax</i>	-	-	-	-	-	-
<i>Gallinago gallinago</i>	-	-	-	-	-	-
<i>Limosa limosa</i>	1	-	76	350	8	-
<i>Limosa lapponica</i>	-	-	-	-	19	38
<i>Numenius phaeopus</i>	-	-	-	-	-	7
<i>Numenius arquata</i>	20	-	1	13	-	32
<i>Tringa totanus</i>	12	-	2	19	55	13
<i>Tringa erythropus</i>	-	-	-	-	-	-
<i>Tringa stagnatilis</i>	-	-	-	-	-	1
<i>Tringa nebularia</i>	1	-	-	2	16	6
<i>Tringa ochropus</i>	-	-	-	-	-	-
<i>Tringa glareola</i>	-	-	-	-	-	-
<i>Xenus cinereus</i>	1	-	-	-	27	2
<i>Actitis hypoleucos</i>	-	-	-	-	-	2
<i>Arenaria interpres</i>	-	-	-	-	-	-
<i>Phalaropus lobatus</i>	-	-	-	12	-	-
small wader	150	-	-	-	-	12
large wader	-	-	-	-	-	-

Searching for Slender-billed Curlews in Iran, January-February 2000

Table A1. Continued. Waterbirds observed along Gulf coast of the Islamic Republic of Iran, Jan-Febr 2000.

Date	13-jan	13-jan	14-jan	14-jan	19-jan	20-jan
Location	Kurin River	Shadegan M.	B.-e-Shahpur	B.-e-Mahshar	Monde R. Delta	Nayband Bay
Habitat	mudflats	floodplain	salt marsh	salt pans	mudflats	mudflats
GPS #						
Species						
<i>Larus hemprichii</i>	-	-	-	-	-	-
<i>Larus ridibundus</i>	-	-	-	-	100	20
<i>Larus genei</i>	60	-	100	2000	10	1300
<i>Larus heuglini</i>	3	-	-	-	153	10
<i>Larus cachinnans</i>	12	-	32	-	200	-
<i>Larus cachinnans/heuglini</i>	-	-	-	-	-	-
<i>Larus ichthyaetus</i>	-	-	-	-	50	55
<i>Gelochelidon nilotica</i>	1	49	-	23	12	7
<i>Sterna caspia</i>	-	-	-	22	-	9
<i>Sterna bergii</i>	-	-	-	-	-	-
<i>Sterna bengalensis</i>	-	-	-	-	-	320
<i>Sterna sandvicensis</i>	-	-	-	-	-	-
<i>Sterna saundersi</i>	-	-	-	-	-	-
<i>Chlidonias leucoptera</i>	-	-	-	-	-	-
<i>Pandion haliaetus</i>	-	-	-	-	-	1
<i>Aquila clanga</i>	-	-	-	-	-	-
<i>Aquila heliaca</i>	-	-	-	-	-	-
<i>Haliaetus albicilla</i>	-	1	-	-	-	-
<i>Circus aeruginosus</i>	-	4	-	-	-	1
<i>Alcedo atthis</i>	-	1	-	-	-	2
<i>Ceryle rudis</i>	-	8	-	2	-	1
grand total	4956	133	1303	6082	1013	2228

Searching for Slender-billed Curlews in Iran, January-February 2000

Table A1. Continued. Waterbirds observed along Gulf coast of the Islamic Republic of Iran, Jan-Febr 2000

Date	23-jan	23-jan	24-jan	24-jan	24-jan	24-jan	24-jan	24-jan	24-jan	24-jan	24-jan	24-jan
Location	Mogham	Moguye	Hara	Hara	Hara	Hara	Hara	Hara	Hara	Hara	Hara	Hara
Habitat	estuary	estuary	mudflats	mudflats	mudflats	mudflats	mudflats	mudflats	mudflats	mudflats	mudflats	mudflats
GPS #			Khamir	1	7	8	# 9/10	11	12	13	17	
<i>Podiceps cristatus</i>	1	-	-	-	-	-	-	-	-	-	-	-
<i>Phalacrocorax carbo</i>	-	-	60	27	6	27	-	-	-	15	10	-
<i>Pelecanus crispus</i>	-	-	4	4	-	5	-	-	19	25	-	-
<i>Ardeola grayii</i>	-	-	2	-	-	-	-	-	-	-	-	-
<i>Egretta qularis</i>	3	-	40	3	10	-	-	2	4	13	-	-
<i>Casmerodius albus</i>	3	-	15	1	6	1	-	2	2	-	-	-
<i>Ardea cinerea</i>	2	2	7	-	5	-	-	3	3	5	-	-
total herons	8	2	64	4	21	1	0	7	9	18	0	-
<i>Platalea leucorodia</i>	-	-	-	-	-	2	-	-	-	19	-	-
<i>Phoenicopterus ruber</i>	7	-	-	-	-	1	-	-	-	16	-	-
<i>Anser anser</i>	2	-	-	-	-	-	-	-	-	-	-	-
<i>Tadorna tadorna</i>	22	-	-	-	-	-	-	-	-	-	-	-
<i>Anas penelope</i>	-	-	-	-	-	4	-	-	-	-	-	-
<i>Haematopus</i>	-	-	20	-	-	-	6	3	-	28	-	-
<i>Esacus recurvirostris</i>	-	-	-	-	-	-	-	-	-	2	-	-
<i>Dromas ardeola</i>	-	-	6	-	-	80	-	62	15	12	30	-
<i>Charadrius hiaticula</i>	-	-	-	-	-	-	-	-	-	2	-	-
<i>Charadrius</i>	-	-	+	-	-	-	-	-	-	1	1	-
<i>Charadrius mongolus</i>	-	-	+	600	80	50	-	-	-	50	-	-
<i>Charadrius</i>	-	-	-	-	2	-	-	-	-	-	-	-
<i>Pluvialis squatarola</i>	-	-	-	+	8	3	18	-	1	-	-	-
<i>Calidris minuta</i>	-	-	+	-	10	-	-	-	-	30	-	-
<i>Calidris ferruginea</i>	-	-	2	-	-	-	20	-	-	2	-	-
<i>Calidris alpina</i>	-	3	+	+	10	100	-	-	+	92	-	-
<i>Limicola falcinellus</i>	-	-	-	20	10	100	25	-	30	4	-	-
<i>Limosa lapponica</i>	-	-	+	8	22	40	-	50	15	-	80	-
<i>Numenius phaeopus</i>	-	-	-	2	3	12	26	20	14	-	20	-
<i>Numenius arquata</i>	-	-	10	40	38	20	45	5	32	50	65	-
<i>Tringa totanus</i>	-	-	5	-	16	-	7	-	-	-	4	-
<i>Tringa nebularia</i>	-	2	2	-	-	-	-	-	-	-	-	-
<i>Xenus cinereus</i>	-	-	50	-	41	10	60	-	10	400	-	-
<i>Actitis hypoleucos</i>	-	2	1	-	-	-	-	-	1	-	1	-
<i>Arenaria interpres</i>	-	4	-	-	-	-	-	-	-	-	-	-
small wader	-	-	-	-	-	-	80	-	-	-	400	-
total waders	0	11	96	670	240	415	287	140	118	673	601	-
<i>Larus ridibundus</i>	10000	-	-	-	-	-	-	-	-	-	-	-
<i>Larus genei</i>	800	-	-	-	1	-	-	-	-	-	-	-
<i>Larus</i>	-	-	100	4	80	115	-	5	-	25	170	-
<i>Larus ichthyaetus</i>	-	7	-	-	1	-	-	-	-	-	-	-
total gulls	10810	7	100	4	82	115	0	5	0	25	170	-
<i>Gelochelidon nilotica</i>	-	-	2	-	-	5	19	6	-	-	10	-
<i>Sterna caspia</i>	-	-	1	-	1	2	-	-	-	-	3	-
<i>Sterna bergii</i>	-	-	1	-	-	-	-	-	-	-	-	-
<i>Sterna bengalensis</i>	-	-	8	1	-	-	-	8	-	-	-	-
<i>Sterna sandvicensis</i>	-	-	1	-	-	-	-	-	-	-	-	-
total terns	0	0	13	1	1	7	19	14	0	0	13	-
<i>Pandion haliaetus</i>	1	-	1	-	-	1	-	-	-	-	-	-
<i>Circus aeruginosus</i>	-	-	1	-	1	-	-	-	-	-	1	-
<i>Alcedo atthis</i>	-	-	1	-	1	1	-	-	-	-	-	-
grand total	10.841	20	340	710	352	579	306	166	146	791	795	-

Searching for Slender-billed Curlews in Iran, January-February 2000

Table A1. Continued. Waterbirds observed along Gulf coast of the Islamic Republic of Iran. Jan-February 2000.

Date	25-jan	25-jan	26-jan	26-jan	26-jan	27-jan	27-jan
Location	Khur Surru	Khur Surru	Khor Tijab	Tijab	Tijab	Sirik	Sirik
Habitat	mudflats	mudflats	lagoon	mudflats	mudflats	harbour	beach
GPS #	19	20	23-25	26-29	30	SIRIK	32
Species							
<i>Podiceps cristatus</i>	-	-	2	-	-	-	-
<i>Podiceps nigricollis</i>	-	-	1	-	-	-	-
<i>Phalacrocorax carbo</i>	-	2	-	-	-	-	1
<i>Pelecanus crispus</i>	-	-	-	-	-	6	-
<i>Egretta garzetta</i>	-	-	-	-	-	-	-
<i>Egretta gularis</i>	23	3	2	1	+	6	-
<i>Casmerodius albus</i>	2	1	2	-	-	1	-
<i>Ardea cinerea</i>	8	-	4	-	-	2	-
total herons	33	4	8	1	+	9	0
<i>Platalea leucorodia</i>	1	-	2	-	-	2	-
<i>Phoenicopterus ruber</i>	13	73	-	1	-	-	-
<i>Tadorna tadorna</i>	52	-	-	-	-	-	-
<i>Haematopus ostralegus</i>	42	-	-	14	-	-	11
<i>Esacus recurvirostris</i>	-	4	-	-	-	13	-
<i>Recurvirostra avosetta</i>	-	-	4	-	-	40	-
<i>Himantopus himantopus</i>	13	-	-	-	-	-	-
<i>Charadrius hiaticula</i>	-	1	-	-	-	-	-
<i>Charadrius alexandrinus</i>	7	12	1	10	+	1	-
<i>Charadrius mongolus</i>	2	3	-	13	+	-	-
<i>Pluvialis squatarola</i>	19	5	-	8	+	-	7
<i>Calidris tenuirostris</i>	-	-	-	2	-	-	-
<i>Calidris canutus</i>	-	-	-	-	12	-	-
<i>Calidris alba</i>	-	-	-	22	+	-	8
<i>Calidris minuta</i>	-	1	-	-	+	-	-
<i>Calidris alpina</i>	-	-	-	9	+	-	2
<i>Limicola falcinellus</i>	-	-	-	-	-	-	-
<i>Philomachus pugnax</i>	1	-	-	-	-	-	-
<i>Limosa limosa</i>	42	8	-	-	-	-	-
<i>Limosa lapponica</i>	96	-	-	49	+	-	-
<i>Numenius phaeopus</i>	8	-	8	-	-	-	-
<i>Numenius arquata</i>	53	10	23	6	+	1	-
<i>Tringa totanus</i>	23	35	15	12	+	-	-
<i>Tringa erythropus</i>	-	20	-	-	-	-	-
<i>Tringa nebularia</i>	3	-	5	-	-	1	-
<i>Tringa glareola</i>	-	1	-	-	-	-	-
<i>Xenus cinereus</i>	4	60	34	-	+	-	-
<i>Actitis hypoleucos</i>	-	-	1	-	-	-	-
<i>Arenaria interpres</i>	-	-	-	3	-	-	-
small wader	600	-	-	-	-	-	-
large wader	100	-	-	-	-	-	-
total waders	1013	160	91	148	12	56	28
<i>Larus ridibundus</i>	25	-	-	4	-	-	-
<i>Larus genei</i>	18	-	-	167	-	-	59
<i>Larus heuglini</i>	-	-	2	2	-	-	-
<i>Larus cachinnans</i>	-	-	8	-	-	-	-
<i>Larus cachinnans/heuglini</i>	-	-	-	-	-	-	212
<i>Larus ichthyaetus</i>	-	-	-	-	-	-	34
total gulls	43	0	10	173	0	0	305
<i>Gelochelidon nilotica</i>	12	2	37	1	-	-	-
<i>Sterna caspia</i>	1	-	-	4	-	-	30
<i>Sterna bergii</i>	-	-	-	-	-	-	97
<i>Sterna bengalensis</i>	40	-	-	10	-	-	150
<i>Sterna sandvicensis</i>	-	-	-	1	-	-	104
total terns	53	2	37	16	+	0	381
<i>Pandion haliaetus</i>	-	1	-	-	-	-	-
<i>Aquila clanga</i>	1	-	1	-	-	-	-
<i>Circus aeruginosus</i>	1	-	2	-	-	-	1
<i>Alcedo atthis</i>	-	-	-	-	-	1	-
grand total	1210	242	154	339	12	74	716

Searching for Slender-billed Curlews in Iran, January-February 2000

Table A1. Continued. Waterbirds observed along Gulf coast of the Islamic Republic of Iran, Jan-Febr 2000.

Date	27-jan	27-jan	27-jan	27-jan	27-jan	27-jan
Location	Azini khur	Azini	Azini	Mubarak	Mubarak	Mubarak
Habitat	Khur	Khur	Khur	beach	lagoon	lagoon
GPS #	33-35	mudflats	mudflats	MUBARK	36	37
Species						
<i>Podiceps cristatus</i>	-	-	-	-	-	-
<i>Podiceps nigricollis</i>	-	-	-	-	-	-
<i>Phalacrocorax carbo</i>	6	180	450	-	-	16
<i>Pelecanus crispus</i>	14	-	8	-	25	-
<i>Egretta garzetta</i>	1	-	-	-	-	-
<i>Egretta gularis</i>	9	-	-	-	6	-
<i>Casmerodius albus</i>	27	-	-	-	-	-
<i>Ardea cinerea</i>	5	-	-	-	1	-
total herons	42	0	0	0	7	0
<i>Platalea leucorodia</i>	3	-	-	3	-	-
<i>Phoenicopterus ruber</i>	-	-	-	-	-	-
<i>Tadorna tadorna</i>	-	-	-	-	-	-
<i>Haematopus ostralegus</i>	45	20	-	-	14	-
<i>Esacus recurvirostris</i>	1	-	-	3	-	-
<i>Recurvirostra avosetta</i>	-	-	-	-	-	-
<i>Himantopus himantopus</i>	-	-	-	-	-	-
<i>Charadrius hiaticula</i>	-	-	-	-	-	-
<i>Charadrius alexandrinus</i>	1	-	-	1	2	-
<i>Charadrius mongolus</i>	1	-	-	-	4	-
<i>Pluvialis squatarola</i>	51	20	-	-	126	-
<i>Calidris tenuirostris</i>	-	-	-	-	-	-
<i>Calidris canutus</i>	-	-	-	-	-	-
<i>Calidris alba</i>	-	-	-	-	204	-
<i>Calidris minuta</i>	-	-	-	-	-	-
<i>Calidris alpina</i>	31	-	-	-	10	-
<i>Limicola falcinellus</i>	48	-	-	-	-	-
<i>Philomachus pugnax</i>	-	-	-	-	-	-
<i>Limosa limosa</i>	-	-	-	-	-	-
<i>Limosa lapponica</i>	36	50	-	-	58	-
<i>Numenius phaeopus</i>	8	-	-	-	1	-
<i>Numenius arquata</i>	16	-	-	2	62	-
<i>Tringa totanus</i>	46	-	-	-	7	-
<i>Tringa erythropus</i>	-	-	-	-	-	-
<i>Tringa nebularia</i>	6	-	-	-	2	-
<i>Tringa glareola</i>	-	-	-	-	-	-
<i>Xenus cinereus</i>	24	-	-	-	24	-
<i>Actitis hypoleucos</i>	3	-	-	-	-	-
<i>Arenaria interpres</i>	1	-	-	-	3	-
small wader	140	40	-	-	500	-
large wader	20	-	-	-	-	-
total waders	478	130	0	6	1017	0
<i>Larus ridibundus</i>	-	-	-	-	-	-
<i>Larus genei</i>	37	62	250	-	51	-
<i>Larus heuglini</i>	-	-	-	-	-	-
<i>Larus cachinnans</i>	-	-	-	-	-	-
<i>Larus cachinnans/heuglini</i>	70	3520	1100	-	-	220
<i>Larus ichthyaetus</i>	-	50	-	-	-	50
total gulls	107	3632	1350	0	51	270
<i>Gelochelidon nilotica</i>	8	-	100	-	-	-
<i>Sterna caspia</i>	-	20	-	1	1	-
<i>Sterna bergii</i>	-	-	50	-	-	10
<i>Sterna bengalensis</i>	-	-	50	-	-	200
<i>Sterna sandvicensis</i>	-	5	140	-	-	-
total terns	8	25	340	1	1	210
<i>Pandion haliaetus</i>	-	-	1	-	1	-
<i>Aquila clanga</i>	-	-	1	-	-	-
<i>Circus aeruginosus</i>	-	-	1	-	-	-
<i>Alcedo atthis</i>	3	-	-	-	-	-
grand total	661	3967	2151	10	1102	496

Searching for Slender-billed Curlews in Iran, January-February 2000

Table A1. Continued. Waterbirds observed along Gulf coast of the Islamic Republic of Iran, Jan-Febr 2000.

Date	28-ian	28-ian	28-ian	28-ian	29-ian	29-ian	29-ian
Location	Jask harbour	Khur Surqum	Khur Surqum	Khor Karqan	Hara P.A.	Hara P.A.	Hara P.A.
Habitat	mudflats	mudflats	mudflats	mudflats	mudflats	mudflats	mudflats
GPS #	JASKHR	39-40	49-50	42	53-59	51	
<i>Tachybaptus ruficollis</i>	-	-	-	-	-	-	-
<i>Podiceps cristata</i>	-	-	-	3	-	-	-
<i>Phalacrocorax carbo</i>	-	-	6	75	-	-	-
<i>Pelecanus crispus</i>	-	-	12	11	7	-	40
<i>Ardeola grayii</i>	-	-	-	-	-	-	1
<i>Bubulcus ibis</i>	-	-	-	-	-	-	-
<i>Eqretta garzetta</i>	-	-	-	-	-	-	-
<i>Eqretta qularis</i>	3	-	6	6	+	3	-
<i>Casmerodius albus</i>	-	-	3	4	-	-	-
<i>Ardea cinerea</i>	1	-	52	4	+	1	-
<i>Nycticorax nycticorax</i>	-	-	-	-	93	-	-
total herons	4	0	61	14	93	4	1
<i>Platalea leucorodia</i>	-	-	9	-	-	-	-
<i>Phoenicopterus ruber</i>	-	55	-	-	-	-	-
<i>Haematopus ostralegus</i>	-	--	274	-	-	-	-
<i>Recurvirostra avosetta</i>	-	-	-	11	-	-	9
<i>Himantopus himantopus</i>	-	-	-	-	-	-	-
<i>Dromas ardeola</i>	-	60	19	-	106	48	504
<i>Vanellus indicus</i>	-	-	-	-	-	-	-
<i>Vanellus leucurus</i>	-	-	-	-	-	-	-
<i>Charadrius hiaticula</i>	-	-	-	-	-	-	-
<i>Charadrius alexandrinus</i>	8	-	36	110	+	-	-
<i>Charadrius mongolus</i>	5	27	24	310	-	1	-
<i>Charadrius leschenaultii</i>	-	1	7	-	-	-	-
<i>Pluvialis fulva</i>	-	-	-	-	-	-	8
<i>Pluvialis squatarola</i>	1	-	18	10	-	-	-
<i>Calidris alba</i>	-	38	69	-	-	-	-
<i>Calidris minuta</i>	-	-	-	-	-	17	-
<i>Calidris alpina</i>	9	-	5	-	+	48	-
<i>Limicola falcinellus</i>	-	-	1	-	-	-	-
<i>Philomachus pugnax</i>	-	-	-	-	-	-	-
<i>Gallinago gallinago</i>	-	-	-	-	-	-	-
<i>Limosa limosa</i>	-	-	-	2	-	-	-
<i>Limosa lapponica</i>	-	-	72	2000	2	4	-
<i>Numenius phaeopus</i>	-	-	-	9	8	3	90
<i>Numenius arquata</i>	3	-	10	260	12	7	347
<i>Tringa totanus</i>	7	-	12	14	+	12	-
<i>Tringa erythropus</i>	-	-	-	-	-	-	-
<i>Tringa stagnatilis</i>	-	-	-	-	1	-	-
<i>Tringa nebularia</i>	1	-	2	6	-	1	-
<i>Tringa ochropus</i>	-	-	-	-	-	-	-
<i>Xenus cinereus</i>	2	-	95	15	1	4	-
<i>Actitis hypoleucos</i>	2	-	-	-	-	-	-
<i>Arenaria interpres</i>	-	-	14	-	+	-	-
small wader	-	-	540	150	-	-	-
total waders	35	126	1198	2897	130	145	512
<i>Larus hemprichii</i>	1	-	-	-	-	-	-
<i>Larus ridibundus</i>	17	-	-	-	-	-	-
<i>Larus genei</i>	4	-	22	220	-	-	-
<i>Larus heuglini</i>	16	-	25	-	-	-	6
<i>Larus cachinnans</i>	9	-	53	-	-	-	100
<i>Larus cachinnans/heuglini</i>	104	22	320	150	-	-	-
<i>Larus ichthyaetus</i>	-	-	2	20	-	-	-
total gulls	151	22	422	400	0	0	106
<i>Gelochelidon nilotica</i>	1	2	21	4	-	-	-
<i>Sterna caspia</i>	-	-	3	-	-	-	-
<i>Sterna saundersi</i>	-	-	4	-	-	-	-
<i>Chlidonias leucoptera</i>	-	-	-	-	-	-	1
total terns	1	2	28	4	0	0	1
<i>Pandion haliaetus</i>	-	-	1	-	-	-	-
<i>Aquila clanga</i>	-	-	-	-	-	-	1
<i>Haliaeetus albicilla</i>	-	-	1	-	-	-	-
<i>Circus aeruginosus</i>	-	-	1	-	-	-	1
<i>Alcedo atthis</i>	1	-	-	-	-	-	-
<i>Ceryle rudis</i>	-	-	-	-	-	-	-
grand total	195	205	1739	3404	230	149	1108

Searching for Slender-billed Curlews in Iran, January-February 2000

Table A1. Continued. Waterbirds observed along Gulf coast of the Islamic Republic of Iran, Jan-Febr 2000.

Date	1-feb	1-feb	1-feb	2-feb	2-feb	3-feb
Location	Hilleh P.A.	Hilleh	Hilleh	Rud-e-Sur	Bandar-e-	Hilleh
Habitat	arable fields	marsh	marsh	marsh	mudflats	marsh
GPS #	70-71	66	72	RU DSUR	BANRIG	70-72
Species						
<i>Tachybaptus ruficollis</i>	-	-	1	-	-	1
<i>Podiceps cristata</i>	-	-	-	-	-	-
<i>Phalacrocorax carbo</i>	-	-	-	-	-	-
<i>Pelecanus crispus</i>	-	-	-	-	-	-
<i>Ardeola grayii</i>	-	-	-	-	-	-
<i>Bubulcus ibis</i>	15	-	400	-	-	60
<i>Egretta garzetta</i>	-	-	-	2	-	10
<i>Egretta alularis</i>	-	-	-	3	-	-
<i>Casmerodius albus</i>	-	-	-	2	-	-
<i>Ardea cinerea</i>	-	-	-	1	-	12
<i>Nycticorax nycticorax</i>	-	-	20	-	-	-
total herons	15	0	420	8	0	82
<i>Platalea leucorodia</i>	-	-	-	-	-	-
<i>Phoenicopiterus ruber</i>	-	480	-	-	38	-
<i>Anser anser</i>	-	461	-	-	-	-
<i>Tadorna tadorna</i>	-	44	-	89	-	8
<i>Anas penelope</i>	-	-	50	-	-	30
<i>Anas acuta</i>	-	-	10	-	-	-
<i>Anas crecca</i>	-	180	400	22	-	300
<i>Anas strepera</i>	-	18	-	-	-	-
<i>Anas platyrhynchos</i>	-	-	-	-	-	2
<i>Gallinula chloropus</i>	-	-	2	-	-	1
<i>Fulica atra</i>	-	-	2	-	-	3
<i>Grus grus</i>	3	-	3	-	-	4
<i>Haematopus ostralegus</i>	-	-	-	-	-	-
<i>Recurvirostra avosetta</i>	-	-	-	350	-	-
<i>Himantopus himantopus</i>	-	-	-	-	-	10
<i>Dromas ardeola</i>	-	-	-	-	-	-
<i>Vanellus indicus</i>	-	4	-	-	-	16
<i>Vanellus leucurus</i>	-	-	14	-	-	80
<i>Charadrius hiaticula</i>	-	1	-	1	-	-
<i>Charadrius alexandrinus</i>	-	-	-	26	-	-
<i>Charadrius mongolus</i>	-	-	-	-	-	-
<i>Charadrius leschenaultii</i>	-	-	-	-	-	-
<i>Pluvialis fulva</i>	-	-	-	-	-	-
<i>Pluvialis squatarola</i>	-	-	-	-	-	-
<i>Calidris alba</i>	-	-	-	-	-	-
<i>Calidris minuta</i>	-	7	-	-	-	-
<i>Calidris alpina</i>	-	25	-	50	-	4
<i>Limicola falcinellus</i>	-	-	-	-	-	-
<i>Philomachus pugnax</i>	-	-	-	-	-	5
<i>Gallinago gallinago</i>	-	-	-	-	-	1
<i>Limosa limosa</i>	-	-	85	1	-	-
<i>Limosa lapponica</i>	-	-	-	-	-	-
<i>Numenius phaeopus</i>	-	3	-	-	-	-
<i>Numenius arquata</i>	-	5	15	8	19	5
<i>Tringa totanus</i>	-	16	-	18	-	26
<i>Tringa erythropus</i>	-	-	-	-	-	1
<i>Tringa stagnatilis</i>	-	2	-	-	-	-
<i>Tringa nebularia</i>	-	-	-	1	-	-
<i>Tringa ochropus</i>	-	1	-	-	-	3
<i>Xenus cinereus</i>	-	3	-	-	-	-
<i>Actitis hypoleucos</i>	-	-	-	-	-	-
<i>Arenaria interpres</i>	-	-	-	-	-	-
small wader	-	-	-	1000	-	-
total waders	0	67	114	1450	19	151
<i>Larus hemprichii</i>	-	-	-	-	-	-
<i>Larus ridibundus</i>	10	-	-	7	-	-
<i>Larus genei</i>	-	-	-	-	-	-
<i>Larus heuglini</i>	-	-	-	-	-	-
<i>Larus cachinnans</i>	-	-	-	-	-	-
<i>Larus cachinnans/heuglini</i>	-	-	-	-	-	-
<i>Larus ichthyaetus</i>	-	-	-	-	-	-
total gulls	10	0	0	7	0	0

Searching for Slender-billed Curlews in Iran, January-February 2000

Table A1. Continued. Waterbirds observed along Gulf coast of the Islamic Republic of Iran, Jan-Febr 2000.

<i>Gelochelidon nilotica</i>	55	-	20	-	-	-
<i>Sterna caspia</i>	-	-	-	-	-	-
<i>Sterna saundersi</i>	-	-	-	-	-	-
<i>Chlidonias leucoptera</i>	-	-	-	-	-	-
total terns	55	0	20	0	0	0
<i>Pandion haliaetus</i>	-	-	-	-	-	-
<i>Aquila clanga</i>	-	-	-	-	-	2
<i>Haliaeetus albicilla</i>	-	-	-	-	-	-
<i>Circus aeruginosus</i>	-	-	9	-	-	8
<i>Alcedo atthis</i>	-	-	-	-	-	-
<i>Ceryle rudis</i>	1	3	-	-	-	5
grand total	84	1253	1031	1581	57	595

Annex 5. Gazetteer

Map RV Verlag	Times Atlas	landscape	N			E		
			o	'	"	o	'	"
Azini	-	town	26	19	44,3	57	6	23,2
Azini Khur	-	lagoon	26	19	44,3	57	6	23,2
Bandar Abbas	Bandar Abbas	town	27	9	20,1	56	13	53,7
Bandar Abbas Port	Bandar Abbas	port	27	9	10,2	56	13	30,6
Bandar Rig	Bandar-e-Rig	port	29	28	55,1	50	37	58,5
Bandar-e-Moguye	Bandar-e-Moghuyeh	estuary	26	57	53,5	55	40	38,3
Bandar-e-Moqam	Bandar-e-Maqam	estuary	26	58	3,4	55	40	36,7
Bord Hun	-	town	28	3	55,9	51	28	24,6
Bul Heir	-	town	28	31	36,9	51	6	2,3
Deyer	Deyyer	town	27	50	42,4	51	56	55,5
Hara Protected Area	Khuran	reserve	26	50	38,8	55	44	6,0
Hara Protected Area	Khuran	reserve	26	56	12,2	55	42	15,2
Hilleh Protected Area	Helleh	reserve						
Hilleh River	Helleh	river	29	9	23,3	50	40	17,8
Hilleh River Delta	Helleh	marshland						
Jask	Jask	town	25	38	33,0	57	46	45,0
Jask Harbour	Jask	port	25	40	4,2	57	48	24,6
Kargan khur	Kangan (?)	creek	27	0	0,5	56	57	44,7
Khamir harbour	Bandar-e-Khamir	port	26	51	21,4	55	38	32,0
Khor Surgum	-	lagoon	25	33	40,6	58	10	39,8
Khur Surru	Bandar Abbas	estuary	27	9	10,2	56	13	30,6
Kohak	-	town	29	28	15,4	50	41	9,7
Koreband	-	town	29	16	15,4	50	54	44,1
Mask	-	town	25	33	47,1	58	12	0,1
Menab	Minab	town						
Mubarak	-	beach	25	48	7,8	57	18	14,8
Nahilu	-	river	26	58	3,4	55	40	36,7
Nayband	Nay Band	town	27	20	48,5	52	43	23,4
Obpash	-	town	29	22	0,0	51	4	6,7
Rud-e-Sur	-	river	29	19	28,1	50	45	54,8
sand bar	Khuran	reserve	26	50	13,4	55	39	55,3
Shomal	-	town	29	25	43,4	50	40	13,2
Sirik	Sirik	port	26	29	48,9	57	4	40,3
Tijab	Tiab	town	27	6	44,5	56	51	22,8
Tijab khur	Tiab	creek	27	4	30,7	56	48	1,9

Annex 6. Global Positioning System (GPS) positions

GPS #	Latitude	Longitude	date
1	N26°58'03,42"	E055°40'36,71"	24-jan-00
2	N26°57'53,45"	E055°40'38,32"	24-jan-00
3	N26°57'42,16"	E055°40'41,60"	24-jan-00
4	N26°57'21,67"	E055°40'45,95"	24-jan-00
5	N26°55'47,19"	E055°41'28,10"	24-jan-00
6	N26°56'12,16"	E055°42'15,17"	24-jan-00
7	N26°55'25,24"	E055°42'28,26"	24-jan-00
8	N26°53'21,64"	E055°43'06,94"	24-jan-00
9	N26°50'13,34"	E055°43'35,02"	24-jan-00
10	N26°50'26,87"	E055°43'10,40"	24-jan-00
11	N26°50'44,81"	E055°41'44,89"	24-jan-00
12	N26°50'13,45"	E055°39'55,31"	24-jan-00
13	N26°51'21,40"	E055°38'31,98"	24-jan-00
14	N26°51'55,30"	E055°38'18,16"	24-jan-00
15	N26°52'01,80"	E055°37'52,28"	24-jan-00
16	N26°53'08,14"	E055°35'41,40"	24-jan-00
17	N26°53'43,21"	E055°35'25,68"	24-jan-00
18	N26°56'02,39"	E055°35'12,78"	24-jan-00
19	N27°11'28,30"	E056°24'07,15"	25-jan-00
20	N27°11'23,72"	E056°21'07,57"	25-jan-00
21	N27°11'23,92"	E056°21'06,73"	25-jan-00
22	N27°11'23,86"	E056°21'06,89"	25-jan-00
023	N27°06'44,53"	E056°51'22,82"	26-jan-00
24	N27°05'58,30"	E056°49'57,33"	26-jan-00
25	N27°04'59,69"	E056°49'48,97"	26-jan-00
26	N27°04'30,70"	E056°48'01,90"	26-jan-00
27	N27°04'35,87"	E056°48'05,40"	26-jan-00
28	N27°04'44,39"	E056°47'52,38"	26-jan-00
29	N27°04'27,38"	E056°47'45,82"	26-jan-00
30	N27°04'24,58"	E056°47'56,51"	26-jan-00
31	N27°02'56,61"	E056°50'30,47"	26-jan-00
32	N26°30'32,19"	E057°04'39,46"	27-jan-00
33	N26°18'41,86"	E057°05'27,16"	27-jan-00
34	N26°18'21,72"	E057°05'32,98"	27-jan-00
35	N26°18'08,66"	E057°05'31,99"	27-jan-00
36	N25°48'01,51"	E057°18'18,11"	27-jan-00
37	N25°47'58,73"	E057°17'52,02"	27-jan-00
38	N25°33'43,39"	E058°11'24,73"	28-jan-00
39	N25°33'47,10"	E058°12'00,09"	28-jan-00
40	N25°33'47,23"	E058°11'54,70"	28-jan-00
41	N25°33'40,55"	E058°10'39,75"	28-jan-00
42	N27°00'00,50"	E056°57'44,70"	28-jan-00
43	N26°56'17,61"	E055°43'39,89"	29-jan-00
44	N26°55'35,84"	E055°43'46,15"	29-jan-00
45	N26°55'08,60"	E055°43'58,35"	29-jan-00
46	N26°54'48,71"	E055°44'16,00"	29-jan-00
47	N26°54'38,79"	E055°44'26,60"	29-jan-00
48	N26°54'14,67"	E055°44'45,32"	29-jan-00
49	N26°53'48,32"	E055°43'22,39"	29-jan-00
50	N26°51'38,36"	E055°44'35,12"	29-jan-00

Searching for Slender-billed Curlews in Iran, January-February 2000

GPS #	Latitude	Longitude	date
51	N26°51'04,51"	E055°45'07,74"	29-jan-00
52	N26°50'22,46"	E055°45'31,57"	29-jan-00
53	N26°49'11,71"	E055°45'57,02"	29-jan-00
54	N26°49'09,43"	E055°45'57,64"	29-jan-00
55	N26°48'07,22"	E055°45'46,52"	29-jan-00
56	N26°49'47,27"	E055°45'43,76"	29-jan-00
57	N26°48'55,64"	E055°41'43,11"	29-jan-00
58	N26°48'35,05"	E055°41'55,43"	29-jan-00
59	N26°46'57,93"	E055°43'20,21"	29-jan-00
60	N26°49'07,36"	E055°43'50,65"	29-jan-00
61	N26°50'41,89"	E055°44'03,47"	29-jan-00
62	N26°51'34,34"	E055°44'07,95"	29-jan-00
63	N26°47'16,57"	E054°18'46,01"	30-jan-00
64	N27°51'52,81"	E051°57'36,97"	31-jan-00
65	N29°14'31,15"	E051°00'29,68"	1-feb-00
66	N29°10'36,97"	E050°45'00,66"	1-feb-00
67	N29°10'23,22"	E050°42'41,63"	1-feb-00
68	N29°10'03,25"	E050°42'15,39"	1-feb-00
69	N29°09'17,95"	E050°41'04,67"	1-feb-00
70	N29°16'07,76"	E050°50'45,05"	1-feb-00
71	N29°15'22,24"	E050°50'52,06"	1-feb-00
72	N29°14'17,66"	E050°50'55,48"	1-feb-00
73	N29°17'17,34"	E050°47'21,60"	2-feb-00
74	N29°20'59,99"	E050°44'53,29"	2-feb-00
75	N29°22'58,04"	E050°43'29,86"	2-feb-00
76	N29°14'15,75"	E050°50'56,02"	3-feb-00
77	N29°14'17,84"	E050°50'56,62"	3-feb-00
78	N29°14'26,05"	E050°51'22,17"	3-feb-00
79	N29°14'40,69"	E050°51'32,33"	3-feb-00
80	N29°14'38,83"	E050°51'52,36"	3-feb-00
AZINI	N26°19'44,26"	E057°06'23,17"	27-jan-00
BANDAR	N27°09'20,15"	E056°13'53,74"	25-jan-00
BANRIG	N29°28'55,14"	E050°37'58,46"	2-feb-00
BORDKN	N28°03'55,89"	E051°28'24,60"	31-jan-00
BPAAEH	N26°58'26,56"	E055°44'49,74"	29-jan-00
BPORT	N27°09'10,16"	E056°13'30,61"	25-jan-00
BULHEI	N28°31'36,87"	E051°06'02,35"	31-jan-00
DEYER	N27°50'42,40"	E051°56'55,48"	31-jan-00
FIRST	N26°55'37,63"	E055°41'36,45"	24-jan-00
HELLET	N29°09'23,33"	E050°40'17,78"	1-feb-00
JASK	N25°38'33,05"	E057°46'45,01"	27-jan-00
JASKHR	N25°40'04,22"	E057°48'24,62"	28-jan-00
KOHAK	N29°28'15,35"	E050°41'09,71"	2-feb-00
KOREBD	N29°16'15,35"	E050°54'44,14"	1-feb-00
MOB	N26°50'38,76"	E055°44'06,02"	29-jan-00
MUBARK	N25°48'07,79"	E057°18'14,79"	27-jan-00
NAYBAN	N27°20'48,48"	E052°43'23,42"	30-jan-00
OBPASH	N29°22'00,03"	E051°04'06,69"	2-feb-00
RUDSUR	N29°19'28,10"	E050°45'54,79"	2-feb-00
SHOMAL	N29°25'43,45"	E050°40'13,19"	2-feb-00
SIRIK	N26°29'48,88"	E057°04'40,33"	27-jan-00

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WIWO

Foundation Working Group for International Waterbird and Wetland Research

WIWO, a foundation under Dutch law, was established in 1983 to form a unifying centre for Dutch ornithologists participating in ornithological expeditions to West-Africa. The aims of WIWO are to initiate, stimulate and organise scientific research on waterbirds and wetlands worldwide and to transfer the gathered knowledge for the protection of the habitats and bird populations involved. WIWO is an organisation exclusively working with unpaid volunteers with a miscellaneous scientific background. The data collected in the field during WIWO-projects often require laborious efforts at home to evaluate, analyse and report them. Up to 2000 over 80 projects have been carried out in 20 different countries.

During the expeditions much information has been collected on waterbirds in a large number of wetlands along the entire East Atlantic Flyway, along the Mediterranean Flyway, and in the Eurasian Arctic. Furthermore, information has been collected on function, importance and extent of protection and threats to the wetlands visited. WIWO's main role is to gather information that will provide a sound basis for the protection of the populations and areas concerned. The results are made available to all organisations and individuals active in nature conservation through a series of reports, as well as through scientific and popular papers. Up to 2000 over 70 reports have been published. WIWO does not act as co-ordinating organisation such as Birdlife International or IUCN. The main strength of WIWO is its capability to mobilise volunteers with a professional attitude for ornithological research expeditions.

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Between 13 January and 3 February 2000 about 20 wetlands were visited along the Persian Gulf coast of Iran to count waterbirds. Special attention was paid to the presence of Slender-billed Curlews, a Globally Threatened Species. At least 1,200 Eurasian Curlews and 250 Whimbrels were checked individually, as well as several hundreds of Bar-tailed Godwits and Black-tailed Godwits, but no Slender-billed Curlews were observed.

More than 53,000 waterbirds of 82 species were counted during the survey, including Globally Threatened Species like Dalmatian Pelican, Marbled Teal, Ferruginous Duck, White-tailed Eagle, Greater Spotted Eagle, and Imperial Eagle. Only small parts of the wetlands along the Iranian Gulf coast were counted, which suggests that the entire coastline is very important for waterbirds and particularly for waders and Dalmatian Pelican. Several rare wader species were observed (Great Knot, Spur-winged Lapwing, Pacific Golden Plover) as well as good numbers of Broad-billed Sandpiper and White-tailed Lapwing.

The Hilleh Protected Area (42,600 ha) and Monde Protected Area (46,700 ha), as well as much of the surrounding area up to Bushehr and Monde River Delta, were found to contain suitable habitat for Slender-billed Curlews (irrigated wheat fields, extensive salt marshes, marshland and intertidal mudflats). The first two areas currently have a favourable conservation status.

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