

Waterbirds in the Helleh Protected Area and other coastal
wetlands in the Bushehr province , Islamic Republic of Iran,
January 2002

A search for Slender-billed Curlew *Numenius tenuirostris*

Short report



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This short report contains the preliminary results of the WIWO/DoE waterbird surveys in the Helleh Protected Area and other coastal wetlands in the Bushehr province, Islamic Republic of Iran, January 2002.

For final results, please see and refer to the final WIWO report and publications in scientific journals, which will be published after publishment of this short report.

INTRODUCTION

Background

The exact breeding area(s) of the Slender-billed Curlew *Numenius tenuirostris* still remain unknown. Since 1995 the known wintering grounds have also not produced any sightings. This indicates that this highly threatened species probably is at the brink of extinction.

Several observations of small numbers of wintering or migrating Slender-billed Curlews along the Persian Gulf in the Islamic Republic of Iran during the 1980's and 1990's, indicates that in the vast coastal wetlands of Iran a few individuals might still winter. The fact that these wetlands are hardly visited by birdwatchers emphasizes the importance of a good survey. Midwinter Waterfowl Counts are conducted in most areas in most years by staff of the DoE, but because of limitations in time, these surveys are far from complete.

In January 2000 the Foundation Working Group International Waterbird and Wetland Research (WIWO) and the Department of the Environment of the Islamic Republic of Iran (DoE) organized a survey of several coastal wetlands mainly focussing on Slender-billed Curlew. This expedition identified the Protected Areas of Helleh and Mond and the surroundings of the city of Bushehr as most promising for this rather inconspicuous wader (Van der Have *et al* 2001, Keijl *et al* 2001). All these areas are also of international importance for wintering waders and other waterbirds. Recent data on wintering populations are lacking.

In January 2002 a follow-up expedition was organised by WIWO and DoE. The expedition focused on the Helleh protected Area and the surroundings of the city of Bushehr, with shorter visits to the wetlands of Mond Protected Area and Nay Band Bay. In all areas it was tried to count wintering numbers of waterbirds with special emphasis on Slender-billed Curlew.

In this report the preliminary results of the 2002 expedition are presented. In a later stage a more extensive report will be published. This final report will, among others, include definite results, winter population estimates of waterbirds in the Helleh Protected Area and the surroundings of Bushehr City as well as detailed recommendations for further research on Slender-billed Curlew and waterbirds in general in this region. Also publications in relevant scientific journals are envisaged.

Aims

- To survey the coastal zone and marshland of the Helleh River Delta and the surroundings of the city of Bushehr for Slender-billed Curlews in combination with a full waterbird count.
- To carry out and assist the DoE in the annual Midwinter Waterfowl Count in these areas as well as in the Mond Protected Area and Nay Band Bay.
- To develop a waterbird counting and estimation method for the Gulf coast of Iran.
- To exchange knowledge, especially on Slender-billed Curlew, waterbird counting methods and Iranian wetlands, between European and Iranian participants.

STUDY AREA

A number of coastal wetlands along the Persian Gulf coast was visited during the project, namely from north to south Helleh Protected Area, Bushehr Bay, Mond Protected Area and Nay Band Bay. The first three sites are part of the vast coastal plains of the central Iranian Gulf coast, Nay Band Bay is situated in the more mountainous southern part of the Gulf coast. See Figure 1 for the location of the sites visited.

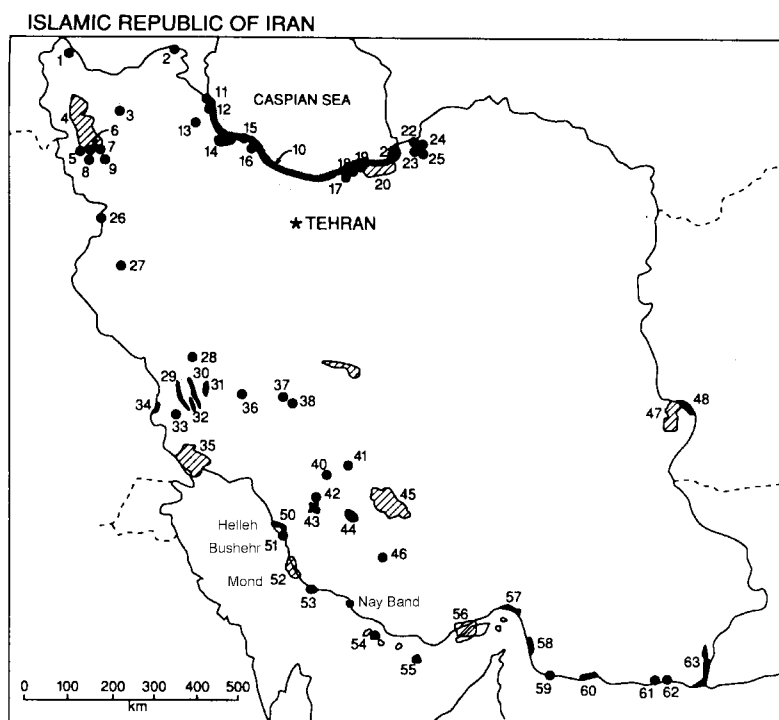


Figure 1. Map of Iran from Scott (1995), indicating all IBA's listed by Scott (1995) with the visited areas Helleh (50), Bushehr (51), Mond (52+53) and Nay Band (not listed by Scott 1995).

Helleh Protected Area, or Helleh River Delta, is located 35 km north of the city of Bushehr. It comprises 42,600 ha. After being designated as Helleh Wildlife Refuge in 1977, it was downgraded to Protected Area in the 1980's, and not listed in IUCN (1992). In Evans (1994), though, this reserve was identified as an Important Bird Area (IBA). The Protected Area is managed by the DoE. The area consists of agricultural grounds, saltsteppes, a number of fresh to brackish lagoons, marshes and inter-tidal mudflats. The area is flat with altitudes reaching from sealevel to a few metres above sea level.

The central park of the reserve consists of freshwater wetlands. These wetlands are characterized by extensive beds of Reed *Phragmites australis* and vegetations of other helophytes such as *Scirpus triquetus*. They have only recently developed as a side effect of modifications in the course of the Helleh River for a better irrigation of farmland in the 1970's. Between the wetland and the Helleh River, which forms the northwestern border of the reserve, the landscape is characterized by saltsteppe plains sparsely vegetated by *Salicornia sp.* and other species, which are subject to seasonal flooding, and farmland. In the south the marshes change into large, shallow and unvegetated lagoons. The most southern part of the reserve consists of intertidal mudflats, which are separated from the lagoons by a zone of saltmarshes, vegetated mainly by *Salicornia sp.* This saltmarsh zone is up to a kilometre broad near the mouth of the Helleh River but is small or even absent in the central and eastern parts. The intertidal area is flooded totally only at moments of very high flood-tide. The border between the mudflats and the open sea is formed by a ridge of islands in the western half. In the east large ridges of mussel banks are present.

In recent years threats for the present ecological values of the reserve mainly come from the extraction of large quantities of water from the marshes for irrigation purposes.

The protected area is home to a large number of birds, mainly waterbirds. Particularly, numbers

of wintering waterbirds such as ducks, waders, gulls and terns are impressive. The presence of scarce species, such as Dalmatian Pelican *Pelecanus crispus*, Marbled Teal *Marmoranetta angustirostris* and White-tailed Eagle *Haliaetus albicilla*, is noteworthy (Evans 1994, Scott 1995).

Nearby Bushehr Area is also located on the Persian Gulf coast around the city of Bushehr and consists of several interesting sites. The Bushehr Bay is the most important site and is situated northeast of Bushehr City. The area comprises 27,000 ha and consists of a shallow sea bay with large areas of intertidal mudflats and low sandy or muddy islands. The mudflats are connected to the mudflats of Helleh Protected Area in the north. Also along the western and southern shores of the Bushehr peninsula intertidal areas are present. During this project all intertidal areas were visited. In this report the name “Bushehr” thus refers to all intertidal areas around the Bushehr Peninsula up to the Helleh Protected Area in the north.

Fishing is the commonest form of land use, but oil industry facilities exist near the harbour of Bushehr. Although this area is of importance for Green Turtles *Chelonia mydas* and wintering shorebirds, gulls and terns - it has been identified as an IBA in Evans (1994) - up to this moment no protected status has been assigned and no conservation measures are known. The presence of wintering Crab Plovers *Dromas ardeola* and breeding Saunders’s Terns *Sterna saundersi* is noteworthy (Evans 1994, Scott 1995).

Relatively short visits were brought to Mond Protected Area and Nay Band Bay. Mond Protected Area is located 100 km south-southeast of Bushehr and Nay Band Bay about 160 km further southeast, both along the Persian Gulf coast.

Mond Protected Area includes the delta of the Mond river and the marshes and intertidal areas south of it, with many creeks, sandy beaches, coastal dunes, sandy plains and marshy vegetation. It has been identified as an IBA in Evans (1994). The wetland covers 26,870 ha while the entire protected area comprises 46,700 ha, covering the coastal zone over some 55 kilometres from the Mond river to the south. It is an important wintering area for waterbirds. Wintering of Macqueen’s Bustard *Chlamydotis macqueenii* has regularly been recorded.

Smaller Nay Band Bay is situated between a mountain ridge in the northwest and a hill ridge in the southeast. The majority of the area in between these ridges consists of a marshy saltsteppe plain formed by fluvial sedimentation. In between this steppe and the Nay Band Bay in the northwest a zone of creeks, salt marshes, mudflats and sandy dunes is present. Along the northern part of the bay there are some patches of mangrove. Along the southern shore also some saltwater basins are present. The Nay Band Protected Area is restricted to the hills south of the bay.

METHODS

Nay Band Bay, Mond Protected Area and Bushehr were surveyed by car and on foot. Survey activities at Nay Band and Bushehr were concentrated along the coast and in the intertidal areas, as these parts hold almost all waterbirds in these sites. At Mond activities were restricted to interesting sites close to the main roads because of the limited time available.

In the Helleh Protected Area almost all habitats were considered to be of potential interest for Slender-billed Curlew and other waterbirds. It was therefore tried to cover the whole reserve. Due to the inaccessibility of the site, a car was mainly used for transportation, with most surveys being carried out on foot. For counts of the intertidal area a small boat was also used.

Counts of the intertidal zones were ideally executed at high tide, when birds often concentrate at highwater roosts. Because of the short periods of high tide during day time, most counts had to be carried out at moments of less favourable tide. During low tide sample or spot counts were made in order to determine foraging densities of waders, permitting extrapolation to larger areas. Maps provided by the DoE and a G.P.S. were used for geographical orientation. Special attention was paid to concentrations of Curlews *Numenius arquata*, Whimbrel *N. phaeopus* and Black-tailed Godwits *Limosa limosa* as Slender-billed Curlews might mix with these species. At several locations it was tried to determine flying movements at dawn of these species to find night roosts.

ITINERARY

9 January: flight from Paris via Amsterdam to Tehran (Thomas) and from Amsterdam to Istanbul (Dutch participants). Due to a delay of the flight between Amsterdam and Istanbul, the connecting flight to Tehran was missed and the Dutch participants had to stay overnight at Istanbul. Thomas arrived in Tehran without problems around 23h30 and met Zadehan here.

10 January : flight of Dutch participants from Istanbul to Tehran, arrival on 11th at 3h00 local time.

11 January: after arrival of Dutch participants, immediate departure by car to Bushehr with Zadehan and Reyhani (driver). During afternoon a short rest at the DoE-office at Esfahan. Then further to Abadeh, where we had diner. After that continued towards Bushehr, but due to heavy rainfall and snow we had to return to Abadeh. Here we spent the night at the house of the restaurant owner.

12 January: in the morning a new attempt to reach Bushehr by road was made. However, after some hours waiting at a road-block and contacting the DoE-staff in Bushehr we learned about the bad conditions of many roads to Bushehr as a result of last-night's floods. It was decided to return to Esfahan by car and from there travel to Bushehr by plane. We arrived in Bushehr around 21h30 where we met several members of the local DoE-staff. Plans were made for the coming period. Because of the floods, it was impossible to enter the Helleh Protected Area. It was thus decided to visit the wetlands to the south first.

13 January: waterbird survey by car in and around Bushehr, starting at the coastal areas southwest of the city. In the afternoon parts of Bushehr Bay were investigated. In the evening Zadehan returned to Tehran, while Nosrati arrived.

14 January: travel to Nay Band by car with Nosrati, Morady and Faramarzi (driver). Due to slow logistics no serious counts could be conducted.

15 January: count of Nay Band Bay. Erik had to stay at DoE-office because of illness.

16 January: travel from Nay Band to Mond Protected Area, where several counts were conducted. After dawn travel to Bushehr, where night was spent at DoE-office.

17 January: during morning count of coastline along northern part of Bushehr city. In the afternoon count at Bushehr Bay, and travel to Khoreband. The effects of the floods after the 11th were still visible as several roads were damaged and all fields were covered with mud. During the whole period at the Helleh Protected Area we stayed overnight at the DoE-office at Khoreband.

18 January: first field visit in the Helleh Protected Area. By car the easily accessible sites in the northern and western parts of the reserve were explored.

19 January: attempt to explore the area along the eastern side of the southern river branch. Due to the condition of the unpaved roads, a thick layer of fresh sediments and dense tamarisk vegetation only a small area could be visited.

20 January: successful count of a large part of the intertidal zone by boat. Departure of Thomas and Nosrati to Bushehr in the evening.

21 January: count of a part of the inland marshes by Dutch participants. Departures of Thomas to Paris and Nosrati to Tehran.

22 January: successful counts on foot at eastern part of intertidal zone. Short visit of Mahmood. In afternoon arrival of Amini at Khoreband.

23 January: successful count of western part of intertidal zone by boat with Morady and Amini.

24 January: count of the central intertidal part and adjacent marshes on foot. Some 17 kilometres through difficult terrain was walked.

25 January: count of western part of the inland marshes.

26 January: count of central parts of the inland marshes and adjacent agricultural zone.

27 January: morning visit to reedbed vegetation in the west. In the afternoon count of intertidal zone north of shrimp cultivation northwest of the reserve.

28 January: count of intertidal zone near Shif Island in the morning, followed by a few visits to inland locations (e.g. north of Doorogah). In the afternoon count of the northwestern part of Bushehr Bay. Arrived at Bushehr in the evening, where preparing for departure the next morning.

29 January: flight from Bushehr to Tehran in the morning. Visit to the DoE-office of Tehran, with meetings with Zadegan, Ayatollahi and other DoE staff on financial aspects, reporting strategy and future cooperation possibilities. Short birdwatching visit to adjacent Pardisan Park. Evening spent at the airport.

30 January: Flight from Tehran to Istanbul during early morning, followed by flight from Istanbul to Amsterdam where arriving at 13h30 local time.

RESULTS

Completeness of the counts

Helleh Protected Area: due to the flood after January 11th, the reserve was highly inaccessible. Most unpaved roads could not be used even with the four-wheel-driven terraincars of the DoE. The cars could, especially during the first days, almost only use the main road from Khoreband to the Helleh rivermouth and the road east of the reserve to Shif Island. From these roads the reserve had to be surveyed on foot. This was also very difficult because of the fresh sediment, which formed a layer up to half a metre thick in the eastern parts, and the water. For these reasons the team did not manage to cover all of the inland area.

It was tried to count the intertidal area on foot (land side) and by boat (seaside and central parts). Because of the reasons mentioned above, it was not possible to cover all of the landside on foot. The use of a the small boat rented from a local fishermen, was restricted to the seaside. Because of the small differences in tide there are only small differences in altitude within the intertidal area. Creeks are small and shallow in most of the area. It was therefore impossible to count the central part of the intertidal area, even with this boat which needed a waterdepth of some 40 cm. Besides those on the islands along the seashores, most highwater roosts could not be reached. Also several mudbanks do not get flooded during normal high tide, making it not necessary for birds to concentrate on roosts. Further large numbers of waders choose to continue foraging in the inland marshes instead of roosting.

The centre of the marshes was not visited because of the combination of water, long distances and dense (reed) vegetations. Also the absence of recent or detailed (vegetation) maps made it impossible to efficiently go into the marshes. This will strongly have affected the counted numbers of waterbirds such as ducks, but probably had minor effect on changes to observe Slender-billed Curlews and on counted numbers of most other wader species.

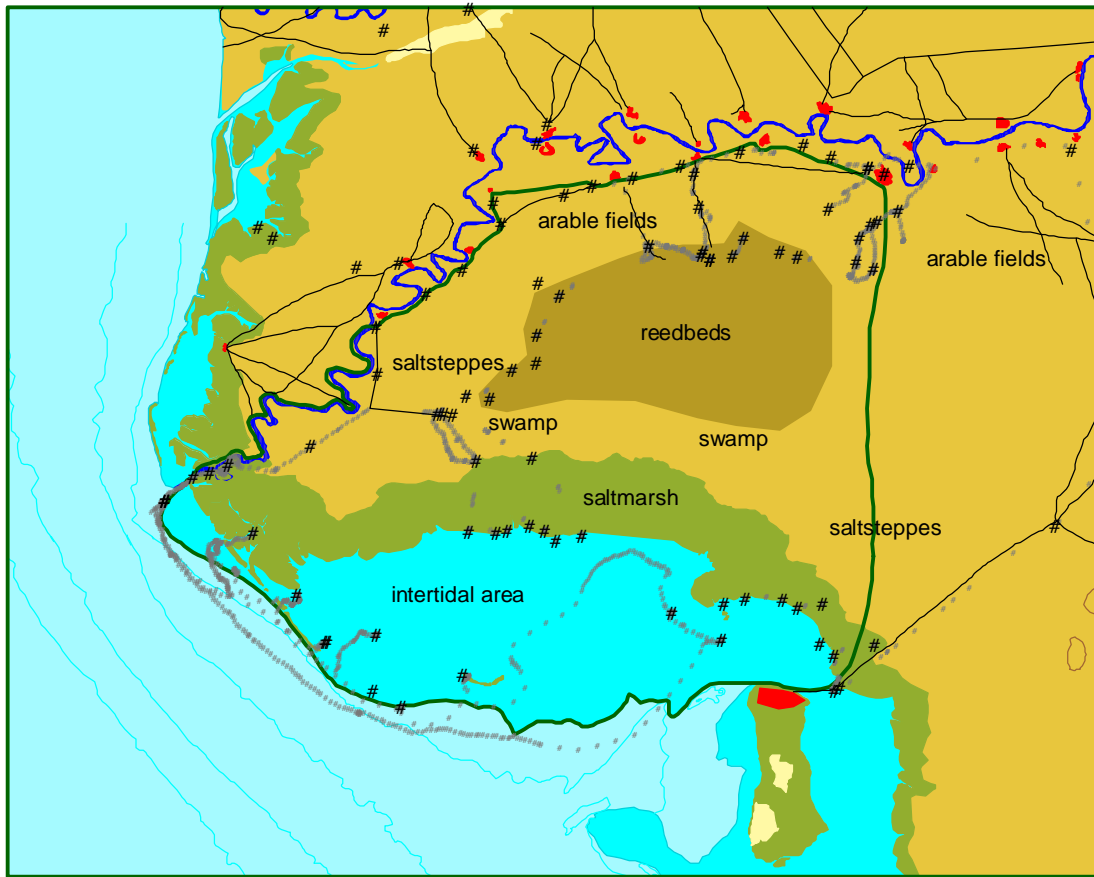


Figure 2. Map of the Helleh Protected Area. Indicated are the border of the reserve (thick line) and the parts visited (grey lines and black dots).

It is expected that about 60% of all waterbirds was counted. See figure 2 for a map of the reserve and an indication of the parts visited.

Bushehr Area: it was tried to cover all areas of interest for Slender-billed Curlew and other waterbirds, which are mainly formed by the intertidal areas. Some parts along the northeastern and southwestern sides of the peninsula are in use by the military, an atomic energy plant, industries and the harbour and can not be entered. Also the parts just south of Shif island and the area along the mainland coast south of the peninsula were not counted because of the inaccessibility of the terrain. According to the maps, ground observations from distance and observations from the plane, it is expected that these parts hold a relatively small percentage of the waterbird populations. It is thus expected that over 75% of all waterbirds was counted.

Mond Protected Area: only some small parts in the central and northern part easily accessible by car and/or foot were surveyed. Coverage of the area is comparable to that by Van der Have *et al* (2001) and during regular Midwinter Waterfowl Counts, but probably only 1-5% of the waterbird numbers present was counted.

Nay Band Bay: parts of interest for waterbirds are restricted to the coast line, especially the area between bay and saltsteppe and adjacent parts of the north and south coast of the bay. Apart from a small, probably less interesting area in the northwest coast (for which special permission is needed) the whole coastline was covered. The saltsteppe southeast of the bay was scanned from the coast and by driving through. Only some few Red-wattled Lapwings *Vanellus indicus* were observed here, so it is not expected that large numbers of waterbirds were missed. The mangroves were not entered and thus some waterbirds might be missed here. For a thorough survey of this relatively small part an extra day and a small boat would be needed. Large concentrations of birds are not expected here.

It is expected that at least some 95% of all waterbirds was counted. However, at dawn large numbers of Slender-billed *Larus genei* and Black-headed Gulls *L. ridibundus* came flying in. Apparently the site is used as night roost. It is unknown whether more gulls arrive here after dawn. The same might account for small plovers, of which large numbers were heard at roosts after dawn.

Waterbirds counted

In total 70.000 waterbirds were counted along the Gulf coast. Of the visited sites, Helleh Protected Area held most birds as expected (table 1). Taking into account differences in survey coverage, Helleh probably still holds the largest waterbird numbers which well may total 100,000 waterbirds or more. Mond is also expected to hold tenthousands of birds. Note that these totals are very rough; more precise estimates will be presented in a later stage.

Great Cormorant *Phalacrocorax carbo* was most numerous during these counts. Dunlin *Calidris alpina*, Greater Sand Plover *Chradrius leschenaultii* and Crab Plover *Dromas ardeola* were the most numerous waders. Dunlin and Greater Sand Plover probably were even more abundant taking into account the numbers of unidentified sand plovers and small waders (of which part of the latter category might also have been sand plovers). Due to identification difficulties it should be noted that the actual ratio between numbers of Greater and Lesser Sand Plover *C. mongolicus* might be incorrect (table 2).

See annexes 1 to 4 for the complete list of waterbirds counted at each site.

Table 1. Total number of waterbirds counted per site

Nb: % covered and expected totals only indicative

Site	Waterbird species	Waterbird numbers	% covered	expected total
Helleh	71	51316	60	85.527
Bushehr	48	10494	75	13.992
Nay Band	42	6599	95	6.946
Mond	36	1449	3	48.3
coast	10	221	–	–

Slender-billed Curlew

No Slender-billed Curlews were observed. Although especially in the Bushehr area and Helleh Protected Area this species was intensively searched for, the project could not reveal any sightings. Surveys of the habitats in Helleh which were considered most interesting, the transition zone from freshwater marsh via wet *Salicornia* steppes to agricultural fields, as well as adjacent agricultural areas, revealed only very small numbers of wader species which are thought to occur in comparable habitats, such as Eurasian Curlew and Ruff *Philomachus pugnax*. Whimbrel and godwits were not observed at all in these areas. During surveys during dawn also no evening movements of curlews or godwits were observed.

Iraq Babbler

Van der Have *et al* (2001) suggested that the Iraq Babbler *Turdoides altirostris* might occur in the reedbeds of the Helleh Protected Area. This would mean a significant extension of the known distribution range.

On January 25th two family-groups of babblers, totalling some ten birds, were observed in the reedbeds in the western part of the reserve. These birds showed several characteristics of the Iraq Babbler, such as a light uniform brown colour, more like a *Acrocephalus* warbler than like a Common Babbler *T. caudatus*, and almost unstreaked flanks. Unfortunately the birds disappeared

Table 2. Total numbers counted for the 25 most abundant species as well as for some major categories of unidentified birds.

Species	number counted
Great Cormorant	14233
Black-headed Gull	6304
Gadwall	6246
Slender-billed Gull	5012
Dunlin	3867
Greater Flamingo	2368
Sand Plover	2368
Teal	2199
Crab Plover	2115
Kentish Plover	1848
Shelduck	1724
Wigeon	1678
Curlew	1635
Redshank	1406
Mongolian Plover	1295
Terek Sandpiper	1181
Caspian Gull	1001
Black-tailed Godwit	807
Bar-tailed Godwit	696
Gull-billed Tern	667
Greylag Goose	633
Grey Plover	598
Grey Heron	504
Mallard	450
Sandplover spec.	2290
small wader spec.	2045
Heuglin's / Caspian Gull	917

in the reeds and were not found back. The site was visited again on the 27th, but no babblers could be found.

The site consists of extensive reedbeds and other helophyte vegetations and is kilometres from any tree or bushy vegetations. This would thus be very unusual habitat for Common Babbler, while it is more close to the habitat preferred by the Iraq Babbler. Some Common Babblers were observed in the reed marshes, but only very close to dry and high vegetation of bushes and trees.

Discussion

General

The expedition of 2002 was the second cooperative activity of Foundation WIWO and the DoE. Given the circumstances in the sites visited, the expedition is thought to have been successful. The cooperation between the members of both organisations was fruitful and has been an useful experience for both parties. It is therefore thought that there are very good possibilities for further activities in the nearby future.

The results of this survey show that all areas visited are of great importance for wintering waterbirds. Nay Band Bay is the only area which probably holds less than 10,000 waterbirds. Taking into account the relatively small size of the area, densities are still very high. The area might also function as an important stop-over site for migrating waterbirds. Mond Protected Area

is the only area of which only a quick glance was gained, but results suggest that the area is of enormous importance. Bushehr area and Helleh Protected Area certainly hold internationally important waterbird numbers.

Mainly because of the flood after January 11th, Bushehr area and Helleh Protected Area could not be covered completely. Therefore reliable totals for these areas could not be obtained. Besides it is doubtful whether this survey gives representative results. For instance, several species such as Macqueen's Bustard *Chlamydotis macqueenii* and Yellow Wagtail *Motacilla (flava) thunbergi* were only observed in the inland areas during the last days of the stay at Helleh. It seemed that the thick layer of sediments from the flood temporarily created an unsuitable habitat for many species, which were (partly?) returning only some two weeks after the floods. The same might also account for many waterbird species.

Suitability for Slender-billed Curlew

Helleh protected Area: although no sightings were made during this project, the Helleh Protected Area seems potentially suitable for the species. The site holds a large-scale combination of potentially interesting agricultural areas, *Salicornia* dominated wet and dry steppes, freshwater marshes and intertidal area with a great variety within all these habitats. Hunting is strictly controlled, grazing densities are relatively low in large parts and other disturbing human activities are almost absent.

The absence of observations during this project does not exclude the possibility of Helleh being an important wintering site. Because not all suitable habitats were covered, birds might have been missed. Besides the flood might have temporarily affected the local possibilities for the species.

Bushehr area: the area around Bushehr seems potentially suitable for Slender-billed Curlew. The area consist mainly of intertidal areas and saltsteppes. Agricultural areas and marshes are thus lacking, making it less interesting than Helleh Protected Area. Also especially the areas close to the city are subject to intensive human usage.

Mond Protected Area: during this project only small parts of the area were visited. Also in this reserve there is a large-scale combination of various marsh, steppe and intertidal habitats. The area could thus be very suitable for Slender-billed Curlew.

Nay Band Bay: because of its relatively small size and isolated geographic position, it is not expected that this site is of major interest for Slender-billed Curlew.

Recommendations on further research

The Helleh Protected Area, the surroundings of Bushehr and the Mond Protected Area are of great importance for waterbirds in general and potential importance for Slender-billed Curlew in specific. In combination with a lack of good data from recent years, conduction of extensive waterbird surveys in winter should be a high priority for future work in this region. A complete survey of this areas probably takes two weeks for Helleh protected Area and for Mond Protected Area and some five days for the Bushehr area, based on one team of at least two experienced participants. Further a more general survey for Slender-billed Curlews in the coastal zones of Bushehr province could be useful.

Also it would be very interesting to determine whether the Iraq Babbler occurs in the Helleh area.

Recommendations on protection of the sites

Of the sites visited, Helleh and Mond have a favourable conservation status. In the case of Helleh, the site should also be declared a Ramsar-site. The area of Bushehr is totally unprotected. Based on the numbers of waterbirds observed here, the site should be designated as a Protected Area. Because of the connection with the mudflats of the Helleh Protected Area, the mudflats in Bushehr Bay could be included in a future Ramsar-site. The Nay Band Protected Area is now

restricted to the hills south of the marsh areas. The coastal zone and adjacent saltsteppes should be included in this reserve.

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