

### Postscript

Between 14 and 19 November 1982, members of the Australasian Wader Studies Group made an expedition to the north-western coast of Australia. Ground and aerial surveys revealed the following wader totals:

Roebuck Bay	106,726
Roebuck Bay to Eighty Mile Beach	23,805
Eighty Mile Beach	336,850
Eighty Mile Beach to Port Hedland	30,020
Port Hedland Saltworks	66,533
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Total Broome to Port Hedland	563,934

This survey was made later in the season, and in a different season, to those described in the paper.

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## REVIEWS AND ABSTRACTS

Meininger, P.L. and Mullie, W.C. 1981. The Significance of Egyptian Wetlands for Wintering Waterbirds. Copies available (price US \$20) from The Holy Land Conservation Fund, 150 East 58th Street, New York, NY 10155, USA.

### Summary by the authors

This report deals with the results of the Netherlands Ornithological Expeditions to Egypt in the winters 1978/79 and 1979/80. The major aim of the expeditions was to carry out counts of wintering waterbirds in the Egyptian Wetlands and to collect information on the threats to these wetlands.

In chapter 3, a description is given of each wetland area. The dates of visits, methods of counting, observers, estimated coverage and results of the counts are also mentioned. Significant features of, and threats to, the area are discussed.

Lake Maryut (31.08 N, 29.56 E) and Lake Idku (31.15 N, 30.15 E) seem to be of little importance for wintering waterbirds. However, these lakes may well be important staging areas for migratory birds in autumn and spring. Both lakes are threatened by land reclamation and bird-catching. Lake Maryut receives industrial pollution and in Lake Idku dredging of the bed, clearing of weeds and intensification of fisheries are further problems. Bird counts in autumn and spring and a census of breeding birds are recommended.

Lake Burullus (31.30 N, 30.50 E), 462 km<sup>2</sup>, is a waterbird wintering area of international importance, with possibly over half a million birds wintering. The most important species counted are Wigeon (35,600), Shoveler (63,500), Pochard (8,300), Ferruginous Duck (6,580), Coot (153,500), Black-headed Gull (36,000) and Whiskered Tern (17,500).

Land reclamation, particularly along the southern shore of this lake, may be considered the main threat to this area. Further reclamation should be prevented and the lake and adjacent marshes should be made a wildlife reserve. It is recommended that more counts in autumn, winter and spring, and a breeding bird survey be carried out.

Lake Manzala (31.08 N, 31.56 E) is the largest Delta lake (1,200 km<sup>2</sup>) and a wintering area of international importance for waterbirds (over 300,000 birds wintering). The most important species counted are Shelduck (1,000), Shoveler (8,800), Coot (51,300), Avocet (1,840), Kentish Plover (6,500), Little Stint (6,200), Redshank (3,400), Black-headed Gull (24,000) and Whiskered Tern (7,400).

Reclamation of marshes and fishfarms (mudflats) should be stopped and (at least part of) the lake should be made a wildlife reserve. Shooting and trapping of waterbirds should be completely forbidden, and such prohibition enforced.

Wadi Natrun (30.25 N, 30.13 E) does not seem to be of major importance for wintering waterbirds. Better counts of waders and a census of breeding birds are recommended.

Lake Qarun (29.25 N, 30.40 E) is another wintering area of international importance for waterbirds. The most important species counted are Great Crested Grebe (3,440), Black-necked Grebe (10,800), Shoveler (11,700), Tufted Duck (5,650), Coot (18,800) and Slender-billed Gull (1,240). Counts in autumn and spring and a census of breeding birds are recommended. Hunting by foreign tourists is a serious threat to the significance of the area and therefore should be forbidden.

Wadi Ruwayan (29.10 N, 30.23 E) may develop as an important area for birds in the (near) future. This is a complex of newly created desert lakes, in which succession of flora and fauna has just started.

Lake Timsah and the Bitter Lakes (31.17 N, 32.25 E) seem to be of little importance for wintering waterbirds, but our counts were incomplete.

El Malaha near Bur Fuad (31.15 N, 32.19 E) is a very important wintering area for waterbirds, e.g. Black-necked Grebe (1,300), Cormorant (2,200), Greater Flamingo (6,400), Shelduck (825), Slender-billed Gull (5,430). Moreover, in this area are breeding colonies of Greater Flamingo and of Slender-billed Gull. More complete counts in winter, autumn and spring as well as a census of breeding birds are strongly recommended. It is suggested to make El Malaha and the adjacent marshes a wildlife reserve. Any land reclamation and drainage of fresh water from the irrigation projects of northern Sinai into El Malaha should be prevented. Taking eggs and catching Flamingos should be prohibited and the rules should be enforced.

Lake Bardawil (31.10 N, 33.08 E) seems not to be a very important wintering area for waterbirds. The lake is situated on a very important route for birds migrating along the north coast of Sinai, and some species may use the lake as a re-fuelling station. It is also an important breeding area. More counts in autumn and spring and a census of breeding birds are recommended. Lake Bardawil, or at least parts of the lake, should be declared a nature reserve. The proposed drainage of fresh water into the lake through the Salam Canal deserves a preliminary study of environmental consequences.

The Bay of Suez (29.55 N, 32.20 E) is an important wintering area for waders. Remaining areas of the Red Sea should still be investigated. It is also suggested the Isle of Tiran be declared a nature reserve upon return to Egyptian authority.

In chapter 4 the results of the counts are discussed. Based on the criteria of Atkinson-Willes (1976), the conclusion is drawn that Lakes Burullus, Manzala, Qarun and El Malaha are of international importance as a wintering area for ducks and Coot. Compared with the estimated numbers of waders wintering in the Mediterranean region, the Egyptian wetlands hold considerable numbers of wintering waders.

In chapter 5 a study of the trapping and hunting of waterbirds in Lake Manzala is described. The methods of catching waterbirds are mentioned. It has been calculated that 84,000-140,000 waterbirds are caught annually. The number of people practicing these activities is estimated at 3,000 out of 35,000-40,000 fishermen. Most birds, however, are caught by less than 100 men. Compared with 1930, about 50% fewer ducks and Coots are now offered in the market. This decrease reflects mainly the decline in numbers of Pochard and Tufted Duck. Hunting pressure on waders was found to be extremely high. The contribution of these activities to the regional economy is reviewed and found to be insignificant. A number of measures for conservation are recommended.

In chapter 6 the recent developments in nature conservation in Egypt are discussed by Dr. Bertel Bruun.

In the appendix a preliminary list of the birds of Egypt is presented, in which all data available, published or unpublished, are summarized. It is suggested to use these names in future publications and reports on the birds of Egypt.

de Roos, G. Th. 1981. The Impact of Tourism upon some Breeding Wader Species on the Isle of Vlieland in the Netherlands' Wadden Sea. Ph.D. Thesis. Nature Conservation Department, Agricultural University, Wageningen, The Netherlands. Copies available from the author, Dorpstraat 198, 8899AP Vlieland, The Netherlands, price 50 Dutch guilders (£10), payable by International Money Order.

#### Summary by the author

To convince people that specific nature management measures should be taken, sound knowledge of the effects and interactions of various factors affecting bird populations must be available. Although my original object was to study only the effects of tourism on the numbers of nests or territories of waders, it became necessary also to study the effects of landscape/vegetation and altitude/hydrology factors. The literature on the effects of these three factors is reviewed.

The island of Vlieland in the Dutch Wadden Sea was chosen as the study area because it attracts many tourists, and has a variety of habitats that support large numbers of breeding birds, particularly waders. Study was restricted to the Oystercatcher Haematopus ostralegus, Curlew Numenius arquata, Redshank Tringa totanus and Kentish Plover Charadrius alexandrinus.

To study the effects of landscape/vegetation, altitude/hydrology, and tourism, on the numbers of nest sites or territories, data were collected and mapped. A number of study plots were established for intensive investigation. Three tourism zones were used in the interpretation of aerial photographs. In each year, the precise location of nest sites or approximate territory centres of breeding waders were plotted on maps. Various analyses were made by combining breeding bird maps with those of the three above-mentioned environmental factors.

Two "experimental" plots were established for a detailed study of the effects of tourism on the Oystercatcher. During 1974 and 1975, plot 1 was open to the public and plot 2 was closed using no-trespassing signs. During the 1976 and 1977 the situation was reversed. The results suggest that it takes some time before the effects of no-trespassing signs become noticeable: effects found in 1975/1977 were not apparent from the 1974/1976 data. Two years after closure of plots such as these to the public, the number of Oystercatcher nests can be expected to increase by between 1.2 and 4.1 times. Data collected between 1978 and 1980 confirm these findings.

Effects of landscape and tourism, but not of altitude, on the numbers of breeding Curlews were found when each factor was considered separately. However, the effects of landscape and altitude can be explained as being caused by each other, presumably because some kind of dependence exists between them. Insufficient proof was found for the effects of tourism when those of the landscape were taken into account, although the data suggested that tourism affected the numbers of Curlews. No effects of landscape seemed to exist when tourism was taken into account. When the effects of altitude were controlled, tourism was found to have an effect, but controlling for tourism showed that altitude was unimportant. Thus tourism seems an important factor affecting the breeding Curlews.

The numbers of breeding Redshanks were affected by landscape, altitude and tourism, when these were considered separately. Sufficient evidence for landscape effects, when the effects of altitude were taken into account, was obtained for two study plots. On the other hand, significant effects of altitude existed for only one plot when the landscape was taken into account. Tourism was found to have an effect when the effects of landscape were controlled, while there was also evidence that landscape affected the numbers of Redshank when tourism was taken into account. Tourism also affected the numbers of Redshanks when examined in conjunction with altitude. Similarly, there were significant effects of altitude in both study plots when the effects of tourism were controlled. Thus both tourism and landscape affect the numbers of Redshanks that breed.

The number of Kentish Plover nests in the open-access areas of Vlieland showed a significant decrease in comparisons between most years between 1964 and 1980. However, in the closed (by the air force) area the decrease was not significant. In 1980, tourism was found to affect the numbers of Kentish Plover nests when the distance to high tide level was taken into account, but this was not the case in 1964. No effects of the distance to high tide level seemed to exist when tourism was taken into account. The decline in the number of nests in the open area of Vlieland was probably a consequence of an increase in the number of visitors.