

North-West Wading Bird Expedition

Although comprehensive counts and surveys of migrant wader birds have been carried out on the shores, bays and estuaries of southern Australia, up until late last year, very little of this work had been extended to the northern coastline. Knowledge of waders in this area, an area which contains immense stretches of potentially suitable habitats for wading birds, had been limited to a few select spots such as near Darwin, Cairns and the Cape York Peninsula.

Accordingly, in August-September last year, a party of 20 ornithologists organised by John Martindale, the co-ordinator of the Australasian Wader Study Group, made an aerial survey of the north-west coast followed by an intensive bird-banding programme spanning eight days within the Broome-Eighty Mile Beach area. Members of this party came from both Western Australia and Victoria and included two members of the Western

Australian Wildlife Research Centre, Mr Jim Lane and Mr Grant Pearson.

Organisers of the expedition chose late August-early September because of the higher chance of stable weather conditions during that period. It was recognised that such a date would be before many of the waders would have returned from their Arctic breeding grounds but it was nevertheless considered that population levels should already be high enough to at least indicate relative numbers in the extensive coastal habitats and in particular to highlight the most important areas. Any later in the year and the expedition would be running the risk of severe disruption from the wet season.

The Broome-Eighty Mile Beach area was selected for more intensive study, involving comparisons of aerial and ground counts of waders and also for exploratory banding work, based on previous reports of large numbers of waders in that area

and the reported accessibility and suitability of the sandy beaches for wader counting, catching and banding activities.

A report written by Clive Minton and expedition organiser, John Martindale, after the expedition (*Report on Wader Expedition to North West Australia in August/September 1981*) summarised the objectives of the expedition.

"Any case for the conservation and protection of wading birds and their habitats needs to be based on scientific data. It is thus desirable to know the total numbers of wading birds which occur in Australia, their distribution within the continent at definite times of the year, the locations and characteristics of the most important habitats they occupy, the migration routes both within Australia and on their journey to and from their Arctic breeding grounds,

(Photo copyright A. G. Wells.)





▲ Expedition members prepare explosive charges for the cannon net. (Photo copyright A. G. Wells.)

▼ The cannon net is set on the beach. (Photo copyright A. G. Wells.)



▼ Fired. The cannon net is flung over the grouped birds. (Photo copyright A. G. Wells.)



and how they organise their annual life cycle in order to accommodate energy-consuming requirements such as the annual moult and premigratory fat deposition.

“Only when such comprehensive data is available can issues be seen in their full perspective and an optimum course of action on conservation matters be ascertained.

“A general aim of this expedition to northern Australia was to collect data which complement that currently being generated in southern Australia. The specific aims were—

- 1) to determine the distribution and numbers of waders in selected areas of the northern coastline of Australia;
- 2) to assess the suitability of aerial survey techniques for accomplishing 1) above by making comparative simultaneous aerial and ground surveys at suitable locations;
- 3) to catch, band and colour mark as large a sample as possible of the various wader species occurring in the Broome/Eighty Mile Beach area, in order principally to ascertain more about their migrations (including any onward movement within Australia to ultimate “summering” destinations);
- 4) to record moult, weight and other biometric data relevant to the annual cycle of each species;
- 5) to take blood and faecal samples for the assay of virus and bacteriological pathogens which might be carried into Australia or within Australia by migratory waders (e.g. Murray Valley encephalitis and salmonella).”

Although no-one participating in the expedition really knew what results to expect, most hoped that large numbers of waders would be encountered considering the size of the region, but the final results staggered everyone.

To start with, the coast between Darwin and Broome was surprisingly deserted. This stretch looked suitable habitat for much of its length but was almost completely empty of birds although it was thought that numbers may increase in the region later in the year. In contrast, the number of birds encountered just to the south of Broome was described as incredible. In Roebuck Bay alone, more than 45 000 wading birds were counted of which 22 000 were in one flock at high tide. Altogether, 25 species of wading birds were observed in the Roebuck Bay area, the most numerous being Great Knot with an estimated population of 17 000.

Large numbers of waders were also counted along the full length of Eighty Mile Beach (actually 220km) although the density was never recorded as high as at Roebuck Bay. Nevertheless, the total wader population of Eighty Mile Beach was estimated at more than 102 000. The smaller species of waders were much more numerous than in Roebuck Bay, with 27 600 Rednecked Stints and 22 150 Curlew Sandpipers being estimated. However, there were a further 21 800 Great Knots, giving a grand total for the Broome/Eighty Mile Beach area of 38 800 — *more than previous estimates of the total world population.*

At the end of the expedition, members had recorded a total of nearly a quarter million waders around the northern coastline.

Cannon-netting was carried out several times along the beaches and three were successful, realising a total of 1 189 birds banded from 12 species. Of these, 764 birds were fully processed including a sample swabbed for viral analysis, before the birds were released. However, the large catches made processing difficult and consequently none of the birds were dyed as originally intended. Most of the birds weighed were at or below their 'normal' body weight suggesting that they had just arrived from Northern Hemisphere.



▲ The careful job of disentangling birds caught in the net begins. (Photo copyright A. G. Wells.)

▼ While waiting to be weighed and banded, the birds are kept in holding cages on the beach. (Photo copyright A. G. Wells.)



▼ These two birds, a Mongolian Sand Plover (upper) and a Large Sand Plover, were among the many species trapped and banded during the expedition. (Photo copyright A. G. Wells.)



Following the success of the 1981 expedition, it was decided a return expedition should be made early this year. This was duly carried out between late March and early April by a core of 12 people from the Royal Australasian Ornithologists' Union, the Department of Fisheries and Wildlife, and the Department of Microbiology, University of Western Australia.

The following is extracted from a report compiled after the trip by Grant Pearson, a Technical Officer with the Department of Fisheries and Wildlife.

"From four trapping efforts, 750 birds were ringed and a total of 127 071 waders were counted from Point Gantheaume near Broome south to the Leslie Salt Works at Port Hedland. Counts were also made at sewage works at Hedland and Karratha.

"Thirty-six species of waders were recorded including some previously considered extremely uncommon, and 15 species were ringed including Asiatic Dowitchers and Broad-billed Sandpipers.

"Floodwaters were still high along the coastal plain from Hedland to Broome making access to the Eighty Mile Beach impossible at Mandora and Anna Plains. As a result, the only counts of this stretch of the Eighty Mile Beach were made from the air by co-operation with the Department of Transport Coastal Surveillance Group. Approximately 90 000 birds were counted from Bush Point to the DeGrey River."

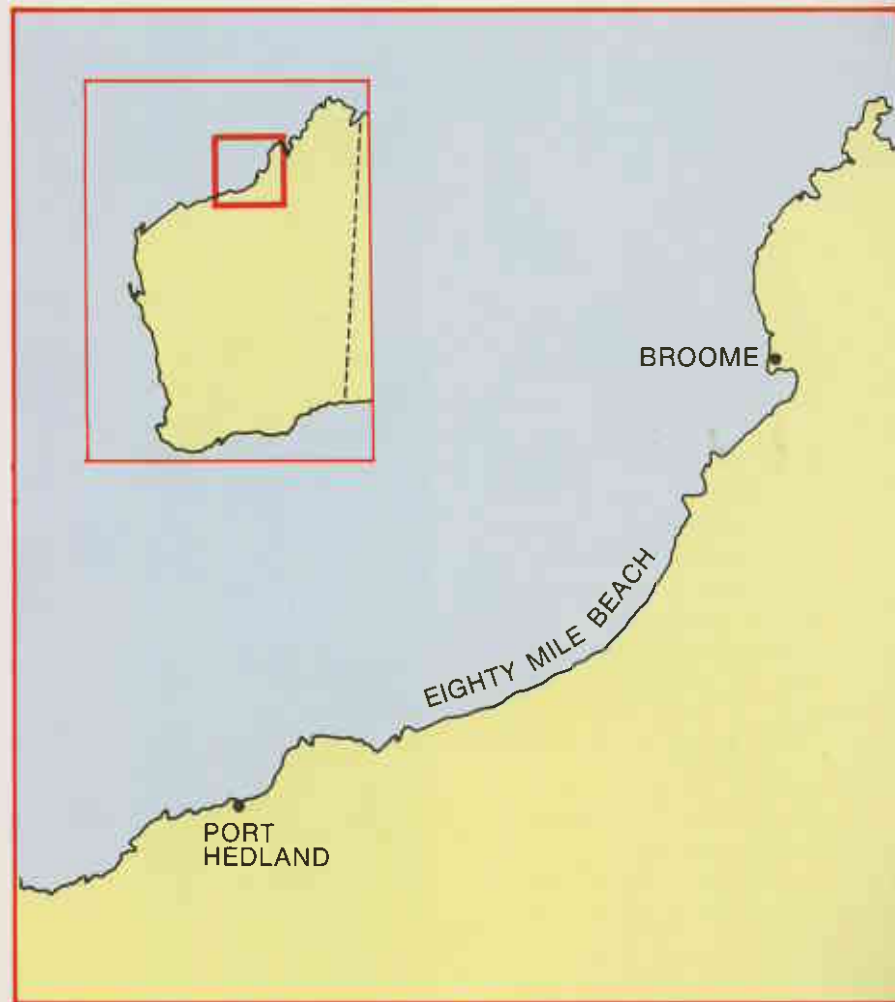
It should be pointed out that the numbers of birds recorded on the March/April Expedition did not represent the peak of the wader season. Numbers of birds sighted during the course of the trip steadily declined as time went by and it was thought the bulk of the birds had been in the area earlier in the year, probably in February.

Some of the results from the species recorded and the banding work were of particular interest. These included the capture of two Asiatic Dowitchers, of which there are only two previous sightings recorded in Australia, and the

banding of 47 Broad-billed Sandpipers, few of which have been previously sighted in Australia. Also, the number of Ruddy Turnstone and Great Knot caught, 91 and 234 respectively, was the largest number ever caught in this country.

It is now obvious that the coast of Western Australia, particularly the

northern half, in one of the richest wader habitats in Australia for migratory species. However, much work still remains to be done to fulfil all the original objectives of the wader study groups. Already there are plans to return to the north-west coast in August/September this year and it is likely the work will continue next year.



Seal Story—Correction

In the story 'Seals of Western Australia and Southern Australia' which appeared in the last edition of *SWANS*, the figure given for the sea lion population of South Australia was incorrectly printed.

The final sentence of the final paragraph on page 7 should read: 'There are probably only 750-1 000 sea lions in Western Australia altogether and 3-4 000 in South Australia.'