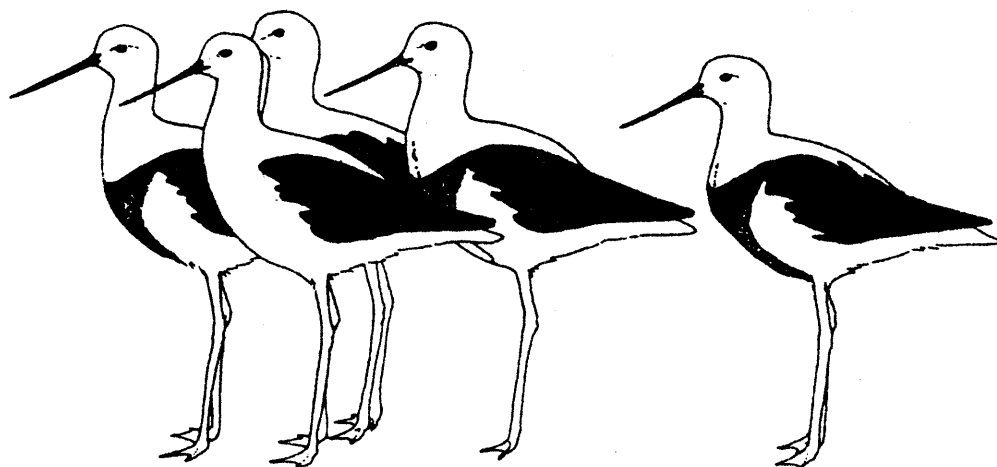


The Stilt



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**BULLETIN OF THE AUSTRALASIAN WADER STUDIES GROUP
OF THE
ROYAL AUSTRALASIAN ORNITHOLOGISTS UNION**

Number 24

APRIL 1994

**OBJECTIVES OF THE
AUSTRALASIAN WADER STUDIES GROUP
OF THE
ROYAL AUSTRALASIAN ORNITHOLOGISTS UNION**

1. To develop or assist with plans for wader research in Australasia in conjunction with other interested bodies
2. To co-ordinate and encourage counting, banding, feeding studies and other scientific programmes involving amateur and professional skills.
3. To encourage and assist with the publication of results.
4. To maintain effective communication between wader enthusiasts within Australasia and with similar groups overseas.
5. To formulate and promote policies for the conservation and management of waders and their habitat.

**VIEWS AND OPINIONS EXPRESSED IN "THE STILT" ARE THOSE OF
THE AUTHOR(S) AND NOT NECESSARILY THOSE OF THE AWSG.**

Subscriptions for 1994:

Australasia	AUS \$15
Overseas	AUS \$20
Libraries	AUS \$25

BACK ISSUES OF *THE STILT*

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Stilt No. 7 contains the Index for Nos. 1-6
Stilt No. 13 the Index for Nos. 7-12
Stilt No. 19 the Index for Nos. 13-18.

**ALL ENQUIRIES SHOULD BE DIRECTED TO
BRENDA MURLIS, ADMINISTRATIVE SECRETARY.**

NEWS VIEWS REVIEWS NEWS VIEWS REVIEWS

EDITORIAL

This issue of *The Stilt* contains material from all corners of the Australasian/East Asian flyway. Beginning in the northern extremities of the flyway we have a preliminary report on a Great Knot breeding study in Siberia. Moving southward we feature a paper on an ecological study in India and thence to Singapore for a report on a banding programme in Sungei Buloh Nature Park.

Moving down into Australia we have a major work on the migration strategy of the Double-banded Plover, concentrating on sightings from outlying Norfolk Island and several reports including those on the Population Monitoring Counts, longevity of migratory waders and sightings of leg-flagged birds.

To complete the migratory pathway we end in New Zealand with news from the New Zealand Wader Study Group.

With all of the above, plus much more, there should be something to interest all readers in this edition of *The Stilt*.

Jeff Campbell

CHAIRMAN'S REPORT FOR 1993

The major accomplishment of 1993 was the publication of the National Plan for Shorebird Conservation in Australia. The Plan, based on count data collected since 1980, identifies 180 areas of international importance for waders in Australia. The majority of these have no formal recognition of their conservation status. There is, obviously, much work to do in lobbying Federal, State and Territory Governments to provide adequate protection for these areas. The Plan contains an enormous amount of information in highly readable form and it should form part of any Australian wader enthusiast's library. More than 100 complimentary copies of the Plan have been sent to Government conservation departments and a variety of natural history and conservation organisations.

Further milestones in our efforts to present high quality reports on our work will be the publication of two more analyses: in early 1994, of the data collected during the "Regular Movements" Project and, later in the year, of the population monitoring data (twice-yearly counts) collected from 1981 to date.

These three reports are testament to the enormous contribution of AWSG members and other volunteers in collecting count data over many years, during all types of weather. They are the evidence that the effort is worthwhile. I say "is" because it is extremely important to continue the monitoring effort because of the growing threats to waders, particularly the migratory species.

Studies on the Hooded Plover have increased, due to our concern about the status of this beach-breeding wader. A number of papers were published during 1993 detailing survey results. Additional surveys are being carried out in Victoria and it is planned to cover the complete South Australian coastline in November 1994, coincident with the biennial Victorian count.

The leg-flagging project has been very successful with over 300 sightings, distant from the flagging sites, having been advised to the end of 1993. Particularly useful are the many sightings of species, or from areas, for which we have little or no information from band returns. The rate of return is five times that of bands.

We should be particularly grateful for the financial support received from the Australian Nature Conservation Agency (ex-ANPWS). They have provided funds for analysis of our population monitoring data (this will also include recommendations on how the project can be improved), for counting and banding work by Broome Bird Observatory and for Pavel Tomkovich to study the breeding biology of the Great Knot, in far eastern Siberia. Additionally, they are supporting the development of a Flyway Action Plan for Waders by the Asian Wetland Bureau; information from our National Plan will be incorporated into this document. The ongoing assistance from ANCA continues the tradition of

their past support for the RAOU Wader Studies Programme, AWB's surveys of important wader habitat in the Flyway and Asian trainees taking part in our Expeditions.

The next AWSG Expedition to north-west Australia is an ambitious attempt to cover the complete period of northward departure and will run for the whole of March and April 1994. An exciting feature will be the attempt to link take-off weights with observations of visible departures.

The 1996 RAMSAR Meeting (Convention on Wetlands of International Importance), to be held in Australia, will provide an exciting opportunity to add important wader sites to Australia's listings. We will be working with other groups with an interest in wetlands to achieve this.

Finally, it's my duty to thank all Committee members for their usual unstinting efforts. Without them nothing would be achieved.

Mark Barter

AWSG COMMITTEE FOR 1994 - 1996

The new committee to take office from 1 June is:

Chairman and Research Co-ordinator	Mark Barter
Administrative Secretary	Brenda Murlis
Treasurer	David Henderson
Membership and Liaison Officer	Hugo Phillips
Editor	Jeff Campbell
Committee Members	Clive Minton Sandra Harding (Conservation) Mike Weston Mick Murlis

TREASURER'S REPORT FOR 1993

Revenue from subscriptions and sales of back numbers of *Stilt* was similar to that of 1992, but production and distribution costs for *Stilt* rose by about 10%. The end-of-year balance of the AWSG account was greatly boosted by sales of *A National Plan for Conservation of Shorebirds in Australia*. Profits from the sales of this publication will eventually be shared with World Wide Fund for Nature.

The purchase of photographs of waders taken by Heather Gibbs constituted a major debit from the Research Fund account. The photographs have been made available to the HANZAB team and it is planned to donate them to the RAOU library where they will be accessible to members. Expenses relating to the photocopying and distribution of draft copies of the final report of the Regular Counts Project and to the 1992 Pied Oystercatcher/Hooded Plover Survey were also met from the Research Fund.

David Henderson

Australasian Wader Studies Group

Statement of Receipts and Payments for the period 1 January 1993 - 31 December 1993

RECEIPTS

Balance b/f	4698.85
Subscriptions	4058.84
Sale of <i>Stilt</i> Back Nos	309.80
AWB Subscriptions	536.00
WSG Subscriptions	197.64
Sales of National Plan	1296.10
Payment for advertisement in <i>Stilt</i>	10.00
Bank Interest	114.91
Research Fund Donations	62.83

\$11284.97

PAYMENTS

<i>Stilt</i> - Typing	835.00
- Printing	1626.00
- Postage	1205.30
- Envelopes	35.35
AWB Subscriptions	695.00
WSG Subscriptions	142.33
Production of 'AWSG News'	374.65
Printing 500 letterheads	15.00
Printing membership forms and National Plan flyers	76.00
Chairman's expenses	100.69
Secretary's expenses	409.35
State Govt. Tax	4.50
Bank Charges	104.00
Research Fund Donations	80.00
Balance c/f	5581.80

\$11284.97

RAOU Research Fund (AWSG)
Statement of Receipts and Payments for the period
1 January 1993 - 31 December 1993

RECEIPTS	
Balance b/f	2156.47
Donations	486.66
Bank Interest	<u>44.94</u>
	<u>\$2688.07</u>

PAYMENT	
Personal Accident Insurance	322.81
Purchase of photographs	471.00
Purchase of Yellow Darvic (for leg flags)	100.77
Regular Counts - expenses	151.20
Hooded Plover & Pied	
Oystercatcher surveys - expenses	184.80
Chairman's expenses	243.37
Printing NW Expedition flyer	25.00
State Govt. Tax	40
Bank Charges	48.00
Balance c/f	<u>1140.72</u>
	<u>\$2688.07</u>

AWSG Expeditions
Statement of Receipts and Payments for the period
1 January 1993 - 31 December 1993

RECEIPTS	
Balance b/f	571.53
Bank Interest	<u>11.22</u>
	<u>\$582.75</u>

PAYMENTS	
Chairman's expenses	139.36
Bank Charges	12.00
Govt. Tax on Debits	1.25
Govt. Duties	1.22
Balance c/f	<u>428.92</u>
	<u>\$582.75</u>

**TITLES OF INTEREST ADDED TO RAOU
LIBRARY IN 1993**

- Aminah, M.& D.Rahmina. 1993. Socio-economic study of waterbird hunting & marketing in Indramayu-Cirebon. Bogor PHPA/AWB Indonesia.
- Australian Nature Conservation Agency. n.d. A directory of important wetlands in Australia. Canberra.
- Barlow, M. 1983. The year of the Spur-winged Plover. Craig Printing. Invercargill.
- Chafer, C.J. 1992. The foraging ecology of the Sooty Oystercatcher *Haematopus fuliginosis* on the rocky shores of the Illawara Region, New South Wales - a preliminary analysis. Thesis.
- Driscoll, P.V. 1993. Summary of banding data and a literature review for five species of migratory birds: Red-necked Stint, Little Tern, Eastern Curlew, Great Knot & Latham's Snipe. Report to ANPWS in collaboration with RAOU.
- Finlayson, M.(ed.). 1992. Integrated management and conservation of wetlands in agricultural and forested landscapes. Proceedings of a workshop at Trebon, Czechoslovakia, 25-31 March 1992. IWRB. Slimbridge.
- Pierce, R.J. 1982. A comparative ecological study of the Pied & Black Stilts in south Canterbury. Ph.D. thesis. University of Otago, Dunedin.
- RAOU. n.d. Ten years of intensive wader studies. Scientific Day, Melbourne, 1989. Five audio cassettes.
- Smith, P. 1991. The biology and management of waders (Suborder Charadrii) in NSW. NSW NP&WS. Species Management Report No. 9. NP&WS. Sydney.
- Watkins, D. 1993. A national plan for shorebird conservation in Australia. RAOU Report No. 90. RAOU/AWSG/WWF. Melbourne.

Patricia White,
RAOU Librarian

RECENT LITERATURE

The following is a selected list of recently published articles and reports dealing with waders. Reprints of items of interest to be included in future issues would be welcome, please forward same to the Editor.

- Campbell, J. 1993. A helicopter survey of Westernport Bay. Victorian Wader Study Group Bulletin 17, 43-44. (3/19 Sydney St., Murrumbidgee, Vic., 3163, Aust.) *Haematopus longirostris*.
- Carter, M. & A. Sudbury. 1993. Spotted Redshank *Tringa erythropus* in Australia. Australian Bird Watcher 15, 149-159. (30 Canadian Bay Rd., Mount Eliza, Vic., 3930, Aust.).
- Davidson, N. & P. Rothwell (eds). 1993. Disturbance to Waterfowl on Estuaries. Wader Study Group Bulletin 68, Special Issue. 106 pp. (available from The Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire SG19 2DL, U.K. for 15 English Pounds, including p&p.). Contains 16 papers: Introduction. Wader disturbance: a theoretical overview. Effects of disturbance on shorebirds: a summary of existing knowledge from the Dutch Wadden Sea and Delta area. Disturbance of foraging knots by aircraft in the Dutch Wadden Sea in August-October 1992. Experimental wildlife reserves in Denmark: a summary of results. Studies on the effects of disturbances on staging Brent Geese: a progress report. The UK Shooting Disturbance Project. Some effects of disturbance to waterfowl from bait-digging and wildfowling at Lindisfarne National Nature Reserve, north-east England. Impact and extent of recreational disturbance to wader roosts on the Dee estuary: some preliminary results. Disturbance and feeding shorebirds on the Exe estuary. A preliminary study of the effects of disturbance on feeding Wigeon grazing on Eel-grass *Zostera*. Disturbance on estuaries: RSPB nature reserve experience. Disturbance to estuarine birds: other reports and papers. Kentish Plovers and tourists-competitors on sandy coasts? The impact of tourism on coastal breeding waders in Western and Southern Europe: an overview. Human disturbance to waterfowl on estuaries: conservation and coastal management implications of current knowledge.
- Davidson, N.C. & D.A. Stroud. 1993. Conserving waterfowl flyways: recent JNCC work. JNCC Report No. 175. Joint Nature Conservation Committee, Peterborough, U.K. (available from Vertebrate Ecology & Conservation Branch, Joint Nature Conservation Committee, Monkstone House, City Road, Peterborough PE1 1JY, U.K.).
- Larmour, G. 1993. Morphometrics and population dynamics of the Red-necked Stint *Calidris ruficollis* in coastal Victoria. Honours Dissertation. Charles Sturt University. (4 Station Lane, Yackandandah, Vic., 3749, Aust.).
- McFarland, D. 1993. Notes on the Pied Oystercatcher *Haematopus longirostris* in the Cooloola-Fraser Island area. Sunbird 23, 109-113. (15 Currong St., Kenmore, Qld., 4069, Aust.).
- Minton, C. 1993. Migratory departure dates for Eastern Curlew. Victorian Wader Study Group Bulletin 17, 21-23. (165 Dalgetty Rd., Beaumaris, Vic., 3193, Aust.). *Nunmenius madagascariensis*.
- Rubega, M.A. & B.S. Obst. 1993. Surface-tension feeding in Phalaropes: discovery of a novel feeding mechanism. The Auk 110, 169-178. (Dept. of Ecology & Evolutionary Biology, Univ. of Calif., Irvine, California 92717 USA).
- van Vessen, J.D.A. 1993. Priorities for the selection of waterbird species in need of international conservation planning in the Western Palearctic. JNCC Report No. 172. IWRB Report to Joint Nature Conservation Committee, Peterborough, U.K. (available from Vertebrate Ecology & Conservation Branch, JNCC).

Jeff Campbell

HANZAB Volume 2

Volume 2 of the Handbook of Australian, New Zealand & Antarctic Birds was released in late 1993 and is of particular interest to wader enthusiasts. Unfortunately not all of the waders are included in this volume, so the not inconsiderable amount of money required to purchase HANZAB will also have to be spent on Volume 3, if one is so myopic as to covet only those volumes dealing with the waders. Perhaps even more unfortunate is the much abbreviated Introduction in this volume. Unlike Volume 1 this volume does not include such features as a glossary or plumage illustrations, nor does it contain detailed descriptions on such matters as voice and breeding. That said this is a vital book for all wader-watchers with an interest in learning anything about the lifecycle of these birds.

The waders, or more correctly the Charadriiformes included in this volume are:

Pedionomidae	Plains-wanderer
Rostratulidae	Painted Snipe
Jacaniidae	jacanas
Chionididae	sheathbills
Burhinidae	thick-knees
Haematopodidae	oystercatchers
Recurvirostridae	stilts and avocets
Charadriidae	plovers, lapwings and dotterels

It is hoped to have a full review of this book in the next issue of *The Stilt*.

Jeff Campbell

QUEENSLAND WADER STUDY GROUP

Banding in 1993

The numbers and species of waders banded, and the locations at which these waders were banded, are given in Table 1. In total, 1574 waders were banded in Moreton Bay, which is 53% more than that banded in 1992. This is quite some achievement, as there were three less trips in 1993 than in 1992, and the banding was done without the assistance of an Earthwatch expedition. For the first time, we banded at Dux Creek, a particularly hard place to net birds. The future of this site is uncertain as it is ear-marked for development as a residential estate, but the developers have made some commitment to provide an artificial roost.

In addition to the two banding trips to Moreton Bay, there was one trip to Yamba in northern NSW, which was run in association with the NSW WSG. This trip was very successful in many ways: a good total of birds were banded; we were able to exchange ideas on cannon netting and banding; and many locals attended and got good 'hands on' experience. We are planning to make this trip an annual event.

As in 1992, the species most commonly trapped in Moreton Bay were Bar-tailed Godwit (32.2% of the total) and Great Knot (39.5% of the total). 8.1% of the Bar-tailed Godwits, and 12.3% of the Great Knots, were recaptures, and all but one of these recaptures were banded in Moreton Bay

by the QWSG. The exception was a Bar-tailed Godwit that was banded in Alaska and recaptured at Reeders Point, Moreton Island, on 3 May 1993. We had four other international recaptures in 1993: a Curlew Sandpaper banded in Taiwan and recaptured at Bishop Island on 10 January; a Red Knot banded in New Zealand and recaptured at Nudgee Beach on 3 May; another Red Knot banded in New Zealand and recaptured at Dux Creek on 17 October; and a Ruddy Turnstone banded in New Zealand and recaptured at St. Helena Island on 19 September.

From the count data that we have collected, it is becoming clear that Moreton Bay is an important staging post for a number of species during migration. In spring 1992, large numbers of Red and Great Knot were observed at Nudgee Beach, and likewise, large numbers of Ruddy Turnstone and Grey-tailed Tattler were observed at St. Helena Island and Reeders Point. It may therefore be worthwhile targeting these species for banding at the times of active migration.

Andrew Geering.

Table 1. Waders from Moreton Bay which were banded by QWSG during 1993. The dates and results of all field activities are given using the following site abbreviations: BI (Bishop Is.); AM (Amity Spt); NB (Nudgee Beach); MI (Mirapool Lagoon); RP (Reeders Point); SH (St. Helena Island); DC (Dux Creek).
The number of recaptures on each occasion and for each species is given in brackets.

SPECIES	Site Date	BI 10/1	NB 2/2	MI 21/2	BI 20/3	AM 10/4	NB 3/5	RP 24/7	NB 4/9	SH 19/9	DC 17/10	Total
Pied Oystercatcher				7								7
Black-winged Stilt							6					6
Mongolian Plover		4									10	14
Large Sand Plover											1	1
Grey Plover					3							3
Sharp-tailed Sandpiper										8		8
Curlew Sandpiper		18(2)			1	2		2	9		5	37(2)
Red-necked Stint		29									36	65
Red Knot		1			8		43(4)		42(2)			103(7)
Great Knot		17(2)	3		151(19)		218(19)		136(27)		29(1)	554(68)
Bar-tailed Godwit			51(9)	15(2)	7(2)	60(5)	46(4)	174(11)	37(5)		79	469(38)
Eastern Curlew				17		4						21
Whimbrel						16		1				17
Grey-tailed Tattler						10		44	1	22		77
Ruddy Turnstone										32(1)		32(2)
Crested Tern			2									2
Little Tern									5			35
Gull-billed Tern											2	2
Total Banded		69	56	39	170	92	313	221	230	54	214	1457
Total recaptures		(4)	(9)	(2)	(21)	(5)	(27)	(11)	(34)	(1)	(2)	(117)
Overall total		73	65	41	191	97	340	232	264	55	216	1574

VICTORIAN WADER STUDY GROUP

Summary of VWSG Activities in 1992

1992 was a year of considerable progress and achievement. This was on a broad front right across the spectrum of the various facets of the VWSG's comprehensive long term study programme of waders and terns throughout Victoria.

A total of 5513 waders and 1587 terns was caught. In contrast to the previous year good numbers of Red-necked Stints and Curlew Sandpipers were caught during the 'summer' monitoring period at three of the main sites - Werribee Sewage Farm, Yallock Creek (NE Corner of Westernport Bay) and Anderson's Inlet (Inverloch). However at Sand Island (part of Swan Island), Queenscliff, it was again not possible to make significant catches - the area is now much less extensively used as a wader roost by all species than formerly, due to increased disturbance and habitat changes.

The Highlights in the 'quality' end of the 1992 catches were:

- (a) 180 Bar-tailed Godwits at Barry Beach on 24 March. These were largely adult birds in near full breeding plumage about to depart on the Northward return journey to their arctic breeding grounds. The birds were exceptionally fat (average 480g males, 550g females). This is more than 50g heavier than the highest average departure weights recorded for each sex in NW Australia. They are in fact the heaviest weights ever recorded for Bar-tailed Godwits anywhere in the world. Calculations suggest that at least a quarter of the birds should have been able to fly the 8000km to Shanghai, China non-stop.
- (b) A Cox's Sandpiper at Inverloch in November. This is the first caught by VWSG (the Group was however involved in banding one near Newcastle, NSW during combined field work in March 1981). Recent DNA work by the Museum of Victoria has demonstrated that Cox's Sandpiper is a hybrid between Curlew Sandpiper and (most probably) Pectoral Sandpiper. It is interesting that the Inverloch bird was caught in a flock predominately of Curlew Sandpipers.
- (c) A Little Stint at Werribee S F in January. This Group's second. It was picked out (by its small size) by a sharp-eyed team member (Dale Tonkinson) during 'processing' of 400 Red-necked Stints. It was much harder to identify than the previous bird (which had retained breeding plumage) because it was in full non-breeding plumage and therefore identical to Red-necked Stints. Little Stints breed in Siberia but most spend the non-breeding season in Africa and the Indian sub-continent.
- (d) Another catch of Greenshank at Tooradin - 27 this time. This is the only area in which VWSG has ever been able to catch this species in significant numbers.
- (e) The best-ever total of Oystercatchers (238). Of these, 85 were Sooty Oystercatchers - nearly doubling the previous total. As usual all were individually colour-banded.

(f) A large mid-winter catch of Red-necked Stints (539) and Curlew Sandpipers (53), at Barry Beach. The high numbers present reflected the successful 1991 arctic breeding season, as all birds caught were immature first year birds.

(g) 13 Latham's Snipe mist netted at Braeside. These are the first snipe to be banded by the Group for many years. VWSG member Malcolm Brown discovered the site - he works at the Metropolitan Park there.

In contrast to the above successes no Eastern Curlew or Sanderling were caught - in spite of several attempts - and only one Lesser Golden Plover. The Red Knot total of only 26 was also disappointing.

A total of 2554 birds was 'processed' (ie weighed and measured) during the year - 46% of the total wader catch. Inter alia this

- (a) now gives much better cover of the main moulting period (March-June) for Sooty Oystercatchers.
- (b) gave the best December Latham's Snipe sample so far (was 8, now 21).
- (c) trebled the March Bar-tailed Godwit sample (85 to 235)
- (d) nearly doubled the June Curlew Sandpiper sample (67 to 119)
- (e) on a smaller scale, gave the first November sample of Mongolian Plover (15) and December sample of Red-necked Avocet (6).

All of the above was achieved in spite of the fact that no fieldwork was carried out in Victoria in the August-October period when the Group's equipment and many of its core personnel were away on the 1992 NW Australia Wader Expedition.

The period since the 1991 VWSG Summary has also been good for distant recoveries of banded birds, for many distant reports of orange leg-flagged birds and for local recaptures of long-lived birds. Six overseas recoveries of Curlew Sandpipers (5 in China) and four of Red-necked Stint (all in China) are a record. But even more remarkable was the huge crop of sightings of orange leg-flagged Red-necked Stints and Curlew Sandpipers in Hong Kong on northward migration in April/May (particularly in 1993).

There are many highlights including:

- (a) a Large Sand Plover sighted in Hong Kong only six weeks after it had been banded in Corner Inlet (one of only three banded).
- (b) several (probably at least five individual birds) Sanderling in Japan and one in Hong Kong - all emanating from the catch of 208 at Port Fairy on 2 March 1991.

(c) widespread sightings of Red Knot in New Zealand (as well as several captures).

(d) several sightings of Bar-tailed Godwits in New Zealand indicating, for the first time, a link with the Victorian population.

(e) sightings of several species of waders in other states, particularly during southward migration in August/September in Queensland, NW Australia and the northern half of New South Wales. Quite what an orange leg-flagged Red-necked Stint was doing making a short stop-over in Albany, SW corner of Western Australia, in mid-September is not clear. One can only hope that it made it back successfully to Victoria after being temporarily blown off course!

The results to date clearly demonstrate the value of leg flagging in order to enhance significantly the rate of data generation on movements and migration routes. The orange leg-flagging of all the main species of waders banded in Victoria will be continued. In addition the scheme has now been expanded to include Queensland (green), NW Australia (yellow) and New Zealand (white). New South Wales will also be allocated colour flagging codes in the near future.

As the duration of the VWSG study grows it is pleasing that the Group is still recapturing individual birds banded in the first significant cannon net catches made in 1978-79. During the last year Red-necked Stints, Curlew Sandpipers, Red-capped Plovers and Pied Oystercatchers with durations between banding and recapture of 12-15 years have been caught. This is a surprising age for small waders, especially those which make a round trip migration of around 25,000km each year. The oldest of these have now flown more than 350,000km on migration alone - further than to the moon!

Analysis of VWSG data has continued during the last year. The greatest task in progress is the loading of the 60,000 capture and recapture records of Red-necked Stints onto the computer data base. This task, which has been contributed to by several people over the years, is being completed by Geoff Larmour of Charles Sturt University at Albury. When the compilation is complete and has been checked he will initially be undertaking a major analysis to determine survival/mortality rates.

Overall the Victorian Wader Study Group continues to flourish and achieve. In terms of the number of waders handled on average each year it is now the second largest wader study activity in the world (behind the Wash Wader Ringing Group in the UK). It is particularly fortunate that the current mammoth RAOU project on producing the six volume Handbook of Australian New Zealand and Antarctic Birds (HANZAB) - the volumes containing the waders (2 & 3) are now in preparation - will have available to it much of the data generated over the last fifteen years and will also serve to highlight the many gaps still remaining in our knowledge of waders.

Clive Minton

Table 1
WADER BANDING TOTALS - VICTORIA - 1992

	New	Retrap	Total
Pied Oystercatcher	121	32	153
Sooty Oystercatcher	76	9	85
Grey Plover	1	-	1
Lesser Golden Plover	1	-	1
Mongolian Plover	14	2	16
Double-banded Plover	50	26	76
Red-capped Plover	25	1	26
Black-winged Stilt	5	-	5
Ruddy Turnstone	33	14	47
Greenshank	18	9	27
Terek Sandpiper	2	-	2
Latham's Snipe	13	-	13
Bar-tailed Godwit	186	-	186
Red Knot	26	-	26
Cox's Sandpiper	1	-	1
Sharp-tailed Sandpiper	108	6	114
Little Stint	1	-	1
Red-necked Stint	2706	648	3354
Curlew Sandpiper	1265	114	1379
	4652	861	5513



BROOME BIRD OBSERVATORY REPORT

By the time you are reading this, the 1994 North-West Wader Expedition will be in full swing. The rain which quenched the dry Pilbara caused route changes for the team bringing gear from Perth. However despite vehicle problems everyone arrived safely for the two month expedition. Along with the wader banding on the beaches, the extensive ponds on the floodplains will give a good opportunity for mist netting Oriental Pratincole and Little Curlew.

We have been at the Observatory for four months now, after the Pattinsons migrated south to Tasmania. Luckily they were only at the end of a telephone for wader or wardenly advice. Working with waders at Broome is very much different to Westernport Bay, Victoria, where we used to count for the Westernport Wader Survey. We were quite happy with our 100 plus Eastern Curlew, a few hundred small waders and small flocks of up to 30 Pied Oystercatchers. We quickly learnt that Roebuck Bay with tens of thousands of waders is a bit more difficult to count and as it is now included in the twice yearly AWSG Population Monitoring Project, we are responsible for counting Roebuck Bay from Dampier Creek to Crab Creek and a section of 80 Mile Beach.

What a change it was from Long Island, Hastings, when we did our first count of Roebuck Bay, with a high tide of 7.6 metres, drizzling rain and only three people! Despite this, the cloud cover provided ideal conditions to view the birds, many showing strong signs of breeding plumage for easier identification. After the rain cleared, the sun appeared and conditions soon became warm and steamy. To count the beach section of Roebuck Bay involves driving furiously between high tide roosts, hoping that flocks are fairly steady and don't move without being noticed. We were only momentarily distracted by the various raptors along the beach, including two Ospreys calling and displaying nearby. Fourteen Black-winged Stilt were a happy surprise, mixing with the godwits and 65 Grey Plover on a long section of sandy beach. We had seen a good sized flock inland, a few days before, taking advantage of the wet season rains and feeding in low pools with Plumed-whistling Ducks. Four hours and 22,609 birds later, we completed the count. This total is down on last years total, but may be an indication that the waders are roosting over the back of the mangroves in the tide pools of Roebuck Plain instead of coming onto the beaches. The numbers of Eastern Curlew were low with only 19 being seen. We will be monitoring the flocks as they leave the mud flats to determine where they are roosting.

We will keep Stilt readers posted as to how the Expedition fares, and more importantly the waders.

Jon Fallaw & Becky Hayward

NEW ZEALAND WADER STUDY GROUP

Research on Wader Ecology on Farewell Spit

New Zealand has a very sizeable and obvious wader fauna, one which receives much attention from the birding public. Scientific research, however, has been rather limited in its scope. Most studies relate to the breeding of our endemic waders and their conservation, or the description of internal migration patterns (achieved through the large efforts of so-called "amateurs"). Knowledge of the ecology of waders in the non-breeding areas is extremely poor. Northern hemisphere migrants have received little scientific research except from banding studies as carried out by the New Zealand Wader Study Group (NZWSG) (Miranda Banders).

Conservation wise, New Zealand holds a large proportion of certain subspecies of birds, the migratory habits of which give New Zealand an international responsibility for their welfare. Scientifically, waders face many problems which make them ideal species to study. Globally, most studies of wader ecology have come from Europe, Africa and North America. Recent years have seen an increase in Asian studies, but Australasian ones are still relatively few. Basic information about the ecology of most of our waders is totally lacking.

I am working towards a masterate in ecology from Massey University, studying the ecology of three main species of wader, the Bar-tailed Godwit, Red Knot and South Island Pied Oystercatcher on Farewell Spit. Farewell Spit, designated by the IUCN as wetland of international importance, is one of New Zealand's premier wader habitats. Totalling over 9,000 ha of intertidal sandflats at low tide, it regularly holds over 30,000 waders.

The main thrust of my research is determining the seasonal availability of prey to the different wader species, and the usage of this by the waders. Many studies in cold temperate zones (e.g. Europe) show large seasonal changes in prey availability, with prey becoming less available through density changes and/or behavioural changes in winter. Whether this happens in a warm temperate zone such as New Zealand is unknown. Likewise the basic levels of prey are unknown. An invertebrate sampling programme near the tip of the spit is addressing these questions.

Diet and energy intake of the waders themselves is being studied through visual observations for godwit and oystercatchers, but also through faecal analysis for knots. Knots are useful to study as they ingest whole molluscs, primarily bivalves, crush them in their stomachs, and pass the shell fragments out of their "poops". Hence one is able to determine the diet much more precisely than with many other species.

How the northern waders cope with the increased energy demands of having to increase their fat and protein deposits prior to migration will be investigated next autumn. In addition, I hope to be able to get observations of departing waders from the spit from mid-March to early April 1994. A few

extra pairs of eyes could be very useful, and if anyone felt able to join me over that period, they would be most welcome to.

The research will hopefully give us a much better picture of how waders cope in one of our intertidal areas at least. Is New Zealand as truly congenial as we would like to envisage it to be? Basic information on diet and prey availability, currently lacking, is essential for conservation purposes. As the study is only in its early stages, results are few, or frozen in large bags in the freezer. However, this will hopefully serve as an introduction anyway, and show that at least something is being done in New Zealand ecologically. Perhaps some others can be persuaded to join the ranks of waderologists on our tidal flats.

Phil Battley

Phil Battley first began watching waders on the Firth of Thames ten years ago, and can vividly remember crawling across parched mud between mangroves to see a Grey Plover (a species which then eluded him for another eight years, ironically until another visit to the Firth!). A family move to Wanganui meant visits to the Auckland wader haunts were fewer, but regular watching of local estuaries maintained a strong interest in waders, with the occasional rarity proving a bonus.

An interest in wader ecology was sparked by a passing comment by Dick Sibson some years ago which grew over the years, and led to him travelling to the Netherlands in 1991 to research with Dutch scientists on the ecology of the knot in the Dutch Waddensea. He completed a BSc. in ecology from Massey University in 1992.

Breeding and Survival Of Pied Oystercatchers In Mid-canterbury

In August 1993 we began the 7th year of our long-term study of the breeding and survival of South Island Pied Oystercatchers which nest on farmland in Mid-Canterbury. The main aims of the study are to determine factors which affect breeding, the fidelity of birds to their mates and breeding territories, survival from year to year, and dispersal from the study area.

There are 40-45 pairs nesting within our study area and most of these birds are fitted with a unique colour band combination. At the end of 1992, 79 colour-banded birds were known to be alive and by October 1 1993 we had located 72 of these back in the study area. A further 13 breeding birds have been banded during August and September 1993.

Spring and summer 1992 were cold and wet and these conditions resulted in the least successful breeding season recorded for the oystercatchers in our study area. Several clutches were abandoned during a heavy snowfall at the end of August and many chicks did not survive the cold weather. Only 19 well-grown chicks were banded that season (usually 25-30 are banded). Chicks are fitted with a combination which identifies their year of banding only.

OSNZ members put in an amazing effort during autumn and winter 1993, reporting 23 of our 79 oystercatchers from as far afield as Otago Harbour in the south to Whangarei Harbour in the north. In addition, several known-age birds were also reported. If similar numbers of birds are reported over the next year or so we will have good information about whether pairs stay together throughout the year, whether males and females travel similar distances, and whether the same birds return to the same estuaries year after year.

Paul Sagar and Donald Geddes.

RAMSAR 1996

The next meeting of the Contracting Parties to the RAMSAR Convention will be held in Australia in 1996. The venue and timing has yet to be decided.

At the last meeting, in Kushiro, Japan, in June 1993, it was resolved that a special effort should be made to have all the critical wader sites in the East Asian-Australasian Flyway nominated as Ramsar sites. The fact that Japan and Australia, both countries within this Flyway, were hosting successive meetings assisted in the adoption of the resolution.

Therefore, we have a magnificent opportunity, perhaps never to be repeated, to ensure that our waders and their habitats are protected.

On a Flyway-wide scale, the Asian Wetland Bureau and ourselves are preparing a paper on the critical wader sites for presentation to the Ramsar Bureau. The hope is that this will be endorsed by them and circulated to Ramsar signatories in the Flyway as a recommendation for sites to be nominated.

Within Australia, a meeting of parties interested in wetlands is being held in April to develop an action plan to achieve the maximum number of nominations in this country. Obviously, our National Plan, with its listing of 180 sites which meet the Ramsar criteria, will be an important input.

We encourage all members, particularly during the next two years, to play an active role in lobbying Governments to nominate important sites for inclusion in the Ramsar listing.

Mark Barter

THE MURRAY-DARLING BASIN WATERBIRD PROJECT

The RAOU Murray-Darling Waterbird Project is a new project which commenced operations in January. It is to be run along similar lines to the Australian Bird Count. Thus its success will depend largely on the recruitment of volunteer bird watchers. The Murray-Darling Basin (MDB) contains Australia's largest rivers, some of its most extensive swamps and numerous small temporary and permanent wetlands. At present there are no long term Basin-wide data for all species of waterbirds which use the wetlands in the Murray-Darling Basin. The aim of the MDB Waterbird Project is to collect Basin-wide data for at least 5 years. The project has funding from the Murray-Darling Basin Commission for the first three years.

Some of questions the project intends to answer are ...

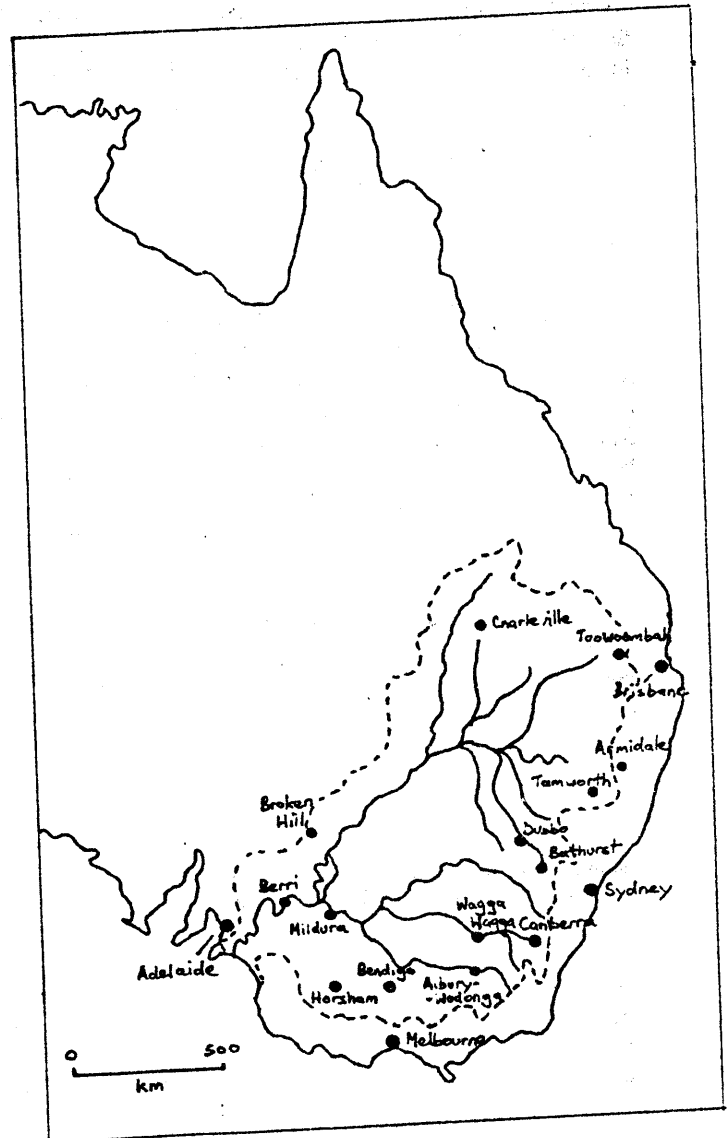
1. What are the characteristics of wetlands that are essential for the survival of each species of waterbird?
2. What are the seasonal and long term changes in the relative abundance of waterbirds on MDB wetlands?
3. What is the role of ephemeral (temporary) wetlands in maintaining waterbird populations?
4. Which wetlands are essential to waterbirds as refuges, breeding grounds and feeding areas in the MDB.

The project is also of international importance, as Australia is a signatory of the Ramsar Convention on wetlands, and has treaties with China and Japan for the protection of migratory birds, many of which visit the MBD.

I would like to hear from anyone wanting to become a volunteer waterbird observer. If you live in the Murray-Darling Basin, or visit the region at least four times a year and want to participate in the project please contact me at the address below. I will provide you with further background information, registration sheets, and details on how to conduct a survey.

Michael Hutchison, Project Co-ordinator
Locked Bag 600
St. James Post Office
Sydney 2000
Telephone 02-267 8515

Approximate boundary of the
Murray-Darling Basin



AUSTRALIAN SECTION

POPULATION MONITORING COUNTS

Ken Harris, 59 Strickland Drive, Wheelers Hill, Vic 3150

Since taking over in October 1993 as Counts Co-ordinator there has been considerable activity. In an attempt to lessen the burden on the central co-ordinator, State co-ordinators have now been appointed as follows:

Qld	Ivell & Jim Whyte 18 Aldebarren St Inala 4077 Tel. 07 372 3956
NSW	Phil Straw 15 King Rd. Brighton-Le-Sands 2216 Tel. 02 597 7765
SA	Gary Drewien C/o SA NPWS 81 The Parade Norwood 5067 Tel. 08 556 2169
Tas	Murray Lord 8 Goodhart Place Sandy Bay 7005 Tel. 002 25 1034
NT	Roger Jaensch CCNT Wildlife Research PO Box 496 Palmerston 0831 Tel. 089 85 5103

The co-operation of all the above has been outstanding and their enthusiasm bodes well for obtaining some consistency in the data over future counts. Similarly the response I have received from those regional co-ordinators with whom I have dealt directly has been gratifying. Special thanks to Mark Barter, Luke Naismith and Clive Minton for their guidance in the early months.

Considerable progress has been made in capturing data which for a variety of reasons had not found its way into the spreadsheets. From Summer 1993 data is being supplied by the Broome Bird Observatory for both Broome and a fixed section of the 80 Mile Beach. This brings our total number of sites to 25. The frequency of counting at some of the regular counting sites has diminished. However through the efforts of the new co-ordinators there is every reason to be confident of turning this around. Since there have been some additions to the data I have included all spreadsheets from Summer 91 onwards.

The Winter 93 Count highlights the extremely poor breeding season in the northern hemisphere in mid 1992 for small and medium waders. Data for five sites, (i.e. Mackay, Moreton Bay, West Eyre Peninsula, St Vincent Gulf and Darwin), has been excluded from the accompanying table because of the lack of consistent data in recent years. Figures for the Red Knot and Ruddy Turnstone are the lowest recorded in the period 1987 to 1993. Curlew Sandpiper and Red-necked Stint numbers are also particularly low. Of the 71 Curlew Sandpiper counted 69 were at Werribee/Avalon.

The Winter 94 Count has been scheduled for either of the weekends 18/19 June or 25/26 June, depending on local tide conditions.

WINTER COUNTS - NORTHERN HEMISPHERE BREEDERS

	W87	W88	W89	W90	W91	W92	W93
Grey Plover	26	80	33	19	37	25	17
Lesser Golden Plover	12	85	15	34	15	28	5
Mongolian Plover	7	71	47	34	11	26	18
Large Sand Plover	12	5	3	0	4	0	0
Ruddy Turnstone	101	123	723	50	191	487	13
Eastern Curlew	605	514	599	481	572	283	498
Whimbrel	34	26	108	35	153	56	29
Grey-tailed Tattler	226	147	38	118	144	46	12
Tattler sp.	1	8	1	3	0	0	0
Greenshank	203	157	405	13	127	175	92
Marsh Sandpiper	31	21	18	0	4	17	7
Terek Sandpiper	17	4	6	7	24	0	5
Black-tailed Godwit	114	22	2	12	0	20	23
Bar-tailed Godwit	3428	3467	5845	3531	2813	976	612
Red Knot	1880	1780	2728	991	3180	1082	139
Great Knot	141	232	112	268	100	147	111
Sharp-tailed Sandpiper	13	15	1	3	1	21	4
Red-necked Stint	1575	4720	3604	394	4529	6336	787
Curlew Sandpiper	1046	806	4161	8	1421	3953	71
Sanderling	8	17	6	4	1	2	1
Unidentified small	100	0	97	15	0	100	13
Unidentified medium	0	0	54	0	0	25	0
Unidentified large	50	0	0	0	0	0	0
TOTAL	9630	12300	18606	6020	13327	13805	2457

INTERNATIONALLY SIGNIFICANT NUMBERS OF ORIENTAL PLOVER AND ORIENTAL PRATINCOLE AT EPHEMERAL INLAND WETLANDS OF THE NORTHERN TERRITORY, AUSTRALIA.

Roger Jaensch, Conservation Commission of the Northern Territory (CCNT),
PO Box 496 Palmerston NT 0831, Australia.

Large portions of the populations of Oriental Plover *Charadrius veredus* and Oriental Pratincole *Glareola maldivarum* in the East Asian - Australasian Flyway occur in northern Australia during the non-breeding period (Watkins 1993). Before 1993, all known areas of international importance (supporting at least 1% of estimated Flyway population) for either species were in Western Australia (seven areas) or Queensland (one area: Watkins 1993). An additional important area for Oriental Plover, Lake Gregory in Western Australia, is mentioned by Jaensch and Lane (1993: p. 10-165).

Both species occur in the Northern Territory (NT), with reports of "thousands" of pratincoles at some coastal and inland wetlands (Fleming and Jaensch 1993: pp. 5-6, 5-46). However, few surveys to obtain systematic estimates of shorebird numbers have been conducted at inland wetlands.

During 1993, an inventory of wetlands of the sub-humid tropics of the NT (latitudes 15-20 South) was conducted by the author for the CCNT with funding from the Australian Nature Conservation Agency. An objective of this work was to obtain information on waterbirds, especially use of the wetlands by migrant shorebirds.

Conditions were exceptionally wet over much of the study area in 1993 due to heavy rains and flooding in February. Consequently, most inland lakes and swamps were overfull and fringed with tall seasonal vegetation, offering little or no shorebird habitat during the northward migration period (March-April). However, despite drawdown in the dry season, water persisted at some lakes in the Barkly Tablelands until at least the end of the year, ensuring extensive shorebird habitat during southward migration (August onwards).

During waterbird surveys at wetlands of the Barkly black-soil plains in December 1993, some large counts, each equating to more than 1% of the respective Flyway populations given by Watkins (1993), were obtained:

- Oriental Plover (1% threshold = 440 birds):
1022, Lake Sylvester (18⁰/135⁰), 16-17 December;
- Oriental Pratincole (1% threshold = 670 birds):
1900, Lake Sylvester, 16-17 December;
6066, Lake Woods (17⁰/133⁰), 13-15 December;
13130, Lake De Burgh (18⁰/135⁰), 17 December.

The two species were intermixed or in discrete but associated flocks, on wet mud and in shallows at the retreating water edge of each lake. Water in the lakes was fresh and turbid (milky). The shores were characterised by little or no slope, micro-relief of "gilgai" hollows (depressions typically

1-2 m in diameter, 0.3 m deep), and lack of vegetation other than scattered rat's tail couch *Sporobolus mitchellii*, lignum *Muehlenbeckia cunninghamii* shrubs and/or dead coolibah *Eucalyptus microtheca* trees. Lush low growth of annual verbine *Psoralea cinerea*, the only green non-woody cover at this time of year (and harbouring abundant aphid-like insects), occurred in broad swathes on adjacent dry lake-bed. Surrounding hinterland was pure grassland or open woodland. Diurnal maximum temperatures during 13-17 December were high, probably in excess of 40° C.

In each case, only a portion of the lake was surveyed and habitat was known to be similar around the whole lake perimeter. Therefore, it was considered reasonable to extrapolate from counted numbers to an estimate of in the order of 75,000 Oriental Pratincoles present at the three Barkly lakes in mid-December 1993. Given that a somewhat larger wetland, Tarrabool Lake, and several smaller water bodies were not surveyed, it is possible that in excess of 100,000 Oriental Pratincoles were in the region at the time.

The extrapolated estimates for Oriental Pratincole amount to more than the published Flyway population (67,000), though that population was derived from limited information, was stated as "conservative" (Watkins 1993) and undoubtedly was intended as a minimum. Any effort to accurately determine the total number of these birds in north and north-western Australia would be hampered by the wide distribution of birds in inaccessible country and scarcity of observers. However, the species is subject to considerable, probably unsustainable hunting pressure during migration through South-east Asia (up to 45,000 hunted in part of Java: Milton and Marhadi 1989), so improvements to the knowledge of its population size are required.

It is possible that the greater part of the Oriental Pratincole population in Australia in December 1993 was in the Barkly lakes. However, it is also possible that Oriental Pratincoles were spread widely across northern Australia, since thunderstorm activity (with which flocks commonly associate) was widespread during and before December and extensive water bodies were present elsewhere, e.g. Lakes Argyle and Gregory in Western Australia.

Nonetheless, the surveys confirmed that Lakes Woods, Sylvester and De Burgh in the NT are of international importance for shorebirds, particularly Oriental Plover and/or Oriental Pratincole. These ephemeral lakes are key components of a network of wetlands across inland northern Australia used by shorebirds.

None of the lakes are in a conservation reserve (apart from small stock enclosures): they are covered by two discrete pastoral leases. There is a need to develop a strategy for

maintenance of the shorebird conservation values of the wetlands, with participation of all land managers.

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REN OR FAIRY-WREN? THE DEBATE CONTINUES

Peter Higgins, RAOU
21 Gladstone Street, Moonee Ponds, Vic. 3039, Australia

(Reprinted from Wingspan No. 13, March 1994)

The preparation of the *Taxonomy and Species of Birds of Australia and its Territories* by the RAOU stimulated the debate on English names for Australian birds in 1993. This up-to-date listing of the birds that occur in Australia and their taxonomic status was prepared to provide the editors of the *Handbook of Australian, New Zealand and Antarctic Birds (HANZAB)* with a definitive guide to current taxonomic status. There was also a great demand for an up-to-date list by birdwatchers and other ornithologists in Australia and elsewhere. In revising the taxonomy, it became clear that some changes had to be made to recommended English names, and that recommendations for other species also had to be made. It was an appropriate time to undertake a review of English names for Australian birds.

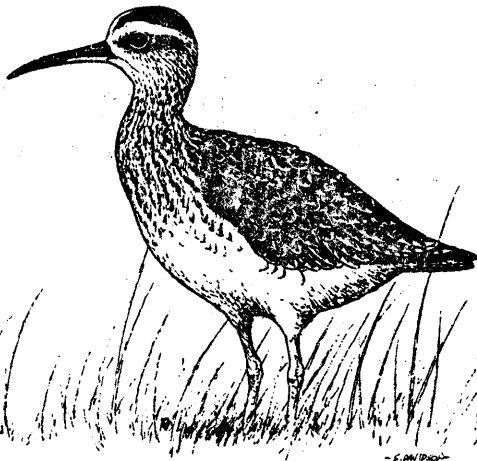
In 1978 the RAOU published *Recommended English Names for Australian Birds* (*Emu* 77 Supplement; May 1978) (abbreviated to *REN* throughout this article) - an attempt to provide a standard list of English names for Australian birds that considered international as well as Australian usage. *REN* was a landmark in Australian and world ornithology. That achievement has been overshadowed by disagreement over a small number of decisions.

The object of *REN* was not to stamp out the use of colloquial names or the fascinating array of local vernaculars used for birds. It was to provide a standard and stable set of English names that could be used throughout Australia and the world to identify Australian birds, regardless of most changes in taxonomy and irrespective of local names. Its main aim was to standardize the use of published English names, though in the long term, this will obviously reduce the variation in spoken names.

Recommended English names for Australian birds

English names are important. They are, broadly speaking, the only names known by the general public, with whom bird-watchers, ornithologists and scientists need to communicate effectively if we are to work with them and convince them of the importance of birds, their habitats and their conservation. Of equal importance for most birdwatchers (and most scientists!) English names are the only names that they use when talking about birds - they do not use scientific names and often do not know them. English names are also important because they often reflect field characters in a way that is understandable to most of the people using them (unlike scientific names which, while often encompassing the same information, are not so accessible).

Most importantly, English names have the potential for stability regardless of most changes in taxonomic status. The



scientific name of a bird is important, in so much as it reflects the relationships of one species to another and to other groups of birds. However, the purpose of scientific names is not to provide stability of nomenclature. They reflect current opinion on the relationships of taxa and which, to many people, are irrelevant to their day-to-day birding activities. Those who are interested in the relationships of species can look to the scientific nomenclature for that information.

One has to balance the desire to reflect some level of taxonomic inter-relatedness in English names with the traditional names that are or were in use. While there are advantages in recognizing the relationships of a species in its English name, this should not be the sole basis for deciding English names. Willie Wagtail should not be changed to Ground, Pied or any other sort of Fantail to show that it is a species of *Rhipidura*. It is unwise to link English and scientific names too tightly because it defeats the philosophy of *REN*, which is to bring about stability of English names.

Why discuss changes to English names?

There were a number of reasons to open the debate on English names for Australian birds. Firstly, it has been 15 years since the publication of *REN*. In that time there have been many new species recorded for Australia. Secondly, the species that occur in Australia's external territories have, for the first time, been included in an official list of Australian birds. Thirdly, in that 15 year period there has been a number of published taxonomic decisions, resulting in some English names being changed or modified.

Lastly, and perhaps most importantly, while most of the decisions made in *REN* have become widely accepted by the ornithological community there are a small number of names that have not. These names come up again and again whenever criticisms of *REN* are voiced. They figured prominently in the results of the survey of members and ornithological societies (see *Wingspan* 11, p 9- *The least popular recommended English names*) and, generally are the names for endemic species where traditional usage was not respected (contrary to the first principal adopted by the *REN* Committee).

What we have done so far

In the June 1993 issue of *Wingspan*, we asked RAOU members for comments on changes to recommended English names. We also sought comments from other national and state ornithological societies and the authors of the three major Australian field guides - Ken Simpson, Graham Pizzey and Peter Slater.

We received 84 replies from individual members and replies from the following organisations: Australasian Wader Studies Group (AWSG); Avicultural Association of Australia (AAA); Bird Observer's Club of Australia (BOCA); Canberra Ornithologists Group (COG); Cumberland Bird Observers Club (CBOC); Hunter Bird Observers Club (HBOC); NSW Field Ornithologists Club (FOC); NSW Or-

nithologist's Records Appraisal Committee (NSW ORAC); NSW Wader Studies Group (NSWWSG); Queensland Ornithological Society (QOS); and the Queensland Wader Studies Group (QWSG).

In January 1994, after collating the results of the initial survey of members and ornithological societies, the RAOU convened a meeting at Head Office to discuss recommended English names. Each of the national and state ornithological societies was invited to send a representative to the meeting and the authors of the three field guides were invited. In the end the meeting was attended by representatives from the BOCA, AAA, COG, NSW FOC, NSW ORAC and the Taxonomic Advisory Committee, RAOU and HANZAB. Ken Simpson also attended. Apologies were received from Peter Slater and Graham Pizzey, though comments from Peter Slater were considered at the meeting.

The results of the survey of members and other bird groups formed the basis of the discussions at the meeting. All names suggested for change in the earlier survey, as well as names put forward by the ornithological societies were discussed.

Principles for choosing recommended English names.

In deciding upon an English name much depends on the rules that are set. The principles used in *REN* were:

- (1) For species endemic to Australia, traditional names or those widely used are respected.
- (2) For species that range beyond Australia, the name most widely or authoritatively used internationally is preferable.
- (3) If the name of an Australian species duplicates a well-established name for another species overseas it will be necessary to examine Australian and international usage and determine whether a change should be made to Australian usage or if the Australian name should take precedence.
- (4) If taxonomic change combines two or more former species the name for the result ought to be the English name that is most fitting.
- (5) If a name is inaccurate or misleading, a change ought to be made.
- (6) If a group-name misrepresents the taxonomic affinities of a species it ought to be replaced by one that does not.
- (7) Group-names for species are not normally used without qualification.

These principles essentially remain unchanged, except that in principle 3 the emphasis has shifted from "it is desirable to change the Australian name" to a more balanced evaluation of usage internationally compared with Australia (the alteration is shown in bold in paragraph 3 above).

Ultimately, the names in popular usage should be the main criteria on which we base our decisions on English names, at least for those species endemic to Australia. This was stated in the first principle. However, as identified in the second and third principles, we (the RAOU, its members and all Australian birdwatchers) also have a responsibility to consider names on an international basis. It is here that we can run into some problems. For vagrants to our shores it is obvious that we should use the name widely used elsewhere. This also applies to most non breeding migrants that occur here, but have established names from elsewhere in the English-speaking world. However, with widespread species that breed in Australia and elsewhere we often have difficult decisions to make.

The names in *REN* that have been most widely criticized are those where traditional Australian usage was abandoned in favour of international usage, to reflect taxonomic affinities, or to reflect the unique nature of Australia's birds. While these are valid goals some of the decisions have caused much debate.

International usage. Decisions to change names on the basis of international usage have generally been accepted. However, there are several names where these decisions have continued to cause disagreements.

The unique nature of Australia's birds. English names were bestowed on our birds long before the relationships between Australia's birds and their counterparts in the northern hemisphere were properly known. We now know that much of the Australian avifauna is not closely related to superficially similar species from the north. Thus we have wrens, warblers, robins and so on that are uniquely Australasian.

REN tried to distinguish Australasian passerines from their counterparts in the northern hemisphere by changing some English names to uniquely Australian names (a goal partly covered under Principle 6). While this departs from the first principle, it was done with an admirable purpose - to distinguish the uniquely Australian nature of these species. Thus, we have fairy-wrens to distinguish them from wrens of the northern hemisphere.

However, the *REN* Committee recognised that some names were unique and so widely used that they would not be replaced by their recommendations, and was thus inconsistent in its approach. We still have Australian Magpie, Speckled Warbler and many species of robins, which are not in any way related to the magpies, warblers and robins of the northern hemisphere.

The names heathwren and fieldwren, which were changed, are as distinctive as scrubwren, emu-wren and grasswren, which were not changed. Most birdwatchers do not think of English wrens when the word scrubwren is used, though to overseas visitors the name no doubt conveys some impression of the size and habits of these birds. But they are scrubwrens, distinct from wrens. Equally, Rock Warbler was used universally and is an apt description of the bird, but the name was abandoned in *REN* for one of the Committee invented, through Speckled Warbler was retained. Such de-

isions caused enormous problems, not least because of their inconsistency. They caused confusion and so detracted from other decisions, such as changing the name of the species of *Gerygone* from warbler to gerygone.

Taxonomic decisions. As stated earlier, linking English and scientific names too closely defeats the philosophy of *REN*. Several names were changed from accepted usage in *REN* because of perceived taxonomic relationships, quite a few of which have been shown to be wrong. This is contrary to the first principle and has already been shown to be inherently unstable. For example, the traditionally used Black-fronted Dotterel was changed to Black-fronted Plover in *REN* simply because it was considered to be in *Charadrius*. However, it has now been placed within a monotypic genus *Elseyaornis* and, given the reasoning in *REN*, should change back to dotterel. Black-fronted Dotterel was the accepted English name used in this country (and New Zealand). And it should not have changed in the first place.

Some taxonomic decisions will affect English names. If an Australian bird is considered to be a subspecies of a more widespread species, then the name of the species, not the Australian subspecies, must be adopted. Again, an example serves to illustrate the point. The white ibis that occurs in Australia was, for many years, considered a separate species from others in the *aethiopicus* complex of ibises. In the 1926 Checklist *Threskiornis molucca* was called Australian White Ibis, while at the time of the 1975 Checklist *REN* considered it a subspecies of *Threskiornis aethiopicus* and changed the name to Sacred Ibis. With new research it is now clear that Australian birds are a separate species. Thus we cannot continue to call it Sacred Ibis, which is the name of another species, and have reverted to Australian White Ibis.

Equally, if an Australian bird is shown to be a separate species where it had previously been considered a subspecies of a more widespread species, then the name of the Australian form may have to change. For example, if the form of the Darter in Australia was found to be a separate species, then the recommended English name would need to change to Australian Darter to distinguish it from other forms.

The changes

In considering changes to English names the following options were available:

- (1) Retain the name in *REN* unchanged.
- (2) Make a change to the 1978 *REN*.
- (3) To seek a vote of the members to decide the name to be used.
- (4) Make no decision.

The accompanying tables list recommended English names where they have changed from *REN* or were not previously included in *REN*. Table 1 lists those species where the name given in *REN* has been changed to conform with changes in standard international usage (e.g. see Sibley &

Monroe 1990; *British Birds* 1993: 86[1] Suppl.), or where it was agreed that a name was unacceptable and should be changed. Table 2 lists those names that needed to change in response to published taxonomic work in the past 15 years. It includes names that had been changed in *REN* for taxonomic opinion that had since been proven wrong: these names should not have been changed in the first place and reverted to the previously used name. Table 3 lists the recommended English names of species that had been added to the Australian list by inclusion of our external territories or through new vagrant records. Lastly, there are several names that could be changed but it was felt the most effective way to decide on changes was to seek a vote of Australia's birdwatchers. To this end members of various ornithological groups were recently given the opportunity to vote on their preferences for these names.

All other names from *REN* remain unchanged.

The future

In making decisions about English names, we should be aware that we are working for the future - not just preserving the past. While many people have criticized *REN* and lament the passing of favoured names, others have accepted or like the changes that were part and parcel of *REN*. Still others have grown up in birdwatching knowing only those names used in *REN*. This point has been borne out by comments from many of the individuals and organisations that replied to the survey. The overwhelming response was that some names needed to change, but that most of the names in *REN* had been widely accepted and that change should be kept to a minimum.

Further, when considering changing names it is important to realise that it may be a retrograde step to revert to an old name from one recommended in *REN*. As stated above there are advantages in recognising the unique nature of our birds.

We will probably never have a list of English names that does not change. Some taxonomic changes, such as recognizing two species where previously there was only one, or vice versa, will mean that a currently used English name will have to change. However, with careful thought and acceptance of those English names that are widely

used, we will be able to prepare a list that will be used and accepted by all (most?) - a list that will not have to change with every taxonomic revision.

Table 1 Changes to recommended English names.

Scientific name	Revised Recommended English name	Previous English name (<i>REN</i> 1978)
<i>Gallus gallus</i>	Red Junglefowl*	Feral Chicken
<i>Favo cristatus</i>	Indian Peafowl	Peafowl
<i>Pachyptila salvini</i>	Salvin's Prion	Lesser Broad-billed Prion
<i>Procellaria westlandica</i>	Westland Petrel*	Westland Black Petrel
<i>Tringa totanus</i>	Common Redshank	Redshank
<i>Tringa nebularia</i>	Common Greenshank	Greenshank
<i>Charadrius mongolus</i>	Lesser Sand Plover*	Mongolian Plover
<i>Charadrius leschenaultii</i>	Greater Sand Plover*	Large Sand Plover
<i>Childonias leucopterus</i>	White-winged Black Tern	White-winged Tern
<i>Columbia livia</i>	Rock Dove	Feral Pigeon
<i>Polytelis alexandrae</i>	Princess Parrot	Alexandra's Parrot
<i>Origma solitaria</i>	Rockwarbler	Origma
<i>Motacilla citreola</i>	Citrine Wagtail	Yellow-headed Wagtail
<i>Passer montanus</i>	Eurasian Tree Sparrow	Tree Sparrow
<i>Erythrura trichroa</i>	Blue faced Parrot-Finch	Blue-faced Finch
<i>Turdus merula</i>	Common Blackbird	Blackbird
<i>Acridotheres tristis</i>	Common Myna	Common Mynah
Supplementary list		
<i>Crex crex</i>	Corn Crane*	Corncrake
<i>Tringa guttifer</i>	Nordmann's Greenshank	Spotted Greenshank
<i>Pluvialis apricaria</i>	Eurasian Golden Plover	Golden Plover
<i>Euplectes albonotatus</i>	White-winged Widowbird	White-winged Wydah

*Note: these names have changed from names published in HANZAB, Volumes 1 or 2.

Table 2 Recommended English names to replace or to be added to the former listing as a result of changes in taxonomic status.

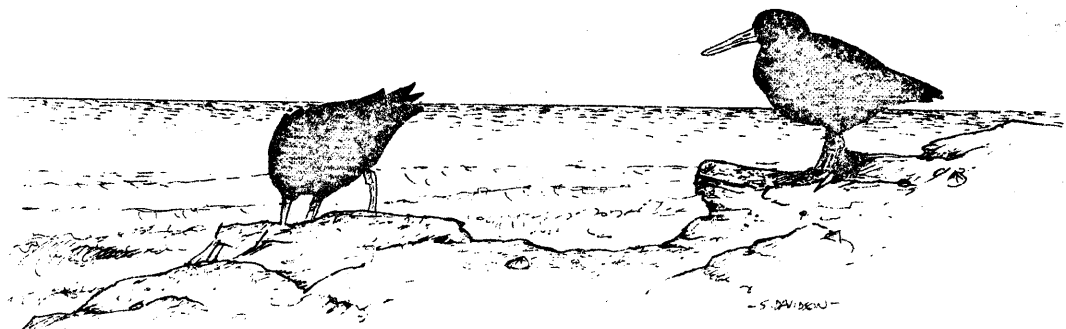
Revised Scientific name	Recommended English name	Former English name or previous species lumped under
<i>Dromaius ater</i>	King Island Emu	To replace Dwarf Emu
<i>Dromaius baudinianus</i>	Kangaroo Island Emu	To replace Dward Emu
<i>Phalacrocorax fuscescens</i>	Black-faced Cormorant*	Black-faced Shag
<i>Threskiornis molucca</i>	Australian White Ibis	To replace Sacred Ibis
<i>Circus approximans</i>	Swamp Harrier	To replace Marsh Harrier
<i>Pluvialis fulva</i>	Pacific Golden Plover	To replace Lesser Golden Plover
<i>Pluvialis dominica</i>	American Golden Plover	To replace Lesser Golden Plover
<i>Ducula spilorrhoa</i>	Pied Imperial Pigeon	To replace Torresian Imperial Pigeon
<i>Cacatua pastinator</i>	Western Corella	In addition to Little Corella
<i>Barnadius zonarius</i>	Australian Ringneck	To replace Mallee Ringneck, Port Lincoln Ringneck
<i>Tyto multipunctata</i>	Lesser Sooty Owl	In addition to Sooty Owl
<i>Tyto capensis</i>	Grass Owl	To replace Eastern Grass Owl
<i>Stipiturus mallee</i>	Mallee Emu-wren	In addition to Rufous-crowned Emu-wren
<i>Oreoscopus gutturalis</i>	Fernwren	To replace Australian Fernwren
<i>Calamanthus fuliginosus</i>	Striated Calamanthus/Fieldwren	In addition to Calamanthus
<i>Calamanthus campestris</i>	Rufous Calamanthus/Fieldwren	In addition to Calamanthus
<i>Cinlosoma castaneothorax</i>	Chestnut-breasted Quail-thrush	
<i>Rhipidura phasiana</i>	Mangrove Grey Fantail	In addition to Grey Fantail
<i>Chlamydera guttata</i>	Western Bowerbird	In addition to Spotted Bowerbird
<i>Scenopoeetes dentirostris</i>	Tooth-billed Bowerbird	To replace Tooth-billed Catbird
<i>Neochmia temporalis</i>	Red-browed Finch	To replace Red-browed Firetail
<i>Emblema pictum</i>	Painted Finch	Painted Firetail
<i>Zoothera lunulata</i>	Bassian Thrush	To replace White's Thrush
<i>Zoothera heini</i>	Russet-tailed Thrush	To replace White's Thrush

* Note: the name has changed from that published in HANZAB

Table 3 Species new to the Australian list and their recommended English names.

Scientific Name	Recommended English name	Scientific Name	Recommended English name
<i>Meleagris gallopavo</i>	Wild Turkey*	<i>Eudynamis taitensis</i>	Long-tailed Cuckoo
<i>Branta canadensis</i>	Canada Goose	<i>Ninox scutulata</i>	Brown Hawk-Owl
<i>Tadorna variegata</i>	Paradise Shelduck	<i>Apus affinis</i>	House Swift
<i>Anas acuta</i>	Northern Pintail	<i>Gerygone modesta</i>	Norfolk Island Gerygone
<i>Aptenodytes forsteri</i>	Emperor Penguin	<i>Gerygone insularis</i>	Lord Howe Gerygone
<i>Eudyptes chrysolophus</i>	Macaroni Penguin	<i>Lichenostomus hindwoodi</i>	Bungella Honeyeater
<i>Pagodroma nivea</i>	Snow Petrel	<i>Lalage leucopygia</i>	Long-tailed Triller
<i>Pterodroma cervicalis</i>	White-necked Petrel	<i>Motacilla lugens</i>	Black-backed Wagtail
<i>Pterodroma externa</i>	Juan Fernandez Petrel	<i>Fringilla coelebs</i>	Common Chaffinch
<i>Pterodroma baraui</i>	Barau's Petrel	<i>Carduelis flammea</i>	Common Redpoll
<i>Bulweria bulwerii</i>	Bulwer's Petrel	<i>Emberiza citrinella</i>	Yellowhammer
<i>Puffinus creatopus</i>	Pink-footed Shearwater	<i>Hirundo daurica</i>	Red-rumped Swallow
<i>Puffinus gravis</i>	Great Shearwater	<i>Phylloscopus borealis</i>	Arctic Warbler
<i>Oceanodroma matsudairae</i>	Matsudaira's Storm-Petrel	<i>Zosterops natalis</i>	Christmas Island White-eye
<i>Sula abbotti</i>	Abbot's Booby	<i>Zosterops streuus</i>	Robust White-eye
<i>Morus capensis</i>	Cape Gannet	<i>Zosterops tenuirostris</i>	Slender-billed White-eye
<i>Sula tasmani</i>	Tasman Booby	<i>Zosterops albobularis</i>	White-throated White-eye
<i>Leucocarbo atriceps</i>	Imperial Shag*	<i>Turdus poliocephalus</i>	Island Thrush
<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	<i>Aplonis fusca</i>	Tasman Starling
<i>Gorsachius melanolophus</i>	Malay Night Heron		
<i>Phoenicopterus ruber</i>	Greater Frigatebird	Supplementary list:	
<i>Aquila gurneyi</i>	Gurney's Eagle	<i>Gallus varius</i>	Green Junglefowl
<i>Gallirallus australis</i>	<i>Weka</i>	<i>Alectoris chukar</i>	Chukar Partridge*
<i>Gallirallus sylvestris</i>	Lord Howe Woodhen*	<i>Numida meleagris</i>	Helmeted Guineafowl
<i>Amasornis phoenicurus</i>	White-breasted Waterhen	<i>Pterodroma incerta</i>	Atlantic Petrel
<i>Porzana fusca</i>	Ruddy Crane	<i>Diomedea immutabilis</i>	Laysan Albatross
<i>Gallinago cinerea</i>	Watercock	<i>Leucocarbo verrucosus</i>	Kerguelen Shag
<i>Porphyrio albus</i>	White Gallinule	<i>Egretta eulophotes</i>	Chinese Egret
<i>Limosa haemastica</i>	Hudsonian Godwit	<i>Circus spilonotus</i>	Eastern Marsh Harrier
<i>Tringa erythropus</i>	Spotted Redshank	<i>Falco severus</i>	Oriental Hobby
<i>Tringa flavipes</i>	Lesser Yellowlegs	<i>Numenius tahitiensis</i>	Bristle-thighed Curlew
<i>Calidris fuscicollis</i>	White-rumped Sandpiper	<i>Tringa ochropus</i>	Green Sandpiper
<i>Micropalama himantopus</i>	Stilt Sandpiper	<i>Limnodromus scolopaceus</i>	Long-billed Dowitcher
<i>Chionis minor</i>	Black-faced Sheathbill	<i>Calidris mauri</i>	Western Sandpiper
<i>Charadrius alexandrinus</i>	Kentish Plover	<i>Calidris temminckii</i>	Temminck's Stint
<i>Larus crassirostris</i>	Black-tailed Gull	<i>Calidris paramelanotos</i>	Cox's Sandpiper
<i>Larus ridibundus</i>	Black-headed Gull	<i>Gallinula norfolciensis</i>	Norfolk Ground-Dove
<i>Larus atricilla</i>	Laughing Gull	<i>Tanysiptera galatea</i>	Common Paradise-Kingfisher
<i>Larus pipixcan</i>	Franklin's Gull	<i>Corvus splendens</i>	House Crow
<i>Larus sabini</i>	Sabine's Gull	<i>Anthus cervinus</i>	Red-throated Pipit
<i>Sterna vittata</i>	Antarctic Tern	<i>Anthus gustavi</i>	Petchora Pipit
<i>Columba vitiensis</i>	White-throated Pigeon	<i>Lonchura oryzivora</i>	Java Sparrow
<i>Ducula concinna</i>	Elegant Imperial-Pigeon	<i>Hirundo tahitica</i>	Pacific Swallow
<i>Ducula whartoni</i>	Christmas Island Imperial-Pigeon	<i>Locustella fasciolata</i>	Gray's Grasshopper Warbler
<i>Ducula mullerii</i>	Collared Imperial Pigeon	<i>Muscicapa sibirica</i>	Dark-sided Flycatcher
<i>Hemiphaga novaeseelandiae</i>	New Zealand Pigeon	<i>Aplonis cantoroides</i>	Singing Starling
<i>Cyanoramphus novaeseelandiae</i>	Red-Crowned Parakeet		
<i>Pector productus</i>	Norfolk Island Kaka		

*Note: these names have changed from names published in HANZAB, Volumes 1 or 2.



SIGHTINGS OF WADERS LEG-FLAGGED IN VICTORIA, AUSTRALIA - UPDATE ONE

Clive Minton, 165 Dalgetty Road, Beaumaris, Vic 3193

The addition of an orange leg-flag to migratory waders caught in Victoria commenced in January 1990, with the prime objective of increasing knowledge of the migration routes and key staging posts of birds on their way to and from their breeding grounds.

For further details on the scheme see The Stilt No. 22, pp.47-50. This note reports on sightings of birds with orange leg-flags since that report and up to October 1993. To the end of June 1993 a total of 11,151 birds had been orange leg-flagged.

Large Sand Plover

25/04/93 Mai Po Marshes, Hong Kong Fox Wong
(22°29'N, 114°02'E)

This is the first overseas 'recovery' of a Large Sand Plover banded in Victoria.

Ruddy Turnstone

15/03/93 Georgetown, Tasmania Ralph Cooper

This is the first sighting of a leg-flagged turnstone away from a flagging area.

Bar-tailed Godwit

28/08/92 Mangere Sewage Ponds, Auckland, NZ Alan Tennysori/
(36°57'S, 174°46'E) Graeme Taylor
24/06/93 Farewell Spit, NZ Willie Cook
(40°30'S, 172°50'E)
08/08/93 Puhinui Creek, Manukua Harbour, NZ T.Habracken *et al.*

Red Knot

03/01/93 Miranda, Firth of Thames, NZ Betty Seddon
(37°10'S, 175°19'E)
13/09/93 " Keith Woodley
27/09/93 " "
09/01/93 Karaka, Manukau Harbour, NZ T.Habracken *et al.*
(37°07'S, 174°54'E)
03/03/93 " "
09/05/93 " "
07/06/93 " "
03/10/93 " Pam Agnew *et al.*
01/01/93 Mangere Sewage Ponds, NZ Ray Clough
21/10/93 Waitu Estuary, Northland, NZ Ray Pierce

Sharp-tailed Sandpiper

03/05/93 Mouth of Daly River, Nth Territory Ray Shadow

Red-necked Stint

13/04/93	Mai Po Marshes, Hong Kong	Geoff Carey
14/04/93	" (1/2 birds?)	Lew Young/ P.van Scheepen
15/04/93	"	Paul Leader
24/04/93	"	"
25/04/93	"	Fox Wong
26/04/93	"	DCC
27/04/93	"	Steve McChesney
28/04/93	" (2/3 birds?)	G.Carey/V.Picken
30/04/93	" (3/4 birds?)	R.Lewthwaite
01/05/93	" (2/3 birds?)	S.Chan/P.Leader
04/05/93	" (2 birds)	Geoff Carey
08/05/93	" (1/3 birds?)	V.Picken <i>et al.</i>
09/05/93	" (1/2 birds?)	G.Carey/P.Kennerley
12/05/93	"	Geoff Carey
15/05/93	"	Peter Kennerley
22/05/93	" (1/3 birds?)	G.Carey <i>et al.</i>

It is not possible to be certain how many individuals were involved at Mai Po. On the basis of the expected turnover rate during migration, coupled with noted plumage differences and specific locations, it is possible that these 21-30 records refer to some 10-20 different birds.

On the basis of the above dates, and the similar long series of sightings of Curlew Sandpipers, it appears that the passage of Victorian Red-necked Stints through Hong Kong is, on average, only about one week later than that of Curlew Sandpipers. This is in spite of the fact that Curlew Sandpipers tend to leave Victoria on northward migration some 2-4 weeks earlier than Red-necked Stints.

27/05/93	Ku Pae E Te Ban, Thailand (6°45'N, 101°20'E)	Nukul Rattanadukul
27/08/93	Pantai Sang, Indramayu, Indonesia	Phil Whittington
05/08/92	Okori Machi, Futtsu-Shi, Chiba, Japan (35°20'N, 139°52'E)	per Yamashina Ins.
19/09/92	Tama Estuary, Hondaneda, Ohta-Ku, Japan (35°33'N, 139°45'E)	"
26/09/93	Botany Bay, New South Wales	David Stewart
04/09/93	Roebuck Bay, Broome, Western Aust.	per Broome Bird Ob
06/09/93	"	"
10/09/93	"	"

At least two birds involved at Broome as sighting on 06/09 was some kilometres from those on other dates.

23/09/93	Albany, Western Aust.	Vic Smith
11/05/93	Adele Island, off Broome, W.A.	Frank O'Connor
23/02/92	Dry Creek Saltfields, Adelaide, S.A.	John Cox
06/04/92	"	"
07/03/93	"	"
08/03/93	" (2 birds)	"
20/03/93	" (3 birds)	J.Cox/W.Syson
08/04/93	"	John Cox
19/04/93	"	"

24/04/93	"	"
03/05/93	"	"
05/09/93	"	"
14/11/92	Price Saltfields, Gulf St Vincent, SA	"
07/03/93	"	"
12/04/93	" (3 birds)	"
14/04/93	"	"
18/09/93	"	"
17/10/93	"	"
04/01-	Cape Portland, Tasmania	Ralph Cooper
06/02/93	"	"
27/05/93	Nr Mount Hamilton, Streatham, Vic	George Appleby

There have also been sightings in Victoria at other locations (Barwon Heads, Point Cook/Altona, Sandy Point) away from the flagging locations. Most probably refer to movements of birds marked in their first year, as retraps suggest that adults are strongly site-faithful.

This is a most valuable collection of records. Special thanks to ornithologists in Hong Kong who put in such a huge effort to see flagged birds in 1993, and to Steve McChesney who collected together all the sightings.

The wide spread of sightings within Australia is especially interesting. Some, if not all, of the March/May reports concern the wanderings of first-year birds, but some were showing signs of breeding plumage. This is surprising, given the pre-departure weight increases observed in adults in Victoria. They would not be expected to land again in southern Australia once they had taken off.

Curlew Sandpiper

04/04/93	Mai Po Marshes, Hong Kong	Martin Williams
11/04/93	"	Peter Kennerley
12/04/93	"	P.van Scheepen
13/04/93	"	Geoff Carey
14/04/93	" (3 birds)	"
22/04/93	" (2 birds)	"
24/04/93	"	Paul Leader
25/04/93	"	Peter Kennerley
26/04/93	"	DCC
28/04/93	"	Geoff Carey
01/05/93	" (1/2 birds?)	P.Leader/S.Chan
04/05/93	" (3 birds)	Geoff Carey
06/05/93	" (2 birds)	"
08/05/93	" (2/3 birds?)	P.Leader/P.Kennerley
15/05/93	"	Paul Leader

As with the Red-necked Stint sightings at Mai Po it is not possible to be certain how many individuals are involved here but using the same assumptions as for the stint it is probable that some 10-15 different birds were involved.

14/03/93	Godwin Beach, Deception Bay, Qld	Bob James
04/04/93	"	"
18/09/93	Nudgee Beach, Moreton Bay, Qld	Greg Nye
02/10/93	" (2 birds)	A.Geering/I.Whyte
18/08/93	Botany Bay, New South Wales	Margaret Piefke
21/08/93	L.Conjola nr Ulladulla, N.S.W.	Robert Puttock

05/09/93	Arncliffe nr Sydney Airport, N.S.W.	Keith Egan
06/09/93	Broome, Western Australia	T.Putt/V.Pattinson
28/02/93	Muloorina, Maree, S.A.	John Read
19/02/92	Dry Creek Saltfields, S.A.	John Cox
15/11/92	"	"
10/01/93	"	"
14/03/93	"	W.Syson
20/03/93	"	John Cox
08/04/93	"	"
11/04/93	" (2 birds)	"
21/08/93	"	"
16/10/93	"	"
23/10/93	"	"
14/11/92	Price Saltfields, Gulf St Vincent, SA	"
17/10/93	"	"

A nice range of sightings, especially the huge series from Hong Kong. There was no previous evidence of any passage via Queensland to Victoria on southward migration.

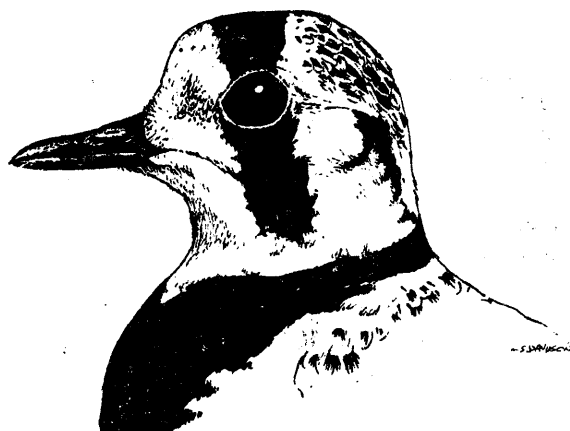
Sanderling

16/08/92	Yatou, Narashino, Chiba Pref., Japan	per Yamashina Ins.
25/08/92	"	"
29/08/92	"	"

Three records probably of same bird.

16/05/93	Mai Po Marshes, Hong Kong	Richard Lewthwaite
02/10/93	nr Canunda Nat.Park, SA (3 in 250birds)	Ren de Garis
06/10/93	" (6 birds)	"
16/04/93	15km E of Nelson, Vic. (6 in 130birds)	Rob Farnes
05/04/93	Sandy Point, Vic.	Joan McDowell

As noted in the last report a fabulous collection of sightings from one catch at Killarney Beach, near Port Fairy, on 2 March 1991.



VAGRANCY, OR ANOTHER MIGRATION PATH, OF THE DOUBLE-BANDED PLOVER *Charadrius bicinctus* ?

Ian Endersby, 56 Looker Road, Montmorency, VIC., 3094.

Colour banding studies conducted in New Zealand and Australia have elucidated the migration routes of the nominate race of the Double-banded Plover *Charadrius bicinctus*. Birds which breed on the high ground in the centre of the South Island of New Zealand migrate to Australia for the winter; those breeding on lower ground of the South Island, and those breeding in the North Island, appear to remain largely within New Zealand during the winter (Minton 1987a). Pierce (1989a) determined that early fledging birds in the Lake Tekapo area became migratory, while those that fledged late in the season overwintered in their first, and successive, years. Little information appears to have been published on seasonal movements of those birds which remain in New Zealand and no hypotheses have been presented to explain sightings recorded in the literature for islands in the southwestern Pacific.

Personal observations of Double-banded Plovers on Norfolk Island and a review of the literature raised a number of questions about the provenance of the birds seen.

Observations

On the morning of 26 February 1992, three Double-banded Plovers were observed, feeding on rocky outcrops at Kingston Beach, Norfolk Island. On the following afternoon four birds were seen roosting on the sand in approximately the same area. Field markings included:

Head

- pale forehead; distinct, pale buff superciliary that looped slightly downwards behind eye; pale line below eye which delineated a dark tear-shaped eye patch; incomplete, pale collar; crown pale and dark, except for some striations on cap of one bird.

Body

- small trace of a band on the chest at about shoulder level and a ragged edge to the dark feathers just below it; back and wing feathers edged buff; underparts white; dark tail or tips to the primaries; faint wing bar in flight.

Bare Parts

- Bill black; eye dark; legs yellowish green.

The birds were probably juveniles, with plumage quite consistent with illustration 105e on plate 43 of Marchant *et al.* (1986).

Literature Review

1. Norfolk Island

Bassett Hull visited Lord Howe Island in October 1907 and Norfolk Island in October 1908. He saw two pairs of the species on Lord Howe Island and notes it as a visitor to Norfolk Island (Bassett Hull 1909). The source of this comment is problematical as he did not see the species during his visit and his reference to Ramsay (1888) is misleading as Ramsay only lists the species for Lord Howe Island.

More recent observations can be summarised as follows:

August 1963	4	(Wakelin 1968)
August 1967	10	(Wakelin 1968)
February 1973(?)	P	(De Ravin 1975)
March 1974	8	(Moore 1985)
July 1976	18	(Moore 1981)
February 1978	1	(Schodde <i>et al.</i> 1983)
June 1983	60	(Hermes <i>et al.</i> 1986)
July 1985	19	(Guymer 1985)
June 1986	25	(Anon 1986)
July 1986	P	(Anon 1986)
February 1992	4	(Endersby, this report)

The four birds seen in 1963 were in full breeding plumage (Wakelin 1968) and those in June 1986 were observed by Malcom Templeton to be in breeding and eclipse plumage (Anon 1986). De Ravin visited the island in February 1973 but supplemented his own observations with literature references and discussions with islanders. The source of his record is ambiguous. Guymer (1985) speculated that the birds seen in July 1985 were in transit from Australia to breeding grounds in New Zealand. Hermes (1985) annotates his checklist with "regular, nonbreeding winter migrant" for the species.

Most sightings have been made between June and August, towards the end of the non-breeding season. The only three firm records of birds recently arrived from New Zealand are those of Wakelin in March 1974 (Moore 1985), Sefton in February 1968 (Schodde *et al.* 1983), and those I report from February 1992.

It is interesting to note that of all the Australian field guides, only Leach (1953) and Cayley (1963) nominate Norfolk Island and Lord Howe as localities for the Double-banded Plover. Neither records the source of its information and perhaps one quotes the other. Lane (1987) cites Oliver (1974) for Lord Howe Island and Norfolk Island observations, while Marchant *et al.* (1986) record the species as vagrant on Norfolk Island but give no primary references. Neither does Soper (1984) substantiate his claim that the birds are seen on passage at Norfolk Island.

Other Localities

Marchant *et al.* (1986) note the species for Lord Howe Island, as do a number of authors already quoted (Ramsay

1888, Bassett Hull 1909, Leach 1953, Cayley 1963, Soper 1984 and Lane 1987). Hutton (1986) records small flocks of 2 to 20 between March and August and notes that by June they are taking on their breeding plumage (Hutton 1991). Bransbury (1987) includes Double-banded Plover in his lists for Lord Howe Island but his coverage does not extend to Norfolk Island.

Although they do not provide references, Marchant *et al.* (1986) record occurrences on New Caledonia, New Hebrides and Fiji. Garrett & Garrett (1975) observed the species in breeding plumage in Noumea in August and cite OSNZ (1970:45) for records in New Hebrides. The only other literature that has been located for sightings in the Southwest Pacific is for Fiji. Both Smart (1973) and Skinner (1983) observed Double-banded Plovers between March and August, in eclipse plumage during the earlier months and attaining breeding plumage after July. Skinner (1983) presumes the Fiji birds to be stragglers from the main New Zealand to eastern Australia migration route.

Watling (1982) considers that, even though it has only been recorded in Fiji between May and August, the species is probably a regular visitor in small numbers in the Samoa-Tonga-Fiji region. Even further to the east, it had not been recorded for the Cook Islands in a thorough literature search by Holyoak (1980). Gibb *et al.* (1989) did not add Double-banded Plover to the checklist for Niue and their observations included the months of June to August. They were unable to locate any references to the species being seen on Tonga, Samoa or the Southern Cooks. Neither MacKinnon (1988) nor King *et al.* (1987) record the species for Southeast Asia or Java and Bali respectively.

Discussion

Double-banded Plovers migrate from the more harsh climatic parts of New Zealand to Victoria, the islands of Bass Strait (Schulz 1990), and Tasmania (Pierce 1987). They are also found in New South Wales, South Australia and Queensland (Blakers *et al.* 1984). However, what is the status and provenance of the birds seen in Norfolk Island, Lord Howe Island and Fiji? Three possibilities come to mind: (a) vagrants; (b) passage migrants; (c) austral winter residents. Insufficient data exist to eliminate or confirm any of the three but they do raise interesting questions about the behaviour of this species and about bird migration in general.

Dann (1991) estimated that the first clutches to be laid at Cass River and Kaitorete Spit (Canterbury, New Zealand) occurred in mid-August, with a peak in early October, and laying continuing until November. He makes no mention of multiple broods, nor do Marchant *et al.* (1986) but Pierce (1989a) does. In all of the references cited that contain dates, August is the latest month in which the birds are seen in island localities. There is no conflict between these observations and the birds arriving in New Zealand in time to breed even in the earlier part of the season.

Austral Winter Residents ?

This hypothesis assumes that Norfolk Island, and other islands in the region, host their own populations of over-wintering Double-banded Plovers in the same way that south-eastern Australia hosts the main population that migrates from the South Island. To confirm this would require positive observations of marked birds throughout the period of February to August. There are no records of the species at Norfolk Island in the months of April and May and few records in the early part of the season.

Most published observations come from visiting ornithologists rather than residents, thus giving a bias to the sample. However, fluctuations in reported flock size on Norfolk Island demonstrate that there is not a permanent overwintering population.

Vagrants ?

Pierce (1989a) recognised a phenotypic difference in that the late fledging birds did not become migratory, not only in their first season but for life. Apparently late fledging birds have insufficient time to build up fat reserves for the 2000 km migration flight. In this dichotomous situation it is difficult to imagine what might be the timing and migration route cues. Does this imply that there are in fact two distinct populations, one that always breeds early and migrates and a second that always breeds late and is sedentary? Pierce (1989a) has data to suggest that the early fledging juveniles have a higher survival and adaptation thus might be favouring migration as an overwintering strategy.

In addition to migratory or sedentary behaviour there might be a third possibility - vagrancy. This could be defined as an overwintering journey that does not follow normal migration routes but could include a number of consecutive feeding locations. Immediately this raises the questions of how migrants navigate home again and do they establish a normal migration routine in subsequent years? If such a pattern exists it implies that the vagrants are probably first year birds. Palaearctic waders do not return to the breeding site until at least their second year and so precedents exist for atypical behaviour in the first year. However they do follow the normal migration route, it is only timing that differs.

The birds which I observed on Norfolk Island were almost certainly in first year plumage and thus had recently left their natal site. This is consistent with a vagrancy hypothesis but the clustering of sightings at the start and the end of the non-breeding season suggests a formal pattern of movement to and from distant locations. Vagrancy would be expected to produce random occurrences; regular movement implies some form of migration.

Passage Migrants ?

The balance of probabilities seems to be favouring this as the mechanism which brings Double-banded Plovers to Norfolk Island in their non-breeding season. It now remains only to determine their source and their destination, but paucity of data suggests that this will never be realised. Work reported in Minton (1987a) and Pierce (1989a,b) has established that South Island birds from more extreme climatic conditions

migrate to southeastern Australia if they fledge early. Soper (1984) notes the northward movement of South Island birds which do not migrate across the Tasman, and Pierce (1989b) has evidence for some birds from the north of the South Island being sedentary and some migrating either to Australia or within New Zealand.

Double-banded Plovers do breed in the North Island (Minton 1987a) but the only knowledge of their movements generally seems to be that they do not migrate to Australia except for Minton's (1988) report of two sightings.

Blakers *et al* (1984) report sightings of the species in Queensland and Minton (1987b) records the first colour-banded bird in Queensland originating from the high central region of the South Island. The same article notes seven sightings in New South Wales. A number of possible migration paths now begin to emerge in addition to the well recognised one: (a) from central South Island west to Victoria and then north along the Australian coast; (b) from central South Island island-hopping northwesterly to lower latitude Australia; (c) North Island birds island-hopping northwesterly to lower latitude Australia. Again, the evidence is too sparse to distinguish between them.

Using the Ringed Plover *Charadrius hiaticula* as an example, Baker (1978) demonstrates the phenomenon of "leap-frogging" and its associated inter-deme variation. Sub-populations from the most disadvantageous end of a winter gradient fly further than those demes that breed at lower latitudes to reach their non-breeding range. In this particular case there is also a demonstrable cline in wing length with shorter winged birds flying longer distances. Boland (1990) quantified the definition of "leap-frogging" and was then able to find only one intraspecific example for North America, *Calidris pilocnemis*. There were no intrageneric cases in *Charadrius*. Much debate has ensued concerning different mechanisms which could cause leap-frog migration but Hockey *et al.* (1992) seem to refute them all. Is it possible to invoke a leapfrog hypothesis for the Double-banded Plover, not in spatial terms but in severity of environment? The long leap is from extreme to benign conditions (e.g. high altitude South Island to the rich feeding grounds of Victoria). The short leap then would be from less extreme conditions (North Island or coastal South Island) to less productive parts of Australia.

Morphometrics and productivity studies might eventually demonstrate a leapfrog pattern for the Double-banded Plover but even that is unlikely to unravel the route of the birds that frequent Norfolk Island. Only another intensive flagging and observation program can resolve the question.

Acknowledgements

Thanks to Trish White for copies of articles from the RAOU library.

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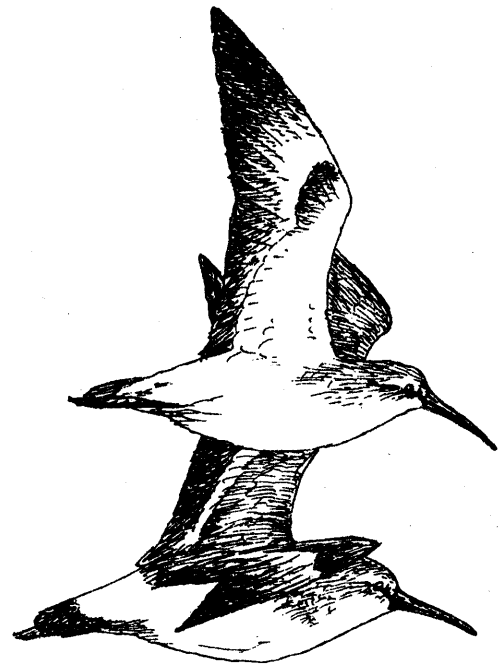
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ADDENDUM

Since this article was submitted two additional references have been published. HANZAB Volume 2 describes the species as a regular visitor to Norfolk and Lord Howe Islands; vagrant to Fiji, Vanuatu and New Caledonia.

Arja Kaitala, Veija Kaitala and Per Lundberg [A Theory of Partial Migration, *American Naturalist* 142: 59-81 (1993)] apply games theory to a species where only a fraction of the population undertakes a winter migration. They demonstrate that polymorphism in overwintering behaviour is an Evolutionary Stable Strategy (ESS) that can arise under density-dependent overwintering conditions for individuals that are phenotypically and genotypically equivalent. There is apparently no need, therefore, to invoke two distinct populations to explain the difference between those South Island birds which migrate and those which do not.



HOODED PLOVER *Thinornis rubricollis* ON CAPE BARREN ISLAND, TASMANIA

Euan Moore, PO Box 7238 St. Kilda Road, Melbourne Vic. 3004 Australia

Cape Barren Island is the third largest of the Bass Strait islands. It is situated immediately to the south of Flinders Island from which it is separated by the 5km wide Franklin Sound. To the south of Cape Barren Island are a number of smaller islands which provide some shelter to the southern coast of Cape Barren Island. Cape Barren Island has a small town at the western end of the Island but is otherwise almost completely uninhabited. The eastern and southern coasts are rarely visited by either locals or visitors to the Island.

In 1992 a comprehensive survey of Hooded Plover *Thinornis rubricollis* in Tasmania was carried out by Holdsworth and Park. Their survey included King Island at the western end of Bass Strait and Flinders Island in the east but did not include Cape Barren Island or the other smaller Bass Strait islands. (Holdsworth and Park 1993)

I visited Cape Barren Island and made the following counts of Hooded Plovers between 27 December 1993 and 2 January 1994. During this period all major sandy beaches on the eastern and southern coasts of the island were traversed. Stretches of the eastern and southern coastlines which were not visited were rocky rather than sandy and therefore unlikely to offer suitable habitat for this species. All observations were made while walking along the beaches and did not involve special stops for bird observations.

For most of the period when observations were made there were very strong winds from the south-east and west, often with wind blown sand, and periodic rain squalls. Temperatures were generally below 20°C.

A total of 24 Hooded Plovers was seen during the eight day period. All birds were in small groups of two to five individuals. No juvenile birds were recorded. The density of birds, less than half the average density for Tasmania as reported by Holdsworth and Park, appears very low. It is probable that a repeat survey undertaken in better weather conditions would locate additional groups of Hooded Plovers along the east and south coasts of the island.

Hooded Plover were not seen after the sighting due west of Crystal lagoon or on any of the beaches along the Armstrong Channel. The beaches from Kent Bay to Lascars Point were less exposed than the ocean beaches to the east where Hooded Plover had been sighted and had extensive seagrass beds which were exposed at low tide.

The beaches along the west and north coasts of the Islands were not visited on this trip. It is possible that some of the beaches along these coasts will have resident groups of Hooded Plovers.

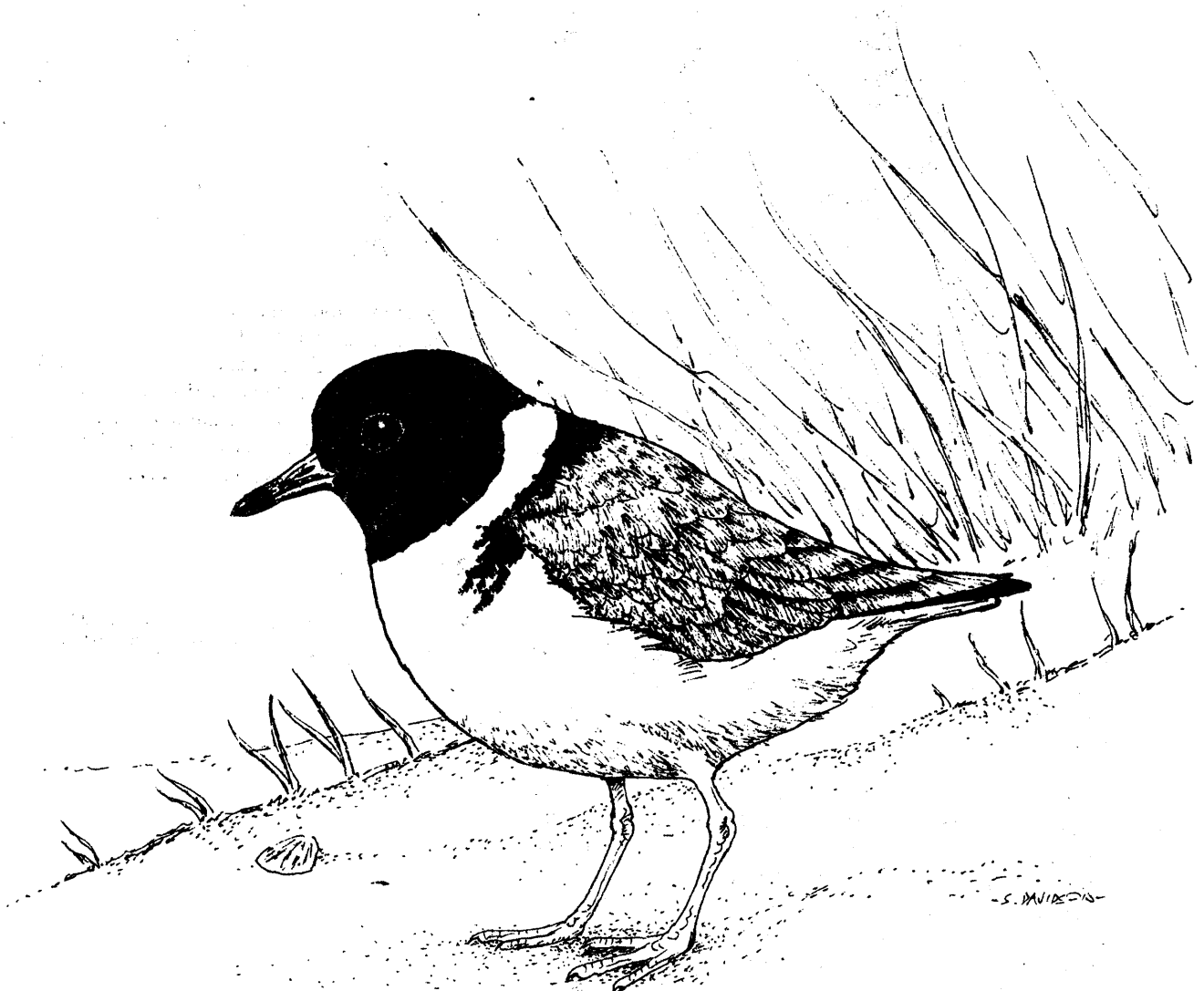
Beach ¹	No. of Birds	Comments
27-12-93 Tar Point to Thirsty Lagoon - length of beach²: 18km		
2km south of Tar Point	4	High tide, weather fine, light wind.
Major inlet west of Thirsty Lagoon	2	Mid tide, fine o/cast, light wind
Mouth of Thirsty Lagoon	4	Low tide, fine o/cast, moderate wind
28-12-93 Thirsty Lagoon to Christmas Beach - length of beach: 12km		
South end of Thirsty Lagoon	2	Tidal mudflats, weather fine, very strong wind
Thirsty Point	3	High tide. The beach was sheltered from the very strong south-easterly wind.
Christmas Beach	2	Low tide. A very wide flat beach. Weather overcast and light rain, very strong wind.
29-12-93 Christmas Beach to Crystal Lagoon - length of beach: 8km		
Crystal Lagoon	5	A large freshwater lagoon about 1.5km inland with a broad sandy beach. Weather fine with a strong wind. This was the only inland site where Hooded Plover were seen.
30-12-93 Crystal Lagoon to Nautilus Cove - length of beach: 12km		
Beach west of Crystal Lagoon	2	High tide, weather fine with moderate wind from south-east. This beach was sheltered from the full force of the wind.
31-12-93 Nautilus Cove to Battery Bay - length of beach. 2km		
No Hooded Plovers sighted		
01-01-94 Battery Bay to White Lagoon - length of beach: 5km		
No Hooded Plovers sighted.		
02-01-94 White Lagoon to Thunder and Lightning Bay³ - length of beach: 3km		
No Hooded Plovers sighted.		

Notes:

1. The locations mentioned in the above table are taken from the TASMALP 1:100 000 map 'Lady Barron'
2. The length of beach traversed was estimated from the TASMALP 'Lady Barron' map. The distances given do not include rocky coastline without significant stretches of sandy beach.
3. Does not include Dyas Bay east of Brearleys Beach

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A PRELIMINARY REPORT ON LONGEVITY RECORDS FOR WADERS IN AUSTRALIA

(Adapted from a note in Victorian Wader Study Group Bulletin 17, December 1993 by Clive Minton).

Jeff Campbell, 3/19 Sydney Street, Murrumbidgee, Vic. 3163

Listed below are details, supplied by the Australian Bird and Bat Banding Scheme (as of 27 November 1993), of the longest elapsed time between banding and recovery for all species of waders in Australia where the elapsed time was greater than four years.

Species	Elapsed Time		Bander	Banding loc.	Date
Pied Oystercatcher	12yrs	3mths	VWSG	Rhyll Vic	19.12.79
Sooty Oystercatcher	8yrs	5mths	VWSG	Phil. Isl.	04.01.80
Lesser Golden Plover	6yrs	2mths	Barden	Kooragang	21.12.84
Mongolian Plover	10yrs	10mths	Lane	Kooragang	31.01.75
Double-banded Plover	12yrs	4mths	VWSG	Altona	15.06.80
Red-capped Plover	6yrs	5mths	Smedley	Botany Bay	16.02.84
Red-necked Avocet	7yrs	3mths	VWSG	Werribee	28.11.81
Ruddy Turnstone	7yrs	8mths	AWSG	80 Mile B.	22.08.82
Grey-tailed Tattler	7yrs	9mths	Lane	Kooragang	12.11.77
Terek Sandpiper	14yrs	11mths	Lane	Kooragang	01.04.73
Bar-tailed Godwit	6yrs	7mths	AWSG	Broome	02.09.81
Red Knot	9yrs	4mths	Leishman	Kooragang	08.01.77
Great Knot	10yrs	0mths	AWSG	Broome	30.03.82
Sharp-tailed S/piper	5yrs	9mths	V.Gessel	Kooragang	29.01.77
Red-necked Stint	11yrs	1mths	VWSG	Inverloch	15.11.81
Curlew Sandpiper	10yrs	7mths	VWSG	Werribee	25.11.78

Many of these records will be markedly increased when AWSG and Victorian Wader Study Group (VWSG) recaptures in recent times are put through the computer analysis system (e.g. VWSG already have 14 year elapsed time records for Red-necked Stint and Curlew Sandpiper). Based on European experience it is probable that over the next few years longevity records, mainly from retraps, will increase for most species and exceed 12 years, with the largest waders (e.g. Pied Oystercatcher and Eastern Curlew) up to or exceeding 20 years.

It should be noted that these extremely long-lived individuals are not typical of the population as a whole. There is insufficient data as yet to calculate the average life expectancy of most species but it is likely to be in the order of three to six years.

It is also of interest to note that seven of the above 16 records (i.e. 43.5%) are from overseas recoveries. (In fact this figure is even higher when it is considered that five of these 16 species breed in Australasia and can therefore be discounted from these calculations.) As the overall overseas recovery rate (to the end of 1991) is 0.2% of banded birds (Barter & Rush 1992), this is a surprisingly high figure. With many more birds being caught for scientific purposes in Australia than in East Asia it would be expected that a much higher percentage of these long-lived individuals would be recaptured here. Why this is not so is at first puzzling.

It is only when one looks closer at the data that a clue to this conundrum reveals itself. Of these seven birds five were classified as dead with band removed, one as alive in captivity and just one as released alive with band. In other words the great majority were captured and killed. The apparent high recapture rate overseas is an excellent illustration of the high hunting rate of waders in East Asia.

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ASIAN SECTION



ASIAN WETLAND BUREAU ACTIVITIES

Compiled by Taej Mundkur, AWB

ACTION PLAN FOR MIGRATORY WADERS OF THE EAST ASIAN-AUSTRALASIAN FLYWAY

The waders (shorebirds) of the East Asian-Australasian Flyway breed in and migrate through several countries in East, Southeast Asia and Australasia. Following years of field surveys, research on the breeding biology and migration routes in several of these countries, it was decided to hold a workshop aimed towards production of a result oriented action plan for the conservation of shorebirds and their wetland habitats in the East Asian-Australasian Flyway.

At the kind invitation of Environment Agency of Japan, Kushiro City was selected as the venue of the workshop. It was also felt that a five day workshop on the conservation of waders and wetlands should be held during Autumn of 1994. Details of the programme are being worked out. The workshop will be held jointly by the Asian Wetland Bureau (AWB), Australian Nature Conservation Agency (ANCA), Environment Agency - Japan and Kushiro International Wetland Centre (KIWC).

The plan is to invite a limited number of representatives from countries in the flyway to the Workshop. For further details kindly contact the Asian Wetland Bureau.

ASIAN PARTICIPATION IN THE BROOME EXPEDITION

Two students of the Institute of Ornithology of Kyung Hee University in the Republic of Korea have received funding from the Australian Nature Conservation Agency (ANCA) through the Asian Wetland Bureau to participate in the Northwest Wader Expedition to Broome in Australia during March-April 1994. Both students are budding field ornithologists and part of a major study on the west coast of Korea identified to be a key wader migration staging area. It is expected that training received in Broome will provide the students with the basic knowledge to set up a banding programme in Korea where until now very few studies have been undertaken on migratory shorebirds.

WADER EXPEDITION TO BEIDAIHE, CHINA

A team of Biology students from the University of Newcastle-upon-Tyne, UK intend to undertake an expedition to northeastern China during the southward migration season in Autumn 1994. The work is aimed specifically to look at the importance of wetlands and in particular to assess the importance of these habitats as feeding stations for migrating shorebirds. Three sites have been selected for the study: Beidaihe Sandflats, Luan He Estuary and Happy Island. Beidaihe is already a well known site for a great range of birds and provides a great opportunity to record migration.

The project has three main aims:

- to quantify the occurrence of migratory shorebirds using the respective wetlands, including a number of Red Data Book Species potentially present, namely Spoon-billed Sandpiper *Eurynorhynchus pygmaeus*, Asian Dowitcher *Limnodromus semipalmatus*, Far Eastern Curlew *Numenius madagascariensis* and Nordmann's Greenshank *Tringa guttifer*.
- To complete habitat mapping of the areas to provide an insight into the quality of wetlands and their likelihood of potential development.
- To establish current and potential threats to shorebirds using these sites.

The expedition has support from the Beijing Commission of Science and Technology. It is hoped that the results of the study will provide additional information that would be useful to manage the site for birds and augment positive steps taken by the Chinese Government and local authorities.

SINGAPORE'S SUNGEI BULOH NATURE PARK INITIATE BIRD BANDING PROGRAMME

The Sungei Buloh Nature Park in Singapore was designated as a Bird Reserve and Nature Park by the Ministry of National Development, in 1989, and it was officially opened on 6 December 1993.

Sungei Buloh is located at the northwestern part of Singapore with a total area of 87 ha. Abandoned prawn ponds make up 40 ha of the Park, while the other 47 ha consists of mudflats (20 ha), mature mangrove (14 ha) and freshwater areas (13 ha). These areas attract many shorebirds, especially during the high tide. The birds feed on the mudflats inside the Park and outside along the north coast of the island.

Studies carried out in Singapore in the 1980s by INTER-WADER in collaboration with local organizations identified the importance of the island for several species of migratory shorebirds. Sungei Buloh thus serves as an important re-fuelling point for many species. These birds may stop-over for

a few days or longer before flying further south to escape the northern winter.

To find out more about the movement of these birds, a shorebird banding programme was initiated in October 1990. Initial work involved mist-netting efforts on consecutive nights (once or twice per migratory season) while recent sessions were done on a fortnightly basis. A volunteer network was established involving the Jurong Bird Park, National University of Singapore, Nature Society (Singapore), teachers and other nature enthusiasts. Volunteers are incorporated into the programme as part of our efforts to educate the public on conservation of wetlands for migratory species and ornithology. The Park uses standard metal bands issued by University of Malaya. Birds banded are also colour-dyed in some seasons, with picric acid or methylene blue.

During the current migratory season from September 1993 up till February 1994, 16 sessions of netting were carried out and a total of 262 birds of 19 species were caught and banded. Common Redshank was the most common species banded and formed about 50% of all our captures (See Table).

**Table: Birds banded at Sungei Buloh Nature Park
(September 1993 - February 1994)
(Numbers in parenthesis indicates recaptured birds)**

Species	Total
Grey Heron <i>Ardea cinerea</i>	1
Little Heron <i>Butorides striatus</i>	7
Yellow Bittern <i>Ixobrychus sinensis</i>	1
Cinnamon Bittern <i>Ixobrychus cinnamomeus</i>	1
Pacific Golden Plover <i>Pluvialis fulva</i>	40 (4)
Mongolian Plover <i>Charadrius mongolus</i>	25
Whimbrel <i>Numenius phaeopus</i>	11 (3)
Black-tailed Godwit <i>Limosa limosa</i>	1
Common Redshank <i>Tringa totanus</i>	127 (15)
Marsh Sandpiper <i>Tringa stagnatilis</i>	3
Terek Sandpiper <i>Tringa terek</i>	19
Common Sandpiper <i>Actitis hypoleucos</i>	4
Red-necked Stint <i>Calidris ruficollis</i>	1
Curlwing Sandpiper <i>Calidris ferruginea</i>	13
Green-winged Pigeon <i>Chalcophaps indica</i>	1
Stork-billed Kingfisher <i>Halcyon capensis</i>	1
Collared Kingfisher <i>Halcyon chloris</i>	3
Blue-tailed Bee-eater <i>Merops viridis</i>	2
Great Reed-warbler* <i>Acrocephalus arundinaceus</i>	1
Total	262 (22)

*Banded with plastic colour band

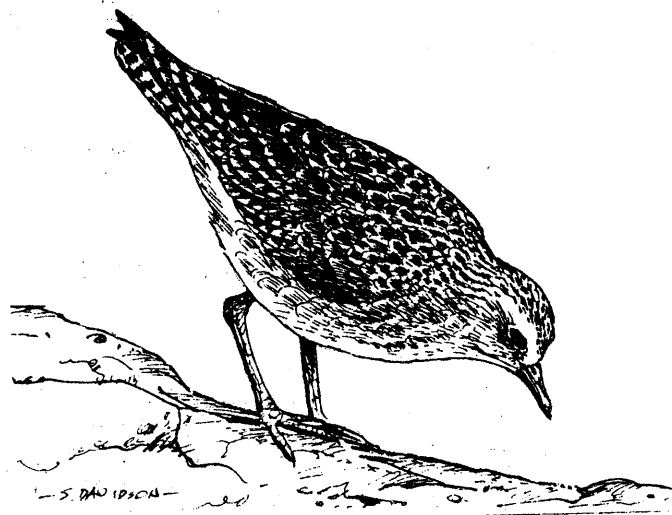
There was a total of 22 controls (recaptured birds), which accounts for 8% of captures. The longest interval between controls was of a Common Redshank that was retrapped in October 1993 and was banded by Interwader at Senoko (Singapore) on 12 September 1983. Twelve controls were from this season's banding work while the others were from our previous catches as showed below:

two from September 1992 to April 1993 season
four from September 1991 to April 1992 season
three from September 1990 to April 1991 season

All birds caught this season were dyed yellow with picric acid. Different parts of the birds were dyed each time. This has helped to indicate (in field sightings) the approximate amount of time a bird spends in Sungei Buloh.

Four more catches will be conducted before the end of the northward migration season.

Ms Joyce Chin
Bird Ringing Coordinator



A PRELIMINARY REPORT ON RESEARCH ON THE GREAT KNOT *Calidris tenuirostris* ON THE BREEDING GROUNDS.

Dr Pavel S. Tomkovich
Curator of Birds, Department of Ornithology
Zoological Museum, Moscow State University

Introduction

Reproduced below is the edited report of Pavel Tomkovich on his exploratory work to determine whether or not it is possible to successfully study breeding Great Knots. This preliminary study was funded by the Australian Nature Conservation Agency (ANCA) and its success has led to further ANCA funding to cover the second year of the proposed three year study.

Project participants

Pavel S. Tomkovich and Dmitry A. Shitikov (Assistant), graduate student of the Zoology Department, Moscow Pedagogical University.

Study area

The study was conducted in north-eastern Siberia on the spur of the Shchuchy Mountain Range in the vicinity of the Anadyr River.

The range reaches heights of 800m above sea level in the accessible regions.

Base Camp

The base camp used for the study was situated on the upper reaches of the Anadyr River near the confluence of the Balaganchik River, some 120 km from the nearest settlement of Markovo (64° 40'N 170° 25'E).

Logistics

It was only possible to reach the base camp from Markovo by motor boat after the river was free from ice. Our expedition lasted from 31 May to 7 August 1993 and field studies were carried out between 11 June and 31 July.

All studies were conducted during regular excursions on foot from the base camp. On two occasions in July three day journeys were made to sites some 15 km from the base camp.

Habitats and distribution

Great Knot inhabit montane lichen tundra with mosses, dwarf shrubs, stones with occasional scattered oppressed *Larix dahurica* and dwarf *Pinus pumila* trees. Suitable breeding sites were available in the study area at altitudes of c.600 to 750 m asl. When feeding, breeding birds descend to c.500 m asl. As a result of these requirements the distribution of Great Knots in the study area was patchy; two to six breeding pairs occupying several mountain tops or plateaux at a distance of one to four km apart.

Breeding density

It was only possible to estimate breeding density whilst adult birds were brooding as they then revealed themselves when alarm calling. The explored mountainous area of about 70 km² (between the Anadyr River and Beryozovy Stream), containing suitable habitat of c.9.5 km², was occupied by 13 pairs of Great Knot. Three pairs occupying a plateau of approximately 1 km² at a distance of 3 to 4.5 km from base camp were under regular observation.

Phenology

All pairs with the exception of one late-breeding pair were already incubating at the beginning of our study in the second 10 day period of June. The first brood of chicks found, when three or four days of age, was located on 27 June. If it is assumed that the incubation period of this species is the same as that of the Red Knot *Calidris canutus*, i.e. 21 days, then egg-laying must have begun on about 30 May to 1 June which is unexpectedly early.

The last brood hatched on about 12 July. Measurements of chicks of the 13 broods found will make it possible to calculate hatching dates of this population on the basis of growth rates of chicks of known age. The departure of adult females (only males are known to attend nests with chicks), began in late June, after hatching. Adults without chicks were rarely seen after the first week of July. Fledging of young took place at 20-21 days. Adult males accompany the young in the breeding area for at least several days after fledging (up to a maximum age of 30 days) and begin migration either separately or together with the young. The dispersal of the majority of successful breeders took place from 22 to 29 July. Only one single young bird remained in the study area after this later date.

Banding and colour-marking

Thirteen adults and 29 downy young of 14 broods were banded with standard metal "MOSKWA" bands on the tarsus. Each adult and several of the older young birds were also given unique combinations of two-colour "Darvic" leg-flags (white and red). Other chicks were fitted with temporary soft plastic pendants, attached to the metal band. These pendants were also of unique colour combinations (green, blue, red, orange, yellow), making it possible to recognize fledged young birds from different broods. Most adults caught were with chicks and therefore presumed to be males. On one nest both male and female adults were caught and marked. An additional adult, presumably an unattached wandering bird, was caught near an occupied nest. All birds caught were weighed and measured, adults for the purpose of gender population comparisons and downy young for calculation of growth rate and age.

Breeding success

Insufficient data were gathered to estimate the breeding success of the Great Knot however indirect evidence (the number of nests expected from numbers of birds recorded in mid June and from the number of broods in July) shows that the majority of nests resulted in hatched chicks. At fledging and/or later the young keep together and can be fairly easily seen and, therefore, with the aid of colour-marking, the fate of many broods in the study area could be determined. In contrast, the destiny of one particular brood, which disappeared completely was unknown. At the time of hatching, or a few days later, eight broods consisted of 1 to 4 chicks, with an average of 2.5. On 28 July, towards the end of the departure period, a band from a freshly killed young Great Knot was found in the nest of a Peregrine Falcon *Falco peregrinus*. In total, 1993 could be considered to be a successful breeding year for Great Knot.

Other activities

- a) Many Great Knot and other waders (mainly Terek Sandpiper *Tringa terek*) were checked for colour leg-flags or bands but none were located.
- b) A total of 262 birds of 27 species, mainly passerines, were banded. Among these were 42 Great Knot and 36 other waders of eight species. In particular we banded three Pacific Golden Plover *Pluvialis fulva*, two Eurasian Dotterel *Eudromias morinellus*, eight Ringed Plover *Charadrius hiaticula*, one Wood Sandpiper *Tringa glareola*, two Common Sandpiper *Actitis hypoleucos*, 14 Terek Sandpiper, four Temminck's Stint *Calidris temminckii* and two Solitary Snipe *Gallinago solitaria*. Most of these waders were also fitted with red and white "Darvic" leg-flags or colour pendants.
- c) A total of 74 species was recorded in the upper Anadyr River region (an area where the bird fauna is extremely poorly known) and for 40 species breeding activities were observed. Records of several species extended their known range in a north-easterly direction, viz. Solitary Snipe, Great Spotted Woodpecker *Dendrocopos major*, Black Woodpecker *Dryocopus martius*, Bohemian Waxwing *Bombycilla garrulus*, Stonechat *Saxicola torquata*, Water Pipit *Anthus spinoletta*, Olive-backed Pipit *A. hodgsoni* and Brambling *Fringilla montifringilla*. In the case of Solitary Snipe chicks were found from three broods. These are the first ever documented breeding records for the eastern race *japonica*.
- d) A paper/s on the breeding distribution and migrations of Great Knot in Russia, based on Russian literature, museum specimens and personal information from ornithologists is under preparation and will be submitted for publication.
- e) The results of this study will be detailed in technical papers and presented to appropriate ornithological meetings and seminars. Publication of information in newsletters and magazines is also planned. A note on the breeding records of *Gallinago solitaria* is being prepared for "Information on the Working Group on Waders of the CIS".

Further plans for studies

It is hoped that it will be possible to continue this valuable study for another two breeding seasons. It is presumed that at least the male Great Knots will be site faithful. However, no data exists to prove this. If this assumption is correct, then the birds individually colourmarked during this study will be able to be identified in the study area upon their return in the spring and in subsequent breeding seasons. This will not only make it possible to estimate the return (and survival?) rate of males but also to trace local movements of birds during the pre-breeding and incubation periods. Only early spring observations of colour-marked birds will make it possible to definitely identify the sex of birds and, therefore, prove or disprove the male only attendance of broods hypothesis.

More data on the breeding biology of the species, including the incubation period and dates of breeding events, are desirable. Data on annual variation in breeding phenology, density and breeding success are also of great interest and importance. There is no information available on the territoriality, feeding and sexual behaviour of the species and studies of these activities will also be facilitated by having colour-marked birds available.

As is obvious from the above, studies in the pre-breeding period are at present the most limited and investigation of the life cycle of the Great Knot during this stage is needed to complete our knowledge of the species. For this reason it will be necessary to begin further field studies on about 20 May next year (1994). At this time of the year it will be obligatory to use a helicopter to travel to the base camp as the rivers are impassible by boat.



AN EVALUATION OF THE HABITAT SUITABILITY INDEX MODEL AS APPLIED TO THE BRONZE-WINGED JACANA *Metopidius indicus* IN ASSAM, INDIA.

Rathin Barman and P.C. Bhattacharjee, Animal Ecology and Wildlife Biology Laboratory, Department of Zoology, Gauhati University, Guwahati 781014, Assam, India.

Introduction

Comparative studies of habitat quality for resident bird species have received little attention from the conservation point of view in India. Often a superficial examination of a species in a wetland may show it to be abundant, however this may not be a reliable indicator of its future viability in that habitat. The evaluation of habitat is an important ecological process and may be carried out on the basis of the Habitat Suitability Index (HSI). This process may then be used to identify sites where the production of a management plan is worthwhile. For the purposes of this study the Bronze-winged Jacana *Metopidius indicus* was chosen as it is representative of a large group of resident birds inhabiting wetlands in the Assam area. The study was undertaken on an experimental basis to assess the feasibility of the method in the region.

Study Sites

A total of five wetlands were selected as study sites, all were located in the Gauhati University Campus (26°11'N, 91°47'E). The total area of Wetland I was 4.42 hectares, Wetland II 2.62 ha, Wetland III 1.74 ha, Wetland IV 0.62 ha and Wetland V 0.59 ha.

Methods

McCuen & Whitaker (1975) ranked wildlife habitat by carrying out an inventory of the major components, giving each a value and weighting the relative importances to each wildlife group. An index value for each wetland component found within the home range of the species is then proportioned according to other elements of the wetland. The overall value of the wetland (Habitat Suitability Index) is derived by totalling all the proportioned values (Allen 1985).

In order to carry out the study it was necessary to:

- record the diurnal population of each wetland for the entire study period;
- estimate vegetation coverage by simple observation;
- identify food sources by field observation and reference to the literature (Ali & Ripley 1974);
- compile an edge index by a standard method (U.S Fish & Wildlife Service n.d.);
- record water quality from field observation and study of past records;
- measure water depth and vegetation height.

The study was undertaken in the period of September to December 1992.

Results

Populations:

Numbers of *M.indicus* were highest in Wetland I and lowest in Wetland V. (Table 1).

Wetland	I	II	III	IV	V
Average Population	17.7	11.2	6.3	2.9	0.1

Table 1. Average population of *M.indicus* at each wetland.

From these population figures evaluated indices are given to each wetland (Table 2.).

Wetland	I	II	III	IV	V
Suitability Index	1	0.7	0.5	0.3	0.01

Table 2. Evaluated indices for each wetland.

Vegetation coverage:

The amount of vegetation coverage graded from high on Wetland I to low on Wetland V. (Fig.1). *M.indicus* has a preference for a cover of *Hymanachanae* and *Eichornia* species. Nesting is only undertaken when the vegetation coverage exceeds 60%.

Figure 1. Vegetation and water coverage percentage.

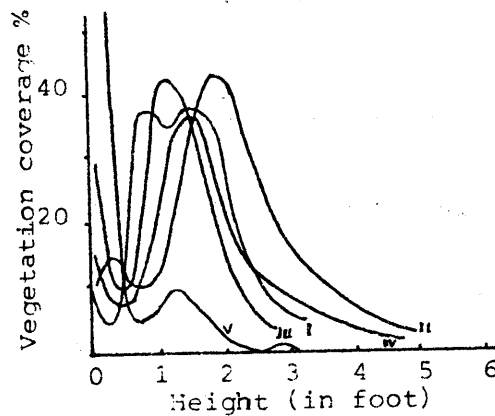
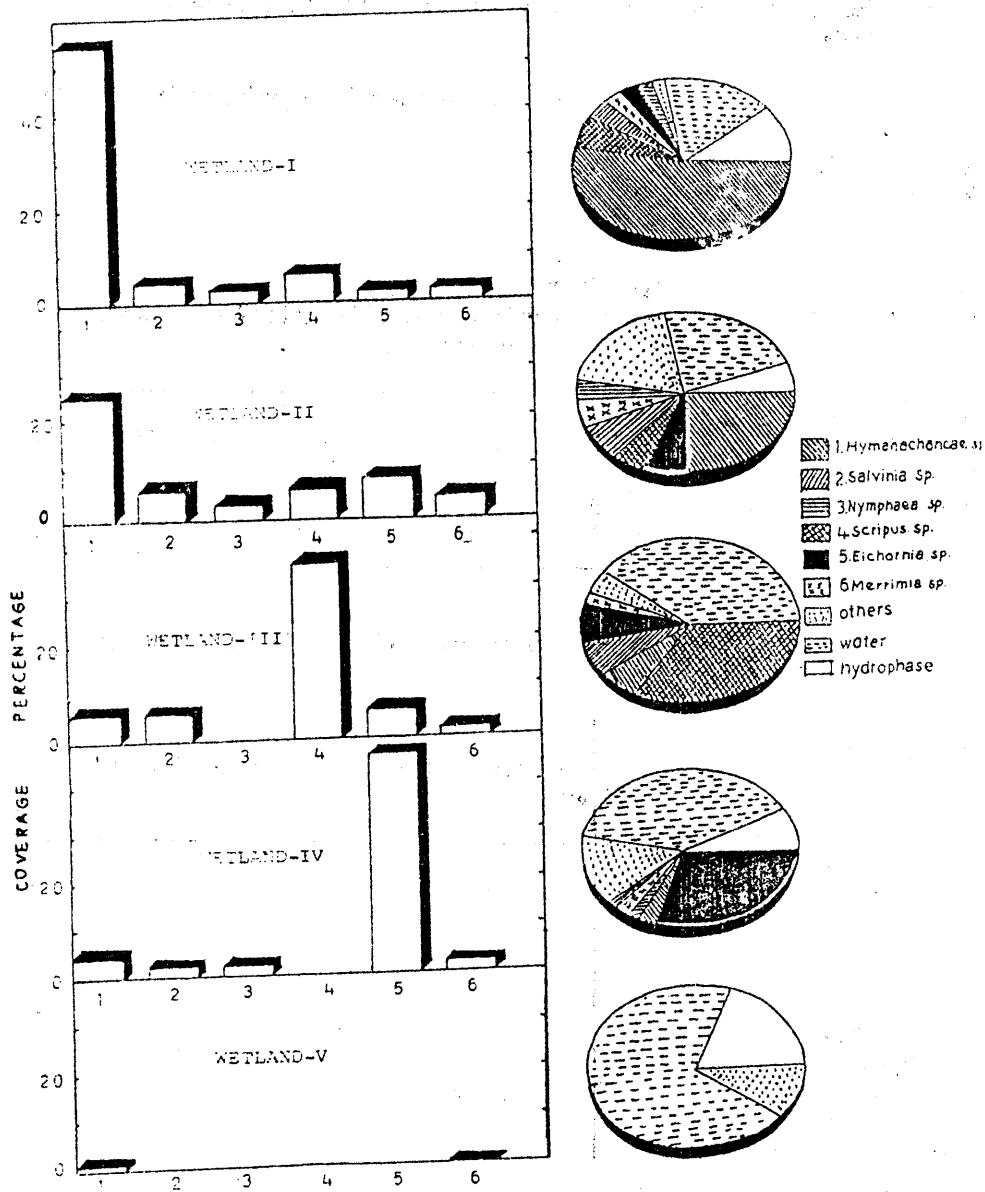


Figure 2. Vegetation coverage percentage and vegetation height of each wetland.

Relationship between Vegetation Coverage and Vegetation Height:

M.indicus prefer a vegetation height of between 0.5 and 3.5 feet (150 mm and 1 m) under which they can remain camouflaged and nest.

Food sources:

The following food items were identified:

- 1) Roots and flowers of Hymanachancae species (family Poacea).
- 2) Chara (family Ceratophyllum).
- 3) roots of *Salvinia cuculata* (family Salviniaceae).

The most preferred food items were the roots and flowers of Hymanachancae species. Mollusca (*Lemnae* and *Planorbis* species) and colepterans (*Casside circumdata*) have also been identified as food taken by *M.indicus* (Vijayan 1986). In the non-breeding season 75% of food taken is vegetable matter however animal matter is preferred in the breeding season (June to September) (Ali & Vijayan 1986).

Vegetation type preference:

The preferred vegetation types of *M.indicus* are those which provide both food and suitable cover (Table 3, Figure 3).

Vegetation	Type	Suitability index (SIV1)
Hymanachancae	1	1.0
Salvinia	2	0.8
Nymphaea	3	0.6
Scripus	4	0.4
Eichornia	5	0.2
Merrimea	6	0.0

Table 3. Suitability index of vegetation types.

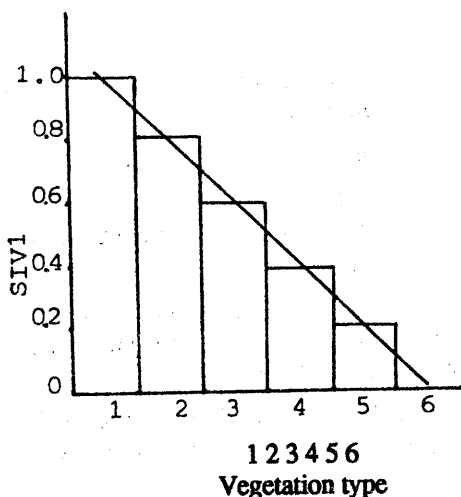


Figure 3. Suitability index of each vegetation type.

Edge index:

The edges of all vegetation types are the most used for feeding, loafing, resting, calling and nesting by *M.indicus*. An edge index for each wetland was tabulated (Table 4) and the relationship between suitability and edge indices plotted (Figure 4).

S1 No.	Wetland	Area (A) (Hectare)	Edge (L) mts.	Edge Index DI	Suitability Index (SIV2)
1	1	4.42	878.2	0.3594204	1.0
2	2	2.26	605	0.3388937	0.7
3	3	1.74	298.49	0.2502763	0.5
4	4	0.28	384	0.490	0.3
5	5	0.59	278.48	0.007001	0.0

Table 4. Edge indices

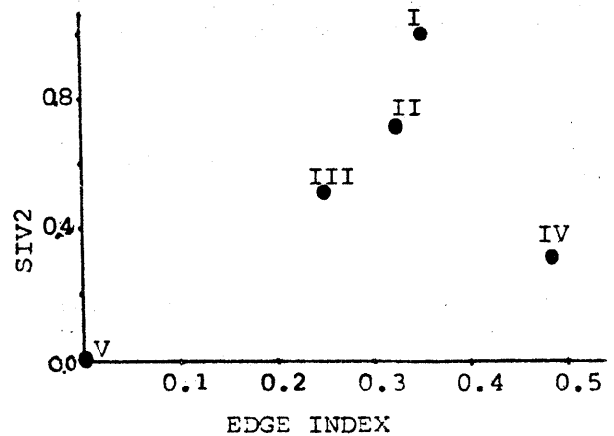


Figure 4. Relationship between suitability (SIV2) and edge indices.

From the above figure it can be seen that the suitability index of each wetland increases in sequence with the increase in edge indices (DI) except in Wetland IV which is highly disturbed.

Water:

Water is also a major variable which determines habitat quality. The water quality was found to be most suitable for *M.indicus* in Wetland I (Table 5, Figure 5).

Wetland	Indices Given (SIV3)
I	1.0
II	0.75
III	0.50
IV	0.25
V	0.0

Table 5. Water suitability of each wetland.

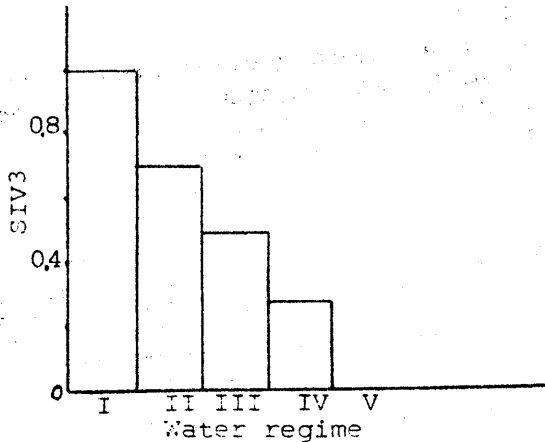


Figure 5. Suitability index (SIV3) of each wetland.

Habitat Suitability Index (HSI):

M.indicus is a resident species which utilises the same habitat for feeding and nesting. Therefore habitat suitability is mostly dependent upon food availability and nesting requirements being available within the habitat. In this study it was found that SIV1, SIV2 and SIV3 (see Tables 3,4 & 5) were the main variables effecting suitability of habitat for the species.

For Wetland I the SIV2 value is 1.0 (Table 4) as is SIV3 (Table 5). For each vegetation type the SIV1 value (Table 3) is as follows:

For Hymanchacae sp.	HSI =	(1 x 1) 1/2 x 1 =	1.0
Salvinia sp.		(0.8x1) 1/2 x 1 =	0.89
Nymphaea sp.		(0.6x1) 1/2 x 1 =	0.77
Scripus sp.		(0.4x1) 1/2 x 1 =	0.63
Eichornia sp.		(0.2x1) 1/2 x 1 =	0.44
Merrimia sp.		(0.0x1) 1/2 x 1 =	0.00
			3.73

Therefore the HSI for Wetland I is $3.73/6 = 0.62$. The same formula is used to arrive at a HSI value for each wetland. The results are presented in Table 6.

Wetland	I	II	III	IV	V
HSI	0.62	0.40	0.22	0.09	0.00

Table 6. HSI values for each wetland.

In practice 100 per cent suitability of habitat for a species (HSI=1.0) would never be expected. Because of this it is necessary to allocate a rank to each wetland according to its suitability (Table 7).

Wetland	HSI	Rank
I	0.62	BEST (HSI = 1 to 0.60)
II	0.40	GOOD (HSI = 0.59 to 0.40)
III	0.22	BAD (HSI = 0.39 to 0.20)
IV	0.09	NOT SUITABLE (HSI = 0.19 to 0.00)
V	0.00	NOT SUITABLE

Table 7. Rank of Wetlands I to V.

Discussion

For the purposes of conservation an understanding of the limiting factors of a species habitat is a basic need for the planning of habitat management. In addition a complete insight into the processes of habitat formation would be most desirable.

In the wetlands under study numbers of Bronze-winged Jacanas are quite high (Table 1), demonstrating the suitability of the habitat for the species.

Vegetation species, edge index and water quality are the variables which determine the suitability of habitat for *M.indicus*. Allen (1985) considered that non-migratory species of waterbird depend upon the degree of interspersion of essential habitat types as this factor determines the available edge area. *M.indicus* always prefer Hymanachacae sp. for food and cover however when nesting the most favoured sites contain Nymphaea vegetation surrounded by Hymanachacae sp. This later vegetation type provides the euophagic food habitat and its proximity minimises energy expenditure. The precise mixing of cover types determines the optimum suitability of the habitat.

Habitat changes which can be expected along with the change of seasons or because of abiotic factors are within the purview of a species habitat requirements. However a species may move to a more suitable wetland in order to obtain the maximum advantage from that habitat.

This model could assist in defining the management processes that may be required in either modifying or conserving habitat for the maximum benefit of a species such as *M.indicus*.

References

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McCuen, R.H. & G.A. Whitaker. 1975. A method for assessing the quality of wildlife habitat. Technical Report. University of Maryland, Maryland.

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BANDING ROUND-UP

Compiled by E. Belinda Dettmann, Australian Bird and Bat Banding Schemes, Australian National Parks and Wildlife Service, GPO Box 8, Canberra, ACT 2601.

The following is a selected list of recoveries found after the last date reported in *Stilt* 22 and up to 28 February 1994. Permission must be sought from the banders and clearance given by the ABBBS before using these data in publications.

Layout Of Data:

Line 1 - band number; banding place; co-ordinates; date of banding; age; sex; bander
 Line 2 - recovery method; recovery status; recovery place; co-ordinates; recovery date; age; sex; finder
 Line 3 - distance and direction between banding and recovery places; time elapsed between banding and recovery

Symbols Used:

Age code:

U = unknown;
 P = nestling;
 J = juvenile;
 1 = within the first year of life;
 +1 = within the first year or older;
 2 = within the second year;
 +2 = within the second year or older; etc

Sex

U = unknown;
 M = male;
 F = female.

Method of encounter:

01 = probably trapped;
 02 = trapped but device is unknown to the banding office;
 03 = trapped in a mist net;
 04 = trapped with a cage trap;
 05 = trapped with a cannon net;
 25 = bird sick or injured;
 31 = collided with a moving road vehicle;
 40 = band found on a bird, no further data on how encountered;
 41 = band returned, not reported if on a bird;
 46 = colour marking sighted in field, bird one of a cohort marked in this manner;
 48 = colour marking sighted in field;
 54 = beachwashed;
 61 = shot - reason unknown;
 63 = taken for scientific study;
 67 = taken for food or feathers;
 68 = shot for food or sport;
 99 - found dead, cause unknown.

Status after encounter:

00 = status of bird and band is unknown;
 01 = status of bird unknown, band left on bird;
 02 = status of bird is unknown and the band was left on the bird;
 03 = bird is dead, status of band is unknown;
 04 = bird is dead, band left on bird;
 05 = bird is dead, band removed from bird;
 09 = rehabilitation attempted but bird died, band status unknown;
 13 = bird released alive with band;
 14 = bird released alive, band removed;
 26 = bird was alive in the wild with the band;
 29 = bird partially decomposed, band removed.

The Stilt No. 24

130 Pied Oystercatcher

Haematopus longirostris

100-96915 11, RHYLL PHILLIP ISLAND VIC
48 26 X6, SHIPWRECK POINT PERKINS ISLAND TAS
Distance: 268 km Direction: 185 degs.

38d21m S 145d19mE 900722 1 U VICTORIAN WADER STUDY GROUP
40d45m S 145d2m E 930404 U U LORD
Time elapsed: 2 yrs 8 mths 13 days

101-05556 11, RHYLL PHILLIP ISLAND VIC
48 26 1F, NR NU.2 ROCK UN BCH AT DANUNDA NAT PA
Distance: 440 km Direction: 276 degs.

38d21m S 145d19mE 920614 +3 U VICTORIAN WADER STUDY GROUP
37d50m S 140d20mE 930974 U U HEYNE
Time elapsed: 1 yrs 3 mths 10 days

140 Double-banded Plover

Charadrius bicinctus

NC5-0580 40, AHURIRI RIVER NEW ZEALAND
48 26 5F, CUDGERA CREEK MOUTH HASTINGS POINTNSW
Distance: 2305 km Direction: 315 degs.

44d28m S 169d59mE 921115 +1 F NEW ZEALAND BANDING SCHEME
28d23m S 153d33mE 930418 U U KARR
Time elapsed: 0 yrs 5 mths 3 days

NC5-0612 39, TEKAPO RIVER, SOUTH ISLAND NZ
48 13 4F, HASTINGS POINTNSW
Distance: 2307 km Direction: 315 degs.

44d20m S 170d12mE 921103 +1 F NEW ZEALAND BANDING SCHEME
28d22m S 153d35mE 930421 +1 U KLEIBER
Time elapsed: 0 yrs 5 mths 18 days

NC5-0612 39, TEKAPO RIVER, SOUTH ISLAND NZ
48 13 4F, HASTINGS POINTNSW
Distance: 2307 km Direction: 315 degs.

44d20m S 170d12mE 921103 +1 F NEW ZEALAND BANDING SCHEME
28d22m S 153d35mE 930720 +1 U KLEIBER
Time elapsed: 0 yrs 8 mths 17 days

041-18172 04, SWAN ISLAND QUEENSLAND VIC
13 13 39, TEKAPO RIVER, SOUTH ISLAND NZ
Distance: 2227 km Direction: 116 degs.

38d15m S 144d40mE 860720 1 F VICTORIAN WADER STUDY GROUP
44d20m S 170d12mE 931218 U U NEW ZEALAND BANDING SCHEME
Time elapsed: 7 yrs 4 mths 18 days

041-51476 05, YALLIUCK CREEK NEAR KUIWEEERUP VIC
13 13 41, OHAU RIVER NEW ZEALAND
Distance: 2164 km Direction: 116 degs.

38d13m S 145d28mE 870819 +2 M VICTORIAN WADER STUDY GROUP
44d20m S 170d11mE 931106 U U NEW ZEALAND BANDING SCHEME
Time elapsed: 6 yrs 2 mths 28 days

179 Ruddy Turnstone

Arenaria interpres

039-9806 34, MIRANDA FIRTH OF THAMES NEW ZEALAND
05 13 5H, ST HELENA ISLAND MUREI UN BAY WLD
Distance: 2336 km Direction: 291 degs.

37d10m S 175d19mE 911028 +1 U NEW ZEALAND BANDING SCHEME
27d23m S 153d13mE 930919 +4 U WILD WADER STUDY GROUP
Time elapsed: 1 yrs 10 mths 22 days

153 Bar-tailed Godwit

Limosa lapponica

071-85042 01, BEACHES CRAB CK RD ROEBUCK BAY BRO
99 05 33, MAGADAN REGION, VILLAGE BILIBINDO, RUS
Distance: 10201 k Direction: 15 degs.

18d0m S 122d22mE 880326 1 U AUSTRALASIAN WADER STUDY GROUP
68d3m N 166d20mE 930705 U U RUSSIAN BANDING SCHEME
Time elapsed: 5 yrs 3 mths 9 days

072-32360	01, BEACHES CRAB CK RD ROEBUCK BAY BRO	18d0m S 122d22mE 921012	+3	U AUSTRALASIAN WADER STUDY GROUP
01 13	08, CHONGMING ISLAND SHANGHAI CHINA	31d28m N 121d27mE 930415	U	U XIAO
Distance: 5500 km		Direction: 359 degs.	Time elapsed: 0 yrs 6 mnths 3 days	
U94-94808	09, 41 MILES SW OF PILOT STATION ALASKA	61d30m N 163d50mW 920725	P	U BIRD BANDING LABORATORY (USA)
05 13	01, STH-EAST MORETON ISLAND SAND BAROLD	27d20m S 153d26mE 930724	1	U OLD WADER STUDY GROUP
Distance: 10593 k		Direction: 217 degs.	Time elapsed: 0 yrs 11 mnths 29 days	

164 Red Knot

Calidris canutus

051-15420	04, SWAN ISLAND QUEENSLIFFVIC	38d15m S 144d40mE 870221	+2	U VICTORIAN WADER STUDY GROUP
05 13	2F, SOUTH EAST KAIPARA HARBOUR NEW ZEALAN	36d34m S 174d26mE 930307	+1	U ZEALAND WADER STUDY GROUP
Distance: 2624 km		Direction: 95 degs.	Time elapsed: 6 yrs 0 mnths 14 days	
051-31296	01, BISHOP IS MOUTH OF BRISBANE RIVEROLD	27d21m S 153d10mE 901021	+2	U DRISCOLL
05 13	2F, SOUTH EAST KAIPARA HARBOUR NEW ZEALAN	36d34m S 174d26mE 930307	+1	U ZEALAND WADER STUDY GROUP
Distance: 2245 km		Direction: 122 degs.	Time elapsed: 2 yrs 4 mnths 14 days	
051-56717	01, MOUTH OF BRISBANE RIVEROLD	27d22m S 153d10mE 901021	U	U THOMPSON
05 13	2F, SOUTH EAST KAIPARA HARBOUR NEW ZEALAN	36d34m S 174d26mE 930307	+1	U ZEALAND WADER STUDY GROUP
Distance: 2244 km		Direction: 122 degs.	Time elapsed: 2 yrs 4 mnths 14 days	
051-59681	08, STOCKYARD PT, LANG LANG, WESTERNPORTV	38d22m S 145d32mE 920704	1	U VICTORIAN WADER STUDY GROUP
05 13	34, MIRANDA FIRTH OF THAMES NEW ZEALAND	37d10m S 175d19mE 931218	U	U ZEALAND WADER STUDY GROUP
Distance: 2609 km		Direction: 96 degs.	Time elapsed: 1 yrs 5 mnths 14 days	
NE3-1444	14, JURDANS F SE KAIPARA HARBOUR NEW ZEAL	36d34m S 174d26mE 890223	+1	U NEW ZEALAND BANDING SCHEME
05 13	01, DUX CREEK, BRIBIE ISLANDOLD	27d3m S 153d8m E 931017	+1	U OLD WADER STUDY GROUP
Distance: 2266 km		Direction: 792 degs.	Time elapsed: 4 yrs 7 mnths 24 days	
NE4-5552	34, MIRANDA FIRTH OF THAMES NEW ZEALAND	37d10m S 175d19mE 901103	+1	U NEW ZEALAND BANDING SCHEME
05 13	01, MOUTH OF BRISBANE RIVEROLD	27d20m S 153d26m E 930914	+4	U OLD WADER STUDY GROUP
Distance: 2351 km		Direction: 291 degs.	Time elapsed: 2 yrs 10 mnths 1 days	

161 Curlew Sandpiper

Calidris ferruginea

041-46835	01, WERRIBEE SEWERAGE FARM (SPIT, PT WILS	38d5m S 144d31mE 881204	1	U VICTORIAN WADER STUDY GROUP
21 05	2F, NTH BCH UJUNG WATU VILLAGE JAVA IS IN	6d30m S 111d5m E 930912	U	U YUDI /KOKO
Distance: 4863 km		Direction: 308 degs.	Time elapsed: 4 yrs 9 mnths 8 days	
041-64416	01, BEACHES CRAB CK RD ROEBUCK BAY BRO	18d0m S 122d22mE 921002	+3	U AUSTRALASIAN WADER STUDY GROUP
05 13	03, MAI PO MARSHES HONG KONG	22d29m N 114d2m E 930504	U	U MELVILLE
Distance: 4591 km		Direction: 348 degs.	Time elapsed: 0 yrs 7 mnths 2 days	
041-64497	01, BEACHES CRAB CK RD ROEBUCK BAY BRO	18d0m S 122d22mE 921002	+3	U AUSTRALASIAN WADER STUDY GROUP
67 05	03, SALTPANS OF TANGGU TIANJIN CITY CHINA	39d0m N 117d36mE 930500	U	U BIRD BANDING CENTRE OF CHINA
Distance: 6356 km		Direction: 356 degs.	Time elapsed: -96 yrs 0 mnths 0 days	

041-65504 01, MOUTH OF BRISBANE RIVER QLD 27d22m S 153d10mE 901021 +1 U THOMPSON
 67 05 03, SALTPANS OF TANGGU TIANJIN CITY CHINA 39d0m N 117d36mE 930500 U U BIRD BANDING CENTRE OF CHINA
 Distance: 8250 km Direction: 332 degs. Time elapsed: -96 yrs 0 mths 0 days

041-68328 05, YALLOCK CREEK NEAR KOOWEERUP VIC 38d13m S 145d28mE 930102 +2 U VICTORIAN WADER STUDY GROUP
 67 05 03, SALTPANS OF TANGGU TIANJIN CITY CHINA 39d0m N 117d36mE 930500 U U BIRD BANDING CENTRE OF CHINA
 Distance: 8809 km Direction: 339 degs. Time elapsed: 0 yrs 4 mths 19 days

MM2-0135 02, PSU CAMPUS PATIANGI SOUTH THAILAND 6d52m N 101d16mE 880828 J U OF MALAYA RINGING PROJECT
 05 13 16, THE GURDIES WESTERNPORT BAY VIC 38d22m S 145d33mE 940102 +2 U VICTORIAN WADER STUDY GROUP
 Distance: 6794 km Direction: 141 degs. Time elapsed: 5 yrs 4 mths 5 days

162 Red-necked Stint *Calidris ruficollis*

033-70391 03, INVERLOCH (ANDERSONS INLET & PT. SMYT) 38d37m S 145d45mE 890506 1 U VICTORIAN WADER STUDY GROUP
 67 05 03, SALTPANS OF TANGGU TIANJIN CITY CHINA 39d0m N 117d36mE 930500 U U BIRD BANDING CENTRE OF CHINA
 Distance: 9093 km Direction: 338 degs. Time elapsed: -96 yrs 0 mths 0 days

034-56206 22, NORTH WEST CORNER SWAN BAY QUEENSLAND 38d13m S 144d39mE 930117 +2 U VICTORIAN WADER STUDY GROUP
 67 05 03, SALTPANS OF TANGGU TIANJIN CITY CHINA 39d0m N 117d36mE 930500 U U BIRD BANDING CENTRE OF CHINA
 Distance: 9017 km Direction: 339 degs. Time elapsed: -96 yrs 0 mths 0 days

166 Sanderling *Calidris alba*

041-60451 23, KILLARNEY BEACH VIC 38d21m S 142d20mE 910302 +2 U VICTORIAN WADER STUDY GROUP
 05 13 51, CANUNDA NATIONAL PARK SA 37d37m S 140d11mE 931128 +2 U VICTORIAN WADER STUDY GROUP
 Distance: 205 km Direction: 293 degs. Time elapsed: 2 yrs 8 mths 26 days

041-60457 23, KILLARNEY BEACH VIC 38d21m S 142d20mE 910302 +2 U VICTORIAN WADER STUDY GROUP
 05 13 51, CANUNDA NATIONAL PARK SA 37d37m S 140d11mE 931128 +2 U VICTORIAN WADER STUDY GROUP
 Distance: 205 km Direction: 293 degs. Time elapsed: 2 yrs 8 mths 26 days

041-60472 23, KILLARNEY BEACH VIC 38d21m S 142d20mE 910302 +2 U VICTORIAN WADER STUDY GROUP
 05 13 51, CANUNDA NATIONAL PARK SA 37d37m S 140d11mE 931128 +2 U VICTORIAN WADER STUDY GROUP
 Distance: 205 km Direction: 293 degs. Time elapsed: 2 yrs 8 mths 26 days

AUSTRALASIAN WADER STUDIES GROUP OFFICE BEARERS

Chairperson

Mark Barter
21 Chivalry Ave
Glen Waverley Vic 3150
Ph: (03) 803 3330

Admin Secretary

Brenda Murlis
34 Centre Ave
Vermont Vic 3133
Ph: (03) 874 2860

Treasurer

David Henderson
PO Box 29
Legana Tas 7277

Research Co-ordinator

Danny Rogers
340 Ninks Road
St. Andrews Vic 3761
Ph/Fax: (03) 710 1345

Editor "The Stilt" / Conservation Officer

Jeff Campbell
3/19 Sydney Street
Murrumbidgee Vic 3163
Ph: (03) 568 2472 Fax: (03) 557 4111 (B.H.)

Membership/Liaison Officer

Hugo Phillipps,
11 Marlton Cres.,
St. Kilda, Vic 3182
Ph: (03) 510 8004

Committee Members

Clive Minton
Mick Murlis

STATE & REGIONAL REPRESENTATIVES

NEW SOUTH WALES

Alan Morris
33 Cliff Street
Watson's Bay 2030
Ph: (043) 89 1390

QUEENSLAND

Dennis Watson
6 Nainana Street
Manly West 4179

Marj Andrews & Leanne Jorgansen
Mackay & Whitsunday BOCA
PO Box 1120, Mackay 4740
Ph: (079) 59 2184

WESTERN AUSTRALIA

Mike Bamford
23 Plover Way
Kingsley 6026
Ph: (09) 309 3671

PAPUA - NEW GUINEA

Ian Burrows
Biology Dept.
University of PNG
P.O. Box 320
Port Moresby

NEW ZEALAND

Stephen Davies (Nth Island)
Dept. Philosophy
University of Auckland
Private Bag AUCKLAND

Paul Sager, (Sth Island)
Ornithological Soc. of
New Zealand
38a Yardley Street
CHRISTCHURCH 4
Ph: (03) 342 9720

INTERWADER

Duncan Parish

IPT Asian Wetland Bureau, University of Malaya, Lembah Pantai
59100 Kuala Lumpur, Malaysia. Ph: (03) 757 2176

ADVICE TO CONTRIBUTORS

The Stilt publishes original papers and short notes on the waders (shorebirds) of the Australasian/East Asian flyway.

Contributions will be accepted in any form. However where possible they should be typed, well spaced with generous margins and on one side of paper only. They may be submitted as either a computer disk and one hard copy or as hard copy only. Disks should preferably be saved as an ASCII file (text only). If an ASCII file cannot be provided the software used should be specified. Disks may be 3" or 5" and must be IBM compatible. For further advice on suitable software contact the Editor.

The style of presentation for *The Stilt* generally follows that given in 'Advice to Contributors in *Emu*'. Briefly these are: Tables and figures should be numbered consecutively with Arabic numerals. Each table or figure should be presented on a separate sheet, be as simple as possible and designed to fit the width of a page or column, though exceptionally they may be printed lengthwise. Drawings and diagrams should be in ink or laser printed if by computer generation. Figures should be sized to allow for reduction (or enlargement) by up to 50%.

Scientific names of species and genera should be printed in italics or underlined. They should appear after the first mention of

a species by its English name, not enclosed by brackets. Only one of the names need appear thereafter. English names for birds occurring in Australia are those in *Recommended English Names for Australian Birds, Supplement to Emu, Vol. 77*; for endemic New Zealand species those listed in *Annotated Checklist of the Birds of New Zealand, 1970*; and for South Asian birds not included in the above those given in *A Field Guide to the Birds of South-East Asia, 1975* and reprints, King, B., M. Woodcock & E. Dickinson. Nomenclature and order of families should be those of *The Atlas of Australian Birds* or as above for New Zealand or South Asia. Where variation occurs in English or scientific names used in the above sources, or a species mentioned is not listed in any of them, the decision on naming will rest with the Editor.

References should be listed at the end of papers with titles of periodicals given in full. For style see those in this issue.

Dates should be written '1 October 1993' except in tables or figures where they may be abbreviated. The 24-hour clock should be used.

Manuscripts should be sent to the Editor, closing dates are 28 February and 31 August.

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Tel: (03) 547 8641 Fax: (03) 548 3373