VWSG BULLETIN

JOURNAL OF THE VICTORIAN WADER STUDY GROUP

Number 23
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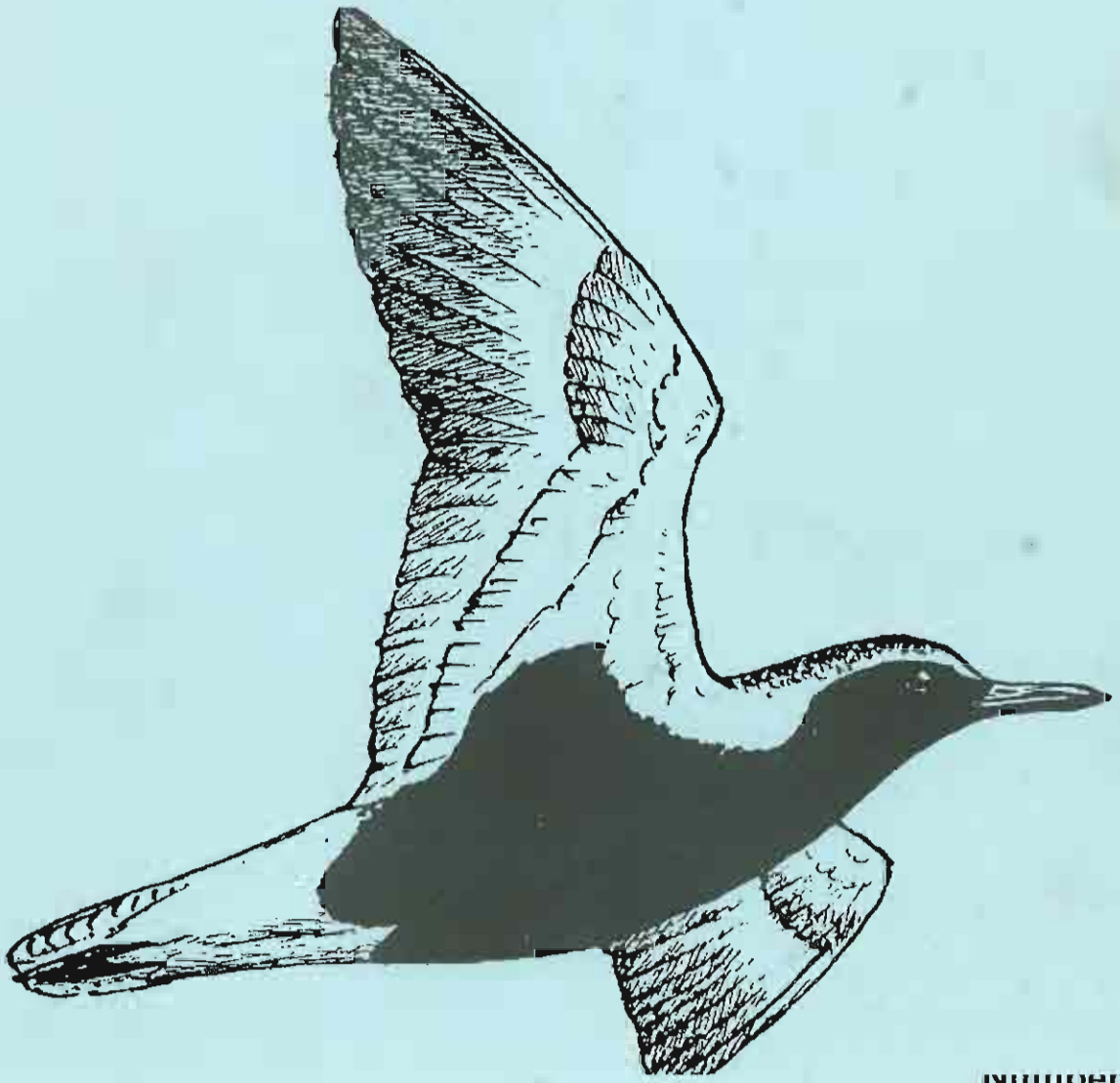

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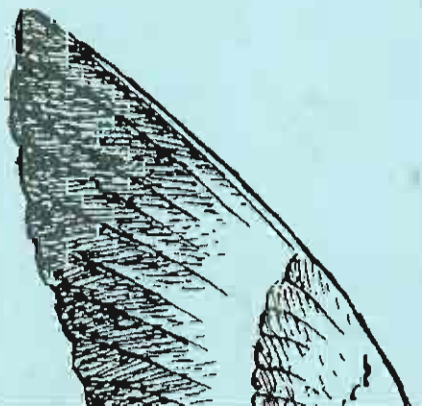

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This bulletin is published on the date of the annual general meeting and contains reports and cumulative records of fieldwork of the Victorian Wader Study Group with articles, field notes and other material.
Contributions are welcome. Please consult the editor or assistant editor on questions of format.

Summary of VWSG Activities in 1998 and the First Half of 1999

Clive Minton

Introduction

The past year has been another one of excellent results for Victorian Wader Study Group activities. A near record year for birds caught (9491 in 1998, with a further 4142 in the first half of 1999) has been accompanied by a plethora of flag sightings (324) and further interesting recoveries of banded birds. Many new thing have been learned about our waders and terns, even though this is the 21st year of the VWSG's formal existence. This Bulletin (Number 23) highlights some of the main events and achievements.

Banding

In 1998 the third highest ever total of waders was caught – 9491, which is nearly 3000 above the 21 year average of 6561. This was achieved in spite of most of the equipment and key personnel being absent in NW Australia (on the AWSG Wader and Tern Banding Expedition) for more than three months (August to October). Success was aided by fine weather, a strong regular team, good judgement (most of the time) and good fortune (always helps!).

Although Red-necked Stints (6032) and Curlew Sandpipers (1161) dominated, as always, record catches of Ruddy Turnstone (497) and Sanderling (502) were achieved. This was due to the addition of new catching sites in Victoria (Flinders and Sandy Point) to the already proven regular sites in the south east of South Australia.

Good catches of Red Knot (312), Bar-tailed Godwit (85), Great Knot (23) and Sharp-tailed Sandpiper (486) were also made. The yearly targets of Pied and Sooty Oystercatcher (150, 50) were also just achieved (166, 54), with a recapture rate of 35%.

The first half of 1999 was highlighted by a further 423 Ruddy Turnstone and another 282 Bar-tailed Godwits. Fifty-six out of the 58 Ruddy Turnstone captured at the Flinders site on 18 April were already banded – this percentage of retraps must be a record! The highlight of the period, however, was probably the 58 Eastern Curlew caught at Yallock Creek on 22 February – needed in order to apply eight satellite tracked transmitters.

Another feature of the 1998 catches was the broad spread of capture locations. For the first time more were caught in Corner Inlet (3023) than other sites such as Werribee SF, Queenscliff/Swan Bay, and Western Port. This is particularly pleasing as Corner Inlet contains the most diverse wader avifauna of any site in southern Australia.

People often imagine that huge catches are the norm in cannon netting. This is not the case and catches are often in the 20 to 50 range, especially on the less frequently caught species. Even in the excellent 1998 year the 46 wader catches averaged only 200 birds each. For the first half of 1999 the average was 120. Over the years the VWSG has averaged close to 150 birds per catch. Up to December 1998 the VWSG has now caught 133,681 waders, of 35 species. 107,525 were new birds and 26,156 were retraps.

Processing

Biometric data – wing length, bill length, total head length, weight and primary moult – are collected on all of the less frequently caught species and on selected samples of other species. Part of the fieldwork programme is aimed at obtaining useable (preferably 50 of each age group) samples of each species in each month of the year (built up over a period of years).

During 1998 significant progress was made in filling and/or expanding some of the monthly samples. Highlights were:

* 28 Bar-tailed Godwits in February (11 previously)
* 239 Ruddy Turnstone in January (107 previously), 116 in December (113 previously), 31 in July (the first)
* 20 Great Knot in February (1 previously)
* 227 Red Knot in July (151 previously), 70 in February (68 previously)
* 231 Sanderling in January (16 previously), 126 in April (the first)
* 10 Grey Plover in December (the first)

Overall 49,187 waders have now been "processed" – 37% of the birds caught.

Recoveries

Fifty recoveries are listed where individuals have moved significant distances or have survived for unusually long periods. It is noteworthy that only six of these recoveries were reported through the Australian Bird and Bat Banding Scheme Office. The remainder were birds recaptured by other banding groups in Australia and overseas (including the AWSG in NW Australia), recaptured by VWSG itself, or recognised by individual colour band combinations (Pied Oystercatchers and the Hooded Plover). The "public" recovery rate of VWSG banded waders in the last year has thus been a minuscule 0.1%.

The highlight was undoubtedly a Red-necked Stint recovered on its breeding grounds in NW Siberia at a distance of 12491 km from its banding location at Yallock Creek, Western Port. This is the second furthest distance moved by any VWSG banded wader (the furthermost was a Curlew Sandpiper which travelled 13096 km).

Other overseas recoveries were in the usual countries. It was recoveries and recaptures within Australia that added most to our knowledge. The extent of Sanderling migration through NW Australia to SE Australia was not previously recognised. Nor was the movement of some first year birds from southern Australia to the northern coast in "winter"- such wanderings of immature birds were previously thought to be more local. And six Pied Oystercatcher movements into NSW and 12 into SA were the highest yearly total of long distance movements so far.

Flagging

Since the adding of an orange plastic leg flag to waders banded in Victoria commence in 1990 there has been a steady increase in the number of sightings reported both in Australia and overseas. This year a record 324 sightings are listed. When a comparison is made between this figure and the number of conventional

recoveries it can be seen that the rate of generation of data on wader movements has been increase by a factor of as much as 50 times by the use of leg flagging. Thanks are especially due to the network of observers in various locations who regularly look for and report leg flags. This especially occurs in New Zealand, Hong Kong, Taiwan, Japan and Korea overseas and NW WA, Queensland and Tasmania in Australia.

There are many highlights in this years list:

* the first wader (Red-necked Stint) in Mongolia
* a Curlew Sandpiper at an inland stopover location in southern Siberia where ten flagged Red-necked Stints were seen in 1996
* the first ever Grey Plover (12 sightings in Japan)
* 34 Red Knot and six Bar-tailed Godwit sighting in New Zealand
* 7 more Sanderling in Japan, 8 in NW Australia and 7 sightings of NW Australian flagged (yellow) Sanderling in SE Australia
* examples of first year Curlew Sandpiper, Red-necked Stint and Red Knot which had moved to the northern shores of Australia in "winter"
* examples of several places were individual birds had changed their "non-breeding" (Austral summer) area away from SE Australia.

Old Birds

VWSG activities have now been of sufficient duration for really old birds to be recaptured occasionally. With many having originally been banded as adult birds it is only possible to calculate the minimum (rather than actual) age of most.

The past year saw four Pied Oystercatchers pass the 20 year mark. Other species with individuals recorded in the 14 to 20 years minimum age range were Ruddy Turnstone, Red Knot, Great Knot, Bar-tailed Godwit, Red-necked Stint and Curlew Sandpiper.

These are, of course, the exceptional individuals. With annual adult mortality rates being in the 15 – 25% range most species would only have a life expectancy of three to five years and even that is measured only for those birds which have successfully got through their hazadous first few months of life.

Breeding success

One ongoing objective of the VWSG fieldwork programme is to catch sufficient samples of a range of species each austral summer to be able to estimate the relative breeding success of each during the previous Arctic summer (by the proportion of first year birds in the population).

The 1998 Arctic breeding season appears to have been a good one for Red-necked Stints but a poor one for Curlew Sandpipers – a reversal of the 1997 situation. Sanderling, Ruddy Turnstone and Red Knot also fared badly – again in contrast to the previous year. On the other hand Bar-tailed Godwits seem to have fared well, with good numbers of immature birds present.

As more comprehensive data is collected – both here and in Russia – it is becoming apparent that not all species are in synchrony as far as breeding success is

concerned. Nor is the "three year cycle" quite as rigid and uniform as previously thought. In due course it may be possible to explain these variations as breeding locations of populations become more specifically identified and better data is gathered on conditions throughout the Arctic during the summer.

Weights

Exciting new data has been collected during the last two autumns on the levels of premigratory fat deposts achieved by waders before they set off from Victoria in March and April on the way back to their Arctic breeding grounds. Particularly valuable data was collected during the visit to Mud Island in late March 1999, but also at other sites such as Corner Inlet, Barry Beach, Flinders and in the SE of South Australia.

Great Knot and Bar-tailed Godwit in particular seem to reach significantly higher weights than they do before departing, for example, from NW Australia for the 5500 km non stop journey to the central Chinese coast. Great Knot on Mud Island averaged 265 g, with one individual at 290 g. This compares with an average take-off weight of 220-230g from NW Australia. Bar-tailed Godwits averaged 50g more in Victoria than NW Australia.

Ruddy Turnstone, Red Knot, Sharp-tailed Sandpiper and Curlew Sandpiper appeared to also be laying down even greater fat deposits in Victoria than in NW Australia (one Sharp-tailed Sandpiper weighed 114g and a Curlew Sandpiper 106g).

There are two possible explanations for these extraordinary weight gains, with fat additions reaching 80 – 100% in Victoria instead of the more frequently recorded 60 – 80% elsewhere. The more likely explanations is that the birds are intending to fly much further than the 3000 km to the northern Australian coastline. Theoretically many could reach Vietnam and the southern/central Chinese coast in a single 6 – 8000 km flight. This would be remarkable – not long ago it was considered that the 5500 km flights from NW Australia to the Yangtse esturay were "barely believable".

Even more radical would be the alternative – that birds are stoppping for a "shorter than would otherwise be the case" refuelling session on the northern Australian coast even though less than half their fat reserves would have been depleted. Such a strategy – "topping up" the fuel tank well before it is empty – has not been demonstrated for migratory waders anywhere else.

More data on pre-migratory weight gains in Victoria will be collected in future years. But it may take the development of much smaller satellite transmitters before the solution can be obtained.

Satellite transmitters on Eastern Curlew

The VWSG was thrilled by the opportunity in February 1999 to deploy eight satellite transmitters on Eastern Curlew on behalf of the Queensland Wader Study Goup.

Unfortunately our expectations were rather over optomistic, and although it was revealing and exciting experience, it was disappointing that none of the VWSG birds

actually reached the Northern Hemisphere. The saga is detailed in a separate article.

Undoubtedly satellite tracking is an exceptationally valuable tool for the study of bird migration. Once the transmitter and battery become light enough to deploy more widely the technique will revolutionise wader migration studies. VWSG would like to be a party to those developments.

Terns

Tern studies have been an integral part of VWSG activities since the Group's early days. During the past year these have continued in the usual way. Breeding colonies were censussed and chicks banded. Fortunately 1998-99 was a better breeding year for Crested Terns at the large Mud Island and Nobbies colonies. The "age of first breeding" study progressed well and it looks as if the 1999-2000 breeding seson will be exciting, with the possibility of some four year old birds being found breeding.

Little Tern chicks were banded routinely at the Gippsland colonies for the first time – a welcome and necessary step forward in gaining knowledge on their age of first breeding, survival rate and migratory movements. The best ever catch of adult Little Terns (174) was also made at the usual Albifrons Island cannon netting site. Recaptured birds indicated, for the first time, a substantial southward post breeding movement of NSW Little Terns to the Gippsland Lakes.

Equipment

Regular maintenance of the nets, the hardware and the electrical equipment was necessary to sustain the extremely active fieldwork programme. The greatest expense was $1008 on hardware – mainly replacement cannons, after several had burst due to excessive powder loads (attempting to achieve full throw with a wet and heavily camoflaged – with sand – net). A more conservative loading has now been reintroduced!

Fox Control

The three year programme of 1080 baiting of foxes on selected islands in Corner Inlet (Nooramunga Marine Coastal Park section) has continued and has proved most successful. Foxes appear to have been eliminated from Dream Island – a barrier island most suitable for nesting Pied Oystercatchers, Hooded Plovers and terns.

Parks Victoria will continue the baiting programme themselves after 1999 but the VWSG will remain responsible for monitoring the breeding populations beyond that (ad infinitum!).

A proposal has been made to Coast Action/Coast Care for funding to support an intensive study of breeding success on some of the islands, to commence in October 2000.

Data entry and publications

For many years the entry of VWSG banding and biometric data onto a computer – for the ABBBS (banding office) and analytical purposes – has been undertaken by Mark and Terri Barter. During the past year this role has been devolved to a number of different members of the VWSG, coordinated by Ken Gosbell. We thank Mark and Terri for an extremely time consuming job, carried out brilliantly.

The flow of publications emanating from the data collected by the VWSG has increased in the last two or three years. They appear particularly in the Australasian Wader Studies Group (AWSG) journal "The Stilt". A list of such publications will be included in the 2000 edition of the VWSG Bulletin.

At present over 30 "papers" utilising VWSG data are "on the stocks" ie in press, in preparation or at an advance stage of planning. The "writing up" load is being more widely spread throughout the group. The greatest shortcomings to progress are a lack of "administrative support" – typing especially – and the need for assistance in background literature searches. Volunteers please step forward!!

Finances

The VWSG spent $1000 more than it earned in the year to June 1999, if Coast Action/Coast Care income/expenditure is omitted. The main reason was the high expenditure on equipment. A Coast Action/Coast Care grant has been sought to assist in equipment costs in 2000.

Acknowledgements

The last two VWSG Bulletins have listed in detail the people and organisations to whom the group is indbeted.

This year a general "thank-you" will be expressed - to landowners, government agencies, VWSG members and a myriad of other people and organisations which have assisted our wader and tern studies in a multiplicity of ways. They have facilitated what we have achieved.

Many thanks to all.

Numbers of waders processed by the VWSG each month to December 1998 Processing includes measuring wing length, bill length and/or total head length (as appropriate) and weight; also recording full details of primary feather moult (if any). Additional wing moult has been gathered on some birds which were not fully processed. The table below is used to plan fieldwork, with the object of obtaining useable data (preferably on at least 50 birds of each age group) for each month of the year for all the main wader species.

	J	F	M	A	M	J	J	A	S	O	N	D	TOTAL
Latham's snipe	51	44	0	0	0	0	0	0	106	97	35	57	390
Short-billed Dowitcher	0	0	0	0	0	1	0	0	0	0	0	0	1
Black-tailed Godwit	0	0	0	0	0	0	0	0	0	1	1	0	2
Bar-tailed Godwit	269	39	308	14	0	195	69	0	64	88	203	271	1520
Whimbrel	0	0	16	0	0	1	0	0	0	4	0	0	21
Eastern Curlew	16	27	1	0	22	17	2	43	147	124	158	100	657
Common Greenshank	1	135	120	0	0	0	0	0	0	0	176	60	492
Terek Sandpiper	13	2	0	1	2	0	0	1	0	1	1	12	33
Grey-tailed Tattler	31	0	0	3	0	3	0	0	0	0	1	1	39
Ruddy Turnstone	346	332	309	37	1	7	31	1	12	21	464	229	1780
Great Knot	132	21	7	0	0	0	3	0	16	89	40	129	441
Red Knot	406	138	181	34	2	57	378	81	76	543	265	184	2191
Sanderling	247	443	242	126	0	0	0	0	0	49	344	161	1612
Little Stint	1	0	0	0	0	0	0	0	0	0	1	1	3
Red-necked Stint	2396	1185	4492	1871	507	1939	608	488	463	1398	3003	2661	19787
Long-toed Stint	0	0	0	0	0	0	0	0	0	1	0	0	1
Pectoral Sandpiper	0	2	0	0	0	0	0	0	0	0	0	0	2
Sharp-tailed Sandpiper	1302	785	118	2	0	0	0	9	519	342	344	1341	4762
Curlew Sandpiper	822	979	1164	205	222	127	216	413	178	954	888	983	7151
Broad-billed Sandpiper	1	2	0	0	0	0	0	0	0	0	0	0	3
Pied Oystercatcher	86	107	195	247	376	950	292	123	102	37	11	29	2056
Sooty Oystercatcher	3	6	570	28	68	160	73	19	0	1	0	0	415
Black-winged Stilt	0	6	0	0	0	0	0	0	0	4	2	6	18
Red-necked Avocet	39	0	0	0	0	0	0	67	29	46	46	36	263
Pacific Golden Plover	40	27	30	1	0	0	0	0	0	28	47	49	222
Grey Plover	1	14	4	3	0	2	0	0	2	64	17	0	107
Red-capped Plover	39	79	55	114	203	102	65	17	8	11	18	8	719
Double-banded Plover	0	2	165	257	755	926	965	926	1	0	0	0	3997
Lesser Sand Plover	54	5	12	7	3	2	2	0	0	0	15	12	112
Greater Sand Plover	21	2	3	0	0	1	1	0	0	0	1	0	29
Black-fronted Dotterel	0	7	0	0	11	16	6	9	2	0	4	8	63
Hooded Plover	0	0	0	0	0	15	0	0	0	0	0	0	15
Red-kneed Dotterel	0	10	0	20	0	44	11	16	12	8	22	1	144
Masked Lapwing	4	6	77	0	0	13	0	0	1	5	21	11	138
Cox's Sandpiper	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL													49187

VWSG Wader Catches 1975 to 31 December 1998

Species	New	Retrap	Total
Pied Oystercatcher	1427	638	2065
Sooty Oystercatcher	357	59	416
Masked Lapwing	138	3	141
Grey Plover	100	8	108
Pacific Golden Plover	206	21	227
Red-kneed Dotterel	134	11	145
Hooded Plover	20	1	21
Lesser Sand Plover	114	10	124
Double-banded Plover	3224	973	4197
Large Sand Plover	26	3	29
Red-capped Plover	587	178	765
Black-fronted Plover	53	4	57
Black-winged Stilt	18	0	18
Red-necked Avocet	261	3	264
Ruddy Turnstone	1412	375	1787
Eastern Curlew	614	43	657
Whimbrel	21	0	21
Grey-tailed Tattler	36	3	39
Common Greenshank	432	60	492
Terek Sandpiper	31	1	32
Latham's Snipe	345	14	359
Short-billed Dowitcher	1	0	1
Black-tailed Godwit	2	0	2
Bar-tailed Godwit	1506	74	1580
Red Knot	2312	189	2501
Great Knot	402	38	440
Cox's Sandpiper	1	0	1
Sharp-tailed Sandpiper	5356	181	5537
Pectoral Sandpiper	2	0	2
Little Stint	3	0	3
Red-necked Stint	66816	19025	85844
Long-toed Stint	1	0	1
Curlew Sandpiper	20283	3895	24178
Sanderling	1277	343	1620
Broad-billed Sandpiper	3	0	3
35 Species	**107525**	**26156**	**133681**

Wader Banding Totals - VWSG 1998

Species	New	Retrap	Total
Pied Oystercatcher	105	61	166
Sooty Oystercatcher	39	15	54
Pacific Golden Plover	10	0	10
Hooded Plover	4	0	4
Double-banded Plover	86	5	91
Greater Sand Plover	2	0	2
Red-capped Plover	3	0	3
Ruddy Turnstone	366	131	497
Eastern Curlew	34	1	35
Whimbrel	2	0	2
Grey-tailed Tattler	0	1	1
Common Greenshank	19	2	21
Bar-tailed Godwit	78	7	85
Red Knot	288	24	312
Great Knot	20	3	23
Sharp-tailed Sandpiper	479	7	486
Red-necked Stint	5173	859	6032
Curlew Sandpiper	1033	128	1161
Sanderling	338	164	502
19 Species	**8083**	**1408**	**9491**

Wader Banding Totals - VWSG January - June 1999

Species	New	Retrap	Total
Pied Oystercatcher	51	58	109
Sooty Oystercatcher	53	8	61
Masked Lapwing	3	0	3
Hooded Plover	1	0	1
Lesser Sand Plover	1	0	1
Double-banded Plover	19	2	21
Greater Sand Plover	4	0	4
Red-capped Plover	3	1	4
Ruddy Turnstone	293	130	423
Eastern Curlew	49	9	58
Bar-tailed Godwit	274	8	282
Red Knot	74	19	93
Great Knot	12	3	15
Sharp-tailed Sandpiper	53	4	57
Red-necked Stint	2009	468	2477
Curlew Sandpiper	363	82	445
Sanderling	68	20	88
17 species	**3330**	**812**	**4142**

Location of Waders Caught in Victoria and South Australia

	to Dec. 97	1998	Total
Victoria			
Werribee	44809	1102	45911
Western Port	29850	1907	31757
Queenscliff/Swan Bay	21510	943	22543
Anderson Inlet (Inverloch)	13680	1287	14967
Corner Inlet	10187	3023	13210
Altona	955	0	955
Killarney Beach	426	0	426
Mud Islands	35	349	384
Sandy Point/Shallow Inlet	48	262	310
Geelong (Point Henry / Belmont Common)	257	0	257
Bendigo SF	143	0	143
Seaford Swamp	98	0	98
Braeside/Croyden	79	0	79
Gippsland Lakes	20	0	20
Toowong	10	0	10
South Australia			
Canunda/ Carpenter Rocks/ Brown Bay/ Beachport	2083	618	2701
Total	**124190**	**9491**	**133681**

Annual Wader Banding Totals by VWSG

Calender Year	New	Retrap	Total
1975	9	0	9
1976	616	4	620
1977	482	12	494
1978	1296	42	1338
1979	7436	486	7922
1980	6121	1206	7327
1981	4561	869	5430
1982	3774	796	4570
1983	2875	628	3503
1984	4272	1045	5317
1985	4073	1051	5124
1986	7144	2057	9201
1987	5350	1559	6909
1988	8019	2697	10716
1989	5437	1584	7021
1990	4094	1950	6044
1991	3224	850	4074
1992	4652	861	5513
1993	8831	2588	11419
1994	4839	1753	6592
1995	2708	625	3333
1996	5263	1035	6298
1997	4366	1050	5416
1998	8083	1408	9491
Totals to end 98	**107525**	**26156**	**133681**

Average annual total for '79-98 = 6561

VWSG Catch Record - Waders

Calender Year	Jan to June	July to Dec.	Total
1975			9
1976			620
1977			494
1978			1338
1979	4289	3633	7922
1980	4127	3200	7327
1981	2113	3317	5430
1982	2394	2176	4570
1983	2882	621	3503
1984	2654	2663	5317
1985	3972	1152	5124
1986	5000	4201	9201
1987	3135	3774	6909
1988	5235	5481	10716
1989	3854	3167	7021
1990	1661	4383	6044
1991	2376	1698	4074
1992	3357	2156	5513
1993	5287	6132	11419
1994	2789	3803	6592
1995	1521	1812	3333
1996	1802	4496	6298
1997	1913	3503	5416
1998	5568	3923	9491
1999	4142		

Tern Banding Totals - VWSG 1998

Species	New Adults	New Chicks	Retraps	Total
Crested Tern	17	2020	133	2170
Common Tern	119	0	32	151
Caspian Tern	13	30	0	43
Little Tern	20	0	0	20
Fairy Tern	2	1	1	4
	171	2051	166	2388

Fieldwork Programme 1999 - Victorian Wader Study Group

Please contact **Clive Minton (03 9589 4901) or Roz Jessop**, five days before each fieldwork session to advise whether (or not) you will be able to participate. Meeting times are normally about five hours before high tide on each day. Overnight camping is involved in extended periods of fieldwork. Meeting times are usually on the evening preceding such fieldwork.

Date	Place & Objectives	High Tide	
		Time	Height
Fri 8 to Sun 10 Jan	**Yallock Creek/ Stockyard Point / The Gurdies** Red-necked Stints & Curlew Sandpipers	0620 1830 0700	2.9 to 2.5
Sat 23 to Tue 26 Jan	**Lakes National Park** Little and Common Terns	-	-
Fri 28 to Sun 30 Jan.	**Summer Wader Counts** Corner Inlet, Western Port & Port Phillip Bay	-	-
Wed 10 Feb	**Werribee S.F.** - Pied Oystercatchers	0955	0.8
Wed 24 to Sun 28 Feb	**Corner Inlet** - Red Knot, Pied Oystercatchers etc	0640 to 0945	2.6 to 2.3
Mon 8 March	**Queenscliff** - Pied Oystercatchers	1720*	1.4
Thur 11 March	**Werribee S.F.** - Pied Oystercatchers	0915	0.8
Thur 18 to Tue 23 March	**Mud Island** Red Knot, Bar-tailed Godwit etc	0150 to 0440* &1410 to 1640*	1.3 to1.6
Sat 27 March	**Barry Beach** - Red Knot, Bar Tailed Godwit	0750	2.5
Thur 1 to Thur 8 April	**South Australia** - Sanderling and Turnstone	-	-
Fri 16 April	**Flinders** - Turnstone	1240	2.6
Sat 17 April	**Sandy Point** - Sanderling	1220	2.3
Sun 18 April	**Stockyard Point** - Pied Oystercatchers	1450	3.0
Sat 1 May	**Rhyll** - Pied Oystercatchers	14.02	2.67
Sun 16 May	**Barry Beach** - Pied and Sooty Oystercatchers & overwintering Bar-tailed Godwit	12.18	2.43
Mon 17 May	**Roussac Point** - Pied & Sooty Oystercatchers	13.32	2.55
June 12-13	**AWSG conference Phillip Island**		
Sun 27 June	**Hastings** - Pied Oystercatchers	11.54	2.55
Mon 28 June	**Stockyard Point** - Pied Oystercatchers	12.47	2.66

* at Port Phillip Heads (up to 2 hours later at Swan Bay)

Fieldwork Programme 1999-- Victorian Wader Study Group Contd

Tue 13 July to Fri 16 July	**Corner Inlet** - Pied and Sooty Oystercatchers and overwintering waders	11.39 to 14.51	2.45 to 2.56
Sat 17 July	**Barry Beach** - Pied & Sooty Oystercatchers and overwintering waders	15.41	2.58
Sun 18 July	**Roussac Point** - Pied & Sooty Oystercatchers	16.24	2.58
Sat 7 Aug	**ANNUAL GENERAL MEETING** Clive and Pat Minton's House	10.00 to 22.00	
Sat 14 Aug	The Gurdies/Yallock Creek - Eastern Curlew	15.16	2.43
Sat 28 Aug	**Yallock Creek** – early returning small waders	14.00	2.7
Sun 5 Sept	**Werribee SF** - early returning small waders	09.51	0.81
Sun 12 Sept	**Yallock Creek** - Eastern Curlew/early returning small waders	14.50	2.77
Sat 2 Oct to Sun 3 Oct	**NW Swan Bay or Swan Island** Medium/large waders	16.33* 05.32*	1.41 1.47
Sun 10 Oct	**Sandy Point** - Sanderling	12.21	2.14
Fri 29 Oct	**Flinders** - Ruddy Turnstone	15.55	2.71
Sat 30 Oct	**The Gurdies/Yallock Creek** Eastern Curlew	16.41	2.69
Sun 14 Nov	**NW Swan Bay/Swan Island** Medium/large waders	04.43*	1.51
Sun 28 Nov to Mon 29 Nov	**NW Swan Bay/Swan Island** Medium/large waders	04.31* 16.15* 05.18*	1.68 1.41 1.62
Thurs 2 Dec to Fri 3 Dec	**Inverloch** Red-necked Stints & Eastern Curlew	07.52 08.32	2.52 2.42
Sat 18 Dec	**Mud Island** Crested Tern	-	-
Mon 27 Dec to Wed 29 Dec	**Werribee S.F.** Small waders	07.30 18.56 08.08 19.51 08.47	0.93 0.86 0.92 0.85 0.91

* at Port Phillip Heads (up to 2 hours later at Swan Bay)

Wader Recovery Reports 1998/99

Clive Minton

Pied Oystercatcher

Band	Age	Date banded	Location banded	Date seen	Location found	km moved
?	?	Post 1988	Manns Beach Corner Inlet	040498	Narooma NSW	
101-03618	1	070593	Manns Beach Corner Inlet	270598*	Barragoot Beach NSW	374 NE
101-03952	4+	130894	Barry Beach Corner Inlet	030798*	Hurstville Bay, Georges River NSW	670 NE
101-04801	3+	180696	Manns Beach Corner Inlet	021098#	Woodside Beach	19 NE
?	?	Post 1988	Rhyll Western Port	061198	Batemans Bay NSW	
100-96921	9	27/07/90	Rhyll Western Port	061198	Batemans Bay NSW	
100-99323	10+	27/04/91	Manns Beach Corner Inlet	121198	Pambula NSW	
?	?	Post 1988	Stockyard Point Western Port	151198	Carpenters Rocks SA	
100-96800	10+	080180	Werribee Port Phillip Bay	181198	Carpenters Rocks SA	
101-04641	4+	180596	Stockyard Point Western Port	151198	Carpenters Rocks SA	
100-82098	11+	010789	Werribee Port Phillip Bay	181198	Murray Mouth SA	
100-99464	8	290991	The Gurdies Western Port	181198	Murray Mouth SA	
101-03679	8+	171093	The Gurdies Western Port	181198	Murray Mouth SA	
101-04837	5	030896	The Gurdies Western Port	181198	Murray Mouth SA	
101-03581	7	270293	The Gurdies Western Port	191198	Kinston SA	
100-96872	9	060590	Werribee Port Phillip Bay	271298	Douglas Point SA	
101-04862	3	180697	Werribee Port Phillip Bay	271298	Douglas Point SA	
100-99577	8	030592	Werribee Port Phillip Bay	270199	Reef Point SA	
101-04033	4	300795	The Gurdies Western Port	270199	Reef Point SA	
100-82507 rebanded 101-15158	Chick	301081	Ocean Grange, Gippsland Lakes	020685** 180688** 150193** 010398** 080299**	Queenscliff, Vic.	272W
100-82076	3+	080380	Werribee SF, Port Phillip Bay	100299** 110399**	Werribee SF, Port Phillip Bay	Local
100-82035	3+	140681	Queenscliff, Port Phillip Bay	180688** 150193** 010398** 080399**	Queenscliff, Port Phillip Bay	Local

Pied Oystercatcher continued:

Band	Age	Date banded	Location banded	Date seen	Location found	Km Moved
100-81163	1	280479	Werribee SF, Port Phillip Bay	010380** 020581** 290593** 110399**	Werribee SF, Port Phillip Bay	Local
?	2+	201279	Manns Beach Corner Inlet	200298** 230299**	Manns Beach Corner Inlet	Local
10085031	2+	210287	Queenscliff, Port Phillip Bay	150499#	St Leonards, Port Phillip Bay	9 NNE
101-15139	3+	150198	Brown Bay, SA	010599**	Rhyll Western Port	395 E

* indicates bird seen alive in the field ** indicates retrapped # indicates found dead

This list contains another six movements into New South Wales and twelve into South Australia – both record numbers for the year.

Also included are five very old birds – all still alive. 100-82507 was banded as a chick in the Gippsland Lakes by the warden of Rotamah Bird Observatory in 1981. The bird has been recaught in the Queenscliff area several times since 1985 and was $17^1/_2$ years old on the last occasion. Remarkably its sibling (101-82506) also survived to a good age being recaptured in Corner Inlet in 1993, when it was $11^1/_2$ years old.

The other birds are even older:

Band	Time since banding	Minimum Age
100-82076	19 years	$21^1/_4$ years
100-82035	$17^3/_4$ years	$20^1/_4$ years
100-81163	19 years 10 months	$20^1/_4$ years
?	$19^1/_4$ years	$21^1/_4$ years

Hooded Plover

Band	Age	Date banded	Location banded	Date seen	Location found	Km moved
051-18460	2+	220688	Inverloch	200698 100299	Inverloch	Local

This bird is seen quite regularly by Jim and Anthea Whitelaw (see 1998 VWSG Bulletin). It is now at least $14^1/_4$ years old.

Double-banded Plover

Band	Age	Date banded	Location banded	Date seen	Location found	Km moved
NZ C50895	2+	191194	Ahuriri River NZ 44^0 28'S 169^0 59'E	250798*	French Island	2154 W
041-31476	2+	090887	Yallock Creek, Western Port	170998*	Ohau River NZ 41^0 21' S, 170^0 11' E	2164 ESE

* indicates bird seen alive in the field

Two more movements – one in each direction - between the New Zealand breeding areas and the non-breeding areas in SE Australia.

Ruddy Turnstone

Band	Age	Date banded	Location banded	Date retrapped	Location found	Km moved
051-93538	1	170198	Carpenters Rocks, SA	020499	Nora Creina (22 km NW of Beachport) SA.	76 NW
051-94408	2+	020499	Beachport, SA	070499	Black Fellows Caves (6 km SE of Carpenters Rocks) SA	67 SE
051-16179	1	300684	Queenscliff, Port Phillip Bay	200399	Mud Island, Port Phillip Bay	Local

Given the sustained banding effort on this species in recent years it is surprising that no additional foreign recoveries have eventuated.

051-94408, an adult bird in breeding plumage fattening up for its northward migration, surprisingly moved 67 km in the wrong direction within five days. During this period its weight had increased by 13 grams!

051-16179 is VWSG's oldest Ruddy Turnstone so far – a minimum age of $15^3/_4$ years old.

Bar-tailed Godwit

Band	Age	Date banded	Location banded	Date retrapped	Location found	Km moved
071-83715	2+	190391	Off Manns Beach, Corner Inlet	241098	Moreton Bay Qld	1389 NNE

A further indication that some birds return to Victoria via Queensland on southward migration, rather than via NW Australia. This is especially likely to be the case for Bar-tailed Godwit where the eastern Australian birds are a different race to those in NW Australia. This bird was also rather late in completing its migration.

Red Knot

Band	Age	Date banded	Location banded	Date retrapped	Location found	Km moved
051-60302	2+	181097	Swan Bay, Queenscliff	060199	Miranda, Firth of Thames, NZ 37^0 10' S, 175^0 20'E	2687 E
051-60579	2+	181097	"	060199	"	"
051-18315	3+	191085	Queenscliff	190399	Mud Island, Port Phillip Bay	8 E

Yet two more birds from the October 18 1997 NW Swan Bay catch now turned up in New Zealand (see 1998 VWSG Bulletin). There is a strong passage of Red Knot through Victoria on their way to New Zealand in October and early November each year.

051-18315 is one of our oldest Red Knot so far – with a minimum age of $15^3/_4$ years.

Great Knot

Band	Age	Date banded	Location Banded	Date retrapped	Location found	Km moved
062-08121	2	180197	Swan Bay, Queenscliff	060498	Chongming Island, Shanghai, China 31^0 27'N 121^0 53'E	8096NNW
061-40042	2+	050186	Queenscliff	200299	Mud Island, Port Phillip Bay	Local
061-40045	2+	"	"	"	"	"

Another overseas recovery from a modest number of birds banded. Because of heavy hunting in China this species has the highest recovery reporting rate of any of the migrant waders. Many Great Knot from NW and SE Australia seem to pass through the Shanghai area in late March and the first half of April, during their northward migration.

The other two birds – local retraps – are the oldest VWSG Great Knot so far (minimum age of $14^1/_2$ years).

Sharp-tailed Sandpiper

Band	Age	Date banded	Location banded	Date found	Location found	Km moved
051-04341	1+	140178	Werribee SF, Port Phillip Bay	061178	Hanzou City, Zhejiang Provience, China 30^0 24' N, 121^0 36 E	7976 NNW

Recoveries of Sharp-tailed Sandpipers are few and far between. This is a valuable record even though there was a long delay in it being reported and the finding date is probably erroneous.

Red-necked Stint

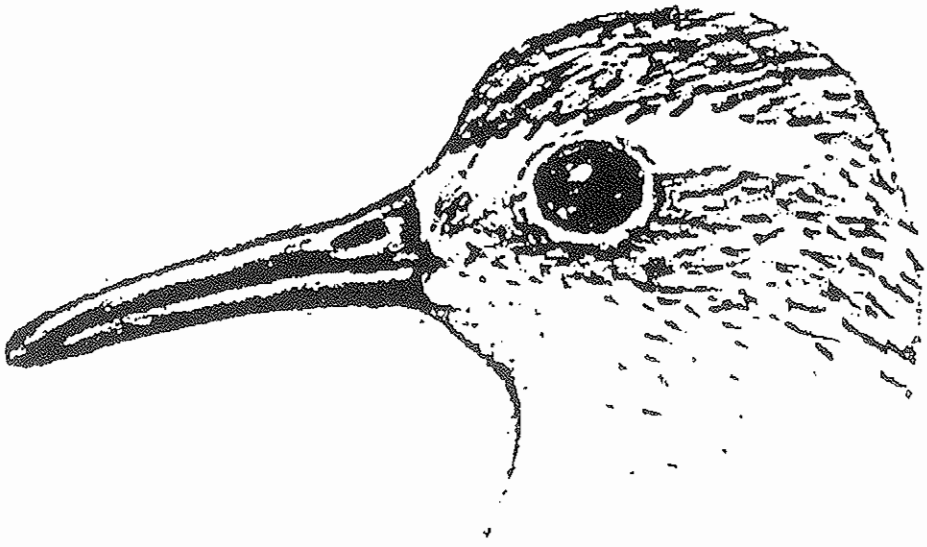
Band	Age	Date banded	Location banded	Date found	Location found	Km moved
03493463	1	030194	Yallock Creek, Western Port	010798	Sasskyllaka, Anabarskiy Dutriot, Russia 71^0 58' N, 114^0 10' E	12491 N
035-01052	1	100296	Brown Bay, near Port Macdonnell SA	221298**	Perth, WA	2364 W
034-13415	1	200692	Barry Beach, Corner Inlet	060499**	Brown Bay, near Port Macdonnell SA	490 W

** indicates bird retrapped

Recoveries on the breeding grounds do not occur often. 034-93463 is at the extreme western end of the breeding range, close to an earlier recovery of another Victorian banded Red-necked Stint. At 12491 km this is the longest recorded movement of a Red-necked Stint.

A few birds each year change the location in Australia where they spend the non-breeding season. However the move to Perth by 035-01052 is unusual.

There are a number of sightings of orange flagged birds (from Victoria) in South Australia, especially during April. Whilst some of these are wandering first year birds, others, like this one, must be adults. It is not clear whether the bird had previously changed its non-breeding area to Brown Bay or whether it had called in there during the course of its northward migration.



Curlew Sandpiper

Band	Age	Date Banded	Location banded	Date found	Location found	Km moved
040-94220	2+	271278	Werribee SF, Port Phillip Bay	190579	Lianyuenang City, Jiangsu Porvience, China. 34^0 30' N, 119^0 30' E	8471 NNE
041-08055	Juv	271182	Perth, WA	200886** 010190**	Broome WA Yallock Creek, Vic	1688 NNE 2771 E
041-97052	1	271297	Werribee SF Port Phillip Bay	120898**	Broome, WA	3099 NW
041-97047	1	271297	"	140898**	"	"
041-92132	1	210196	Off Manns Beach Corner Inlet	290898**	"	3298 NW
041-68751	2+	030193	Stockyard Point Western Port	090998**	80 Mile Beach WA	3155 NW
041-8112	3+	060994	Broome, WA	281298**	Werribee SF, Vic	3099 SE
Taiwan B07727	2+	280490	Shi-Chou, Taiwan 23^0 01' N, 120^0 07' E	281298**	"	7254 SSE
041-98578	2+	271298	Werribee SF Port Phillip Bay	170499	150 km SW of Saigon Vietnam	6856 NW

** indicates retrapped

An interesting miscellany of records! The first one is a long-delayed report from China of a bird recovered only five months after banding (in 1978!). The last recovery listed, in Vietnam, was also a same 'year' report (four months). We've caught more Curlew Sandpipers banded in Taiwan than any other species and this $8^1/_2$ years since banding one (B07727) adds to that total. Interestingly it was only 15 numbers from one (B07712) caught in NW Australia on September 10, 1998.

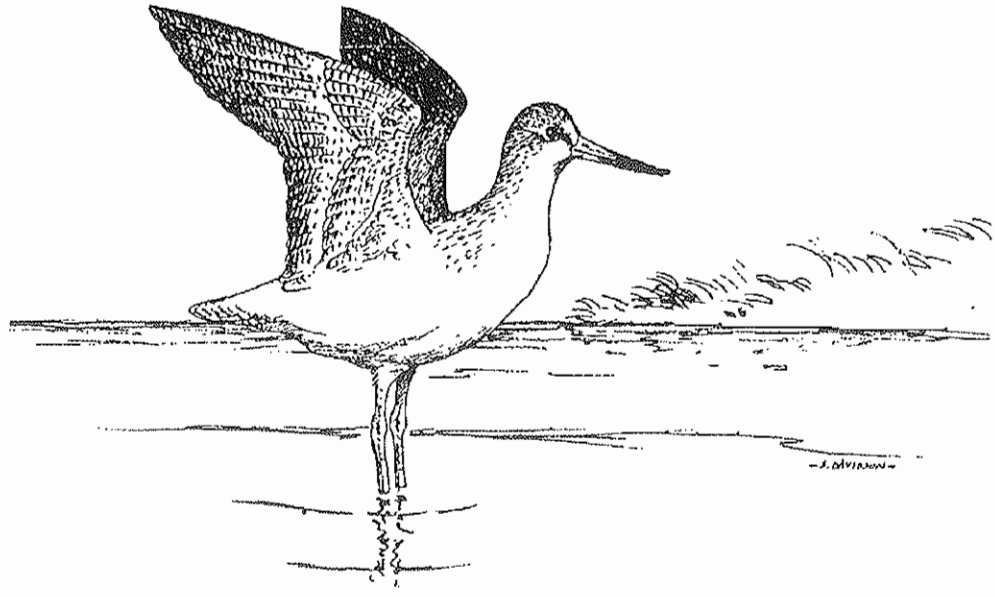
The migratory link between Victoria and NW Australia was further reinforced by four recaptures there, during the August to October 1998 NW Australia Wader and Tern Expedition, of Curlew Sandpipers banded in Victoria. Two of these were of the conventional pattern, adult birds stopping off to refuel there on southward migration before flying directly across the continent back to Victoria (3000 km non stop). However the other two were both immature birds which had spent the 1997-98 summer in Victoria and which had then gone as far as Broome for the austral winter. It used to be thought that the movements of juvenile birds during their first winter did not extend to such distances.

Sanderling

Band	Age	Date banded	Location banded	Date retrapped	Location found	Km moved
041-95163	2+	100296	Brown Bay SA	090998	80 Mile Beach WA	2814 NW
041-88269	1	070498	Sandy Point Vic	081098	Bush Point, Roebuck Bay WA	3257 NW
042-12148	2+	081098	Bush Point, Roebuck Bay WA	221198	Sandy Point, Vic.	3257 SE
041-91768	2+	060295	Brown Bay SA	281097 221198	Sandy Point, Vic.	471 E
041-96392	2+	240297	Stoney Point Port Macdonnell SA	221198	Sandy Point, Vic.	475 E
041-97859	1	240298	Corner Inlet Vic	040499	Canunda NP SA	539 W
041-96693	1	281297	Sandy Point Vic	040499	Canunda NP SA	529 W
041-98419	2	221198	Sandy Point Vic	040499	Canunda NP SA	539 W

The three movements between NW Australia and SE Australia are the first captures of banded birds (as opposed to leg flag sightings) illustrating that NWA is a stopover location on southward migration for bids on their way to SE Australia. 041-98269 is particularly interesting as it was an immature bird – supporting the view that many first year Sanderlings may make significant migrations.

The list also includes five more examples of the mobility of Sanderling along the coasts of southern Australia. Unlike most other species of wader they quite frequently change the area they inhabit during the austral summer (their non-breeding season).



Tern Recovery Report 1998/99

Clive Minton

Common Tern

Band recoveries

Band	Age	Date banded	Location banded	Date retrapped	Location found	km moved
051-93699	2+	260198	Lochsport	151198	Eastern Sumar, Philippines 11^0 02' N, 125^0 48' E	5906 NNW

Flag Sightings

Date of sighting	Location found	Observer	km moved
240197	Currumbin, SE Qld	P. Duckworth	1300 NNE
031098	Kurnell, NSW	Joy Pegler	713 NE
181098 (3 birds)	Nambucca Esturay, NSW	D. Secomb	1098 NE
081198 (3 birds)	6km south of Nambucca Esturay, NSW	"	1092 NE
081198 (2 birds)	4km south of Nambucca Esturay, NSW	"	1094 NE
081198	South Beach, Nambucca Esturay NSW	"	1096 NE
081198	"	"	1098 NE
020499	Evans Head, NSW	"	1258 NE
050499	South Ballina, NSW	Bo Totterman	1284 NE
280299	Corner Inlet, Vic	Paul Rose	100 SW

The recovery in the Philippines is the second. It is an obvious location for birds to visit on their way to and from their central Siberian breeding grounds. The date (15 November) is surprisingly late for a bird presumably on southward migration back to Australia.

The sightings on the northern NSW coast provide additional data on the timing of the migration down, and later up, the east coast of Australia. Southward passage is in October and early November and northward passage in March and early April.

The nine flagged birds seen on 8 November 1998 were out of a total of 510 birds examined, indicating that only around 2% of the population visiting eastern Australia carry bands.

Fairy Tern

Band	Age	Date banded	Location banded	Date of retrap	Location found	km moved
041-83804	2+	120694	Queenscliff	240199	Gippsland Lakes	271 SE
041-92199	2+	270196	Gippsland Lakes	200399	Mud Island	268 W

Two further movements of Fairy Terns between Port Phillip Bay and the Gippsland Lakes (see earlier Bulletins).

Whilst Fairy Terns seem to be mobile along the Victorian coast there is no evidence yet that they move further afield, even in winter.

Little Tern

Band	Age	Date banded	Location banded	Date of sighting	Location found	km moved
041-47398	2+	050389	Gippsland Lakes	231297**	Nowra, NSW (on nest)	430 NW
041-66948	Chick	041297	Harrington, NSW	130399**	Gippsland Lakes	532 SW
041-80100	Chick	281297	Nowra, NSW	130399**	Gippsland Lakes	426 SW
041-99056	Chick	291297	Botany Bay, NSW	130399**	Gippsland Lakes	810 SW
042-14123	Chick	251198	Harrington, NSW	130399**	Gippsland Lakes	532 SW
# ?	2+	24-250199 130399	Gippsland Lakes	050499*	South Ballina, NSW	1284 NE
?	2+	"	"	170599	"	1272 NE
?	2+	26-270196 or 24-250197	"	250499*	Mikumo, Mia, Japan 34^0 28'N, 136^0 33'E	
042-00608	2+	130399	"	060699**	Jinnoshinden, Toyohashi City, Japan 34^0 44'N, 137^0 19'E	8252 N

banded as "Japanese" (not Australian/ local) migrant
* Observed in the field ** retrapped

Little Terns have proved a great investment as a study species with distant sightings of flagged birds and recapture/control rates well above most other birds.

Another two reports from Japan are welcome. Some 80% of the Little Terns in Gippsland Lakes flocks in January each year appear to be visitors from Japan.

This year, however, the greatest excitement was catching four birds from the NSW breeding population at the Gippsland Lakes on 13 March. This was out of 174 Little Terns caught that day. It indicates a substantial post breeding dispersal southwards by the NSW population after the end of the breeding season. 041-47398 also fits this pattern. No one knows what happens after that! The non-breeding/wintering areas of the Little Terns which breed in Victoria (and NSW) are not known, though they are suspected to be in the northern half of NSW.

Crested Tern

Recoveries of chicks banded at Mud Islands, Port Phillip Bay

Band	Date of banding	Method of recovery	Recovery date	Recovery location	km moved
071-83406	131287	Retrapped	260199	Gippsland Lakes	268 E
072-04524	161289	"	140399	"	"
072-04227	"	"	"	"	"
071-97275	"	"	170599	Corner Inlet	140 ESE
072-05400	151290	"	260199	Gippsland Lakes	251 E
072-15509	"	"	170599	Corner Inlet	140 ESE
072-27902	181293	"	140399	Gippsland Lakes	268 ESE
072-49192	181294	Dying	181198	Newhaven	59 ESE
072-37279	"	Dead	050199	San Remo	63 ESE
072-46679	"	Dying	210499	Brighton	44 NNE
?	171295	Seen	130998	South Ballina, NSW	1321 NE
?	"	"	081198	Port Macquarie, NSW	1069 NE
072-49871	"	Dead	271298	Spray Point	11 S
072-65688	"	Retrapped	260199	Gippsland Lakes	251 E
072-72375	211296	"	"	"	"
072-72354	"	"	140399	"	268 E
?	211297	Seen	221198	Carpenters Rocks, SA	383 W
?	"	"	210499	Port Macquarie, NSW	1059 NE
072-85042	031298	Dying	060199	San Remo	61 ESE
072-85147	"	Dead	110299	West Phillip Island	42 SE
072-85551	201298	Dying	230199	San Remo	63 ESE
? 2 birds	031298 or 201298	Seen	180799	Carpenters Rocks SA	383 W
?	171295	Seen	141198	Hastings Point, Qld	11100 NE

Recoveries of chicks banded at the Nobbies, west end of Phillip Island

Band	Date of banding	Method of recovery	Recovery date	Recovery location	km moved
072-47586	221294	Retrapped	170599	Nr. Foster, Corner Inlet	100 ESE
072-73408	220197	Dead	190199	Horny Point, SA	886 WNW
072-73280	"	Killed	151298	Where banded	Local
072-73632	"	Retrapped	260199	Gippsland Lakes	224 E
072-91099	151298	Dead	220199	Cleeland Bight	20 E
072-86855	"	Dying	200199	Penguin Parade	1 E
072-86931	"	Dead	090299	Cape Woolamai	21 E

Recoveries of chicks banded off Manns Beach, Corner Inlet

Band	Date of banding	Method of recovery	Recovery date	Recovery location	km moved
071-83406	100188	Retrapped	260199	Gippsland Lakes	100 NE
071-83421	"	"	170599	Near Foster, Corner Inlet	45 W
071-96762	241288	"	260199	Gippsland Lakes	100NE
072-27599	121293	"	140399	"	116 NE
072-27548	"	"	170599	Near Foster, Corner Inlet	45 W
072-49098	130195	"	140399	Gippsland Lakes	116 NE
072-73933	230197	"	"	"	"
072-86402	060198	Dying	311298	Yamba, NSW	1189 NE
072-86124	"	Alive	110699	Smoky Cape, NSW	1033 NE

Other recoveries of Crested Terns

Band	Date of banding	Where banded	Recovery date	Recovery location	km moved
072-25795	020195	Spectacle Island Tas.	140399**	Gippsland Lakes	547 N
072-02416	131291	Bicheno Island Tas.	031298** breeding	Mud Island	600 NW

** retrapped

This year there is another excellent selection of recoveries emanating from the sustained annual banding of Crested Tern chicks at the Mud Island, Phillip Island and Corner Inlet colonies. An even greater proportion than usual relate to birds recaptured by the group itself rather than reported by the general public, via the Australian Bird and Bat Banding Schemes.

Most recoveries fit into the general pattern of an eastward movement along the coast of Victoria after breeding, with many 'wintering' along the northern half of the NSW coast. It is interesting, in view of the uncertainty regarding the age of first breeding, that a three year old bird was still in northern NSW in early November and another in south east Queensland in mid November.

There was the usual smaller number of contrary movements - westward into South Australia - with two first year birds even wintering there.

In addition to the recoveries and the colour band sightings interstate, listed above, there have been sightings of colour marked birds at lesser distances from the Mud Island banding location.

Place	Date	Orange	Blue	Yellow	Green	Observer
Seal Rocks, Phillip Island	220599	6	2	1	3	P. Dann
Apollo Bay	100299		2		2	J. Hale
Lakes Entrance	240299				1	C. Schipper
Wilson's Promontory	280399	1				N. Mathews

Birds were marked with the above colours on the following dates:

Colour	Date	Number Marked
Orange	171295	1021
Blue	211296	1000
Yellow	211297	697
Green	031298 and 201298	938

Age at first breeding

A most productive visit was paid to the Mud Island colony on 3 December 1998 to look for colour banded adults in the breeding population and to recapture banded adults.

One hundred and nineteen of the one hundred and twenty one adults captured had been originally banded as unfledged chicks in the Mud Island colony (the others were from Phillip Island and from Tasmania).

Their ages are shown below:

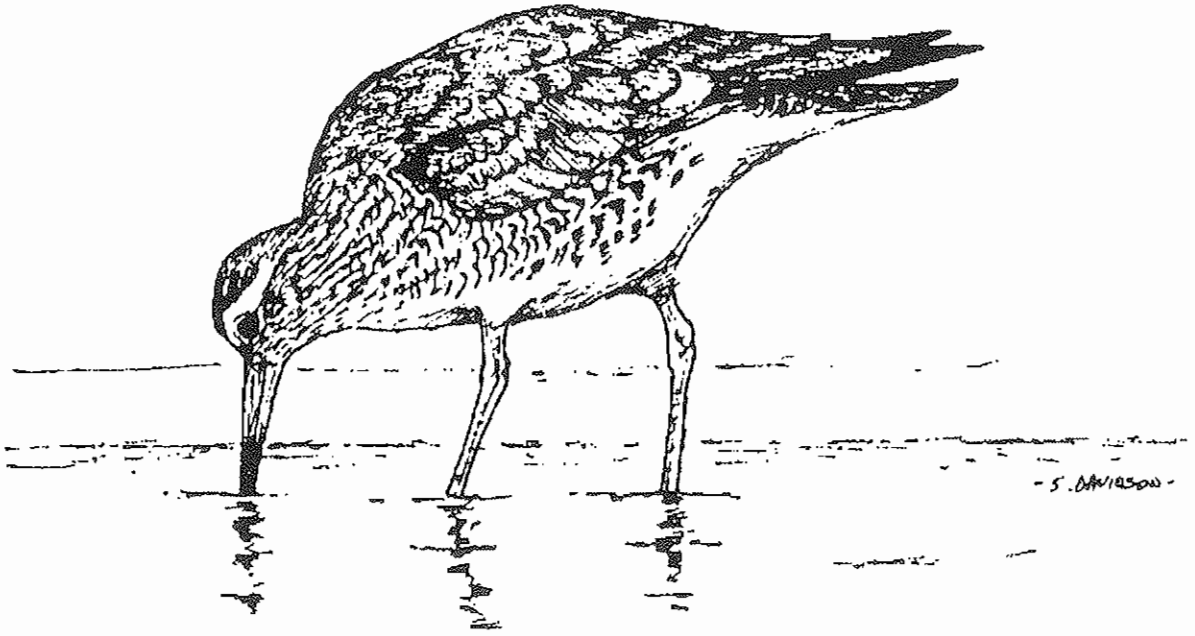
Age	Number of birds
12	4
11	11
10	24
9	16
8	14
7	11
6	13
5	24
4	4

This indicates a greater proportion of five year old birds than in samples caught in other years, suggesting that more may start breeding at this age than previously thought (six and seven year old birds have previously dominated catches).

Sightings of colour marked birds were also of great interest. The 1500 nesting pairs in the colony were scanned and only one had a colour band - orange, indicating it was banded in 1995 (three years old). It was notable that this bird was not tame enough to be caught. However, an additional 17 orange banded birds and three blue banded birds (two years old) were also present in the colony. Superficially these could have been mistaken for breeding adults, but careful watching of each individual indicated that none had a nest. Some were attached to a particular location (ie had a 'territory') and some were obviously paired (in some cases to another "orange" bird). Others roamed around the nesting area of the colony - often getting attacked (mildly) by brooding birds. In human terms all were extremely interested in what was taking place in the colony and gave the impression of wanting to participate, but they were obviously not quite 'ready'.

Many of the orange banded birds did not have the full adult breeding plumage (although a few did). Some white speckling on the forehead and the lack of a full crest were the most usual shortcomings.

These results augur well for the colour band experiment successfully providing, over the next two or three years, an accurate quantitative measure of the age of first breeding of Crested Terns at Mud Island.



Sightings of Leg-flagged Waders from Victoria
Report number 7.

Clive Minton and Rosalind Jessop

An orange plastic leg-flag has been placed on the right tibia of most migrant and some resident waders banded in Victoria since 1990. This has led to a significant increase in the rate at which data has been generated on migration routes and key stopover regions in the flyway.

Lists of sightings of orange flagged birds away from the banding areas have been published in past VWSG Bulletins (and in the AWSG bulletin *The Stilt).*

Grey Plover

080898	Yatsu Tidal Flat, Chiba, Japan 35^0 40'N 139^0 00'E	Sohei Samejima
110898	"	Harutaka Takubo
130898	"	Tsutomu Ishikawa
140898 2 birds	"	Yasuo Suzuki
160898	"	Harutaka Takubo
180898	"	Hideko Hayashi
220499 2 birds	"	Yasuo Suzuki Ayako Asano
300499	"	Yasuo Suzuki
200599	"	"
120898	Tama River Mouth, Tokyo, Japan 35^0 32'N 139^0 47'E	Akiko Yoshizawa

These are the first sightings of Grey Plover away from the banding location. There are no overseas recoveries of Grey Plover either.

Clearly Japan is a key stopover location on both northward and southward migration. At least six individual birds seem to have been involved. All probably emanated from 23 Grey Plover flagged in NW Swan Bay on 18 October 1997.

Double-banded Plover

210998 Male nesting	Upper Tekapo River, NZ 44^0 07'S 170^0 26'E	A. Crossland

A sighting in a typical nesting area in New Zealand. It was a male bird, at the nest.

In addition an orange flagged bird was seen by Barbara Garrett at Killarney Beach on 23 July 1998. It would have been banded further east in Victoria – at Barry Beach, Shallow Inlet or Werribee SF.

Lesser Sand Plover

211198	Manly Boat Harbour, Moreton Bay, Qld.	A. Keates
280399	"	D. Connolly, A. Keates

These records could possibly be of a bird (s) on passage but more likely of a bird which has changed its non-breeding area away from Victoria (see also 1998 VWSG bulletin).

Greater Sand Plover

220698	Chong Bin, Tatu Estuary, Taiwan	Wei-ting Liu
081098	Manly Boat Harbour, Moreton Bay, Qld.	D. Edwards
201298	"	A. Keates
100199	"	"

The sighting in Taiwan was thought to be an early bird on return migration after an excellent 1998 breeding season.

The Queensland sightings could all refer to the same bird – one which looks to have changed its non-breeding area away from Victoria.

Ruddy Turnstone

180898	Sanbanze Tidal Flat, Funabashi, Japan 35^0 40'N 139^0 59'E	Harutaka Takubo
030599	Peng-Hu, Taiwan 23^0 40'N 119^0 39'E	Chien-Hsuin Cheng & Dr Fang
200299	Karaka, Manakau Harbour, NZ 37^0 05'S 174^0 50'E	B. Woolley
200998	Port Hedland Saltworks WA	D. Watkins et al.

Taiwan seems to be a preferred stopover location for Turnstone on northward migration from Victoria. The sighting in Japan is our first for that country. The bird seen in New Zealand could well be the same individual as reported at the same site in February 1997 (see 1997 VWSG Bulletin). It was also nice to have a record of a bird returning via north west Australia. Four more orange flagged birds were seen in winter (26 May 1999) at Seal Rocks, Phillip Island (by Peter Dann). These were presumably immature one year old birds from the flock which spends much of the summer around Flinders.

Eastern Curlew

090397	Sone, Kitakushu-shi, Japan 33^0 49'N 130^0 58'E	Kuruhiko Hatano
190397*	"	Kazuo Samoto
120398	Fuji River mouth, Shizuoka, Japan 35^0 07'N 138^0 39'E	Hideaki Nakano
110898 2 birds	Dux Creek, Moreton Bay, Qld	T. Ford
150898	Pine Rivers, Moreton Bay, Qld	D. Edwards
311298	Georgetown, Tas.	R. Cooper
**270499	Dux Creek, Moreton Bay, Qld	T. Ford

*This is an additional bird to the one, on the same date, detailed in the 1997 VWSG Bulletin.
**This bird also carried a satellite transmitter (see separate report).

Japan continues to be a prominent location for sightings during northward migration. Queensland is also a popular stopover site, particularly on southward migration. The bird in Tasmania was either one which had changed its non-breeding area or had been on passage when banded in Victoria.

Grey-tailed Tattler

080998	Boonooroo, QLD	C. Barnes

Another nice indication of the migration route and timing of a Grey-tailed Tattler, identified by plumage as an adult, on its way back to Victoria. One, possible the same bird considering that only three have been flagged in recent years, was seen in Moreton Bay on 2 October 1997.

Bar-tailed Godwit

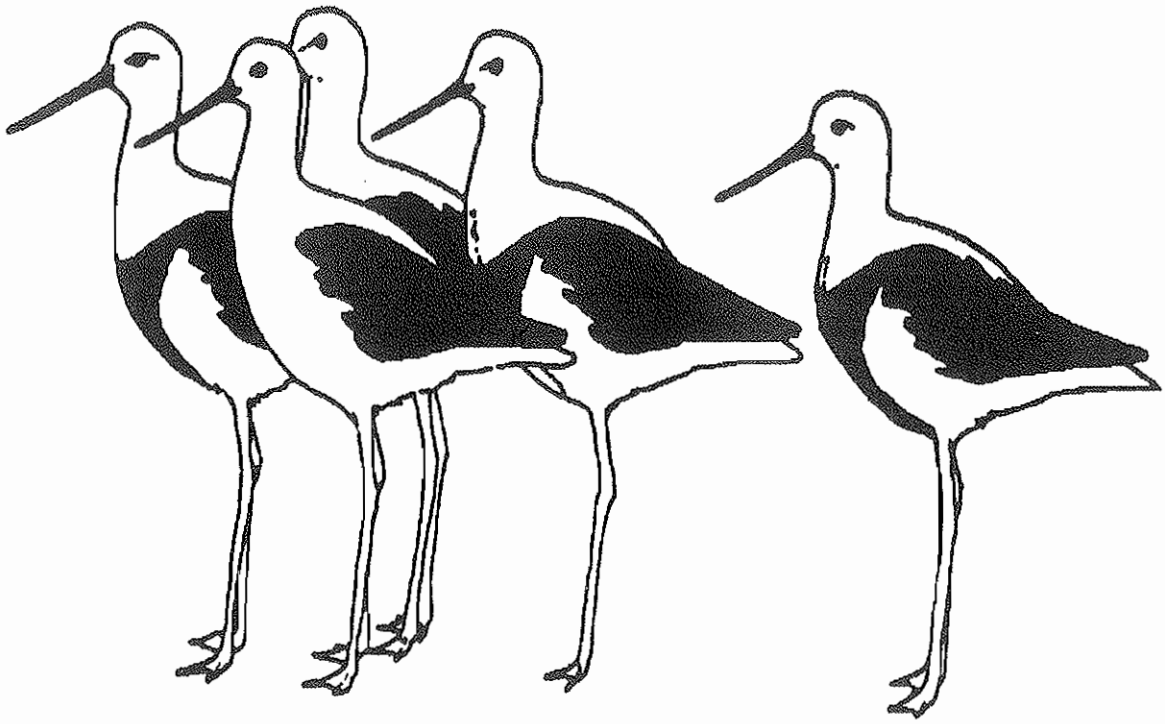
071198	Kaipara Harbour, NZ	G. Grant
221198	"	G. Pulham
010599	"	G. Grant & M. Twyman
041298	Manukau Harbour, NZ	R Clough
070699	"	"
080299	Waikawa Harbour, Southland, NZ	D. Seay
030599	Shirakawa River Mouth, Kumamoto, Japan. 32^0 47'N 130^0 37'E	Kyoichira Imamura
020599	Yalu Jiang Nature Reserve, China 39^0 49N 123^0 38'E	J. Wilson, M. Barter
290498	Yatsu Tidal Flat, Chiba, Japan 35^0 40'N 139^0 55'E	Tsutoma Ishikawa
190598	"	"
100598	"	Takashi Miyazaki
120498	Torinoumi, Watari, Miyagi, Japan 38^0 02'N 140^0 55'E	Hiroshi Ikeno
030598	"	"
051098	Manly Boat Harbour, Moreton Bay, Qld	D. Edwards, A. Keates
101098	"	"
251098	"	"
071198	"	"
211198	"	"
251098	Mackay, Qld	L. Thyer
061198	Jack Smith's Lake	D. Fraser

It is especially notable that all the sightings in Japan were on northward migration (see also previous VWSG Bulletins). This suggests that Bar-tailed Godwits either follow a different route on southward migration or fly over Japan without normally stopping.

The increased number of sightings in New Zealand may in fact be a reflection of more godwits being banded in Victoria in the last couple of years.

Sightings in Queensland on southward migration are typical. There have not been any orange flagged Bar-tailed Godwits seen in NW Australia. This supports the biometric data which suggests that the NW Australian and eastern Australian birds are different sub-species from different breeding areas.

Jack Smith's Lake is an inland site about 10 km from the nearest part of Corner Inlet.



Red Knot

300499	Mai Po Marshes, Hong Kong 22^0 29'N 114^0 19'E	G. Carey
090199	Ashley Estuary, Christchurch, NZ 43^0 17'S 172^0 43'E	T. Croker
121098 to 151098	Pautahanui Inlet, Paremata, NZ 41^0 05'S 174^0 54'E	R. Morrison
031197	Manawatu River Estuary, NZ 40^0 28'S 175^0 14'E	M. Snowball
301197	"	R. Slack
071198	Tapora South, Kaipara Harbour, NZ 36^0 21'S 174^0 18'E	G. Grant
300199	Awarua Bay Bluff, Invercargill, NZ 40^0 35'S 168^0 28'E	G. Grant
010299 4 birds	Papakanui Spit, Kaipara Harbour, NZ 36^0 26'S 174^0 12'E	G. Pullen
060299	Jordans, Kaipara Harbour, NZ 36^0 34'S 174^0 21'E	D. Melville
040599	Tapora, Kaipara Harbour, NZ 36^0 21'S 174^0 18'E	NZ banding office
270998	Mangawhai Estuary, Auckland, NZ 36^0 05'S 174^0 36'E	G. Grant
010199	"	T. Habraken
171098	Miranda, Firth of Thames, NZ 37^0 10'S 175^0 19'E	T. Habraken
181098	"	"
010199 3 birds	"	B. Seddon
060199	"	A. Riegen
130998	Karaka, Manukau Harbour, NZ 37^0 05'S 174^0 50'E	T. Habraken
061298	"	"
020199 4 birds	"	C. Hassell & J. Sparrow
200299 2 birds	"	B. Woolley
290599	"	G. Pulham
251198	Conifer Grove, Papakura, Manukau Harbour NZ 37^0 02'S 174^0 56'E	E. C. Warr
261298 4 birds	Kiwi Esplanade, Manukau Harbour, NZ 36^0 58'S 174^0 40'E	N. Anthes
240199	Darwin, NT	G. O'Brien
140299	"	"
310399	Nr Karumba, SE Gulf of Carpentaria, Qld	J. Wilson
120499	"	A. Riegen, P. Driscoll
130499 2 birds	"	"
120998	Manly Boat Harbour, Moreton Bay, Qld	A. & S. Keates
130998	"	D. Edwards
170998	Sandgate, Moreton Bay, Qld	F. Armburst
010699	Roebuck Bay, Broome, WA	A. Boyle, BBO

Another fine selection of knot flag sightings including one in Hong Kong. It si more usual for Red Knot from NW Australia to be linked with Hong Kong by banding recoveries or flag sightings.

Thirty-four sightings in New Zealand must be a record. It reflects increased success in catching Red Knot in Victoria in the last two or three years and the extremely active and diligent search and recording of leg-flag sightings in New Zealand. The list contains several birds further south than previously recorded, including one near Invercargill at the bottom of South Island.

The records in northern Australia are a miscellany. Whilst some refer to birds stopping off there on their northward or southward migration from Victoria others may have a different explanation. The Gulf of Carpentaria sightings could even be birds which had been in New Zealand – several NZ flagged birds were seen at the same time. The Darwin bird would appear to have changed its non-breeding area. The Broome bird, which was in full breeding plumage, may well have been a two year old which was only travelling part way back to its breeding grounds.

Great Knot

110998	Sandgate, Moreton Bay, Qld	F. Armbrust
211198	Cabbage Tree Creek, Moreton Bay, Qld	J. & I. White
251098	Darwin, NT	C. Doughty
120998	80 Mile Beach WA (18km south of Anna Plains Station)	R. Ward

The four Great Knot sightings illustrate the wide spread of southward migration routes back to Victoria.

Sharp-tailed Sandpiper

270498	Mankyung Estuary, Korea 35^0 52'N 126^0 43'E	Per Korean Banding Scheme
140998	Sandy Point (nr Wilson's Promontory)	S. Taylor

Our first Sharp-tailed Sandpiper from Korea. The Victorian sighting is some way from any location at which Sharp-tailed Sandpipers have been flagged.

Red-necked Stint

A surprisingly low number of only four Red-necked Stints were observed at Mai Po Marshes Hong Kong (23^0 16'N 120^0 07'E) during northward migration in 1999. These sightings were all by Geoff Carey and are detailed below:

Date	Number of birds
210499	2
300499	1
130599	1

In addition Chris Doughty saw one there on 27 April.

070699	Buir Nuur, NE Mongolia. 47° 48'N 117° 53'E	A. Braunlich & B. Batdorj
190497	Chin-Shan, Taipei County, Taiwan	Chung-Ming Chang
200599 2 birds	Wu-Chiang-Hsi Estuary, Chin-men, Taiwan 24° 30'N 118° 30'E	Chung-Wei Yen
200599	Szu-Tsao, Tainan City, Taiwan 23° 01'N 120° 08'E	Yung-Tsang Fu
310599	Han-Pao, Changhwa County, Taiwan 23° 03'N 120° 22'E	Chih-Yuan Tsai
150699	Tatu River Estuary, Taiwan	Chiang Chung Yu
040998	Broome, WA	AWSG/BBO
080998	80 Mile Beach, Anna Plains Station, WA	AWSG
160998 2 birds	Port Hedland Saltworks, WA	"
230998	Broome, WA	AWSG/BBO
250998	"	"
071098	Bush Point, Roebuck Bay, WA	AWSG
181098	Cape Keraudren, 80 Mile Beach, WA	"
030199	Lake McLarty, Peel Yalgorup wetlands WA	J. Darnell et al.
260199 2 birds	"	T. Kirkby
170499	Eyre Bird Observatory, WA	The wardens
030799	Fitzgerald River NP, WA	D. Sullivan
270299	Manly Boat Harbour, Moreton Bay, Qld.	A. Keates, D. Connolly
010799	Cape Bowling Green, Townsville, Qld	J. Lowry
281198	Adelaide Saltfields, SA	C. Rogers, J. Cox
150399	Tolderol, Lake Alexandrina, SA	R. Reid
070499 2 birds	Brown Bay, SA	P. Collins, R. Jessop
021198	Georgetown, Tas.	R. Cooper
091198	Claverts Lagoon, Hobart, Tas.	A. Fletcher
130199	Cape Portland, NE Tas.	R. Cooper
220199	Marion Bay, SE Tas.	E. Woehler
300199	Robins Island, NW Tas.	T. Reid
310199	Perkins Island, NW Tas.	"
220299	Barilla Bay, Hobart, Tas.	P. Park
120399	Orielton Lagoon, Hobart, Tas.	"
060998	Kurnell, NSW	J. Pegler
200299	"	"
220199	Lake Wollumboola, Culburra, NSW	R van der See
26-290499 4 birds	Lake Victoria, SW NSW	P. Robertson

The highlight of the red-necked Stint sightings was a bird seen in NE Mongolia on 7 June, on northward migration. This is our first flag sighting or recovery of any species of wader from Mongolia. The location was close to the Russian and Chinese borders in the same marshes complex in which ten Red-necked Stints were observed in early June 1996 (Daursky Marshes, southern Siberia). The area is obviously a key inland stopover region for birds making their way from the Chinese coastline across the continent to their Arctic breeding grounds.

There was a relative dearth of Red-necked Stint sightings from Hong Kong in 1999, but in contrast a record showing from Taiwan. As usual all were on northward migration, one very late bird still being in Taiwan in mid June.

The array of sightings within Australia was the largest ever reported. Dominant were birds in NW Australia on southward migration and sightings in Tasmania of birds which had either been banded during migration through Victoria or had changed their "non-breeding" areas. There is also obviously a dedicated team of wader watchers throughout Tasmania!

Other birds which had clearly changed their non-breeding area away from Victoria include those observed at Lake McLarty (WA), Moreton Bay (Qld), Lake Wollumboola (NSW) and one of the Kurnell (NSW) sightings.

Examples of the wanderings of first year birds, which are not going to return to the breeding grounds until the subsequent year, include the sightings at Fitzgerald River NP (WA) and off Townsville (Qld). Both were seen in early July and the lack of breeding plumage was noted.

Curlew Sandpiper

International sightings

140798	Daursky Nature Reserve, Russia. 50° 05'N 115° 30'E	Oleg Goroshko
040599	Pu-tai, Chiayi, Taiwan 23° 21'N 120° 10'E	per Taiwan Bird Banding Centre
110599*	Cheng-hsi-li, Tainan City, Taiwan 23° 02'N 120° 03'E	Australian

* This bird was marked with the new South Australian flag code (orange over yellow). It would have been banded in South Australia in the first week of April 1999.

The regular, almost daily, examination of the waders at Mai Po Marshes, Hong Kong (23° 16'N 120° 07'E) was continued by Geoff Carey, and others, in 1999. Inter alia this produced another 47 sightings of orange flagged Curlew Sandpipers.

Other birds which had clearly changed their non-breeding area away from Victoria include those observed at Lake McLarty (WA), Moreton Bay (Qld), Lake Wollumboola (NSW) and one of the Kurnell (NSW) sightings.

Examples of the wanderings of first year birds, which are not going to return to the breeding grounds until the subsequent year, include the sightings at Fitzgerald River NP (WA) and off Townsville (Qld). Both were seen in early July and the lack of breeding plumage was noted.

Curlew Sandpiper

International sightings

Dates of sightings were:

Date	Number of birds
220399	1
310399	1
070499	1
080499	2
090499	1
100499	1
140499	2
160499	3
170499	1
200499	4
210499	6
220499	2
240499	1
260499	2
290499	3
300499	5
030599	5
060599	5
300599	1

In addition to the above Chirs Doughty saw an orange flagged Curlew Sandpiper at Mai Po on 27 April. Arthur and Sheryl Keates also saw one there on 28 and 29 April.

National sightings

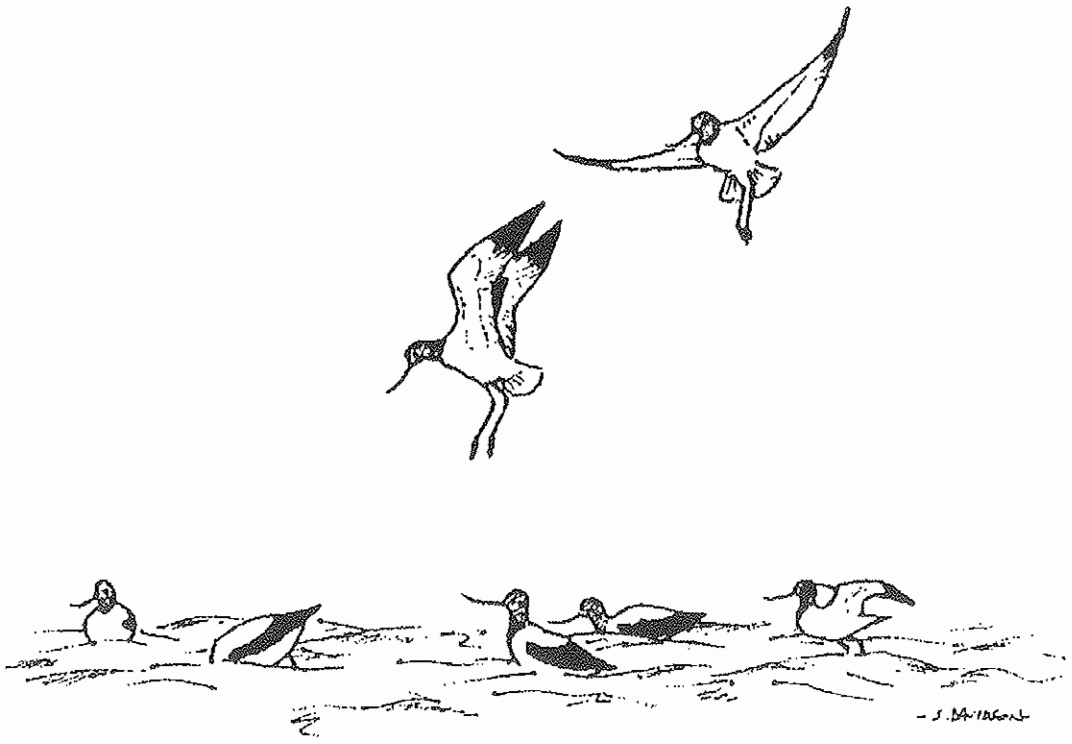
000497	nr Karumba, Gulf of Carpentaria, Qld	P. Driscoll
310199	Luggage Point, Moreton Bay, Qld.	A. Keates, D. Connolly
270499	Lake Wyara, Currawinya, NP, Qld	D. Secomb
020598 2 birds	Roebuck Bay, Broome, WA	C. Hassell, BBO
120798	"	T. Wheller
140798	"	C. Hassell, BBO
140998	80 Mile Beach - 25 km south of Anna Plains Station, WA	AWSG
171098	"	"
160998	Port Hedland Saltworks, WA	"
190998	"	"
251195	Botany Bay, NSW	J. Pegler
081198	Carpenters Rocks, SA	A. Boyle
070499	Brown Bay, SA	P. Collins, R. Jessop
281098	Georgetown, Tas	A. Fletcher
130299	"	R. Cooper

It was nice to have a sighting from inland southern Siberia of a bird which had just commenced its return (southward) migration. This is the same site at which 10 orange flagged Red-necked Stints were seen (on northward migration) in June 1996.

The passage through Mai Po, Hong Kong, was again excellently documented by Geoff Carey and his team of dedicated observers. For the third consecutive year an orange flagged bird from Victoria arrived in Hong Kong (this year on 22 March) ahead of yellow flagged Curlew Sandpipers from NW Australia. The median date for sightings in 1999 was 23 April - almost identical to 1998 and previous years.

The records within Australia are in a multiplicity of categories. Many relate to birds on passage to and from Victoria - with NW Australia again producing several examples. But one of the 2 May birds and both the July sightings at Broome were of first year immature birds, in non-breeding plumage. This is further evidence that some of the one year old birds are traversing the whole continent even though they are not intending to return to the breeding grounds.

The Moreton Bay, Botany Bay and possibly the Carpenters Rocks records refer to birds which probably changed their "non-breeding area" from Victoria.



Sanderling

Position of flag on leg	Date	Location seen	Observer
	010898	Shin Maiko, Iwaki, Fukushima, Japan 37° 40'N 140° 57'E	Kinjiro Ono
	020898	Kahoku Beach, Ishikawa, Japan 36° 39'N 136° 39'E	Tonio Nakagawa
	020898	Tokyo Bay, Japan 35° 35'N 139° 49'E	Ken Hatsuno
	110898	Sanrikama Beach, Fukui, Japan 36° 09'N 135° 05'E	Yoshito Ohsako
	120898 2 birds	Ichinomiya River, Chiba, Japan 35° 23'N 140° 24'E	Yasuo Suzuki
	230898 2birds	"	Kenzo Tomiya
	240499	Ling Hekou Nature Reserve, China 40° 54'N 121° 17'E	J. Wilson, M. Barter
lower	291298	120 km east of Esperance, WA	A. Rose
	290897	Cable Beach, Broome, WA	H. Sitters
lower	090898	80 Mile Beach, Anna Plains Station, WA	AWSG
lower	080998	"	AWSG
lower	100998	"	AWSG
1 upper 2 lower	071098	Bush Point, Roebuck Bay, Broome, WA	AWSG
lower	081098	"	AWSG
2 upper 1 lower	161195	30 km SE of Murray Mouth, SA	I. Stewart
several lower	051196	"	"
18 upper 1 lower	181198	"	"
35 upper 1 lower	191198	Murray River Mouth, SA	"
	310199	Perkins Island, Tas	T. Reid
	020199 6 birds	Nelson	R. & K. Gay
	281098 3 birds	Nobles Rocks, east of Nelson	C. Collins
8 upper	161198	Canunda Beach, SA	A. Boyle
5 lower	070998	Yambuck, west of Port Fairy	M. Schultz
6 lower	181098	"	M. Schultz, P. Taylor
	110898	Sanrikama Beach, Fukui, Japan 36° 09'N 135° 05'E	Yoshito Ohsako
	120898 2 birds	Ichinomiya River, Chiba, Japan 35° 23'N 140° 24'E	Yasuo Suzuki
	230898 2birds	"	Kenzo Tomiya
	240499	Ling Hekou Nature Reserve, China 40° 54'N 121° 17'E	J. Wilson, M. Barter
lower	291298	120 km east of Esperance, WA	A. Rose
	290897	Cable Beach, Broome, WA	H. Sitters
lower	090898	80 Mile Beach, Anna Plains Station, WA	AWSG
lower	080998	"	AWSG
lower	100998	"	AWSG

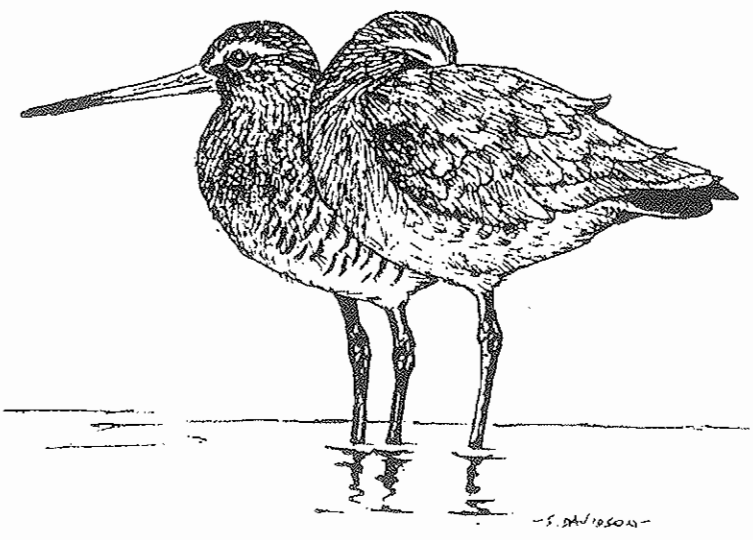
161198 2 birds	Canunda Beach, SA	A. Boyle
181198	30 km SE of Murray Mouth, SA	I. Stewart
191198 2 birds	Murray Mouth, SA	"
120199	Sandy Point (nr Wilson's Promontory)	S. Taylor
110399	"	"

Since flagging of Sanderling commenced in 1991 (mainly since 1993) they have consistently given a high proportion of leg flag sightings, both overseas and away from the banding areas in Victoria (Port Fairy, Sandy Point and Corner Inlet) and SE South Australia (Canunda Beach, Brown Bay, Stoney Point). Birds from the two sites can be differentiated because the orange flag was placed on the right tarsus (lower leg) in South Australia and on the right tibia (upper leg) in Victoria.

Overseas sightings are again predominantly from Japan, with almost all continuing to be during southward migration. It was nice to get our first report of a Sanderling from China.

For the first time a really strong link with NW Australia, as a stopover location on southward migration, became apparent. Seven birds from SE Australia were seen at 80 Mile Beach or Roebuck Bay in August to October and seven birds banded there during that period were subsequently seen in SE Australia.

The mobility of birds along the coast of southern Australia, with permanent changes in non-breeding locations of hundreds and even thousands of kilometres, is apparent from the long list of sightings within Australia. Because the orange flag was placed in different positions on the leg in Victoria and South Australia it was possible to determine the origin of birds if the flag position was recorded. This is why there are records of birds at main banding sites in the table, those which have moved interstate being recorded. Birds with the flag on the tibia (upper) were originally marked in Victoria and those with the flag on the tarsus (lower) in South Australia.



Tern Breeding and Banding 1998/99

Clive Minton

Tern Breeding Colonies

Crested Tern

After the disastrous 1997/98 breeding season Crested Terns had rather better success in 1998/99, as fish availability appeared to improve. Details are summarised below:

Location	Nests	Chicks Banded
Mud Island	1500	938
The Nobbies, Phillip Island	700	622
Corner Inlet	250	31
TOTAL	**2450**	**1591**

The season at Mud Island was about two weeks earlier than normal and nearly half of the chicks were already fledged when the main visit was made on 20 December. Fortunately some of these had been banded on an earlier visit (3 December) which was primarily made to search for colour banded birds.

It is estimated that 1250 young successfully fledged. The last 250 eggs and young perished in severe weather in the period 26-29 December. Dark Green colour-coated metal bands were used on this year's cohort of chicks.

The Crested Terns at the Nobbies, Phillip Island, also bred early and, this time, successfully. The closing of the rock platform, leading to the nesting islands, to the public by the Phillip Island Nature Park in the breeding season is proving very beneficial.

This year unfortunately saw a return to storm tide flooding problems at Corner Inlet. Fewer pairs than normal (250 vs normal 450) bred – on the west end of Clonmel Island again – but most were washed away in the extremely severe storms just after Christmas.

Caspian Terns

As with Crested Terns, Caspian Terns had a better breeding season at Mud Island and a poorer year at Corner Inlet.

About 20 pairs centred their breeding activity around a small grassy knoll which has formed in the Crested Tern colony at Mud Island. Ten chicks were banded and it is probable that a total of 12 actually fledged. The season was extended, as usual, due to repeat clutches of birds which had earlier lost their eggs to marauding Silver Gulls. Thus there were almost fledged chicks as early as 3 December but still one nest with fresh eggs on 14 January.

Fifty-five pairs nested in the usual area on the west end of Clonmel Island, off Port Albert (Corner Inlet). Eleven chicks were banded and it is estimated that only 15 actually fledged. Water and wind blown sand damage during storms -- especially those in late December – was the main cause of breeding failure. There are now some nice low new dunes formed in the area but most birds continue to nest on the lower flatter sand.

Fairy Terns

Every year seems to be the same story – many attempts to breed at Corner Inlet but little success. For Fairy Terns the windblown sand, burying eggs, is probably as regular a cause of nesting failure as flooding by storm tides.

About 20 pairs nested on the east end of Dream Island (McLaughlin's Entrance). One chick was banded, on the late date of 26 February, and it is estimated that not more than 10 young actually fledged.

Little Tern

At least one pair was seen at Sand Island, Queenscliff, during the breeding season and they probably bred (see 1998 VWSG Bulletin).

Banding of some chicks at the Gippsland colonies was undertaken by NRE personnel (using VWSG bands) – 42 at Rigby Island, 15 at Marlo, 2 at Lake Tyres. A number of these, when fledged, were recaptured during cannon-netting in late January and early March in the Gippsland Lakes.

Cannon netting at Gippsland Lakes

The traditional late January visit to catch Little and Common Terns was as disappointing as 1997's rain spoiled visit, but for a different reason – the birds were not present in any numbers at their main Albifrons Island roost. However, this year a second visit, in early March, proved to be the most successful yet for Little Terns, with 174 being caught in a single catch.

It took five catches, spread over a four day period, and many miles of boat travel (twice all the way to Lake King), to catch a total of 130 birds during the January visit (23-26 January 1999).

Species	New	Retrap	Total
Common Tern	65	9	74
Little Tern	31	4	35
Crested Tern	8	6	14
Whit-winged Black Tern	4	0	4
Fairy Tern	2	1	3
TOTAL	110	20	130

A consolation was that the Little Terns contained a greater than normal proportion of local breeding birds – including some fledged juveniles. For the first time the Japanese visiting Little Terns (identified by their "non-breeding" plumage) were

given a generic orange flag only as a marking, thereby reserving the allocated unique flag combinations for local birds only in the future.

The total catches during the second visit were:

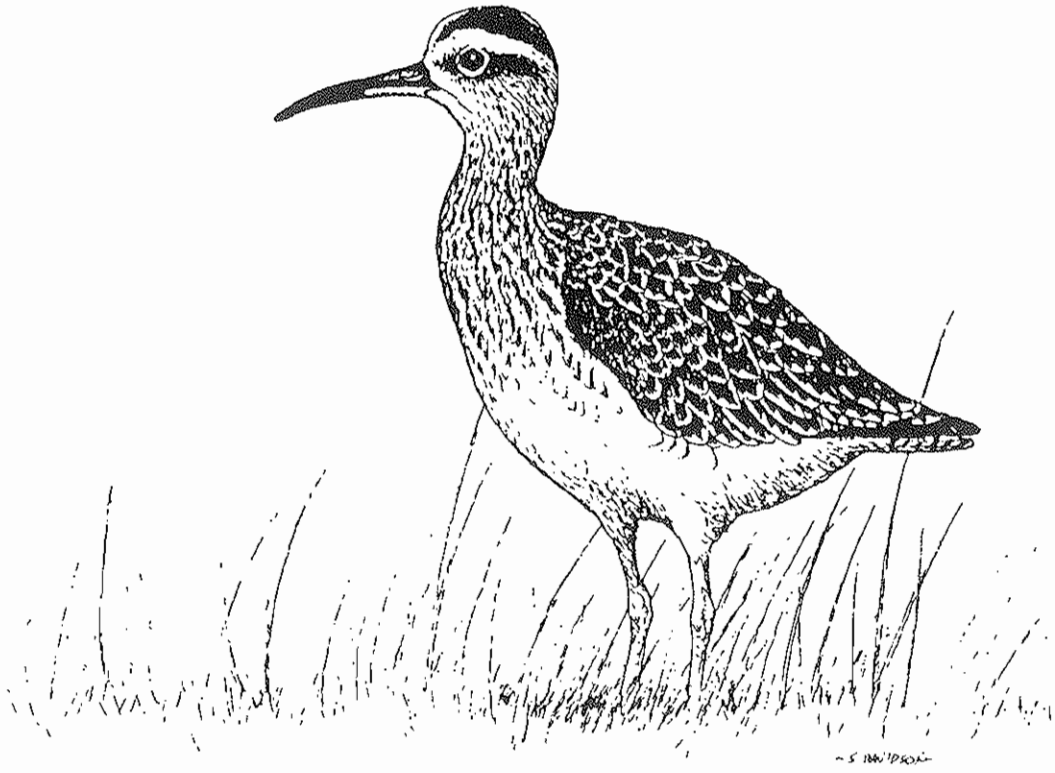
Species	New	Retrap	Total
Little Tern	159	15	174
Crested Tern	39	9	48
Common Tern	5	0	5
Fairy Tern	5	0	5
Whit-winged Black Tern	1	0	1
TOTAL	**209**	**24**	**233**

All the Little Terns were caught in the first catch (and all the Crested Terns in the second catch).

Incredibly, four of the Little Terns carried bands put on in New South Wales – the first captures in Victoria of birds from there. Two were banded in the current summer – one as a breeding adult from Nowra and the other as a chick at Harrington. The other two were from the previous summer – chicks from Botany Bay and (again) Harrington.

This suggests there may be a significant, and previously unknown, southward dispersal after breeding by Little Terns from New South Wales colonies.

Further attempts to catch Little Terns in the Gippsland Lakes will be made in early March in future years, to see if this situation is repeated.



Pied Oystercatchers - the story so far

Peter Collins and Rosalind Jessop

The Pied Oystercatcher population of Australia is only about 10,000 individuals with 1,500 in Victoria. The VWSG have been conducting a study of Pied Oystercatchers in Victoria since early 1979.

Objectives of the Study

Virtually nothing was known about Pied Oystercatchers in Australia when this study commenced. Previously the only significant work was a long term study of a breeding population near Hobart by Mike Newman.

The first phase of the VWSG study has concentrated on movements of individuals by the resighting of colour banded birds. The second phase of the study will concentrate on the breeding biology of Pied Oystercatcher (a Coast-Action-Coast-Care application has been made to help fund this part of the study) and should commence in the 1999/2000 breeding season.

How the data was collected

Until the end of 1988 a single colour band (in the latter part of this period two bands, of the same colour, for greater visibility) was put on the opposite leg to the metal band. Each colour(s) denoted a different banding location. Three hundred and seventy five Pied Oystercatchers were marked in this way.

The marking system was changed in 1989 to a allow individual birds to be identified in the field. The "origin" code was retained but the colour bands were placed above the metal band. Three colour bands were placed on the other leg as a unique combination, if read in conjunction with the site band. One thousand and fifty two Pied Oystercatchers have been marked in this way.

Oystercatchers have been banded at various localities in Port Phillip Bay, Western Port and the Corner Inlet complex. During the 20 year period up to December 1998, 1427 Pied Oystercatchers were banded and 638 retraps made. In addition, there have been over 4000 sightings of colour marked birds. These have been entered onto a data base. These sightings have been made by a great variety of bird watchers and we thank them for participating in the project.

MOVEMENTS

We are now beginning to see a pattern emerging from the data. Of course, there are still a lot of gaps but movement data is showing some interesting things that may not be directly related to movements in themselves but reflect some other aspects of Pied Oystercatchers that are perhaps even more important in the long term.

Table shows where the majority of birds have been caught, a few birds have been banded at other sites such as Altona and Inverloch. The left column shows how many of the birds that have been individually colour banded and the right the

number that have subsequently been resighted and identified. Some birds because of various factors cannot be identified at individual level. However all things considered the resighting percentage is very good with only Corner Inlet birds being elusive probably because of their irritating habit of being in inaccessible places.

Table 1. The number of Pied Oystercatchers individually colour banded and the number of individuals resighted.

Location	Number individually colour banded	Number of individuals seen later
Queenscliff (light green)	118	55
Werribee SF (dark blue)	351	233
Hastings (white)	97	75
Stockyard Point (red)	247	239
Rhyll (orange)	45	22
Corner Inlet (Yellow and dark green)	527	252

Broadly speaking the birds from west of Wilson's Promontory disperse westwards and those from east of the promontory go east. There is however, considerable inter bay movement between Port Phillip and Western Port as even more intra bay movements (these are not considered here as they confuse an already confusing picture).

The birds from Corner Inlet, as can be seen from Map 1 have a strong easterly bias in their movements with several birds going as far north as Botany Bay and Foster in NSW. Most of the birds that take this track were aged as 1 or 2 year olds. Some westerly movements were also made by both adults and juveniles with one adult and one juvenile reaching South Australia. The juvenile has subsequently been reported near Warrnambool (Map 1). These long distance movements were relatively few when compared the number of birds moving in this direction that were banded in Western Port and Port Phillip Bays. Most movements were only 'round the corner' to Western Port Bay.

The four reports of adult birds in Tasmania are interesting as three of them have apparently taken up residence, one in an area of intensive shell fishing. The other bird returned to Corner Inlet. This Tasmanian trip has also been completed by a juvenile bird which went first to Mallacoota then to King Island before returning to Corner Inlet.

Werribee birds, shown in Map 2 show a distinct bias towards a dispersion in an westerly fashion with birds travelling as far east as the Murray Mouth in South Australia. Five birds have hopped over Wilson's Promontory one of which travelled to Lakes Entrance before getting cold feet and returning to Corner Inlet from whence it had come. There were many report of Werribee banded birds in Western Port. Roughly half of these were juveniles.

The birds from Rhyll, Map 3, on Phillip Island, Western Port, also show a strong westerly bias with all but two birds moving in the direction of the Coorong, South

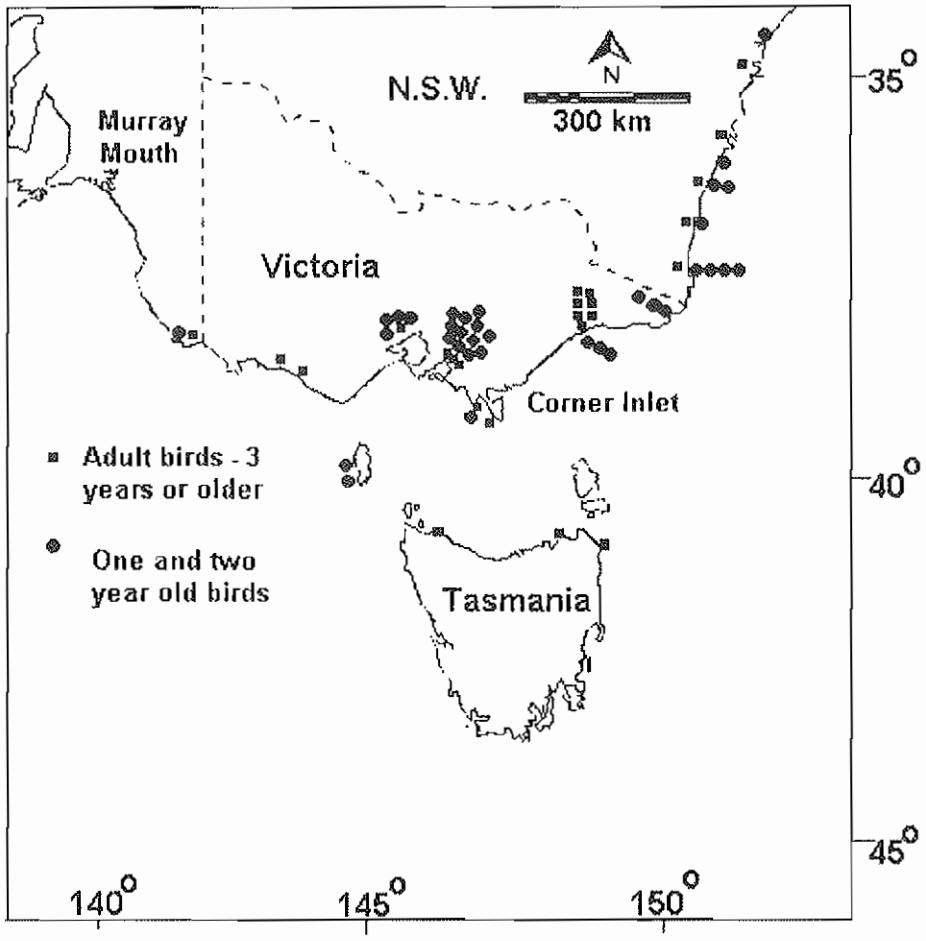
Australia. Again a loop migration was evident with a bird from Rhyll being found at Pelican Point, South Australia then north-west Tasmania, followed by a rest at Rhyll before heading back to South Australia.

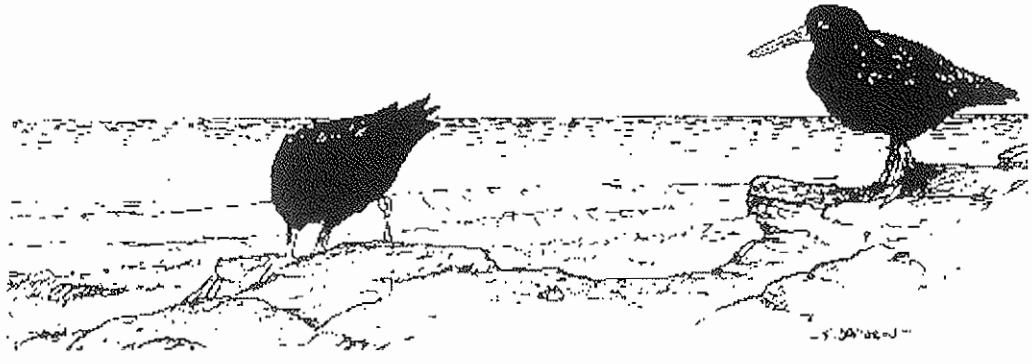
Birds from Stockyard Point and the Gurdies Map 4, show a tendency to move in both to the east and west. Although there is an apparent bias to the west, there is a significant number of individuals going to Corner Inlet and further along the eastern coast. The most westerly movement was to the mouth of the Murray River, South Australia and the furthest east was just south of Botany Bay. Once again a migration route including the northern coast of Tasmania was used by one individual. An apparent adult bird was seen at Carpenters Rocks, South Australia and then on the north west of Tasmania before returning to the Gurdies. A juvenile also made a return journey to the Murray Mouth.

The last two sites that can be analysed are Long Island Hastings, map 5 and Queenscliff, map 6. These show how few birds have been resighted away from their initial banding area, for these localities. Why this is so is not clear but the Queenscliff data is a surprise as the number of birds banded should have resulted in a larger number of birds resighted along the coast towards South Australia if the pattern that is emerging from other sites is constant. The same is also true for Hastings with only a handful of resightings along the coast westwards. If the result from Phillip Island are considered it is even more surprising that the Queenscliff and Hastings birds are not recorded from further along the coast. Why is there an apparent disparity between these two sites and the rest? Perhaps the Hastings and Queenscliff birds are truly sedentary and have no need to move, perhaps it is due to the particular colour bands that they are not being noted. On a superficial level it appears that there is a lack of juvenile movements from Queenscliff and Hastings, only five in total. Could this low level of movement reflect a poor breeding success in these two areas and therefore a lack of birds to move. There is a need to study the age structure of the different populations in all areas as an ongoing part of the Oystercatcher project so it looks as if the members of the VWSG are going to be part of the cold shorelines for a few more years to come.

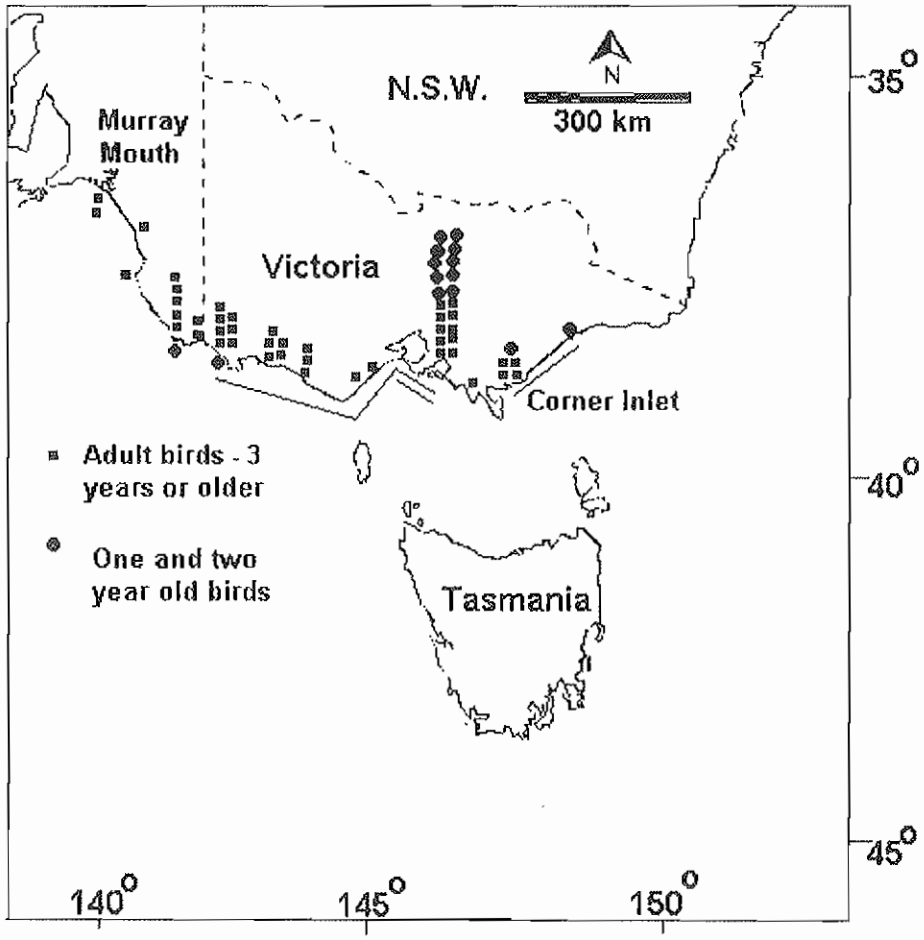
In summary:
Movements of Pied Oystercatchers are much more extensive, and variable, than previously envisaged. Birds move between different non-breeding flocks much more than the migrant waders from the Northern Hemisphere. Birds also moved out from the Corner Inlet/Wester Port/Port Phillip Bay non-breeding flocks to breeding grounds along the coast as far west as the mouth of the Murray River (SA) and as far north as Botany Bay and Newcastle (NSW). Movements have also been recorded to the Bass Strait islands and to the northern and western coasts of Tasmania, all much further than expected. However, it is still not clear why some pairs remain on their territories throughout the year whilst others adjourn to the moulting and wintering flocks after the breeding season. The relationship between breeding and "wintering" locations is now a continuing key component of the study.

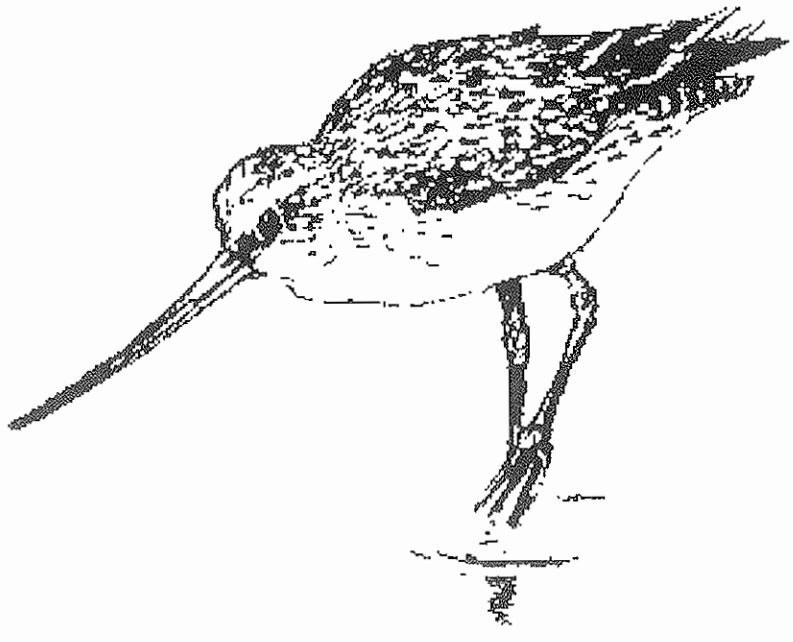
Map 1. Movements of bird banded at Corner Inlet



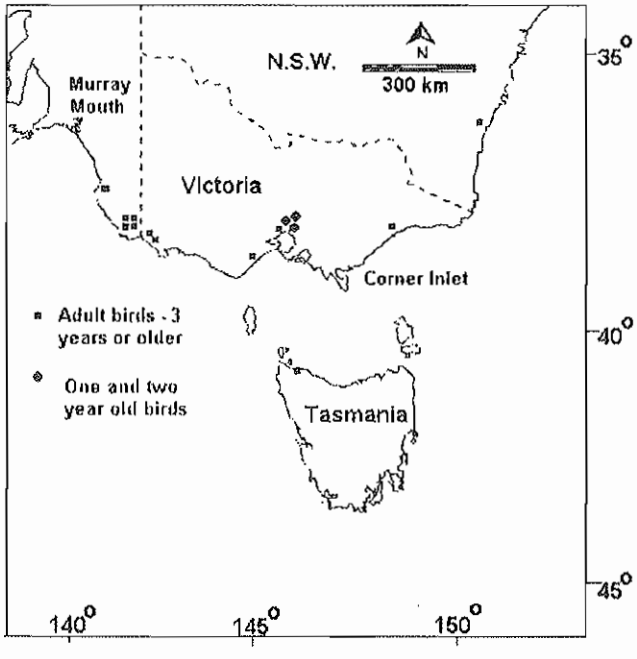


Map 2. Movements of birds banded at Werribee.

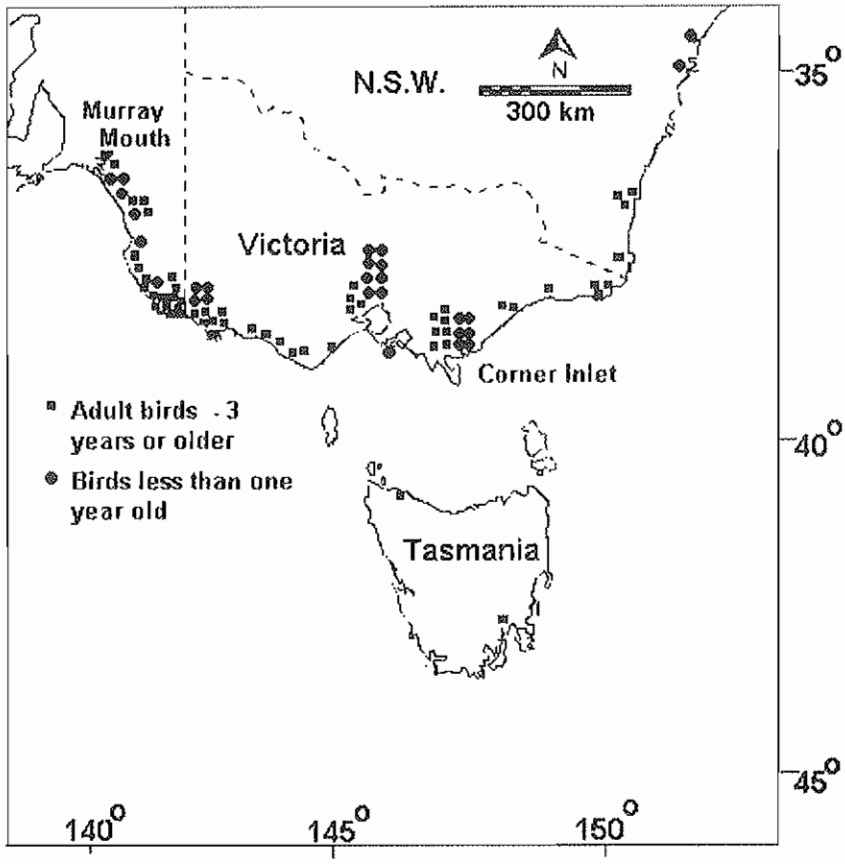




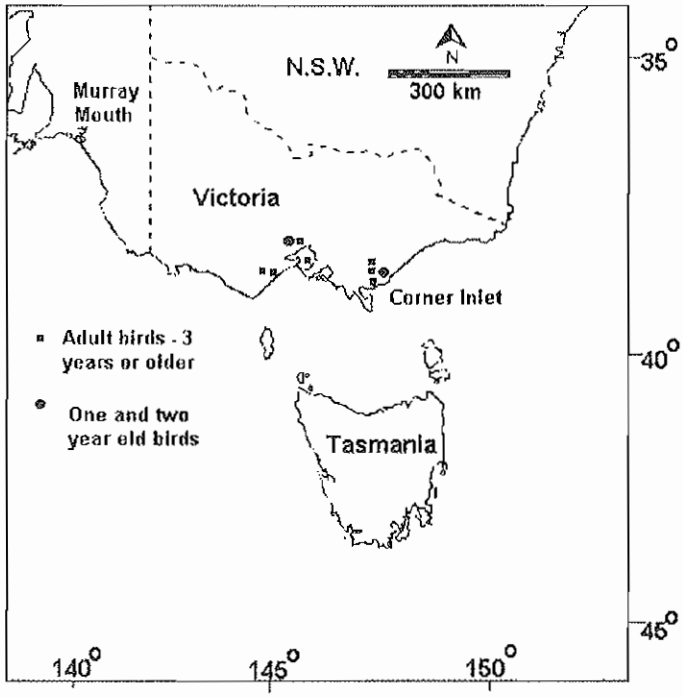
Map 3. Movements of Pied Oystercatchers banded at Rhyll.



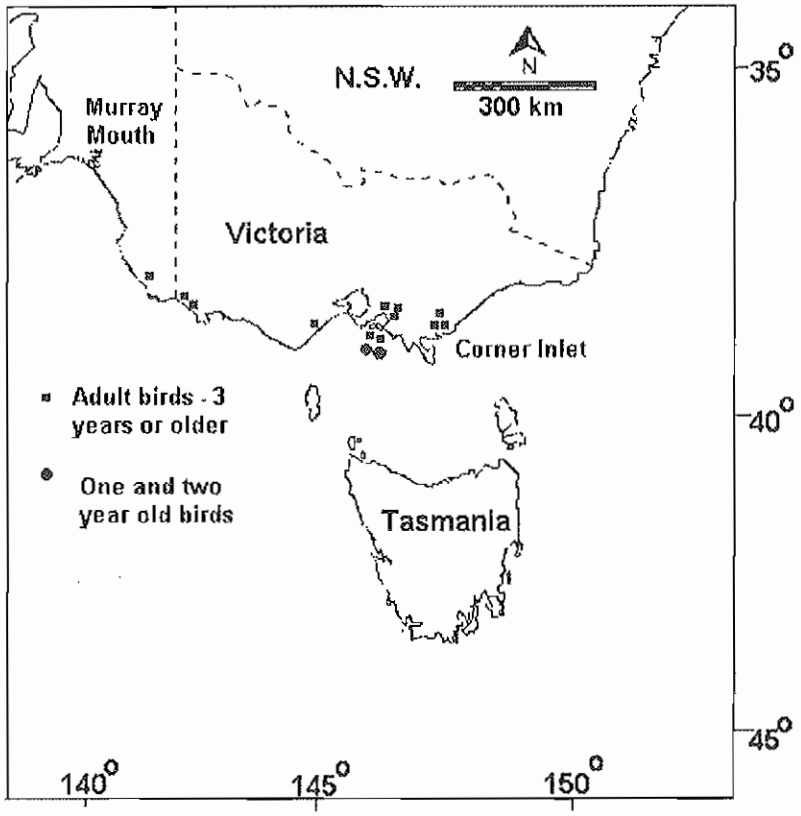
Map 4. Movements of Pied Oystercatchers banded at Stockyard Point and the Gurdies



Map 5. Movements of bird banded at Long Island, Hastings



Map 6. Movements of Pied Oystercatchers banded at Queenscliff



Eastern Curlew migration project

Doris Graham, Clive Minton and Rosalind Jessop

In February 1999, an exciting opportunity to participate in a study of the migration of the Eastern Curlew via satellite tracking was offered to the VWSG by the Chairman of the Queensland Wader Study Group (QWSG) Peter Driscoll, Brisbane. This is the third year of a 5-year project developed in February 1997 by China, Japan and Australia to study the Eastern Curlew.

Participants in the satellite tracking study are the QWSG and the Wild Bird Society of Japan. Financial support has come from the Australian Federal Government, via Environment Australia, the Queensland Government, the Japanese government and the Japanese telecommunications company, NTT.

Birds are caught by cannon netting and fitted, with satellite transmitters from America and Japan via harness. Each transmitter weighs 26 g and is attached to the centre of the bird's back with a light stretchable harness designed to fall off after about three months, the approximate life of the battery. Signals from the transmitters are picked up by the ARGOS satellites, then sent through Paris to Tokyo and thence to Peter Driscoll in Brisbane and then to the VWSG.

To date three birds carrying this type of transmitter have reached the breeding grounds in Russia. This year Peter Driscoll and the QWSG team were frustrated by extremely bad weather in Moreton Bay, their main study area, at the mouth of the Brisbane River. This foiled their attempts to catch enough birds of the appropriate age, sex - preferably females due to the weight of the transmitter and their greater body mass than males- to carry the 13 transmitters available for 1999. In desperation Peter contacted the VWSG asking if they could assist by catching Victorian birds for eight transmitters still unattached.

So in the gathering dusk of 22 February, 18 stalwart members of the VWSG gathered at Yallock Creek, Western Port (38.3^{0}S 138.4^{0}E) to try, for the third time in two days, to catch the elusive curlew. Everything went well and 57 were caught. One of the largest catches ever made in Victoria.

Eight adult females were chosen by Clive Minton to carry the transmitters. Three of these were retraps having been banded by the VWSG 12 to 36 months previously. An adult female Eastern Curlew's fat free weight is about 900 g, the birds fitted with the transmitters weighted 1,200 to 1,400 g making the transmitter only 2% of the birds body weight. This is well within the international guidelines for such devices of 4%. The transmitters were fitted by Clive Minton and Mark Barter, and finally Brenda Murlis put the stitches in the "weak link" that wears away so the transmitters will fall off. As the birds were released they uttered their traditional cry of "cur-loo. cur-loo" as they flew out strongly over Western Port. We wished them good-luck for their long journey ahead.

Clive decided that the birds would be named after the females present at the catch to make each individual's progress easier to follow. Thus we waited for news on Astrid, Brenda, Doris, Femmie, Gloria, Jenny, Julie and Rosemary.

The satellite transmitters were programmed to switch on every ten days until the beginning of March (estimated departure time) and then every two to three days. This was to save battery power and gave the transmitters a maximum life of three months. The quality of a signal can be variable depending on whether the satellite passes directly over the transmitter. Good "hits" give an accuracy of about 350m while "bad hits" might be up to one kilometre out, sometimes the "hits" are so "bad" that you only know that the bird is

alive and cannot get a location. For only two sets of coordinates were we given the degree of accuracy of our signals so cannot guarantee the precision of the placements of our birds – sufficient to say that they have given us much new information.

Peter Driscoll provided us with print-outs displaying for each bird transmitter number, name, date, time, latitude and longitude as they became available. During March Peter was surveying waders in the Gulf of Carpentaria and had to bicycle 10 km to download the data onto his portable computer and email us the information! Latitude and longitude were provided to us to three decimals of a degree, for this report we have rounded these to the nearest tenth of a degree and for convenience have not converted them to minutes.

Presented below is a preliminary report of the flights of the birds fitted with transmitters in Victoria.

ASTRID - transmitter 04345

This bird was an adult when first caught and banded at the Gurdies, Western Port,38.8^{0}S 145.6^{0}E, 30 September 1995. Unfortunately her transmitter only worked intermittently. Strong signals were received from her in Western Port three days after the transmitter was fitted but since then there have only been a few weak signals on two occasions in mid - April. These were not strong enough to locate her, and while it is apparent that her transmitter is faulty, it is quite possible that Astrid herself is still alive.

BRENDA - transmitter 04534

Brenda remained in Western Port throughout most of March, being last recorded there at 0901 hours on 27 March (Map A).

By 1625 hours on 30 March she was located at 15.11^{0}S 138.1^{0}E over the Gulf of Carpentaria about 145 km SE of Groote Eylande. Three days later, at 1838 on 2 April she had reached the Moluccas (2.3^{0}S 129.3^{0}E) between Seram and Misool. This is approximately 4,000 km from Western Port, travelled in a maximum of just over six days (155 hours). It would appear likely that she paused briefly during this journey - perhaps on the south coast of the Gulf of Carpentaria.

This was the zenith for Brenda as she headed back to Australia almost immediately. By 2148 on 5 April she was at 14.8^{0}S 129.0^{0}E - at sea close to the NT / WA border, some 340 km SW of Darwin. She landed soon after that and was still on the coast of the Bonaparte Gulf (WA) on the 8 April, about 20 km NE of Wyndham. She repositioned herself slightly by 15 April to 15.4^{0}S 124.5^{0}E. Signals since have been too poor for exact positioning but by 18 April she appeared to be near the entrance to King Sound (actually about 200 km NE of Derby, WA).

It is not clear why Brenda unlike the other Eastern Curlew which returned, went to WA and not back to Western Port. Unfortunately the lack of signals since early May means that it is not known whether this was a temporary stopover or where she will spend the breeding season, perhaps coming back to Western Port when the other Eastern Curlew return from the breeding grounds.

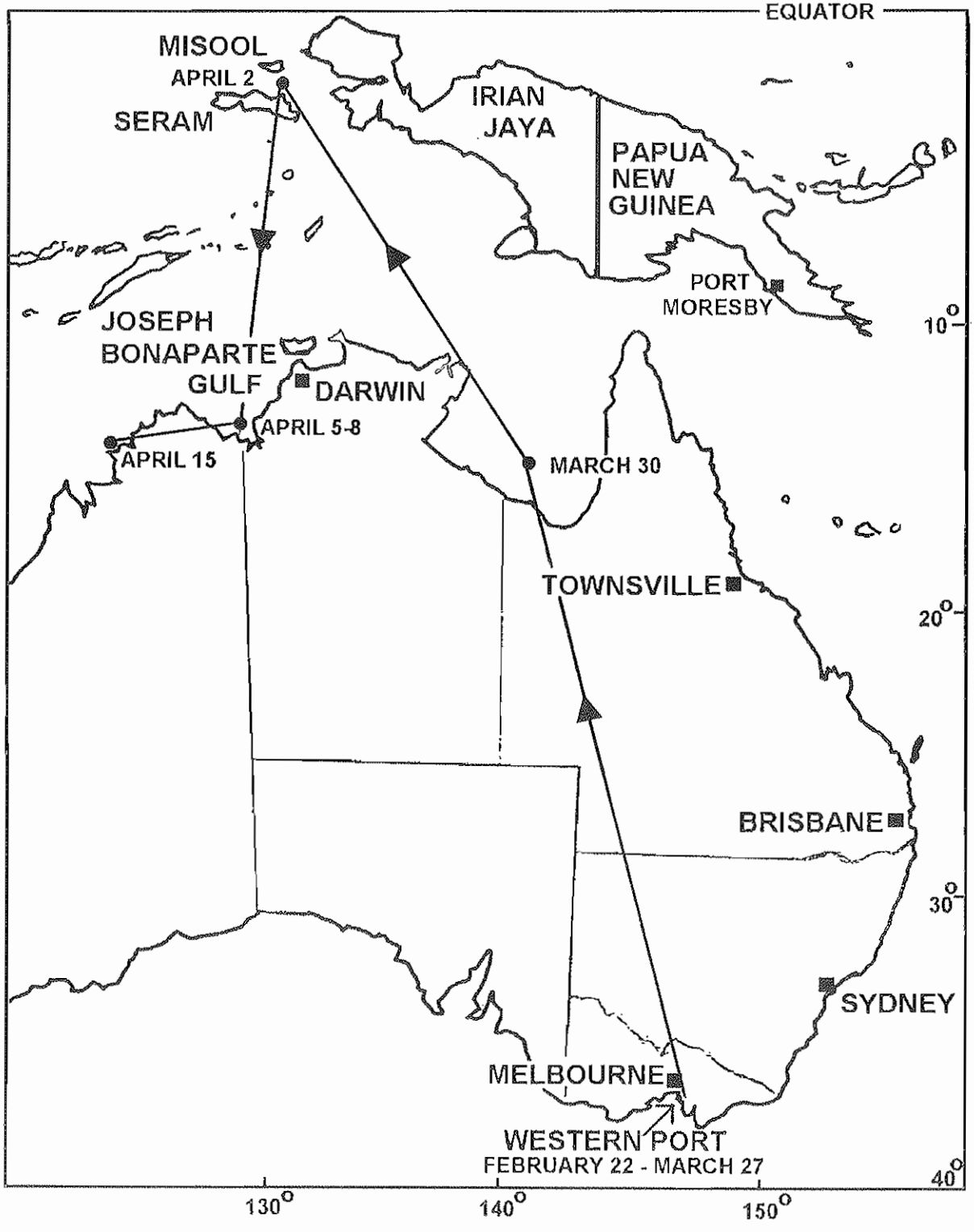
ROSEMARY - transmitter 09915

This bird was in Western Port until 24 March then on March 27 was located near Fish Creek, West Gippsland, 38.7^{0}S 146.1^{0}E. On March 31 she had reached the far north of Queensland and signalled from 14.9^{0}S 145.1^{0}E 65 km NNE of Cooktown (Map B). This

Flights made by Eastern Curlew from Western Port, Victoria, after capture and fitting of transmitters on 22 February 1999.

Dates shown are the actual date or range of dates on which each bird was known to be at that location.

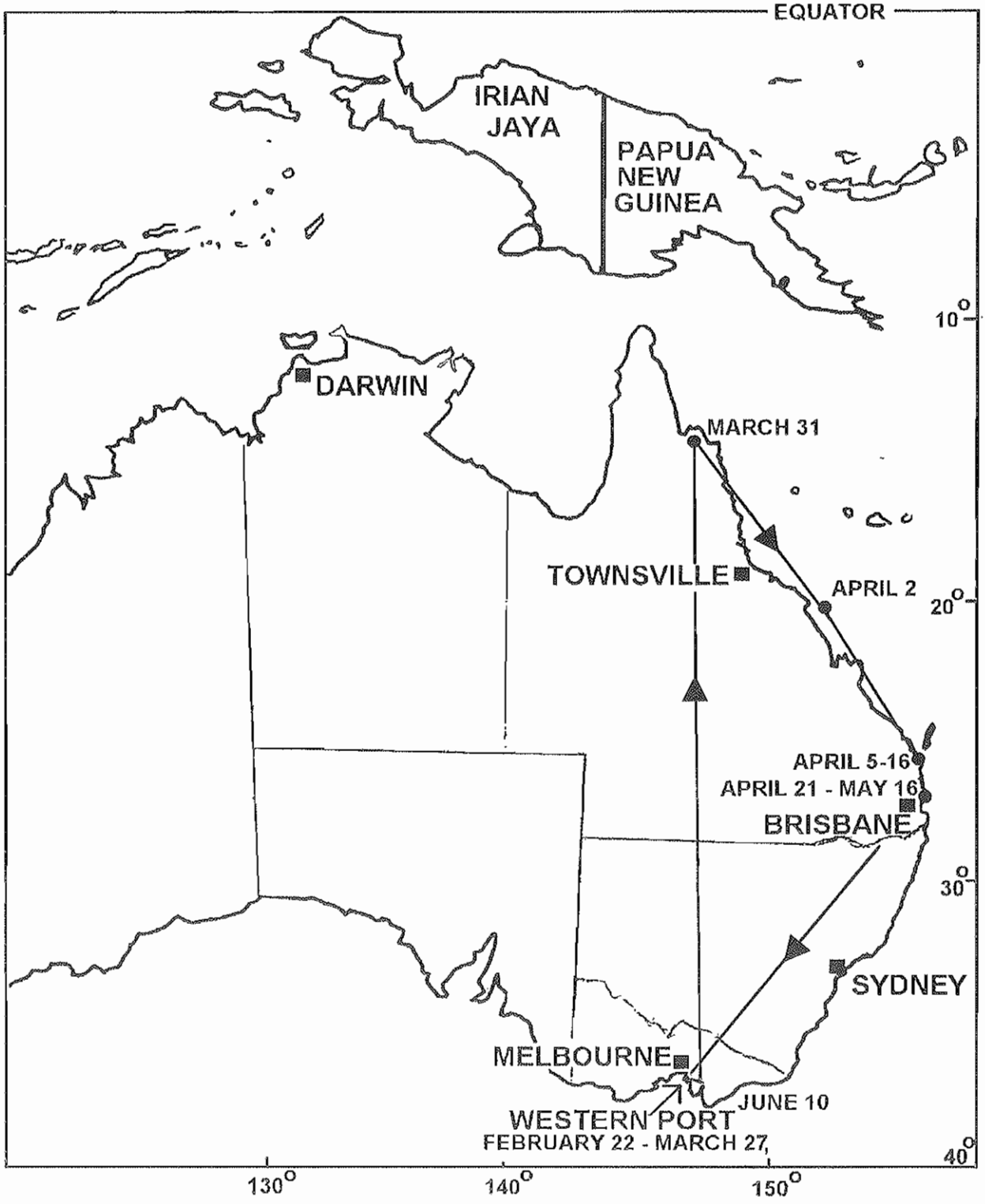
Map A BRENDA - transmitter number 04534.



Flights made by Eastern Curlew from Western Port, Victoria, after capture and fitting of transmitters on 22 February 1999.

Dates shown are the actual date or range of dates on which each bird was known to be at that location.

Map B ROSEMARY - transmitter number 09915.



was the farthest north that Rosemary was located and, on 2 April she was at sea flying south again at 20.9^{0}S 149.6^{0}E 50 km NE of Mackay; by the 5 April at 29.5^{0}S 153.0^{0}E she was in the Tin Can Bay area 10 km south of Fraser Island. Here she stayed for at least 11 days, then by the 21 April had flown on to Moreton Bay, 27.4^{0}S 153.4^{0}E the centre of the QWSG study area, and where the five other Eastern Curlew fitted with transmitters in this year's study were caught. Rosemary remained here for at least three weeks almost certainly in the company of other shorebirds and E. Curlew. Then on 10 June she was back in Western Port,.38.3^{0}S 145.5^{0}E.

Perhaps because her flight north was so short, Rosemary must still have had "itchy wings", because on July 5 she was heading for Shallow Inlet, west coast of Wilson's Promontory, 38.9^{0}S 146.2^{0}E. What luck for the VWSG team, on the last day of a 6-day expedition to Corner Inlet, because on Sunday 18 July there she was with a group of 40 E. Curlew, at Roussac Point 38.5^{0}S 146.1^{0}E in the NW corner of Corner Inlet and was caught with seven others. She weighed 801 g in contrast to the 1230 g when she was fitted with the transmitter on February 22. However she seemed in good health. Her two orange leg flags were bright and shiny and her transmitter, aerial and harness appeared to be intact and in the correct position. She was still in almost complete breeding plumage and there was no sign of feather wear or skin damage due to the harness. After processing and being photographed the harness was removed for close inspection by Clive and Peter Driscoll, then the bird released. As she flew off with the usual E. Curlew call we thanked her for her contribution to this exciting project, and wished her many years long flights and successful breeding.

GLORIA - transmitter 09916

This bird was an adult when previously caught and banded at The Gurdies, Western Port on October 10 1998.

After being fitted with her transmitter she remained in Western Port area until at least March 21 when she was located near Merricks on the south west coast of this Bay , 38.4^{0}S 145.2^{0}E. By the 25 March she was on the SE coast of Irian Jaya, in the Digoel River Estuary,7.3^{0}S 138.7^{0}E (Map C). This flight of about 3,500 km was accomplished in a maximum of 96 hours, ie. a minimum average speed of 37 km per hour. Gloria had stopped at a vast swampland between the Digoel and Moeli Rivers, where some of the Queensland birds have also been located previously. However by eight days later on April 5 Gloria was on her way south again at 8.13^{0}S 140.0^{0}E 140 km SE, at another swampy area, on the River Bain, on the south coast of Irian Jaya. Then continuing south, on April 13 she was on the coast of Queensland 200 km NW Cooktown, 13.6^{0}S 143.5^{0}E where she stayed for at least three days. On 21 April she was on the central Queensland coast 20.9^{0}S 148.93^{0}E 35 km NW Mackay, and on the 1 May was located off the coast, 30 km N of Bundaberg, at 24.7^{0}S 152.4^{0}E. By the 7 May she had arrived on the west coast of Fraser Island 25.5^{0}S 153.0^{0}E where she remained until at least 16 May. After this 9 day stopover she was next located back in Western Port, 38.4^{0}S 145.5^{0}E. Strong signals on June 25 and July 5 were detected from Gloria; all came from Western Port.

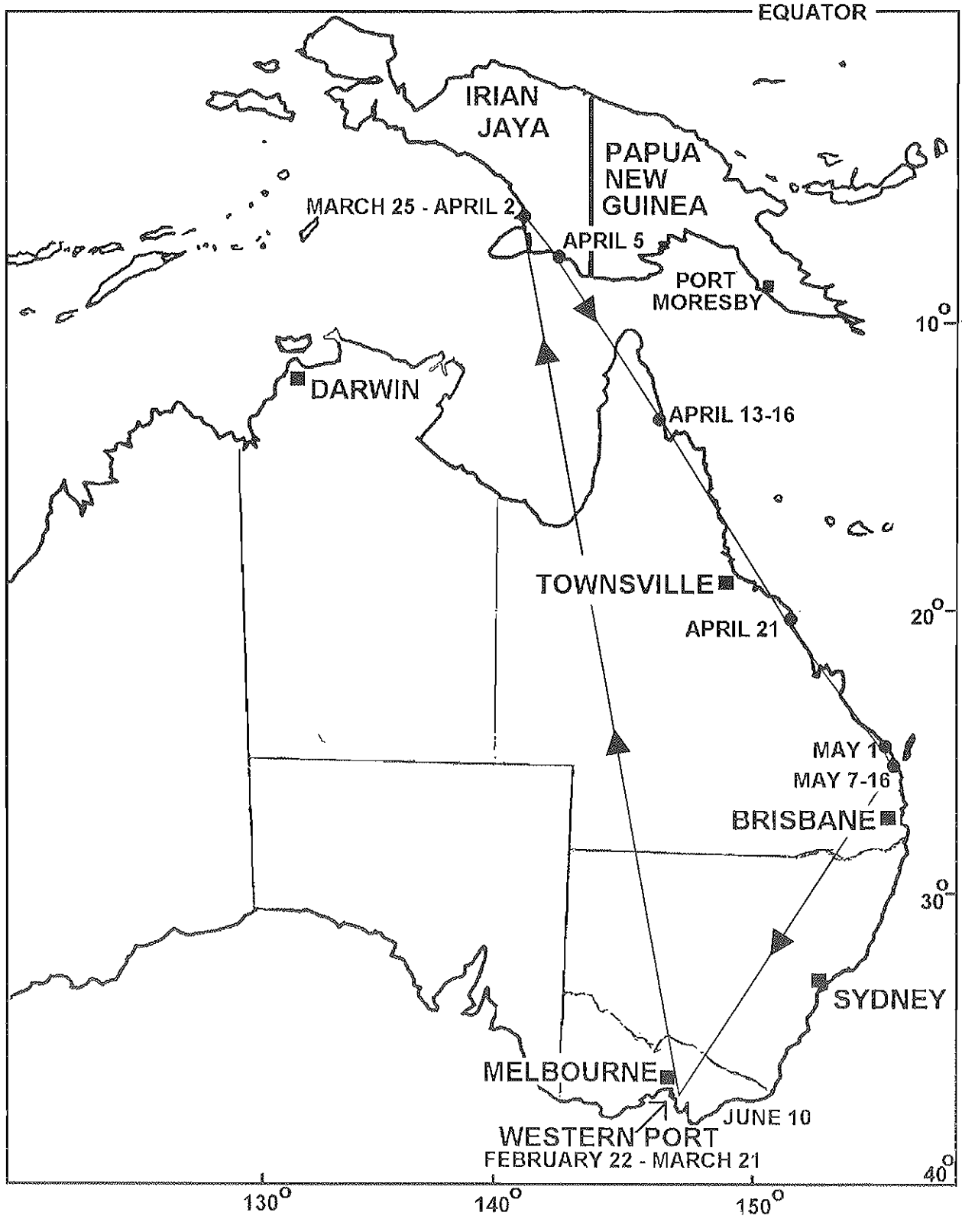
FEMMIE transmitter 09917

This bird remained in Western Port, until at least 27 March. By the 2 April she was 290 km W of Bundaberg, 24.7^{0}S 149.4^{0}E at 0920 hours, and by the 5th at 5.0^{0}S 137.7^{0}E was 65 km inland from the west coast of Irian Jaya (Map D), on a huge river system – known to be "subject to inundation". This area was 70 km north of the area where Jenny had landed on the 26 March and 270 km north of the Digoel Estuary where Gloria spent nine days from the 25 March.

Flights made by Eastern Curlew from Western Port, Victoria, after capture and fitting of transmitters on 22 February 1999.

Dates shown are the actual date or range of dates on which each bird was known to be at that location.

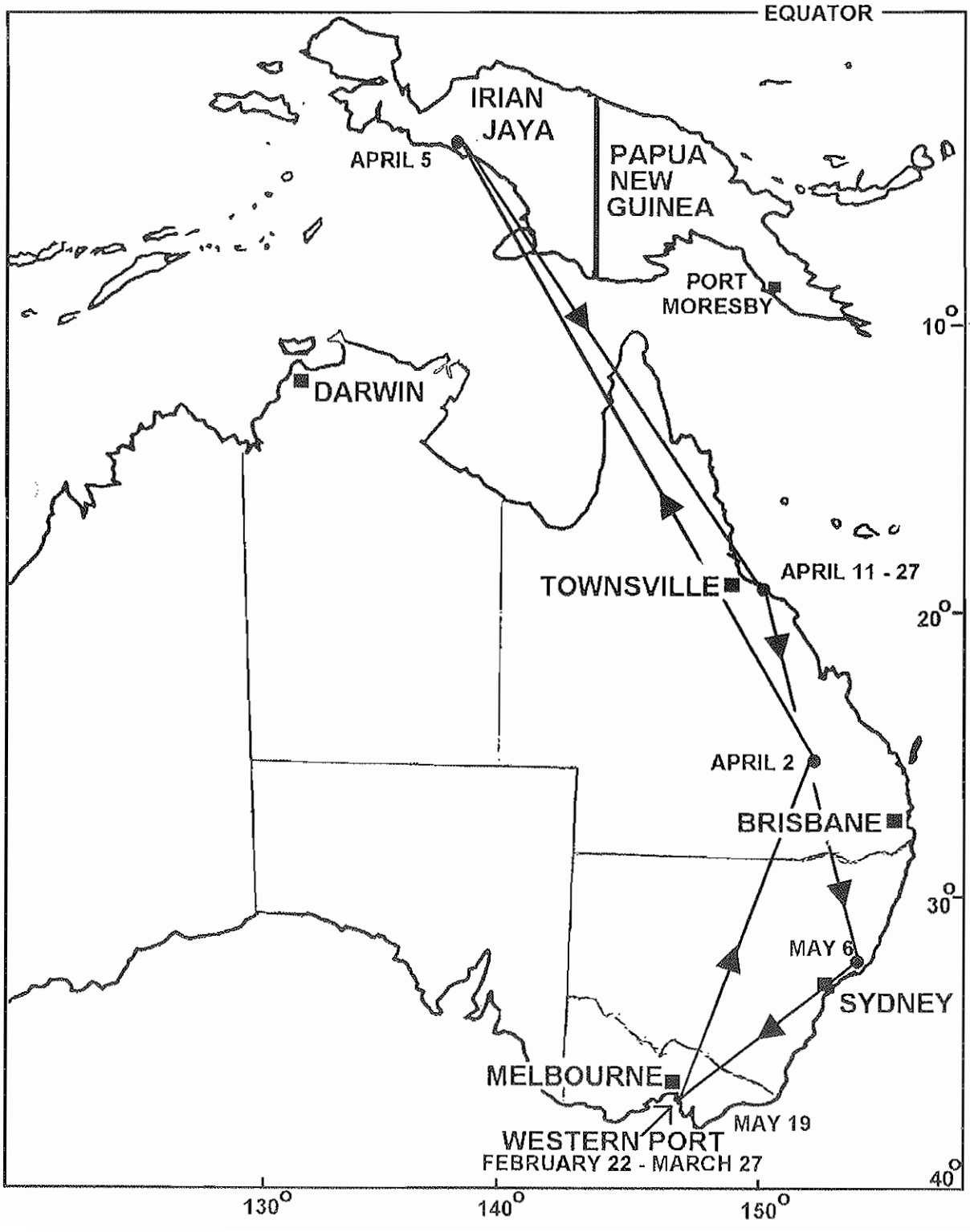
Map C GLORIA - transmitter number 09916.



Flights made by Eastern Curlew from Western Port, Victoria, after capture and fitting of transmitters on 22 February 1999.

Dates shown are the actual date or range of dates on which each bird was known to be at that location.

Map D FEMMIE - transmitter number 09917.



By the 11 April Gloria had returned to Australia waters and was located at 19.3^{0}S 146.9^{0}E 8 km west of Townsville. By 14 April she was at 19.4^{0}S 147.3^{0}E a 30 km stretch of swampland 50 km E of Townsville in Bowling Green Bay where she stayed until at least 27 April. By 6 May she was flying further south, and was located 8km SW Taree, N.S.W.,31.9^{0}S, 152.5^{0}E, and back at Western Port on 19 May.

JENNY – transmitter 10278

Jenny was in Western Port until at least 0837 hours on Monday, March 21. However by 1854 hours she was located at 20.4^{0}S 143.4^0 E almost certainly in flight over central western Queensland 300 km E of Cloncurry, a distance of 2000 km (Map E). The weather on that Monday in southern Victoria was of gale force winds, storms and heavy rain, conditions in which waders are known not to begin migration. It seems much more likely that the birds would have waited 24 hours for the weather to improve and then took off in the late afternoon of the 22 March. At this time there was still a strong SW wind and with this assistance it is likely that Jenny achieved an average ground speed of 80 km per hour, over this stage of her flight. Three days later, 26 March and 3,500 km from Western Port she had reached the SW coast of Irian Jaya, 5.6^{0}S 138.0^{0}E at a huge river system drained by the River Eilanden, also known to be "subject to inundation"! It is interesting that on 5 April Femmie was located just 70 km north on this same river and swampland complex (Map D). Jenny did not remain here for long, and by 2 April she had found another huge coastal swamp at 8.6^{0}S 140.4^{0}E 55 km west of the Papua New Guinea (PNG) border. The vast area is drained by the Merauker River. This must be a very good area for curlew as Jenny stayed here for 12 days.

On 21 April she was back to Australia at 22.5^{0}S 149.9^{0}E in Broad Sound, 170 km SSE of Mackay, and after a further 10 days, May 1, she was at 23.5^{0}S 150.9^{0}E at the mouth of the Fitzroy River 50 km NW Gladstone. By 6 May she had reached 25.2^{0}S 152.6^{0}E Burrum Point 40 km west of Fraser Island. No further signals were received from this bird until May 18 when she was back in Western Port, from where signals were received on June 17, and 23 and on July 4.

JULIE –transmitter 10279

Julie made two journeys, which for clarity we have entitled (a) and (b) (Map F).

Journey "a". Julie left Western Port after March 15 and on March 21 was on the Queensland coast, at 24.7^{0}S 152.3^{0}E at the mouth of the Kolan River 35 km NW of Bundaberg. By March 23 however she had turned south and located 10 km inland, 40km N of Kempsey, N.S.W., at 30.9^{0}S 152.9^{0}E and on 25 March was back in Western Port.

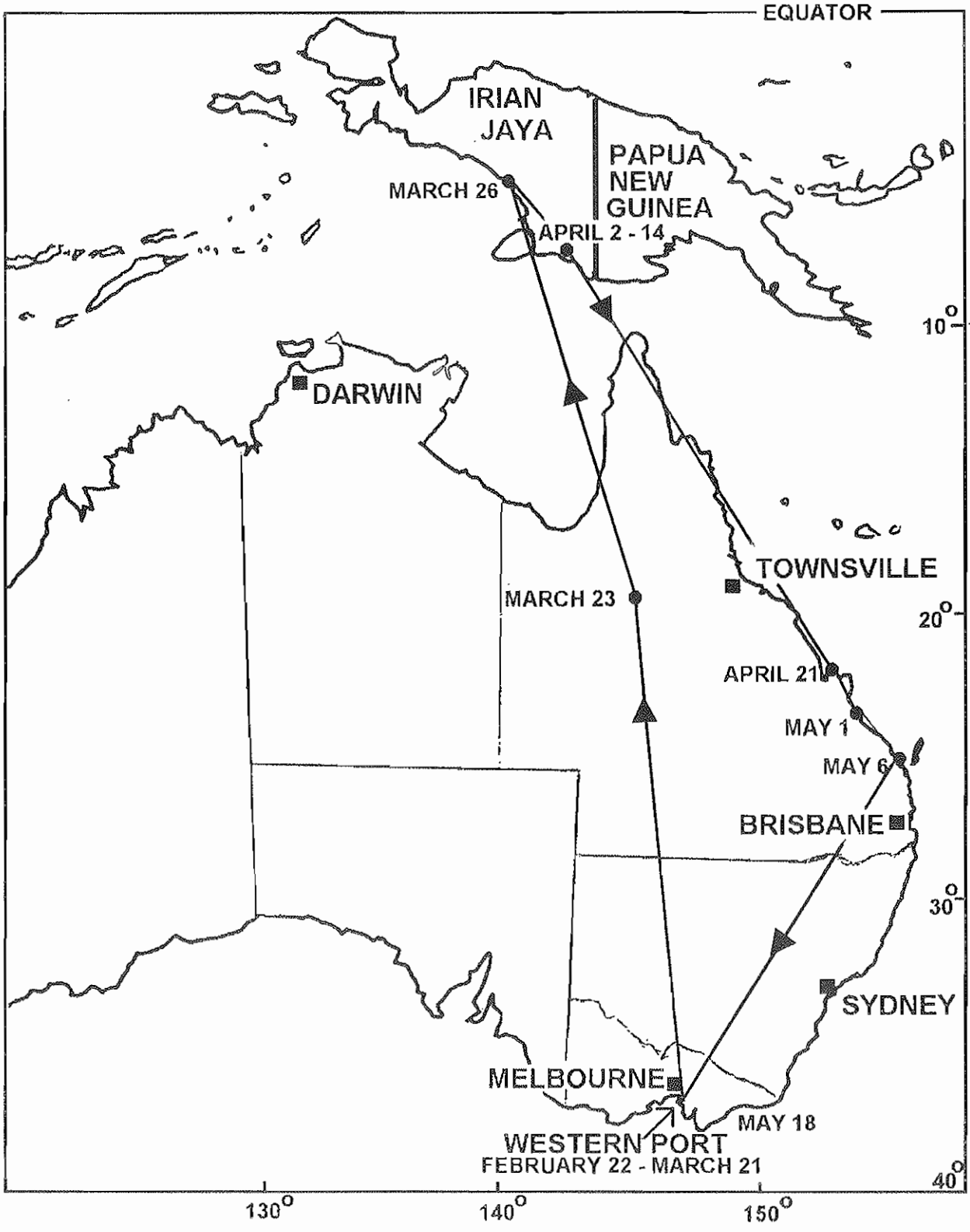
Journey b. After a further 17 days in Western Port Julie decided to go north again, and was luckily tracked twice on April 13, which allowed us to calculate her ground speed over this part of the journey. At 1526 hours she was at 15.6^0 144.9^0 30 km west of Cooktown, and at 2032 hours at 18.2^{0}S 145.4^{0}E over Dingo Mountain, 72 km NW Hinchinbrooke Island. The five hour journey covered about 285 km, average ground speed 57 km per hour.

By the 16 April, she had again turned south and was at 24.9^{0}S 152.6^{0}E off the coast 125 km ESE of Bundaberg, and by 20 April had flown further S to be 8km inland of Tin Can Bay 25.9^{0}S 152.9^{0}E. Julie was obviously following the coastline of N.S.W., being located next on 23 April at 32.8^{0}S 151 7^0 E three kilometres inland of the mouth of the Hunter River, Newcastle, on April 30 she had moved to 37.1^{0}S 150.0^0 E at sea about 10 km East of Eden, and by May 7 had returned to Western Port. Strong signals were received from

Flights made by Eastern Curlew from Western Port, Victoria, after capture and fitting of transmitters on 22 February 1999.

Dates shown are the actual date or range of dates on which each bird was known to be at that location.

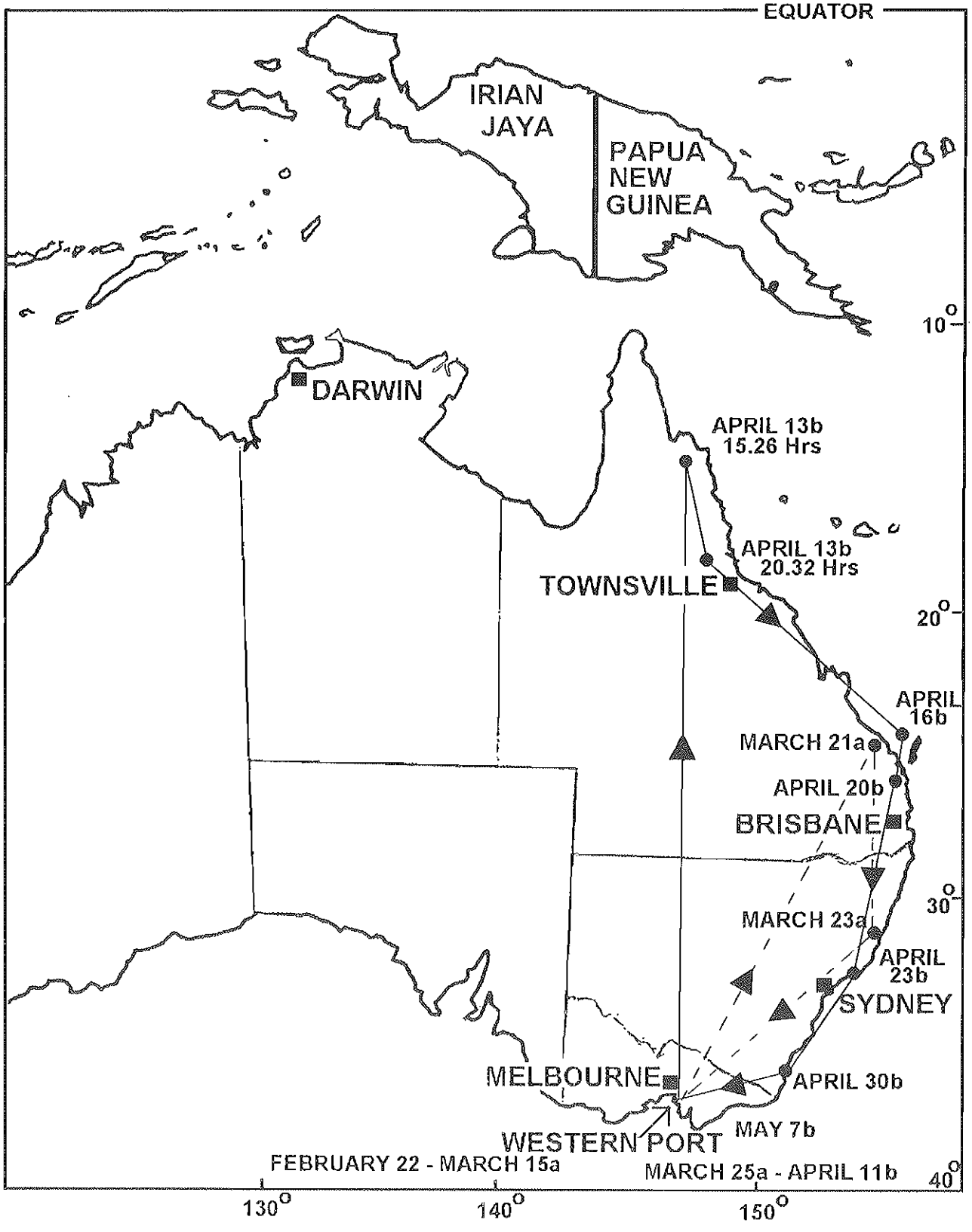
Map E JENNY - transmitter number 10278.



Flights made by Eastern Curlew from Western Port, Victoria, after capture and fitting of transmitters on 22 February 1999.

Dates shown are the actual date or range of dates on which each bird was known to be at that location.

Map F JULIE - transmitter number 10279.



her in this area on May 7 and 19, June 16 and 21 and July 7 so she must have decided to forgo further journeying until the new millennium.

DORIS- transmitter 10296

This bird was an adult when previously caught and banded at Tortoise Head, French Island on 21 November 1997.

After her transmitter was fitted on February 22.she remained in the Western Port area until March 10 (Map G). When next located she had flown to the Pumicestone Passage/Bribie Island area, 27.0^0 S 153.0^0 E 54 km N of Brisbane. This is a well known area for E. Curlew, with up to 1,000 being seen on high tide roosts (J. Denning, personal communication) and Doris stayed here for the next 15 days. She then flew to the North West coast of Papua New Guinea, (P.N.G.) 40 km NW of Wewak, at 3.4^0 S 143.3^0 E by April 5, interestingly the day that Femmie was located on the Eilanden River swampland, in Irian Jaya. As with all our other birds Doris was not located further north and by the 9 April she was again on the Queensland coast ,at 19.2^0 146.7^0 about 5 km NW of Townsville where she remained for the next week. By the 21 April she was at 24.8^0 S 152.2^0 E 25 km W of Bundaberg, on the Kolan River, and by 26 had again reached the Pumicestone Passage, 27.0^0 S 153 1^{0}E. As she had done on her journey northwards she stayed in this area for at least10 days, until May 6. On the 27 April she was seen on Bribie Island at the very important Dux Creek curlew roost by Trevor Ford, a very keen wader watcher and ardent conservationist.

Signals were recorded from this bird on 18 May from the western coast of Corner Inlet, 38.7^0 S 146.4^0 E and after that date on four occasions from Western Port, around 38.2^0 S 145.4^{0}E, on June 18, July 1 and twice on July 7, at 0350 and 0648 hours.

General comments

While none of our birds reached the breeding grounds, and did not even cross the equator they have provided us with a great amount of information about their migration strategies. We lost contact with Astrid so early that we will omit her from these comments. We hope to recatch her one day to be sure she is still alive. Since it seems unlikely that seven adult birds with all the known attributes of preparation for migration would under any of the usual conditions they might encounter en route, fail to progress further than ours did. The most obvious reason would seem to have something to do with the carrying of the transmitter. These are the smallest available and at 3% of the fat free weight of the bird, 2% of their take-off weight, would seem a small addition to the 50% or higher additions of fat added before migration. World-wide guidelines suggest that up to 4% of body weight is acceptable, but the cross-section of the transmitter and the wind resistance are also important considerations. But it must be considered possible that the elasticised harness, the weight of, or the wind resistance induced by transmitter and aerial, or some combination of these, have just enough inhibitory effect on their progress for them to risk travelling further from their non-breeding base.

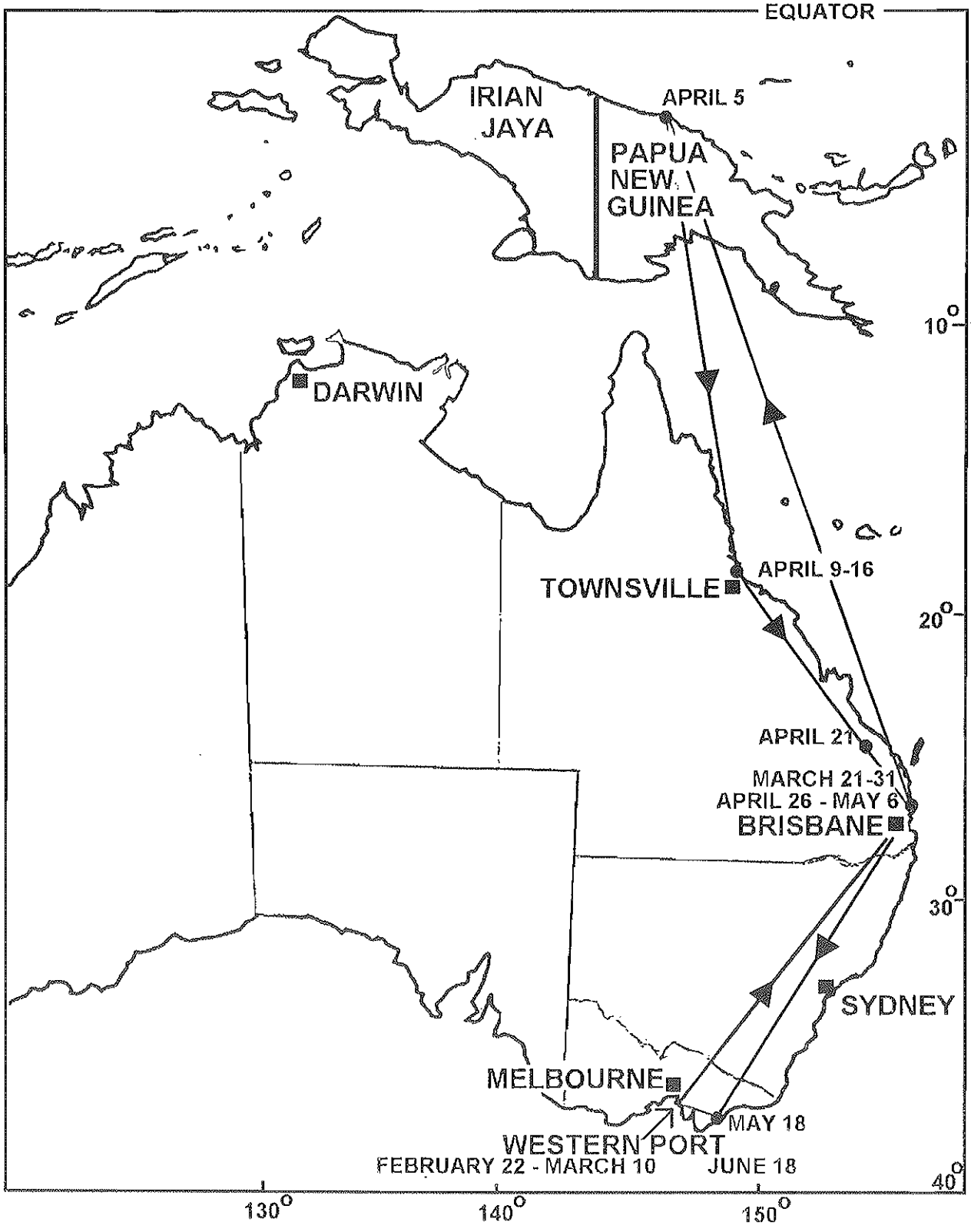
Summary

The most northerly position recorded by any of our birds was 2.3^0 S by Brenda in the Molucca Islands. Doris attained 3.4^0 S on the NW coast of P.N.G., and three birds, Femmie, Jenny and Gloria attained 5.0^{0}S, 5.6^{0}S and 7.3^{0}S respectively all on the SE coast of Irian Jaya. Rosemary and Julie remained within Australia reaching 14.9^{0}S and 15.6^{0}S respectively on the far north east Queensland coast.

Flights made by Eastern Curlew from Western Port, Victoria, after capture and fitting of transmitters on 22 February 1999.

Dates shown are the actual date or range of dates on which each bird was known to be at that location.

Map G DORIS - transmitter number 10296.



Timing strategies were difficult to work out precisely, because of the gaps between signals. It seems however that there were two main timing strategies. Some birds left Western Port early, and either returned early, or stopped off en route before flying north, while others stayed longer in Western Port then flew directly north.

There were two main routes taken on northward migration.
Five birds, Brenda, Rosemary, Gloria, Jenny and Julie left Western Port in a northerly direction, while Femmie and Doris made initially shorter flights via the east coast of Australia.

By contrast, all birds except Brenda returned to Victoria via the east coast.
Brenda took a direct flight south to the Joseph Bonaparte Gulf then turned west and has not been heard from since being off the coast of the northern Kimberley.

Prolonged stopover sites were used by several of our birds. Three birds: Femmie, Jenny and Gloria stopped on the coast of Irian Jaya at several huge swamplands, which must provide productive stopovers for curlew. And good stopover sites in Australia were the Pumicestone Passage, used by Doris on both her north and south flights and Moreton Bay where Rosemary stayed for over three weeks .Both these places are on the south coast of Queensland.

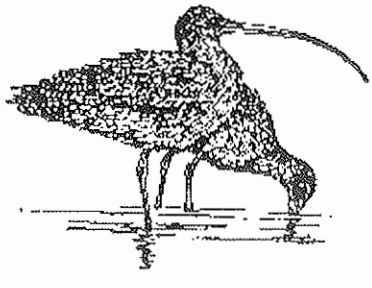
Conclusions and Acknowledgments

This has been an exciting and rewarding project. We have only reported briefly here on birds fitted with transmitters in Victoria. There is obviously more to be learnt from this data and a refereed manuscript will be produced together with Peter Driscoll, and the Japanese collaborators as soon as is appropriate The findings made mean that much discussion is needed between the parties involved before the 2000 project is begun.

We thank Peter Driscoll for inviting the VWSG to assist in this work and are very willing to help in any way in the future.

Final news

During July three groups of VWSG members have searched Western Port for our transmitter-carrying E. curlew. Graeme and Margaret Rowe and Doris Graham were unsuccessful on an incredibly cold, wet, windy day in locating birds near the Gurdies and at Yallock Creek. However, Moira Longden saw two in a flock of about 30 at GMH drain near the Gurdies and Clive Minton found two with 40 on days of much finer weather. We hope to catch these birds in the near future.



SHOREBIRD EXPEDITION TO DELAWARE BAY, EAST COAST, USA
28th APRIL - 5th JUNE 1999

Roger Richards

Following the successful expeditions to Argentina, Brazil and Delaware Bay in 1997/1998 (see VWSG Bulletin 1997) an invitation was again extended by Dr Allan Baker of the Royal Ontario Museum, Dr Larry Niles of the New Jersey Fish Game and Wildlife and David Carter of the Delaware Fish Game and Wildlife to catch waders at Delaware Bay.

Clive Minton's international team worked mainly on the New Jersey shore with a group from the Wash Wader Ringing Group on the Delaware side. Other Australians in the international team were Doris Graham, Peter Fullagar, Roger and Annabel Richards. There were also members from Canada, the Netherlands, New Zealand, England, USA and Argentina, together with local volunteers.

Banding (including flagging and colour banding) was carried out throughout the period with concentration on arrival and departure weights and rates of weight gain. Red Knot *Calidris canutus* were the principal target species with significant catches of Sanderling *Calidris alba* and Ruddy Turnstone *Arenaria interpres*.

In order to estimate flyway population and timing of different cohorts, some days were spent scoping flocks and counting proportions of birds with different combinations of colour markings (representing different countries and different years). We also carried out the first-ever synchronised ground count of the N.J. shore on 28th May (weekly aerial counts have been conducted for over 10 years). In addition we assisted the N.J. Fish Game & Wildlife team in the installation of radio transmitters on 65 Red Knot prior to their departure north (a success story - see the email from Clive Minton).

Humphrey Sitters from the UK carried out an investigation of nocturnal roosting sites' positions for the Red Knot in the tidal marshes on the east side of the peninsular of Cape May N.J. While in Delaware, Theunis Piersma, with a Dutch team of four, carried out feeding, energetics studies on Red Knot, Ruddy Turnstone and Sanderling, the main local food source of these species being Horseshoe Crab *Limulus polyphemus* eggs.

A house was hired for us by the N.J. Fish Game & Wildlife Department at Reeds Beach giving us an excellent viewing position for shorebirds up to 5km along the beach shoreline. A small van was also provided for transport. The relevance of the Expedition to us in the East Asian-Australasian Flyway is obvious.

Migratory waders in both flyways depend upon the continuing viability of critical habitats along their annual migratory route for breeding, stop-over and "wintering sites". In both cases, waders concentrate in great numbers in the few essential and irreplaceable locations along these pathways.

Surveys have shown that the Delaware Bay is the second largest stopover location in the Western Hemisphere for northward bound waders (only Copper River Delta on the Alaskan coast hosts more birds). It is, in fact, the single most important feeding site for the Red Knot on the East American Flyway. More than 80% of the Red Knot and Ruddy Turnstone, as well as significant numbers of Sanderling and Semi-palmated Sandpiper make it their only stopover between South America and their Arctic Breeding Grounds. Delaware Bay also holds the largest congregation of Horseshoe Crabs in the world, and an estimated one million waders pass through the Bay area each spring. What attracts the birds is the annual spawning ritual of what once was millions of Horseshoe Crabs on the Delaware Bay beaches of New Jersey and Delaware. The timing for the birds' stopover overlaps with the arrival of the egg-laden Horseshoe Crabs. As they deposit their eggs,

the birds rush in, gorging themselves on this unparalleled energy source, adding fat that is critical to completion of the birds' 15,000 km journey from South America to their Arctic nesting grounds. In the past, the huge numbers of crabs and the sheer enormity of egg numbers ensured new generations of both 'crabs' and birds. But now there is concern that this delicate balance could be disrupted.

The National Audubon in 1997 reported that "Horseshoe Crabs are being killed in record numbers for use as bait in eel and whelk fisheries of the Atlantic coast. This uncontrolled take has been linked to drastic declines in migratory shorebirds that feed on Horseshoe Crab eggs. This is not just an east coast problem - an entire hemispheric population of birds is at risk." In just three years, the reported catch of Horseshoe crabs in the Delaware Bay waters of New Jersey and Delaware escalated from 330,000 in 1993 to nearly 800,000 in 1996. Horseshoe Crab spawning numbers have dropped by nearly a third from 1991 levels, and researchers report a 90% decline in the 'crab' egg surface density (a drop that coincides with the period of highest Horseshoe Crab take) - the surface is where eggs are most available to birds.

The migratory flight of the Red Knot is an example of the extreme distances waders travel and the dependence they have on stopover areas such as Delaware Bay. Red Knots arrive at the Delaware Bay in May below their fat-free weight after flying from southern Brazil. They virtually double their weight during their 2-3 week stay before flying in early May to their breeding grounds in the Canadian Arctic. One estimate of the number of eggs that a knot must eat to double its weight is 135,000 (Harrington, 1996).

CATCH SUMMARY DELAWARE BAY 1999

Species	New Jersey	Delaware	TOTAL
Red Knot	1412	1267	2679
Ruddy Turnstone	1244	701	1945
Sanderling	2370	144	2514
SUB-TOTAL	**5026**	**2112**	**7138**
Dunlin	1	537	538
Other	0	50	50
TOTAL	**5027**	**2699**	**7726**

COUNT FIGURES OF MIGRATORY SHOREBIRDS --NEW JERSEY--28 May 1999
Counts were made of migratory shorebirds on the New Jersey side of Delaware Bay.

One should appreciate the factors involved eg

* The success of their previous refuelling stopover (eg. Brazil).
* Wether their arrival date in Delaware Bay was late.
* Weather conditions, food availability, etc at Delaware Bay.
* The count accuracy achieved by small teams of counters leap-frogging along the shore where large flocks of shorebirds are in flight in both directions.

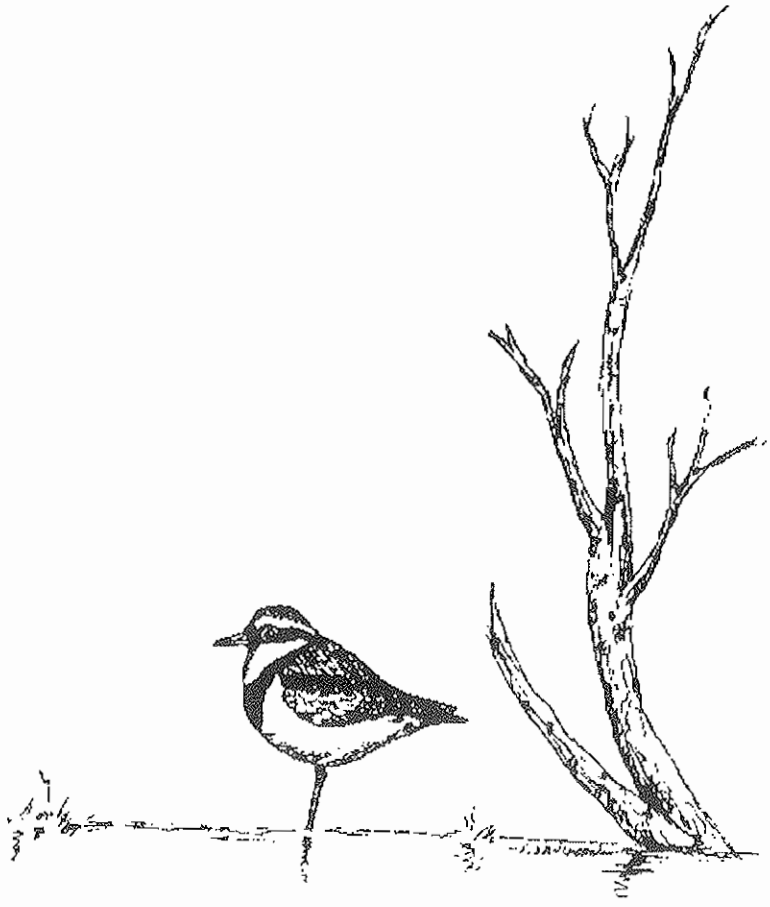
The figures do however give the order of magnitude and the proportions of the species present.

Red Knot	32,946
Ruddy Turnstone	39,960
Sanderling	35,650
Semi-palmated Sandpiper	20,490+
Dunlin	830
Grey Plover	33
Short-billed Dowitcher	170
TOTAL	**130,079+**

Email from Clive Minton on 4th July 1999:
"The unbelievable has happened! I've just heard from Allan Baker that Larry Niles, Mark Peck, Bruce and Sherri (yes 4 of them!) have located 5 Knot with radio transmitters on Southampton Is, just off north end of Hudson's Bay. These as you know were put on Knot (65 altogether) at Reed's Beach in the last week of May. So, at last, we know where the ultimate destination of these birds is (3000km from Delaware Bay). Studies in the breeding grounds can now be added to the project. A great reward for all the effort put in by so many people. Many thanks. Best wishes Clive"

Since this email exciting information continues to come from the Arctic expedition.

The strategies and co-operation required between different groups within Australia and internationally are the same in our flyway as in the Western Hemisphere Shorebird Reserve Network - the threats to wetland habitats with increased human encroachment are universal.



South Australia field trip - 1 to 7 April 1999

Angie Gutowski

This year the group converged on the Stewart family at Rendelsham for the first part of the trip, a reversal to previous years. The trip was also scheduled much closer to "take-off" time for the birds in an attempt to obtain valuable data on weight.

Our first day of catching started auspiciously on Friday, 2 April, with two good fairly effortless catches of Ruddy Turnstone at Beachport and Nora Creina. For those of us who do not have the opportunity to see these birds in the hand very often, it was wonderful to see so many birds in or close to full breeding plumage. Some birds had very pale heads, making them easy to identify as males. The day's catch yielded 112 new Turnstones, 19 retraps and a one-year-old Red-necked Stint.

The other target species for the trip, Sanderling, proved to be much more elusive. A flock had been seen at Pedders Rock, so we set off in the morning, with a stop in the spectacular dunes along the way. A few in the group took the opportunity to leap or roll down the side of one of the "lookout" dunes on the way back to the vehicles—did anyone take a photo of Clive's roll? As expected, the flock of Sanderling were spotted, nets were set, the wait and the twinkling began. Nigel Matthews entertained us with explanations of the partial remains of a Black-browed Albatross found nearby. Many attempts to twinkle the birds to the net were frustratingly unsuccessful. The main flock kept breaking up into smaller ones spreading over several kilometres along the beach. Several times vehicles drove along the beach vainly trying to twinkle the smaller flocks back to Pedders Rock. For this Victorian where the practice is rare, it was not pleasant to see so many 4WDs besides our own driving up and down the beach for kilometres, often past shorebirds such as Hooded Plover. By the end of the day, our efforts proved fruitless. Sanderling 1; VWSG 0.

The next day additional tactics were tried including spreading people out a few hundred metres apart in an attempt to stop the flock from moving too far away. Our resident Marathon Man, Alan Archbold, ran for kilometres along the beach following flocks and reporting on their movements. Finally, by mid-afternoon, one last twinkle with vehicles and people got the flock in the catching area and 83 were netted. Phew! That evening the obligatory crayfish and wine feast at the Stewart's home tasted just that bit more delicious. Sanderling 0; VWSG 2!

We moved to the Brown Bay area on 5 April where we began our stay at Paul Feast's cottage near Port MacDonnell. No more great quantities of Sanderling were seen again on the trip. Instead, we increased Turnstone numbers each day for the rest of the trip and netted Red-necked Stint and Curlew Sandpiper as well. On 5 and 6 April we caught at Danger Point and on the 7th we made two catches, at Pelican Point-Livingstone and late afternoon at Blackfellows Caves. The highlight of this leg of the trip was the net setting and extraction of birds. Net setting involved Clive encouraging us to turn over great lumps of rotting, smelling seaweed to expose maggots and make the catching area more attractive. After the net was fired (and the tide had come in some distance) we had to wade thigh deep through a seaweed/maggot soup to get into position for extraction. Lovely! Again, there were beautiful examples of birds of all three species in with large percentages of breeding plumage. We were also treated to a crayfish feed by Paul, which was carefully prepared by Clive.

It was great to catch up with so many kind, wonderful people again after a two-year break. Unfortunately, I hadn't kept a list of everyone who volunteered, but I'd like to specially

thank locals Iain, Sandy, Sallie, Anna and James Stewart, Maureen Christie and Paul Feast for their outstanding hospitality.

Final count:

Species	New	Retraps	Total
Ruddy Turnstone	235	53	288
Red-necked Stint	120	7	127
Sanderling	63	20	83
Curlew Sandpiper	21	3	24
Total	**439**	**83**	**522**

The Day We lost the Total Catch

We're hunkered down in the salt-bush beside the stagnant creek,
When over the radio, in hushed tones, Clives begins to speak:
"Get Jim down to the other end, past the post and around the bend", to twinkle those stints is the intent, as on a large catch we are hell bend.
"Jim! Jim!" But of Jim there is neither sight nor sound; embarrassed reply, "He's not around"
But through the scrub Jim did run, the moment Clive fired the guns.
He reached THE bird and set it free, and saved the group from stupidity,
For weighing, banding and flagging its legs would've taken time mighty Jim said.
So the 'golden-haired lion' saved the day and I think that's worth a bloody days pay!

Penny (Johns) and her self-effacing nephew, Jim!

Ten Things I Hate and Like about Mud Island

Malcolm Brown seawish@hotkey.com.au

In recent years Mud Island has become a regular feature on the VWSG calender. To trap and band migratory waders the group needs to camp on the Island for up to five days, enabling sufficient time to set and extract birds from mist nets during the early mornings and cannon net during the day. It has proven very productive, with a diverse range of species being caught as well as record body weights for some species pre departure.

But as anyone who has camped with the VWSG at remote locations knows, there is more to these expeditions than exciting banding results. Despite being located in the middle of a busy Port Phillip Bay and being close to a couple of million people, Mud Island does provide a unique experience to the happy camper. Sleep depravation, attempting to shelter on an island not much over 1m high can be a challenge. Being surrounded by the remains of dead Silver Gulls and Ibis is certainly unique. The difficulty of cooking, washing and trying to replicate the other luxuries one becomes accustom to in urban life during five days on Mud Island exposes the unsuspecting to the highs and lows of wader research.

Having said that, following is a list of ten things I hate and like about Mud Island. I would like to take this opportunity to acknowledge Allen Archbold and Doris Graham for assisting me in retrieving experiences we shared. Experiences which have been locked away into the depths of our memories, similar to those of people who have been exposed to extraordinary hardship and pain. These memories could only be found through a gentle session of sharing and group therapy, which was lubricated with a bottle of one of Allen's fine reds. We found the wine acts as a catalysts for purging ones memory. Fortunately this catalyst seems to frequently appear whenever one shares more than 5 minutes with Allen. Especially after a meal or morning tea.

What I Hate	What I Like
1. Creamed Rice and Muesli Bars	1. Great diversity of birds
2. Wind and rain	2. Isolation
3. Being emersed up to ones waist in cold salty water from 2 AM to sunrise	3. Fantastic sunrises and sunsets
4. Mobile phones, (one of Allen's pet hates)	4. The twinkling lights of the Mornington Peninsula
5. Finding your way through cold waters in the dark	5. The constant view of the lagoon
6. The boat trip home	6. The magic of quiet nights
7. FLAT inflatable rubber duckies	7. The people one meets
8. Carrying equipment for several hundred metres in cold salty water.	8. Passing ships, especially during the night
9. The fragrance of 10,000 decaying bird carcases	9. Being a part of the islands living rhythm
10. Clipping leg flags in the rain	10. The calling and movement of the swans
	11. The chatter of passing waders
	12. Coffee and muesli bars at 4 AM

You may have noticed there are two more items in the "Things I Like" column when compared to the "Things I Hate" column. This is fortunate for Clive and the migratory waders who sadly need our help. They need our help to combat a world where people inflict more and more pressure on fragile little feathered bodies which are driven by a ancient instinct and massive will to live. Yes it is more than likely we be back on mud Island again.

Maybe we will see you soon on Mud Island and so ensure that "everybody is doing something"

Call to Curlew

Pale green lozenges of land,
paddocks glisten like peacock-eyes
amid bottle green windbreaks,
On the point.
whispering and shivering,
tussocks toss and sway
as ducks arrow over the mud flats.
Inexorably the tide creeps in,
pewter chop over silver silt,
ducks bobbing like corks,
while net is set, hides constructed.
Cold, huddled, the watchers wait,
alert to Jenny's twinkling,
David's mastery of the radio.
A gallery of sentinels to the west,
gums become a verdant backdrop
for forty flighty curlew,
fluttering, settling, wheeling again,
calling plaintively, incessantly -
as well as to a glissade of brilliant white spoonbills
with attendant egrets.
Clouds paint the canvas of the sky,
high cirrus, puffy cumulus mushrooming,
at first searing white, then steel blue, grey,
bisected by a climbing, towering rainbow
* * * * * * * *
Boom! Orange flare of net,
gumbooted feet pounding the sand, sloshing through water,
the catch wet -
Peter (trophy in hand) triumphant, firing team jubilant,
Rosemary, the coveted one, is caught,
her aerial a beacon,
brown plastic satellite transmitter a target,
Much photographed, relieved of pack and harness, she is released,
to witness thirteen intrepid souls traipsing through the high tide waters,
making it to the sea wall on dusk.
Over and out.

Roussac Point 18/07/99

Terri G. Allen.

Mud Island from a Pommie point of view

Nicola Hedges

Thurs 18th March Pete has dragged us up early, us being Brian and Nicola (visiting from the UK) to go off to Queenscliff to be transported to the famous Mud Island. Leaving Roz behind (about which I am not saying a thing!).

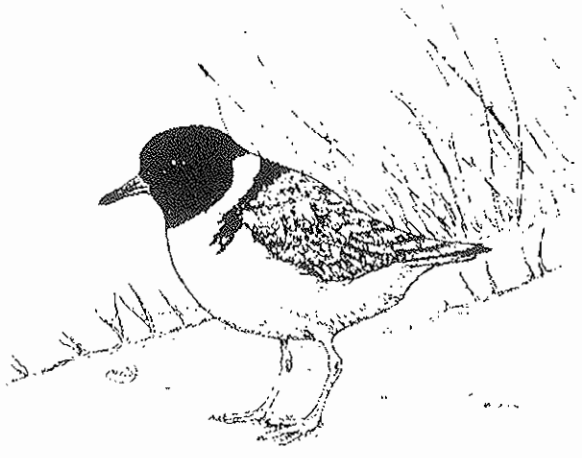
We met the rest of the gang at 12:30 at Queenscliff, including the white chief himself, Clive Minton. Loaded the two boats and off we go, good crossing, there are seven of us. Having empted boats, set up camp, set mist nets and dinner, we retired to bed.

First mist-netting shift started at 1:30 am, the stragglers got up at 7am to do processing, it was a good catch, not too big, so enough time to study the birds. In the afternoon we canon netted, again, good catch. It was lovely to see a Double-banded Plover and Red-capped Plover in the hand.

Second night of mist-netting. Bri, Pete and me were on the second stint, when we started you could see what you were doing, soon got cloudy though and pitch black, or as the ozzies say "as black as Nora's knockers". Fifteen birds to take back, so, I being brave, went toward the red light on the mainland, thus guided to camp where Doris was sorting out the birds, found that no worries, but, going back, got lost. Went through two lots of water, then thought don't remember third one or the swans, so here I am in the sea with Pete, Bri and Doris trying to rescue me. Eventually got back, with help of many radio messages from Doris, Pete and Bri. Now, I told them that I was twinkling, my excuse anyway. My waders were wet inside and out, but what the heck it was raining anyway. Got everyone up Best mist net catch, though.

On the whole it is a good weekend out and with seven of us the birds were not too many, a good variety, so we learnt a good deal. Thirteen different species the largest a Bar-tailed Godwit - he was big but lovely. Left the Island one day earlier as weather changed for the worse, packed up netting and that was shipped off with me in the morning. After that, the weather got worse and the others had it bad, the crossing being very rough. Lockie was in two minds not to pick them up, but, did of course. They looked worse than drowned rats, me, I had shower, drink and very dry and warm, went to welcome them and they told me to p*** off, after all, I was only doing what I was told to do by the white chief himself. Despite the rough crossing back and warm welcome I was jolly glad to see them. The Island is great the company was brill and learnt alot, enjoyed it all and yes would go back, no hassle, so Roz you missed out on some good fun.

From your friendly Pommy Nicola.

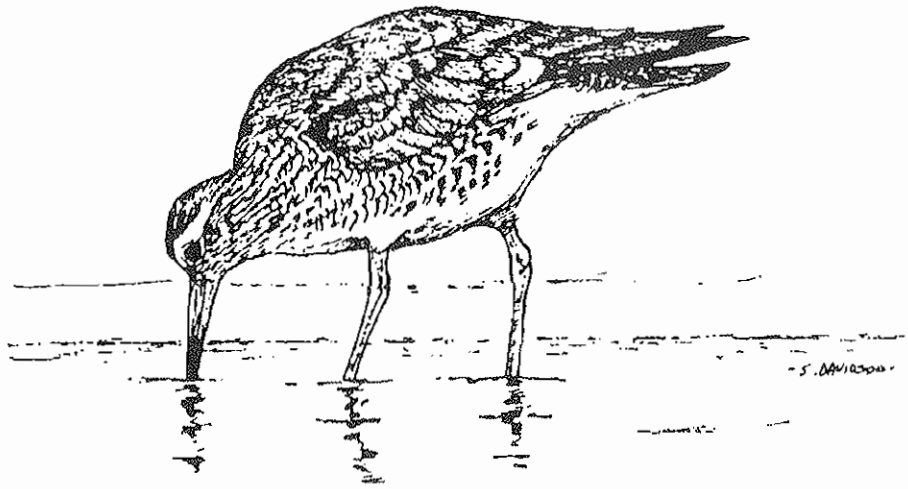


Another Ecological Disaster in the Outer Hebrides, UK

Graham Beal.

As we near the end of the 20th century it seems we have not learnt from out past mistakes. I was disappointed to read, late last year, in an Natural History Society Bulletin from England, of yet another ecological blunder.

It told of how hedgehogs had been introduced on to the Islands of the Outer Hebrides of Scotland. As they have no natural predators there and very few are killed on the roads, as they are on the mainland, their numbers have increased over 25 years from the original 7 to an estimated 10,000! As you can imagine this "population explosion" has had an adverse effect on the ground nesting birds such as Eurasian Oystercatcher *Haematopus ostralegus*, Northern Lapwing *Vanellus vanellus*, Ringed Plover *Charadrius hiaticula*, Redshank *Tringa totanus* and Common Snipe *Gallinago gallinago*, their eggs being an easy target for the "cute" little mammal.



First Year Pacific Gull entangled in Fishing Line

Margaret Healy

On Tuesday the first of May 1999, Ranger Neville Johnson of Phillip Island Nature Park received a call at Churchill Island that there was a very sick bird sitting near the Newhaven Pier. He attended immediately and found a very thin juvenile Pacific Gull sitting on the rocks with a piece of fishing line coming out of its mouth. Neville rushed the bird to the Newhaven Veterinary clinic but it died on arrival.

We dissected the body and took some graphic photographs of the hook imbedded on the inside of the birds neck – this will be used during talks to school children and the public. We all need to try and raise awareness of this problem.

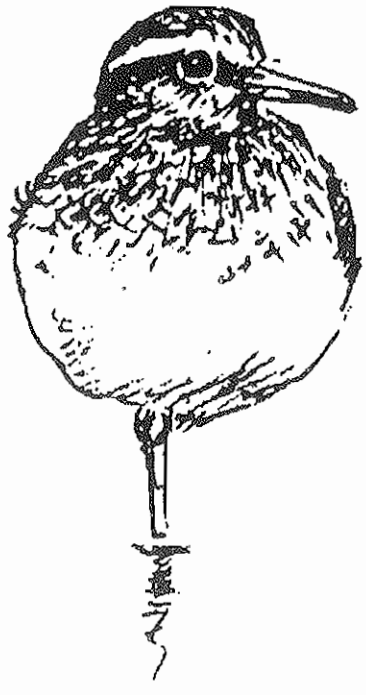
Reflections on Wader Watchers

Ken Gosbell

Recently I was reading through some of the history of 'wader watchers' in 'Waders: their breeding, haunts and watchers' by D. & M. Nethersole-Thompson (T&AD Poyser, 1986). Some of the descriptions of early wader watchers in England and Scotland reminded me of certain characters in the VWSG! For instance there were two brothers, Macomb and Edgar Chance, 'who were outstanding wader men. Small, sturdy and aggressive, gifted with a wonderful eye and keen hearing, Macomb, the older brother pitted his skill against the most challenging birds....' He describes his camouflage for twinkling dotterels in the Grampians in 1893 .. 'I donned my special sheepskin coat and took up a position about 50 yards from where she was running. I was in full sight but she did not seem to notice me. No doubt this was due to my coat.'

His brother Edgar was a great field ornithologist and 'had great skill and powers of concentration.' .... 'A great wader enthusiast, greenshank, dotterel, stone curlew and dunlin were his favourites. An excellent organiser, he alternately wheedled and hectored his companions, seldom sparing their feelings when they fell short of his own high standards. He had a great 'nose' for a nest, but would often dance over the ground, bellowing, admonishing and loudly instructing those around him. I can still see the small figure in a large cloth cap and with loud foxy plusfours, galloping over the braes around Loch Morlich, flogging the heather with a long stick as he tried to flush a sitting greenshank. Yet E.P.C. could sit and wait when the occasion demanded.'... In 1932 he wrote 'I lay up on a commanding hill among the trees from 11am until 6pm. On a bitterly cold day. Intermittent heavy snowstorms added to the deep snow already extending low down beside the Cairngorms. But never a greenshank came into view or near its nest all day'.

Although we don't see the 'foxy plusfours' and the snowstorms are rather rare I wonder if anything else has changed in the world of wader watchers!



Membership List at June 30th 1999

Rick Aitchison
Richard & Margaret Alcorn
Charles Allen
Terri Allen
Mark Anderson
Peter Anton
Allen Archbold
Bruce Atkin
Lisa Barter
Mark & Terry Barter
Graham & Jenny Beal
Rob & Gail Berry
Pat Bingham
Adrian Boyle
Malcolm & Judy Brown
Prue Brown
Anna & Paul Buchorn
Margaret Cameron
Jeff & Sarah Campbell
Peter Carr
Jo Chadwick & Anthony Mitchell
June Cherrey
Smathie Chong
Maureen Christie
Allen Clarke & Marj Reni
Rohan Clarke
Mike Connor
Dave Cropley
Steve Darby
Rosemary Davidson
Steven Davidson
Michael Dawkins
John Dawson
Julie Deleyev
Vero, Mary, Meredith &
Victoria Dharmarajah
Ren De Garis
Lee Duclos
Andrew Dunn
Dianne Emslie
Jon Fallaw & Becky Hayward
Richard Forster
Tim Gale
Dave Gerard
Gail, Colin & Heather Gibbs
Peter & Melanie Gibbs

Copies are also sent to

Arthur Rylah Institute
Australian Bird & Bat Banding Schemes
Australasian Wader Studies Group
Barren Grounds Bird Observatory
Birds Australia (RAOU)
Bird Observers' Club of Australia Library
Ken & Carlene Gosbell
Andrew & Kath Gosden
Doris Graham
Nicole Grenfell
Tim Gunn & Petina Pert
Angie Gutowski
Sue Harris
Neville & Robyn Hatten
Peter & Heather Haughton
Peter & Heather Hermans
Vivian Holyoake
Peter Houston &
Marguerite Cordell
Tania Ireton
Angela Jessop
Ros Jessop & Pete Collins
Penny & Murray Johns
Irma & Vivien Kluger
Ken & Femmie Kraaijeveld
Leona Knight
Brett Lane
Rowena Langston
Janet Lim
Laurie Living
Moira Longden
Sue & Andy Longmore
Richard & Debby Loyn
Donald & Meg MacMillan
Ellen McCulloch
Pat McWhirter
Nigel Mathews
Krystii Melaine
David Melville
Clive & Pat Minton
Ida Minton
Barbara Moss
& Peter Mitchell
John Munro
Brenda & Mick Murlis
Luke Naismith
Rory O'Brien
Priscilla Park
Simon Pender
Hugo Phillipps
Gareth, Shoreh, Roxanne
& Alexander Phillips
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CSIRO Library, ACT
Environment Australia
Eyre Bird Observatory
NRE, Victoria
NSW Wader Study Group
Queensland Wader Study Group
Rotamah Bird Observatory
Senckenbergische Bibliothek
Heather Phillipson
Murray Portbury
John Pratt
Phillip Pratt
Thomas Putt
Jim, Jenny, April & Shane
Reside
Roger Richards
Ken, Annie & Danny Rogers
Thierry & Joanne Rolland
Paul & Natalia Rose
Diane & Bob Ross
Oliver Rosznay
Neville & Nancy Roussac
Graeme, Margaret, Chris &
Michael Rowe
Liz & Steward Sarrailhe
Ira Savage
Clinton Schipper
Cameron Sharpe
Andrew Silcocks
Charles Silveira
Howard Simco
Jenny Skewes
Terry & Vicki South
Will & Angela Steele
Kate Stephenson
Iain & Sandy Stewart
Bob Swindley
Sally Symonds
Susan Taylor
Pavel Tomkovich
Dale Tonkinson
Lyn Turner
Gloria Van Duyne
Helen Vaughan& Rodney
McFarlane
Mark Walker
Pam Walker
Diane & Nick Walton
Keith Ward
Mike Weston
Norman Wettenhall
Ross Williamson
Jim Wilson

Victorian Ornithological Research Group
Wash Wader Ringing Group

and landowners on whose properties the group operates in Victoria

Financial statement from 1st July 1998 to 30th June 1999 - Victorian Wader Study Group Inc.

INCOME	*$*	*EXPENDITURE*	*$*
Subscriptions	1809.00	Printing Bulletin	860.00
Bank Interest	704.86	Postage, stationary & photocopying	419.00
Sale of leg flag material to Korea	185.00	Incorporation charge	32.00
Rebate on Firearms licence	100.00	Miscellaneous expenses	90.00
Sales of Darvic (WA WSG)	48.00	Bank charges & government charges	92.55
Sale of bulletin	5.00	T shirt design (T. Hart)	250.00
Donation H. Gibbs (Goulds Print CD'S)	95.00	**Sub-total**	**1744.25**
Donation – other	27.00	***Equipment***	
Excess from Camping Fees	90.00	Colour bands and flags	406.00
Coast Action Grant 1998	12900.00	Powder coating bands	100.00
		Choc blocks, nail clippers	22.60
Sub-total	**3063.86**	Firing box repairs	50.00
		Trailer repairs & registration	308.00
		Wind-breaks, keeping cage material	89.65
		Grease, shackles	88.00
		Stool repairs, cable, cord	77.00
		Cannon & projectile repairs	1048.00
		Sub-total	**2249.55**
		***Coast Action* expenses**	
		Fox Control Project *– consultant (T McCaughan)	219.33
		Fox Control Project - Labour	5836.00
		Sub-total	**6055.33**
TOTAL INCOME	**15963.86**	**TOTAL EXPENSES**	**10049.13**
Cash Balance 01/07/98		**Cash Balance 30/06/99**	
Petty cash	16.20	Petty cash	34.55
Band Of Melb. Account	50.18	Bank of Melbourne	50.33
Macquarie Account	19593.51	Macquarie Account	25,489.72
TOTAL CASH	**19659.89**	**TOTAL CASH**	**25,574.62**
TOTAL	*35,623.75*	*TOTAL*	*35,623.75*

* There is commitment to spend another $8,000 to complete this project.
Rosemary Davidson - Hon. Treasurer

Finances

The detailed financial report for the year to 30 June 1999 shows that the group is still in a satisfactory financial position.

A summary of the situation for the "core" activities (ie excluding Coast Care/ Coast Action programmes) shows that expenditure exceeded income by $930 (1997/98, $142 positive outcome).

Income	$3064
Expenditure	$3994
Net Loss	$930

This was in spite of income from member subscriptions reaching a record $1809. The main cause of the loss was high expenditure on replacement, new and consumable items of equipment - especially $1048 on the replacement of cannons and projectiles.

Approximately $8000 of the group's funds are obligated to be spent during the second half of 1999 on the Coast Care/ Coast Action fox control programme.

Rosemary Davidson - Treasurer
Clive Minton - Chairman

Journal of the Victorian Wader Study Group

Bulletin Number 23 1999

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