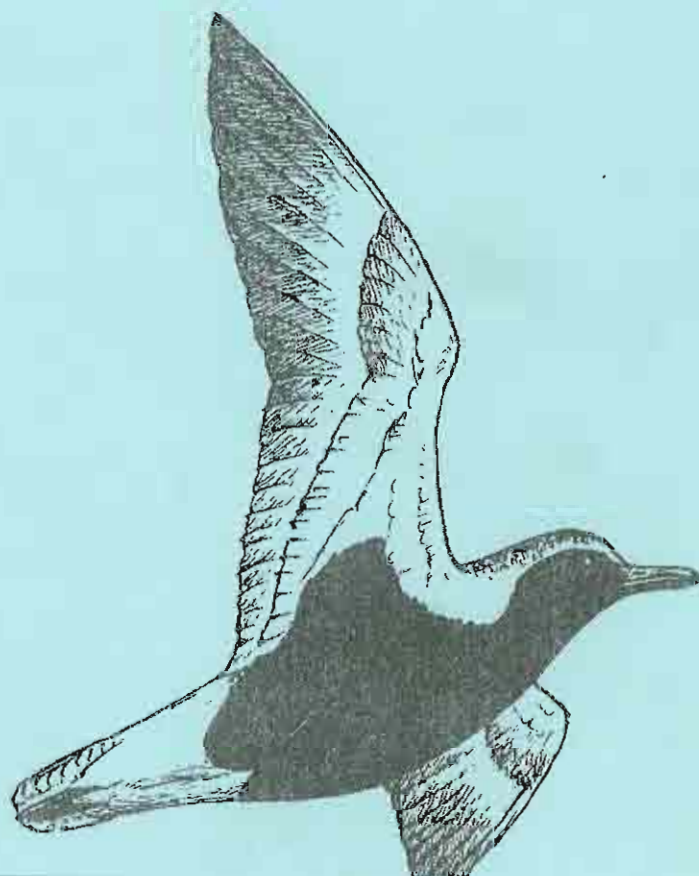


VWSG *BULLETIN*

JOURNAL OF THE VICTORIAN WADER STUDY GROUP

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RECORDS TO DECEMBER 1993

Summary of VWSG Activities In 1993	1
Recoveries of Banded Birds	3
Wader Banding Totals - Victoria 1993	9
Annual Wader Banding Totals in Victoria	10
Locations of Waders Caught in Victoria	10
Victorian Wader Catches 1975 to 1993	11
Numbers "Processed" Each Month	12
Tern Banding	14
Further Sightings of Leg-Flagged Birds	58

ARTICLES REPORTS

Australian Coastal Saltworks	37
Oystercatchers of Altona	39
Braeside Park	43
Crested Terns at Ricketts Point	44
Rare and Uncommon Waders	46
Bar-Tailed Godwits	48

VWSG IN THE RUSSIAN ARCTIC

Adventures of Two Honorary Russians	15
Tundra Ecology '94	22
Breeding Grounds of the Taimyr	27
Migratory Birds Agreement	31
Future Collaboration	32
Typical Taimyr Tundra	33

DIRECTORY

Fieldwork Programme	63
Bulletin Board	66
Financial Statement	67
Membership List	68
Office Bearers	69

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Summary of VWSG Activities In 1993	1
Recoveries of Banded Birds	3
Wader Banding Totals - Victoria 1993	9
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SUMMARY OF VWSG ACTIVITIES IN 1993

1993 was a record year for the Victorian Wader Studies Group with 11,419 waders caught (previous highest total was 10,716 in 1988). This was achieved via a good range of catches throughout the year (in spite of the absence of key people at times) but was particularly the result of some large catches of Red necked Stints and Curlew Sandpipers early and late in the year (2563 at Inverloch 20 November, 1986 at Yallock Creek on 13 February and 1422 at Werribee S.F. on 29 December). The last of these catches was made with a team of only eight people (after the two previous days, when large teams were present, had been thwarted by gale force winds) - but in perfect, cool, calm, dull weather conditions everything went extremely smoothly with the last bird being released within the required four hours of catching time.

Peak species were Red necked Stint (3098) and Curlew Sandpiper (2256) but useful totals of other species included 195 Sanderling, 77 Eastern Curlew, 62 Rednecked Avocet, 62 Greenshank, 43 Japanese Snipe and 18 Whimbrel. 160 of the Sanderling were banded in South Australia. Birdwatchers in Millicent had reported a number of our orange flagged Sanderling in large flocks (up to 600) in Canunda National Park and invited the Group to come and catch them - one of our most enjoyable fieldwork activities of the year.

Pied Oystercatchers (168) were another good 1993 total but Sooty Oystercatchers (14) were below the last two years. A Pectoral Sandpiper was the first for the Group and a Little Stint was the second. Altogether the Group has now banded over 100,000 waders since activities commenced in late 1975 (particularly active since late 1978).

Recaptures of previously banded birds (2588) formed 23% of the year's catch and provided invaluable data for future survival/mortality rate calculations. In many species we now have individuals which have survived for 10-12 years. But it is particularly pleasing that we recaptured one Red necked Stint which was a minimum of 16.5 years old and several Red necked Stints and Curlew Sandpipers over 15 years old. We used to think a 10 year elapsed time to recapture was pretty marvellous!

One of the most exciting aspects of bird banding, particularly of long distance migratory birds, is the crop of recoveries which trickles in over future years. These enable a picture to gradually be built up of migratory routes and key stopover locations, as well as specific breeding areas. Each year has its pleasant surprises and highlights, and the last twelve months (recoveries are included in the VWSG Bulletin on an up to date basis, not on calendar year results as for banding) have been no exception. The Curlew Sandpiper recoveries were especially interesting with reports involving six different countries and including capture by the VWSG of birds banded in Russia and in Thailand (both firsts). Detailed explanatory comments are included below the listed recoveries for each species.

The colour leg flagging programme (orange=banded in Victoria) has continued to produce excellent results, greatly enhancing the rate of data generation on wader movements. All sightings reported since the last Bulletin are listed. A highlight was the sighting of five different species of wader from Victoria, as well as several from N.W. Australia, in Hong Kong on the northward migration in March/April 1994. The intrepid bird watchers/leg flag spotters there and in New Zealand are particularly thanked for their major contributions to our knowledge as a result of their

diligent searching and reporting. Perhaps the most pleasing result of all was the sighting of two orange flagged waders (a Curlew Sandpiper and a Sanderling) on their breeding grounds in Arctic Siberia in July 1994 by members of the Tundra Ecology '94 Expedition. Two VWSG members (Clive Minton and Danny Rogers) were on this largest ever expedition to the Russian Arctic (and the first to traverse its whole 7000 km length since 1878), whilst another member (Mike Weston) was on a separate expedition to a similar area.

Tern studies were continued successfully during the past year, especially the Crested Tern chick banding and adult Little Tern/Common Tern catching. A particularly exciting result was the recapture of a Little Tern at a breeding colony in Japan. Plumage and moult data have long led us to believe that many of the birds in Victoria in summer are visitors from the Northern Hemisphere, and now we've proved it. This particular bird had been caught three times and seen (leg flags) a further time over a four year period before ultimately being found in Japan in June 1994.

It is customary to conclude this introduction to the VWSG Bulletin with appropriate acknowledgements. We are grateful to too many people and organisations to single out for individual mention. Can we therefore thank everyone collectively who has assisted the VWSG in any way in the past year - by granting permission for us to operate on their property, by carrying out a wide range of tasks, and by facilitating and participating in the fieldwork programme? Many thanks to all.

Clive Minton

RECOVERIES OF BANDED BIRDS

Listed below are all recoveries reported subsequent to those included in the last VWSG Bulletin (Number 17, December 1993).

AGEING CODE

P	=	Pullus (nestling or chick)
1	=	First year bird (including juvenile)
2	=	Second year bird
2+	=	At least two years old but may be older (adult)

Pied Oystercatcher

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
✓ 100-82506	P	301081	Ocean Grange Gippsland Lakes (Allan Burbidge)	080593	off Manns Beach Corner Inlet	135km SW
✓ 100-82507	P	301081	Ocean Grange Gippsland Lakes (Allan Burbidge)	190193	Queenscliff	272km W
✓ 100-96915	1	220790	Rhyll	*040793	Perkins Island, Tasmania	268km S
✓ 101-03556	2+	140692	Rhyll	*240993	Canunda N.P. South Australia	440km W
✓ 100-101-82065	2+	080380	Werribee	171093	Mud Island (Dead)	30km SE
✓ 100-96841	2	060889	Barry Beach	*080194	Botany Bay, N.S.W.	673km NE
✓ 100-96839	2+	060889	Barry Beach	*270494	Lakes Entrance	169km NE

* Recognised by colour band combination and reported through the Banding Office. Many other sightings of colour banded birds were reported direct to VWSG and will be reported and analysed later.

The above collection of recovery reports indicate some nice movements and life durations. The recovery near Sydney is the longest movement yet for an Australian- banded Pied Oystercatcher and our first to New South Wales. It was seen by Phil Straw, the organiser of the N.S.W. Wader Study Group. Movements to northern Tasmania and South Australia have been reported in earlier years.

100-82065 had survived for 13.5 years and 100-82506 and 100-82507 (both from the same brood) were still going strong after over 11 years. There have also been a number of live recaptures by the Group of similar aged birds. Pied Oystercatchers seem to be a particularly long lived wader.

Sooty Oystercatcher

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
100-80565	P	040180	Seal Rocks, Phillip Island (Bob Warneke)	171293	Swan Island, Queenscliff	49km NW

This is an especially interesting record. When recaptured it was paired to a Pied Oystercatcher and had a nest with eggs (it is not known if young were hatched). A "mixed pair" has been present at the same location for the previous 2-3 years. This same bird spent much of the mid-1980's at Long Island, Hastings, where it was captured several times in a flock of Pied Oystercatchers. It was almost 14 years old when captured this time.

A mixed Pied/Sooty pair has also been present at Mud Island for at least ten years. Again it is not known if breeding has been successful. However some Pied Oystercatchers handled for banding have been found to have more black on the rump than normal and it is therefore possible that some successful hybridisation has occurred.

Double-banded Plover

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
041-31476	2+	090887	Yallock Creek	061193	Ohou River, New Zealand	2164km ESE
041-18172	1	200786	Queenscliff	081293	Tekapo River, New Zealand	2227km ESE

These are further recaptures, at the nest, of long-lived Double-banded Plovers (see Dec. 1992 VWSG Bulletin for six other similar recoveries).

Ruddy Turnstone

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
041-42827	2+	190391	off Manns Beach, Corner Inlet	001191	*Loi, Manus, Papua New Guinea	4058km N
051-42601	2+	181190	Queenscliff	051293	Queenscliff (Dead)	9km E

*Found injured and later died

The recovery in Papua New Guinea is our first for any species and the first for Australian for Turnstone. It was presumably "staging" there on its way back to Queenscliff from its Siberian breeding grounds.

The "local" recovery is unusual in that we rarely receive reports of dead birds in Victoria. This was in fact one of only two such reports for any species of migratory wader in the past year.

Red Knot

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
051-15378	1	081186	Queenscliff	000791	Chkalov Island, Russia, (Killed), 55° 22' N 141° 13'E	10412km N
051-15420	2+	210287	Queenscliff	070393	Kaipara Harbour, New Zealand	2624km E
051-59681	1	040792	Stockyard Point	181293	Miranda, Firth of Thames, N.Z.	2609km E

Recoveries in Russia are rare, and currently even more rarely reported, so 051-15378 was particularly pleasing. It was presumably on southward migration down the Pacific coast of Russia when found.

The above list contains two more birds to add to the impressive list of recoveries of VWSG banded Red Knot made by the New Zealand Wader Study Group. They are waiting for us to return the compliment but unfortunately our Knot catching efforts have not been very successful in recent years.

The movement pattern is complex, as again illustrated by these two recoveries. One involved an adult bird which "summered" at Queenscliff in 1986/87 but in New Zealand six years later. The other was a bird which spent its first winter in Australia but later turned up as 2.5 years old summering in New Zealand.

Curlew Sandpiper

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
041-60689	2	110891	Stockyard Point	110592	Lake Modewarre (Dead)	127km W
041-68328	2+	020193	Yallock Creek	210593	Yang-Jiao-guo, Shandong, China (Killed)	8809km NNW
041-47739	1	200589	Stockyard Point	280893	Keh-yea River, Hsin Chu, Taiwan	7477km NNW
041-46835	1	041288	Werribee	120993	Ujung Watu, Java Island, Indonesia	4863km NW
Moskwa XD 034615	1	260890	Tryokhozerki, Khakassia, Russia 56°15'N 91°30'E	061193	Werribee	11,359km SE
Malaysia M20135	1	280888	Pattani, south Thailand	020194	The Gardies, Western Port	6794km SE
041-82923	2+	291293	Werribee	230494	Mai Po, Hong Kong	7447km NW
041-59524	2+	041090	Yallock Creek	110994	Brome, W.A.	3140km NW

Another excellent crop of Curlew Sandpiper recoveries. The capture of our first Russian banded wader was especially exciting. The banding location was particularly far west (91° E compared to Melbourne at 144°E) and is further evidence that many Curlew Sandpipers take a much more westerly route on their southward return migration.

The recoveries in Taiwan and Indonesia also refer to birds on southward migration. The majority of previous recoveries have been of birds on northward migration so it is particularly valuable to have these further recoveries.

Red-necked Stint

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
034-55664	2+	020193	Stockyard Point	300494	Broome, W.A.	3150km NW
034-55063	2+	131292	Yallock Creek	060994	Broome, W.A.	3140km NW

Some Red-necked Stints pass through NW Australia in April on their northward migration (see colour flag report) but more do so on southward migration in August/September.

No Red-necked Stint recoveries were reported during the year via the banding office. This was in spite of it being the most banded species studied by the VWSG (66,014 out of 102,551 birds caught to December 1993). In the previous year four overseas recoveries were reported but the year before was also a blank. The lower recovery rate compared with, for example, the Curlew Sandpiper will in part be due to the smaller size of the Red-necked Stint (and its band). There is no evidence so far that the routes used on migration take birds through places where recoveries are less likely.

Sanderling

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
041-60451	2+	020391	Killarney Beach,	281193	Canunda Beach	205km
041-60457	2+	020391	Port Fairy		National Park, S.A.	WNW
041-60472	2+	020391				

These recoveries in the same catch at Canunda Beach confirm the extensive coastal movements of this species in SE Australia indicated by leg-flag sightings (see previous VWSG Bulletins).

Little Tern

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
041-59331	2+	140190	Spermwhale Head, Lakes N.P.	090391	Spermwhale Head, Lakes N.P.	0km
				290194	Ocean Grange, Lakes N.P.	
				150394	Ocean Grange, Lakes N.P.(Seen)	
				260694	Ngashima, Skizuoka, Japan 34°48' 137°48'E	8154km N

This exciting recovery is the first reported of an Australian banded Little Tern overseas. It proves the long held view (based on plumage and moult data) that many of the Little Terns present in flocks around the Victorian coast in summer are visitors from the Northern Hemisphere. This particular bird had been recorded in three different summers in the Gippsland Lakes. It was mist netted close to a breeding colony in Japan.

Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
041-60448	2+	090391	Spermwhale Head, Lakes N.P.	101293 to	Forster, N.S.W. (Seen)	774km NE
				150294		
041-47419	2+	050389	Spermwhale Head, Lakes N.P.	061193 to	Forster, N.S.W. (Seen)	774km NE
				080294		

041-60448 was recognised by its colour leg flags (mY/LgBk) and was nesting at Forster. It is not clear whether it was originally banded as a wandering bird from New South Wales or whether it was a bird from the Lakes Entrance/Gippsland population which had changed its breeding locality. It is the second Little Tern movement between these sites (see VWSG Bulletin Number 17, December 1993, p9). This earlier bird (041-47419) was also present again at Forster from November 6, 1993 to February 8, 1994. It was paired but not seen at a nest.

Crested Tern

Recoveries of chicks banded at Mud Island, Port Phillip Bay

Band	Age	Date of banding	Status	Date of recovery	Recovery location	Distance moved
071-65895	P	121286	Captured	080993	Gabo Island	460km E
071-84119	P	171288	Dead	110893	Discovery Bay	304km W
071-95620	P	171288	Dead	060394	Mud Island	Local
071-97240	P	161289	Dead	051293	Flinders	34km SE
072-04640	P	161289	Dead	200394	Blanket Bay	119km SW
072-15443	P	151290	Dead	100194	Ben Boyd N.P. N.S.W.	469km ENE
072-16307	P	141291	Dead	000493	Emerald Beach N.S.W.	1187km NE
072-16077	P	141291	Dead	270993	Portland	288km W
072-23844	P	191292	Dead	040593	Reef Is. Western Port	40km ESE
072-23880	P	191292	Dead	160693	Croajingalong N.P.	335km ENE
072-23586	P	191292	Dead	160693	Croajingalong N.P.	335km ENE

072-27084	P	191292	Dying	210693	Mt Eliza	31km ENE
072-23644	P	191292	Dead	210693	Sorrento	7km S
072-27312	P	191292	Dead	260893	Yarra Mouth	48km NNE
072-23548	P	191292	Dying	091093	Chelsea	40km NE
072-26880	P	191292	Dead	091193	Aireys Inlet	61km WSW
072-26940	P	191292	Dead	301193	Sandringham	41km NE
072-24164	P	191292	Dead	030894	Mornington	25km E
072-27950	P	181293	Dead	090394	Phillip Island	42km SE
072-27766	P	181293	Dead	130394	Sandringham	41km NE
072-27908	P	181293	Dead	180394	Somers	39km ESE
072-36236	P	181293	Dead	120494	Lake Arragan, N.S.W.	1253km NE
072-36561	P	181293	Dying	040494	St Kilda	48km NNE
072-36001	P	181293	Dead	210494	Sandringham	41km NE
072-36869	F	181293	Dead	250594	Sandringham	41km NE
072-36466	P	181293	Dead	290594	Mt Eliza	29km ENE
072-36722	P	181293	Dead	310594	Lake Victoria	260km E
072-36842	P	181293	Dead	090694	Kangaroo Island S.A.	706km WNW
072-27751	P	181293	Dead	130694	Merae Beach	18km ESE

This further batch of recoveries of Crested Terns from the Mud Island colony generally conforms to the pattern outlined in the preliminary analysis of recoveries detailed in the VWSG Bulletin Number 16, July 1992. It is pleasing that we are now getting a trickle of recoveries of older birds (mortality is high in the first year, but low thereafter) which will in due course enable survival rates to be calculated.

The first bird on the list is our oldest recovery to date (only 7 years) but is still a long way from the 20+ year old birds we have occasionally seen or recaptured from South Australian colonies.

Note also three birds which have moved westwards (one over 700km) in contrast to the normal easterly movements around the Victorian coast and into New South Wales. The bird at Lake Arragan in northern New South Wales had moved a significant distance (1,254km in a direct line but further via the coast) within about three months of fledging.

Other recoveries/controls relating to VWSG

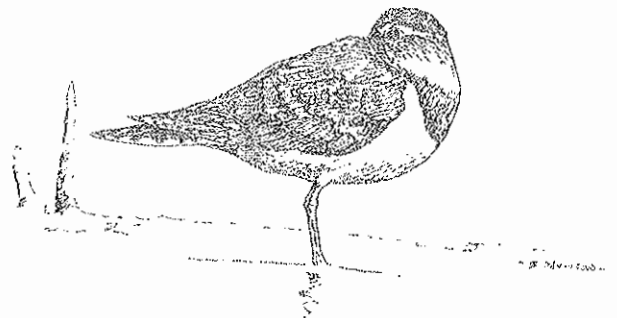
Band	Age	Date of banding	Banding location	Recaptured	Recapture location	Distance moved
071-30733	P	111276	Stoneywell Island, S.A.	180293	Beaumaris (Seen)	541km ESE
071-51206	1+	250284	Queenscliff	281293	Edithburgh, S.A.	701km WNW

These birds are both likely to have been on migration from South Australia when recorded in Victoria. Note that the first bird was 16 years old.

Clive Minton.

WADER BANDING TOTALS - VICTORIA - 1993

	NEW	RETRAP	TOTAL
Pied Oystercatcher	109	59	168
Sooty Oystercatcher	12	2	14
Masked Lapwing	3	-	3
Mongolian Plover	6	-	6
Double-banded Plover	36	1	37
Large Sand Plover	3	-	3
Red-capped Plover	14	-	14
Red-necked Avocet	61	1	62
Ruddy Turnstone	32	13	45
Eastern Curlew	65	12	77
Whimbrel	18	-	18
Greenshank	46	16	62
Terek Sandpiper	3	-	3
Japanese Snipe	42	1	43
Bar-tailed Godwit	64	1	65
Red Knot	90	2	92
Great Knot	4	-	4
Sharp-tailed Sandpiper	42	10	152
Pectoral Sandpiper	1	-	1
Little Stint	1	-	1
Red-necked Stint	5974	2124	8098
Curlew Sandpiper	1913	343	2256
Sanderling	192	3	195
	8831	2588	11419



ANNUAL WADER BANDING TOTALS BY VWSG IN VICTORIA

CALENDAR YEAR	NEW	RETRAP	TOTAL
1975	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
Total catches in Victoria to end 1993	82266	20285	102551

Average annual total for 1979 to 1993 period of 6673.

LOCATION OF WADERS CAUGHT IN VICTORIA

	To Dec 1992	1993	TOTAL
Werribee	37699	3418	41117
Westernport	20993	3805	24798
Queenscliff/Pt Lonsdale	16745	677	17422
Anderson Inlet (Inverloch)	7147	2587	9734
Corner Inlet	6855	704	7559
Altona	937	7	944
Killarney Beach	409	17	426
Canunda (SA)	-	161	161
Bendigo (Sewage Farm)	143	-	143
Seaford Swamp	98	-	98
Braeside/Croydon	18	43	61
Mud Island	35	-	35
Geelong (Point Henry)	25	-	25
Seaspray (Lake Reeve)	18	-	18
Toowong	10	-	10
	91132	11419	102551

Totals include 82,266 newly banded birds and 20,285 retraps of 33 species.

VICTORIAN WADER CATCHES
1975 TO 31 DECEMBER 1993

	NEW	RETRAP	TOTAL
Pied Oystercatcher	954	361	1315
Sooty Oystercatcher	196	20	216
Masked Lapwing	130	3	133
Grey Plover	73	6	79
Lesser Golden Plover	190	21	211
Red-kneed Dotterel	133	11	144
Hooded Plover	15	1	16
Mongolian Plover	86	6	92
Double-banded Plover	2989	954	3943
Large Sand Plover	19	1	20
Red-capped Plover	528	174	702
Black-fronted Plover	52	4	56
Black-winged Stilt	18	-	18
Red-necked Avocet	235	2	237
Ruddy Turnstone	532	146	678
Eastern Curlew	376	20	396
Whimbrel	19	-	19
Grey-tailed Tattler	33	1	34
Greenshank	173	50	223
Terek Sandpiper	29	1	30
Latham's Snipe	109	1	110
Bar-tailed Godwit	1192	64	1256
Red Knot	1638	129	1767
Great Knot	314	32	346
Cox's Sandpiper	1	-	1
Sharp-tailed Sandpiper	4307	158	4465
Pectoral Sandpiper	1	-	1
Little Stint	3	-	3
Red-necked Stint	51063	14951	66014
Long-toed Stint	1	-	1
Curlew Sandpiper	16436	3165	19601
Sanderling	420	3	423
Broad-billed Sandpiper	1	-	1
32 Species	82266	20285	102551

In addition, the Group has been involved in handling a further 41,953 waders during joint operations with local groups in other States. If these are included, the VWSG has now been involved in the catching of 144,504 waders.

NUMBERS OF WADERS *PROCESSED BY WWSG IN VICTORIA IN EACH MONTH TO DECEMBER 1993

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 (preferably on at least 50 birds) data 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
Pied Oystercatcher	83	94	187	218	262	237	125	45	10	35	9	20	1307
Sooty Oystercatcher	3	-	40	27	62	25	43	14	-	1	-	-	215
Masked Lapwing	4	5	77	-	-	13	-	-	-	3	18	11	132
Grey Plover	1	14	4	3	-	2	-	-	2	35	17	-	78
Lesser Golden Plover	21	27	30	1	-	-	-	-	-	28	47	39	193
Red-kneed Dotterel	-	10	-	20	-	44	11	16	12	8	22	-	143
Hooded Plover	-	-	-	-	-	15	-	-	-	-	-	-	15
Mongolian Plover	46	1	12	7	3	2	2	-	-	-	15	-	85
Double-banded Plover	-	2	144	257	755	795	950	898	1	-	-	-	3802
Large Sand Plover	14	-	3	-	-	1	1	-	-	-	1	-	20
Red-capped Plover	23	76	55	114	203	79	65	14	8	11	11	5	664
Black-fronted Plover	-	7	-	-	11	16	6	9	2	-	4	7	62
Black-winged Stilt	-	5	-	-	-	-	-	-	-	4	2	6	18
Red-necked Avocet	39	-	-	-	-	-	-	67	2	46	46	36	236
Ruddy Turnstone	17	18	133	27	1	7	-	1	12	7	402	53	678
Eastern Curlew	15	27	1	-	22	15	-	43	85	99	83	5	396
Whimbrel	-	-	16	-	-	1	-	-	-	2	-	-	19
Grey-tailed Tattler	28	-	-	3	-	3	-	-	-	-	-	-	34
Greenshank	1	-	120	-	-	-	-	-	-	-	82	21	224
Terek Sandpiper	13	2	-	1	2	-	-	1	-	1	1	10	31
Latham's Snipe	50	44	-	-	-	-	-	-	-	1	24	22	141
Bar-tailed Godwit	134	8	308	14	-	157	18	-	64	83	197	267	1250
Red Knot	194	68	181	34	2	44	151	81	76	435	263	175	1704
Great Knot	96	1	7	-	-	4	-	-	16	54	40	129	347
Sharp-tailed Sandpiper	1084	603	1117	2	-	-	-	9	519	335	277	1173	4119
Pectoral Sandpiper	-	1	-	-	-	-	-	-	-	-	-	-	1
Cox's Sandpiper	-	-	-	-	-	-	-	-	-	-	1	-	1
Little Stint	1	-	-	-	-	-	-	-	-	-	1	-	3
Red-necked Stint	1915	828	4487	1871	507	432	461	337	463	1397	2456	2638	17792
Long-toed Stint	-	-	-	-	-	-	-	-	-	1	-	-	1
Curlew Sandpiper	675	877	1135	144	222	119	215	408	178	873	553	905	6316
Sanderling	11	-	242	-	-	-	-	-	-	1	6	181	421
Broad-billed Sandpiper	-	1	-	-	-	-	-	-	-	-	-	-	1
													40452

The majority of the birds caught when the WWSG visited other States were also processed including 1327 birds caught in Tasmania (Nov 1979), 820 birds caught in South Australia (Feb 1980), 921 birds in New South Wales (Mar 1981), and 3885 birds in Western Australia (Aug/Sept 1981, Aug/Sep/Nov 1982, Oct/Nov 1983, Mar/Apr 1985, Aug/Sept 1986, Mar/Apr 1988, Mar/Apr 1990, Aug/Oct 1992, Apr 1993 and Mar/Apr 1994).

Fairy Tern

Fairy Terns had their best ever year for breeding in Corner Inlet. After unsuccessful (due to the usual storm tide flooding) attempts by 18 pairs on the west end of Box Bank in December and 20 pairs on the west end of Clonmel in early January a large colony was established on an excellent site at the east end of Dream Island (McLoughlin's Entrance) in mid-January. It was situated on high ground and with good protection from wind blown sand. An estimated 70 pairs nested and at least 50 chicks were thought to have been reared (per Susan Taylor, DCNR Yarram)

Fairy Tern also nested for the second consecutive year at Rams Island, S.E. French Island. Fortyfive nests with eggs and some newly hatched young were present on 12th December but these probably all failed as there were no birds present on 31st December. Strong winds and storm tides may have been partly responsible but it is possible that a predator was also involved as broken eggshells were found in nests above the high tide mark. No Fairy Tern chicks were banded during the year.

Lakes National Park

Cannon netting of roosting Little and Common Terns again took place over the last weekend in January (29-30 January 1994). This year the main roost was on Albifrons Island, opposite Ocean Grange, rather than on Point Wilson because of higher than normal water levels. Four catches were made totalling 132 birds, as detailed below.

	New	Retrap	Total
Little Tern	58	15	73
Common Tern	47	12	59
	<hr/>	<hr/>	<hr/>
	105	27	132

All birds were again leg flagged, the Little Terns with individual combinations and the Common Terns with a single orange flag. Some of the retraps dated back as far as 1989.

Clive Minton

Tern Banding in 1993-1994 Summer

The VWSG programme of tern studies has continued with the main components again being:-

- a) Banding of tern chicks (especially Crested Terns) at colonies in Port Phillip Bay and Corner Inlet.
- b) Cannon netting of adult terns (mainly Common and Little Terns) at roosts in the Gippsland Lakes.

Crested Tern

The colony at Mud Island, Port Phillip Bay, continued to prosper with an estimated 1800 pairs (a slight increase on the previous summer). 1383 chicks were banded during a visit on 18th December and a further 390 nests still had unhatched eggs. Further maintenance work - clearing of newly grown saltbushes - was undertaken in late August 1994 to ensure there was adequate nesting space for the next breeding season.

The colony at Corner Inlet - on the west end of Box Bank (a new site) - fared less well due to some losses of eggs and young in occasional storm tides in December. There were an estimated 356 pairs on 12th December (145 chicks banded, 211 nests with eggs). A further 130 chicks were banded on 5th January, and some earlier banded chicks were recaptured but numbers were less than would be expected if the 90%+ "egg to fledged chick" rate of Mud Island had applied. However it was nevertheless pleasing that the Crested Terns did return to breed after their apparent absence during the previous summer.

Banded adult Crested Terns are often observed at nests and it has always been presumed that these were banded as chicks at the colonies. During December 1993 chick banding sessions the opportunity was taken to catch some of these birds by hand. Seven of the eight caught had indeed been banded as chicks but interestingly none was less than five years old. This is a small sample but, given the constant annual banding effort at the main site at Mud Island, it does suggest that the onset of breeding may be delayed until a greater age than previously envisaged. Attempts will be made to recapture more banded adults at colonies in the future.

Caspian Tern

Only one chick was banded at Mud Island and only 11 pairs were estimated to be nesting at the time of the visit on 18th December. Some failed breeders could possibly have already departed. But overall the colony seems to be declining and experiencing poor breeding productivity. Silver Gull predation is clearly a problem for this species and although this has been present for many years at Mud Island it is possible that the increased numbers of human visitors walking along the shore past the colony are leading to more predation opportunities.

Caspian Terns again nested at the west end of Clonmel Island, Corner Inlet, with 56 pairs present (including 37 nests with eggs, 10 with small young and 9 larger chicks banded) on 12th December. However the colony was on very low hummocks and must have largely been washed out by storm tides later in the month as only 11 chicks (and no nests) were present on 5th January (7 more chicks banded).

A single pair of Caspian Terns nested on the west end of Box Bank in December and had a small chick in early January. In previous years a lone pair has often nested on New Island - one wonders if this was the same pair, now moved due to the gradual erosion and lowering of New Island.

THE ADVENTURES OF TWO HONORARY RUSSIANS IN SIBERIA

Danny Rogers

In the arctic summer of 1994, the Swedish Polar Research Institute and the Russian Academy of Sciences mounted the largest scientific expedition ever to the Russian Arctic - Tundra Ecology '94. With Swedish funding, Norwegian chefs and the Russian Antarctic Supply Ship *Akademik Fedorov*, the expedition traversed the complete length of the Russian Arctic - the first time this has been done by nonmilitary foreigners since the explorations of Nordenkjöld in the Vega in 1878, 60-70 scientists, half from Sweden and half from Russia, were present on each of the three legs of the expedition. Among the Russians of the first leg were two very lucky Australians - Clive Minton and Danny Rogers.

The scientists were a diverse crowd, including botanists, entomologists, geneticists, hydrologists, ichthyologists, mammalogists and meteorologists; about a third were ornithologists. Some worked from the *Akademik Fedorov* but most had land-based projects. About 18 study-sites were visited, with two large MI 8 helicopters transporting scientists to field camps (there were usually four separate camps, 3-20 km apart) for stays of 1-4 days. Clive and I assisted with a variety of projects, but were particularly involved in nest-finding/recording and banding (especially waders). Simple bird-watching also had high priority, for most of the sites were not well-known ornithologically and some had never been visited by ornithologists before.

Travelling North

Two and a half weeks after leaving Melbourne, having boarded the ship in St Petersburg, picked up the Swedes in Goteborg and sailed round the coast of Norway, Clive and I were on the tundra of Kola Peninsula, learning how to find wader nests. We found this tricky at first, especially as many of the waders present had not started to nest, being inexperienced, we often wasted time looking for the nests of birds which turned out to be pre-breeders. In time, we learned some of the tricks of the trade for example, small waders (like phalaropes and Dunlins) approaching their nests walk with a distinctive busy gait, interspersed by pauses in which they pretend to feed or preen and take furtive looks behind. Large waders tend to be more wary and sneaky. Grey Plovers may give alarm calls and take off when you are still half a kilometre away from the nest - but with a careful scan of the barest ground near the calling bird it is often possible to detect the white eyebrow of a second bird sitting on a nest.

Tundra is awkward stuff to walk through - it is very uneven and usually wet, often with clinging, ankle-deep (or deeper) mud or sphagnum moss above a slippery permafrost layer. Nevertheless, it is in the interests of a keen nest-finder to cover a lot of ground, as some nests will probably be located by chance. It also helps to forget your nest-trap and bird-bands, a ploy which worked when we first encountered the nest of a Eurasian Golden Plover. The TV crew (yes, there was one of those on the ship too) caught up with us as we admired the beautiful eggs - as is typical of all Arctic waders, there were four in the clutch, each very large in relation to the size of the adult female. I was filmed as I carefully measured and weighed the eggs, and the camera was still going as I performed the water test - placing each of the eggs into a cup of water and recording the way in which they floated or sank (this

gives an accurate indication of when laying occurred). Having done this, I tossed the water away, unfortunately forgetting to remove the final egg from the cup. "Cut!" I shouted as I dived for the bouncing egg - but it was too late, the TV crew were patting their camera and murmuring something appreciative about ratings. At least the egg turned out to be undamaged.

The tundra changed as we headed east, from the willow scrubs of Kola Peninsula to the polar deserts of the Taymir Peninsula. Yet time appeared to stand still, *for* we were also heading north, at about the same speed as the spring thaw. At almost every site we visited in June, there were some waders nesting and a lot which were still displaying. It is an eventful period for waders and females have serious energetic commitments to meet in producing a clutch of four big eggs. Life isn't easy for the males either, for female waders are apparently difficult to seduce. The time and effort that many male waders put into displays has to be seen to be believed. The display flights of the insanely aggressive male Sanderling may have been the most impressive of the lot - with wings fluttering well below the horizontal, they covered surprisingly large areas, all the while emitting loud bubbling trills which were only interrupted on the frequent occasions when (with a startling acceleration in flight speed) they attacked intruders and switched to furious pulsing squeals. I don't know how much of the (24-hour) day a male Sanderling spends in display, but some individuals certainly maintained this level of activity for hours on end.

The intense pre-breeding activity of arctic waders seems still more impressive when you realise that it happens immediately after an arduous northwards migration from temperate climates to a very chilly place (the temperature was generally about 1⁰C when we were there, and we were rather lucky with the weather). Insects are not abundant this early in the season, so one wonders how waders manage to stay alive - let alone attempt to breed. It is likely that frozen food is the key resource for a time. At some sites, almost all the waders we saw feeding were sifting through melting snow patches, picking up insect larvae and berries which had been preserved from the previous season and concentrated into a food rich layer by the thaw. A cunning ploy - but what do the waders do when this banquet is concealed by late snow-falls? I never worked it out, and I was still more baffled by the Brent Geese of Arctic Institute Island. This was the bleakest of the polar deserts that we visited. The professional botanists found something there to keep them interested (and everyone was interested by a Polar Bear which paid us a visit) but to my untrained eye, it was a sandy waste interspersed by some lichens and a few sparse tufts of short, dry grasses. Yet Brents - small grazing geese - were nesting in their hundreds. Perhaps they supplement their diet with the odd Polar Bear?

We were not the only vertebrates heading north, The prolonged duration, and the scale of, the spring migration was most impressive. Many waders were on the move including a fine fat Purple Sandpiper and a very skinny Eurasian Dotterel which were caught on the helideck of the *Akademik Fedorov* - and migrating birds were seen as late as the 26th of July. Migrating geese were particularly numerous (skeins of Brents skimming low over the pack-ice of the Kara Sea seemed especially incongruous), and skua migration was also obvious. Migration was studied closely from the *Akademik Fedorov* with the help of a tracking radar device, and the results of Thomas Alerstam's analysis should be of considerable interest.

The Lemming Wars

There are some potentially dangerous animals in the arctic. Polar Bears are best avoided, and I would not want to have serious disagreements with a Musk-Ox or a Wolf. I was in fact attacked on the Taymir Peninsula, by a mammal which stood on its hind-legs, bared its teeth and leapt repeatedly for my jugular with a series of blood-curdling squeaks. I wasn't too frightened, for the mammal was a Collared Lemming - a small plump rodent, reminiscent of a colourful little hamster - which, despite its savage intentions, could do no more than bounce around my ankles. It was a very pleasing sight, not least because it was a good indication that the waders were going to get exciting.

Lemmings are thought to play a vital role in the ecology of the tundra. Their abundance varies considerably from year to year, building up from low numbers to a dramatic peak once every three or four years. The cause of these cycles is hotly debated. The traditional view is that they are regulated by predation-, in a lemming peak year, predators which feed on lemmings (such as Pomarine Skuas, Snowy Owls and Arctic Foxes) breed very successfully. Following a lemming peak, predator abundance is thus very high and the lemming populations crash. But is this a causal relationship? Some authorities think it is, but it has recently been proposed that vegetation changes are the primary cause of a lemming crash. Some plants develop chemical defences to discourage lemmings from eating them, and it is possible that lemming populations crash when they have eaten the best of the available food, leaving only plants which are unpalatable or mildly poisonous. On the *Akademik Fedorov*, these theories each had a champion in the form of two Scandinavian professors, whose (mostly) friendly rivalry was a source of considerable amusement to all aboard.

The causes of lemming cycles may not yet be established, but there is little doubt that they are closely linked to the breeding success of waders. In general, good breeding years for arctic waders coincide with lemming peaks. They are followed by a year in which breeding attempts are devastated by nest predation, especially by Arctic Foxes (which presumably depend more on waders at times when lemmings are hard to catch). One of the reasons that we were pleased to experience lemming attacks is that they are a good sign that a lemming peak is in progress. On Taymir we saw lots of lemmings running over the ground surface, especially at one site where they were migrating - the thaw having forced them from their (melting) snow burrows to nearby areas where they occupy summer burrows. Things were looking good as we entered the Laptev Sea in early July - especially for me, as I had unexpectedly been invited to join the second leg of the expedition to Chukotka. Clive returned to Australia from Khatanga.

Lemming numbers increased as we moved eastwards. This was not obvious to the ornithologists, for the thaw was complete and we were actually seeing fewer lemmings above ground. Yet it was clear to the lemming specialists, who were running an intense trapping program - and it was apparently clear to the predators too. On Taymir we had seen lots of Skuas and a few Arctic Foxes, but there had been a surprising dearth of Snowy Owls. As we moved east, skuas numbers remained high and there was a marked increase in the numbers of Foxes and Owls. Habitat may have been a contributing factor here, for bhaidzharakhs are a characteristic part of the Yakutian landscape and these large clay mounds (thought to be formed by frost action) provide reasonable frost-free ground for fox-dens - and excellent observation posts for hunting skuas and owls.

Wrangel Island and the New Siberian Islands are exciting places. Both are famous sources of mammoth ivory and we indeed found many mammoth remains, including some huge tusks. Wrangel is also famous for its nesting association of Snow Geese with Snowy Owls. These huge white owls were remarkably common in both places, as is indicated by the number of chicks we banded there (about 150!). Yet it was on these islands that we first saw indications that the lemming peak was fizzling out. Snowy Owls may lay a lot of eggs during a really good lemming peak (the record is 14!), but we were seeing rather small broods of one to six chicks. Some owls seemed to be having trouble in finding lemmings, for some chicks were very skinny (on one of the New Siberian Islands, I had the impression that some Snowy Owls had abandoned their nesting attempts). The parents were seldom aggressive in nest defence (in good lemming peaks they can be quite dangerous) and we found a couple of instances in which they had eaten King Eiders from satellite nests. Waterfowl often nest near Snowy Owls, for the owls are large enough to repel nest-predating Arctic Foxes - but records of Snowy Owls feeding on these neighbouring ducks and geese are very rare. There were also indications that Arctic Foxes were having problems in finding lemmings. Litters seemed rather small, and some adults were hunting other prey on Wrangel Island I saw one try to get into a wire cage-trap set over a Turnstone nest. It will be interesting to see the results of the lemmingologists analysis. In the meantime, I think we can expect a fairly high proportion of young birds among the waders visiting Australia in 1994/95. But I doubt it will be a record-breaking season.

Into the Aussie Waders

Nesting waders are fairly easy to catch and band. Most small waders will walk into a trap set over their nest as soon as they have worked out where the entrance is, and most larger waders can also be caught with a little perseverance. Several hundred waders were caught using these (and other) methods and each received a site-specific colour band combination (if any readers happen to see colour-banded waders this season, Clive and I would like to hear the details). Soon after the second leg began, we were confronted by another banding challenge - wader chicks. They look absurdly fetching, with disruptive plumage patterning of extraordinary complexity; a newly hatched Little Stint chick can be somewhat reminiscent of a bumblebee on stilts. They leave the nest soon after hatching and are soon capable of running almost as fast as a bird-bander. As well as banding chicks, we put them in nest-traps as a lure to catch their parents - adult waders will run almost any risks to brood their chicks and were easily captured.

The chick period coincides neatly with the time of peak insect abundance. Crane-flies are perhaps the most popular prey-items to wader chicks on the tundra; they are common, sluggish and often flightless, and I also saw chicks eating their juicy larvae. The arctic is more famous for its summer population of mosquitoes, but we only encountered large numbers around Kolyma Delta. Numbers there were highest on hill-tops, where I accounted for 30 with a single slap of the top of my head. (According to the Russians, these were only moderate mozzie densities!). At the time I attributed the hill-top preference to the sharpest temperature inversion I have ever encountered (about 10°C at the bottom of a hill, and about 15°C 100m higher up) but a local reindeer herder told us it was typical of the area. He explained this when he had been invited to our campsite for a cup of tea, to our surprise he brought his reindeers with him and hundreds of the goofy things roamed around the tents

until his dog brought them to order. Reindeers are incidentally one of many hazards facing wader chicks; a chick in the path of a reindeer herd is very likely to be trampled.

Another challenge facing arctic wader chicks is thermoregulation. Although they experience 24 hours of daylight per day until they have fledged, it does not mean that they are always warm. Diurnal cycles are more marked in the course of an arctic summer day than I had expected; bird activity is at its lowest between about midnight and 3:00 a.m., when the temperature decreases perceptibly. This meant that wader banding was often more successful at night, for adults became simply desperate to brood chicks placed in a nest-trap. However, we had to be very careful in such conditions in case the chicks got perilously cold.

There were several reasons for banding in the Russian arctic. A useful series of biometrics and weights were collected, and some species had interesting moults - in eastern Siberia, Dunlins begin their post-breeding primary moult before their eggs have hatched, and some had finished their primary moult while still on the breeding grounds. Blood samples taken from many birds should prove invaluable reference samples of DNA. Clive and I particularly welcomed the opportunity to examine the breeding plumages of waders of known sex (in the laying period, female waders are readily sexed on cloaca). We should now be able to use plumage characters to sex a lot of the breeding-plumaged Curlew Sandpipers, Turnstones and Grey Plovers captured in Australia (especially in the north-west) just before migration. The other thing we had in mind was band recoveries, and the Swedes were delighted when they recaptured two Dunlins on Kolguyev Island with Swedish bands.

The breeding grounds of some migratory Australian waders extend much further west than I had previously realised. They might start as far as west as the Yamal Peninsula, which is where we first heard the plaintive whistles of Pacific Golden Plover. Some of our waders certainly breed as far west as the Taymir Peninsula, as was neatly demonstrated by Noël Holmgren when he found one of our leg-flagged, Victorian Curlew Sandpipers. This was the second record of a Victorian flagged Curlew Sand on Taymir - which is especially interesting given that many of the Curlew Sandpipers (and other waders) of Taymir migrate to Africa. Taymir also has a flourishing population of Pectoral Sandpipers, which are believed to undertake a southeastern migration to South America.

As the second leg of the expedition started, I put out a reward of 10 Mars Bars for anyone else who found an Australian-flagged wader (Clive had left me with a surplus of 30 Mars Bars from the emergency rations he took on the first leg). It worked! One of the most beautiful things I saw on the tundra was a yellow (North-west Australian) darvic leg-flag, attached to the tibia of a feeding Bar-tailed Godwit which Bob Gill and I found at Indigirka Delta. This fitted in neatly with predictions Mark Barter had made on the basis of AWSG biometrics. The Swedes were also hard at work, and found a Victorian-flagged Sanderling on the New Siberian Islands. Which reminds me, I owe Åke Lindström 10 Mars Bars...

Another highlight of Indigirka Delta was the beginning of post-breeding migration. Suddenly there were vast numbers of waders on the move, Thomas Alerstam was mighty busy in the radar room on the 14th of July and estimated that some 100,000 waders flew through the 10km band over the

Akademik Fedorov, mostly at an altitude of about 3km. Only 19 days earlier, we had seen the last of the northwards migration on Taymir Peninsula - the Arctic breeding season is not a long one. That migration had been dominated by geese, which were much more rare in eastern Siberia - perhaps a reflection of the hunting pressures faced by geese on the Asian flyways. Instead, post-breeding migration at Indigirka (and at most other stops on the second leg) was dominated by waders, flying east to north-east. It is likely that they were bound for staging grounds on the coasts of Alaska and perhaps north-east Asia, for there was a strongly American flavour to the wader flocks staging on near-coastal wetlands of Indigirka - hundreds of Long-billed Dowitchers and male Pectoral Sandpipers, and thousands of Grey Phalaropes. There were also hundreds of Bar-tailed Godwits and Grey Plovers, presumably headed for the eastern flyway. It is interesting to reflect that the first part of their "southwards" migration may have been northwards towards coastal wetlands, and that we may have missed a good deal of the migration; as we were on the north coast of Russia we would not have seen migrations of birds that headed directly south. I would also like to know more about the differences between the routes used on pre- and post-breeding migrations; the birds we saw were probably aiming at coastal staging areas that are only ice-free on the southwards migration.

We were unable to go as far east as the waders. The *Akademik Fedorov* went no further than Wrangel Island because of heavy ice conditions, and Kolyuchin Bay was only reached by a long-distance helicopter dash for a lucky few (I was one of them). This was our easternmost point, and a brief ceremony was held for the TV cameras at the point where the Vega was iced in for the winter of 1878. Nordenskjöld was undoubtedly one of the greatest Swedish explorers, but I wish he had got his ship stuck 11 km further west. If he had done so the ceremony would have been held on Belyaka Spit, which is renowned for its breeding population of Spoon-billed Sandpipers...

The arctic summer was drawing to a close. The last I saw of it was in early August, on the idyllic wetlands and cotton-grass meadows of Yana Delta. The mosquito period was over (I didn't encounter one, despite temperatures in the mid-twenties) and it seemed strange to see an hour or so of twilight at midnight, after 10 weeks of continuous daylight. Most breeding waders had migrated - but not their young, for juveniles were feeding everywhere. All in immaculate fresh plumage, the likes of which we never see in Australia - and with pleasant background distractions like hunting Snowy Owls and the eerie wails of White-billed Divers. Magic! Birding doesn't get better than that.

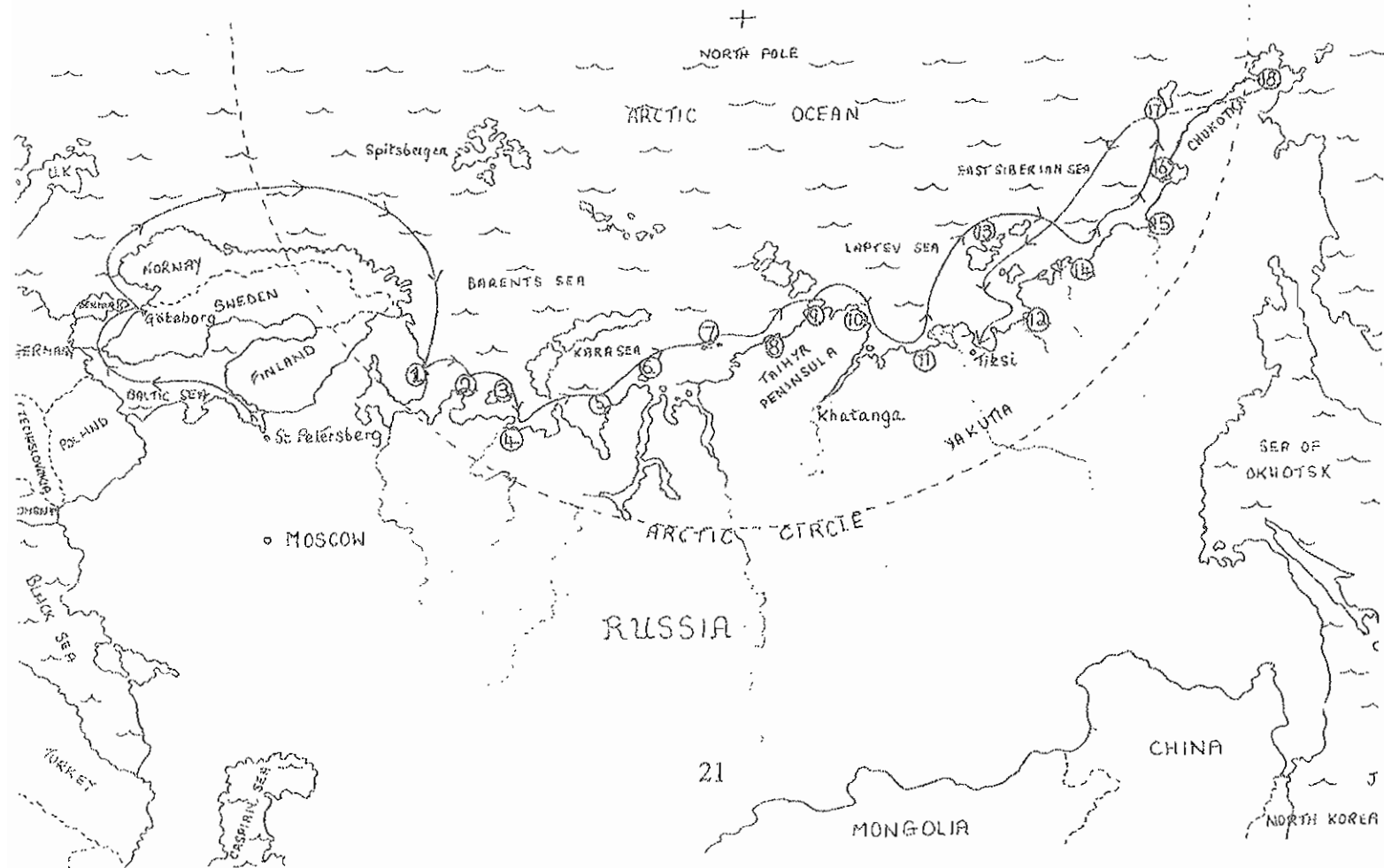
A reluctant crowd of tundra veterans finally left Siberia from Tiksi Airport on the 9th of August. While waiting for the plane we had killed time by visiting the Tiksi museum. The lady who guided us round was delighted to hear that there was an Australian in the party - she had never seen one before - and insisted that I sign the visitors book. I wrote a few appropriate words, and wrote AUSTRALIA after my name in big letters. The lady was dismayed. "Why in English?" she cried. "I wanted you to write something in Australian".

Acknowledgements

Without the efforts of Mark Barter and Professor E. Syroechkovsky, and the financial assistance of the AWSG and ANCA I would not have reached the tundra. I am also grateful to the other expedition members for making Tundra Ecology '94 such a uniquely educational and enjoyable experience. The Swedes were a lot of fun (they are rather like Australians, although they are taller on average and most of them speak better English). But perhaps no memories will linger longer than those of the generosity of our Russian friends, their fieldcraft and their ability to extract enjoyment from adverse circumstances.

Sites visited By Tundra Ecology '94

- | | |
|----------------------------|---------------------------------|
| 1 Kola Peninsula | 10 North-east Taymir |
| 2 Kanin Peninsula | 11 Oleneksky Bay |
| 3 Kolguyev Island | 12 Yana Delta |
| 4 Pechora Bay | 13 New Siberian Islands |
| 5 West Yamal Peninsula | 14 North-west Indigirka |
| 6 North Yamal Peninsula | 15 Kolyma Delta |
| 7 Arctic Institute Islands | 16 Ayon Island |
| 8 North-West Taymir | 17 South-western Wrangel Island |
| 9 Chelyuskin Peninsula | 18 Kolyuchinskaya Bay |



Tundra Ecology '94

Clive Minton and Danny Rogers

TWO MEMBERS OF THE V.W.S.G. TAKE PART IN THE FIRST SCIENTIFIC EXPEDITION TO THE RUSSIAN ARCTIC SINCE 1878

Background

In February 1994 Australia was invited to send two ornithologists to participate in "Tundra Ecology '94" - a major multidiscipline scientific expedition to the Russian Arctic. Clive Minton took part in the first leg (St. Petersburg to Khatanga, 30th.May to 5th.July) and Danny Rogers in the first two legs (St.Petersburg to Chukotsk, 30th.May to 5th.August).

The Expedition

This was the largest scientific expedition ever mounted to the Russian Arctic. The Russian Antarctic Supply ship, *Academik Fodorov*, used for transport and as a base between each land visit, was the first non-military vessel to traverse the complete length of the north Russian coast since the explorations of Nordenskiöld 115 years ago. Passage was only possible by employing two (nuclear-powered) ice-breakers to create a passage through the heaviest ice which was still 2 - 3 metres thick for over 1000km. of the 7000km. coastline. A specially equipped ice-reconnaissance plane also carried out surveys every two weeks of the ice conditions ahead, transmitting complete pictures (including ice thickness estimates) through sophisticated equipment to the ice-pilots on board the ship.

Sixty scientists, half from Sweden and half from Russia, were present on each of the three legs of the expedition. The two Australians were part of the Russian team. About a third were ornithologists (and many others had good ornithological knowledge); the remainder were botanists, mammologists, ichthyologists, geneticists, entomologists, meteorologists etc.

The expedition cost \$5 million, and was financed almost entirely by the Swedish Government through a special grant to their Polar Research Institute. This equates to a cost of around \$30,000 per scientist for each leg of the expedition. However it was only by the use of expensive dedicated equipment in the form of specialist ships, aircraft and helicopters that it was possible to mount such a unique and extensive expedition to obtain access to arctic areas at the right time, ie to coincide with the breeding season in the short arctic summer.

Logistics

The team of scientists was taken ashore, from the ship, at nine locations between the Kola Peninsula and N.E. Taimyr on the first leg of the expedition and at eight locations between there and the Chukotsk Peninsula on the second leg. (see map). The third leg involved return visits, in August, to the same sites as visited in the first leg. Transport of people and their equipment (including special motorised transport and small boats) was via two large MI8 helicopters based on the ship.

Scientists were divided into four main groups, wader studies/ fish, bird census/mammals, botany and lemmings. Each group comprised about fifteen people with two accompanying ornithologists. The Australians worked mainly with the bird census and mammals group but also spent some time with the wader studies and fish and the botany groups.

Four camps (sometimes more) were set up at each stopping point, with camps being 3-20km apart and usually in slightly different habitats. The time spent at each location varied. Generally stops were for two days and one night or three days and two nights but occasional day visits were also made.

Team members fanned out over the tundra from each camp, with some individuals traversing 15 km or more. With such a large number of people deployed in this way the rate of data generation was immense and an extraordinarily comprehensive cover was obtained.

Climate

On the first leg the weather was better than expected or predicted with more sunny days and less wind than normal. Temperatures were generally about 1°C but fell below freezing quite often in the early part of the expedition. Snow fell only once and light rain on three occasions. Fog was, as usual, quite frequent. At most locations snow cover was 10-30%, but many lakes and rivers were still frozen, as was the sea. The season was said to be 7-10 days later than average.

Results

A number of scientists had devised detailed experimental programmes involving sophisticated techniques ranging, in the ornithological field for example, from a large mobile radar station for studying migration to heavy water injection into waders to study their metabolic energy consumption. The Australian participants assisted with a variety of programmes but were particularly involved in survey and census work, in nest finding and recording and in banding, especially of waders.

At each location between 20 and 50 species of birds were located. The diversity decreased as the expedition progressed northwards and eastwards. Passerines showed the most notable reduction with only the Snow Bunting being common at the highest latitude (though a stray Barn Swallow was seen at the most northerly point, Cape Chelyuskin, at 78°N!) On one 'memorable' day (because we were surrounded by breeding Red Knot, Sanderling, Turnstone, Curlew Sandpiper, Grey Plover and Purple Sandpiper) we actually totalled only 12 species. Waders were the most widespread group, followed by geese, ducks, skuas, gulls, terns, birds of prey, gamebirds, divers and swans. Many species were found in areas where they were not previously known to be

breeding. The extensive census data clearly illustrated the change in species and abundance with habitat, latitude and longitude.

The timing of the first leg of the expedition proved to be ideal. At each location visited virtually all the breeding birds had arrived. Territorial display was at its peak. Some species had just started to incubate complete clutches of eggs, others were in the process of laying, and a few (notably Little Stint and many of the ducks) had not yet started to nest. The rate of progress of the expedition coincided with the spread of the thaw thereby producing a similarly ideal situation at each location. A large number and variety of nests was found - 34 different species on the first leg by the Australian participants alone.

A good variety of breeding waders was caught at the nest with 'walk-in' or 'spring' traps. It was particularly valuable to be able to compare plumages of the different sexes in the hand, and also to obtain biometric data. Weights were particularly interesting (and valuable) as such information is rarely available from museum skins. Males tended to be close to their fat-free weight, presumably because of high energy consumption and little time for feeding as a result of their intensive flight and territorial display activities and occasional incubation duties during the egg-laying period. Females, in spite of laying eggs equivalent to more than 50% of their body weight over a four day period, were typically 15-35% above their lean weight - presumably a reserve laid down to carry the bird through the incubation period when feeding time is severely limited in many species (those in which incubation is not shared by the sexes).

The good weights observed in breeding waders was an indication of the surprising abundance of food available to them on the arctic tundra so early in the season. Observations of birds, both waders and passerines, feeding on patches of melting snow and on ground very recently uncovered by the thaw indicated that most of the food taken had been preserved by the ice and snow from last summer. A Reed Bunting, for example, was seen to pick up and consume a 3 cm caterpillar from a patch of snow in dwarf willow scrub. Nature had thus cleverly stored, for some nine months, part of the bounteous invertebrate and berry crop left over from the previous season. Thus, so long as the waders are not confronted by significant new snowfalls after arriving on the first patches of clearing tundra, they would not seem to be short of the food resources necessary to initiate the breeding cycle; by the time the chicks hatch the new season's crop of insects and larvae should be available.

Another highlight associated with banding was the catching of two Dunlin wearing Swedish bands. One of the Australian participants also picked up a band on the tundra which had been put on a Bean Goose in Holland 15 years before. A Curlew Sandpiper with a coloured leg flag (orange) from Victoria was seen on N.E. Taimyr, some 12,000 km from Melbourne. Later, on the second leg of the expedition, further colour marked waders from Australia were observed - a Sanderling, from S.E. Australia, was found breeding on the New Siberian Isles (off the north coast of Russia, and due north of the banding area), and a Bar-tailed Godwit from N.W. Australia (yellow flag) in a post-breeding congregation near the Indigirka Delta. The last two records are the furthest north recoveries of these species from Australia (in fact the Sanderling is the first to be recovered on the breeding grounds). The Curlew Sandpiper is the second from the Taimyr and indicates the probable western limit of the breeding areas from which waders regularly migrate to Australia. It also confirms that there is a considerable overlap in the breeding areas of Curlew Sandpipers which migrate to Africa and to Australia.

Another surprising discovery by the Expedition was the prolonged duration of the 'spring' migration. Extensive movements of geese, waders, skuas and some passerines towards the northernmost breeding grounds continued until June 26th (by which time some of the birds at the first site visited, on the Kola Peninsula, in early June would have already hatched eggs).

Whilst this report has concentrated on ornithological matters it is relevant to also mention the main findings in relation to lemmings, since their cycles of abundance are closely linked to the breeding success of waders (via associated predation pattern variations). Lemmings were totally absent at the first four locations visited. However from West Yamal onwards they were common and on parts of the Taimyr they were abundant. As predicted therefore 1994 looks likely to be a 'lemming year' in the parts of the arctic in which waders visiting Australia breed. This should lead to good chick production as the predators will be concentrating on the easy food source of lemmings. It was very noticeable that the density of predators, particularly the three species of skuas, were highest in areas where most lemmings were present.

Overall the Expedition was considered by everyone to have far exceeded expectations in terms of results as well as being a memorable, unique and extremely enjoyable experience.

Benefits to Australian participants and to ornithology in Australia:

1. The participants benefited greatly from the new perspective they now have on waders as a result of seeing first hand and for the first time the breeding phase of the annual cycle and the different habitats used by each species.
2. Plumage differences observed in breeding birds confirmed suspicions emanating from wader studies in N.W. Australia that it is possible to distinguish between the sexes of some species when they are in breeding plumage. This will assist in refining information generated on biometrics and the timing of migration in Australia.
3. A variety of research techniques was learned which will, in due course, be of use in Australia. The simplest and most immediate of these were spring traps and walk-in traps for catching waders at the nest. These will be applied in Hooded Plover and Pied Oystercatcher studies in Victoria.
4. A wide range of good relationships in the ornithological field was established with Russian and Swedish scientists. This will have mutual benefits in the future in a number of ways:
 - a. exchange of knowledge, information and research papers etc. on an ongoing basis.
 - b. widespread awareness in Russia, for the first time, of the importance of Australia as a "wintering area" for waders breeding in Russia (two million birds, out of the total 3 million waders in Australia).
 - c. awareness in Russia of the extent of the Australian wader banding and colour leg-flagging programme.
 - d. increased desire and opportunity for exchange visits and participation in future joint fieldwork programmes in both countries.

e. more widespread understanding and support for (in Russia) the proposed joint agreement on the protection of migratory birds and their habitats.

This should lead to more reports of our birds from Russia.

Statement of intent

A document outlining views and intentions in relation to proposed future collaboration in the ornithological field was drawn up and signed by the leader of the Russian team, Professor E. Syroechkovsky, and by one of the Australian scientists, Dr. C.D.T. Minton. It is hoped, inter alia, that means can be found to enable Russians to participate in the next wader study expedition to N.W. Australia, scheduled for March/April 1996.

Financial

Each participant incurred total costs of around \$6000, including purchases of special clothing, equipment, photographic materials, visas etc. The two main components were:

Air fares	\$2,500
Levy on participants	\$3,200 (US \$2,350)

Publications

A large number of scientific papers, a book and two television programmes will be produced following the expedition. The knowledge gained by the Australian participants will, inter alia, stimulate and assist in future papers on Australian waders.

Acknowledgements

The participants are extremely grateful to all those who facilitated and assisted their participation in "Tundra Ecology '94", especially Professor E. Syroechkovsky, the Australian Nature Conservation Agency and Mark Barter.

From a draft report to A.N.C.A. on the visit of Dr. C.D.T. Minton and Mr D. Rogers to Russia - May/August 1994)

The Breeding Grounds of the Taymir Peninsula

Mike Weston

WITH THE RUSSIAN
ACADEMY OF SCIENCE'S
EXPEDITION TO
NORTHERN SIBERIA

Background

In February 1994 Australia was invited to send an ornithologist to participate in the Arctic Expedition program of the Russian Academy of Science's Institute of Animal Morphology and Ecology. Michael Weston of the AWSG took part in an expedition to northern Siberia led by Dr Mikhail Yu Solovyov of Moscow State University.

The Expedition

The field site of the expedition for the 1994 breeding season was in the south-east Taymir Peninsula in northern Siberia. Specifically, the site was at the junction of the Khatanga and Bludnaya Rivers, about 200 km north-east of the settlement of Khatanga. This area is of particular interest to Australian wader biologists because it is thought to form the extreme western boundary of the breeding range of some species of waders which migrate along the East Asian/Australasian Flyway. The study site will be revisited by Dr Solovyov's team in the 1995 and 1996 arctic summers in order to examine the nest site fidelity of breeding waders. The specific research interest of Dr Solovyov is the influence of microtopography and microhabitat on nest site selection.

The size of the team in the field camp varied from four to nine people. Besides Russian ornithologists, there were two Norwegian ornithologists (Dr Tore Larsen and Svein Grundetjern) and the Australian ornithologist, Michael Weston. The two Norwegian ornithologists addressed questions regarding the relationship between umbrella species (aggressive nest defenders) and species nesting nearby (in this case passive nest defenders).

The cost of the expedition was subsidised by the Institute of Animal Morphology and Ecology.

Although unknown, the cost of the expedition would have been substantial given the costs associated with helicopters, the boat, field equipment and consumables. The AWSG donated four Pesola spring balances (total cost Aust. \$400) to the Arctic Expedition Program for use on future expeditions relevant to the East Asian/Australasian flyway.

Logistics

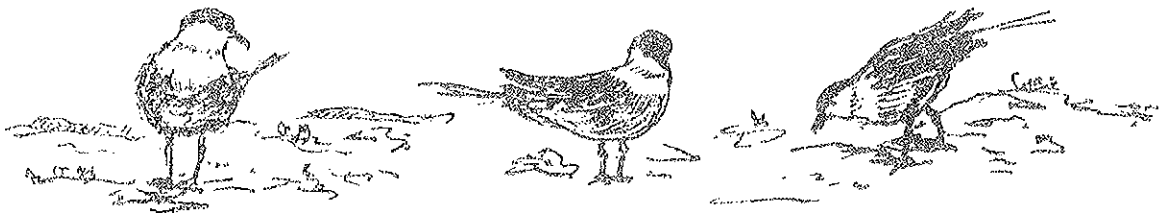
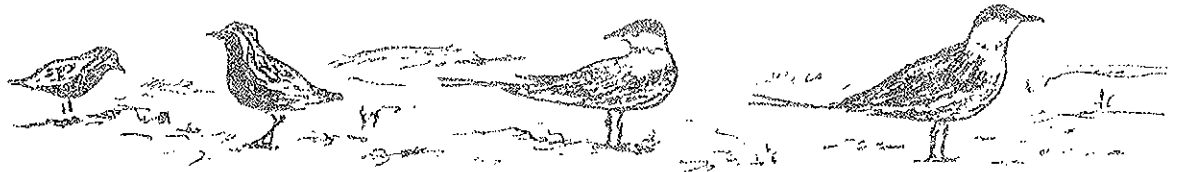
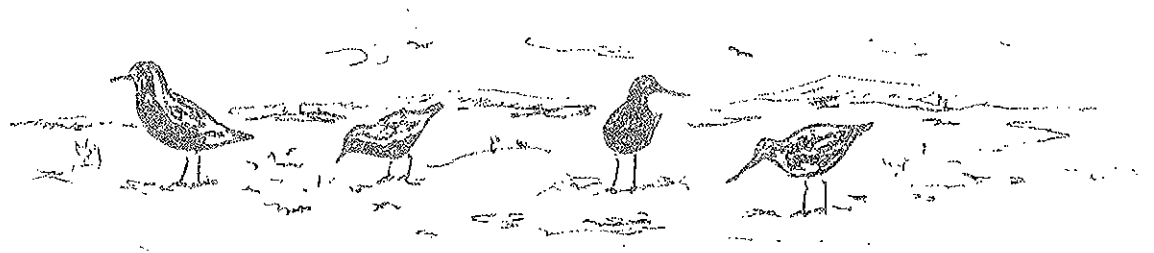
The team arrived at the field site by helicopter, with most of the required equipment, on the 11th of June. Unfortunately, an unusually late snow storm prevented any serious field work for another two weeks. The snow storm did, however, guarantee that the team was active on the field at the beginning of breeding. The season was said to be 10-14 days later than average.

Once at the site, the team established a plot which was marked by a north/south, east/west grid of stakes placed 100m apart. The area of the plot was about 110 hectares. This area was intensively surveyed on foot, and later by using the rope method of nest searching. The team was successful in locating the vast majority of nests and only two "extra" broods, thought to have originated from nests on the plot, were located late in the season. On the plot, all adults and broods of all species were banded and colour-marked.

Outside the plot, many excursions were made to surrounding areas. These excursions were made on foot and by boat. The aim of these visits was to gain an insight into the avifauna of the general area. The longer excursions took scientists more than 40 km from the camp.

Results

The results of much of the work is yet to be analysed and published. This includes the project run by the Norwegians, and also much data being handled by the Russians, for instance the biometric data (in due course the AWSG will receive a copy of this data). Nevertheless, the most important data, at least from an Australcentric viewpoint, is the status of wading-bird species in the area and this is presented in Table 1 (p.34)

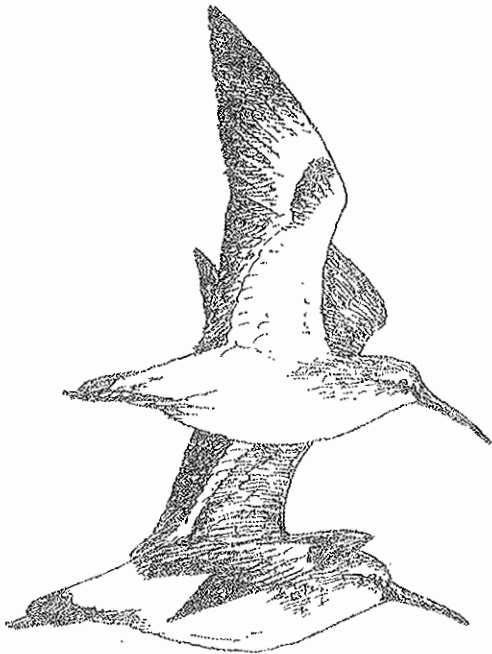


How many species
of Albatross.

The Lemming densities were lower than expected and predation of wader nests was high (about 80%). The main nest predators were apparently Arctic Foxes. Skuas were not infrequently seen chasing the adults of small wader species and it seems likely that this accounted for a number of abandoned nests. Despite the relatively high predation pressures the density of breeding birds was considered high (roughly 0.84 nests per hectare).

There were no recoveries of banded birds. The expedition was nevertheless considered a great success, both in terms of scientific achievement and in terms of information exchange between ornithologists of different countries.

Extract from a report to A N C A on Mike Weston's visit to Siberia - May to August 1994



— S. J. P. 1994 —

Proposed Agreement Between Australia and Russia For The Protection Of Migratory Birds And Their Environment

There are a number of international agreements and conventions, both bilateral and multilateral, for the protection of migratory birds and their environment. Although the implementation and effectiveness of these agreements have, in the main, fallen short of expectations, their importance and potential should not be overlooked.

The most prominent agreements affecting Australia have been those with Japan and to a lesser extent mainland China. But although Russia has long standing agreements with the U.S.A., Japan and India and has just concluded an agreement with South Korea, there has been no agreement with Australia. With the breakup of the Soviet Union things have changed dramatically. The lifting by Russia of many restraints now makes communication and cooperation much easier. Clive Minton has been quick to take advantage of this and when in Moscow last July (acting on behalf of the Australian Nature Conservation Agency) met representatives from the Department of Biological Resources in the Ministry of Nature Conservation, the Department of Conservation of Wildlife and the Institute of Animal Morphology and Ecology. It was agreed that a migration agreement between Australia and Russia is desirable. Completion within six months is considered possible. The Australian Embassy in Moscow will continue to carry out liaison work.

It is estimated that two million waders breeding in Russia migrate to Australia for the non-breeding season as well as a unknown number of terns, seabirds and passerines. Conservation of shared migratory species not only in their breeding and wintering grounds but also in staging areas on migratory routes and preservation of habitat in all areas can, it is thought, best be achieved by bilateral rather than multilateral agreement.

This report is based on notes made by Clive Minton following his meeting in Moscow last July with Dr Illyashenko, Head of Department of Biological Resources, Ministry of Nature Conservation.

FUTURE COLLABORATION BETWEEN AUSTRALIA AND RUSSIA

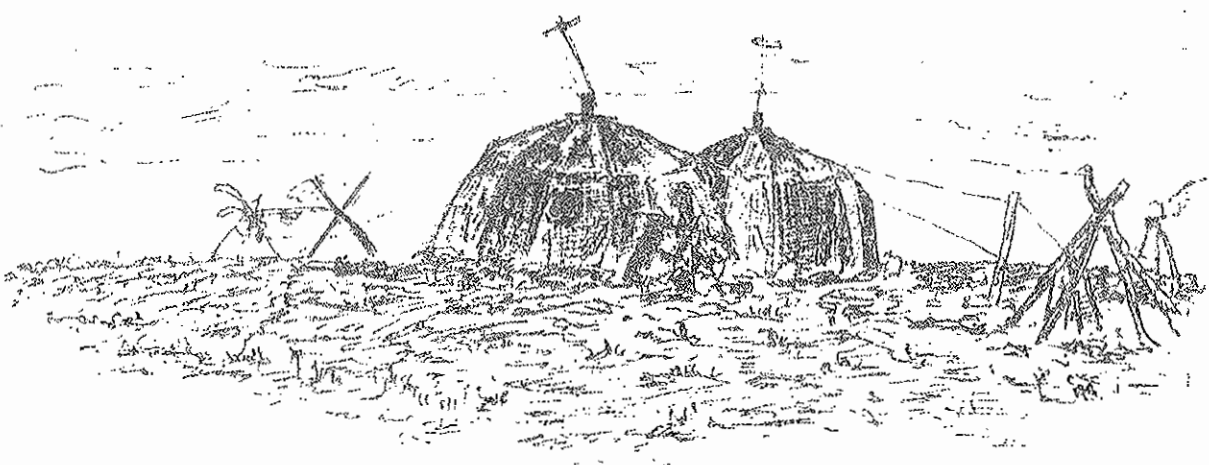
One of the more important and pleasing results of "Tundra Ecology '94" is the promise of increased co-operation between Australia and Russia in the study and conservation of those intercontinental migrants that breed in Russia and winter in Australia as well as of the conservation of their habitat in both countries.

Academician E.E. Syroechkovski (head of the Laboratory of Ecosystems Protection and Animal Populations Management and of the Arctic Expedition, Institute of Animal Morphology and Ecology, Russian Academy of Science and Dr Clive Minton (Honorary Vice-President, Royal Australasian Ornithologists Union) drew up a Protocol of Intentions covering research with particular attention in Russia to the *Charadriidae* and to the Siberian and Russian Far East regions (Asian-Pacific and Central-Palaearctic Flyway regions) and in Australia to coastal regions and wetlands where most of the Palaearctic birds are concentrated.

Development of this research by the institutes of the Russian Academy of Sciences and of the Ministry of Environment Protection and Natural Resources of the Russian Federation and by universities in Russia and by interested non-governmental organisations was considered desirable. The main co-ordinating unit for the Siberian region could be the Institute of Animal Morphology and Ecology. The expedition of an intergovernmental Russian-Australian convention for the protection of migratory birds and their habitats was also considered desirable.

It was agreed that "Tundra Ecology '94" had shown that joint Russian-Australian research had been fruitful and that there should be further joint expeditions. An invitation for two Russian scientists to visit Australia in 1995-96 was suggested.

Based on a Protocol of Intentions signed in Moscow on 4 July 1994 by Acad.Prof.E.E.Syroechkovski and Dr Clive Minton



A Tale from Typical Taymir Tundra.

MIKE WESTON

"If you are patient, the tundra will show you her secrets" Vladimir Eisner (Translator for the Taymir reserve).

I am very fortunate to have had the opportunity to spend the 1994 arctic summer in the tundra of northern Siberia. I was part of a Russian Academy of Sciences expedition to a field site at the junction of the Khatanga and Bludnaya Rivers, about 200 km north-east of the town of Khatanga, on the Taymir Peninsula. The latitude of the field camp was about seventy two degrees north of the equator! This paper presents a brief report of the expedition.

Waders Breeding in the Vicinity of the Camp

Our field work was conducted over a period of about two and a half months. Although we made some long excursions, most of our time was devoted to following the breeding histories of all birds that nested in the vicinity of our camp. In order to do this effectively, we established a grid of marking stakes. Each stake was 100 metres from the next stake, and they were arranged in a north-south and east-west pattern. In this way any nest that was located could be accurately plotted on a map. Each nest was also marked with a small stake. Even with all these aids, it was surprisingly difficult to re-locate many of the nests!

The nests were located by an intensive and extended search by the whole team that continued for the whole season. We would simply spend many hours on the plot observing adults, quickly determining whether they were nesting or simply feeding, and if appropriate following them back to their nests. It sounds much simpler than it actually was! In addition to this method of nest searching, a rope with tin cans tied to it was pulled over the whole plot. It was interesting that, although this method revealed some new nests, it failed to locate some nests that we had already found and which were still active!

I have included the final maps of our plot in the following pages (Figures 1, 2, and 3) split on to different maps for convenience. Non-wader species that nested on the plot have been omitted from the maps, these species were Arctic Tern *Sterna paradisaea*, Long-tailed Skua *Stercorarius longicaudus*, King Eider *Somateria spectabilis*, Long-tailed Duck *Clangula hyemalis* and Lapland Bunting *Emberiza lapponica*. These maps say a great deal about our little piece of tundra. They also represents a great deal of blood, sweat and tears.

The Status of Waders in the Area

Table 1 gives the status of all waders located in the general area (including Khatanga). In addition to Scientific and English names, the names of waders used by the Dalgarn people (who are native to the Taymir peninsula) are also presented. Although the Russian names for waders are readily available (e.g. from Dementiev and Gladkov's 1951 Birds of the Soviet Union), the names used by the northern peoples are generally unknown to southern wader enthusiasts. The dates of first arrival in Khatanga are also given for some species. This is based on daily observations from the very end of April until about mid-May.

Table 1. The Status of Waders in the South-East Taymir Peninsular, Northern Siberia, in Summer 1994.

Species	English Name	Dalgarn Name	Arrival in Khatanga (obs. 29/5-16/6)	Status
<i>Pluvialis fulva</i>	Pacific Golden Plover		2/6	B
<i>Pluvialis squatarola</i>	Grey Plover		-	B
<i>Charadrius hiaticula</i>	Ringed Plover		2/6	NB
<i>Eudromias morinellus</i>	Eurasian Dotterel		-	NB
<i>Limosa lapponica</i>	Bar-tailed Godwit		3/6	B
<i>Tringa erythropus</i>	Spotted Redshank		2/6	B
<i>Tringa glareola</i>	Wood Sandpiper		1/6	NB
<i>Xenus cinereus</i>	Terek Sandpiper		3/6	NB*
<i>Heteroscelus brevipes</i>	Grey-tailed Tattler		3/6	NB*
<i>Arenaria interpres</i>	Ruddy Turnstone		1/6	NB
<i>Phalaropus lobatus</i>	Red-necked Phalarope		12/6	B
<i>Phalaropus fulicarius</i>	Grey Phalarope		13/6	B
<i>Gallinago stenura</i>	Pin-tailed Snipe		4/6	NB*
<i>Gallinago gallinago</i>	Common Snipe		3/6	NB
<i>Limnodromus scolopaceus</i>	Long-billed Dowitcher		-	B
<i>Calidris canutus</i>	Red Knot		15/6	NB
<i>Calidris alba</i>	Sanderling		3/6	NB
<i>Calidris ruficollis</i>	Red-necked Stint		-	NB*
<i>Calidris minuta</i>	Little Stint		3/6	B

<i>Calidris temminckii</i>	Temminck's Stint		3/6	B
<i>Calidris melanotos</i>	Pectoral Sandpiper		3/6	B
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper		-	NB
<i>Calidris maritima</i>	Purple Sandpiper		-	NB
<i>Calidris alpina</i>	Dunlin		3/6	B
<i>Calidris ferruginea</i>	Curlew Sandpiper		-	B
<i>Limicola falcinellus</i>	Broad-billed Sandpiper		-	B
<i>Philomachus pugnax</i>	Ruff		2/6	B

* = seen in Khatanga but not in tundra

- = no data

Some points worthy of mention include:

(1) Two species which predominately spend the non-breeding period in Australasia were noted in passage (a single Red-necked Stint and many Sharp-tailed Sandpipers). This is unusually far south-west and west to find Red-necked Stint and Sharp-tailed Sandpiper respectively.

(2) There were extensions to the known breeding range of species which visit Australia (e.g. Broad-billed Sandpiper).

(3) There were extensions to the known breeding range of species which do not visit Australia in any numbers (if at all), for example Long-billed Dowitcher

Lemmings and Predators

Although Collared and Siberian Lemmings were both present in the study area, only the latter species occurred in significant numbers. The Lemming densities were lower than expected and predation of wader nests was high (about 80%). The main nest predators were apparently Arctic Foxes. Skuas, particularly Arctic Skuas *Stercorarius parasiticus*, were not infrequently seen chasing the adults of small wader species and it seems likely that this accounted for a number of abandoned nests. Despite the relatively high predation pressures the density of breeding waders was considered high (92 nests in c.110 hectares, or 0.84 nests per hectare).

Despite the predators, weather and other hardships, the expedition was considered a great success, both in terms of scientific achievement and in terms of information exchange between

Figure 1. All Species of Wader, Except for Little Stint and Dunlin, which Nested in the Plot.

Bludnaya Lowlands



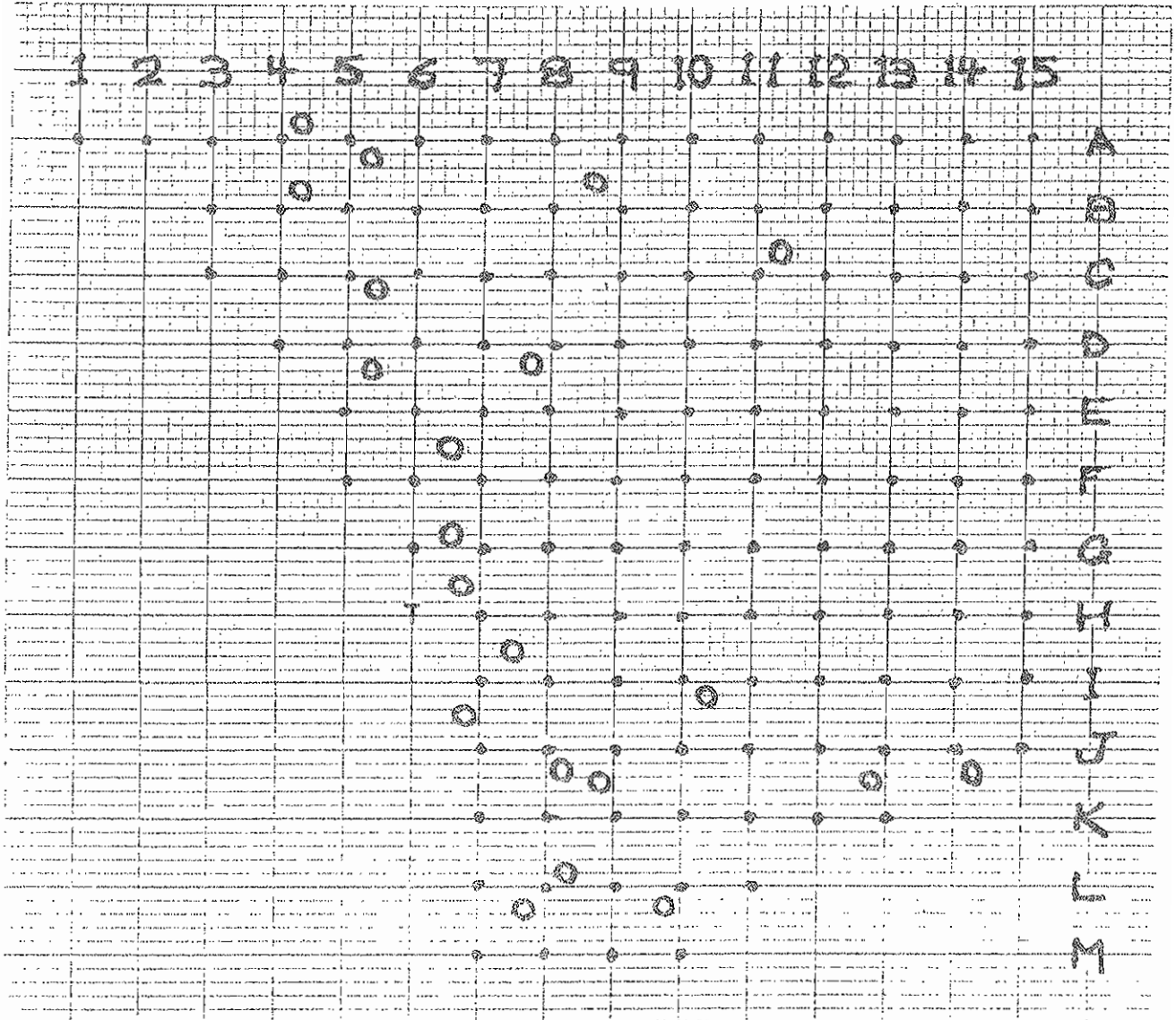
Bludnaya Lowlands

Key:

- T = camp thermometer
- . = marker stake
- * = Bar-tailed Godwit nest
- ⊙ = Long-billed Dowitcher nest
- ◐ = Temminck Stint nest
- = Curlew Sandpiper nest or brood
- X = Pectoral Sandpiper nest
- ▣ = Ruff nest
- ◓ = Grey Plover nest
- ◑ = Golden Plover nest
- + = Red Phalarope nest

* North to top of page

Figure 2. Dunlin Nesting on the Plot.



Key:

T = camp thermometer

• = marker stake

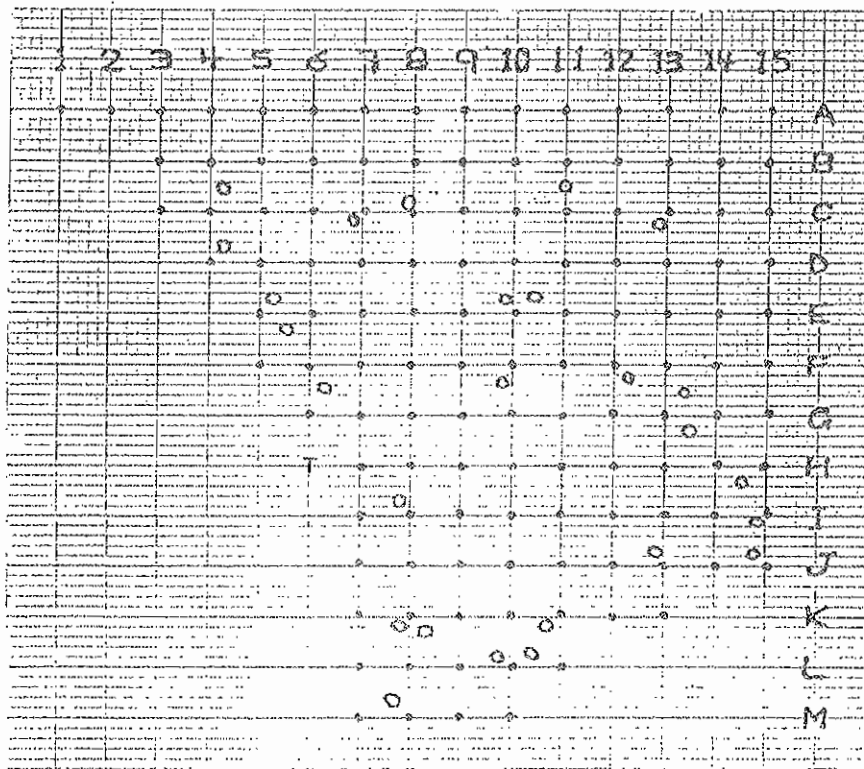
○ = Dunlin nest

ornithologists of different countries. Next time you are feeling uncomfortable on a VWSG expedition, remember your counterparts in Russia and the conditions which they must endure.

Acknowledgments

The team members involved in the compilation of these data were, in alphabetical order: Tore Larsen, Anatoly Gavrilov, Victor Golovnyuk, Sven Grundetjern, Mikhail Solovyov, Tatyana Sviridova and Alexi Voranya. Mark Barter worked long and hard to help me reach the tundra and I express my thanks to him. I also thank the AWSG and ANCA for all their assistance, both financial and otherwise.

Figure 3. Little Stint Nesting on the Plot.



Key:

- T = camp thermometer
- = marker stake
- = Little Stint nest

AUSTRALIAN COASTAL SALTWORKS - IMPORTANT WADER HABITATS

Jeff Campbell

Three Australian mainland states each have a number of coastal saltworks which are listed in Watkins (1993) as being of international importance for between one and eight species of waders each. These are; Western Australia: Port Hedland Saltworks (eight species), Shark Bay area (includes saltworks at Useless Loop) (two), Dampier Saltworks (one). Victoria: Werribee/Avalon (includes Avalon Saltworks) (seven), Moolap Saltworks (two), Laverton Saltworks (one (however recent counts have added another three)). South Australia: Price Saltfields (eight), Penrice Saltfields (seven) (Watkins 1993).

All of the above sites are obviously also of national importance, often to a higher number of species, as is Bowen Saltworks in Queensland (one species). In fact some of these sites are extremely important nationally, with, for example Port Hedland Saltworks holding 6 000 Broad-billed Sandpipers, out of an estimated Australian population of 8 000 (Watkins 1993).

In addition these saltworks are a valuable habitat for many other waders, even though their numbers may not be of international or national significance (Table 1). Saltworks such as those in coastal Victoria and South Australia are particularly important in times of drought for waders which generally inhabit the inland. Numbers of Banded Stilts and Red-necked Avocets can be particularly high at such times when these sites act as a drought refuge, with the birds returning to the inland when conditions ameliorate.

Given the above, the uncertain future of two of the three coastal saltworks in Victoria causes some concern for the destiny of the birds currently using them, as both feeding and roosting grounds. With at least the majority of salt production in Victoria being moved away from the coastal saltworks to an inland site at Sea Lake, by the operators Cheetham Salt Ltd., and the resultant probable closure of the Laverton, Avalon and Moolap works the long term viability of these areas as wader haunts is under question. The wader habitat at these sites is dependent on the continuing supply of water into the evaporation ponds, if this is not maintained the ponds eventually become hypersaline before drying out completely.

The future of the Laverton site would appear to be guaranteed as an agreement has been reached whereby the dryland section of the saltworks will be developed for housing and the wetlands, pumps and channels maintained as wildlife habitat, and protected from undue human disturbance by a moat. Prescriptions for ideal water levels in the ponds have been set by Brett Lane and others and will be maintained by active management.

Unfortunately the same cannot be said of the Avalon and Moolap Saltworks. Although some experimentation is understood to be taking place with replacing salt production with aquaculture at Avalon this may lead to deeper water levels in the ponds, thus rendering them unsuitable for waders. In addition a section of the site is threatened by the proposed relocation of the Coode Island chemical storage facility to Point Lillias at the eastern end of the saltworks. The future of the Moolap works is not known to this writer.

Table 1. Waders recorded from Australian coastal saltworks¹

Painted Snipe	Spotted Redshank
Pied Oystercatcher	Common Redshank
Sooty Oystercatcher	Marsh Sandpiper
Masked Lapwing	Terek Sandpiper
Banded Lapwing	Latham's Snipe
Grey Plover *	Asian Dowitcher
Pacific Golden Plover	Black-tailed Godwit
Red-kneed Dotterel	Bar-tailed Godwit
Little Ringed Plover	Hudsonian Godwit
Ringed Plover	Red Knot
Mongolian Plover *	Great Knot
Double-banded Plover *	Sharp-tailed Sandpiper
Large Sand Plover	Pectoral Sandpiper
Oriental Plover *	Cox's Sandpiper
Red-capped Plover *	Little Stint
Black-fronted Plover	Red-necked Stint *
Black-winged Stilt	Long-toed Stint
Banded Stilt *	Curlew Sandpiper *
Red-necked Avocet *	Sanderling
Ruddy Turnstone *	Stilt Sandpiper
Eastern Curlew *	Buff-breasted Sandpiper
Whimbrel	Broad-billed Sandpiper *
Little Curlew	Ruff
Wood Sandpiper	Red-necked Phalarope
Grey-tailed Tattler	Wilson's Phalarope
Common Sandpiper	Oriental Pratincole *
Greenshank *	Australian Pratincole
Lesser Yellowlegs	

¹ Compiled from a brief literature search only, may not be a comprehensive list.

* Species for which at least one coastal saltworks holds numbers of international importance (from Watkins 1993).

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THE OYSTERCATCHERS OF ALTONA

Rosiland Jessop, PO Box 97, Cowes 3922

The Pied Oystercatcher has an almost continuous distribution around the coast of Australia and the largest concentrations occur in large marine embayments in Victoria, Tasmania and South Australia (Lane 1987). Corner Inlet holds some 1,294 individuals, Western Port 385 and Werribee/Avalon 108 (Watkins 1993). The southern race of the Sooty Oystercatchers has a patchy distribution and the major concentration in Victoria is in Corner Inlet (some 270 individuals).

The VWSG is currently undertaking a study of these two resident wader species including banding and individually colour-banding, surveys for colour banded birds, counts at selected sites in summer and winter and a biennial census of coastal south-eastern Australia in October (Minton 1988; 1991).

Summarised below is information collected on colour banded Oystercatchers using the Altona area since 1990.

The Altona Foreshore appears to be an overwintering area for Pied Oystercatcher (and the odd Sooty) which feed among the seagrass beds and mudflats and roost in one of four locations (Fig. 1). Traditional roosting areas for birds are rocks at the Burns Reserve or the Williamstown Rifle Range. An additional site south of Laverton Creek was also occasionally used by a few birds. In 1992 a dredge spoil island was created near the Burns Reserve and this was soon utilised by the Pied Oystercatchers. The island was further modified in late 1993 when it was connected to the surrounding coast. This has had the effect of making the roosting site at Laverton Creek more popular during the summer months (1993/94) due to increased disturbance by people and dogs. Additional disturbance is also occurring at the Williamstown Rifle Range due to the construction of a new housing estate and the opening up of adjacent areas by pathways increasing the number of people often accompanied by dogs using the shoreline. The Burns Reserve was favoured during winter months (1994) and week-days when disturbance was less frequent.

The number of Pied Oystercatchers using the area has increased from a maximum of 14 individuals in late April 1992 (pre island) to 31 in May of 1993 and 40 in May of 1994. The number of birds using the area decreases from early July with minimum individuals present in October coinciding with the breeding season (October to December). However 1992/92 12 birds remained in the area throughout the summer months. Numbers begin to increase again in February/March. A similar pattern has been reported for Pied Oystercatchers at Stockyard Point (Jones (1983)). Many of the Oystercatchers using the Altona area are colour banded and 238 observations of some 46 individuals have been made.

Pied Oystercatchers with either site bands (birds were site coded before 1989) or individual colour codes have originated from Corner Inlet, Rhyll, The Gurdies, Stockyard Point, Queenscliff and Werribee (Fig. 2). No birds from Long Island or French Island have been recorded. The number of individually colour banded Pied Oystercatchers from the VWSG study areas around Victoria and the number of these birds seen at Altona is shown in Table 2. While the majority of birds seen originate from Werribee, the percentage of birds banded at Queenscliff and seen at Altona is higher. Interestingly only half the birds banded at Altona have been seen there again (Table 2).

There is some suggestion in Table 2 that certain birds may have 'traditional' overwintering grounds eg. 100-85028, 100-96915, 100-96848 being seen at Altona in a number of years. Other birds may be seen only once or once in any one year. This does not seem to be related to the age of the bird. Perhaps these birds are on passage to their 'traditional' overwintering sites elsewhere.

During the coming year further analysis of Pied and Sooty Oystercatcher sightings from around the State and inter-state will (hopefully) be made. If you have any old records that you 'must get to Clive', now is the time to do it. Any spare moments with a telescope or binoculars down at the beach could also provide some more useful information. Any information should be sent to Clive Minton, 165 Dalgetty Road, Beaumaris 3193.

Acknowledgments

I would like to thank Angela Jessop for assisting in the field.

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Table 1. Age, year banded and colour banded of Pied and Sooty Oystercatchers seen at Altona

Band Number	Year	Colour	1990	1991	1992	1993	1994
	Banded #	Banded #					
100-82025	1981(Q)	1993(Q)	-	-	-	15+	16+
100-82127	1983(Q)	1990(W)				13+	
100-82507	1981(OG)	1993(Q)	-	-	-	13	
100-85023	1987(Q)	1987(Q)	5+			8+	
100-85026	1987(Q)	1992(W)	-	-		7+	
100-85028	1987(Q)	1989(W)	5+	6+	7+	8+	9+
100-85127	1988(W)	1993(A)	-	-	-	7+	8+
100-85134	1988(Q)	1990(Q)				7+	
100-85135	1988(W)	1991(W)			6+		
100-96753	1989(W)	1989(W)				6+	
100-96754	1989(W)	1989(W)			5+		
100-96755	1989(W)	1989(W)					7+
100-96779	1989(W)	1989(W)		4+		6+	
100-96779	1989(W)	1989(W)					7+
100-96781	1989(W)	1989(W)			4	5	
100-96785	1989(S)	1989(S)				6+	
100-96843	1990(W)	1990(W)					6+
100-96844	1990(W)	1990(W)				5+	6+
100-96848	1990(W)	1990(W)			3	4	5
100-96849	1990(W)	1990(W)					6+
100-96850 #	1989(W)	1989(W)		4+			
100-96870	1990(W)	1990(W)				4	5
100-96872	1990(W)	1990(W)				4	

100-96874	1990(Q)	1990(Q)		3+			6+
100-96915	1990(R)	1990(R)			3	4	5
100-96934	1991(W)	1991(W)	-			5+	
100-96936	1991(W)	1991(W)	-			4+	
100-99307	1991(W)	1991(W)	-		3+		
100-99309	1991(W)	1991(W)	-			3	
100-99399	1991(Q)	1991(Q)	-			3	
100-99435	1991(G)	1991(G)	-		3		
100-99573	1992(W)	1992(W)	-	-		4+	5+
100-99577	1992(W)	1992(W)	-	-			3
101-03560	1992(Q)	1992(Q)	-	-		2	3
101-03562	1993(Q)	1993(Q)	-	-	-	3+	4+
101-03582	1993(W)	1993(W)	-	-	-	3+	4+
101-03583	1993(W)	1993(W)	-	-	-	3+	
101-03586	1993(W)	1993(W)	-	-	-		4+
101-03655	1993(A)	1993(A)	-	-	-		4+
101-03657	1993(A)	1993(A)	-	-	-	3+	4+
101-03658	1993(A)	1993(A)	-	-	-	2	
101-03665	1993(G)	1993(G)	-	-	-		4+
101-03684	1994(A)	1994(A)	-	-	-	-	3+
101-03688	1994(A)	1994(A)	-	-	-	-	3+
101-03690	1994(A)	1994(A)	-	-	-	-	3+
101-03691 #	1994(A)	1994(A)	-	-	-	-	3+

= Sooty Oystercatcher; ## Locations: A = Altona; G = Gurdies; OG = Ocean Grange (SA);
Q = Queenscliff; R = Rhyll; S = Stockyard Point; W = Werribee

Table 2. The number of Pied Oystercatchers individually colour banded each year by the VWSG in Victoria since 1989 and the number and percentage of these individuals from each year seen at Altona

LOCATION	YEAR						Total	%
	1989	1990	1991	1992	1993	1994		
Altona								
Number banded	0	0	0	0	6	8	14	
Number seen at Altona	0	0	0	0	3	4	7	50
Corner Inlet								
Number banded	31	17	83	90	52	0	273	
Number seen at Altona	0	0	0	0	0	0	0	0

**Long Island/French
Island**

Number banded	12	18	20	14	9	0	73	
Number seen at Altona	0	0	0	0	0	0	0	0

Queenscliff

Number banded	2	2	5	1	12	0	21	
Number seen at Altona	1	2	1	1	3	0	6	29

Stockyard Point

Number banded	13	0	6	0	0	0	19	
Number seen at Altona	1	0	0	0	0	0	1	5

The Gurdies

Number banded	17	0	5	0	30	0	52	
Number seen at Altona	0	0	1	0	1	0	2	4

Werribee

Number banded	61	17	22	7	8	0	115	
Number seen at Altona	8	7	5	3	3	0	26	23

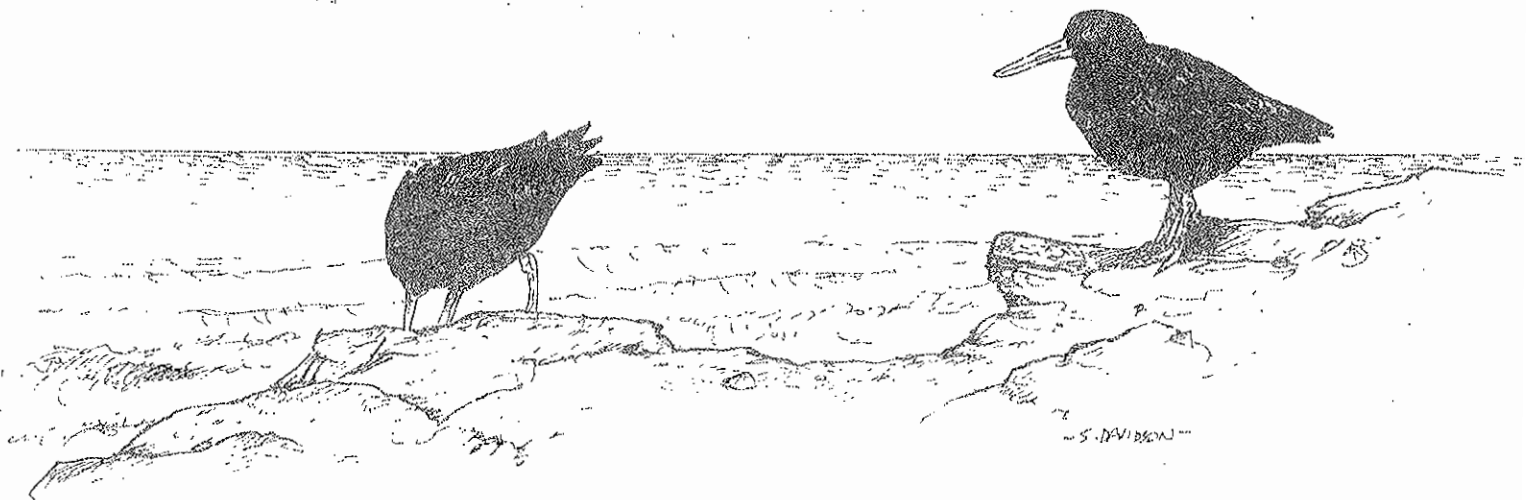


Figure 1. Map of Altona showing foraging and roosting locations for Pied and Sooty Oystercatchers.

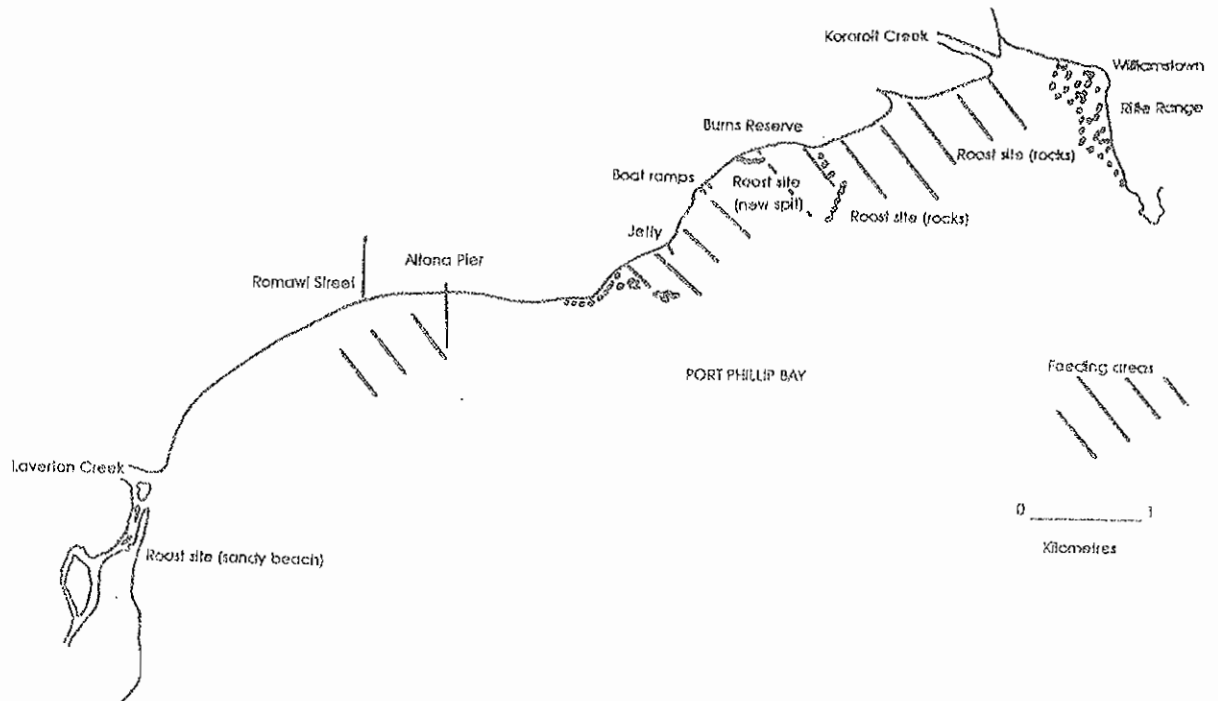
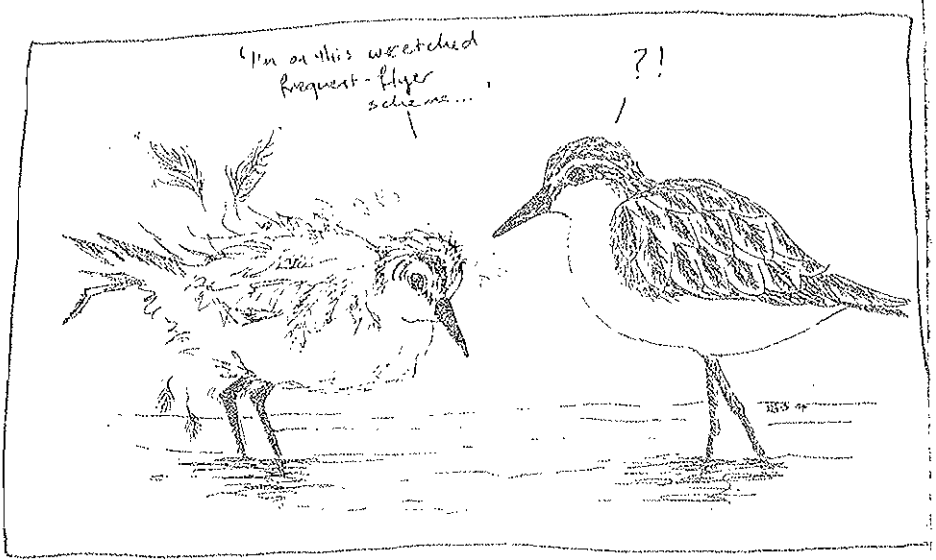
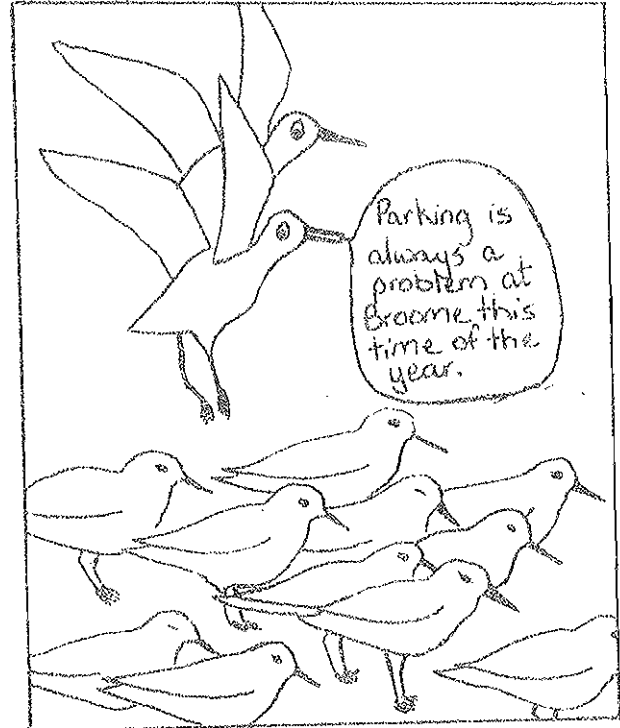
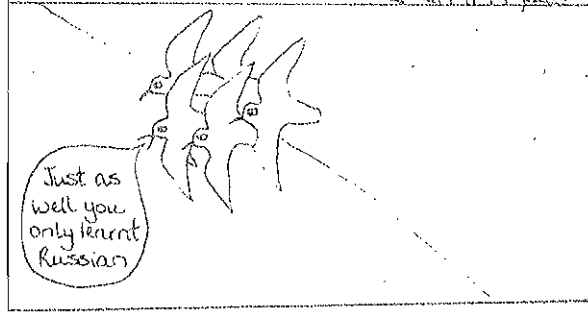
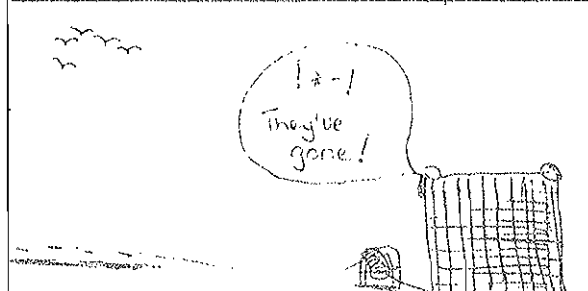
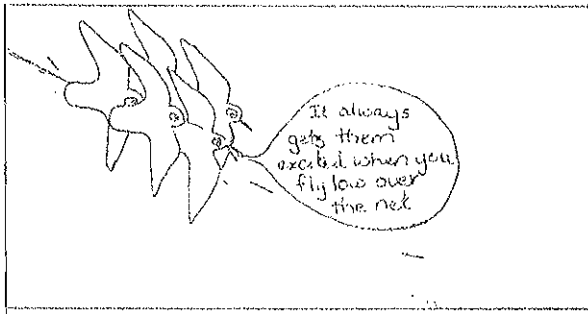


Figure 2. Map of Port Phillip Bay and Western Port showing VWSG Pied and Sooty Oystercatcher banding sites.





BRAESIDE PARK

MALCOLM BROWN

Over five years ago I was fortunate enough to be employed at Braeside Metropolitan Park as a ranger. I had a reasonable knowledge of birds but it soon became evident that this was inadequate for developing the public's appreciation of native birds and their ecology. Fortunately Braeside Park was an ideal place to learn.

Development of the wetlands was completed in 1989 and it took a year or so for them to settle and become productive. Now they are home to a number of waterbird species in conditions that allow the public much better access than wetlands normally offer. A bird hide and walking tracks situated around the wetlands help both the experienced and amateur birdwatcher. Some more interesting species to be seen at Braeside are: Blue-billed duck, Pink-eared duck, Great Crested Grebe, Spoonbill, Black-fronted Plover, Wood Sandpiper, Sharp-tailed Sandpiper and Latham's Snipe. The Friends of Braeside Park have been carrying out surveys of the wetlands each fortnight for over a year identifying species present, numbers and breeding status. This information will continue to be compiled for many years to come and is being put on a computer data base bird observation package.

Most of the Park is comprised of red gum woodland. Here may be seen Australian Kestrel, Black Shouldered Kite, Tawny Frogmouth, flocks of Sulphur Crested Cockatoos, Red-Rump Parrots, Eastern Rosellas and many other species. There are sections in this woodland where you can imagine being out in the bush, miles from the nearest city.

Lastly, the wooded heathland section of the Park attracts many interesting species of native birds. This area is not open to members of the public unless accompanied by a ranger or permission is given. The heathland covers about thirty to forty hectares with patches of dense vegetation. Here may be found Crested Shrike-tits, Eastern Yellow Robins, Golden Whistlers, Pardalotes, Wrens, Thornbills, Fantails, several Honeyeaters and many more. A mist-netting project is being carried out in this section of the Park on a monthly basis. We have had some retraps from previous VORG mist-netting work undertaken before the area became a Park.

Members of the VWSG have also been active in the Park mist-netting Latham's Snipe in the northern section, only metres away from the picnic area.

For more information on Braeside Park contact the park on 551 1640 or call me on 784 8902 (W) or 059 851758 (H).

Crested Terns at Rickett's Point, Beaumaris

Moira Longdon and Clive Minton

Introduction

Living within walking distance of Rickett's Point, Beaumaris, I am a frequent visitor there and for many years have recorded birds I sighted in the area. In 1990 Clive Minton suggested that I should start making systematic counts of the Crested Terns which roost on the rocks there, with the objective of seeing how numbers correlated with movement data gathered from banding returns. This note summarises the initial findings.

Method

Since December 1990 counts have been made between one and five times per month, with a count on average every ten days. The birds are easy to count as they roost in a loose flock (occasionally more than one flock) on flat, easily accessible rock platforms.

Most visits were made in the early mornings (8-10 am.) for personal convenience, but also because flocks were least disturbed by people (and dogs) at that time. Weather and tide height were also recorded.

Results

The results of the counts, from December 1990 to August 1994, are plotted in the accompanying graph.

Individual counts ranged from nil to a massive 426 on 27th. May 1993. Except during the winter, when numbers were consistently low, totals were typically 20-100. However, more than 100 birds were counted on 14 occasions, four of these being in a prolonged period of high numbers (maximum 340) from mid-October to mid-November 1991.

The pattern of numbers was broadly similar for all four years. Numbers were low in December and the first half of January, when most of the fully mature birds would be breeding and therefore foraging closer to their colonies. The nearest breeding site, Mud Island, is 40 kms. from Rickett's Point. Birds present at this time were in noticeably poor plumage and were presumably one year old (maybe some two year olds also). Banding has shown a tendency for one year old birds to return towards their natal area, even though they do not breed until later years.

Numbers started to build up in late January and remained at a higher level (averaging around 50) until the end of April (May in 1992 and 1993). Actual numbers fluctuated quite markedly but it was not possible to determine synchronised peaks associated, for example, with an initial dispersal of local (Mud Island) breeding birds and a later through passage of birds from South Australian breeding colonies (which banding has shown to occur commonly at Rickett's Point from February to April). Many birds banded at Mud Island as chicks were seen and it is likely that these would have been the first to arrive at Rickett's Point but there is clearly a big overlap in the migration and

departure periods for these two populations.

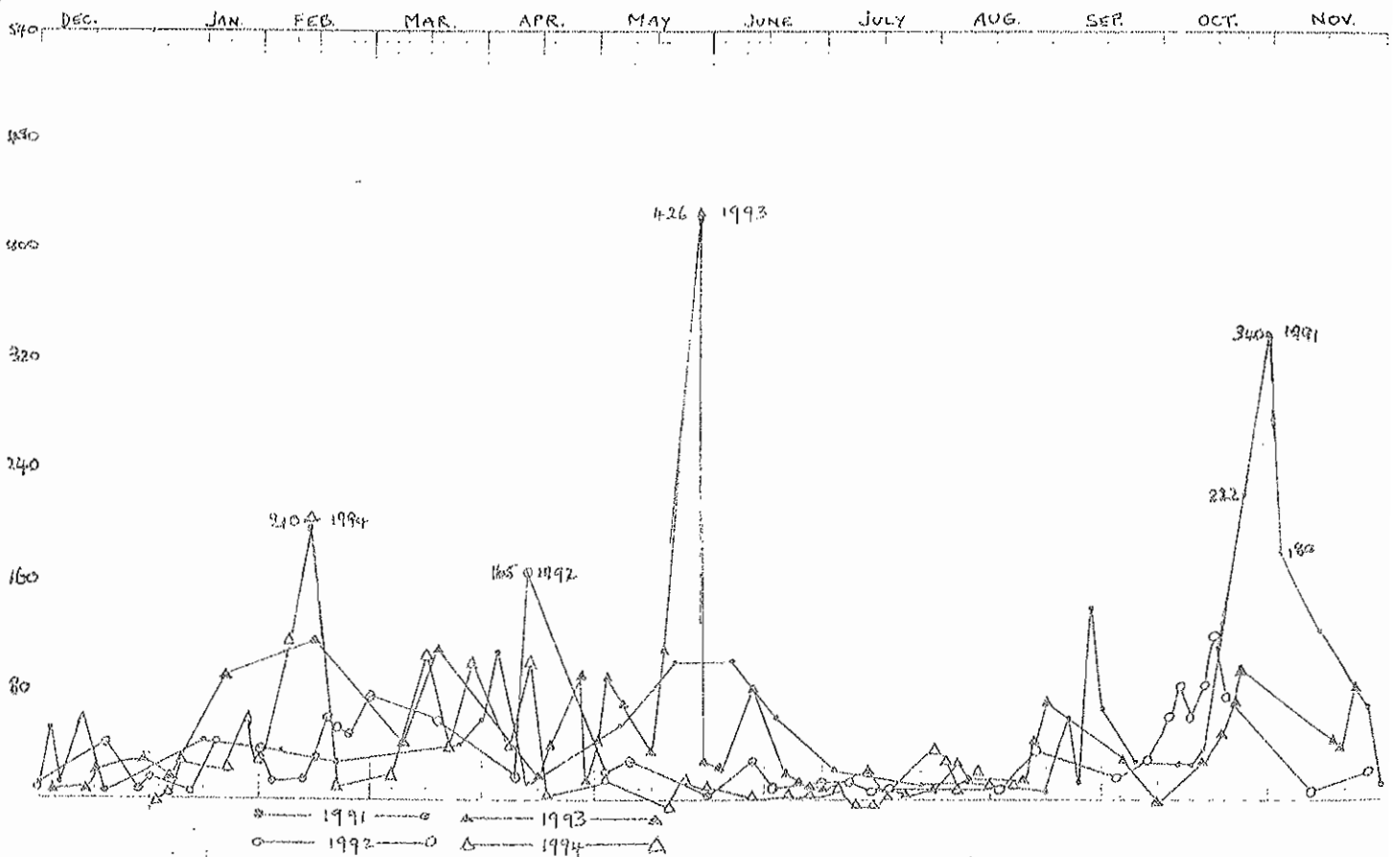
The low numbers over the winter period were maintained through until the very end of August or early September. This is consistent with banding results which show that the majority of Crested Terns from southern Australia move to the northern New South Wales coast at that time of year.

The spring build up of returning birds occurred in September and October (to early November in 1991). There is a slight suggestion of two peaks, which might correspond to Victorian breeding birds returning first, followed by birds on passage to South Australia, but this would have to be tested by reading band numbers. (This can be done with a telescope and patience!) Courtship feeding and copulation were observed in October and November.

The effect of tide height and weather has not yet been analysed. However the general impression was that more birds were present at the roosts when the tide was low (more roosting area?) and when the weather was calm and sunny (easy feeding, thus more time to roost?).

Conclusions

The pattern of numbers of Crested Terns observed at Rickett's Point correlates well with the annual movement cycle determined from banding. It was not possible however to determine differences (if any) between the timing of occurrence of birds from the Victorian and South Australian breeding populations. This will have to be examined by a comprehensive band-reading programme. A continuation of the counting programme is also desirable to further examine its consistency and the level of annual variation.



RARE AND UNCOMMON WADERS IN VICTORIA. UPDATE ONE

Jeff Campbell

Since the first report on rare and uncommon waders in Victoria (VWSG Bulletin Number 14) only two reports have appeared in the literature, both new species for the state.

Annotated List

Spotted Redshank *Tringa erythropus*

A single bird first seen by Aidan Sudbury at the South East Purification Plant (Melbourne region) on 14 March 1992. The bird was subsequently seen at the same location and at the nearby disused Frankston Sewage Works by many others until last sighted on 29 May 1992 (Carter & Sudbury 1993).

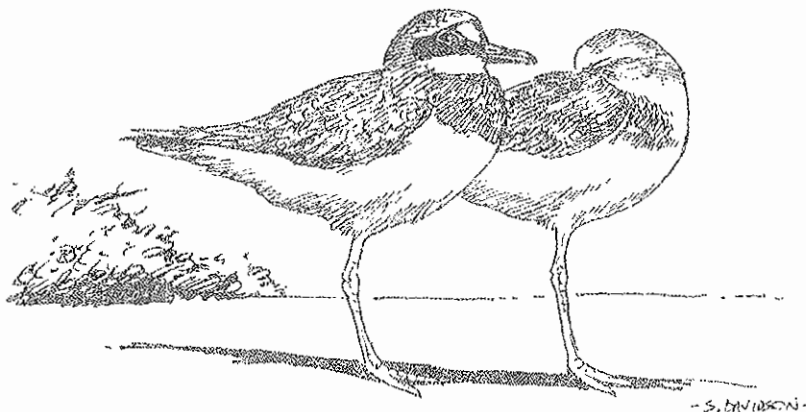
Stilt Sandpiper *Micropalama himantopus*

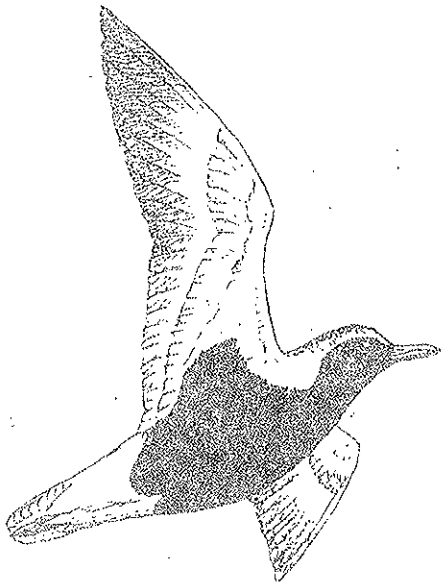
A single bird first seen by Fred Smith and Fred Anderson at the Avalon Saltworks (Geelong region) on 8 December 1990. The bird was last seen on 3 March 1991 at the same site after having been observed by many others there and briefly at the Werribee Sewage Farm (Smith 1992).

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Smith, F.T.H. 1992. A Second Australian Sighting of the Stilt Sandpiper *Micropalama himantopus*. Australian Bird Watcher 14:313317.





AN OBSERVATION OF BAR-TAILED GODWITS MIGRATING OVER VICTORIA
Danny Rogers, Ninks Road, St Andrews, Victoria 3761

On the evening of 14 Mar. 1994 I was spotlighting outside my home on Ninks Rd., near Kinglake, Victoria (37°32'S 145°20'E). This blind-ending road is lined by a series of small hobby farms, surrounded in turn by the tall eucalypt forests of Kinglake National Park. The only wader on the backyard list of about 135 species is Masked Lapwing, and even that is uncommon locally; about 60 km from the nearest stretch of coastline, 400 m above sea level and with no nearby wetlands, Ninks Rd. cannot be described as good wader habitat. Accordingly I was rather surprised to hear waders flying overhead at about 8:30-9:00 pm, sounding very like Bar-tailed Godwits (*Limosa lapponica*). The night was cool, dark and rather overcast, with a slight to moderate, south to south-westerly breeze. I 'verbalised' the calls at the time as a rather nasal, deep and brief single-note 'tyup', or double note 'tirrup', and was never sure if these call notes differed, or whether I sometimes failed to hear the first syllable of a two-note call. At least two individuals (and probably more) were involved. Perhaps 20 of these call-notes were heard as the group of birds approached from the south and passed directly overhead on their way north towards the Kinglake Pass, which is 540-560 m above sea level. They were apparently flying direct and fast, as the calls were only audible for a couple of minutes. Calls tended to be grouped; one call would immediately be answered by another call or two before another brief period of silence followed. The calls sounded rather distant and despite scanning with my spotlight, I was unable to see the birds as they passed overhead. Visibility on the ground suggested that the spotlight would have picked up any birds flying lower than about 100m overhead. No worthwhile estimate of flying height could be made but it may worth noting that a Southern Boobook (*Ninox novaeseelandiae*) calling at the same time sounded louder than the passing waders, yet turned out to be about 400m away.

At the time, I identified the calls as being flight calls from Bar-tailed Godwits. Shortly afterwards I listened to a published recording of their calls (Buckingham and Jackson 1987), which corresponded well with the calls I had just heard. Flight calls of Bar-tailed Godwits are verbalised as a low, barking 'kirruc' or 'yak' in some published literature (e.g. Cramp and Simmons 1983), which is not seriously inconsistent with my verbalisation of the call. However, this identification can not be considered certain (though I am sure I was listening to some sort of scolopacid wader). Although I often heard flight calls of Bar-tailed Godwits in north-west Australia in March/April 1991, I had not listened closely to them since. It is worth noting that the calls, while similar to what I regard as the typical flight calls of Bar-tailed Godwits, did not correspond with the harsher and more staccato notes I have heard from flocks of Bar-tailed Godwits in wheeling flights immediately before migratory departure.

Given the nature of local habitat, it seems that these waders must have been in transit. It is likely that they were on northwards migration (mid-March is the middle of departure time for Victorian Bar-tailed Godwits, Lane 1987), and that I was hearing contact calls which helped to keep a flock together in the dark. I would guess that they had departed at dusk, with a following breeze, from coastal wetlands in Port Phillip or Westernport Bays. Unfortunately I did not record the exact time of observation and am unable to speculate on the take-off point of these birds. Banding data and Victorian departure weights suggest that at least some Bar-tailed Godwits fly non-stop from South-eastern Australia to mainland Asia (Barter & Hou

1990; Higgins in prep.) but there appear to be no previous published observations of Bar-tailed Godwits passing overland through Australia while on northwards migration.

The literature searches undertaken for the Movements sections of HANZAB (Marchant & Higgins 1993; Higgins in prep.) have revealed a surprising shortage of published observations of wader migration from southern Australia (M. Weston, pers. comm.). I am not aware of any published observations of dusk migration departures from coastal wetlands of Victoria, although in other parts of the world, such departures are generally easy (and thoroughly impressive) to watch. In Mauritania and North-west Australia, systematic observations of migratory departures have yielded a good deal of information on migration routes and the ways in which waders exploit favourable wind conditions (e.g. Lane and Jessop 1985; Piersma et al. 1990; Tulp et al. in press). Still more surprising is the paucity of published observations of waders migrating overland in southern Australia. Migrating waders often call in flight, and their calls carry a long way (Alerstam 1990); overseas, records of calling, migrating waders have been useful in establishing migratory routes and timing (e.g. Cramp & Simmons 1983). The suburbs of Melbourne lie to the north of some fabulous coastal wetlands and presumably lie in the path of some migrating waders - yet little has been published since Eastern Curlews were heard migrating over Cranbourne in March 1909 (Shepherd 1909). Listening for migrating waders could be well worthwhile for Melbourne-based wader enthusiasts who fancy a little backyard birding in the evenings of late summer and autumn. Even if the waders heard can not be identified to species, they may tell us something about the routes, flying altitudes and weather conditions used by Victorian waders at the start of their long journey north. I am grateful to Mike Weston for his comments on an earlier draft of this note.

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THE AWSG 1994 NORTH-WEST AUSTRALIA WADER EXPEDITION

Rosalind Jessop, PO Box 97, Cowes. 3922.

The 1994 visit to study waders in the Broome/80 Mile Beach/Port Hedland Saltworks region (the 15th expedition since 1981) was a gruelling experience but a great success. It was the first to cover the complete period of northward migration and was double the length of any previous expedition (1 March to 30 April). Participants came from Australia (18), United Kingdom (7), Canada (2), Germany (2), South Korea (2), Japan (1), New Zealand (1), and USA (1).

Banding

A total of 6,105 waders and 151 terns were caught in 39 cannon-net and 15 mist-net catches. Totals for each location were:

Broome/Roebuck Plains	3,646 (30 catch days)
Eighty Mile Beach/Anna Plains	2,141 (19 catch days)
Port Hedland Saltworks	318 (3 catch days)

These totals include 36 species of waders (1 in 6 of the world's species) - a record for NW Australia expeditions. Almost all birds were yellow leg-flagged.

Top species were Bar-tailed Godwit (1,196), Great Knot (969) and Large Sand-plover (722). Pintail Snipe (1) and Australian Pratincole (4) were the first banded by NW Australia expeditions.

The extended nature of the expedition enabled the rate of weight gain leading up to the point of departure on migration to be determined for a number of species. Rates of weight increase of up to 3% per day were recorded though 1-2% per day was more typical. Estimated departure weights were 40-80% above fat free weight depending on species.

The proportion of juveniles in the catches was 10-15% indicating that 1993 had been a moderately good year for breeding waders in the northern hemisphere.

Two Curlew Sandpipers from Hong Kong were caught (Broome and Port Hedland Saltworks) and an orange leg-flagged Red-necked Stint from Victoria (at Broome). In addition two orange leg-flagged Red-necked Stints (ephemeral wetland, Anna Plains) and a Curlew Sandpiper (Port Hedland) were seen providing the firmest evidence so far that some of the waders from SE Australia return via NW Australia in mid/late April.

Visible migration

Watches for birds departing on northward migration were made throughout the period at Broome and opportunistically at 80 Mile Beach and Port Hedland Saltworks. Some 19,326 birds were seen departing in 285 flocks from Broome, 12,674 in 122 flocks from

80 Mile Beach and 207 in 8 flocks from Port Hedland Saltworks. The peak of departures occurred in the first two weeks of April. However the main departure of Great Knot occurred on March 21-24, many Large Sand-plovers went in the last week of March, whilst Red-necked Stint, Grey-tailed Tattler and Terek Sandpiper migration continued almost until the end of April.

Following the large migration of Great Knot on March 21-24 three birds with yellow leg-flags were seen in Hong Kong on March 26-27. These birds would normally have been expected to reach Shanghai in China in one flight (5,400km) but were thought to have been forced to land prematurely by an unseasonal monsoon. Two yellow leg-flagged Bar-tailed Godwit were seen in South Korea on April 26 - our first in that country.

Counts

Counts were made at Roebuck Bay, Broome (Crab Creek to Dampier Creek - 22,600 and Bush Point/Sandy Point - 38,669) and 80 Mile Beach (0-15km south from Anna Plains Station - 38,508) before migration commenced. Bush Point (18,441) was also counted after migration had virtually ceased. Port Hedland Saltworks was counted in mid-April (19,807).

Highlights included:

at least 145 Asiatic Dowitchers at Port Hedland Saltworks
350 Eastern Curlew at Bush Point on April 27
800 Little Tern at Bush Point on April 27 (one of the largest flocks recorded in Australia).

Also of note was the lack of Oriental Plovers at 80 Mile Beach (10) compared with the count for the same period in 1993 (14,073).

Other activities

Prof Allan Baker and Mark Peck from Toronto University, Canada collected blood samples for DNA analysis. They are the leading world experts on DNA classification of waders and the use of this process for assisting in the delineation of migratory movements.

John Curran, Regional Officer of the W.A. Department of Agriculture collected 300 blood samples and/or cloacal swabs to look for avian borne viruses.

A few relaxing moments were stolen away from wader banding for the capture and banding of 764 passerines of 44 species to help in the Broome Bird Observatory's long term study of passerines in the south-western Kimberley.

Looking ahead

Bookings are now open for the next major expedition in March/April 1996. Aims of this expedition could be to fill in gaps in this year's data and especially to target the banding of the less frequently caught species (eg Black-tailed Godwit, Whimbrel, Greenshank as well as the elusive Little Curlew, Oriental Plover, Oriental Pratincole and Eastern Curlew).

AUSTRALASIAN WADER STUDY GROUP
EXPEDITION TO N.W. AUSTRALIA
MARCH/APRIL 1994

CLIVE MINTON

Introduction

This was the fifteenth special visit to N.W. Australia since 1981 to study the waders (and terns) there by counting, banding, colour flagging, photographing and recording migration (visible and/or by radar). It was the first to cover the complete period of northern migration and was double the length of any previous expedition.

The specific objectives of this expedition were substantially achieved. The results are summarized below, with more detail being provided in an Appendix.

The Team

An average of 16 people (range 12-20) was in the field for 61 days (March 1 to April 30 inclusive). Seven individuals were present, throughout the expedition. Participants came from Australia (18), United Kingdom (7), Canada (2), Germany (2), South Korea (2), Japan (1), New Zealand (1) and U.S.A. (1). Twelve people had been on previous N.W. Australia expeditions.

The team size was smaller than the 20-25 persons on previous major expeditions. This was partly because of logistical considerations (including lack of finance to hire vehicles to transport a larger team) but also because of the extended nature of the fieldwork programme. On occasions the lower number of experienced extractors of birds from cannon-nets and mist-nets was a limitation on activities.

The wardens of Broome Bird Observatory (BBO), Jon Fallaw and Becky Haywood, were actively involved throughout the expedition and are now fully qualified for both cannon-net and mist-net banding permits. This will enable them to continue wader, tern and passerine studies on an ongoing basis.

Counting

Counts, were made at Roebuck Bay, Broome (Crab Creek to Dampier Creek (22,600) and Bush Point/Sandy Point (38,669)) and 80 Mile Beach (0-15km south from Anna Plains Station (38,508) before migration commenced. Bush Point (18,441) was also counted after migration had virtually ceased. Port Hedland Salt Works (19,807) was counted in mid-April.

Much useful information was collected. The most surprising results were:

- (i) lack of Oriental Plover at 80 Mile Beach (IO) compared with the count for the same period in 1993 (14,073)
- (ii) an increase in Eastern Curlew at Bush Point from 2 on March 2 to 350 on April 27. This suggests an arrival of non-breeding overwintering birds from elsewhere as this far exceeds even the normal peak population in N.W. Australia.
- (iii) at least 145 Asiatic Dowitcher at Port Hedland Saltworks on April 10 before migration commenced. This is the largest number recorded there.
- (iv) 800 Little Tern at Bush point on April 27. This must be one of the largest flocks recorded in Australia.

Banding

Banding was carried out on most days except when the expedition was moving location. There were 39 cannon-net catches and 15 mist-net catches. A total of 6,105 waders and 151 terns were caught: Broome/Roebuck Plains, 3646 waders (30 days); 80 Mile Beach/Anna Plains, 2141 waders (19 days); Port Hedland Saltworks, 318 waders (3 days). This included 36 species of waders (1 in 6 of the world's species) - a record for N.W. Australia expeditions. Almost all the birds caught were yellow leg-flagged.

Top species were Bar-tailed Godwit (1,196), Great Knot (969) and Large Sand-Plover (722). Samples of more than 100 birds were caught for 12 species. Pintail Snipe (1) and Australian Pratincole (4) were the first banded by N.W. Australia expeditions.

A particularly valuable aspect of the banding was that samples were obtained at weekly intervals over the whole nine week period for most of the main study species. This enabled the pattern and rate of weight gain before migration and during migration to be determined. Rates of weight increase of up to 3% per day were recorded though 1-2% per day was more typical. Estimated departure weights were 40-80% above fat free weight, depending on species.

The proportion of juvenile birds in the population of the main species was measured before migration commenced. In most species the figure was 10-15%, but in Large Sand-Plover it was twice this level. There was also an indication that the proportion of immature Bar-tailed Godwit at 80 Mile Beach was twice the level on the Crab Creek to Dampier Creek beaches at Broome. Overall 1993 would appear to have been a moderately good year for breeding success of waders from the northern hemisphere,

Nearly 10% of the birds caught were retraps - or controls (547). Some of these dated back to the early 1980's but many were recaptures of birds banded earlier on the expedition and thus provided much useful data on weight/moult changes.

Two Curlew Sandpiper from Hong Kong were caught (Broome and Port Hedland Saltworks) and an orange leg-flagged Red-necked Stint from Victoria (Broome). In addition two orange leg-flagged Red-

necked Stint (ephemeral wetland, Anna Plains) and a Curlew Sandpiper (Port Hedland Saltworks) were seen providing the most firm evidence so far that some of the waders from S.E. Australia return via N.W. Australia in mid/late April.

Disappointing aspects of the banding were our inability to catch worthwhile samples of Eastern Curlew (no concentration on Broome beaches prior to migration), Little Curlew (few birds seen and no concentration on pools on Roebuck Plains or Anna Plains) and Oriental Plover/Oriental Pratincole (only moderate numbers with no big concentrations on 80 Mile Beach). It seems a 'good wet' in January/February 1994 allowed birds to disperse widely over northern (and central?) Australia.

Visible Migration

Watches for birds departing on northward migration were made throughout the period at Broome and whenever an opportunity arose at 80 Mile Beach and Port Hedland Saltworks. Observations at Broome were made by BBO staff (particularly volunteer warden, Mary Vaughan) when the expedition was away at other locations.

Overall 19,326 birds were seen departing in 285 flocks. The peak of departures occurred in the first two weeks of April. However the main departure of Great Knot occurred on March 21-24, many Large Sand-Plovers went in the last week of March) whilst Red-necked Stint, Grey-tailed Tattler and Terek Sandpiper migration continued almost until the end of April.

The expedition was successful in observing for the first time, birds departing from 80 Mile Beach and Port Hedland Saltworks even although the geography is less suitable than Roebuck Bay for concentrating flight lines. The first flock seen to depart from 80 Mile Beach was a massive 1,600 Great Knot on March 24. Asian Dowitchers (114) were seen leaving Port Hedland Saltworks in three flocks on April 10 and 12 as well as several parties of Broad-billed Sandpipers,

It is particularly exciting that following the large migration of Great Knot on March 21-24 three birds with yellow leg-flags were seen in Hong Kong on March 26-27. These birds would normally have been expected to reach Shanghai in China in the one flight (5,500km) but were thought to have been forced to land prematurely by an unseasonal N.E. monsoon. Two yellow-flagged Bartailed Godwit were seen in South Korea on 26th April (our first in that country). Knowledge of when each species was leaving enabled catches of several species to be timed to coincide so that departure weights could be estimated. On three occasions the team was actually sitting on the beach banding a good sample of a species as flocks of that same species (once Red Knot, once Bar-tailed Godwit and once Grey-tailed Tattler) were taking off and migrating,

A separate paper is now in preparation covering observations of migratory departures from N.W. Australia in 1993 and 1994.

D.N.A.

The team was joined for two weeks in March by Prof. Allan Baker and Mark Peck from Toronto University, Canada. They are the leading world experts on DNA classification of waders and the use of this process for assisting in the delineation of migratory movements. They were able to collect blood samples of 27 species of wader (plus some tern and other species). Team member Sarah Sarrailhe continued the work on their behalf after they had returned to Canada and this brought their wader species count to 35.

The results of the DNA analyses will be reported in due course in a future Australasian Wader Study Group Bulletin (and elsewhere).

Avian Borne Viruses

Birds are known to be carriers of various diseases and interest has for some time centered on whether long distance migrants such as waders are vectors for bringing infections into Australia.

John Curran, Regional Officer of the W.A. Department of Agriculture, (and also chairperson of the Broome Bird Observatory Management Committee) and two technical assistants joined the expedition for a week in April and collected 300 further blood samples and/or cloacal swabs to look for avian borne viruses. Previous work (they collected 500 samples in September/October 1992) has shown an extremely low incidence of disease carrying in the waders in N.W. Australia. Their particular research relates to Avian Influenza and Newcastle Disease but their screening covers a wide range of other pathogens.

A separate report on the results will be issued by John Curran once the analysis is complete (as in 1992).

Photography

Further series of photographs (colour prints) of waders in the hand were taken (by Doris Graham) to assist the Royal Australasian Union (RAOU) "Handbook" team preparing plumage descriptions for each species. Samples were selected to cover the various ages and plumages encountered,

A number of people were also entombed in the Tattler Rocks Island photographic hide on the peak spring tides with generally good results (ranging from 1 Common Sandpiper for Thomas Putt to 2000 mixed waders for Adrian Boyle).

Passerine Banding

As a 'relaxation' from wader studies and as an aid to the long term study of passerines in northern Australia being undertaken by the BBO, mist-netting passerines was undertaken whenever time allowed at Broome (mangroves, pindan, bores) and Anna Plains (dune vegetation, ephemeral lakes, bores) (led by Roz Jessop and Peter Collins).

Altogether 764 birds of 44 species were banded and valuable data collected on ageing characteristics moult and other biometrics (northern birds often smaller than their southern counterparts). Particularly valuable were large samples of Diamond Doves (136), Yellow White-eyes (131) and Yellow-tinted Honeyeaters (96) which were breeding or had just completed breeding giving good mixed age catches.

Daily Log

The usual daily log of all birds seen was kept by the BBO wardens. For the first time this process was extended to 80 Mile Beach/Anna Plains.

A number of species was seen outside their Atlas range including some which were breeding. The benefits of a good wet season were extremely apparent everywhere. Highlights were a Letter-winged Kite present at Anna Plains throughout our visits and the large numbers of White-winged Fairy Wrens breeding there, with some of the males almost as black as the Barrow Island race (paper being prepared by Peter Collins). Five new species were added to the BBO list (Pied Heron, Black Tern, Great Cormorant, Pintail Snipe and White-winged Fairy-wren. Overall 200 species were seen during the 9 weeks in N.W. Australia (there are 270 on the Broome bird list).

Finances

Accounts are not yet complete but the expedition is expected to turn out better than the budgeted 'break-even' position. This satisfactory situation is due to several generous donations assisting with the huge vehicle hire, fuel and other operating costs. Expedition participants also contributed \$100 per week (up to a maximum \$300 per person) towards transportation costs and input \$16 per day to cover food and ancillary costs. They also paid their own travel costs to and from Broome and camping/unit/chalet fees at BBO.

As on previous expeditions considerable equipment was left at Broome for use by BBO and future expeditions, This included the small Victorian Wader Study Group cannon net set and powder/fuses to last for a least two years).

The Future

Although there has been a huge generation of information since wader studies commenced in N.W. Australia thirteen years ago there is still a vast amount further to be learned. In particular it is the only place in Australia where many of the species of waders occurring in Australia are being studied.

It is intended that monitoring by counting (twice per annum) and banding, (twice per month) be continued by the BBO wardens under the grant/contract from the Australian Nature Conservation Agency) which is now in its second year of operation. There will always be a need however for this to be supplemented by periodic visits of larger teams, during which much larger goals can be targeted and the important 80 Mile Beach/Port Hedland Saltworks habitats adequately covered.

Recently generated data will have to be analysed before scientific priorities can be assessed. For this and other logistical/financial considerations a major expedition in 1995 seems unlikely at this stage. The probable time for the next major expedition to N.W. Australia therefore seems to be March/April 1996. Aims could well be to fill in gaps in this year's data and in particular to target the banding of frequently caught species (eg Black tailed Godwit, Whimbrel, Greenshank as well as the ever-sought Little Curlew, Oriental Pratincole and Eastern Curlew).

Acknowledgements

This was the largest concentrated period of fieldwork yet undertaken by the Australasian Wader Studies Group and would not have been possible without the input and assistance of a wide range of people

The wardens, volunteer wardens and management committee of the BBO were wonderfully helpful and hospitable throughout our stay. Phil Clarke and Gavin and Sue Clarke were extremely kind to us in so many ways during our visits to Anna Plains, and we thank the new owner, Peter Griffiths, for permission to continue our studies there. Rob the manager of Roebuck Plains Station, kindly allowed us access to Lake Eda and the other areas of the station on many occasions. Cargill Salt Company generously allowed us to visit their saltworks at Port Hedland.

Considerable thanks are also due to those who provided financial assistance including of personal donors. Myer Stores kindly transported all our equipment free of charge between Melbourne and Perth. Charlie Carter Supermarkets allowed us a special discount on all food purchases (\$9,000) in Broome. The expedition would not, have been possible without the generous assistance of CALM (Department Conservation and Land Management, Western Australia) who lent us a large trailer (free) and a Ford F350 truck (at special rates. Thanks are also due to Wally Klau who generously allowed his vehicle to be used by the expedition during March (including two trips to Anna Plains) and Peter Collins who provided transport to Anna Plains significantly reducing the cost of hire vehicles.

We thank Ros Jessop for (as usual) organising catering and ancilliary 'good works'.

Thanks are also due to ANCA who provided the funds to enable people from South Korea to participate. This is the fourth time ANCA have assisted wader workers in Asia to join expeditions. This has greatly aided the study of waders along the Asian Flyway and led to increased liaison and co-operation between countries. The Australian Bird and Bat Banding Scheme also kindly provided bands and lent additional pairs of pliers.

The Meteorological Office in Broome are thanked for providing wind speed and direction data for correlation with migratory departure data.

We also thank those in Melbourne who spent many boring hours making 10,000 leg-flags before the expedition commenced. These included Jeff Campbell, Rohan Clarke, Roz and Angela Jessop,

FURTHER SIGHTINGS OF LEG FLAGGED WADERS AND TERNS FROM VICTORIA.

Report No. 2.

Clive Minton, 165 Dalgetty Road, Beaumaris, 3193. Australia. (Tel. 61-03-5894901 Home).

Listed below are reports of orange leg-flagged waders notified since the comprehensive list published in the last VWSG Bulletin (December 1993). All sightings away from the banding areas (coastal Victoria - see last Bulletin) are included. Appropriate comments are made below the reports for each species

For background to the colour flagging programme please see last year's report. No new total of leg-flagged birds for each species has been compiled (this will be done for the 1995 report) but the overall total for Victoria had probably reached around 17,000 by mid 1994.

Please continue to report all sightings of leg flagged waders (away from the normal banding sites in Victoria) to either the Australian Bird and Bat Banding Scheme, PO Box 8, Canberra.

Ruddy Turnstone

DATE	LOCATION	FINDER
08/08/93	Nikkou River, Fujimae, Nagoya-Shi, Aichi, Japan (35° 05'N 136° 49'E)	per Japan Banding Office
13-17/05/94	Mai Po, Hong Kong	Paul Leader

These are the first overseas sightings of leg-flagged Ruddy Turnstone from Victoria. There have been previous recoveries in Taiwan and Papua New Guinea.

Large Sand Plover

DATE	LOCATION	FINDER
07/05/94	Mai Po, Hong Kong	Paul Leader

One wonders wether this was the same individual as seen in April 93 (see VWSG Bulletin Number 17, December 1993). Two of the three originally colour flagged in Corner Inlet in March 93 were recaptured there on 23rd January 94 (when a further five were banded and flagged).

Mongolian Plover

DATE	LOCATION	FINDER
13/05/94	Mai Po, Hong Kong	Paul Leader

This is the first overseas sighting of a colour flagged Mongolian Plover from Victoria. It was possibly one of the eight birds newly flagged in Corner Inlet on 23 January 94, although it could have been one of 20 birds flagged in earlier years. There has been one previous overseas recovery, near Shanghai in China.

Red-necked Avocet

DATE	LOCATION	FINDER
28/11/93	Werribee Sewerage Farm, Vic.	Bob Swindley

The only Red-necked Avocets orange-flagged by the group were five at The Gurdies on 17 October /93. This bird had therefore moved c.90km north westwards, at a time when the flock in Pioneer Bay, Western Port was known to be dispersing.

Bar-tailed Godwit

DATE	LOCATION	FINDER
30/01/94	Farewell Spit, <i>New Zealand</i>	Willie Cook

Compared to last year a dearth of sightings. The above could be the same bird which was recorded overwintering at Farewell Spit in June 1993 (see VWSG Bulletin Number 17, December 1993).

Red Knot

DATE	LOCATION	FINDER
24/10/93	Manawatu Estuary, <i>New Zealand</i>	Roger and Pam Slack
29/12/93	Karaka Stream, Thames, <i>New Zealand</i>	J. Visser
01/02/94	Karaka, Manukau Harbour, <i>New Zealand</i> (2)	Tony Habraken
01/03/94	Pollock Spit, Manukau Harbour, <i>N. Z.</i> (3)	Tony Habraken
04/03/94	Karaka, Manukau Harbour, <i>N. Z.</i>	Tony Habraken/D. Lawrie
10/04/94	Seagrove, <i>N. Z.</i> (2)	Tony Habraken
01/05/94	Miranda, Firth of Thames, <i>N. Z.</i>	Tony Habraken
06/06/94	Miranda, Firth of Thames, <i>N. Z.</i>	Toay Habraken
30/01/91	Farewell Spit, <i>N. Z.</i>	Willie Cook
25/02/94 to 14/03/94	Farewell Spit, <i>N. Z.</i>	P. Battley
03/09/94	*Thornside, Brisbane River, Qld.	Arthur & Cheryl Keates
10/09/94	*Lytton, Moreton Bay, Qld.	Fiona Johnson
10/09/94	*Fishermans Bend, Moreton Bay, Qld.	Peter Driscoll
16/01/94	Price Saltfields, Gulf of St Vincent, S. A.	John Cox

*These three birds are thought to be different individuals

Yet more evidence of the strong link between the Red Knot populations in New Zealand and Australia (particularly Victoria). Together with the recoveries these sightings suggest that Red Knot may be less faithful to their summering areas than most other migrant waders.

Sharp-tailed Sandpiper

DATE	LOCATION	FINDER
00/11/93	Lake Me Larty, W.A.	per Mike Bamford
14/02/94	Swan River, Perth, W.A.	per Mike Bamford
21/03/94	Lake Martin, Cundare Pool, Vic.	Philip Du Guesclin
15/02/93	Lake Goldsmith, Vic. (2)	Murray Grant
27/02/93	Lake Goldsmith, Vic.	Murray Grant
14/09/93	Lake Goldsmith, Vic.	Murray Grant

A nice series of sightings from a species which has not been heavily banded by the VWSG in recent years. The reports in Western Australia show just how much variation may exist between the non-breeding areas visited by an individual in different years.

Red-necked Stint

DATE	LOCATION	FINDER
30/08/94	Mai Po, Hong Kong	Geoff Carey
14/04/94	Mai Po, Hong Kong	P. Leader, M. Heindal
07/05/94	Mai Po, Hong Kong	P. Leader
13/05/94	Mai Po, Hong Kong	P. Leader
15/05/94	Mai Po, Hong Kong	P. Leader
17/05/94	Mai Po, Hong Kong	P. Leader
06/05/94	Tsim Bei Tsui, Hong Kong	M. Heindal
07/05/94	Tsim Bei Tsui, Hong Kong	R. Lewthwaite
17/05/93	Nikhou River, Nagoya-Shi, Aichi, Japan, 35° 05'N 136° 49'E	per Japan Banding Office
01/08/93	Kanazawa-Shi, Ishihawa, Japan, 36° 37'N 136° 37'E	per Japan Banding Office
05/09/93	Sabai River, Toyohashi-Shi, Aichi, Japan, 34° 43'N 137° 20'E	per Japan Banding Office
31/03/93	Szu-Tsao, Tainan, Taiwan (2)	per Taiwan Banding Office
19/05/94	Szu-Tsao, Tainan, Taiwan	per Taiwan Banding Office
23/04/94	Anna Plains, 80 Mile Beach, W.A. (2 birds in flock of 30 on inland pool)	Adrian Boyle, Clive Minton, Roz Jessop et al
24/05/94	Eyre Bird Observatory, W.A.	George and Rita Watkins
26/05/94	Eyre Bird Observatory, W.A.	George and Rita Watkins
05/06/94	Eyre Bird Observatory, W.A.	George and Rita Watkins
11/09/94	Cairns, Qld.	Andrew Sinclair
11/09/94	Long Reef, Sydney, N.S.W.	Gerry Duane
04/12/93	Dry Creek Saltfields, S.A.	John Cox
16/01/94	Dry Creek Saltfields, S.A.	John Cox
26/02/94	Dry Creek Saltfields, S.A. (2)	John Cox
04/03/94	Dry Creek Saltfields, S.A.	David Close
25/03/94	Dry Creek Saltfields, S.A. (3)	John Cox
03/01/94	Price Saltfields, Gulf St Vincent, S.A.	John Cox
05/03/94	Lake Alexandrina, S.A.	David Close/John Cox
26/03/94	Lake Bonney, Millicent, S.A.	Adrian Boyle
06/03/94	Lake Ranfurly, Mildura, Vic. (2)	Alec Hawtin
16/04/94	Lake Ranfurly, Mildura, Vic.	Alec Hawtin
29/04/94	Lake Ranfurly, Mildura, Vic.	Alec Hawtin
29/10/93	Discovery Bay, Vic.	Martin Schulz
06/03/93	Lake Goldsmith, Vic.	Murray Grant
08/03/93	Lake Goldsmith, Vic.	Murray Grant
30/08/93	Lake Goldsmith, Vic.	Murray Grant
05/02/94	Lake Goldsmith, Vic.	Murray Grant

Another good series of overseas and interstate sightings with a pattern similar to previous years (see VWSG Bulletin 17, December 1993). Most sightings in Hong Kong and Taiwan were on northward migration whereas in Japan they were on southward migration. Interstate and northern Victorian records refer to a mixture of bird behaviours:

- (a) birds (in breeding plumage) making stopovers on migration
- (b) birds which have changed their non-breeding areas from one year to the next
- (c) wandering first year (non-breeding plumage) birds (April to August)

This is the third year in the last four that an orange flagged Red-necked Stint has turned up on the beaches at Eyre Bird Observatory. It is possible that more than one bird was involved in 1994. The April records in NW Australia, coupled with the recapture of a third bird is the clearest evidence yet that a proportion of the Victorian population moves through that area on northward migration. It was established some years ago that it is an important stopover area on southward migration for birds heading for south eastern Australia.

Curlew Sandpiper

DATE	LOCATION	FINDER
02/0794	NE Taimyr, Russia, 76° 10'N 111° 23'E	Tundra Ecology 94 Expedition - N. Holmgren
01/04/93	Mai Po, Hong Kong	Geoff Carey
03/04/93	Mai Po, Hong Kong	Angus Hogg/D. Clugston
15/04/93	Mai Po, Hong Kong	Angus Hogg/D. Clugston
17/04/93	Mai Po, Hong Kong	Michael Leven
22/04/93	Mai Po, Hong Kong	Paul Leader
23/04/93	Mai Po, Hong Kong	Paul Leader
26/04/93	Mai Po, Hong Kong (2)	Paul Leader
29/04/93	Mai Po, Hong Kong (4)	Paul Leader
30/04/93	Mai Po, Hong Kong	Peter Hopkin
02/05/93	Mai Po, Hong Kong (2)	Paul Leader
02-03/09/93	Cairns, Qld.	A. Anderson/F. Harrison
09/04/94	Port Hedland Saltworks, W.A.	D. Watkins
11/04/94	Port Hedland Saltworks, W.A.	R. Jessop, P. Collins et al
26/03/94	Lake Bonney, Millicent, S.A.	Adrian Boyle
07/11/93	Dry Creek Saltfields, S.A.	John Cox
27/11/93	Dry Creek Saltfields, S.A.	J. Cox/T & S. Bradley
16/01/94	Dry Creek Saltfields, S.A. (2)	J. Cox
26/02/94	Dry Creek Saltfields, S.A. (2)	J. Cox
06/03/94	Dry Creek Saltfields, S.A. (2)	J. Cox
05/12/93	Price Saltfields, Gulf of St Vincent, S.A.	J. Cox
11/02/93	Georgetown, Tasmania	Ralph Cooper
14/09/93	Georgetown, Tasmania	Ralph Cooper
14/02/94	Georgetown, Tasmania	Ralph Cooper
22/11/93	Lake Goldsmith, Vic.	Murray Grant
03/02/93	Lake Goldsmith, Vic.	Murray Grant
01/01/94	Lake Goldsmith, Vic.	Murray Grant
02/01/94	Lake Goldsmith, Vic.	Murray Grant

The most exciting record was the male bird observed on its breeding grounds in the NE Taimyr region of Russia (approximately 13,000km). There has been a previous recapture of a Victoria banded bird in the same region.

These indicate just how far westward some of the birds breed and the considerable overlap in breeding areas of birds which travel to Africa and Australia.

This series of sightings further confirms the pattern reported in the last VWSG Bulletin (Number 17, December 1993). The variety of movements show a similar pattern, with similar explanations, to those of the Red-necked Stint sightings (see above).

Sanderling

DATE	LOCATION	FINDER
11/07/94	Faddeevsdy Island, New Siberian Islands, Russia, 75° 25'N 144° 25'E	Ake Lindstrom/Steffan Bensch
07/08/93	Yatsu Estuary, Narashino-Shi, Chiba, Japan, 35° 41'N 130° 01'E	per Japan banding office
17/08/93	Saitozahi, Higashi-ku, Fukuoka-Shi, Japan, 33° 39'E 130° 21'E	per Japan banding office
15/09/93	Lozu, Nanatsuka-Machi, Kahoku-gun, Iohikawa, Japan, 36° 45'N 136° 42'E	per Japan banding office
24/07/94	Miyogi Ken, Sendai, Japan, 38° 01'N 140° 54'E	Tamotsu Numakata
13/11/93	Windong, Woolongong, N.S.W.	Graham Barwell
05/12/93	Mouth of Fitzroy River, Vic. (2 of 27)	Rob Farnes
28/12/93	10km E. of Portland, Vic. (4 of 27)	Rob Farnes
02/11/93	Venus Bay, Vic.	Martin Schulz

The excellent rate of sighting of orange leg flagged Sanderling has continued with Japan again being the dominant locality overseas. This is in contrast to the recovery pattern of all other wader species from south eastern Australia where mainland Asia seems to be the focus for migration routes.

Most exciting of all however was the finding of a flagged Sanderling breeding on islands off the north coast of Russia. This was at 75° N and is about 12,000km due north of the banding areas. It is the first Australian banded Sanderling to be reported in Russia.

All these results of Sanderling have emanated from around 400 colour flagged birds marked at Corner Inlet, Killarney Beach (Port Fairy) or Canunda National Park (S.A.). The latter (160 birds flagged on 29 November 93) is a departure from the normal practice of using orange leg-flags only in Victoria. It was undertaken because of the proven spread of Victorian birds into that area (see this and the 1993 Bulletin) and the desire not to utilise a further new colour in Australia (thereby precluding others from using that colour elsewhere).

Common Tern

DATE	LOCATION	FINDER
20/02/94	Queenscliff, Vic.	John Pratt

This orange-flagged bird was in a group of 114 Common Terns. This is the furthest westward movement so far reported of a Common Tern banded at Spermwhale Head, Lakes National Park (see VWSG Bulletin Number 17, December 1993, pp 39-40 for details of all previous recoveries).

VICTORIAN WADER STUDY GROUP

FIELDWORK PROGRAMME January - December 1994

DATE	PLACE & OBJECTIVES	HIGH TIDE TIME HEIGHT(m)	
Sun 2 Jan- Mon 3 Jan	Yallock Creek & Stockyard Point Small waders	16-55 05-35	2.6 3.0
Sat 8 Jan	Queenscliff or N.W. Swan Bay Small waders	17.44 07.49	2.7 1.4
Sat 22 Jan- Tue 25 Jan	Corner Inlet Red Knot	07.23 to 09.08	2.4 to 2.2
Sat 29 Jan- Sun 30 Jan	Point Wilson, Spermwhale Head Lakes National Park Common and Little Terns	-	-
Mon 14 Feb- Tue 15 Feb	Killarney Beach, Port Fairy Sanderling and Turnstone	15.14 15.45	0.77 0.78
Sat 19 Feb- Sun 0 Feb	Werribee S.F. Small waders	08.56 22.02	0.84 0.76
Sat 6 Mar	The Gurdies Eastern Curlew	09.27 18.50	0.82 3.0
Sat 19 Mar	Tooradin Greenshank	17.42	2.8
Sun 27 Mar	Point Wilson, Werribee S.F. Golden Plover	14.22	0.76
Sun 10 April	Werribee S.F. Pied Oystercatchers	14.54	0.8
Sun 24 April	Stockyard Point Pied Oystercatchers	10.24	2.5
Sat 14 May	Barry Beach Pied and Sooty Oystercatchers	15.16	2.4

Sun 22 May	Werribee S.F Pied Oystercatchers	11.04	0.8
Sat 11 June	Rhyl Pied Oystercatchers	4.40	2.9
Sun 12 June	Queenscliff Over-wintering waders	14.19	1.5
Sat 9 July	Fairhaven, French Island Pied Oystercatchers	13.20	2.7
Sun 10 July	Long Island, Hastings Pied Oystercatchers	14.09	2.8
Sat 13 Aug	Barry Beach Pied and Sooty Oystercatchers	16.16	2.6
Sat 27 Aug	The Gurdies Eastern Curlew	16.48	2.8
Sat 3 Sept	<i>Annual General Meeting Pat and Clive's house</i>	10.00am	10.00pm

Overnight camping is involved for all the January and February dates, to take advantage of early and/or late tides. In addition to the above, *ad hoc* arrangements will be made if additional opportunities are perceived.

Sun 11 Sept	The Gurdies/Stockyard Point Eastern Curlew	16.40	2.9
Sat 8 Oct	Yallock Creek/Stockyard Point The Gurdies	14.4	2.8
Sun 9 Oct	Eastern Curlew/ early arriving juvenile RN Stint/Curlew Sandpipers	15.34	2.8
Sat 4 Nov Sun 5 Nov	<i>National Hooded Plover Census</i> Mike Weston - organisor - Ph. RAOU (03) 882-2622		
Sat 12 Nov	Queenscliff & Swan Island/ Swan Bay - Large waders/	07.24* 19.3b	1.4 1.2
Sun 13 Nov	Turnstone\small waders	08.14*	1.3

*[at Port Phillip Heads - 2 hrs. later in Swan Bay]

Sat 26 Nov to Sun 27 Nov	Inverloch Small waders/Eastern Curlew	05.45 17.49 06.22	1.4 1.2 1.4
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Sat 10 Dec	Yallock Creek/Stockyard Pt/	07.08	3.0
to	The Gurdies - Small waders	19.26	2.6
Sun 11 Dec	and Eastern Curlew	07.45	2.9
Sun 18 Dec	Mud Island		
	Crested Tern chicks		
Tue 27 Dec	Werribee Sewage Farm	09.36	0.9
	Small waders and Golden Plover	22.19	0.8
Wed 28 Dec		10.15	0.9

In addition, *ad hoc*, sometimes mid-week, fieldwork will be arranged when recce information reveals special opportunities eg. on Greenshank, Golden Plover, Turnstone, Sanderling.

The team normally meets at the banding site 5 hours before high tide. Overnight camping is involved for the November and December dates in order to utilise good early morning tides.

Please take the initiative and contact Clive Minton on the Monday/Tuesday evening before each fieldwork to advise him *whether or not* you are participating.

CONTACTS

Clive Minton	589 - 4901 (H)	
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Mark Barter	803 - 3330 (H)	288 - 0252 (W)
Rosemary Davidson	802 - 8630 (H)	56 (H) 871 - 322 (Yanastkie)
Brenda Murlis	874 - 2860 (H)	
Jeff Cambell	568 - 2472 (H)	557-1564 (W)
Allan Clarke	723 - 3760 (H)	791 - 6799 (W)
Ira Savage	(052) 21 - 6253 (H)	
John Dawson	787 - 2082 (H)	
Mike Connor	850 - 6048 (H)	

Clive Minton's address - 165 Dalgetty Road, Beaumaris 3193

BULLETIN BOARD

Brenda Murris

Brenda, who has been treasurer and secretary for no less than 13 years - she took over in 1981 - has found that circumstances no longer permit her to continue. This is a sad loss from the ranks of office bearers. Hers has been an onerous and timeconsuming task.

Happily Brenda still hopes to take part from time to time in fieldwork and recces. where her skills as a bander, her great experience and her companionship will continue to enrich our activities in the field.

All is not lost as Rosemary Davidson has agreed to take over. She deserves our support. Prompt payment of subscriptions is a major help.

RAOU

The RAOU has escaped from its rabbit warren in Moonee Ponds and is now settled in fine new quarters at 407 Riversdale Road, Hawthorn East where it and its library and other facilities will be much more accessible. The new telephone number is 03 882 2622

Baby Sitters Wanted

Volunteers are needed to keep watch over Hooded Plover chicks during the breeding season on the Mornington Peninsula. Disturbance by both dogs and people can be reduced by volunteers guarding the newly-hatched chicks.

For more information please contact Malcolm Brown on 059 85 1758

Two ways you can help with the Hooded Plover Project!

1. You can participate in the national count this year. The count will be held on the weekend of the 5th and 6th of November. Anyone interested in helping is asked to contact Mike Weston.

2. You can report any observation(s) you have of Hooded Plovers away from the open ocean beaches (e.g. on lakes, in inlets, up rivers etc.). This includes any observations you have made in the past, so please take the time and check your notebooks. Once again you can phone or write the details to Mike Weston as soon as possible.

Mike can be contacted after hours on (03) 870-1586 or you can write to 28 Craig Road, Donvale 31 1 1. By helping in one or both of the above ways you will be contributing to a greater understanding of the Hooded Plover and the problems it faces.

Mike Weston

The well-healed Queensland Wader Studies Group is launching a new research programme using radio tracking of Eastern Curlew in Moreton Bay. With an award of \$10,000 from the Department of Environment and Heritage they expect to be able to buy 12 VHF transmitters and harnesses, a receiver and aerials. It may also be possible to hire a light aircraft for tracking. If the project is successful the QWSG hopes to extend its reach by satellite tracking - which they believe has not been done before.

Victorian Wader Study Group Inc
Financial Statement - September 1st 1993 to July 31st 1994

Income			Expenditure		
Subscriptions	\$947.50	[1050.00]	Printing Bulletins	\$514.00	[410.00]
Sale of Bulletins	\$22.00		Postage	\$189.10	[174.80]
Donations	\$27.00	[1585.00]	Stationery	\$4.20	[12.60]
Trading Table	\$49.20	[22.00]	Trailer Licence	\$11.00	[11.00]
Interest on Advantage Saver Account	\$25.13	[87.36]	Shadecloth for Covering Material	\$190.50	
Interest on Term Deposit	65.44	[60.49]	New Radio	777	
			Firing Box	250	
			Incorporation Fee	29	
			Fuses	964	[336.00]
			Equipment & Repairs inc. glue, solvent, batteries pliers, plastacine, grease rope, netting camouflage dowelling etc.	316.36	[347.28]
			Bank Charges & Government Fees	25.03	[25.31]
Cash & Cheques in hand at 31.8.93	72.32		Cash & Cheques in hand at 31.7.94	34.86	
Cash in Bank at 31.8.93	1985.89		Cash in Bank at 31.7.94	449.92	
Term Deposit at 31.8.93	2560.49		Term Deposit at 31.7.94	2000	
	<u>5754.97</u>			<u>5754.97</u>	

Brenda Murlis, Hon Treasurer

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Dr Ross Jessop
Angela Jessop
Brenda Murlis
Ira Savage

Subscriptions (payable in advance on 30 June):

Full member: \$15.00
Student, Associate, Country or Interstate member: \$10.00

The Bulletin is published on the date of the annual general meeting and contains reports and cumulative records of the fieldwork of the Victorian Wader Studies Group with articles, fields notes and other material.

Contributions are welcome. Contributors are asked to submit material typed on A4 or by floppy disk (with hard copy) in MS-DOS, Windows, ASCII or other format to be agreed. Drawings, diagrams and graphs should be in black ink. Closing date - four weeks before the annual general meeting.

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