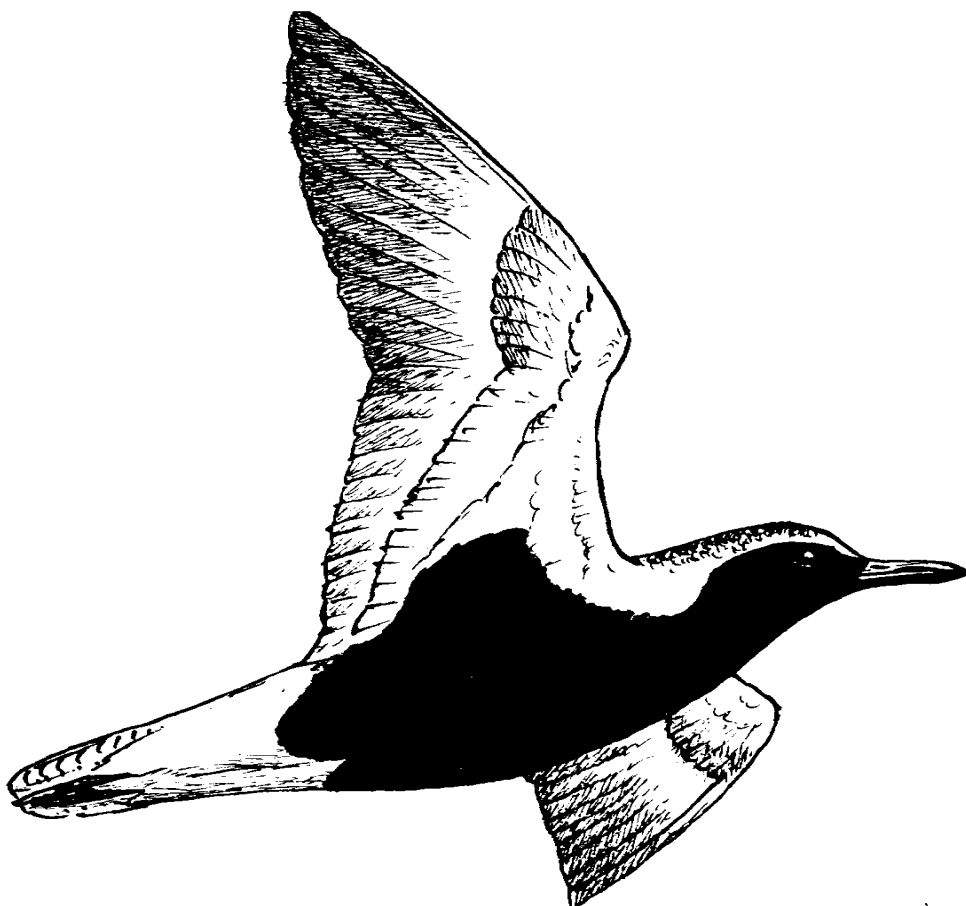


# VWSG BULLETIN

JOURNAL OF THE VICTORIAN WADER STUDY GROUP

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## **VICTORIAN WADER STUDY GROUP INC.**

### **MISSION STATEMENT**

The principal aim of the Victorian Wader Study Group is to gather, through extensive planned fieldwork programs, comprehensive data on waders and terns throughout Victoria on a long-term basis.

This scientifically collected information is intended to form a factual base for conservation considerations, to be a source of information for education of a wider audience, to be a means of generating interest of the general community in environmental and conservation issues, and to be a major contribution to the East-Asian Australasian Flyway and Worldwide knowledge of waders and terns.

### **FORMATION/BACKGROUND**

The wader banding fieldwork, which led to the formation of the Victorian Wader Study Group, commenced in December 1975. The Group was formally named in late 1978 and incorporated in 1986.

Thank you to the following generous supporters:  
Milly Formby for doing the design of our VWSG banner that is used at public presentations.  
Alan Grimes from the Mornington Men's Shed for making cartridge boxes.  
Pat McWhirter for accommodation at Harewood House.  
Parks Victoria for boats and drivers to access catch sites.

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Elgee Park winery Mornington Peninsula for one dozen bottles of wine.

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VWSG WEB SITE <http://www.vwsg.org.au/>

*Our web site is maintained by Birgita Han*

## **Chairman's report – Roger Standen**

### **Introduction**

Two years at the helm of this large and busy group have again taught me the need and value of having many hands participating. Through the twenty-odd people who go about their accepted regular tasks, most things happen as and when they are needed. Both regular and itinerant field participants are clearly essential to achieving the core of the group's objectives which is to catch birds so that survival and recruitment can be assessed. A huge thanks to you all.

Field work has been by far the most important activity again this year. However, backroom activities have risen in importance as our reporting cranks up to meet today's more demanding expectations around the practices we undertake. It has been a difficult period over the past couple of months as we have had to review our risks and catch day protocols in order to, hopefully, renew our permits in time to study the Northern Hemisphere waders while they share our shores next summer.

When people have the chance to hear about the amazing things the migratory waders do, they realise the importance of being aware of and supporting campaigns to help protect important feeding and roosting habitat. This was reinforced to me when giving several talks over the year to Probus groups, garden clubs, visitors to Kate Gorringer-Smith's Overwintering Project at Werribee, Mornington community through their library talks and the Marine and Coastal Forum. These audiences also express how impressed they are with what this group has achieved and will continue to achieve, in terms of understanding the needs of the waders, so take a bow everyone.

### **Technology continues to excite**

We again retrieved several and deployed many geolocators on Red-necked Stint, Curlew Sandpiper and Ruddy Turnstone. The turnstone program on King Island has morphed into a long-term monitoring program that may give important insights into how birds are adjusting to changes across their flyway. The other two continue to give added understanding of migration times, stopover sites and in the case of Curlew Sandpipers, an element of breeding success that is not feasible for stint as the tiny instruments they carry do not have thermometers in them.

An interesting side-benefit from these geocator tracks has been supporting the Western Port Biosphere in a program they have instigated which will see people who sign up on the Science in the Park day being held in August, receiving emails from designated birds (that will each be given a name) when they leave Yallock Creek, stopover sites and breeding grounds and their return, all based on timing and locations from real-life geocator tracks.

However, nothing excites like the real-time tracking of three Eastern Curlew from Yallock Creek that had satellite transmitters fitted as part of the Threatened Species Recovery Hub of the National Environmental Science Program (via Amanda Lilleyman). While two birds left together and went direct to China, the third was delayed and clearly couldn't see far ahead when deciding to leave as it flew directly into the leftover of cyclone Trevor and was forced to skirt around the south of the cyclone to rest on the Queensland coast. After a while it decided that too much energy had been expended and it was now too late to reach the breeding grounds in time and decided to return to Yallock Creek where it waited out the winter.

### **Migratory waders**

We finished last season with satisfactory numbers for recruitment (%juvenile) and survival assessments on the main target species, with a nice catch of 100 bar-tailed godwit at Corner Inlet a good result for three days effort by the team. Surprisingly, we struggled for a catch of stint at Werribee and only five birds were caught there this year in two catches. Who would ever have thought that possible? The birds were there, as determined by a walk along the spit which found several thousand crammed on the narrow seaward beach. But these were uncatchable by cannon net. The stint would not roost in numbers where we could catch them within the lagoon system. Fortunately, we made some good catches in Western Port, culminating with 486 caught in March when we deployed geolocators. Sanderling have proved very elusive over the past few years and we will be taking them off the priority list due to the lack of continuity of catches and practical difficulties but will catch when the opportunity arises.

The total birds caught in 2018 was the lowest ever since cannon netting started in 1979. This is due to several factors, including the more targeted approach to catching in recent years and the difficulty we had with equipment malfunctions early in 2018 that interrupted the program. Note that the Bulletin banding tables reflect annual totals for the previous calendar year, not the previous summer season so reconciling comments with numbers can sometimes be a little confusing.

### **Terns**

Tern breeding was again affected by the changes in weather and beach processes as well as predators, especially at Corner Inlet where no Caspian Terns nested, and Crested Terns lost their colony. However, the sightings and recoveries of Caspian and Crested Terns continues to build on the story of movement up the east coast with many reports from northern NSW and Queensland again this year. Separate reports for breeding, flag sightings and recoveries can be found elsewhere in the Bulletin.

### **Flag sightings**

Joris Driessen has continued to be inundated with flag sightings of 'our' flagged birds from afar, and his reports on these sightings throughout the Bulletin are recommended reading. A few individual people provide the bulk of the Victorian reports. Places like Corner Inlet require boat access, but Western Port and Werribee do not. We really owe it to the birds to make a better effort on getting out and reporting flag sightings so let's try and 'up' the local reporting.

### **Research review complete**

The Scientific Advisory Committee have completed the research review to determine what the priorities for our research should be. The recommendations were essentially to:

- Focus on migratory waders as the top priority.
- Target Red-necked Stint, Sharp-tailed and Curlew Sandpiper, Ruddy Turnstone and Bar-tailed Godwit for %juvenile and survival analyses.
- Retain terns as a second priority along with nomadic resident waders and a smaller monitoring role for oystercatchers.
- Beach nesting waders are the lowest priority as other groups are largely addressing these species.

A copy of the review is to be found elsewhere in this Bulletin. A big thanks to Danny Rogers for getting us to this point.

### **Review of procedures**

I have referred previously to the documentation of our procedures in a comprehensive operation manual. As part of renewing our permit with the ABBBS and subsequently with state authorities, we have been prompted to undertake a very thorough bird safety risk assessment and a complete review of our catch day procedures. This process was still in train at the time of writing this, but hopefully will be completed shortly. As part of the review, protocols for catch day delegation of roles has been formalised. This is based on the command and control structure of emergency management. This was considered necessary to ensure people stay focussed on their roles even when tension rises close to firing time. As the licenced cannon netters are the ones who know most about these procedures and have responsibility for adhering to the protocols, they as a team have been working on these matters.

### **New database changes**

Thanks to a generous grant of \$8000 from the Wettenhall Foundation, we have been able to begin the process of 'migrating' the banding database, and ultimately the flagging database will go too, onto a web-based platform. This will enable different people to have access to the latest data (under different levels of access authority), for entry, edit and extraction. This will ultimately enable individuals to enter their own sightings and see the history of the birds they have seen, a huge advance in terms of efficiency and public awareness. This has only been possible through the drive and actions of Marcel Klaassen along with Aaron Spence, both from Deakin University.

### **Equipment upkeep**

Garry Matthews stepped up this year to take on the annual maintenance of the trailer, relieving Paul Buchhorn of that task and enabling him to help us a bit longer with projectile and cannon improvement and maintenance. Rod McFarlane and Eric Miller continue to do a fantastic job with checking gear and carrying out regular maintenance.

### **Personnel changes**

Whilst it was my intention that this would be my second and last report as Chair, I have agreed to continue for another year to see us through this further period of change as we negotiate new permits for our refined objectives.

However, other changes are needed and after several years as Field Operations Manager, Rob is stepping down and, while not withdrawing from the group, will be less actively involved. Thanks so much for your efforts Rob.



Rog Standen presenting on what we know (after 40 years) about migratory waders and how we found out, at the Marine and Coastal Forum (Phillip Wierzbowski, DEWLP).

<b>VWSG: Total Number of Waders Caught, by Species, 2018</b>			
	<b>New</b>	<b>Retrap</b>	<b>Total</b>
<b>Bar-tailed Godwit</b>	47	2	49
<b>Common Greenshank</b>	1	0	1
<b>Ruddy Turnstone</b>	258	164	422
<b>Great Knot</b>	1	0	1
<b>Red Knot</b>	13	0	13
<b>Sanderling</b>	5	1	6
<b>Red-necked Stint</b>	473	388	861
<b>Sharp-tailed Sandpiper</b>	469	9	478
<b>Curlew Sandpiper</b>	213	61	274
<b>Pied Oystercatcher</b>	14	0	14
<b>Sooty Oystercatcher</b>	3	1	4
<b>Red-Necked Avocet</b>	14	1	15
<b>Red-capped Plover</b>	3	0	3
<b>Double-banded Plover</b>	69	12	81
<b>Black-fronted Plover</b>	4	0	4
<b>Hooded Plover</b>	6	0	6
<b>16 Species</b>	<b>1593</b>	<b>639</b>	<b>2232</b>

Table prepared by Helen Vaughan

The total birds caught in 2018 was the lowest since cannon-netting began in 1979. This is due to several factors, including the more targeted approach to catching in recent years and the difficulty we had with equipment malfunctions early in 2018 that interrupted the program.

VWSG: Total Waders Caught, by Species				
1975 to December 2018				
Species	New	Retrap	Total	Retrap (%)
Latham's Snipe	347	14	361	4%
Australian Painted Snipe	1	0	1	0%
Black-tailed Godwit	4	0	4	0%
Bar-tailed Godwit	5874	822	6696	12%
Short-billed Dowitcher	1	0	1	0%
Whimbrel	49	6	55	11%
Eastern Curlew	873	89	962	9%
Marsh Sandpiper	2	0	2	0%
Common Greenshank	542	64	606	11%
Terek Sandpiper	37	1	38	3%
Grey-tailed Tattler	38	3	41	7%
Ruddy Turnstone	6580	3598	10178	35%
Great Knot	703	89	792	11%
Red Knot	5364	746	6110	12%
Sanderling	5893	2144	8037	27%
Little Stint	9	0	9	0%
Red-necked Stint	131984	35550	167534	21%
Long-toed Stint	1	0	1	0%
Pectoral Sandpiper	2	0	2	0%
Sharp-tailed Sandpiper	11254	479	11733	4%
Curlew Sandpiper	28278	5317	33595	16%
Cox's Sandpiper	1	0	1	0%
Broad-billed Sandpiper	7	0	7	0%
Red-necked Phalarope	1	0	1	0%
Sth. Island Oystercatcher	1	0	1	0%
Pied Oystercatcher	3530	1758	5288	33%
Sooty Oystercatcher	1119	421	1540	27%
Black-winged Stilt	53	0	53	0%
Banded Stilt	2112	8	2120	0%
Red-necked Avocet	922	132	1054	13%
Pacific Golden Plover	270	26	296	9%
Grey Plover	195	33	228	14%
Red-capped Plover	802	187	989	19%
Double-banded Plover	4160	1043	5203	20%
Lesser Sand Plover	115	11	126	9%
Greater Sand Plover	31	3	34	9%
Black-fronted Plover	61	4	65	6%
Hooded Plover	107	12	119	10%
Red-kneed Dotterel	136	11	147	7%
Masked Lapwing	200	5	205	2%
<b>40 Species</b>	<b>211659</b>	<b>52576</b>	<b>264235</b>	20%
Table prepared by Helen Vaughan and Clive Minton.				

This table highlights the variation in site fidelity of many species. For example, of our regularly targeted migratory species, Ruddy Turnstone lead the way with 35% retraps, while Sharp-tailed Sandpiper only have 7% retraps as they search across the continent for suitable sites each year, largely depending on the level of inland rainfall.



VWSG: New and Retrapped Waders Caught Each Calendar Year			
Calendar Year	New	Retrap	Total
* 1975	9	0	9
* 1976	616	4	620
* 1977	482	12	494
* 1978	1296	42	1338
1979	7436	486	7922
1980	6121	1206	7327
1981	4561	869	5430
1982	3774	796	4570
1983	2875	628	3503
1984	4272	1045	5317
1985	4073	1051	5124
1986	7144	2057	9201
1987	5350	1559	6909
1988	8019	2697	10716
1989	5437	1584	7021
1990	4094	1950	6044
1991	3224	850	4074
1992	4652	861	5513
1993	8831	2588	11419
1994	4839	1753	6592
1995	2708	625	3333
1996	5263	1035	6298
1997	4366	1050	5416
1998	8083	1408	9491
1999	6515	1591	8106
2000	10350	2594	12944
2001	4839	1320	6159
2002	10421	2162	12583
2003	8495	2854	11349
2004	5110	1224	6334
2005	6320	1893	8213
2006	6676	1467	8143
2007	4689	924	5613
2008	4611	1317	5928
2009	3965	831	4796
2010	3006	759	3765
2011	4291	830	5121
2012	3598	869	4467
2013	4404	1084	5488
2014	3704	1008	4712
2015	5911	1176	7087
2016	3050	833	3883
2017	2586	1045	3631
2018	1593	639	2232
<b>Totals to end 2018</b>	<b>211659</b>	<b>52576</b>	<b>264235</b>
Average annual total for 1979 - 2018 = 6544      *excluded			
Table prepared by Helen Vaughan and Clive Minton.			

The last two years has seen 29% of Birds as retraps, that is 45% higher than the long-term total of all birds caught of 20%. This reflects the more targeted catch program where there has been a strong geolocator focus.

<b>VWSG: Total Waders Caught Each 6 Months 1979 - 2018</b>			
<b>Calendar Year</b>	<b>January to June</b>	<b>July to December</b>	<b>Total</b>
1975			9
1976			620
1977			494
1978			1338
1979	4289	3633	7922
1980	4127	3200	7327
1981	2113	3317	5430
1982	2394	2176	4570
1983	2882	621	3503
1984	2654	2663	5317
1985	3972	1152	5124
1986	5000	4201	9201
1987	3135	3774	6909
1988	5235	5481	10716
1989	3854	3167	7021
1990	1661	4383	6044
1991	2376	1698	4074
1992	3357	2156	5513
1993	5287	6132	11419
1994	2789	3803	6592
1995	1521	1812	3333
1996	1802	4496	6298
1997	1913	3503	5416
1998	5568	3923	9491
1999	4142	3964	8106
2000	5987	6957	12944
2001	3851	2308	6159
2002	8174	4409	12583
2003	3033	8316	11349
2004	1288	5046	6334
2005	5003	3210	8213
2006	5192	2951	8143
2007	3646	1967	5613
2008	3812	2116	5928
2009	2726	2070	4796
2010	2136	1629	3765
2011	1967	3154	5121
2012	3199	1268	4467
2013	3270	2218	5488
2014	2768	1944	4712
2015	4651	2436	7087
2016	1987	1896	3883
2017	2870	761	3631
2018	1464	768	2232
<b>Totals to end 2018</b>	<b>137095</b>	<b>124679</b>	<b>264235</b>

Table prepared by Helen Vaughan and Clive Minton.

The total birds caught in 2018 was the lowest since cannon-netting began in 1979. This was due to several factors, including the more targeted approach to catching in recent years and the difficulty we had with equipment malfunctions early in 2018 that interrupted the program.

Number of waders processed by the VWSG each month to December 2018

	J	F	M	A	M	J	J	A	S	O	N	D	TOTAL
Australian Painted Snipe	0	0	0	1	0	0	0	0	0	0	0	0	1
Short-billed Dowitcher	0	0	0	0	0	1	0	0	0	0	0	0	1
Black-tailed Godwit	1	0	0	0	0	1	0	0	0	1	1	0	4
Bar-tailed Godwit	938	1414	831	99	24	842	292	286	77	335	294	566	5998
Whimbrel	3	2	41	0	0	1	0	0	1	4	3	0	55
Eastern Curlew	23	181	24	0	24	18	21	76	175	149	180	100	971
Common Greenshank	69	135	123	0	0	0	0	0	0	41	178	60	606
Marsh Sandpiper	0	0	0	0	0	0	0	0	0	0	0	2	2
Terek Sandpiper	17	2	1	1	2	0	1	1	0	1	1	12	39
Grey-tailed Tattler	31	0	1	3	0	4	0	0	0	0	1	1	41
Ruddy Turnstone	441	785	3311	2131	39	23	77	103	138	216	1672	1021	9957
Great Knot	198	87	26	0	0	30	21	6	16	118	78	130	710
Red Knot	930	417	317	216	47	491	479	139	96	1012	566	317	5027
Sanderling	376	1654	2229	775	0	0	1	5	0	265	893	725	6923
Little Stint	2	2	0	0	0	0	0	0	0	0	1	4	9
Red-necked Stint	3283	1931	7249	3049	546	749	1097	988	1140	2144	3733	4338	30247
Long-toed Stint	0	0	0	0	0	0	0	0	0	1	0	0	1
Pectoral Sandpiper	0	2	0	0	0	0	0	0	0	0	0	0	2
Sharp-tailed Sandpiper	1839	1158	264	3	0	0	0	16	635	564	748	3485	8712
Curlew Sandpiper	1706	1726	1989	289	223	128	335	528	348	1140	943	1845	11200
Broad-billed Sandpiper	1	2	0	0	0	0	0	0	0	0	0	3	6
Red-necked Phalarope	0	0	0	0	0	0	0	0	0	0	0	1	1
Pied Oystercatcher	170	259	414	648	827	1053	887	517	235	41	43	71	5165
Sooty Oystercatcher	23	108	87	220	255	386	312	144	0	1	8	3	1547
Black-winged Stilt	6	9	0	0	0	0	1	12	0	4	2	18	52
Banded Stilt	107	50	12	41	59	0	0	0	15	0	0	162	446
Red-necked Avocet	344	0	0	0	14	0	26	78	279	171	47	89	1048
Pacific Golden Plover	40	27	62	2	0	0	0	0	0	28	66	65	290
Grey Plover	38	14	9	7	0	9	0	0	2	102	44	5	230
Red-capped Plover	46	90	69	124	210	110	77	35	12	25	40	50	888
Double-banded Plover	0	4	252	375	757	984	1165	1032	1	0	0	0	4570
Lesser Sand Plover	54	5	13	7	3	2	2	0	0	1	15	12	114
Greater Sand Plover	21	3	6	0	0	1	1	0	0	0	1	0	33
Black-fronted Dotterel	0	7	5	0	11	16	7	9	2	0	4	8	69
Hooded Plover	14	3	12	5	2	15	0	0	0	2	7	4	64
Red-kneed Dotterel	0	10	0	20	0	44	11	17	12	8	23	1	146
Masked Lapwing	5	11	93	17	5	13	4	1	1	5	21	19	195
Cox's Sandpiper	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	10726	10098	17440	8033	3048	4921	4817	3993	3185	6379	9614	13117	95371

Table prepared by Helen  
Vaughan and Clive  
Minton

*"Processed" means that two or more of the following were recorded for a bird : bill length, total head length, wing length, weight or primary moult.*

Numbers of Waders Leg-flagged by VWSG														
	1989- 2006	200 7	200 8	200 9	201 0	201 1	201 2	201 3	201 4	201 5	201 6	201 7	201 8	Total
Australian Painted Snipe	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Black-tailed Godwit	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Bar-tailed Godwit	2357	186	268	351	308	243	207	10	153	87	191	14	47	4422
Whimbrel	43	0	1	0	0	0	2	0	0	0	0	0	0	46
Eastern Curlew	544	0	0	8	0	38	9	0	4	0	0	0	0	603
Marsh Sandpiper	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Common Greenshank	431	0	0	25	0	0	0	0	4	2	0	0	1	463
Terek Sandpiper	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Grey-tailed Tattler	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Ruddy Turnstone	1610	328	497	238	348	455	170	317	375	259	131	259	256	5243
Great Knot	341	36	1	7	0	4	5	0	2	0	2	0	1	399
Red Knot	3429	248	5	136	17	50	75	4	20	73	27	39	13	4136
Sanderling	1796	506	261	89	277	439	280	159	179	78	26	128	5	4223
Little Stint	6	0	0	0	0	1	0	0	0	0	0	0	0	7
Red-necked Stint	5343 2	172 7	275 4	205 5	149 6	204 3	497	194 3	185 6	991	105 4	875	66	70789
Pectoral Sandpiper	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Sharp-tailed Sandpiper	4422	285	276	496	11	110	99	135	106	553	14	39	473	7019
Curlew Sandpiper	9980	94	308	122	382	47	235	381	120	575	292	371	213	13120
Cox's Sandpiper	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Broad-billed Sandpiper	3	0	0	0	0	0	0	0	1	1	0	0	0	5
Red-necked Phalarope	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Black-winged Stilt	20	0	6	0	0	2	0	5	0	2	0	0	0	35
Banded Stilt	152	0	0	0	54	332	15	109 7	53	74	0	0	0	1777
Red-necked Avocet	140	0	0	0	0	0	199	63	169	105	0	0	14	690
Pacific Golden Plover	64	0	0	0	0	2	1	0	0	3	0	0	0	70
Grey Plover	86	5	0	16	0	1	0	0	10	3	4	1	0	126
Red-capped Plover	98	1	6	3	5	7	21	4	19	28	23	1	3	219
Double-banded Plover	367	10	45	2	11	37	72	17	121	75	13	52	71	893
Lesser Sand Plover	55	0	0	0	0	0	0	0	0	0	0	0	0	55
Greater Sand Plover	16	0	0	0	0	0	0	0	0	0	0	0	0	16
Hooded Plover	0	1	0	1	1	7	0	3	8	7	9	11	5	53
Black-fronted Dotterel	2	0	0	0	0	0	0	0	0	0	0	0	4	6
Red-kneed Dotterel	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Masked Lapwing	31	1	5	0	0	1	2	0	1	3	0	4	0	48
<b>Total</b>	<b>7973 2</b>	<b>342 8</b>	<b>443 3</b>	<b>354 9</b>	<b>291 0</b>	<b>382 0</b>	<b>188 9</b>	<b>413 8</b>	<b>320 1</b>	<b>291 9</b>	<b>178 7</b>	<b>179 4</b>	<b>117 2</b>	<b>11449 4</b>

Table prepared by Helen Vaughan and Clive Minton

Sharp-tailed Sandpipers were flagged with engraved flags in 2018 (and in high numbers compared to earlier years) and the drop in Red-necked Stint numbers is a direct result of suspending the application of flags on this species as reported in last year's Bulletin.

VWSSG: Waders by Species Leg-flagged in South Australia (orange/yellow)																						
Species	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	
Latham's Snipe	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Grey-tailed Tattler	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Bar-tailed Godwit	0	0	0	3	0	8	0	0	0	0	0	0	0	12	6	0	0	0	0	0	29	
Common Greenshank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	1	7	
Ruddy Turnstone	234	226	73	193	76	141	74	258	84	141	96	109	268	45	117	322	254	103	72	48	2934	
Great Knot	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	0	0	0	6	
Red Knot	0	0	0	0	0	1	0	11	0	0	0	0	0	1	0	1	0	0	19	0	33	
Sanderling	63	420	2	315	328	76	220	250	506	244	87	261	439	268	159	211	85	29	129	5	4097	
Red-necked Stint	126	383	22	319	163	93	174	465	54	90	179	208	356	92	369	390	124	166	17	66	3856	
Sharp-tailed Sandpiper	0	2	0	27	7	73	27	21	0	15	0	0	74	40	1	23	5	0	0	2	317	
Curlew Sandpiper	24	11	0	190	13	2	103	8	21	33	1	4	15	0	7	8	0	0	3	0	443	
Broad-billed Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
Banded Stilt	0	0	0	0	0	0	0	334	0	0	0	54	332	12	998	53	0	0	0	0	1783	
Pacific Golden Plover	0	2	0	0	1	0	16	13	0	0	0	0	2	1	0	0	1	0	0	0	36	
Grey Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	5	4	1	0	20	
Red-capped Plover	0	0	1	7	5	0	7	4	1	0	0	2	3	8	0	18	14	14	1	0	85	
Double-banded Plover	0	0	4	5	1	0	0	27	2	0	1	5	29	12	0	3	0	0	0	0	89	
Black-fronted Plover	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Hooded Plover	0	0	0	0	1	0	0	0	1	0	1	1	5	0	3	14	12	20	3	5	66	
Masked Lapwing	0	0	0	0	4	2	2	4	1	0	0	0	1	0	0	0	3	0	0	0	17	
Total	447	1045	106	1062	599	396	623	1395	670	523	365	644	1524	495	1660	1060	505	336	245	127	13827	
Table prepared by Helen Vaughan and Clive Minton																						
Catch totals in SA have been down for the last couple of years due to difficult field conditions (e.g. low high tides on expeditions, beach profile changes, wrack redistribution) leading to bird behaviour changes. This subsequently reduces predictability and leaves the teams with many non-catches. It is also due to the very mobile flocks of Sanderling making it hard to plan catch sites.																						

## Sightings of Waders Leg-flagged in Victoria, South Australia and King Island, Tasmania in 2018/2019 Joris Driessen

### Introduction

This year's report contains a comprehensive set of flag sightings from all known sources. Flag sightings come in from a range of regular reporters, plus individuals who incidentally record flagged birds. A huge thank you goes out to all those who continue to send in sighting reports.

The tables present all reported sightings of birds flagged in VIC, SA and TAS (plain flags and engraved leg flags or ELFs) that were seen between July 1, 2018 and June 30, 2019.

Because resightings are received until well after the end of the annual report, the tables should not be interpreted as a definitive set of sightings for the season. Given past experience with annual resighting rates it is considered the vast majority of data has been received for 2018/2019. Note that many of the sightings are of the same birds many times over, particularly in areas where dedicated wader watchers are active.

A total of 1,823 resightings were processed for this report, slightly lower than has been the norm over the past five seasons (highest number 2,161 in 2017/18).

### Victoria

A total of 1,187 VIC-flagged resightings were reported, of which 589 observations involved birds seen overseas. As in previous years, Bar-tailed Godwit, Curlew Sandpiper and Red Knot make up the bulk of the observations (Table 1), largely as a result of efforts in mainland China (Bohai Bay Team) and New Zealand (Adrian Riegen, Tony Habraken *et al.*). A total of 598 observations were reported from within Australia, 421 of which were recorded in Victoria (Table 2). Maarten Hulzebosch single-handedly sent in 349 reports,

**Table 1. Sightings of Victorian flagged waders seen overseas and across Australia**

Species	Australia	Japan	New Zealand	PR China	Philippine	South Korea	Taiwan	Total overseas	Total sightings
Banded Stilt	1							0	1
Bar-tailed Godwit	70		135			3		138	208
Black-tailed Godwit						1		1	1
Black-winged Stilt	1								1
Curlew Sandpiper	345			26			12	38	383
Double-banded Plover	10		1					1	11
Far Eastern Curlew		1						1	1
Great Knot	36			5				5	36
Latham's Snipe	1							0	1
Red Knot	38		100	285			3	388	426
Red-necked Avocet	25							0	25
Red-necked Stint	16	1		1	1		4	7	23
Ruddy Turnstone	37			7				7	44
Sanderling		2					2	4	4
Sharp-tailed Sandpiper	18			4				4	22
<b>Total</b>	<b>598</b>	<b>4</b>	<b>236</b>	<b>323</b>	<b>1</b>	<b>4</b>	<b>21</b>	<b>589</b>	<b>1187</b>

At 135 records, Bar-tailed Godwit resightings from New Zealand were the highest seasonal tally in the past four seasons. Red Knot sightings from New Zealand (100) were also significantly higher than received in the past few seasons. Adrian Riegen and Joris Driessen are now fully

up to date with sighting data transition from New Zealand, backfilling a number of data gaps for godwit and Red Knot for the past few seasons.

At 323 reported sightings from Bohai Bay (Chris Hassell) the annual tally is similar to the previous season, and a lot better again than the relatively poor 2016/2017 season. A total of 25 Red-necked Avocet resightings is above average but significantly lower than 2017/2018 at 70 sightings – the species remains a bit of an enigma.

Few resightings were received from South Korea this past season, where the main contributor has ceased collecting flag sightings.

At the time of writing, resightings from Kamchatka (Dmitry Dorofeev) had not yet been received.

Significant resighting efforts across the flyway were undertaken by Katherine Leung and Jimmy Choi. Outside Victoria, the majority of resightings were received from Queensland (QWSG via Phil Cross) and South Australia (Table 2).

**Table 2. Sightings of Victorian flagged waders seen within Australia**

Species	ACT	NSW	NT	QLD	SA	Tas	Vic	WA	Total Australia
Banded Stilt							1		1
Bar-tailed Godwit		3		44	1		21	1	70
Black-winged Stilt							1		1
Curlew Sandpiper		1		5	7		328	4	345
Double-banded Plover							10		10
Great Knot				33	3				36
Latham's Snipe	1								1
Red Knot				28	1		2	7	38
Red-necked Avocet		1		1			23		25
Red-necked Stint		6	1	1	5		1	2	16
Ruddy Turnstone					16	4	17		37
Sharp-tailed Sandpiper		1					17		18
<b>Total</b>	<b>1</b>	<b>12</b>	<b>1</b>	<b>112</b>	<b>33</b>	<b>4</b>	<b>421</b>	<b>14</b>	<b>598</b>

The past season resulted in a number of highlights for VIC-flagged birds, the main ones of which are summarised below.

#### **Japan**

Few sightings of VIC-flagged bird were received from Japan this past season, but the sighting of Far Eastern Curlew Orange 45 was the undoubted highlight: banded in February 2014 in Corner Inlet as an adult, '45' was seen at the Estuary of Ohse-river, Nobeoka-shi, Miyazaki-ken, Japan in March 2019, its first ever resighting.

#### **New Zealand**

One plain VIC-flagged Double-banded Plover was reported from New Zealand: Bruce McKinlay spotted the bird on 27 December 2018 along the Clutha River.

With the exception of 2015, Red Knot Orange 14 has now been seen every year in New Zealand since 2011. First banded as a 1 year old in Corner Inlet in January 2011, in the past season it was recorded twice in October-November 2018 in Karaka, Manukau Harbour, South Auckland by Adrian Riegen.

Red Knots of the former catching location of Barwon Heads are still out and about as well: Orange S5 (banded in January 2011 as a 1 year old) was recorded in three times in New Zealand between November 2018 and February 2019 (and in April 2019 for the 4<sup>th</sup> time in Bohai Bay on northbound migration).

## Philippines

Fr. Jun Bermejo recorded a VIC-flagged Red-necked Stint at the Pampanga River in the Philippines in mid-February 2019. It is possible this bird either returned extremely early or never finished its northward migration, instead stopping over in the Philippines.

## Taiwan

Red Knot reports from Taiwan are rare, but Jimmy Choi recorded Orange BK on three occasions in late August and early September 2018 in HanBao North. BK was banded in early 2016 in Corner Inlet as a 1 year old.

## Within Australia

The recent move to put on engraved flags on Double-banded Plovers is already paying off with 9 resightings of the species in Victoria.

Adrian Boyle photographed Latham's Snipe Orange 74 at Jerrabomberra Wetlands, ACT – quite an achievement!

Banded Stilt Orange CKR was recorded at the Western Treatment Plant by Maarten Hulzebosch in September 2018. First captured at Yallock Creek in 2015 the bird has been seen at the WTP previously.

Eighteen resightings of Sharp-tailed Sandpipers with engraved flags were reported, one of which was seen by Stephanie Owen in Hexham Swamp, NSW in March 2019. Incredibly, VM had only been banded six weeks earlier in January 2019 at the WTP.

Red-necked Avocets continue to surprise – Bob Westerman photographed Orange ACV at Coombabah Lake in Queensland, nearly 1,400km from the banding location at Yallock Creek, where ACV was caught in January 2012 as an adult bird. This is the bird's first resighting.

## South Australia

A total of 214 SA-flagged resightings were reported, of which 73 observations (Table 3) were reported from overseas.

**Table 3. Sightings of SA-flagged waders seen overseas and across Australia**

Species	Australia	Japan	New Zealand	PR China	South Korea	Russian Federation	Taiwan	Total overseas	Total sightings
Banded Stilt	3							0	3
Bar-tailed Godwit				5				5	5
Curlew Sandpiper	2							0	2
Greenshank	1							0	1
Grey Plover	3							0	3
Red Knot	4		3	17				20	24
Red-necked Stint	10			3			3	6	16
Ruddy Turnstone	97	1		3			2	6	103
Sanderling	21	18		5	2	3	8	36	57
<b>Total</b>	<b>141</b>	<b>19</b>	<b>3</b>	<b>33</b>	<b>2</b>	<b>3</b>	<b>13</b>	<b>73</b>	<b>214</b>

## Russia

A key location for SA-flagged Sanderling sightings, the past season yielded three observations from Piltun Bay on Sakhalin Island: Peter van der Wolf recorded Sanderlings Orange/Yellow APU and AHP. Both birds were banded on the same day at Danger Point in March 2017.

## Japan

Nineteen observations were received from Japan, 18 Sanderling and 1 Ruddy Turnstone. The oldest bird among these was Orange/Yellow H7, first banded in November 2012 in Canunda National Park



(age 2+) - Hitoshi Osuga recorded H7 on three occasions in August 2018, which are the bird's overseas resightings.

#### **Taiwan**

Sanderling Orange ELF/Yellow (Left) 6L continues to be faithful to Taiwan: C.C. Liu, Lee Collins and WJ Chung reported 6L on three separate occasion in Tao-Yuan county coastal area between late August – early September 2018. First banded in November 2011 at Yanerbie Beach as a 2+ year old, 6L has been reported 11 times from overseas (exclusively from Taiwan and Japan).

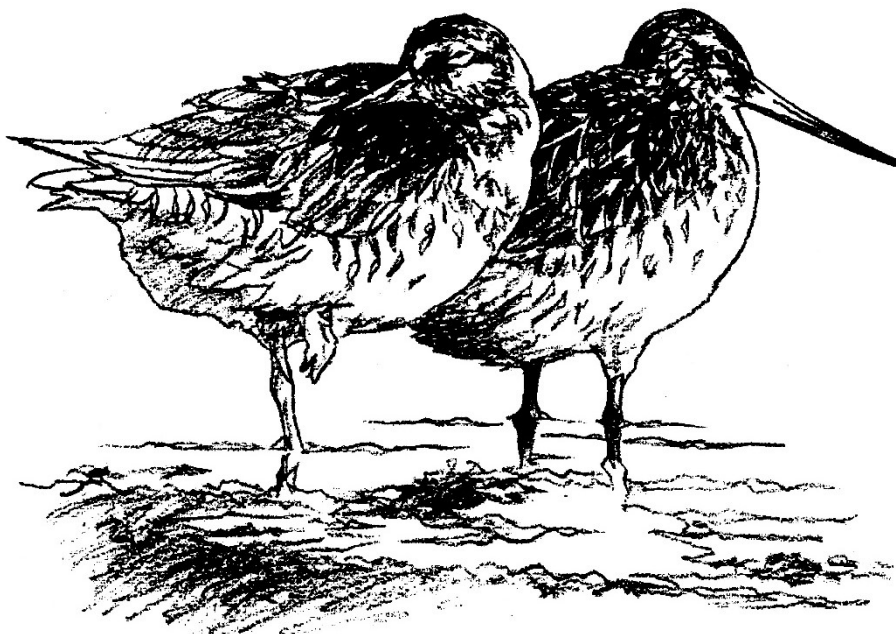
#### **Tasmania**

A total of 415 TAS-flagged resightings were reported, the vast majority of which involved birds recorded on the main banding site (King Island), collected by Katherine Leung and Marcel Klaassen.

**Table 4. Sightings of King Island (TAS) flagged waders seen overseas and across Australia**

Species	Australia	Japan	PR China	Taiwan	Total overseas	Total sightings
Red-necked Stint	1				0	1
Ruddy Turnstone	399	2	6	7	15	414
<b>Total</b>	<b>400</b>	<b>2</b>	<b>6</b>	<b>7</b>	<b>15</b>	<b>415</b>

Andrew Brooks photographed Ruddy Turnstone Orange/Blue T5 at Ocean Beach, Davenport in October 2018, the bird's first resighting. This is of particular interest given that this bird was banded in March 2007 as an adult on King Island and retrapped there a year later as well. At the time of sighting T5 was at least 13 years old.



## Sightings of Waders Leg-flagged elsewhere and then seen in Victoria, South Australia or Tasmania in 2018/2019

### Joris Driessen

A total of 98 birds banded overseas or interstate were recorded across VIC (27), SA (69) and Tas (2), compared to 159 and 97 in 2016/2017 and 2017/2018.

Ten of the VIC sightings were of interstate birds and 17 were flagged overseas (Table 1).

**Table 1. Sightings of overseas-flagged and interstate-flagged waders in Victoria**

Species	China	Hong Kong	Russia	Taiwan	Total overseas	Australia			Total AU	Total
						SA	Tas	WA		
Banded Stilt					-	3			3	3
Curlew Sandpiper	4	2			6				0	6
Greenshank	2				2				0	2
Red Knot			1		1				0	1
Red-necked Stint	6			1	7	4		1	5	11
Ruddy Turnstone					0	2			2	2
Sharp-tailed Sandpiper	1				1				0	1
<b>Total</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>17</b>	<b>9</b>	<b>0</b>	<b>1</b>	<b>10</b>	<b>27</b>

The highlights of the past season were a Red Knot (Lime/White CUT) from Southern Chukotka seen in East Gippsland by John Hutchison and Deb Sullivan 28 December 2018. Russian shorebird researcher Pavel Tomkovich informed us that CUT was originally banded as a chick near Meinyopilgyno, Chukotka on 29 June 2010 and flagged as a locally breeding male on 5 June 2015. Apparently solitary on its territory in 2016, in 2018 CUT's chicks hatched on 2 July, and was observed last time with the brood on 15 July 2018. This is first observation of the bird outside the breeding grounds.

Maarten Hulzebosch reported (as is now customary) Hong Kong-flagged Curlew Sandpiper 'BA' and Chongming Dao-flagged Greenshank 'AE' – both annual visitors – on two occasions from the Werribee Treatment Plants, while he also recorded a Taiwanese Red-necked Stint at the same location in March 2019. In fact, highlighting Maarten's efforts – 15 out of 17 overseas flagged shorebirds were reported by him this past season.

### South Australia

Fifty-one of the SA sightings were of interstate flagged birds, with the remaining 18 flagged overseas (Table 2). Fifty-one birds across both categories were reported by Andrew Brooks from the Ceduna region, yet another example how crucial the contribution of a few flag scanners is to our knowledge base.

**Table 2. Sightings of overseas-flagged and interstate-flagged waders in South Australia**

Species	China	Japan	Russia	Total overseas	Australia			Total AU	Total
					Tas	VIC	WA		
Bar-tailed Godwit	2			2		1		1	3
Curlew Sandpiper				0		7	1	8	8
Great Knot	5			5		3		3	8
Red Knot	1			1		1	2	3	4
Red-necked Stint	3	1	1	5		5		5	10
Ruddy Turnstone	4	1		5	15	16		31	36
<b>Total</b>	<b>14</b>	<b>3</b>	<b>1</b>	<b>18</b>	<b>15</b>	<b>33</b>	<b>3</b>	<b>51</b>	<b>69</b>

Of particular interest were observations of Bar-tailed Godwit (2) and Ruddy Turnstone (4) with plain Green/Blue flags (Jiangsu, northern China) in the Ceduna area and in south east South Australia (Andrew Brooks, Maureen Christie *et al.*).

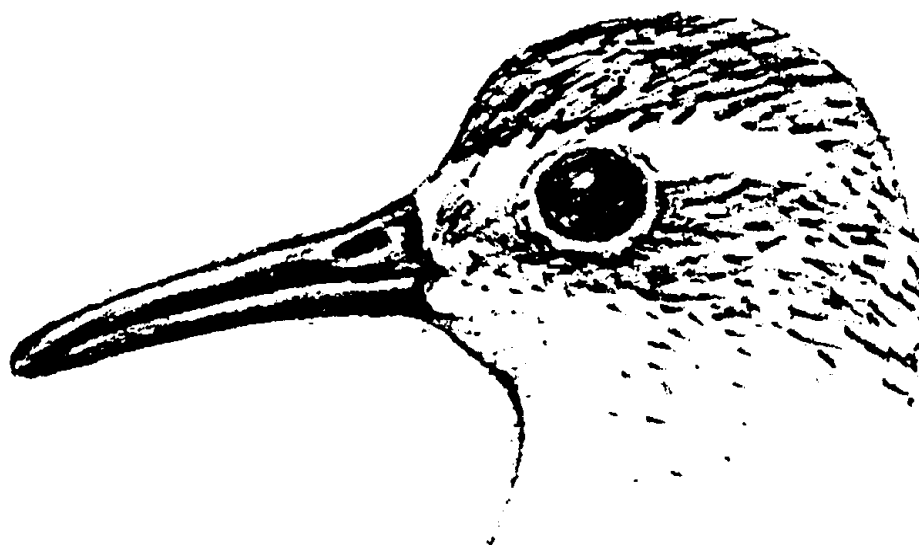
Red-necked Stint Blue/Blue L92 was recorded by Andrew on 2 October 2018 in Denial Bay, a mere 38 days after the bird was banded at Lake Komuke, Hokkaido, Japan as a juvenile.

#### Tasmania

Both sightings in Tasmania were of South Australia flagged Ruddy Turnstones (Table 3).

**Table 3. Sightings of overseas-flagged and interstate-flagged waders on King Island (Tasmania)**

Species	SA	Total
Ruddy Turnstone	2	2
<b>Total</b>	<b>2</b>	<b>2</b>



## Sightings of Oystercatchers Leg-flagged in Victoria, South Australia and King Island, Tasmania in 2018/2019

Joris Driessen

### Introduction

The tables present all reported sightings of all three Oystercatcher species flagged in VIC, SA and TAS (individual colour bands and engraved leg flags) that were seen between July 1, 2018 and June 30, 2019.

The previous two seasons showed huge leaps forward in terms of Oystercatcher sightings, going from a few hundred pre-2016 to 389 in 2016/17 and 440 records in 2017/18. Even equalling last year's tally would have been very good, but instead our collective resighting efforts this season absolutely shattered the previous record with a total of 528 resightings! Of these, 501 engraved flags or colour band combinations were actually read in the field! Special mention needs to go to Gary Matthews (65), John Hutchison & Deb Sullivan (64), (and BirdLife East Gippsland members in general) and Maarten Hulzebosch (49) for their efforts this season. Grainne Maguire and Amy Adams (BirdLife Australia) kindly provided over 100 flag sightings collected during the 2018 Hooded Plover Biennial count as well as surveys on the Mud Islands and Rams Island.

### Victoria

A total of 453 observations of VIC-flagged Pied and Sooty Oystercatchers – and the famous 'Syd the SIPO' (South Island Pied Oystercatcher) - were reported from across SE Australia (Table 1).

**Table 1. Sightings of Victorian flagged Oystercatchers seen in SE Australia**

Species	Victoria	King Island	New South Wales	South Australia	Tasmania	Total sightings
Pied Oystercatcher	382	14	37	3	3	439
Sooty Oystercatcher	9				1	10
South Island Pied Oystercatcher	2		2			4
<b>Total</b>	<b>393</b>	<b>14</b>	<b>39</b>	<b>3</b>	<b>4</b>	<b>453</b>

### Pied Oystercatcher

The season's furthest movement was from Pied Oystercatcher Yellow LV recorded by Jean Turner on Rouge Beach, Kangaroo Island, South Australia in August 2018. – approximately 875 km from the banding location in Corner Inlet. This is almost certainly the longest known westward movement by a Pied Oystercatcher banded in Corner Inlet.

A VWSG team reported five VIC-flagged Pied Oystercatchers from King Island in early December 2018: Red 7M, Yellows 87, NY, 9W and a colour-banded individual. NY and 87 have been recorded on the island for at least the past five years whereas the 7M and 9W are relative newcomers.

Pied Oystercatcher Yellow 101 was seen by Paul Burcher at Wagstaffe Point, NSW, just over 700km from its Corner Inlet banding location.

The season's furthest movement south was clocked up by Pied Oystercatcher Yellow RX, recorded on Sisters Beach, northern Tasmania, by Jeff Dickinson (October 2018) and Michael Hyland (December 2018). The only other resighting from Tasmania was from Thirsty Lagoon, Cape Barren Island, where Eric Woehler spotted 'OR/WM'. Due to the loss of two colour bands this bird could not be positively identified to individual level.

Two out of three Pied Oystercatcher 'oldies' which were reported on last year across southeast Australia are still going strong: Blue A4, the oldest known bird in Victoria was seen near Inverloch in November 2018 by Grainne Maguire and Darragh O'Sullivan (at least 32 years old) and Black H9 was seen numerous times on its breeding territory throughout spring 2018 near Cape Banks Lighthouse by Maureen Christie *et al.* (at least 30 years old).

Yellow KZ, last seen by Jonathon Stevenson at McLoughlin's Beach in August 2017 has not been reported since (at least 27 years old at the time).

The next oldest bird known to be still out there is Red 91, seen by Danny Rogers at Stockyard Point in August 2018. Originally banded in August 1997 (age 3+) at Stockyard Point as RYW/RRM and retrapped in September 2012 at the same location (and equipped with its red flag) this bird was at least 24 years old at the time of (re)sighting.

White T8 and Yellow KW were found dead this past season, the former by Chrissy Freestone in February 2019 at the Queenscliff Golf Course and the latter by Sally Leonard near Gerroa, NSW, after the bird was hit by a car. T8 (8 years old) was a regular presence at the Western Treatment Plant (with 9 resightings in the second half of 2018) whereas Yellow KW was known as a local breeding male and was at least 12 years old.

#### Sooty Oystercatcher

Only 10 resightings Sooty Oystercatchers were reported in the past season, with one exception all seen at or to the east of Wilson's Promontory and all of birds apparently residing close to their banding locations. One report however was really quite remarkable: the ABBBS reported a sighting of a colour-banded Sooty Oystercatcher recorded on Flinders Island in December 2018. Not only did that report come with a perfect photograph capturing the band combination, the bird was still carrying the full, perfectly legible complement of colour-bands! Enter Sooty Oystercatcher YNW/GGM – first banded at Lyons Downs, Yanakie on 7 May 2000 as a 2 year old – making it at least 20 years old at the time of sighting. The only other resighting of this bird dates to September 2002 from Little Musselroe Bay in NE Tasmania.

#### South Island Pied Oystercatcher

South Island Pied Oystercatcher Red 1N ("Syd the SIPO") seems to have been hit by reporting fatigue with only four resightings sent to us in the past season. Throughout July and August 2018 it was seen by many people at Stockyard Point, Westernport Bay, though this resulted in only two reports (Gary Matthews, Danny Rogers). Ann Lindsey reported 'Syd' in December 2018 from Stockton Beach, NSW and again in June 2019 from the nearby Worimi Conservation Lands.

### **South Australia**

A total of 58 observations of SA-flagged Pied (54) and Sooty (4) Oystercatchers were reported respectively (Table 2).

Nearly all SA Oystercatchers involved local breeding birds and were recorded within the state, with the exception of Pied Oystercatchers R6 (Bridgewater Bay and Glenelg River estuary, SW VIC) and C3 (near Fitzroy, SW VIC).

**Table 2. Sightings of SA-flagged Oystercatchers seen in SE Australia**

Species	South Australia	Victoria	Total sightings
Pied Oystercatcher	51	3	54
Sooty Oystercatcher	4		4
<b>Total</b>	<b>55</b>	<b>3</b>	<b>58</b>

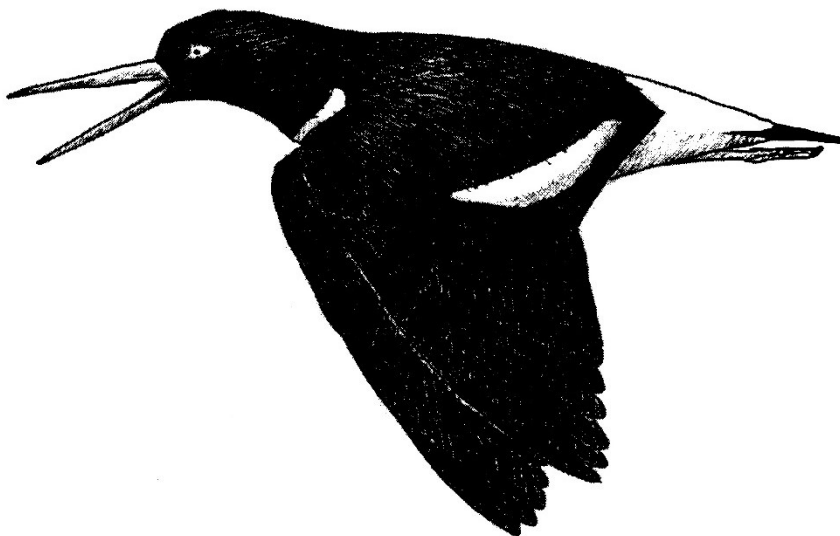
**Tasmania**

A total of 16 observations of TAS-flagged Pied Oystercatchers were reported, of which 15 were seen on King Island and 1 was recorded on the mainland (Table 3).

Black N3 was seen by Gary Matthews at Stockyard Point on 7 May 2019. N3 was first banded as an adult near Manuka, King Island in November 2014 and had previously been reported from the same location in mid-2017.

**Table 3. Sightings of King Island (TAS) flagged Oystercatchers seen in SE Australia**

Species	King Island	Victoria	Total sightings
Pied Oystercatcher	15	1	16
<b>Total</b>	<b>15</b>	<b>1</b>	<b>16</b>



## Recoveries of Oystercatchers Leg-flagged in Victoria and South Australia 2018/19. IIa Marks

The Recovery Reports for Oystercatchers follow a similar pattern to those in the Sightings Report by Joris Driessen in this Bulletin. Over the past year we have received 23 Recovery Reports from the ABBBS for Pied Oystercatchers and six for Sooty Oystercatchers.

**Table 1. Sightings of Victorian flagged Oystercatchers seen in SE Australia**

Species	Victoria	King Island	New South Wales	South Australia	Tasmania	Total sightings
Pied Oystercatcher	9		12		2	23
Sooty Oystercatcher	5				1	6
<b>Total</b>	14		12		3	29

### Pied Oystercatchers

The 23 Recovery Reports from the ABBBS reported Pied Oystercatchers from Hat Head Beach in NSW, approximately 50 kilometres north of Port Macquarie to Devonport in Tasmania. The majority of those reported from NSW were from south of Wollongong. Those reported from Victoria were from Port Fairy to Mallacoota. There were no Recovery Reports of very old birds, the eldest being a bird seen at Point Ricardo at 13 years old.

### Sooty Oystercatchers

The Sooty Oystercatchers mostly stayed close to where they were banded. The Sooty banded at Rhyll Philip Island was reported at close by Churchill Island four years later. The other Sooty's banded at Corner Inlet and Inverloch were all, except one, reported from Lakes Entrance to Shoreham near Frankston. The exception, the oldest bird at 18 years, was a recovery reported from Flinders Island. Incidentally, in the Sightings Report on Sooty Oystercatchers in this Bulletin the Sooty seen furthest from its banding location was also reported from Flinders Island

**Table 2. Sightings of South Australian flagged Oystercatchers seen in SE Australia**

Species	Victoria	King Island	New South Wales	South Australia	Tasmania	Total sightings
Pied Oystercatcher				2		2
Sooty Oystercatcher						
<b>Total</b>				2		2

### Pied Oystercatchers

There were two Recovery Reports of Pied Oystercatchers banded in South Australia. Both were banded on the same day; the 6<sup>th</sup> of April 2014, at Pelican Point, Carpenters Rocks. Now, four years later, J7 with a black engraved flag has been seen at the mouth of the Hopkins River, Warrnambool Victoria and the other J8 again with a black engraved flag, was reported at Buck's Bay Carpenter Rocks.

## **Tern Breeding and Banding Report 2018/19**

### **Ila Marks, Jonathon Stevenson, Clive Minton**

#### **Caspian Tern**

The Caspian Tern at Mud Islands nested in the same place as the previous year, half a kilometre from the Crested Tern on a sand bank on the south-west side of Mud Islands. A total of twenty chicks were banded. Terns have had a difficult time this year at Corner Inlet: Fox predation has been a problem on Clonmel Island and inundation at problem on Box Bank making breeding success impossible.

#### **Victoria**

<b>Location</b>	<b>Breeding Pairs</b>	<b>Chicks Banded</b>
Mud Islands	25	20
Corner Inlet, Clonmel Isl.	10	0
Corner Inlet, Box Bank	15	0
Totals	60	20

#### **Crested Tern**

It was not a typical year for Crested Tern again this year. Like last year there were no Crested Tern breeding at The Nobbies, and only an estimated 300 pairs this year at the nearby Seal Rock. This is significantly less than the 1,500 breeding pairs there last year, while the number at Mud Islands increased from 2,500 last year to 3,000. The story from Corner Inlet is not good. On East Box Bank there were 600 breeding pairs, and 208 chicks were banded. However on a return visit to the island for further banding the colony had disappeared. This island is often visited by people with dogs, for fishing and picnicking, but there was no evidence of human or animal disturbance. A handful nesting Crested Tern was present on Clonmel Island, however as with the Caspian Tern these birds were subjected to fox predation. There were no terns on Dream Island. There were Crested Terns present on King Island and in South Australia; (see separate reports in this Bulletin.)

#### **Victoria.**

<b>Location</b>	<b>Breeding Pairs</b>	<b>Chicks Banded</b>	<b>Re-trapped Banded Adults</b>
Mud Islands	3,000	1,590	563
The Nobbies	0	0	0
Seal Rock	300	0	0
Corner Inlet, East Box Bank	600	208	33
Totals	3,900	1,798	596

#### **Fairy Tern**

No Fairy Terns were seen nesting on Mud Islands.

Many thanks to Jonathon Stevenson and his boat for his numerous trips to the islands at Corner Inlet and his excellent reports on the state of breeding terns in that area.



## **Tern Flag Sighting Report 2018/19**

### **Joris Driessen**

Almost all significant movements of terns each year now derive from sightings of flags (including engraved flags). Sixty-three tern resightings were received for the 2018/19 season, these are summarised below.

#### **Caspian Tern**

There were 60 resightings of orange-flagged Caspian Terns marked at either the Mud Islands or Corner Inlet breeding colonies. Fifty-seven of these records were of successfully read engraved flags, enabling the birds to be identified individually.

Sightings were predominantly received from Queensland around Toorbul, near Bribie Island (18) and the Mud Islands (35, where BirdLife Australia was undertaking colony monitoring).

Long-term Queensland wintering stalwarts Orange 37 and 47 were yet again seen near Toorbul on a number of occasions and are now topping the ranks of most regularly recorded Caspian terns banded by the VWSG.

Orange 28 was seen again in the Swan Bay area in July 2018 (Rob Palazzi) and August 2018 (Lois Wooding), the latter marking the 23<sup>rd</sup> wintering record from NSW for this bird.

Orange 11, 14, 28 and 37 are the oldest birds that are still being reported, all banded in November/December 2011 as chicks.

However, it is not all about the 'oldies', as more recently banded individuals are also appearing in Queensland, such as Orange T3, V3 and U8.

The longest distance movement this season was recorded by Orange T9, a bird first banded as a chick in January 2017 in Corner Inlet. On 20 March 2019 T9 was seen by Steve McBride near Inskip Point, Rainbow Beach, QLD, over 1,500 km from the banding location.

#### **Gull-billed Tern**

A single Australian Gull-billed tern with a plain orange flag was recorded at Stockyard Point by Gary Matthews on 7 May 2019.

#### **Little Tern**

Two Little Tern resightings were received in the 2018/19 season. Steve McBride reported an orange-flagged individual near Ballina, NSW, in October 2018.

The sole overseas observation came from Japan, where a VIC flagged Little Tern was recorded in an urban breeding colony in Tokyo on 3 July 2018 by Takashi Fujii.

## **Tern Recovery Report 2018/19**

### **Ila Marks, Clive Minton**

Recovery Reports are birds seen in the field and reported to the ABBBS, who then notify the VWSG with a Recovery Report.

#### **Caspian Tern**

There were six Recovery Reports of Caspian Tern this year. Three of the recoveries have also been sighted and are referred to in the Sighting Report, they are Orange 28 reported twice and U8. Six of the recoveries were in northern NSW and one from Morton Bay Queensland. The eldest was the Moreton Bay Caspian Tern, in its 17th year, banded as a chick Off Manns Beach on the 20 December 2000. Half were banded as chicks Off Manns Beach at Corner Inlet and the others at Mud Island in Port Philip Bay.

#### **Crested Tern**

It has been a bumper year for Crested Tern Recovery Reports this year with 323 Recovery Reports. Live reports numbered 301, and 22 were dead or injured. Many of the dead reports were of birds under one year old. The majority of the reports were from Northern NSW from Iluka Bluff to the Brunswick Heads, with over 160 from the Ballina area. This year we also had over 20 reports from Queensland ranging from Moreton Island to Rainbow Beach. The majority of the Queensland reports were from Moreton Island. The Recoveries were again predominately in the winter months from March to September. 54 terns were over fifteen years of age, with two banded in December 1988, making them 31 years old, both were banded Off Manns Beach.

#### **Common Tern**

There have been five recoveries of Common Terns this year. All recorded in northern NSW, one banded at Albifrons Island, Ocean Grange, Lakes National Park in January 1997 in its second year or older, making it at least 23 years old, the other four were banded Off Manns Beach in February 2010.

#### **Little Tern**

One Little Tern was reported this year from Flat Rock, East Ballina NSW. It was banded at Barry Beach, Corner Inlet in its second year or older on 18<sup>th</sup> March 2015.

#### **Fairy Tern**

We have had no Fairy Tern Recovery Reports again this year.

## **Crested Tern Breeding in SE SA Summer 2018/19**

### **Maureen Christie and Jeff Campbell**

FoSSE joined DEW staff, Barry Schriever and Cath Bell, on a routine fox patrol along the coast of Little Dip Conservation Park on 9 December 2018. This is a section of beach covered in Hooded Plover surveys, but rarely surveyed mid-summer. Entering the beach at Long Gully North we were surprised to see a large number of Crested Tern congregated on a small rocky islet just offshore. The tide proved to be at a suitable height to mean that we could wade across and inspect the islet.



Crested Tern breeding colony, Islet, Little Dip Conservation Park, 13/01/2019. Photo: M. Christie

Monitoring and banding were conducted during January. A total of 553 chicks and one adult were banded. One banded adult was observed in the colony, but we were unsuccessful in our efforts to catch it. Originally, we estimated the colony as containing 600 pairs. Mortality is normally high in tern colonies and so this, together with the number banded and the unknown number unbanded would suggest we have underestimated the size of the colony and it could have been closer to 700 pairs.

It is unknown how long Crested Terns have used this site for nesting but DEW staff report having seen large numbers there in previous summers without realizing that it could be a breeding colony that had not been recorded.

Max Waterman and his team banded 420 chicks at nearby Bullocky Rocks, Nora Creina, in 1959/60 (pers.comm). This site is isolated and not surveyed except for Hooded Plover counts. No evidence was found of breeding when checked on 2 February 2019.

Checks were also made at sites where breeding had occurred in previous years (Penguin Island, Beachport, where we banded 92 chicks in 2012), and sites in Canunda National Park thought to be suitable. No evidence of breeding was discovered. Baudin Rocks, Boatswain Point (where we banded 107 chicks in 2011), was not visited.



Crested Tern breeding colony, Islet, Little Dip Conservation Park, 9/12/2018. Photo: M. Christie

## **VWSG Corner Inlet Friday 15<sup>th</sup> – Sunday 17<sup>th</sup> February 2019**

### **Penny Johns, Rog Standen and Andrew Browne**

In short, a great result on Sunday after “missed by 10m” on Saturday. We got 101 Bar-tailed Godwits, with only 3% juvenile indicating a very poor breeding season last year for them. Nine retraps were of birds banded between last year and 1999 (aged2) – this bird has not been seen since 2000!

We had six Grey Plover (1juv) and the sole Red Knot was a juvenile.



For those with more time or wanting to know a bit more about how we got to this point, let us go back to the beginning:

It all started with the fires in Gippsland, leading to Parks Victoria resources (read boat drivers) being tied up for quite some time leaving us without the summer count taking place as planned and thus we had no recce (as that is usually done during the count) plus no Parks boats for our catching. A few trips over the previous month or so (related to tern banding) had shown godwits on the island that had formed off the end of Box Bank (western side of Manns Beach entrance) and then going along the ocean beach of Box Bank. Tentative plans were made to set on Box Bank and twinkle the birds across from the island.

So, this activity was fraught with some difficulty from the word go, however, with the unrelenting effort from David Wilbraham and Jono Stevenson in their own boats we were able to transport the team and equipment for the planned catch of Bar-tailed Godwit.

The team, led by Roger Standen and Susan Taylor, and comprising David Wilbraham, Tessa Lamin, Jono Stevenson, Robyn Atkinson, Steve Atkinson, Penny Johns, Andrew Browne, Hannah Smith, Peggy Newman, John Lawson and Lauren Roman met at the Manns Beach hall on Friday afternoon. Two members had travelled from interstate, Lauren from Hobart and John from Canberra.

David and Roger had done a recce at high tide Friday morning and saw a frightening flock of 3000 godwit together with some Red Knot roosting at high tide on the western end of Dream Island (yes, not Box Bank). It was frightening in the sense of how to catch a hundred or so birds from such a huge flock. With high tide on Saturday at 8.30am, it was planned to transport most of the team to Dream Island to set a net on Friday afternoon and have some members camp overnight for an early morning catch on Saturday.



From a distance in the morning, Rog thought a net along the edge of the spit would catch the tail of the flock as it came up along the lip of the ocean beach. But when on the ground in the afternoon, it was clear this would not work as the topography was quite different due to a line of ridges and washout gullies that prevented line of site along the spit to safety as birds could have been hidden in the gullies and not be seen. First option off the table.

After MUCH deliberation and taking in the difficulty of seeing danger, a three cannon, small mesh net was set at an angle to facilitate a person (thanks Robyn) with telescope seeing birds in danger from the top of a dune at the end of Dream Island (see image right).

The campers then retired to the delightful campsite in perfect weather for the evening. A boatload went back to the hall and their homes for the night.



Saturday saw the campers move into position (seven in the hide with Robyn up on hill watch) just after 6.30 and await the birds and the boat (no Jono today, so David did all the transporting) of landlubbers to arrive. The birds arrived before the boat and huge numbers were heaving around the point at the edge of the entrance. Hannah was playing backup.

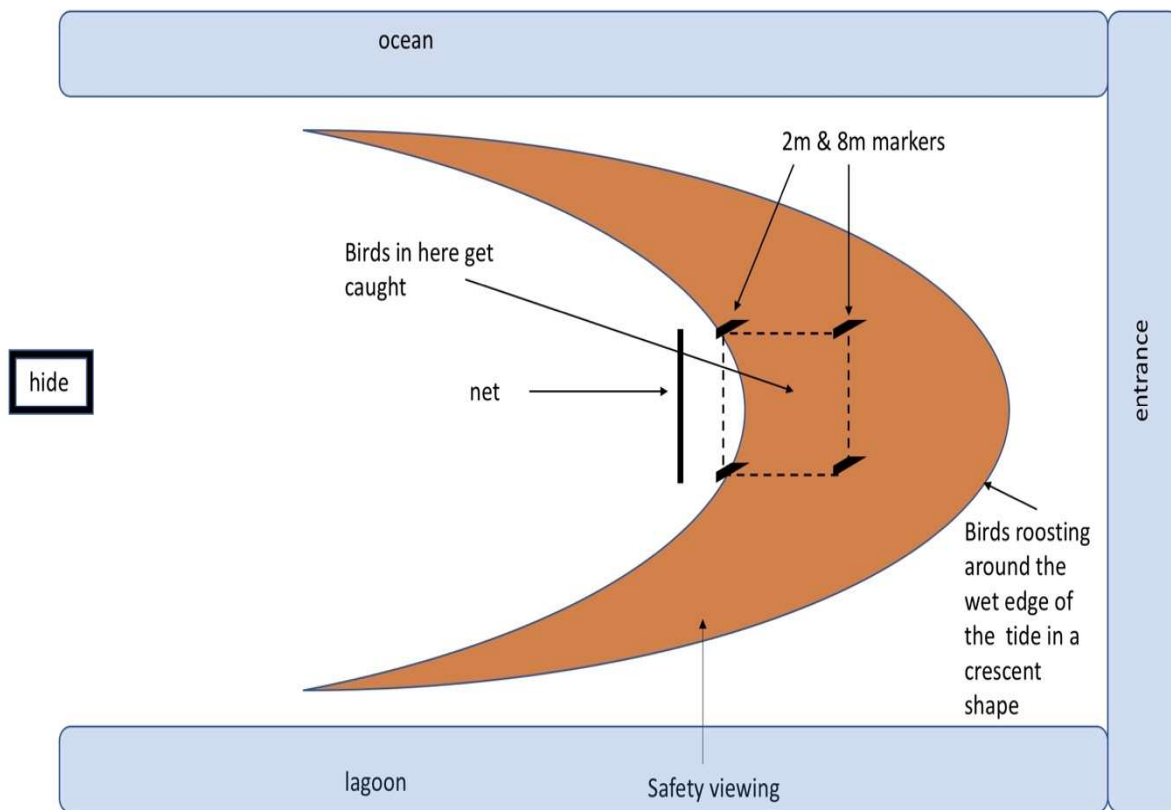
along the beach to the east and successfully brought flocks back a couple of times. Then later they went over to the island and David dropped Andrew off to push them back, but they had decided enough was enough and retired further down the beach past Hannah. The tide was receding. The closest we had come was a few birds 10m from the catching area. Our plan ultimately failed due to the net being set too far from the high tide mark as the birds never left the area wet by the tide (this was a critical lesson for the next day).

The weather was overcast, but occasionally the sun would appear to reveal an enormous line of godwits spread across the end of the spit that the team in the hide were looking along. What a fantastic sight, with rich chestnut birds (only 25% colour but striking) spread across the full length. A light onshore breeze had all the birds facing our way. No catching, but the views of the godwits both in the air and on the ground, were stunning. The line of godwit was reminiscent of the early land battles in Britain where long lines of warriors would face off against each other. The godwits were saying "we've got you outnumbered, but you have the better artillery, so we are keeping our distance. If you want us you will have to come and get us".



With that gauntlet thrown down, we withdrew our troops to the camping area for brunch, and some more logistic changes to get ready for two members to evacuate early the next day, food replacement for a couple of people and then how to plan for the attack the next morning. While we retreated, the godwit returned to the entrance where they had been and stayed there until the tide dropped enough to expose the huge expanse of mud banks that suddenly appeared from the water. We waited until the birds had left the entrance and went down to work out where to set the net. We settled on what was a high-risk site, but it was really all we had. It was not high-risk due to the birds' health, it was high risk as to whether we could see safety and not be able to make a catch. Birds were spread in a giant crescent around the end of the spit which meant the bulk of the birds were in the centre and then they spread out to thin lines around the edges (see aerial view of catching site below). We were attacking the crescent right out in the middle of the curve, so with birds coming around either side of the net we may not have been able to see through the hoard of

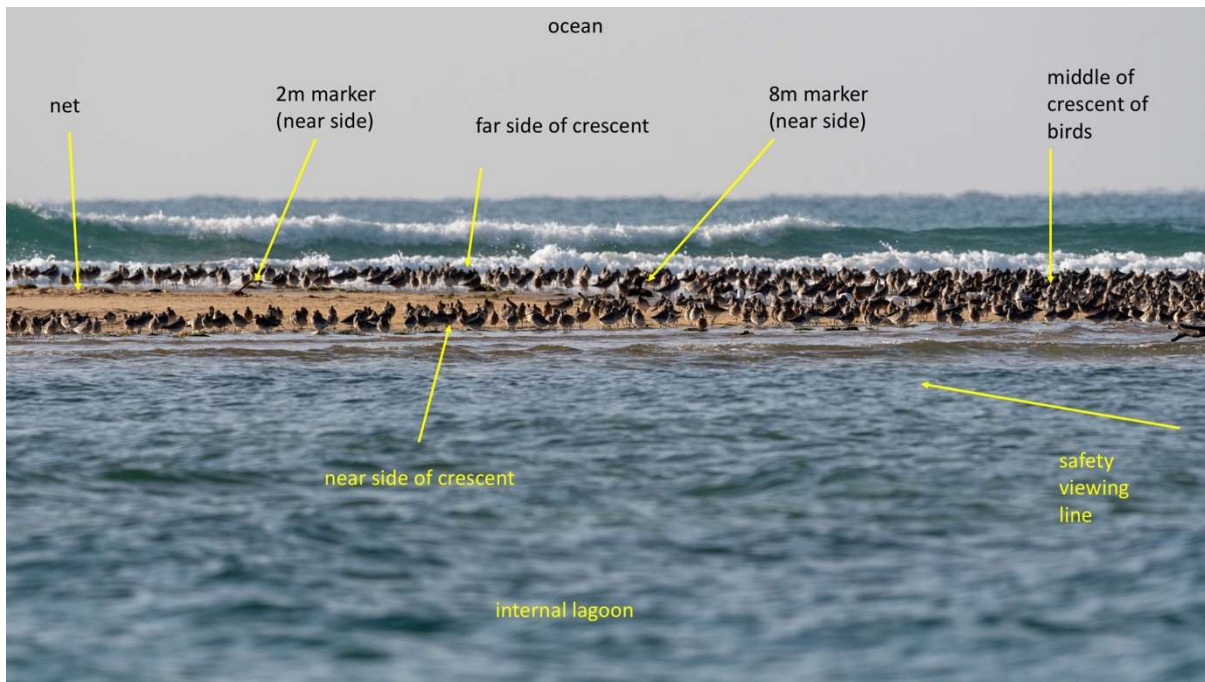
birds to see safety and therefore our plan would have been nullified. Safety was going to be viewed from out on the water. We set the net and retired for the night.



Sunday morning was a little different, with the tide coming earlier than Saturday, the falling pressure with the high moving east and bringing the light northerly wind was more significant than we thought. Birds were already on the point in large numbers, coming in from the east, north and west of the inlet to roost there. We awaited Jono as he was going to take Roger and be at safety. We were going to have to catch before the tide reached its full height.

After some preliminary doubts at what was being seen, Rog (who had slipped over the side of the boat) and Jono got their eyes in and were very confident there were no birds anywhere near danger. Rog could see birds catchable (called 20 plus but thought 30-40) and then a wave rolled across the wide flat expanse of sand the birds were on, which caused a small run up the beach with the wet front. Rog said, "I'm going – 3-2-1 fire!" and Tessa pushed the button.





The net was fired at 8.25 am. Our bravery paid off, we made a catch of 101 Bar-tailed Godwit, six Grey Plover and one Red Knot. The 3% juvenile godwits indicated that it had not been a good breeding season. The nine Godwit re-traps included one bird that was caught as a 2 year old in 1999, it has not been caught since 2000. The one Red Knot was a juvenile and of the Grey Plovers had one juvenile.

John did a great job building a wall around the keeping cages while we processed the first cage-full closest to the water. Three teams processed all birds by 11.45 so it was a terrific result by a relatively small team for the scale of the job at hand. Hannah got her last samples for her PhD, Lauren got some numbers up for her quest for a licence and John and Peggy got valuable experience under Penny's watchful eye.

So, all in all it was a very successful weekend despite the somewhat difficult logistics which were made manageable by having such a great team. Andrew again managed some lovely shots (many from David's boat).







## Biometrics and moult of Latham's Snipe

### Birgita Hansen

The article provides a brief summary of the biometrics and moult data obtained during the Latham's Snipe project. Snipe catching first began in Port Fairy in 2015 and was maintained for three consecutive years. In late 2016, the capture program expanded to Canberra, where there is now also three seasons of capture data. At both locations snipe were captured using mist nets erected in, and at wetland edges. The nets were almost always over wetland vegetation or grasses (native or exotic), and very rarely over water. Catches were made just after first light but prior to dawn by walking through the wetland and flushing recently-returned birds into nets.

A total of 124 snipe were caught in Port Fairy (between September 2016-January 2018) and 54 in Canberra (between January 2017 – February 2019). Of these, six and seven birds were aged 1 (first year) based almost entirely on plumage patterns, i.e. retained juvenile coverts and primary wear / tip colour (Table 1). Orange engraved leg flags were fitted except 17 birds (which received plain orange flags). The following combinations were deployed: Port Fairy – V9-V0, U9-U0, T9-T0, N0-N9, M0-M9, L0-L9, K2-K9, J9-J0, H9-H0, 00-18; Canberra – R9-R0, P9-P0, 99-65. Please look out for them if you are ever lucky enough to observe snipe out in the open during the day!

A range of biometric measurements were collected, and statistical summaries of the main ones are presented here - bill length, head-bill length, wing length, tarsus length, weight and tail length (Table 2). The mean and standard deviation in all adult measurements (except weight) were very similar in both Canberra and Port Fairy. However, first year snipe were larger in Port Fairy than Canberra for all measurements except weight and tail length (Table 2). Tarsus length and weight were the only measurements that fell outside the reported range for adult birds in Handbook of Australian, New Zealand and Antarctic Birds (Higgins and Davies 1996), with tarsus ranging from 31.2 – 41.1mm and weight ranging from 126-204g (between the months of September and February).

The typical number of tail feathers was 14, 16 and 18, consistent with documented tail ranges in other studies (Higgins and Davies 1996; Ura et al. 2015). Only a single bird was captured with 20 tail feathers (in Canberra). Genetic analysis will be used to determine if this was just an aberrant Latham's Snipe, or alternatively, a Swinhoe's Snipe.

Most adults had begun their primary moult by mid-September, and the majority had completed their moult by January (Figure 1). First year birds began moulting in November, but none were captured having completed their primary moult – the latest moulting first year bird was caught in Canberra on December 23, 2018, with a moult score of 29. This early commencement of moult by first year snipe (they are approximately 5-6 months old when they start) is unusual compared to many of the other migratory species we typically catch, which usually start moulting in late autumn-winter. First year snipe were indistinguishable from adults in the hand by late summer (n=2 both in Canberra).

Further analyses and interpretation of the biometric data are planned in the near future.

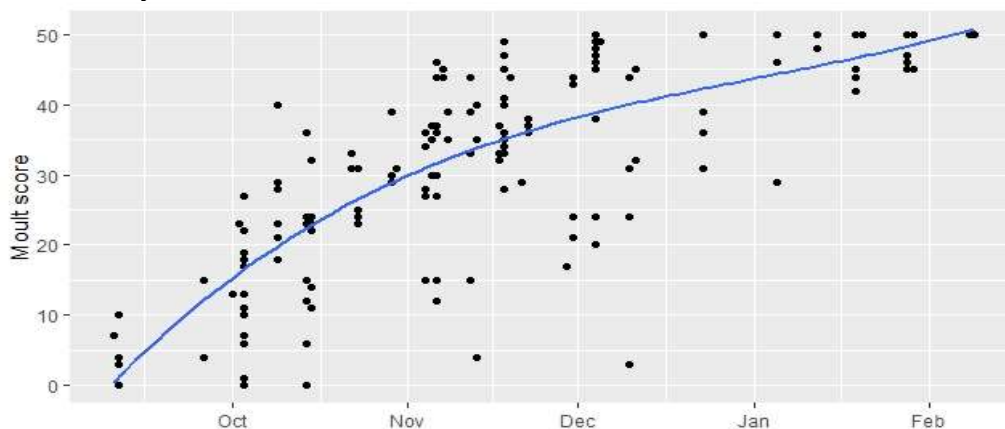
Table 1. Catch totals for Jerrabomberra wetlands (Canberra) and Powling Street wetlands / Sandy Cove (Port Fairy).

Location	Period	New	Retrap	Age 1	Age 2+	Age 1+
Canberra	2016-2017 to 2018-2019	54	6	7	45	2
Port Fairy	2015-2016 to 2017-2018	124	17	6	113	5

Table 2. Mean (and standard deviation) for six biometric measurements of adult and first year Latham's Snipe, separated by catching location (Canberra and Port Fairy). All measurements are in mm except weight.

Age	Bill		Head-bill		Wing length		Tarsus		Weight (g)		Tail length	
	ACT	PF	ACT	PF	ACT	PF	ACT	PF	ACT	PF	ACT	PF
Age 2+	71.0 (3.4)	70.8 (3.1)	104.0 (3.1)	103.6 (3.1)	162.2 (4.5)	162.2 (4.1)	37.3 (1.7)	37.7 (1.7)	154.0 (13.6)	156.1 (11.4)	66.5 (3.2)	66.9 (3.3)
Age 1	68.6 (2.6)	70.2 (3.6)	101.0 (2.7)	103.4 (4.1)	159.7 (3.0)	161.4 (3.4)	36.8 (2.1)	37.5 (2.0)	150.8 (7.3)	147.7 (11.0)	64.1 (2.8)	66.6 (1.5)

Figure 1. Plot of moult score (maximum possible is 50) against date for all adult (2+) snipe caught in Port Fairy and Canberra.



### Acknowledgements

Thanks to the VWSG members who took the time to travel to Port Fairy to assist with catches, including Malcolm Brown, Maureen Christie, Nathan Gregory, Vivien Holyoake, David Wilson and Tracey-Ann Hooley.

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Latham's Snipe (Sarah Campbell)

## South Australian Team Report – August 2018 – July 2019

**Maureen Christie and Jeff Campbell**  
**Friends of Shorebirds SE Inc.**

### **Predator Control.**

The good news is that fox baiting is continuing along the south east coast and in the Coorong with a mix of aerial and ground-based baiting being carried across 60,000 ha.

### **Our Coorong / Our Coast.**

FoSSE had a formal role in two Natural Resources South East grant applications in last year's Federal National Landcare round of funding. Unfortunately the project to protect Australasian Bittern in wetlands throughout our region did not receive funding. However, 'Enhancing the Coorong and managing Ramsar values along the Limestone Coast' ('Our Coorong / Our Coast') was granted \$3.25 million over 5 years. Both FoSSE and Birdlife are 'Partners'. The grant was officially announced by Tony Pasin, Federal Member for Barker, at Noonameena on 5 March,



Tony Pasin, MHR;  
 Maureen Christie. FoSSE; David  
 Spiers, State Minister for  
 Environment & Water; Fiona  
 Rasheed, Presiding Member  
 Natural Resources South East.  
 Photo: Natural Resources South  
 East

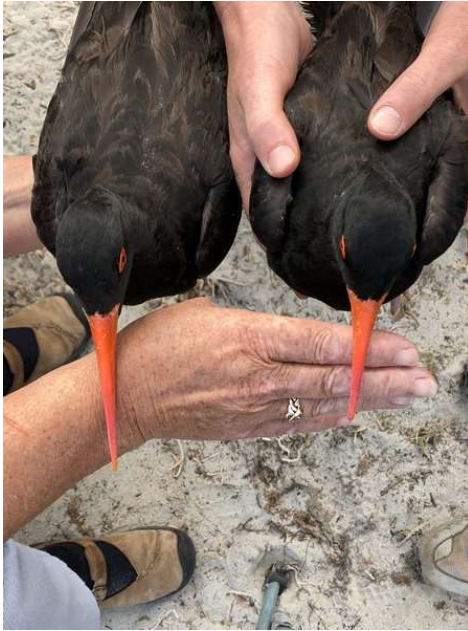
FoSSE joined a tour of the Coorong by Federal Minister for the Environment, Melissa Price, hosted by the Project Team on 19<sup>th</sup> March.

### **Local team catches, geolocators and VWSG visits.**

Our cannon netting season started well, with 14 volunteers assisting at various stages during the day at Port MacDonnell foreshore on 22 September. 36 Red-necked Stint inc. 4 retraps, one originally banded at Werribee and 6 Ruddy Turnstone, with a retrap from a catch at Green Point in September 2015. Fish and chips for lunch and a coffee shop nearby, what more could you want?



Despite high hopes we did not get out again by ourselves until February, when we made two trips to Nora Creina hoping for geos, but only managing to catch two Sooty Oystercatchers



Photos: Cath Bell. Female Sooty Oystercatcher left ( L) and rear (R).

With one male and one female photos were taken to illustrate the size difference between the sexes. Male weight 685gm, bill length 63cm c/f female weight 793 and bill length 85cm.

The VWSG geolocator visit in November 2018, was full of ups and downs. Despite very few waders caught, only catching 24 turnstone, we still managed to retrieve (and deploy) 3 geolocators!(see report this bulletin). A further 6 were retrieved in April 2014, with another 16 deployed. So, the total for the season was 9 retrieved and 19 deployed. With 26 deployed last season, this gives a satisfactory retrieval rate of 35%. VAZ/ATZ was seen several times during the season, but we were unable to catch him.

### **Conservation.**

With Natural Resources South East being divided into four sub-regions all of which have Shorebird issues, our commitment to attend as many meetings as possible, and make comment where appropriate, seems to be a never-ending task.

Comment was made on the following:

- South East NRM Management Plan 2019/20 – 2021/22.
- Drainage and Wetlands Strategy – Natural Resources South East.
- District Council of Robe, Coastal Access Management Strategy
- District Council of Grant Rural Living and Township Zones.
- Reward Minerals Lake Disappointment Potash Project.

### Beach Nesting Birds.

Protecting and monitoring Beach Nesting Birds continues to be a major part of our work. To meet our obligations under the Our Coorong / Our Coast project, our count area has been extended slightly and is now The Granites to the Victorian border. The extended area of approx. 220km was counted in November and May. The November 2018 count total of 52 birds was the lowest November count total since 2014. Although numbers have dropped from the recent previous counts the overall trendline continues to rise, if only slightly. No juvenile/immature birds were seen during the count, however six nests with eggs were found, five suspected nests were recorded, two chicks were seen, and in two instances it was suspected that a chick or chicks were present although they were not seen. The April 2019 fledged count total of 59 birds was lower than the corresponding count in 2018 (85), and considerably lower than the corresponding 2017 count (112). In addition, the low count of just three fledged young birds, was well below the numbers in 2017 and 2018 (10 and 11 respectively). Nest protection, either with signs alone or signs and temporary rope fences (see photo) was undertaken at various sites for breeding events by four of the above species: Australian Pied Oystercatcher, Red-capped Plover, Hooded Plover and Fairy Tern. A Crested Tern colony was on an island in a remote area of Little Dip Conservation Park and it was considered unlikely that disturbance would be significant.

Nest protection, either with signs alone or signs and temporary rope fences was undertaken at various sites for breeding events by Australian Pied Oystercatcher, Red-capped Plover, Hooded Plover and Fairy Tern. Breeding colonies of Crested Tern and Fairy Tern are discussed in a separate article.



Protective fencing, Breakwater Beach, Port MacDonnell, Photo: Sarah Campbell.

A small colony of Fairy Terns was found nesting on Cowrie Island on 7<sup>th</sup> January. By the 23<sup>rd</sup>, there were 38 nests. 4 chicks were banded on 31<sup>st</sup> January. The colony were observed successfully defending itself from the attentions of several Forest Ravens. However, on the 18<sup>th</sup> February, there were only a few Fairy Terns flying around, surprisingly one carrying a fish. There was no sign of any chicks, dead chicks or broken eggs.

A breeding colony of Crested Tern found in Little Dip Conservation Park is discussed in a separate article.

The South East was well represented at Birdlife's Beach Nesting Birds Conference at Inverloch in May with 3 volunteers and 2 DEW staff attending. For summaries of the presentations go to: [http://www.birdlife.org.au/documents/BNB\\_2019\\_Beachnesting\\_Birds\\_Conference\\_summary\\_report.pdf](http://www.birdlife.org.au/documents/BNB_2019_Beachnesting_Birds_Conference_summary_report.pdf)

### **Banded Lapwing.**

Once again, we had several flocks of Banded Lapwing in the lower south east but only one report of chicks (which was from the Rendelsham area).

### **Bush Stone-curlew.**

The plight of the Bush Stone-curlew in Bordertown and Mundalla grows more parlous in each passing year. Ken McPhee reported only one nest this year.

### **Thompson Beach and Bald Hill, Gulf St. Vincent.**

After a sojourn of several years at Middle Beach, November expeditioners once more enjoyed the luxury of beach front accommodation in Thompson Beach. The reduction in daily travel time was welcomed by all. Progress is slow but we are gradually gaining confidence as we learn more about how the tides/wind/wind direction influence tide height.

Frequent Flyer, Bar-tailed Godwit AKK originally banded 29.12.2012 is building a cult following in South Australia, once more appearing in The Advertiser after being seen yet again in Bohai Bay on northern migration. The Global Flyway Network team also had sightings of several Red Knot flagged 22.11.2017. Both subspecies – *piersmai* and *rogersi*, were represented.

Although we do not have any satellite transmitters of our own deployed at the moment, FoSSE continues to be involved in the AWSG and VWSG program.

### **South Australian Shorebird Alliance.**

Sharing information amongst those involved in shorebird site management and conservation is an important part of the role of this group. Recently bringing to everyone's attention an inquiry being undertaken by the Parliamentary Natural Resource Committee into the use of Off-road vehicles in SA; particularly the impact on the environment illustrates how important this role is. Inaugural Chairman, Ian Falkenberg, has recently announced that he is no longer with DEW, but is prepared to act in the role as a volunteer until a replacement can be found. We wish him well and hope that the Alliance can find an enthusiastic replacement. The only downside is that meetings are always in Adelaide, two volunteers attended a two day workshop in October, and one volunteer a day meeting in February.

### **The Glenelg Estuary and Discovery Bay Ramsar Site.**

The western end of Discovery Bay is Green Point. Obviously, the SA section is not included in this Victorian Ramsar site, but Sanderling move around the bay without any regard to the political boundary. Glenelg CMA included FoSSE in a planning workshop dedicated to Sanderling and beach nesting birds in June. FoSSE has volunteered to try and count SA Sanderling sites at the same time as they do.

### **General.**

We continue to be involved in various counts and projects. Once again, we assisted in the state-wide spring Wetlands and Waterfowl Survey, with members taking on even more and more sites to count. Bittern surveys. Latham Snipe counts. Presenting talks to schools, both in classrooms and in the field. 'Walking the Seasons' with the Aboriginal Engagement team. Shorebird 2020 counts summer and winter, and incidental counts when we can, with Jeff



continuing as co-ordinator. Dollies Wednesday continue with a small team venturing out most weeks. A highlight this year was a summer count at the ephemeral Lake Hawdon South when we counted, amongst other things, 16,430 Sharp-tailed Sandpipers and 131 Glossy Ibis.

Jeff also continues as the Beach Nesting Birds Co-ordinator. Now that we are involved in the Our Coorong / Our Coast project these co-ordinator roles involve much more reporting than we have needed to do in the past. His team entered 30 Pied Oystercatcher, 85 Hooded Plover and 23 Red-capped Plover breeding records into the Birdlife Portal. Entries are perhaps fewer than some years as we try and concentrate on breeding records rather than general observations.

A very successful AGM was held at the Campbell family home in Mount Gambier in February with Our Coorong/Our Coast Project co-ordinator, Tania Rajic, giving a presentation on the project and Jenny Hiscock presenting her Wrack or Ruin video. Newsletters continue to be issued sporadically .

Thank you to the members of the group who have worked hard to produce these results. Thank you too, to the Our Coorong / Our Coast team and other members of Natural Resources South East and the Department of Environment and Water, who have provided encouragement and practical help. Ross Anderson deserves special mention for all of the support he gives us, both as our Community Liaison Ranger and as a member.

And to finish, our most exciting flag sighting for the year:



Ruddy Turnstone flagged Green Blue. Photo: Helen Bawden

Flagged in Northern China and photographed in a flock of 60 turnstone at Blackfellows Caves.



SOUTH AUSTRALIAN TEAM CATCHES 01.08.2018 TO 31.07.2019																		
DATE	PLACE	Bar-tailed Godwit	Ruddy Turnstone	Red Knot	Sanderling	Red- necked Stint	Sharp- tailed sandpiper	Curlew Sandpiper	Pied Oyster- catcher	Sooty- Oyster- catcher	Banded Stilt	Grey Plover	Red- capped Plover	Double- banded Plover	Hooded Plover	Other	Terns	TOTALS
22.9.18	Port MacDonnell		6			36												42
9.12.18	Stony Point **								1									1
9.12.18	Nora Creina **								1									1
9.12.18	Little Dip Cons. Park **								2						1			3
9.12.18	Danger Point **														1			1
15.12.18	Nene Valley **														1			1
8.1.19	Cape Banks Lighthouse **														1			1
13-31.1.19	Little Dip Cons. Park **																554	554
19.1.19	Brown Bay - Pic Ponds **								2									2
27.1.19	Brown Bay - Pic Ponds **								2									2
30.1.19	Nene Valley **														1			1
31.1.19	Beachport - Cowrie Is **																4	4
8.2.19	Nora Creina *																	0
10.2.19	Nora Creina									2								2
SA team this year			6			36			8	2					5		558	615
B/F SA team	26.11.00 – 31.7.2018		642	13	106	500	107	18	52	9	1773	0	44	25	78	3	446	3816
<b>SA TEAM TO DATE</b>			<b>648</b>	<b>13</b>	<b>106</b>	<b>536</b>	<b>107</b>	<b>18</b>	<b>60</b>	<b>11</b>	<b>1773</b>	<b>0</b>	<b>44</b>	<b>25</b>	<b>83</b>	<b>3</b>	<b>1004</b>	<b>4431</b>
<b>special geo trips</b>																		
18-21.11.18	Multiple net sets																	
18.11.18	Wright Bay		4															4
19.11.18	Nora Creina		13							1								14
20.11.18	Beachport		6															6
21.11.18	Nene Valley **								1									1
22.11.18	Blackfellows Caves		1							2								3
geo trip this year			24						1	3								28
B/F geo trips	23.4.2009 - 31.7.2018		440		648	346	82	13	2	1			3			1	7	1543
<b>GEO TRIPS TO DATE</b>			<b>464</b>		<b>648</b>	<b>346</b>	<b>82</b>	<b>13</b>	<b>3</b>	<b>4</b>			<b>3</b>			<b>1</b>	<b>7</b>	<b>1571</b>
<b>Thompson Beach</b>																		
see separete table		18	31	21		61	42	1	6			21	10			13	31	255
<b>Eyre Peninsula</b>			68		262	393	23	8	12	4	15		21			2	1	809
<b>GRAND TOTAL SA TEAM</b>		18	1211	34	1016	1336	254	40	81	19	1788	21	78	25	83	19	1043	7066

\*net set, no catch; \*\* chicks/runners; #hoose mat.

SUMMARY OF ' TOTAL TO DATE' OF TERNS AND 'OTHER' SPECIES													
OTHER		SE	Yanerbie	Thompson Beach						TERNs	SE	Yanerbie	Thompson Beach
Black-fronted Dotterel		3								Crested	753	1	1
Golden Plover		1	1							Fairy	233		5
Broad-billed Sandpiper				1						Caspian	1		11
Common Greenshank					7					Whiskered	6		14
Great Knot					6					Little	18		
<b>TOTAL OTHER</b>		4	2	13	19					<b>TOTAL TERNS</b>	1011	1	31
													<b>1043</b>

THOMPSON BEACH CATCHES																	
DATE	PLACE	Common Greenshank	Bar-tailed Godwit	Ruddy Turnstone	Great Knot	Red Knot	Red-necked Stint	Sharp-tailed sandpiper	Curlew Sandpiper	Grey Plover	Pied Oystercatcher	Red-capped Plover	Fairy Tern	Crested Tern	Caspian Tern	Whiskered Tern	TOTALS
2012 November			12		4	1	20	39				3					79
2013 November			6														6
2014 November		4		1	2			1	1	10	3		5		4	14	45
2015 March (2 visits)		1								3							4
2015/16 Summer (3 visits)		1		14			11			2		1					29
2016/17 (2 visits)				9			27			6	1	6		1	7		57
2017 November				2		20					1						23
<b>B/F totals</b>		<b>6</b>	<b>18</b>	<b>26</b>	<b>6</b>	<b>21</b>	<b>58</b>	<b>40</b>	<b>1</b>	<b>21</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>11</b>	<b>14</b>	<b>243</b>
12-16.11.18																	
12.11.18	Heron Court	1					3	2									6
14.11.18	Blowout			5													5
16.11.18	Blowout **										1						1
<b>Totals 2019</b>		<b>1</b>		<b>5</b>			<b>3</b>	<b>2</b>			<b>1</b>						<b>12</b>
<b>TOTALS TO DATE</b>		<b>7</b>	<b>18</b>	<b>31</b>	<b>6</b>	<b>21</b>	<b>61</b>	<b>42</b>	<b>1</b>	<b>21</b>	<b>6</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>11</b>	<b>14</b>	<b>255</b>

SOUTH AUSTRALIAN TEAM CATCHES - Month Waders Caught in 1.12.200 TO 31.07.2019													
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Ruddy Turnstone	6		11	238	38	16	46	87	98	1	107		648
Red Knot				1		12							13
Sanderling		17	2	82				5					106
Red-necked Stint		34	34	107	4	20	49	93	122	43	7	23	536
Sharp-tailed									6	101			107
Curlew Sandpiper						2	7	6		3			18
Pied Oystercatcher	16	4	1	1	1			2			10	25	60
Sooty Oystercatcher	3		2	3	2						1		11
Banded Stilt	208	173	12	351		54	429	520				26	1773
Red-capped Plover	5	5	9	6				6	1	7	1	4	44
Double-banded Plover			4	7		4		10					25
Black-fronted Dotterel			3										3
Hooded Plover	22	7	11	4	2					5	16	16	83
Little Tern	17	1											18
Fairy Tern	59	172	2										233
Crested Tern	753												753
<b>TOTALS</b>	<b>1089</b>	<b>413</b>	<b>91</b>	<b>800</b>	<b>47</b>	<b>108</b>	<b>531</b>	<b>729</b>	<b>227</b>	<b>160</b>	<b>142</b>	<b>94</b>	<b>4431</b>
excludes special geo expeditions by visiting Vic teams, Thompson Beach and Eyre Peninsula catches.													

## **VWSG Trip Report to Thompson Beach 10<sup>th</sup> - 17<sup>th</sup> November 2018 and South East South Australia 17<sup>th</sup> - 23<sup>rd</sup> November 2018.**

**Jenny Hiscock**

At the VWSG Field Trip to Thompson Beach in November, the group stayed in a Beach House at Thompson Beach, courtesy of the Adelaide and Mt Lofty Ranges chapter of Department of Environment and Water who provide ongoing support for these studies. Gone was the 30 minute drive from Middle Beach on previous trips. The net could thus be set within walking distance of the Beach House at Thompson Beach. This did not mean we left our beds later in the morning, however.

The trip goals were consistent with previous years – the catching and deploying of engraved flags on a variety of migratory shorebirds. Red Knot are known to be present in large numbers in this area (2,500 counted at the November Shorebirds 2020 survey) and Grey Plover were also of particular interest.

A small group of MaryAnn, Maureen, Tony, Jenny, and Graham began early morning reccies on Sunday 11<sup>th</sup> November. Afterwards they attended the Thompson Beach Birdlife shorebird ID workshop at the RedShed. Chris Purnell from Birdlife Australia spoke, and Tony Flaherty talked about the contribution of the Grey Plover satellite tracking project to the Adelaide International Bird Sanctuary that was gazetted in late 2017. Maureen invited participants to visit the Beach house after morning tea, and further invitations were extended to attend the weeks activity.



Red Knot feeding on the mudflats at Thompson Beach (Jenny Hiscock)

Ila, Eric, Heidi and Jean arrived in the afternoon to add to the small, keen group.

Monday November 12<sup>th</sup> was the first catching day. It was an early start at 0530 leaving for Heron Ct. beach. Shorebirds were coming along but flying off as the tide approached the catching time. The net was fired at around 0830 – only two cannons of the four cannon net fired – two at one end, so they pulled out the other projectiles, but birds were able to escape because of it. A small catch of one Common Greenshank, three stint and two Sharp-tailed Sandpipers resulted. The latter were one adult and one juvenile – the lucky first to receive engraved leg-flags in south eastern Australia. There had been 18 Common Greenshank in the catching area.



Common Greenshank showing worn feathers (Jenny Hiscock)

As the late afternoon high tide was in daylight hours, it was decided to have a second catch for the day. An area past the boat ramp to the south, and not far from the Red Knot catch earlier this year, was chosen. This time, our plans were thwarted by a bogged car nearby. It had become bogged in the early afternoon and was only removed some 30 mins prior to a time we wanted to catch. It was disappointing as the tides became successively later and closer to dark – and it is unsafe to fire in the dark.

The failing of two cannons set Maureen and Ila to remake all cartridges. All aspects of the cannons, igniters and cables were checked. No reasons for the failure were evident. To prevent further failures, they made new cartridges using materials and methods that had been successful in the past for trial at the next firing.

A catch at Thompson Beach on the first day was a good start to hopefully improving the rate of catch at this site. The weather was being kind to us as well – sunny days without too much wind or heat.

Groups of Ruddy Turnstones had been seen at sites along Thompson Beach. At the north end of the road is what is called The Wash Out, behind which is a Sabka. This is a great site for bird ID at high tide with scopes looking across the Sabka. The Sabka is not a catching site. The target area on Tuesday morning was on the beach to the south of the Wash Out – near the walk through at Kestral Ct. Some 30 plus turnstones were along the beach. A lot of walking went on to bring them to the net area at high tide to no avail. Warrick had come and saw even more to the north near the wash-out – which became the goal for the next morning.

In the afternoon on Tuesday, the net set was to the south of the Boat ramp. We had set to catch on the incoming tide; each day the Bar-tailed Godwits and Red Knot come in with the edge of the tide- could we catch them before they flew off? We think this afternoon was thwarted by a change in weather – the cool change arrived at 1730 with strong southerly winds. The birds did not behave as they had the day before! We think the wind unsettled them. It made our job harder. It was easier to sleep with the cooler night though.

There was high expectation for the morning opportunity on the beach, just south of the Wash Out where many Ruddy Turnstone had been sighted by Warrick on Tuesday. Whilst Warrick was there at 0600 on Wednesday morning the Ruddy Turnstone were elsewhere. Tony twinkled them off the Sabka (while admiring the small flock of Grey Plover – three with flags). Graham went further north of the Wash Out with Eric, and others were to the south. By the time the tide was at the net, there were little to no birds in front. But all was not lost, a small group of five was brought along by Eric and they were caught on the falling tide. It was a relief that all the cannons fired correctly. Annette, Emma and Aleisha had arrived to help and could do the banding.

On Thursday morning, two nets were set on the beach in front of the house. Heidi found the two projectiles that had been accidentally missed when clearing up after the Wednesday late afternoon catch attempt to the south of the bog hole. The place of the Red Knot and Bar-tailed Godwit “hopeful”. On Thursday morning we were to the north of the south boat ramp – less interference from the many crabbers who arrived mid-morning. The Red Knot, Great Knot and Bar-tailed Godwits came in with the tide, and then flew off well before net catching possibilities. There was no wind this morning; the high tide was even lower than expected. Twinklers were out to bring the remaining Greenshank, Grey Plover and Sharp-tails to the net, but they would not move up the beach from the waters’ edge. Once again, we packed up without firing the net. Bruce had joined to help for the day. The afternoon was spent watching retrieval efforts for bogged motorists who had foolishly driven further out onto the mudflat at low tide.

Friday morning saw the group gathered behind the coastal vegetation waiting for the tide and birds at the southern end of Thompson Beach again. Nick had joined to help. The tide came to where it was estimated – we were two days out from a dodge tide and thus little water movement was expected from the previous day. The weather was sunny, cool and calm– there was no wave action to encourage the birds at the edge of the water. The tide came up underneath the beach wrack to the net, but the birds would not walk on top of the dry beach wrack. There had been many stint, Curlew Sandpipers, terns, and Common Greenshank. Sharp-tail Sandpipers to the south of the boat ramp could not be encouraged to go north past the crabbers walking out. So, no catch.



Some of the team at Thompson Beach (Jenny Hiscock)

A pair of Pied Oystercatchers with chick had been watched all week. Maureen thought it was a good time to go catch and band the chick. Maureen took the lead with the dab net and ran down the chick, which was duly banded but too young to be flagged. The parents welcomed the chick when we returned it to them.

An attempt to catch the parents was made with the noose net. While one parent was interested enough to attack the decoy in the afternoon, it was more interested in flying to bring food for the chick. The other parent stayed with the chick at all times.

After a week of many net sets, and two firings (a 100% increase in number of firings on 2017 but no Red Knot!) – catches were small but occurred. Some optimism was felt, that for the future, there is a strategy to catch Red Knot and Bar-tailed Godwit with the right tides in the afternoon. However, Thompson Beach continues to challenge all our skills for successful bird banding. Thank you to the dedicated team who are prepared to give their all despite failures.

### **South East 18<sup>th</sup> - 23<sup>rd</sup> November 2018**

Saturday 17<sup>th</sup> November was travel day from Thompson Beach to Kingston. Maureen decided there were good places to catch on the way to Carpenter Rocks. Saturday night found Maureen, Ila, Eric and Heidi, Jeff, Sarah and Michael, Graham and Vicki, and Jenny accommodated with Vicki Natt at her property just near Kingston. A lovely place to arrive after a drive on a hot day – a cooling native bush block with Beautiful Firetails drinking at the birdbath. Heidi and Jenny slept comfortably on the veranda – the night was about 10 degrees C.

Maureen had been on the phone with the local Hooded Plover count team so we could know where the waders had been seen. High tides were in the mornings, at the times we needed to be catching, so there was little time for reccies prior to net setting. The other high tides were in the early evenings, now after dark. Good numbers of Ruddy Turnstones were reported in the Wright Bay area, a drive of thirty minutes from our accommodation.

It was very cool but still and sunny when the net was set towards the southern end of Wright Bay in an area where birds had been feeding, Sunday morning. Some turnstones had been present when we arrived. The net was set by 0800. Graham and Eric went north, and Michael and Jenny went south. Some 50 plus birds were to the north, and at least two groups of 40 plus along beaches to the south. The temperature rose from 10 degrees C to what felt like 30 degrees C quite quickly. It was a lovely clear sunny day at a delightful location. We walked up and down the beaches, bringing the turnstones from bay to bay. Michael and I both wanted to walk in the water to bring them off rocks not far from shore! It was possible to walk quite close to them as they fed or roosted along the water's edge. And they were co-operative at moving towards the bay with the net – but not quite co-operative enough! The high tide passed, and it became hard to get them to move up the beach where the net was set – we fired at 1230. Some 30-40 were in the net area including one with a geolocator, but the South East sea breeze had started, and the net went out on an angle and missed most of them -only four caught. We were disappointed.

Monday saw the group arrive at Stinky Bay at Nora Creina. We left Vicki's at 0630 and Vicki came with us. The local ranger, Barry, had seen Ruddy Turnstones with flags and maybe geo-locators at this beach. We arrived at 0700 and the net was set by 0830. Iain came from Rendelsham; Maureen, Eric, Ila, Heidi, Jenny, Vicki, Sarah, Jeff and Michael made up the team. Rodney and Helen, who had spent the last few days reccing further to the south, arrived just as we were about to fire the net – it went out at 1000. The turnstones had been co-operative, no sea breeze and all projectiles behaved. A small catch of 14 turnstones and one Sooty Oystercatcher. This included seven retraps ; three of which had geolocators. In addition, there were four juveniles among the group, giving a good ratio of adults to juveniles. The Sooty Oystercatcher became T3, one of the few banded Sooty Oystercatcher's around. It was a happy group of processors. Vicki really enjoyed the outing

and we were very grateful for her hosting our accommodation. The team drove onto Carpenter Rocks to stay at Maureen's home. Millicent was a good place for shopping and coffee on the way. The Shearers Café near Foodland can be recommended.

Tuesday began with a drive to Beachport. Jeff and Barry had reccied. We set off at 0630 from Kingston, for the 1115 tide. We were joined by Graham (staying near) and Brett who arrived at Maureen's from Melbourne late on the previous evening. Birds were found on the beach near the microwave tower, feeding nicely on the wrack. We fired at 1045 just as Helen and Rodney arrived to help. A small catch of one Pied Oystercatcher and six adult turnstone. We processed at the car park just behind the dune entrance to the beach under the cover of Rodney and Jeff's pull-out veranda's – it was quite hot.

Wednesday found us at Blackfellows Caves. Reccies had been done by Jeff, Graham and Barry. No birds were seen at Green Point near Paul Feast's shack – it had been an intention to go there as Sanderling are often on that beach. Reports of turnstones were scarce also. Each of us headed off – each beach checked heading east from the Lighthouse, no birds at Pelican Point, no birds at Kym's corner (hardly any beach wrack here either), but turnstones at Blackfellows Caves. Ila was in charge today.

The net was on the beach to the right of the track for a high tide catch. Eric twinkled from the north and Jeff from the south. There were turnstones seen with geo's and in good numbers. Today was the day of the Firing Box frustration – when it was called to "Switch in", Ila reported "There are no lights on the box", next call "I am changing the boxes", and then "There are no lights on the box!" – Rodney bought his car down the track and the third option to connect to the car battery occurred – by this time, the high tide had passed, and the birds had moved on from the net space!

I banded my first bird on Thursday. A 2+ adult Ruddy Turnstone. We were back at Blackfellows Caves – near to the net set of the previous day. The turnstones were in good numbers to the north of the track and could be bought around. The weather was not good. Adelaide had experienced quite a storm – for us the wind was only up to 30 knots! In reality, not good weather for bird catching. Upon firing, the net was held up, and many of the turnstone in the catching area, flew out. One turnstone and a pair of Sooty Oystercatchers were caught. The rain had held off until 1030 – we were processing in the shelter of the carpark. It poured and we even had small hail. Wet weather pants were my new friend!

On Friday, the wind was not quite as strong as the day before, only 15 to 20 knots. However, birds were flighty today. Maureen had us set the net into the cliff at Blackfellows Caves. It was to no avail. Turnstones were still present, but today, they were flighty. No walking only flying. They flew when we were some 30m away – perhaps spooked from the previous days weather. They were not catchable.

Graham mentioned seeing birds at Livingston Bay. He had seen them fly when someone was walking their dog either the night before, or Friday morning. Well, this is where they have been hiding. It was not possible to see them from the areas where we had viewed from cars – one had to walk along the beach to 'the drain'. There were some 160 Ruddy Turnstones, Silver Gulls, cormorants, stints, maybe Red Knot and Sharp-tailed Sandpipers. There was a good amount of beach wrack present, and the birds blended so well into it that they could only be seen if they moved. They were roosting in the strong wind. Down we went and set the two cannon net as close to the drain as we could with our small team. We twinkled the turnstones – back and forth from Kym's corner to the south, and back and forth from the beach entrance to the north. They would not walk here either – only fly from rocks to beach to wrack and back again. We were disappointed. A dejected Maureen, Ila, Graham,



Eric, Ian, Rodney, Heidi, Jeff and Jenny retrieved the net and headed to Carpenter Rocks to clean up.

Highlights of the South East trip had been the retrieval of three geolocators at Nora Creina and our overnight stay with Vicki enabling our first ever catch at Wright Bay. The weather had made the beaches at Carpenter Rocks difficult days. One can pick the tides, but not the wind and weather. Thank you to all who worked so hard to make this expedition a success.



Cannons set in the small cliff behind the net. (Jenny Hiscock)



Setting the net (Jenny Hiscock)



**VWSG South Australia Trip Report, April 2019.**  
**Loes de Jong.**

The objective for the South Australia expedition was to catch enough Ruddy Turnstone and Sanderling to get a valid juvenile percentage, to deploy geolocators on turnstone, and of course, retrieve and replace as many geos as possible. The team consisted of quite a few people: Bretan, Angus, Annette, Bruce, Chris, Eric, Heidi, Holly, Iain, Jenny, Jeff, Kelsey, Kristy, Loes, Petra, Prue, Raz, Robyn, Sandy, Sarah, Trevor, Vivien, fronted by Maureen and Clive. The larger group meant we could extract birds from the net in a flash and required less time processing birds after a big catch. We often found ourselves in a race against time before dusk hindered us to process all birds. The bigger group thus proved an advantage utilized by the always-go-getting Clive, striving for good results. Ultimately, we realised the capture of 507 birds in total, including 174 Ruddy Turnstone and 112 Sanderling. A good number of birds considering that on previous recent recces far fewer birds had been seen! The net was fired eight times, of which six resulted in good samples. With 35 Ruddy juveniles the juvenile percentage is 20, and with the 25% of the King Island expedition a few weeks prior to the SA expedition, it can be considered a good breeding season for the Ruddy Turnstone. Fantastic! Regarding the geolocators, we deployed 16, retrieved six (most at Beachport) and replaced four. This last particular detail – the four replacements – may be something Maureen is still brooding over. More about that later! We caught two turnstones that were also caught on this year's King Island visit, plus one banded bird from Japan and there were five turnstones that managed to get caught twice this trip! All in all, we can consider the trip and our efforts a success and we returned home with the sweet feeling of satisfaction and tired bodies.



*Turnstones at Kym's beach (Jenny, 2019)*

South East, (5/4/2019 - 10/4/2019)

Friday, April 5

The team arrived at Paul Feast's fishing shack Friday afternoon 5 April, set up camp and did a quick sweep in the shack. As introductions were made with the new faces, the team started to aggregate around the shack. As we popped our heads over the dunes to take a look at the beach, it became evident that the usual rotting stinky decomposing seaweed was washed away. In turn, new tidal deposits refurbished the beach, which was certainly less smelly, but also less suited as maggot nurseries that would provide our beloved shorebirds with delicious protein. The seaweed had been laying there for some time already, but apparently, it could have been a lot stinkier. The hungry waders that were eagerly feeding to fuel up before they left in some weeks, had thus been adjusting their feeding strategies accordingly, and were difficult to locate. Recent recces had brought forward that very few Sanderling had been seen in the previous weeks, but sightings had been made of 100+ Sanderling elsewhere more recently. The turnstone seemed to be in bigger flocks that were more scattered.

Saturday, April 6

Saturday morning was the first catching day. It started with some quick breakfast and early recces around the area. Because this trip is one of the few opportunities to catch a significant sample of Sanderling, the first day was dedicated to catch these little beach-runners. Only a few small flocks of ruddies and Sanderling were seen scattered on the other side of green point, but they all seemed quite restless and did not seem to settle on the beach. However, there was a good deal of seaweed mounts, and around them, traces of small waders foraging at the Green Point beach, recognised by tiny holes in the sand. Certainly, they must be on the point at times? Fortunately, Jeff had more luck at Danger Point. Thus, the team set out to Danger Point to set the first net of this trip. A little wait in the dunes, a "Three, two, one, fire" on the radio, and off we were. A small catch with 16 Sanderling including a few retraps. Thus, processing was done rather fast, and we had plenty of time for another catch in the afternoon. This time we would try on Green Point. A vast amount of seaweed piled up there, and this time, considerable numbers of Sanderlings settled on the beach. With the help of some twinkling by Prue and Bruce even more aggregated on the point. This looked promising. The tides came in higher and higher, and soon we understood we would be facing a wet catch. Luckily the team was reinforced by extra people today, because we caught 94 Sanderling and 91 Red-necked Stint! More would definitely have been too much to handle considering the conditions, so the extra hands and efforts were most welcome! The biggest catch in terms of numbers during the trip on the very first day. By the time we went back to the shack to pour ourselves some hot tea and coffee, most wet (and cold) bodies had dried up. After dinner, the team's engagement in a discussion of today's happenings – reflecting on the risks, decisions and results of today's efforts – took up most of the evening.



*Sanderling in a tube for weighing (Jenny, 2019)*

Sunday, April 7

After sunrise a number of people set out on the morning recces again. After yesterday's Sanderling count, we decided to try for ruddies today with the 4-cannon large mesh-size net at Green Point. After setting the net, the team waited in the base camp as Prue and Bruce were twinkling from opposite directions in attempt to send over some more birds. While the tide was coming in closer, almost no birds were settling in front of the net. Clive requested more birds from the East, where Prue was twinkling, "Prue, how many birds between you and the net?" Nevertheless, the radio remained quiet. "Prue, can you hear me?" ...still no response. As the conditions were not in our favour this morning, we had to cease firing the net. When we were packing up the equipment, Prue turned up, soaked in water, with a dead radio in her hand. Apparently, the radio broke because she had tripped over a rock and fell in a puddle when she was in quest of steering birds our way! Luckily, the only thing that was damaged was the radio! In the meanwhile, we made new plans for the afternoon, and decided to go to Port MacDonnell to try for Ruddy Turnstone. Some of the team had to settle with, uhm... a dingo's lunch? No matter, because there was another hunger overruling the first, a hunger for birds! When the gear was packed, we quickly moved to Port Mac for another try for ruddies. It was not too long until we were confident to fire the net and while sprinting to the net, we skimmed the catching area, inspecting what we had caught today: Some turnstone, which is what we wanted, fantastic! Also, over there, of course, the usually present Red-necked Stint. Is that flapping feathery bunch over there Starling? Wow, we even caught some Chestnut Teal! AND THREE PELICANS?! Quite the diverse aggregation of feathered friends! Although the species we could not band were released as quickly as possible, it was still very exciting to see them up close! This catch had more surprises in store: we also caught one of the oldest retraps of the trip. A female Ruddy Turnstone, labelled WLW, originally banded 2/5/2006 at Port MacDonnell aged 1. Thus, this bird is in its 13<sup>th</sup> year. This was the fourth time she had been caught, and all of those were at Port Mac! Returning home, we had hungry bellies, but a lovely feeling of fulfilment.

Monday, April 8

Monday the 8<sup>th</sup> started with sunny weather and a motivated atmosphere. We set the net at walking distance of Paul's shack again, at Green Point. However, as the team was sitting at base camp the weather seemed to worsen in terms of good catching conditions. Luckily, some of us came prepared with umbrellas and rain jackets. In the meanwhile, it looked like the sea was only minutes away, even when high tide was supposed to be in quite a while as predicated by the tide tables. Soon we would have to move the cars to safety... In addition, because it seemed like the weather was getting worse as well, we considered we would have to abandon the idea of firing the net. But, of course... as always, the clouds cleared up and the sun came out of hiding soon after we packed up and returned back to base camp. Maybe it would have been better if we had pushed through a bit more.



*Bundle of cold bird fanatics underneath an umbrella at base camp  
(No worries, we had tea!)  
(Loes, 2019)*

Tuesday, April 9

The next day, May 9, the weather seemed to not have changed much in comparison to Monday. However, there is something fantastic about waking up on a day like that. Sanderlings! There had to be more that we did not capture yet! Setting a 3-cannon small mesh net at Green Point again may just do the job. Even so, when the net, set at right angles to the shoreline was all covered up in seaweed, we realised there was no such thing happening this morning. The rest of the day was characterised by some fanatic turnstone chasing, speedy net-setting and thoughtfully saving rain drops from smashing on the ground by intercepting it with our bodies. Yet, despite our efforts, the attempt at Blackfellows Caves did not produce any birds at all, and even a third try at Kym's beach brought about nothing, except... a Silver Gull! All in all, a demanding yet ineffective day. Good enough reason to treat ourselves' on Port Mac's tastiest fish and chips at Parade Fish shop (not the yellow one, the blue one), while others chose to dine with the comfort of the now quieter shack.



Wednesday, April 10

Although there was a tiny trace of demotivation amongst the team members, since we were not successful the previous day, the 10<sup>th</sup> of May was the last day at Paul's shack. Thus, it was the last day we would have a chance for a good sample of Sanderling before they departed northwards, as catching significant numbers would be difficult elsewhere. So, out we went, early in the morning. Unfortunately, we were not able to fire the net because of the weather conditions... Luckily, we caught a total of 110 earlier this week. When we got back it was time to break down our tents and give the shack a good clean. After a bit of: "Who's mug is this?", "Can we have more hands helping with the net?", "Please everyone, take your food out of the fridge.", "Who's tent is that still standing there?", "What time do we need to leave exactly?", "Has anyone seen a small frying pan?" and so on, we finally left and said our thanks and goodbyes to Paul, who had been so kind to let us stay in his characteristic and convenient fishing shack.



*Setting the net at Green Point for the last time  
Loes in hole. (Trevor, 2019)*



*Do you think that cannon-hole is deep enough?  
(Trevor 2019)*



*Clive and Paul (Maureen, 2019)*

In the afternoon, we went to set the net at Nene Valley West to catch some turnstone again. After five attempts to catch some birds, we really felt like capturing some! Then, at last, we fired the net, and captured a group of Ruddies, some Red-necked Stints, and a Sanderling. Finally! A jolt of joy rushed through our brains while we were whooshing to the net to extract the not so currently happy birds that were baffled by the unpredicted happening. But, with the team being very satisfied after all that waiting, the birds were processed rather quickly and back with their friends soon after. We had recaptured a geolocator bird, as well as two Ruddy Turnstone originally banded in King Island. The first one labelled VCU/Blue, banded at Manuka, Aged 1, on 19-11-2016, and one labelled VNP/Blue, aged 2+, banded in Currie at 9-2-17. Another bonus: we recaptured a male turnstone that would be 13 years old right now, originally banded on 6-3-2006 at Nora Creina, then aged 1. Considering only around 5% of the ruddies recaptured by the VWSG is older than 10, we should consider ourselves lucky to have come across such an oldie. This was the fifth time he had been caught, of which four times at Beachport. Old habits die hard! With some of us setting up camp on Iain's and Sandy's lawn in Rendelsham with the help of torches, as almost all day had past, the warm welcome of Iain and Sandy and their comfortable lovely set up underneath the pergola made everything right.

Rendelsham (11/04/2019 – 13/04/2019)

Thursday, April 11

The first morning in Rendelsham, we started early to go on recces and see how the birds behaved to decide where the net would be set. There was time in the morning to go to the fabulous Lake George, to see if the Banded Stilts wanted to be seen today. When the cars drove up to the lake, we could see and hear the chatter of thousands happily enjoying Lake George. Walking close together, we were able to creep up astonishingly close.



*Banded Stilts, undisturbed by our presence (Trevor, 2019) ...And when they took off (Trevor, 2019)*

Later that morning setting the net at Beachport was a treat too, because this beach is just gorgeous to look at. A wide, white beach, boarded by steep dunes, eroded by the tides, and beautiful caves exposed because of it. Moreover, spectacular rock formations cracking waves rushing on the shore, refuting terns, cormorants and the turnstone we wanted to catch so badly. If those rocks were not so comfortable for them, they might have been more.

interested in settling on the beach where they were catchable. A lovely wait, nonetheless. When we set the net, cars on two sides of the net were closely monitoring the amount of birds running up and down the beach, in and out of the catching area. When we fired the net, we captured the highest shorebird species diversity of the trip, Ruddy Turnstone, Red-necked Stint, Sanderling, and Red-capped Plover. To close the day, Iain and Sandy had prepared a lovely meal for all of us. With everyone enjoying the comfort of the heaters that they had set up, the delicious food, lovely people, friendly chatter, everyone sharing snacks, treats and drinks and some staying up late, I cannot find a more suitable description than the quite elegant Dutch term: “gezellig”. It means something along the lines of social cosiness. Which everyone would surely agree with.

Friday, April 12

This morning we had to wait for a bit until Clive’s trailer was repaired, and groups set out for Recces, among which the spectacular Canunda National Park. Later that afternoon, we set at Nene Valley West again, this time with two 4-cannon large mesh size nets. It was very difficult to get birds to settle in front of the net. As it was getting later and later, the amount of birds we could still process with daylight decreased, and so we had to settle with what we could get. We fired the net and captured a small amount of turnstone. Processing the birds with the help of all the torches we could find, Maureen had to make a tough decision. Deploying geos on non-geo returns was a gamble, but if we didn’t catch any Ruddy Turnstone on the next day, it would be wasted. A bird in the hand is worth two in the bush, so we deployed two of the four geolocators.

Saturday, April 13

The last day had arrived, and for the last time the team headed out to set the net at Nene Valley. To achieve one of the objectives for this trip, we still needed to deploy two geo-locators. Because setting the net at Nene Valley had proved to result in consistent turnstone catches, we headed for the Nene Valley beach once more. Setting the net was easier than usual, because the plentiful lightweight seaweed made camouflaging a piece of cake. More than 60 birds aggregated naturally in front of the net, when we fired, we caught the second biggest catch of the trip. Some local people fishing were asked to stay off the beach so not spook the birds away. And when we all rushed to the net, a group of hopefully future bird fanatics came to help us extracting, packing the equipment and even processing the birds. We caught one turnstone originally banded on King Island at Manuka; labelled VUD/Blue, 21-03-2018 aged 1. We also caught a turnstone that was banded as a juvenile on southward migration in August 2013 in Hokkaido, the northern most province of Japan! It was banded, but not flagged, so when it was caught at Livingston Bay (Between Blackfellows Caves and Carpenter Rocks) on 11-11-2015 it was given an Orange ELF XCK/Yellow flag. Since then XCK has been seen 3 times without it causing a second glance .... and retrapped at Nene Valley boat ramp 13-4-2019! Furthermore, we recaptured four birds with geo-locators... We were of course very happy about that, but could have replaced all four geo’s, if we hadn’t deployed them the previous day! And some may still be able to recall Maureen say: “If we catch more than two geo returns tomorrow...”



*Local people helping the team spread out the net (Loes, 2019)*

The link below directs you to a slow motion video of the net firing we took!

<https://www.youtube.com/watch?v=ORMyVOMCj9I&feature=youtu.be>

When we arrived back at Iain's and Sandy's place, we were in for another treat by our hosts, two delicious crayfish Yum! During this last tasty meal, the team reflected on this trips achievements and enjoyable moments. Certainly, a delightful closure of this year's trip. Thanks to all of you, for your efforts making the expedition a success and the wonderful time we spent.



**The fine dining we had the pleasure of enjoying**



## **VWSG King Island Visit Report 22 – 31 March 2019**

**Clive Minton, Robyn Atkinson, Katherine Leung and Rob Patrick**

This visit (the 22<sup>nd</sup> to King Island by the VWSG) was one of the best-ever to King Island from both an enjoyment and from a successful fieldwork point of view. The highlights were the retrieval of 23 geolocators from Ruddy Turnstone, the third highest ever total catch of Ruddy Turnstone (249) and the deployment of a total of a further 58 geolocators. It was also extremely pleasing that the population count of Turnstones on the west side of King Island was the highest for many years, as a result of two particularly good breeding years (in the 2016 and 2018 arctic summers – see percentage juveniles in catches data).

Below is a more detailed report on the ten days of fieldwork. It is intended that the twice-yearly visits (November/December and March/April) be continued into the future to extend our current thirteen-year dataset on the Ruddy Turnstones of King Island.

Photo 1: Turnstones roosting on rock, including one carrying a yellow geocator (by Rob Bush)



## Population Count

As usual, all the known locations for Ruddy Turnstone along the complete west coast of King Island were counted over the high tide period on 22 March. Some small gaps in this count were subsequently filled with counts at other times during the 'expedition'.

The total of 823 birds observed was only just below the 853 counted in March/April 2017. Previously the highest count in the March/April period was 890 in March 2010 (Figure 1 and Table 1).

It seems likely that the higher population levels in recent years are the direct result of above average breeding productivity in three of the last four breeding seasons (see data on percentage juveniles in Turnstone catches – Table 4)

After lower populations in recent years it will be interesting to see if this higher level can be maintained in the future when breeding productivity levels will presumably return to more normal levels.

Figure 1: Population change in Ruddy Turnstone on King Island's west coast

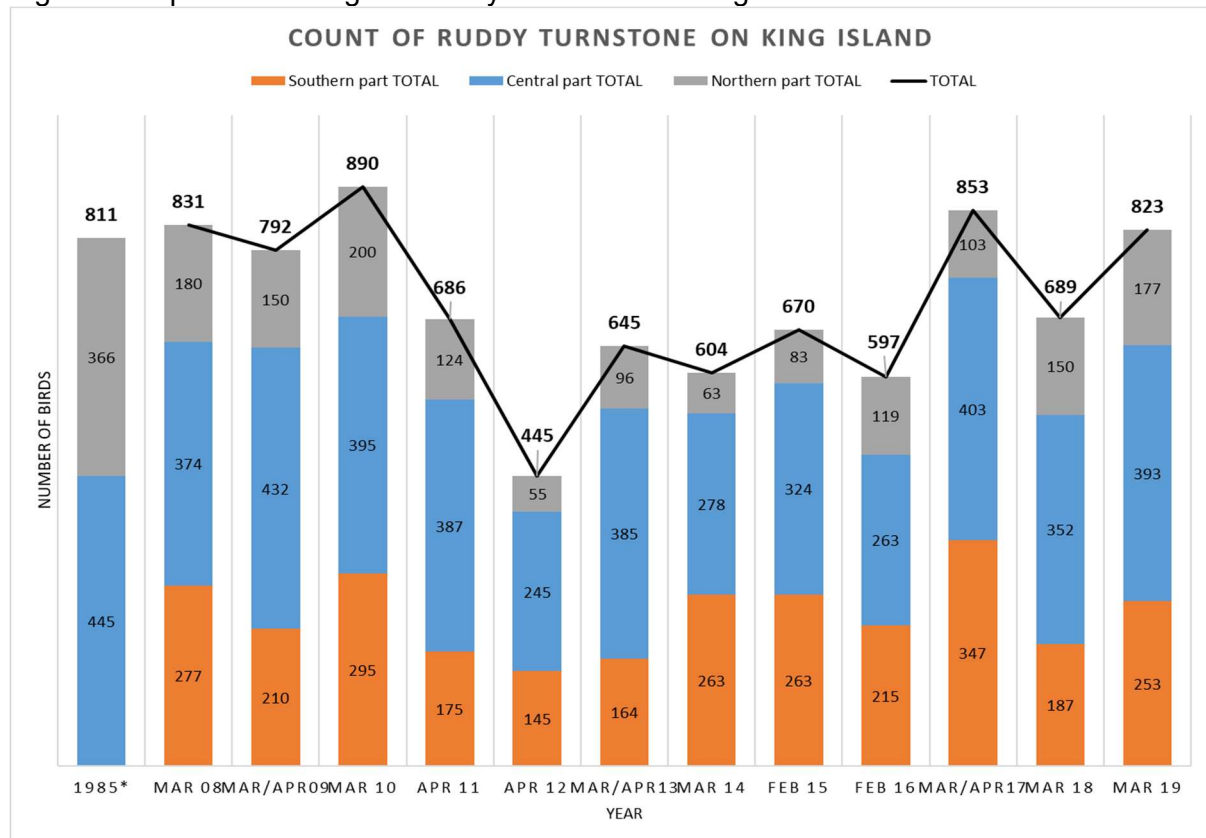


Table 1a: Counts of Ruddy Turnstone on King Island: Feb/Mar/Apr period

<u>West Coast</u>	1985*	Mar 08	Mar/Apr09	Mar 10	Apr 11	Apr 12	Mar/Apr13	Mar 14	Feb 15	Feb 16	Mar/Apr17	Mar 18	Mar 19
The Springs	-	n.c.	n.c.	45	50	20	26	28	23	24	30	50	64
Whistler Point	106	180	55	40	4	0	0	0	0	42	2	45	0
Duck Bay, Green Island Point, South Whistler	260		95	115	70	35	70	35	60	53	71	55	113
<b>Northern part TOTAL</b>	<b>366</b>	<b>180</b>	<b>150</b>	<b>200</b>	<b>124</b>	<b>55</b>	<b>96</b>	<b>63</b>	<b>83</b>	<b>119</b>	<b>103</b>	<b>150</b>	<b>177</b>
Unlucky Bay	20	n.c.	20	10	48	15	25	15	19	1	40	28	7
South Porky	28	n.c.	40	0	9	40	25	0	38	35	70	65	35
Manuka – North (Whalebone)	-	220	65	15	60	35	30	60	63	33	60	32	116
Manuka - Central	67		68	150	50	50	70	50	84	58	54	36	39
Manuka - South	-		67	10	45	35	65	40	24	6	55	39	82
Dirty Bay	-	n.c.	22	30	13	n.c.	0	n.c.	0	0	0	8	
Currie Harbour	-	114	14	25	15	0	20	26	0	0	39	30	15
Currie Golf Course (Burgess Bay)	330		96	90	85	30	75	42	66	65	25	64	49
Dripping Wells	-	40	40	65	62	40	75	45	30	65	60	50	50
<b>Central part TOTAL</b>	<b>445</b>	<b>374</b>	<b>432</b>	<b>395</b>	<b>387</b>	<b>245</b>	<b>385</b>	<b>278</b>	<b>324</b>	<b>263</b>	<b>403</b>	<b>352</b>	<b>393</b>
Seal Bay	-	20	n.c.	60	n.c.	n.c.	12	43	77	56	68	5	48
Surprise Bay (including Denby Beach)	-	187	80	105	75	70	80	106	71	90	116	43	89
Stokes Point to Surprise Bay	-	70	40	110	70	25	12	52	66	29	91	67	84
Stokes Point	-		90	20	30	50	60	62	49	40	72	72	32
<b>Southern part TOTAL</b>	<b>0</b>	<b>277</b>	<b>210</b>	<b>295</b>	<b>175</b>	<b>145</b>	<b>164</b>	<b>263</b>	<b>263</b>	<b>215</b>	<b>347</b>	<b>187</b>	<b>253</b>
<b>TOTAL</b>	<b>811</b>	<b>831</b>	<b>792</b>	<b>890</b>	<b>686</b>	<b>445</b>	<b>645</b>	<b>604</b>	<b>670</b>	<b>597</b>	<b>853</b>	<b>689</b>	<b>823</b>

\* Count by D.B. Whitchurch

## Catching

In spite of losing two fieldwork days to bad weather (one day was the stormiest we've ever experienced on King Island) we still made ten cannon net catches (Table 2) of Ruddy Turnstones (equaling the previous record) and caught 249 altogether (the third highest visit total). All the main Turnstone flock areas along the west coast were visited and catches were made at all of them except Surprise Bay. On the two days we tried there very few Turnstones were present (probably due to the windy weather). We did, however, make two other catches in the nearby area of Stokes Point and Trough Bay, in the south-west of the island. A detailed daily log of the fieldwork activities can be found in Appendix 1.

The equipment worked perfectly, with the net coming out fully on every occasion, in spite of some headwinds. This was partly because of the excellent setting of cannons by Rob Patrick who now goes to great trouble to pack each cannon in a cocoon of hefty rocks which means that it does not move significantly when the net is fired. The propulsion energy therefore all goes into propelling the projectiles and net forwards over the birds.

Photo 2: Rob Patrick building the cannon cocoon, the team setting up the net (by Roger Richards)



We've also gained a wealth of experience over the years on exactly where to set the net at each location and on appropriate twinkling activities to encourage the birds into the catching area. We are also now more experienced at judging when birds are in the catching area, particularly aided by the telescope viewing skills of Katherine Leung, often perched, but hidden, in areas where she can continuously scan the catching area and safety zone of the net.

Our biggest catch was 73 birds at Duck Bay, near Whistler Point in the north-west of the island. This has traditionally been a place where large catches could be made but we have not been successful there for three or four years. The most amazing catch was one of just 11 birds in Currie Harbour. Six of these had old geolocators on them, four with almost consecutive numbers.

A new development this year was the use of a half-size cannon net – large-mesh and with only two cannons. This can be deployed more quickly than a full-size net and can operate where there is only a limited space available where the Turnstones feed in a dense flock. It will be a regular part of our King Island equipment on future visits.

Table 3 shows a summary of all the catches since VWSG first visit in 2007.

Table 2: VWSG Catch Details: King Island Visit 22-31 March 2019

Date	Location	Species	New	Retrap	Total	(Juv)	%Juv	Male	Female	%Male
23 Mar 19	North Manuka (Whale Bone)	Ruddy Turnstone	17	21	38	10	26.3	14	14	50.0
	(3 geos retrieved, 27 deployed)									
24 Mar 19	South Manuka	Ruddy Turnstone	13	15	28	7	25.0	7	14	33.3
	(3 geos retrieved, 15 deployed)									
24 Mar 19	South Manuka Gate	Ruddy Turnstone	6	18	24	2	8.3	7	15	31.8
	(4 geos retrieved, 3 deployed)									
26 Mar 19	Stokes Point	Ruddy Turnstone	4	11	15	1	6.7	3	11	21.4
26 Mar 19	Trough Bay	Ruddy Turnstone	12	4	16	5	31.3	2	9	18.2
27 Mar 19	Duck Bay	Ruddy Turnstone	58	15	73	24	32.9	27	22	55.1
	(3 geos retrieved, 3 deployed)									
28 Mar 19	Currie Harbour	Ruddy Turnstone	4	7	11	2	18.2	5	4	55.6
	(6 geos retrieved, 6 deployed)									
28 Mar 19	Burgess Bay	Ruddy Turnstone	6	9	15	4	26.7	7	4	63.6
29 Mar 19	Porky Beach	Ruddy Turnstone	7	18	25	8	32.0	8	9	47.1
	(1 geo retrieved, 1 deployed)	Pied Oystercatcher	3	0	3	0	0.0	-	-	
31 Mar 19	Dripping Wells	Ruddy Turnstone	0	4	4	0	0.0	2	2	50.0
		<b>TOTAL TURNSTONES</b>	127	122	249	63	25.3	82	104	44.1

Table 3: Catches on King Island 2007-2019

<b>Date of visit</b>	<b>Catches</b>	<b>Total Turnstone caught</b>	<b>Total birds caught</b>
March 2007	7	241	307
March 2008	8	419	434
March-April 2009	6	223	223
March 2010	8	211	217
November 2010	3	71	71
April 2011	8	197	211
November-December 2011	3	115	117
April 2012	7	118	118
November 2012	5	132	132
March-April 2013	10	255	285
November 2013	2	54	55
March 2014	6	173	181
November-December 2014	6*	147	151
February 2015	5*	119	154
November-December 2015	5	120	158
February 2016	4	74	78
November 2016	4	112	114
March-April 2017	7	218	229
December 2017	5	123	128
March 2018	9	149	160
December 2018	5	191	193
March 2019	10	249	252
<b>13 years (22 visits)</b>	<b>133</b>	<b>3711</b>	<b>3968</b>
<b>Average individual catch size:</b>		<b>28</b>	<b>30</b>
<b>Average catch total per visit:</b>		<b>169</b>	<b>180</b>

\*Excludes 2 catches of Silver Gulls. 22 visits. 13 in Feb-Apr. 9 in Nov-Dec.

### Percentage Juveniles

As in the December 2018 visit, we found that the proportion of juveniles in the catches was well above the long-term average (14%). The figure was not quite so high as is in December (40.8%, when it was known that a proportion of migrating individuals was still present in the population) but at 25.3% it was still well above the long-term average which means the breeding success of the King Island Turnstone in 2018 is classed as very good (Table 4).

Table 4: Comparison of juvenile proportions in Turnstone catches on King Island in Nov-Dec period to Feb-Apr period

Year	Nov-Dec period		Feb-Apr period		% Juv per season
	Total	% Juv	Total	% Juv	
2006-07	-	-	241	0%	0%
2007-08	-	-	419	17.7%	17.7%
2008-09	-	-	223	0%	0%
2009-10	-	-	211	14.2%	14.2%
2010-11	71	18.3%	197	14.7%	15.7%
2011-12	115	9.6%	118	15.3%	12.4%
2012-13	132	2.3%	255	1.2%	1.6%
2013-14	54	42.6%	173	30.6%	33.5%
2014-15	147	17.7%	119	14.3%	16.2%
2015-16	120	1.7%	74	1.4%	1.5%
2016-17	112	20.5%	218	31.2%	27.6%
2017-18	123	5.7%	149	2.7%	4.0%
2018-19	191	40.8%	249	25.3%	32.0%
<b>TOTAL</b>	<b>1065</b>		<b>2646</b>		
Based on Feb/Apr data Poor Arctic breeding years were 2006, 2008, 2012, 2015 and 2017. Very good Arctic breeding years were 2013, 2016 and 2018.					

### Sex Ratios

Just as the percentage of juveniles varies quite markedly from one catch location to another so also does the sex ratio of the adults. This can be determined during a March/April visit because the birds are already showing much of their breeding plumage and there are distinct differences between that of the male and female birds (more than in most species of waders). There were more males than females in three of the catches but more females than males in five catches.



Photo 3: Male Turnstone in breeding plumage surrounded by females and juveniles (by Rob Bush)



In almost all years there has been a predominance of females in the populations caught. This year this was quite marked (104 females vs 82 males) giving a male percentage of 44.1%. Only twice before has the proportion of males been lower than this (Table 5).

Table 5: Sex ratios of Turnstone catches on King Island in Feb-Apr period 2007 to 2019

<b>Year</b>	<b>Male</b>	<b>Female</b>	<b>Total adult</b>	<b>% Male</b>
<b>2007</b>	125	116	<b>241</b>	51.9
<b>2008</b>	181	163	<b>344</b>	52.6
<b>2009</b>	103	120	<b>223</b>	46.2
<b>2010</b>	90	91	<b>181</b>	49.7
<b>2011</b>	80	88	<b>168</b>	47.6
<b>2012</b>	43	57	<b>100</b>	43.0
<b>2013</b>	118	134	<b>252</b>	46.8
<b>2014</b>	46	74	<b>120</b>	38.3
<b>2015</b>	<u>Not yet available</u>			
<b>2016</b>	<u>Not yet available</u>			
<b>2017</b>	70	79	<b>149</b>	47.0
<b>2018</b>	59	86	<b>145</b>	40.7
<b>2019</b>	82	104	<b>186</b>	44.1

### **Geolocators**

We were especially lucky in our efforts to retrieve geolocators from birds which had already been carrying them from previous visits. A total of 23 geolocators were retrieved from birds and 22 of these were replaced with new geolocators. Additionally, a further 36 geolocators were placed on birds which had not previously carried them, meaning that 58 geolocators in total were deployed during the visit. With a long-term retrieval rate of 42% of geolocators on King Island we can look forward to some further successful geolocator retrievals in the future.

### **Flag-sightings**

Opportunities were taken to record the engraved flags on birds in the field whenever possible. This was particularly successful at some locations and a total of 187 sightings involving 129 individuals were recorded in the field. Some of these birds were also subsequently cannon netted.



Photo 4: Counting and flag scanning (by Rob Bush)



### **Weather**

Temperatures were close to average throughout our visit and rainfall only occurred for short periods. The notable feature, however, was the extremely strong winds encountered on 24-25 March (especially 25 March when 30-40 knot winds occurred almost all day and night, which prevented us even setting a net. The weather on King Island really does fit the Victorian maxim of 'If you don't like the weather, wait a minute'.

### **Deakin University study on Avian Pathogens**

As in other years Deakin University again collected faecal swabs and blood samples to test for the presence of avian diseases or their antibodies.

Photo 5: Collecting blood samples from a Turnstone (by Roger Richards)



### **Acknowledgments**

The VWSG thanks the following for their contribution towards another particularly successful visit to King Island.

Members of the field team endured some periods of particularly stormy weather but were not deterred. Graham and Margaret Batey again provided accommodation for three team members in their home. The team itself occupied new, rented premises opposite the Batey's home for this visit. Margaret Bennet again kindly stored our field equipment at her house. Tasmanian Parks and Wildlife again kindly loaned their trailer.

### **Future**

It is planned to continue November/December and March/April visits to King Island into the foreseeable future. Arrangements have been made, with the generous help of the owner David Looker, to use Turnstone House at Porky Beach as our base for future visits. This beautiful modern house has magnificent views over the sea and the western coastline of the island – and is situated only 100m from one of our regularly counted and caught Turnstone flocks!

### **The March 2019 King Island Team was:**

Clive Minton, Robyn Atkinson, Rob Patrick, Penny Johns, Roz Jessop, Robert Bush, Katherine Leung, Marcel Klaassen, Michelle Wille, Roger Richards and Annabel Richards, local King Island participants, including Graeme and Margaret Batey, Margaret Bennett and Lizzie Cambra.

Photo 6: The team (by Roger Richards, Michelle Willie & Katherine Leung)



## **Appendix 1: Daily log of fieldwork activities**

Day 1: 22-Mar-19

The team arrived at the airport in Moorabbin at 7am to find out that visibility on King Island was very poor and that the flight has to be delayed. Nevertheless, after a nice coffee break, we were soon in the air and arrived King Island at noon.

As per previous visits, the team divided into three groups with the King Island local members to do a comprehensive survey of the west coast. We were rewarded with good counts at both north, central and south part of the island.

Photo 7: View of the west coast of King Island taken from the plane (by Katherine Leung)



Day 2: 23-Mar-19

The day started with a heavy rain before dawn when the team was getting ready to head out to the field. Soon after we arrived at North Manuka where a flock of 116 Turnstones were counted the day before, the rain cooperatively stopped.

The net was set swiftly while more than 60 Turnstones were still feeding not too far from us on the beach. However, it was only after a few hours waiting and chasing that we finally have 40 birds landing in front of the net beyond 12m! With some help from the tide and more twinkling, the net reached out well to catch 38 birds including 3 old geolocators. Successful day to start with!

Day 3: 24-Mar-19

Another day with 100% achievement. A net was set first thing in the morning at Central Manuka, but it's not until 16:00 that we fired this net. During the long wait, the team also managed to set and make a catch with 2 other nets fired simultaneously at South Manuka. A total of 7 geolocators retrieved.

Day 4: 25-Mar-19

With bad weather (rain and strong wind gusts of 100km/hr!) already forecasted the day before, no catch was planned for the day. Some reccies and counts were carried out in the afternoon including a trip to Seal River at the south of the island where the team found 16 Hooded Plover with some Ruddy Turnstone, Red-capped and Double-banded Plover.

Photo 8: Ruddy Turnstones flying through the rainbow after rain (by Katherine Leung)





Photo 9: Flock of Hoodies at Seal River (by Rob Bush)



Day 5: 26-Mar-19

The team headed to the southern end of the island to look for catching opportunities. After some hide-and-seek with the Turnstone in the very strong wind (see this [video clip](#) by Michelle Willie showing the sea “foamed” up in the wind), 2 nets were fired successfully into the wind with a satisfactory total of 31 Turnstone caught.

Day 6: 27-Mar-19

A dramatic change in weather after 2 windy day and a standard demonstration on how to make a cannon net catch of Turnstones at Duck Bay. Step 1: locate a hot spot where the birds feed on the kelp; step 2: set a net (see [this time lapse video](#) by Michelle Willie); step 3: twinkle the birds towards the catching area; step 4: count the number of birds catchable; step 5: fire the net! And here you go with a big catch of 73 Ruddy Turnstones, including 3 geolocators!

Photo 10: A happy processing team after making such a good catch at Duck Bay (by Roger Richards)



Day 7: 28-Mar-19

Some catches might not be as easy as the one the day before but are very much worth waiting for. The team spent more than 2 hours to twinkle birds into the catching areas with 2 nets set around Currie (at the harbour and at Burgess Bay). Despite some critical mistakes including not having a firing box at the net (!), the team made 2 wonderful small catches of 11 and 15 birds which included 6 and 3 old geolocators respectively!

Day 8: 29-Mar-19

With bad weather forecasted, the team decided to head to Porky Beach. It doesn't take too long for the team to identify a hot spot for setting the net, but it took a lot of twinkling effort in wind and rain to bring birds back on the beach. As the Oystercatchers and Chestnut Teals started feeding in front of the net in late afternoon, the Turnstones finally decided it was safe to go in the catching area. We made a good catch of 25 Turnstones with an old geocator retrieved as the rain and cold front arrived. The team was privileged to be able to process the birds on the veranda of the Turnstone House, which might be the team's accommodation for the next trip. The birds were welcomed by the owner of the house, David Looker, and his family.

Photo 11: David's granddaughter learning how to band a Turnstone (by Roger Richards)



Day 9: 30-Mar-19

After waving 3 of the team members goodbye, the team head to the last available catching site for the trip: Dripping Wells. After setting the net, the team soon found that the Turnstones might have had a good feed during the day and was reluctant to come ashore even when the tide started to reach them on the rocks where they were roosting. Three hours passed with 48 Turnstones once getting close but behind the catching area to feed, the team retreated with the hope to try again the next morning.

Photo 11: The team worked from dawn to dusk was often rewarded with beautiful sunsets (by Katherine Leung)



Day 10: 31-Mar-19

The last morning in the field is a tug-of-war between the team and the Turnstones. As no birds were found in the bay where the net was left the day before. The team set another net at a smaller bay at Dripping Wells which the Turnstones were constantly using the day before. It didn't take too much effort to twinkle the birds into the bay, however, the flock of 21 birds was actively feeding whole morning on every bit of kelp in that bay, including the camouflage that was put on the net. Therefore, it has taken more than an hour before we can safely fire the net on 14 birds, including a white geolocator. Unfortunately, for the first time in the whole trip, the strong wind held up 2/3 of the net and the majority of the birds escape. The final catch was only 4 birds.

## VWSG papers and presentations of interest

Roz Jessop and Jeff Campbell

C. Minton, R. Atkinson, K. Leung and R. Patrick. 2018. VWSG King Island trip (17-26 March 2018). Stilt 72: 56-61.

C. Minton, R. Jessop, C. Hassell, R. Patrick, R. Atkinson and I. Marks. 2018. Wader breeding success in the 2017 Arctic Summer, based on juvenile ratios of birds which spend the non-breeding season in Australia. Stilt 72: 62-65.

C. Minton, R. Jessop, C. Hassell, R. Patrick, R. Atkinson and I. Marks. 2018. Wader breeding success in the 2018 Arctic Summer, based on juvenile ratios of birds which spend the non-breeding season in Australia. Stilt in press.

Wille M, Eden J-S, Shi M, Klaassen M, Hurt AC, Holmes EC. Virus–virus interactions and host ecology are associated with RNA virome structure in wild birds. Mol Ecol. 2018; 27:5263–5278. <https://doi.org/10.1111/mec.14918>.

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Available at:

[https://www.vwsg.org.au/vwsg\\_publications.html](https://www.vwsg.org.au/vwsg_publications.html)

## **Australasian Shorebird Conference Hobart 2018**

Assessing the shorebird habitat on King Island using a range of information sources

Margaret Bennett, BirdLife Tasmania, King Island

King Island, on the extreme western edge of Bass Strait, is near to the southernmost extent of the East Asian - Australasian Flyway. Overall, a decrease in migratory and resident shorebirds has occurred on the island; however, this can be difficult to quantify as the records, post-settlement in 1888, are highly variable. Some initial counts were made c.1970 and then from 1980 on, but there are significant gaps in the available data. To identify the role of the island's habitats are a reason for the observed decreases, I sought information from long term residents, local industry involved with kelp harvesting and PWS rangers. An assessment of the information indicates that the island's various shorebird foraging habitats are unlikely to be responsible for the observed decreases on the island. However, there are several local threats involving humans and feral animals that require more management and control to minimise their effects on the remaining shorebird populations.

Insights from geolocator studies in Australia, 2009 – 2017

Ken Gosbell<sup>1</sup>, Clive Minton<sup>1</sup>, Simeon Lisovski<sup>2</sup>, Maureen Christie<sup>3</sup>, Chris Hassell<sup>4</sup>, Marcel Klaassen<sup>5</sup>  
<sup>1</sup> Victorian Wader Study Group, Australasian Wader Studies Group  
<sup>2</sup> Victorian Wader Study Group and Swiss Ornithological Institute  
<sup>3</sup> Victorian Wader Study Group, FoSSE, Carpenter Rocks, SA  
<sup>4</sup> Global Flyway Network, Broome, WA  
<sup>5</sup> Centre for Integrative Ecology, School of Life and Environmental Sciences, Deakin University

Australia was one of the first countries to utilise light-level geolocators for tracking the movements of migratory shorebirds. Since 2009, we have deployed these instruments on a range of species at nonbreeding locations around the country. This extensive program has gathered a wealth of information on the movements of nine of Australia's long-distance migratory species. The migratory tracks obtained, including an increasing number of multi-year tracks, allowed us to detail routes and strategies used along the East-Asian Australasian Flyway. Critically, this information has contributed to understanding the relative importance of stopover sites along the flyway - fundamental to developing conservation strategies. More recent studies have enabled assessment of breeding locations and incubation strategies, many of which were unknown given the remote, low density breeding sites used by these species. These insights have informed conservation measures flyway-wide and on a local scale. Recognising the constraints of light-level geolocators we go on to discuss the possible future use of light-level geolocation.

## Ruddy Turnstones in times of change

Marcel Klaassen, Bethany Hoye, Jamie Willey, Ken Gosbell, Margaret Bennett, Meijuan Zhao, Michelle Wille, Penny Johns, Rob Patrick, Robyn Atkinson, Simeon Lisovski, Veerle Jaspers and Clive Minton

A range of global change processes are impacting migratory shorebirds. Starting 2006, Ruddy Turnstones (*Arenaria interpres*) spending the non-breeding season on King island, Tasmania, have been studied intensively by the Victorian Wader Study Group, with support from various international research institutes. Using banding, biometric, blood, cloacal and oropharyngeal swab, and geolocator data, we evaluate the potential threats that rapid Arctic climate change, habitat destruction, pollution and exposure to novel diseases pose to Ruddy Turnstones. The bottom line is that these threats are real and do impact the turnstones in a myriad of ways. However, at the population level the King Island Ruddy Turnstones are apparently still hanging on and are (not yet) being overstretched. At least in part, this result may be due to rapid evolutionary change.

## Migration phenology and stopover site use of SE Australian Ruddy Turnstones – a multi-population assessment using a network analysis approach

Meijuan Zhao, Robyn Atkinson, Margaret Bennett, Maureen Christie, Ken Gosbell, Penny Johns, Marcel Klaassen, Simeon Lisovski, Clive Minton, Rob Patrick and Bethany Hoye

Identification of the chain of stopover sites along the migration route and the migratory timing are important to evaluate the constraints migrants face and to guide their conservation. We obtained Australasian Shorebird Conference, Hobart Tasmania, October 2018. Page 19 individual tracks of Ruddy Turnstones (*Arenaria interpres*) from three non-breeding (i.e. wintering) populations in south-east Australia. From which, we evaluated the interconnectedness of the chain of stopover sites along the East Asian-Australasian Flyway using network analysis and built a comprehensive understanding of these populations' migratory timing, for both pre- and post-breeding migration separately. We identified a chain of key stopover sites of which the importance of some had previously been underestimated. Notably the southern East Asian coast (mainly along the Taiwan and Fujian coast) connects a high number of other stopovers during pre-breeding migration, indicating that habitat loss at this site would pose a high site constraint for migration. The synchronisation in space and timing use was more pronounced during pre- compared to post-breeding migration, indicating Ruddy Turnstones are under higher time constraint on their way towards the breeding grounds. Although mixed at the breeding grounds and staying there over a similar time period, the three wintering populations significantly differed in migration timing and stopover site use. Our study thus emphasizes that even at relatively small spatial scales (here in terms of distances between nonbreeding populations) patterns of migratory connectivity may exist, with each population exhibiting unique migration patterns, potentially requiring different conservation efforts. Such conservation efforts targeting endangered non-breeding and stopover sites should notably be considered for sites used during migration towards the breeding grounds since little tolerance in alternative timing and site use is allowed during this period.

## **Australasian Ornithological Congress Darwin July 2019**

Carry-over effects of non-breeding and migration conditions on breeding success in Ruddy Turnstones

Gosbell, K, Minton, C, Klaassen, M, Lisovski, S. Victorian Wader Study Group.  
[ken@gosbell.id.au](mailto:ken@gosbell.id.au)

A range of global change processes are impacting migratory shorebirds. Along the East Asian Australasian Flyway, habitat destruction and deterioration are considered important factors in many shorebird population's demise. How conditions along the migratory flyway impact breeding and recruitment has been much addressed but thus far poorly quantified. We use a collection of more than 50 full-year geolocator registrations of Arctic-breeding Ruddy Turnstones (*Arenaria interpres*) spending the non-breeding season on King island, Tasmania, to evaluate the carry-over effects of non-breeding and migratory conditions on breeding success. Geolocators not only provide movement information but may also provide information on incubation and brooding behaviour, the light-registering geolocator being covered during incubation and brooding bouts. Using geolocator derived incubation and brooding information as a proxy for breeding success we will present correlates of non-breeding and migratory behaviour with breeding success.

Carry-over effects of non-breeding and migration conditions on breeding success in Ruddy Turnstones

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Factors affecting RNA virus diversity in wild birds Wille, M, Shi, M, Eden, J-S, Klaassen, M, Hurt, A, Holmes E.

WHO Collaborating Centre for Reference and Research on Influenza, The Peter Doherty Institute for Infection and Immunity, Melbourne, VIC 3000.

[Michelle.wille@influenzacentre.org](mailto:Michelle.wille@influenzacentre.org)

One in ten bird species can be found in Australia, yet we have little understanding of the accompanying diversity of parasites, microbes or viruses in these animals. Furthermore, we know little of the factors that drive the large scale ecological patterns of these microbes. We

used bulk RNA sequencing to reveal the viral communities of Anseriformes (ducks) and Charadriiformes (shorebirds) in two ecotypes in Australia. In this study we revealed the presences of 27 RNA virus genomes, 18 of which represent novel viral species. The viruses identified included a previously described gammacoronavirus and influenza A viruses. Additionally, we identified novel virus species from the families Astroviridae, Caliciviridae, Reoviridae, Rhabdoviridae, Picobirnaviridae, and Picornaviridae. We noted differences in virome structure that reflected underlying differences in location and influenza A infection status. Red-necked Avocets (*Recurvirostra novaehollandiae*) from Australia's arid interior possessed the greatest viral diversity and abundance, markedly higher than individuals sampled in temperate Australia. In Ruddy Turnstones (*Arenaria interpres*) and dabbling ducks (*Anas* spp.) viral abundance and diversity was higher and more similar in hosts that were positive for influenza A infection compared to those that were negative for this virus, despite samples being collected on the same day and from the same location. This study highlights the extent and diversity of RNA viruses in wild birds and lays the foundation for understanding the factors that determine virome structure in wild populations.

### **Beach Nesting Birds Conference Inverloch May 2019**

Review of 40 years of VWSG studies of wintering Pied Oystercatcher flocking groups.

Standen, R, Klaassen, M, Minton, C, Jessop, R. Victorian Wader Study Group

[chairvwsq@gmail.com](mailto:chairvwsq@gmail.com)

40 years of data gathered by the Victorian Wader Study Group was presented by Rog Standen, Chair VWSG and supported by analysis completed by co-author Marcel Klaassen from Deakin University. The field process used was to catch birds at their high tide non-breeding flocking sites with cannon nets. Birds have been individually marked for decades, starting with colour band combinations and since 2003, with engraved leg flags. A lot of detailed analysis has been done on the movement of individual birds over the years, looking for patterns and changes over time. The raw data was tabulated and presented in graphic format demonstrating the proportions of populations moving from one site to another, comparing one area with another and looking for differences between the sexes. It seems that pied oystercatchers are doing ok but, with high tides responsible for most lost nests in Mortimer Bay, Tasmania in 1982/3 and 1989/90 (Newman 1992), and climate change likely to exacerbate high tides, perhaps Pied Oystercatchers will need to generate a new nest building technique to survive.

## **VWSG Scientific Advisory Committee Research priority review, July 31, 2019.**

**Danny Rogers, Chair SAC  
Roger Standen, Chair VWSG**

### **Background:**

The long-term objectives for the VWSG can be summarised as being to gather comprehensive data (essentially through planned fieldwork based around cannon netting) to be used for shorebird conservation and education in the East Asian- Australasian Flyway.

In seeking to meet these objectives, the VWSG must continually plan their catching program, and current members who are doing this have requested guidance on a good scientific argument for what we should be doing in the field. Historically the VWSG has been a group that has caught a wide range of species, banded, measured biometrics and marked them. Also, when the flagging of Red-necked Stint was considered over a year ago, there was comment on the need for a strategic review of the whole program. Therefore, this review has been primarily driven by three things:

1. The ability to maintain a moral license to capture and mark birds is dependent on being able to clearly explain what we are seeking to answer by doing what we are doing.
2. The group has also been facing increasing difficulties with maintaining the extensive catching program (team leaders to lead catches, building teams for some catches as well as equipment management pre and post catches) that has also meant we need to be sure we are asking people to do priority work.
3. The changing priorities of conservation issues relating to migratory shorebirds. For example, the huge policy shifts of the governments of China and Republic of Korea over the last 2 years and the impacts of a changing climate on migrant shorebirds.

The goals of the group should also align with the Federal Government's Wildlife Conservation Plan for Migratory shorebirds (see Attachment 1 for relevant extracts) where there is general alignment with VWSG's research program, particularly actions like:

- "Action 3.7. Encourage research on reproduction and survival rates of migratory shorebirds and trends of these over time".

The Migratory Shorebird Conservation Action Plan (Oct 2017) of Birdlife Australia (Relevant extracts from this report are included in Attachment 2) shows little direct direction for VWSG in its pursuit of understanding wader ecology to guide the current review.

The aim is to utilise the best science to achieve the best conservation outcomes for the birds.

The two main drivers of VWSG research have been to understand migratory routes and stopover sites and understanding population dynamics. A great deal has been learned about migration routes through the VWSG program, but there is still much to learn. There has been an increasing emphasis on understanding population dynamics in more recent times, in particular on collection of data enabling an understanding of population changes and what contributes to them (recruitment, adult survival or both?). Shorebird counts are a necessary component and the VWSG has assumed that this program, run by Shorebirds 2020, will continue. It may be prudent for the VWSG to suggest a review of the Victorian Shorebird 2020 program to identify any key missing sites.

The paper is structured to address the three main groups of birds that have been a core part of the VWSG program over the past 40 years:

- Migratory waders
- Resident waders
- Terns

Each area reflects on the existing/past program, what the main elements have been for the research and identifies where the future priorities should lie.

This document does not define the annual field program but sets the argument for the priorities of activities based on current science. These will provide a basic generic program that may then, combined with other needs such as training, education and team maintenance be added to for a final annual field program.

## **Migratory waders**

The VWSG started out 40 years ago with a genuine curiosity about how the shorebird populations functioned. Where did they migrate to and through? What staging sites were used? What was their typical recruitment (juvenile %) and survival and how did it vary over species and time (given that conditions in the Arctic were, and still are, highly variable)? In the meantime, other questions have emerged that are related to dwindling shorebird numbers in a steadily broadening array of species. What is now urgently needed is a good monitoring program focusing on annual figures for recruitment and survival.

### **A      *Percentage Juvenile:***

Much VWSG effort goes into catching annual samples of several species to assess the percentage of juveniles. There is good reason to consider these age ratios to be directly related to annual breeding success. It is a unique dataset; age ratios have not been monitored in such a systematic way, for such a long time, in any other shorebird site in the world. In combination with annual population counts (which have been collected in Victoria since at least 1980) and annual survival estimates (which can be estimated for several Victorian species) the annual age estimates offer the potential for very powerful population monitoring: not only documenting what is happening to populations, but really understanding what drives the changes. Annual age ratio estimates are also of potential value in conservation management, helping wetland managers to assess whether count fluctuations at their sites are driven by broadscale population changes, or local habitat conditions that might be improved with local management action. Age ratio monitoring is an underutilised area of our data to date. Analysis lags behind data collection, and while we are gradually getting there, like other areas of the VWSG work, more analyses and publications need to be fostered and encouraged.

There is not a straightforward relationship between population counts, percentage juvenile (linked to breeding success) and adult survival. Suffice to say it is complex, and there is a need to drill more deeply into the data to understand it better.

A side-benefit of this program is that it has involved catching large samples (262,003 birds caught to December 2017) that are also useful for other purposes. This has included deploying 113,600 flags (which has been important in documenting migration routes), and long-term collection of biometrics that are valuable to monitor whether changes might occur as a response to global warming or other habitat changes. For example, a recent analysis of Ruddy Turnstone data by Marcel Klaassen and his Deakin team has shown that this species has become smaller over time. Another recent analysis by Danny Rogers and Greg Parry

shows that weights of Red-necked Stints and Curlew Sandpipers decline during neap tides (highlighting the importance of supratidal foraging habitat in conservation ponds), while weights of Sharp-tailed Sandpipers at the WTP decreased following a change in sewage-treatment practices. More detailed analyses (as part of an ARC linkage project at Deakin University, and as a chapter in Amanda Lilleyman's PhD) are underway or in the pipeline.

VSWG catching effort to monitor age ratios has long been based around attempts to measure age ratio each year for selected species. While this is desirable, it is worth bearing in mind that age ratio data can be valuable even if it is only possible to obtain adequate samples in some years rather than all years. Patchy data of this kind could for example be used to assess long term trends in age ratios, even if the capacity to interpret yearly fluctuations in counts is lost. Similarly, changes in biometrics over the years can be assessed in species in which are only captured irregularly. We therefore do not advocate abandoning collecting data on age ratios and biometrics on uncommonly captured species if the opportunity arises, but we do seek to prioritise species for focused work on age ratios.

At present, field programs have been scheduled by the VWSG in an attempt to get a sample of birds for assessment of percentage juveniles for at least the following species:

- (1) Red-necked Stint
- (1) Curlew Sandpiper
- (1) Sharp-tailed Sandpiper
- (1-2) Ruddy Turnstone
- (2) Bar-tailed Godwit
- (3) Sanderling
- (4) Red Knot

Priorities for each species are indicated in brackets based on scientific value and likelihood of achieving a credible outcome, with some notes on each below:

- Red-necked Stint, Curlew and Sharp-tailed Sandpipers remain the highest priority due to the long-term database that exists for them and because catching the required number of birds to make a good estimate of annual age ratios is achievable. Previous analyses have demonstrated that there is a link between age ratios and population trends in Red-necked Stints and Curlew Sandpipers – i.e. we can be confident that the data means something important. Sharp-tailed Sandpipers are more puzzling due to the change in their behaviour in dry or wet seasons in the interior of Australia resulting in sometimes vastly different numbers coming to the coast, potentially affecting the age ratios as well. This last season showed the highest percentage juveniles in Sharpies at Werribee that while a bit of a surprise to arctic researchers monitoring a few breeding sites, correlated with the highest counts seen at Werribee, so it is important to try and continue this monitoring to better understand the overall recruitment to this species and to help explain the wide variation in counts.
- Ruddy Turnstone are caught mainly at King Island and SA; they seem to breed in similar areas and follow similar migration routes, although their departure times are slightly different, with King Island birds leaving earlier than SA. Studies of the geolocator results from different sites shows a mixing of birds across the arctic breeding region. If resources become too limited to catch Turnstone at both sites, it may be possible to catch enough birds for annual estimation of annual age ratios at just one of the two sites. An additional reason for prioritising Ruddy Turnstone is that there they are a focus of a research program at Deakin University – with great support in data-handling, analysis and publication. Demographic studies strongly



complement the intensive ongoing geolocator work at Deakin University and will likely lead to insights we can get from no other shorebird species.

- Catching sufficient Bar-tailed Godwit to estimate annual age ratios remains achievable for the time being. It should be noted that the species is relatively easy to age in the field with telescope views through November and well into December. Assessing age ratios in the field without actually catching birds is therefore achievable, and this may provide an alternative to catching to gain the percentage juvenile information. With one or two people trained to separate them these could be assessed at Westernport and Corner Inlet over October/November each year. If this approach were to be followed it would be desirable to collect age ratio data using both approaches for several years to check and ensure that the methods are comparable.
- Sanderling have become extremely difficult to catch and getting viable numbers has proven unachievable in recent years. The population is so mobile along Discovery Bay to Nora Creina that it is not always possible to locate the flock. Added to that, catching sites that were good sources of numbers in the past have become too difficult to catch on and will no longer be considered for catching in the future.
- Red Knots are difficult to catch reliably in sufficient numbers to estimate age ratios: the Victorian population is now quite small, not particularly site faithful, and largely occurs in Corner Inlet, where logistics only allow a small number of catch attempts annually. Moreover, given the pattern of transfer to NZ, the very high age ratios observed in Victorian catches cannot be considered particularly direct measures of breeding productivity. Potentially, an analysis of red knot data in Victoria compared to NZ and the NWA-GFN data might reveal if there are any insights to the data we've collected that warrants continued efforts to collect it. It is possible that what is done in NZ and elsewhere might be more than sufficient to continue answering questions about this species.

Any other migratory waders may be caught as the opportunity arises (e.g. Double-banded Plover, especially in the past when there was a concerted effort to understand more about this species. This existing data needs to be reviewed (and published) to see what questions remain, before starting another concerted effort on this species).

A target for the numbers of species to be caught has been approached by Marcel Klaassen with a hypergeometric model framework that when used with a juvenile fraction error range of 0.1-0.15, shows the numbers targeted to be between 100-220 birds (refer to Figure 1 below).

In relation to the number of sites needed for collecting percentage juvenile samples, it will vary depending on how widespread the species is. With Bar-tailed Godwit being largely constrained to three sites, getting one of the three sites measured should suffice. With a widespread species like Red-necked Stint and with a broad assessment of poor, moderate and good years, the specific locations are not so important as getting a sample across the area for percentage juvenile.

The consequence of not achieving the percentage juvenile assessments is that it makes it difficult to understand why count numbers go up or down over time. The effect of changing recruitment on population counts would not be known.

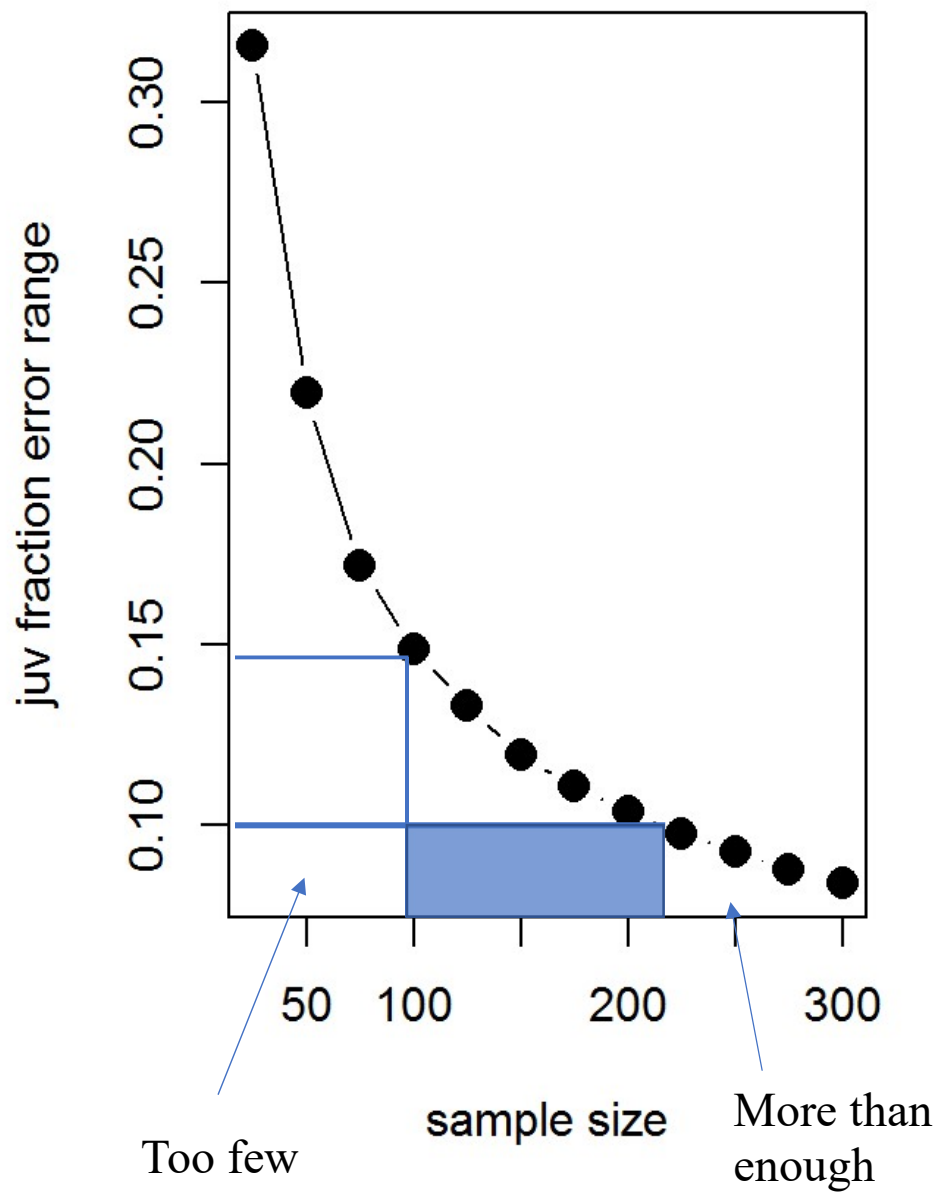


Figure 1 Target sample size for age ratios

## **B      *Survival analysis***

Survival analysis tells the probability of a bird being alive from one year to the next. Survival can be assessed at different age classes, but the VWSG is primarily seeking to understand adult survival. An annual survival rate of 0.8, or 80% means each year, eight out of ten surviving birds should be alive the next year. There is a difference between apparent survival and true survival. At present we can only calculate apparent survival because we do not study all potential sites where birds could move to and are therefore likely to miss some birds that are alive, but not reported. True survival requires a more complete study of potential sites where birds of a population are likely to be found so that there is confidence that all deaths and emigrations are noted. While estimates of true survival currently seem highly ambitious target for the VWSG, we note that if we are to get to that point, we will need resighting data outside the catching areas: the engraved leg-flagging program would be crucial for this.

Catching for age ratios (as in A above) will generally cover band/recapture data for survival analysis so often would not involve additional catches to those made for percentage juveniles. However, whilst catching for percentage juvenile can be made from accumulating a sample of birds across the main catching areas, for the data to be useful for survival analysis, due to the site faithfulness of many species and the rationale for estimating survival, each location that is included in survival analysis requires the maintenance of catches at that site or band/recapture analysis. This can then determine priorities for sites as well as species. Survival analysis for Ruddy Turnstone has been assessed at a couple of locations and Marcel has established a process to analyse and update survival analyses for all our main species. The long-term objective is to write programs that can be run each year for annual updates of survival.

Increased resighting effort is needed to enhance survival estimates. For example, with godwits from Rhyll there needs more effort to read and monitor the ELFs in Western Port and Corner Inlet. A more consistent effort of resighting at the same locations, with consistent observers is needed to make the data useful in estimating survival. Stronger links with the Shorebird 2020 program could assist this process. The number of flags deployed is not the limiting factor, rather the number of flags resighted (directly related to the effort to look for resightings). The more flags deployed, the more sightings will come in, but the survival analysis relates to the relative number of sightings to flags deployed.

Overall, to achieve good estimates of survival, the focus should be on a few key catching sites only. To narrow this down requires an assessment of each species by site to see what numbers have been caught over time. Therefore, VWSG should maintain effort on what we have managed up to now, but only for the species and sites where we have good samples from the past. This data will be further analysed to refine these target sites.

## **C      *Geolocator studies***

The drivers behind geolocators has been varied and includes understanding migration routes, stopovers, breeding sites and success and disease monitoring. The results have been exciting, valuable and have both confirmed knowledge gleaned from flag sightings and recoveries, plus added much additional, sometimes contrasting knowledge.

Further geolocator studies would:

- a) complete our knowledge of Red-necked Stint and Curlew Sandpiper migration, stopovers, breeding sites and incubation. Hopefully this will be well answered if we

can retrieve a reasonable number of geolocators from both species at Yallock Creek in the 2019/20 austral summer.

- b) continue the longitudinal study of Ruddy Turnstone at the King Island sites. These provide one of the only opportunities in Australia to monitor changes in timing or tracks/stopovers and breeding characteristics as a result of climate change and habitat change. The impacts of restricting catching at King Island to one visit per season would probably be acceptable for geocator deployment and attachment, especially if they could be supplemented by resighting attempts (for demography work) at other times of year. However, making two King Island expeditions annually has been important for the collection of the data on disease and pollution, which are being compared with the geocator data to improve understanding of threats in this flyway.

There are no other species that are practical to retrieve geolocators from. There is a question remaining about the virtues of continuing with the SA geocator program: though it has been extremely valuable in the past (e.g. for documenting departure dates and the risk of overlap with kelp harvesting), the program on King Island now provides an excellent flow of geocator tracks from birds with similar migration routes.

Ken Gosbell drafted a short paper outlining the geocator situation (Attachment 1).

#### **D      *Transmitter studies***

Satellite transmitters are an exciting research tool. They offer the prospect of discovering the migration routes of shorebirds very directly, with no biases caused by distribution of active birdwatchers, no need to recapture birds, or to make large catches. However, they have traditionally been too large for deployment on most shorebird species, and too expensive for regular use by a small NGO.

Times are changing. Transmitters are getting smaller and cheaper; moreover, gps precision is also becoming a prospect, at least for larger species, opening up lots of questions about habitat use in addition to migration questions. Still, it remains an expensive technique, and realistically the VWSG can only be involved with substantial transmitter studies in partnership with funded research projects (usually university-based).

Due to the considerable costs involved, this area of research is not a priority for the VWSG at this time. However, developing a list of priority species for each size of transmitter would be prudent to enable rapid response to any potential funding opportunities that arise in the future. At this stage, the list may comprise Pacific Golden Plover, Greenshank and Whimbrel.

Along with suitable species, it will also be prudent to look at this from a site perspective. For each species that becomes a realistic option for transmitter deployment, the relative importance of sites will also influence where they are deployed. Will we need local habitat use studies more in a fairly remote site like Corner Inlet, or one where there are lots of people and limited habitat like the west side of Port Phillip Bay?

#### **E      *Biometrics and moult***

There is a huge bank of data on the biometrics and moult of a wide range of species, much of which has been published in a descriptive manner (though some species have slipped through the cracks, and many species have not been analysed for decades). However, analysis does not need to just be descriptive (e.g. describing size ranges of sexes, identifying the origins of the birds we catch); it can also inform on whether there have been changes in phenology or physical changes over time that may match environmental

changes, as has recently been demonstrated by Marcel with an analysis of Ruddy Turnstone data. These changes can be very small and to pick them up requires models to be run over time, requiring data to be available each year where possible, rather than looking at a two-point comparison that would be much less convincing evidence of a change.

The upper limit to number of birds targeted for biometric purposes are 150- 200 adults for sexually dimorphic species and 50-100 for species like plovers in which sexes are similar in size. Also, some level of maintaining biometric recording is required to maintain the expertise within the group. Opportunities to take biometrics (when teams are large relative to birds caught) may be taken for training purposes, if inexperienced members need the experience.

A methodical approach to ensuring the existing and future biometric data becomes analysed and published, needs to be developed. It has been suggested that some documented work should be done on standardising measurements (making sure some birds are measured by more than 1 "bander" to create a database that can be used to calculate variations and correction factors).

Key biometrics to record are head-bill length, bill length, wing length, weight, primary moult and % breeding plumage.

More information relating to biometrics may result from the analyses underway in the framework of an ARC project led by Matthew Symonds from Deakin, which is looking at changes in size of extremities in birds (focused on bill length and tarsus). This analysis should also reveal whether it is necessary for us to continue measuring both Head-bill and Bill (which are usually closely correlated).

## **Resident waders**

Apart from oystercatchers, all other resident waders have tended to be caught when either they are in catchable locations in numbers, higher priorities have not been able to be caught and attention has turned to the residents or they are caught as a by-catch.

Red-necked Avocet and Oystercatchers are the only resident species that lend themselves to a targeted cannon-net approach. However, the recent analysis of 40 years of Pied Oystercatcher data suggests:

- There is likely to be little scientific argument for continuing to catch Pied Oystercatchers for knowledge of movement from flocking groups.
- Survival analysis is seen by some to be of less than optimal value due to the limitation that some adult birds do not return to the flocking groups once they move out to breeding territories. Mark-recapture studies thus result in estimates of apparent annual survival which may fall substantially short of true survival – though this could be mitigated by more systematic effort to resight engraved leg flags. Ideally, a concerted effort to get out to do a comprehensive survey of breeding sites to pick up all marked birds that can be found is needed to improve our understanding of true survival. This is something that would take considerable logistics and energy – it would be logical to do this in partnership with the beach-nesting projects of Birdlife Australia. Whilst it could be considered it needs to be done in the next year or two while plenty of marked birds remain. In the absence of such a survey, the calculated annual adult survival rate of 88% is very sound (meaning credible and a good result for the oystercatchers).
- there may be value in making a couple of catches within one region to provide a base monitoring of the survival of a species with a fairly small population which lives in a region where there are many anthropogenic threats. It would also help to

maintain the expertise of members in how to age oystercatchers as some insurance against an unexpected need to rekindle that catch program.

The Beach-nesting Birds project through Birdlife Australia is putting more resources into oystercatchers with their production of beach nesting signs etc. and remaining questions about them possibly best reside with that program (not been discussed with them as yet).

From a conservation perspective, resident waders are considered to be lower priority than migratory waders (in terms of threats to populations). But we know less about them than we know about migratory species. The VWSG has a significant database on moult of resident species that could be valuable to others when assessing the life history of these birds. Unlike migratory species, resident species can moult during breeding that can bring complications to understanding this aspect of their life and how they contend with wide-ranging climatic conditions across regions and seasons.

Breeding ecology studies of Hooded Plover, Red-capped Plover and Masked Lapwing have been undertaken by Deakin University. Further work is intended for Black-fronted Plover, Red-kneed Dotterel, Inland Dotterel, Pied Stilt and Red-necked Avocet. Breeding ecology of oystercatchers is planned for the next few years between Deakin and BNB program.

Therefore, it is recommended that VWSG meet with Mike Weston from Deakin and the BNB program to clarify how the beach nesting bird element of the VWSG program is best approached in the future.

## **Terns**

What are the questions relating to Terns in Victoria that we should be addressing? Currently we include the following in our program:

Crested\* – long-term breeding monitoring at Mud Islands, the Nobbies and Corner Inlet. Banding of chicks.

Caspian# – long-term breeding monitoring at Mud Islands and Corner Inlet. Banding and flagging chicks.

Whiskered~ – intermittent catches of adults.

Gull-billed - intermittent catches of adults.

Fairy@ - rare catches of adults and banding of chicks when found breeding.

Little – rare catches of adults and banding of chicks when found breeding.

Common Tern – rare catches of adults.

\*Jess Radford (student with Marcel) is currently analysing Crested Tern data that has shown strong annual adult survival rates and essentially a strong and robust population. There have been fascinating movements registered by this species (e.g. turning to King Island when conditions were not suitable for breeding along the mainland). Other reasons to continue with this program of banding chicks include (1) The marine environment in Bass Strait changes significantly with Seas Surface Temperatures on the increase; (2) There seems to be a negative effect of high SST; (3) Crested Terns show similar annual fluctuations in breeding success to Gannets and Penguins; (4) The crested tern project is one of the longest running in Bass Strait; (5) Different colonies may show contrasting annual patterns in



numbers; the fact that the project targets multiple colonies simultaneously makes it a unique seabird monitoring project in Bass Strait.

# An initial analysis has been made for Caspian Terns but needs further work and should be conducted prior to changing the catching program for this species.

~ Whiskered Terns may parallel Gull-billed and Roseate Terns, with a breeding Australian population and a migratory population from Asian breeding grounds. However, there is a very low recovery rate from this species. There is no obvious conservation argument to raise the priority on Whiskered Terns at present (they are sometimes captured opportunistically but they are not a priority for the catching program). Before considering a change in the future, it needs a champion to explore the existing data (checking moults and timing etc). They remain a bit of a mystery with their movement and moult cycles.

@ a program focused on Fairy Terns has commenced under BLA auspice and unless they needed our cannon-netting expertise, this species is probably best left to that program.

Terns are lower priority than the waders if it came to resources having to be diverted to one or the other.

### **Assisting universities and other centres of research**

There are occasional opportunities to provide samples for a range of other studies that are generally no more demanding than our regular program. If these requests require additional resourcing (people power is the main one), unless it seems to be likely that the request will directly impact on an existing planned catch/es, we should encourage such partnerships, with an expectation that resources will be provided to cover the additional work associated with those studies. A clear example this year was transmitters on Eastern Curlew with Amanda Lilleyman and the Threatened Species Recovery Hub.

Opportunities to assist university researchers are far more common than they used to be. Before 2000 shorebird research was largely driven by non-government organisations such as the VWSG; a few academics worked on shorebirds, but they usually had to do so in isolation. Now shorebirds have far greater recognition in academia and there are even universities (especially Deakin and University of Queensland) with groups of shorebird workers addressing important questions that are far beyond the capacity of NGO's. Collaborations with universities have been a highlight of shorebird research in Australia over the past decade or two, a situation we would like to continue.

Collaborations with universities have been genuine partnerships. The universities bring in lots of skills in analysis, theoretical context and capacity to expose shorebird research to both government and public, not to mention energetic students and funding support. The VWSG contributes deep field-based knowledge of our shorebirds, and above all, a skilled and enthusiastic catching team essential to many research projects. Maintaining the capacity of this team so that shorebird research involving the capture of shorebirds can continue into the future should be considered in working out future plans for the group.

The importance of maintaining capacity should not be underestimated. In ecological academia in general there is some concern about the loss of natural history knowledge which underpins more detailed ecological research. This is driven by a shift in research funding priorities to using existing data or generating large scale datasets through remote methods; smaller scale detailed field studies are increasingly difficult to fund. It is also increasingly difficult for students to linger over their PhD theses: they have limited time to produce publications in competitive journals, and it is getting harder for them to do so much

field work and natural history observation. Community groups like the VWSG may become increasingly important over time as a refuge of natural history and field-based knowledge.

## **Other matters**

There are possible practical considerations to changing the catching program that may need to be addressed depending on the outcomes of what our priorities should be. These should not influence the scientific review but may alter the way the VWSG implement the priorities. They include:

1. How we are to maintain the expertise within the group if intermittent catches are deemed appropriate (e.g. ageing of oystercatchers)? Documentation of wing moult and description of birds of different ages at different times of the year is underway. New ways to present this are being investigated by Marcel, using the raw biometric and moult data within the existing database. These aids will be very important, but field skills to interpret these are still necessary to maintain or the calibre of the data gathered on intermittent studies could deteriorate.
2. If an alternate method to cannon-netting was to be pursued (e.g. to assess percentage juvenile in some species), ideally there would need to be a duplication of processes to enable a correlation to be established so that the long-term dataset was extended, rather than having two completely separate data sets.
3. An increased effort on reading flags in the field is needed, has been talked about for a few years, and needs to be acted on with some energy as a priority. This may bring additional people into the VWSG who may otherwise not have become involved, to strengthen the group, but may potentially compete with some catching team availability. This is premised by having the continual deployment of flags in the program that is monitoring recruitment and survival, and focused on those areas where survival studies are a key element.
4. The opportunity for VWSG to be a key provider of training new banders (as it does to some extent now) feeds into helping the next generations of shorebird ecologists/conservationists. VWSG are encouraged to document the level and manner of training undertaken to strengthen the legitimacy of this element of the field work program.
5. The publication of the VWSG work raises one of the most difficult and most critical issues for the group. The outcomes of all the work undertaken by the group can really only be used for scientific or conservation purposes once it is analysed and published in peer reviewed journals. While we have been instrumental in publishing a large volume of work over the last 30+ years (thanks in greater part to Clive leading and cajoling), there remains a large backlog. We have gathered one of the largest shorebird databases in the world over almost 40 years comprising banding, biometrics, flag sightings and more recently, geolocators and satellite transmitter studies. On a purely ethical basis we owe it to the birds to get the key information out there to be used for scientific, education and conservation purposes. However, in recent times Deakin students have been tackling more elements of the data and Marcel's recent development of the webhosting of the databases and associated showcasing of some of the elements of the data (still a work in progress) will lead to further interest from others in using the data to produce publications so there is light at the end of the tunnel. It is recommended that a list of potential analyses be developed (refine existing lists) and opportunities be actively pursued

## **Recommendations**

Breaking 'long-term' studies is anathema to researchers, which is understandable. However, the VWSG does need to know there is a justifiable research reason to do what they are

doing. The broad outcomes of this review are summarized into the following recommendations:

1. The core activities should be collecting data for population dynamics (age ratios and survival analysis) for targeted migratory waders.
2. Priority migratory species to target are:
  - (1) red-necked stint
  - (1) curlew sandpiper
  - (1) sharp-tailed sandpiper
  - (1-2) ruddy turnstone
  - (2) bar-tailed godwit
  - (3) sanderling
  - (4) red knot
3. Use of geolocators for long-term monitoring rather than one-off assessments of current situations with Ruddy Turnstone is a change that has been accepted as being valuable.
4. Resident waders and terns become a second priority, with the resident waders focused on nomadic species that are catchable at roosts, like Red-necked Avocet, plus a small study of oystercatchers to monitor survival and recruitment.
5. It is recommended that VWSG meet with Mike Weston from Deakin University and the BNB program to clarify how to move common elements of our program into the future research for these species.
6. Other projects that could be involved with the VWSG program where objectives align and resources are provided should be assessed on a case by case basis. A set of principles that underpin such discussions should be developed.
7. VWSG should consider approaching Shorebirds 2020 with a view to identifying any significant wader sites that are not currently counted that VWSG members may be able to adopt and count.
8. It is recommended that a list of potential analyses be developed (refine existing lists) and opportunities be actively pursued.

The following table was used as a means of setting out some of the parameters underlying the review that could guide the priorities.

Project		Location#	Achievable (1-5)	Multiple purpose	Conservation Value (1-5)	Likelihood of publication	Overall priority	comment
Migratory waders Age ratio Survival Movement Experience, training (1)	Red-necked Stint	WTP (1) WPort (1) *Swan Is (3) CI (3)	1	Survival Movement Change in biometrics	1	1-2~~	3.5	
	Sharp-tailed Sandpiper	“	1	“	2	1-2	4.5	
	Curlew Sandpiper	“	1	“	1	1-2~~	4.5	
	Ruddy Turnstone	KI (1) SA (1)(2?)	1	“	1	1	3	
	Bar-tailed Godwit	WPort (2) Swan Is (3) CI (1)(??)	3	“	2	2	7	
	Sanderling	SA	4	movement	2	2	8	
	Red Knot	Swan Is (2) CI (1)	3-4	movement	2	2	9	
	Double- banded Plover			Survival movement	2	5		Need to analyse existing Australian data from previous concentrated study before launching a new study
	Latham Snipe	Western Victoria and Canberra	1	Movement Survival biometrics	1	1	3	Only species mist-netted

Geolocator studies (2)								
	Red-necked Stint		2(1#)	movement	1	1	4	
	Sharp-tailed Sandpiper		5	“	1(???)	1	7	
	Curlew Sandpiper		1	“	1	1	3	
	Ruddy Turnstone	KI (1) SA (1-2?)	1	movement survival	1	1	3	
	Bar-tailed Godwit		5	movement	3	1	9	Expect transmitters will become small enough for godwit and this would be a better way to study movement (potentially there now at 5gm)
	Sanderling		3	“	3	1~	7	
	Red Knot		5	“	5	1	11	
Resident waders (3)								
Movement	Red-necked Avocet	WTP (3) WPort (1)	2	movement	1	?	4-5	Interesting story on movement already there to be analysed. More flagging likely to be rewarded with sightings
	Pied oystercatcher	WPort (1) CI (2)	1	movement survival	5	1	7-8	Considered more value to survival in WPort due to the potential to resight ELFs. Further movement studies only worthwhile if a different approach (e.g. GSM tags) can be used to find breeding areas.

	Sooty Oystercatcher	WPort (2) CI (1)	2	movement survival	5	2?	9	Needs analysis of existing data to give guidance on future
Terns (3)								
	Crested	Mud Is (1) Nobbies (2) CI (2)	1	Survival movement	2	1	4-5	
	Caspian	Mud Is (1) CI (2)	1	movement	3	2	6	There is an urgent need to analyse what we already have on this species.
	Sternula	Mud Is CI	3	movement	1	1	5	Leave to BLA unless cannon net needed. Opportunity catching
	Whiskered							Opportunity catching. May become a target if analysis indicates it is worthwhile
	Gull-billed							Opportunity catching

~already published

# some locations may be priorities due to logistics and success rate

\*Swan Island was a good roost in the past that was 'lost' when the beach became steeper. Now it has returned more to what it was like formally so may open it for catches again (limits due to military base may make things too difficult now).



## **Attachment 1 Wildlife Conservation Plan for Migratory Shorebirds 2015**

Objective ((287(2)(a))

The Objectives of the Wildlife Conservation Plan for Migratory Shorebirds are to:

1. Increase international cooperation for migratory shorebirds and ensure that countries of the East Asian - Australasian Flyway work together to conserve migratory shorebirds and their habitat.
2. Identify, protect and sustainably manage a network of important habitat for migratory shorebirds across Australia to ensure that healthy populations remain viable into the future.
3. Increase biological and ecological knowledge of migratory shorebirds, their populations, habitats and threats in Australia to better inform management and support the long-term survival of these species.
4. Raise awareness of migratory shorebirds and the importance of conserving them and increase engagement of decision makers and the community in Australia in activities to conserve and protect migratory shorebirds and their habitat.

Expanding on Objective 3, that addresses our part of the program shows the following actions:

Action 3.1. Identify gaps in knowledge required for management of migratory shorebirds, their habitats and threats in Australia.

Action 3.2. Prioritise and support research on migratory shorebirds, their population and conservation status, habitats and threats to address knowledge gaps.

Action 3.3. Identify and implement ways to integrate research and enhance collaboration.

Action 3.4. Encourage shorebird movement and migration research within Australia and across the Flyway.

Action 3.5. Develop and implement a consistent national method to monitor migratory shorebird populations.

Action 3.6. Encourage ongoing population monitoring programs for species covered by this plan.

Action 3.7. Encourage research on reproduction and survival rates of migratory shorebirds and trends of these over time.

Action 3.8. Collect and make available information resulting from research projects.

## **Attachment 2 Migratory Shorebird Conservation Action Plan, BirdLife Australia 2017.**

The most relevant Objective relating to VWSG would appear to be Objective 4:

Knowledge gaps in migratory shorebird ecology in Australia are identified and addressed to inform decision makers, land managers and the public (Addressing knowledge gaps in migratory shorebird ecology in Australia)

Details on this objective are shown below.

### **4.4 Objective 4**

Addressing knowledge gaps in migratory shorebird ecology in Australia

Targets: Coastal Obligates, Habitat Generalists, Inland Species, Snipes, Internationally Significant Sites in Australia

Threats: Coastal development in Australia, Climate variability and change, altered hydrological regimes, Harvesting of shorebird prey, anthropogenic disturbance

Key Delivery Partners: BirdLife Australia, University of Queensland, Relevant NGOs

Strategies:

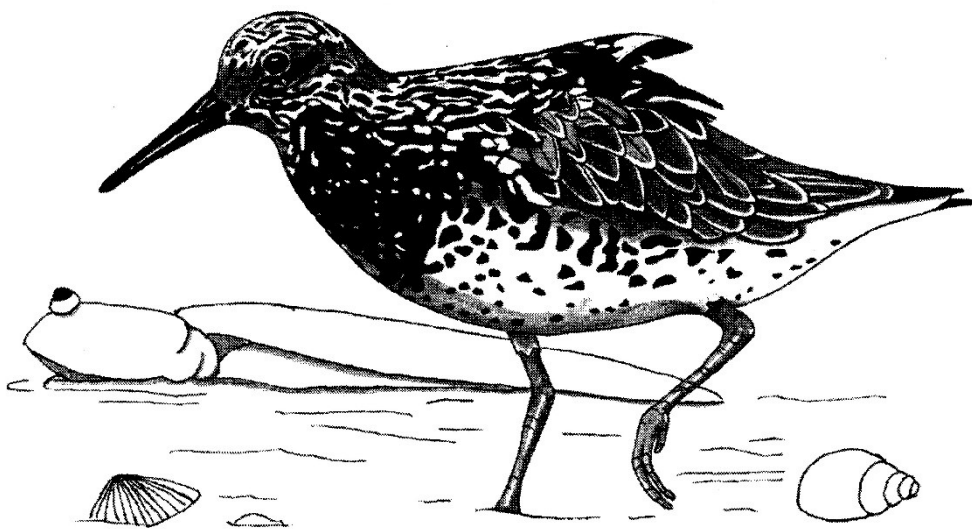
4a: Identify and prioritise knowledge gaps that are required to support the conservation and management of migratory shorebirds and their habitats. (H)

4b: Identify important stop-over and staging areas for migratory shorebirds in the East Asian—Australasian Flyway. (VH)

4c: Survey northern and inland Australia for migratory shorebird populations and identify important habitats. (VH)

4d: Maintain Shorebirds 2020 as Australia's national shorebird monitoring programme.4 (H)  
4e: Complete a review of the conservation status of all migratory shorebirds in Australia.5 (VH)  
4f: Promote conservation of migratory shorebirds through strategic programmes and educational products. (H)  
4g: Promote exchange of shorebird conservation information between governments, NGOs and communities through use of networks, publications and websites.6 (H)

source: Weller, D.R. & Lee, C.V. (2017) Migratory Shorebird Conservation Action Plan, BirdLife Australia unpublished report, September 2017.



**Attachment 3 Notes on geolocator program – to be read in conjunction with VWSG SAC review 2019 - Ken Gosbell, April 2019**

Commencing in 2009 the VWSG and AWSG have undertaken an extensive program of research on shorebird movements etc using geolocators. It is possibly one of the largest and long running studies in the world using these techniques. The Table attached indicate the range of species and data collected over this time (Table yet to include last 12 months)

Geolocators deployed/ retrieved each year by VWSG in SEA to 05/2017													
Season	Ruddy Turnstone		Sanderling		Eastern Curlew		Red-necked Stint		Curlew Sandpiper		TOTAL		% retrieved
Summer	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	by year
2009	8	4									8	4	50
2010	75	33									75	33	44
2011	46	13	24	1	23	3					93	17	18
2012	32	12	44	16		5					76	33	43
2013	69	23		1							69	24	35
2014	60	22									60	22	37
2015	107	34					61				168	34	20
2016	88	65						14			88	79	90
2017	86	31						4	60		146	35	
TOTAL	571	237	68	18	23	8	61	18	60		783	281	44
%		50		26		35		30					

Over almost 10 years we have deployed over 800 geolocators in SE Australia on 5 species. Of these at least 350 have been retrieved and downloaded to show useable data; more that 200 of these have been from Ruddy Turnstone.

The objectives of this program have evolved over this period as loggers have developed more capability and analytical methods have enabled expanded information to be derived. Information gained from this program currently include:

- Key dates for departure, stopovers, breeding ground arrival and departure etc.
- Migration strategies for different species including key stopover regions.
- Migration tracks for northward and southward migrations.
- The relative time spent by each species on northward migration, on the breeding grounds and on southward migration
- Location of Breeding areas for the different species.
- Migration speeds and the effects of weather conditions on these.
- Incubation characteristic including an assessment of successful incubation.
- Changes in temporal and /or spatial strategies over time (climate change effects?).

One of the keys to the success of this program has been the collaboration with Deakin University and Prof Marcel Klaassen in particular. Over recent years this has assisted in the publication of some of the most important outcomes.

## **VWSG Financial Report 2018/2019**

### **Helen Vaughan**

Income and expenditure for the financial year were broadly similar, and thus financial assets remain largely unchanged.

There were two major components of income. Xenia Dennett, through a donation of \$10000, largely funded the purchase of 50 geo-locators for the Curlew Sandpiper research program. The Wettenhall Trust provided a grant of \$8000 for a much-needed upgrade to the database which contains the catch and biometric results of fieldwork. Thus \$18000 was specific purpose.

Membership subscriptions were down slightly, possibly reflecting the fact that many of our members have contributed over a long period of time, and, while there continue to be volunteers in the field, there have been only a small number of new financial members. Nonetheless, the generosity of members and friends has helped to meet recurrent field costs. The Hunter Valley Bird-Watching Society which has been watching Turnstone WMA for some time, held two raffles during the year and raised \$899. Richard Morgan, a member of Birdlife, donated a HANZAB set for sale, Jim and Jenni Reside again made a significant donation and at the Annual General Meeting, members through donations and purchases added over \$1100 to the bank account.

Expenditure was considerably higher than last year, largely due to the purchase of geo-locators. To make the Bulletin more widely available, a larger number were printed. The team which flies to King Island twice a year meet their own expenses. The cost of accommodation has risen, and thus the VWSG is contributing to that cost. Payment for the database upgrade has been carried over to the next year.

Considering the liabilities, we are holding, for the database and for the Minton medallion that was funded by generous donations from Baillieu Myer, Penny & Murray Johns and six other donors, the asset base is just short of \$65,000.

Victorian Wader Study Group Inc.

ABN 12 724 794 488

Income and Expenditure Statement for the year ended 30 June 2019

## Income

Subscriptions	3275.00
Donations:	
Xenia Dennett	10000.00
Jim, Jenni Reside	1000.00
Other members	572.50
Minton medallion	950.00
Hunter Valley Bird-Watching Society	899.00
HANZAB, for sale	1200.00
Grant, Wettenhall Trust	8000.00
Interest, cheque account	19.33
Interest, cash reserve	233.84
Interest, term deposit	912.64

**Sub-total** **\$27062.31**

## Expenditure

Printing of Bulletins	2288.00
Permits, licenses	80.00
Secretarial assistance	3874.74
Bank charges	162.50
Incorporation fee	57.80
Website	71.40
Trailer registration	59.00
King Island accommodation	2410.00
King Island vehicle costs	802.64
Display banner	99.00
Promotional cards	495.00
Postage, admin supplies	116.85

**Sub-total** **\$10516.93**

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Speaking engagements	200.00
Sale of flags, field equipment	750.95
At AGM:	
Excess, meals	422.00
Raffle, books, T-shirts	615.00
Over-Wintering Project print	140.00

**Sub-total** **\$2127.95**

**TOTAL INCOME** **\$29190.26**

Engraved flags, plastic sheet	1837.60
Black Powder	570.00
Fuses	1351.12
Cannons, projectiles	400.61
Scales	330.00
Geo-locators	11675.13
Trailer maintenance	518.69
Firing box repairs	154.40
Chocolate blocks	140.35
Solvent, adhesives	346.50
Boat fuel	110.00
Miscellaneous	308.76

**Sub-total** **\$17743.16**

**TOTAL EXPENDITURE** **\$28260.09**

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Cash balance at 01/07/2018

Westpac Cheque Account	12714.39
Westpac Cash Reserve	22377.20
Westpac Term Deposit	37444.78
Macquarie Cash Account	228.63
Petty Cash	84.50

Cash balance at 30/06/2019

Westpac Cheque Account	12770.31
Westpac Cash Reserve	22611.04
Westpac Term Deposit	38357.42
Macquarie Cash Account	0.00
Petty Cash	40.90

## VWSG Membership 2019

Heather Alexander	James Dunlop	Penny & Murray Johns	John Newman	Roger Standen
Charles & Jocelyn Allen	Dianne Emslie	Steve Johnson	Maureen, Paul, Jordan, O'Neill	Jonathon Stever
Malcolm Allen	Alice Ewing	Keith Jones	Priscilla Park	Iain & Sandy Ste
Mark Anderson	Jon Fallaw, Becky Hayward	Greg Kerr	Graham & Vicki Parkyn	John Stoney
Peter Anton	Maureen & Robin Fitzgerald	Debbie King	Rob & Linda Patrick	Deb Sullivan
Robyn & Steve Atkinson	Andrea Fullagar	Marcel Klaassen	Reece Pedler	Bob Swindley
Graham & Jenny Beal	Amelia Formby	Irma Kluger	Sara Petrovic	Naoko Takeuchi
Robert Brinkman	Brett Gardner	Tessa & Angus Lamin	Hugo Phillipps	Laura Tan
Andy Bennett, Kate Buchanan	Colin & Angela Gibbs	Brett Lane	Heather & Jim Phillipson	Christine Taylor
Margaret Bennett	Joyce Gillespie	Bruce Lavender	Alan & Wendy Pilkington	Susan Taylor
Rob & Gail Berry	Kate Gorringer-Smith	John Lawson	Mike Preston	Deryn Thomas
Steve Bianchi	Ken & Carlene Gosbell	Hannah Lee	Thomas Putt	Lyne Thomas
David Billingham	Andrew & Kath Gosden	John Lesku	Susan Quirk	Amy Tipton
Malcolm & Judy Brown	Olivia Gourley	Sally Leonard	Ann Renkin	David & Wendy Trudgen
Andrew Browne	Doris Graham	Mark Lethlean & family	Jim & Jenni Reside	Mary-Ann Vanti
Sue Bryceson	Nathan Gregory	Moiria Longden	Roger & Annabel Richards	Inka Veltheim
Paul & Anna Buchhorn	Nicole Grenfell	Richard & Debbie Loyn	Don & Jude Ripper	Doug Watkins
Jeff & Sarah Campbell	Patrick-Jean Guay	Callum Luke	Bruce Robertson	Dan Weller
Mervyn & Ann Chappel	Jim & Surong Gunn	John & Susie Lyons	Annie Rogers	Andrea West
Rob Clemens	Angie Gutowski	Meg Macmillan	Danny Rogers	Mike Weston
Smathie Chong	Petra Hanke, Chris Scholz	Clare McCutcheon	Don & Greta Robertson	David & Jean Wilbraham
Maureen Christie	Birgita Hansen	Joan McDonald	Neville & Nancy Roussac	Michelle Wille
Allan Clarke & Marj Reni	Jenny Hiscock	Rod McFarlane, Helen Vaughan	Matt Rowan	Annette Willis
Bretan Clifford	David Hollands	Pat Macwhirter	Graeme & Margaret Rowe	Jeannine Wilson
Pete Collins, Holly Sitters	Vivien Holyoake	Grace Maglio	Michelle Sabto	Jack Winterbott
Mike Connor	Andrej Hohmann	Ila Marks, Eric Miller & Heidi	Liz Sarraillhe	Sharon Wooden
Michael Dawkins	Patsy Hohnen	Gary Matthews	Charles Silveira	Prue Wright
Bob Dawson	Yvonne Honey	Golo Maurer	Sue & Rod Slater	Bruce Yu
Xenia Dennett	Tracey-Ann Hooley	David Melville	Hannah Smith	Meijuan Zhao
Joris Driessen	Tania Ireton	Clive & Pat Minton	Mark & Mem Smith	Elizabeth Znide
Graham Duell	Roz Jessop	Lorraine Moore		

The VWSG is supported by many others in reconnaissance of, and reaching, catching sites; reporting of flag sightings; and research support. There are also those who permit use of private properties, and provide accommodation, in particular: Paul Feast, Neville Hatten, Robin Borland and Neville Roussac.



Bulletins are sent within Australia to: Australian Bird and Bat Banding Scheme  
Australasian Wader Studies Group  
Birdlife Australia  
Broome Bird Observatory  
Coastcare  
CSIRO Library, ACT  
Dept of Environment, Land, Water and Planning (Vic)  
Dept of Environment and Energy  
Dept of Natural Resources (SA)  
Eyre Bird Observatory  
Melbourne Water  
National Library, Australia  
Parks Victoria  
(Foster, French Island, Queenscliff, Wonthaggi)  
Phillip Island Nature Park  
State Library, Victoria  
Victoria Museum  
Victorian Ornithological Research Group  
Wader Study Groups (NSW, NWA, Qld)

And overseas to

Alaska: Shorebird Working Group  
China: National Bird Banding Centre of China  
Chongming Dongtan National Nature Reserve  
Institute of Biodiversity Science  
Hong Kong: Hong Kong Birdwatching Society  
Mai Po Nature Reserve  
Indonesia: Wetlands International  
Japan: Bird Migration Research Centre  
Korea: National Institute of Biological Resources  
New Zealand: New Zealand Wader Study Group  
Russia: Zoology Museum of Moscow University  
Singapore: Sungei Buloh Wetland Reserve  
United Kingdom: Highland Ringing Group  
Wash Wader Ringing Group  
and a number of individuals who advise leg flag sightings

## **Moomba-Yallock Catch - March 11, 2019**

**By Pat McWhirter**

But the buggers don't want to get caught.  
"Graham's twinkling paid off at last  
As under the net more were cast  
On Moomba we all made our way  
To Costello's for fun on the Bay  
Roger cajoled us and Robert enrolled us  
And we rolled 'cross the paddocks –  
Hooray!

Now Amellia would have liked to fly down  
On her ultralight plane to astound  
But alas a stiff wind put her plans in a spin  
So she joined us with feet on the ground

The reecies had all gone just fine,  
'Set the nets here', Clive divined  
As newbies constructed, Rog and Ila  
instructed,  
"Be sure that the cannons don't shine!"

Clinton, he picked up some dirt  
"Black cotton mud" to assert  
Bretan, he say, "Anaerobic, org clay"  
As we squashed with our fingers, spurt,  
spurt

At last we completed that task,  
Then all sat around in the grass  
Heidi shared apples and Meredith cackled  
As we waited for tide and the cast

Marcel soon arrived with his team,  
Dapper Deakiners scrubbed up and clean  
Focused and driven, with laptops unriven  
They outshined us grubbers between

Clouds briefly threatened to sprinkle  
While Graham was sent off on a twinkle  
Andrew focused the shores as we hid  
behind cars  
And Dave sneaked away for a tinkle

Excitement began then to mount  
As waders began Clive to taunt  
Through his handset he spoke,  
"There lots out there folks,

A sudden ca-boom and off we all zoomed  
And raced to the shore in a flash

"Don't step on the net" Ila cried  
As we went to extract birds alive  
Ten pipers per bag, Kristen started to sag  
Seeking cages for all to abide

We all caught our breath for a minute  
But soon hurled ourselves back into it  
Stint at stints for a start, then a flag and a  
..oops  
As we raced to complete before dark

The geos most all got located  
As moults, weights and age were dictated  
Some poop it got gathered and much blood  
got spattered  
As sunset and sky spectacted

Finally, there was a debrief  
Much to Olivia's relief  
As we all departed Clive's car didn't started  
...but the Deakin folks saved him from grief

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**Bulletin Number 42 2019**

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