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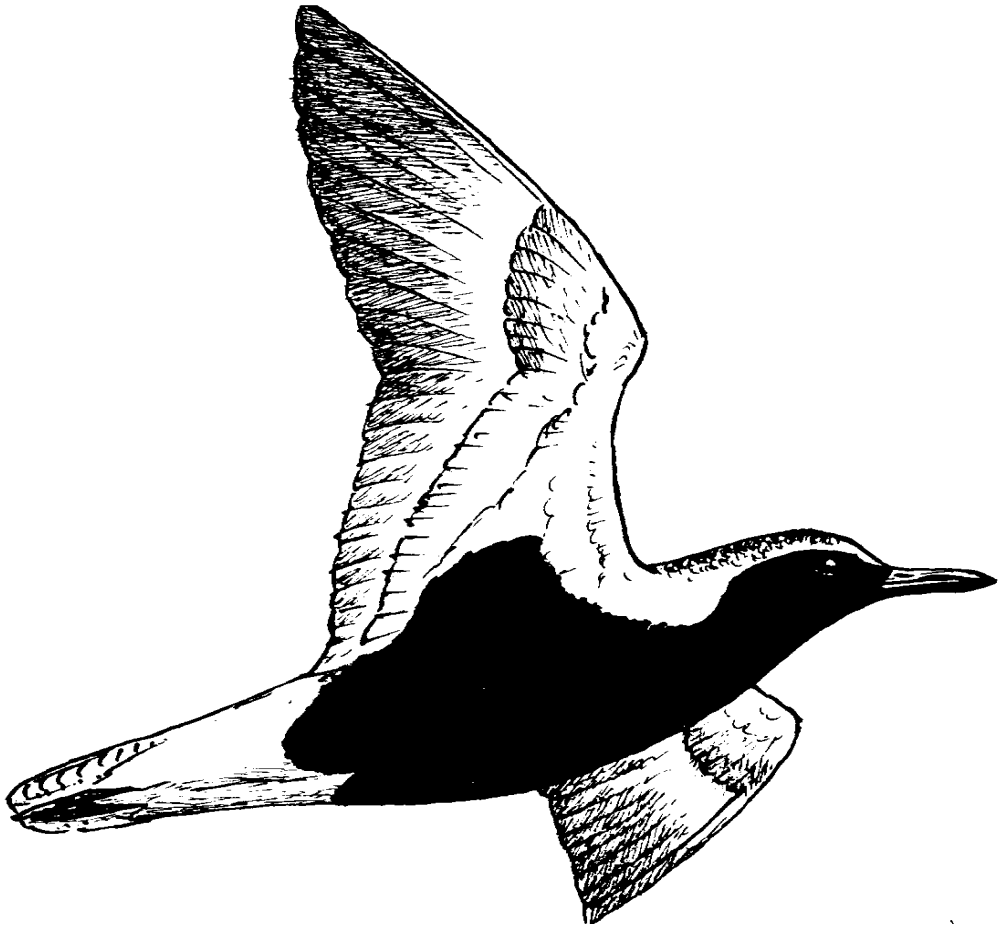

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VICTORIAN WADER STUDY GROUP INC.

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 South-eastern Australia 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.

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Full Member	$30.00
Student	$15.00

This bulletin is usually published on the date of the Annual General Meeting and contains reports and cumulative records of fieldwork of the Victorian Wader Study Group (VWSG) with articles, field notes and other material. Contributions are welcome. Please consult the editor or assistant editor on questions of format. Line illustrations are reproduced from the Australasian Wader Studies Group journal, "Stilt" with permission of the editor unless otherwise indicated.

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Report from the Chair of the VWSG 2021/22

The Year in Review: Deja vu! More Border Closures as the Pandemic rolls on. But we have still been out in the field, doing what we do best. Just less often and with less people, as bouts of disease and isolation temporarily thinned our ranks and atrocious weather intervened.

Again our work has continued, with a reduction in the number of catches and total numbers caught but maintaining our critical projects. If the birds were there, and often they were not where they traditionally would have been, and we could get there without restriction, we went!

The Catching Season commenced with our Joint FOSSE VWSG Sanderling Project in the Discovery Bay Cross Border region of Victoria and South Australia. The area is approximately 200 kilometres of coastline. A handful were caught using loop-mats but we soon reverted to type and brought out the “big guns” to increase the total to 122 Sanderling. These shorebirds are proving to be highly mobile, moving from 50 and 60 kilometres in the space of 24 hours. “Recces” are challenging.

The Mud Islands in Port Phillip Bay were visited for the Crested Tern colony and 1100 chicks were banded.

Yallock Creek has become our most productive site with three successful catches plus a training day for nine members seeking to increase their skill levels. The November catch saw 218 Red-necked Stint, 62 Curlew Sandpiper and one Little Stint! January brought 300 Red-necked Stint and 16 Curlew Sandpiper, with March delivering 187 Red-necked Stint and 268 Curlew Sandpiper. Our Annual trip to the Western Treatment Plant was a frustrating affair with very few birds present. I would feel comfortable to say that the team saw far more Growling Grass Frogs than we saw Red-necked Stint (our traditional quarry). Four days of effort produced one catch of 99 Sharp-tailed Sandpiper and 14 Curlew Sandpiper.

Corner Inlet is still the best area to observe waders in large numbers in Victoria due to its largely unspoilt nature. But that nature also makes it the hardest venue in which to operate. Tern colonies have been washed out and riverine flooding have inundated sand bars and spits, ideal for catching just before we arrive to band. If there were abundant birds elsewhere, you could argue to abandon the area as “too difficult”, but there are not, so it remains an area we need to study and understand and equip ourselves to operate successfully within. The current difficulties are probably due to successive “La Nina” events increasing storm activities along that coastline and with a third “La Nina” in a row, our difficulties seem set to continue.

Border closures allowed only one trip to King Island this season and with kelp being abundant but scattered, the birds were also scattered. With no large flocks, every catch was a small affair, with low returns, resulting in a low number for the trip. Again this is a direct result of the “La Nina” conditions of easterly or relatively calm conditions instead of the usual “Roaring Forties” from the west. A lot of effort expended in flag reading brought good results even if the catches were low.

A return trip to the Discovery Bay area saw an intensive effort over several days in both South Australia and Victoria, chasing Sanderling. Good catches were eventually made but again flag

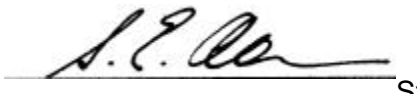
reading efforts were well rewarded with much valuable information gained about the movement of the birds. The results we are getting from flag reading are quite exceptional and our own dedicated Flag Sighting Portal and database (BirdMark), expertly and efficiently designed and maintained by Professor Marcel Klaassen, is receiving reports from across the entire flyway.

To those who despair at the lower catch numbers and cancelled trips, it seems to me, that despite the reduced catches, we are getting more useful data per year than at any time in our history. A true case of “working smarter, not harder”.

“And now for something completely different”. A Victorian Government Authority requested our help in catching some ducks for their monitoring program. They were having little success and needed help. So “we gave it a go” and handed over the requisite 300+ ducks. But who amongst us knew that ducks have vicious claws and know how to use them? The payment received will go a long way to covering our operating costs and the project is expected to continue for several more years.

And finally, I must thank Dr Birgita Hansen for her work on our website. Birgita has expressed the desire to step away from those duties and we need to find and train up some people to help maintain the currency of our website. Birgita has offered to work with any volunteers and the VWSG can look at facilitating suitable training to this end.

I look forward, as ever, to seeing you at our field trips, equipment repair days, training days and of course our AGM.



Steven E Atkinson. Chair. Victorian Wader Study Group

In conjunction with the Sanderling project a photo competition featuring Sanderlings with leg-flags was held. This is a monthly winning photo of a bird at Danger Point, South Australia, taken by Sarah Campbell

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NOTE:
For all tables bird data is now sourced from BirdMark (https://birmark.net/). Re-analysis of the data has produced changes to some tables in previous Bulletins.

Table 1: Waders caught by species, 2021

Species	New	Retrap	Sum	% Retrap
Bar-tailed Godwit	5	-	5	-
Curlew Sandpiper	87	5	92	5
Double-banded Plover	7	9	16	56
Hooded Plover	9	-	9	-
Little Stint	1	-	1	-
Pied Oystercatcher	11	6	17	35
Red-capped Plover	4	-	4	-
Red-necked Stint	428	292	720	41
Red Knot	9	-	9	-
Ruddy Turnstone	90	80	170	47
Sanderling	120	2	122	2
Sharp-tailed Sandpiper	99	-	99	-
Sooty Oystercatcher	2	-	2	-
Terek Sandpiper	1	-	1	-
Sum	**873**	**394**	**1,267**	

Table 2: Waders caught by species, 1975 - 2021

Species	C*	D**	New	Retrap	Sum	% Retrap
Australian Painted Snipe	-	-	1	-	1	0
Banded Stilt	-	-	2,062	35	2,097	2
Bar-tailed Godwit	-	-	5,968	818	6,786	12
Black-fronted Dotterel	-	-	21	-	21	0
Black-tailed Godwit	-	-	4	-	4	0
Black-winged Stilt	-	-	86	-	86	0
Broad-billed Sandpiper	-	-	7	-	7	0
Common Greenshank	-	-	543	63	606	10
Cox's Sandpiper	-	-	1	-	1	0
Curlew Sandpiper	6	-	28,619	5,454	34,079	16
Double-banded Plover	22	-	4,135	1,024	5,181	20
Far Eastern Curlew	-	-	873	90	963	9
Great Knot	1	-	705	84	790	11
Greater Sandplover	-	-	31	3	34	9
Grey Plover	-	-	201	32	233	14
Grey-tailed Tattler	-	-	38	2	40	5
Hooded Plover	1	1	138	9	149	6
Latham's Snipe	-	-	578	40	618	6
Lesser Sandplover	-	-	118	11	129	9
Little Stint	-	-	9	-	9	0
Long-toed Stint	-	-	1	-	1	0
Marsh Sandpiper	-	-	2	-	2	0
Masked Lapwing	1	-	198	4	203	2
Oriental Plover	-	-	1	-	1	0
Pacific Golden Plover	-	-	271	26	297	9
Pectoral Sandpiper	-	-	2	-	2	0
Pied Oystercatcher	-	1	3,660	1,830	5,491	33
Red Knot	5	-	5,380	736	6,121	12
Red-capped Plover	-	-	825	188	1,013	19
Red-kneed Dotterel	-	-	141	11	152	7
Red-necked Avocet	-	-	926	133	1,059	13
Red-necked Phalarope	-	-	1	-	1	0
Red-necked Stint	11	3	132,786	35,708	168,508	21
Ruddy Turnstone	1	2	7,091	3,938	11,032	36
Sanderling	-	1	6,125	2,154	8,280	26
Sharp-tailed Sandpiper	-	-	11,498	487	11,985	4
Short-billed Dowitcher***	-	-	1	-	1	0
Sooty Oystercatcher	1	1	1,215	477	1,694	28
South Island Oystercatcher***	-	-	1	-	1	0
Terek Sandpiper	-	-	38	1	39	3
Whimbrel	-	-	49	6	55	11
Sum	49	9	214,350	53,364	267,772	

C* = Control recoveries (of someone else's band)

D** = Dead Recovery

*** = Bird count not included in other tables

Note: This table includes Latham's Snipe data collected as part of a collaborative project commenced with Federation Universiry Ballarat.

Table 3: Waders caught each calendar year

Calendar Year	C*	D**	New	Retrap	Sum	% Retrap
1975	0	0	9	-	9	0
1976	0	0	587	4	591	1
1977	0	0	517	12	529	2
1978	1	0	1,294	42	1,337	3
1979	0	0	7,425	477	7,902	6
1980	0	0	6,102	1,200	7,302	16
1981	0	0	4,540	866	5,406	16
1982	1	0	3,814	792	4,607	17
1983	0	0	2,880	628	3,508	18
1984	1	0	4,271	1,042	5,314	20
1985	2	0	4,056	1,044	5,102	20
1986	6	0	7,133	2,045	9,184	22
1987	8	0	5,341	1,552	6,901	22
1988	4	0	8,021	2,666	10,691	25
1989	0	0	5,433	1,583	7,016	23
1990	2	0	4,093	2,027	6,122	33
1991	0	0	3,204	843	4,047	21
1992	0	0	4,648	855	5,503	16
1993	3	0	8,835	2,563	11,401	22
1994	1	0	4,839	1,744	6,584	26
1995	0	0	2,709	616	3,325	19
1996	1	0	5,257	1,028	6,286	16
1997	5	0	4,350	1,011	5,366	19
1998	0	0	8,067	1,406	9,473	15
1999	1	0	6,532	1,579	8,112	19
2000	1	0	10,333	2,571	12,905	20
2001	0	0	4,676	1,298	5,974	22
2002	0	0	10,171	2,116	12,287	17
2003	0	0	8,510	2,370	10,880	22
2004	0	1	5,109	1,217	6,327	19
2005	4	0	6,320	1,887	8,211	23
2006	0	0	6,592	1,451	8,043	18
2007	2	0	4,768	932	5,702	16
2008	2	1	4,489	1,356	5,848	23
2009	2	0	4,004	867	4,873	18
2010	0	0	3,018	751	3,769	20
2011	1	0	4,319	829	5,149	16
2012	1	0	3,616	868	4,485	19
2013	0	0	4,403	1,110	5,513	20
2014	0	0	3,654	995	4,649	21
2015	0	1	5,931	1,167	7,099	16
2016	0	3	3,071	866	3,940	22
2017	0	1	2,669	1,058	3,728	28
2018	0	0	1,630	637	2,267	28
2019	0	2	1,529	664	2,195	30
2020	0	0	706	335	1,041	32
2021	0	0	873	394	1,267	31
Sum	**49**	**9**	**214,348**	**53,364**	**267,770**	
Average			**4,561**	**1,135**	**5,697**	**19**

C* = Control recoveries (of someone else's band)

D** = Dead Recovery

Note: This table includes Latham's Snipe data collected as part of a collaborative project commenced with Federation University Ballarat.

The total of 1267 birds caught in the calendar year is one of the lowest since the VWSG began cannon-netting shorebirds. The shorebirds often outsmarted us last year! In addition annual catch totals have declined in recent years, in part because the catching program has been reduced to more focused targets, and in part because declining numbers at several sites have made catching more difficult. The proportion of retrapped birds (31%)

Table 4: Waders caught in first (Jan-Jun) and second (Jul-Dec) part of each year

Calendar Year	Jan - Jun	Jul - Dec	Sum
1975	9	0	**9**
1976	193	398	**591**
1977	373	156	**529**
1978	205	1,132	**1,337**
1979	4,269	3,633	**7,902**
1980	4,108	3,194	**7,302**
1981	2,105	3,301	**5,406**
1982	2,424	2,183	**4,607**
1983	2,888	620	**3,508**
1984	2,653	2,661	**5,314**
1985	3,949	1,153	**5,102**
1986	4,997	4,187	**9,184**
1987	3,133	3,768	**6,901**
1988	5,215	5,476	**10,691**
1989	3,850	3,166	**7,016**
1990	1,656	4,466	**6,122**
1991	2,351	1,696	**4,047**
1992	3,352	2,151	**5,503**
1993	5,280	6,121	**11,401**
1994	2,879	3,705	**6,584**
1995	1,517	1,808	**3,325**
1996	1,800	4,486	**6,286**
1997	1,910	3,456	**5,366**
1998	5,544	3,929	**9,473**
1999	4,130	3,982	**8,112**
2000	5,993	6,912	**12,905**
2001	3,895	2,079	**5,974**
2002	7,931	4,356	**12,287**
2003	3,039	7,841	**10,880**
2004	1,290	5,037	**6,327**
2005	5,009	3,202	**8,211**
2006	5,089	2,954	**8,043**
2007	3,693	2,009	**5,702**
2008	4,020	1,828	**5,848**
2009	2,740	2,133	**4,873**
2010	2,141	1,628	**3,769**
2011	1,979	3,170	**5,149**
2012	3,212	1,273	**4,485**
2013	3,264	2,249	**5,513**
2014	2,732	1,917	**4,649**
2015	4,645	2,454	**7,099**
2016	1,996	1,944	**3,940**
2017	2,895	833	**3,728**
2018	1,472	795	**2,267**
2019	1,926	269	**2,195**
2020	602	439	**1,041**
2021	620	647	**1,267**
Sum	**140,973**	**126,797**	**267,770**

Note: This table includes Latham's Snipe data collected in a collaborative project with Federation University, Ballarat.

Table 5: Waders caught across various Australian states

State	2021	Pre 2021	Sum
SA	164	20,921	21,085
TAS	70	4,175	4,245
VIC	1,027	241,328	242,355
Unknown	6	79	85
Sum	**1,267**	**266,503**	**267,770**

Table 6: Waders caught across various locations

State	Location	2021	Pre-2021	Sum
ACT	Jerrabomberra Wetlands	-	71	**71**
SA	Bald Hill	-	15	**15**
SA	Baudin Rocks, opposite Boatswain Point	-	17	**17**
SA	Beachport	39	702	**741**
SA	Blackfellows Caves, 6 km SE of Carpenter Rocks	1	550	**551**
SA	Boatswain Point	-	32	**32**
SA	Brown Bay, 15 km E of Port Macdonnell	4	4,256	**4,260**
SA	Canunda National Park	1	1,934	**1,935**
SA	Carpenter Rocks	29	2,623	**2,652**
SA	Danger Pt, Brown Bay, near Port Macdonnell	-	4,170	**4,170**
SA	Fox Lake, Robe	-	4	**4**
SA	French Point, Port Macdonnell	-	80	**80**
SA	Lake Eyre Sth	-	12	**12**
SA	Lake George, near Beachport	-	16	**16**
SA	Lake Harry	-	10	**10**
SA	Lake Mcintyre, Millicent	-	3	**3**
SA	Lake Torrens	-	1,364	**1,364**
SA	Little Dip conservation Park	-	4	**4**
SA	Morella Basin	-	40	**40**
SA	Nene Valley	51	1,564	**1,615**
SA	Nora Creina, 22km NW of Beachport	1	442	**443**
SA	Port Macdonnell	15	750	**765**
SA	Robe	3	13	**16**
SA	Southern Lagoon, near Woods Well	-	334	**334**
SA	Stony Point, Port Macdonnell	-	959	**959**
SA	Ten Mile Creek, NW Beachport	-	1	**1**
SA	Thompsons Beach	-	210	**210**
SA	Venus Bay, Eyre Peninsula	-	16	**16**
SA	Wright Bay	20	15	**35**
SA	Yanerbie Beach, Streaky Bay	-	785	**785**
TAS	Bird Point, Robbins Island	-	39	**39**
TAS	Currie, King Island	2	811	**813**
TAS	Dripping Wells, King Island	-	254	**254**
TAS	Manuka, King Island	42	1,649	**1,691**
TAS	Porky Bay, King Island	26	230	**256**
TAS	Shipwreck Point, Perkins Island	-	15	**15**
TAS	Springs, NW King Island	-	27	**27**
TAS	Stokes Point, King Island	-	290	**290**
TAS	Surprise Bay, King Island	-	319	**319**
TAS	Trough Bay, SW King Island	-	31	**31**
TAS	Unlucky Bay, King Island	-	62	**62**
TAS	Whistler Point, King Island	-	448	**448**
VIC	Albifrons Island, Ocean Grange, Lakes NP	-	17	**17**
VIC	Altona Foreshore	-	18	**18**
VIC	Bairnsdale	-	2	**2**
VIC	Barralliar Island, Westernport	19	8,228	**8,247**
VIC	Barry Beach, Corner Inlet	-	13,609	**13,609**
VIC	Barwon Heads	-	569	**569**
VIC	Belmont Common, Geelong	-	229	**229**

Table 6 continued				
State	**Location**	**2021**	**Pre-2021**	**Sum**
VIC	Bendigo Sewerage Farm	-	108	**108**
VIC	Black Rocks, near Barwon Heads	-	278	**278**
VIC	Braeside Metropolitan Park	-	78	**78**
VIC	Bullock Island, Corner Inlet	-	11	**11**
VIC	Bullock Swamp, NW French Island	-	166	**166**
VIC	Camel Rocks, west of Corner Inlet	-	2	**2**
VIC	Cheetham Wetlands, Laverton	-	1	**1**
VIC	Conroy Lane, Muckleford	-	3	**3**
VIC	Fairhaven, French Island	-	341	**341**
VIC	GMH Drain, near The Gurdies, Westernport	-	210	**210**
VIC	Killarney Beach, Port Fairy	-	513	**513**
VIC	Lake Reeve, Seaspray	-	18	**18**
VIC	Lake Victoria	-	167	**167**
VIC	Loch Sport, Lakes NP	-	3	**3**
VIC	Long Island, Hastings	-	416	**416**
VIC	Downs, Yanakie	-	370	**370**
VIC	Maher's Landing, Inverloch	-	22,119	**22,119**
VIC	Mud Island, Port Phillip Bay	-	758	**758**
VIC	NW corner Swan Bay, Queenscliff	-	3,107	**3,107**
VIC	Near ICI Research Station, Sth Croydon	-	1	**1**
VIC	Warneet, Westernport	-	111	**111**
VIC	Mann's Beach, Corner Inlet	-	17,972	**17,972**
VIC	Point Cook, Altona	-	933	**933**
VIC	Point Henry, Geelong	-	24	**24**
VIC	Port Albert, Corner Inlet	-	30	**30**
VIC	Powling Street Wetlands, Port Fairy	-	136	**136**
VIC	Rhyll, Phillip Island	7	1,676	**1,683**
VIC	Roussac's Farm, near Foster, Corner Inlet	-	1,352	**1,352**
VIC	Sandy Point, East French Island	-	45	**45**
VIC	Sandy Point, Shallow Inlet	-	2,811	**2,811**
VIC	Seaford Swamp	-	188	**188**
VIC	Sth Swan Bay, Queenscliff	-	27	**27**
VIC	Stockyard Point, Lang Lang, Westernport	70	11,073	**11,143**
VIC	Swan Island, Queenscliff	-	28,251	**28,251**
VIC	The Gurdies, Westernport	-	3,032	**3,032**
VIC	Toora	-	71	**71**
VIC	Tooradin	-	95	**95**
VIC	Tortoise Head, French Island	-	35	**35**
VIC	Towong, Gibson's Soak	-	3	**3**
VIC	West end of Phillip Island	-	4	**4**
VIC	West Head, Flinders	-	2,142	**2,142**
VIC	Western Treatment Plant, Werribee	113	75,028	**75,141**
VIC	Yallock Creek, near Kooweerup	699	44,947	**45,646**
VIC	Yambuk	119	-	**119**
Unknown		6	8	**14**
Sum		**1,267**	**266,503**	**267,770**
Note: These tables include Latham's Snipe data collected as part of a collaborative project with Federation Ur				
Ballarat				

Table 7: Waders processed in each month, Jan - Dec 2021

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
Banded Stilt	294	173	12	352	84	56	430	545	-	-	-	151	**2,097**
Bar-tailed Godwit	1,098	1,602	830	98	24	1,068	293	286	78	540	286	583	**6,786**
Black-fronted Dotterel	-	-	7	-	11	1	1	-	-	-	-	1	**21**
Black-tailed Godwit	1	-	-	-	-	1	-	-	-	1	1	-	**4**
Black-winged Stilt	6	8	-	-	-	-	2	13	-	4	2	51	**86**
Broad-billed Sandpiper	2	2	-	-	-	-	-	-	-	-	-	3	**7**
Cox's Sandpiper	-	-	-	-	-	-	-	-	-	-	1	-	**1**
Curlew Sandpiper	10,954	4,682	3,341	505	237	137	504	946	550	1,531	2,598	8,380	**34,365**
Double-banded Plover	-	10	271	495	849	1,117	1,367	1,072	1	-	-	2	**5,184**
Far Eastern Curlew	26	173	18	-	24	18	21	76	175	152	180	100	**963**
Great Knot	205	149	18	-	-	45	25	6	16	117	78	131	**790**
Greater Sandplover	21	4	6	-	-	1	1	-	-	-	1	-	**34**
Greenshank	69	135	122	-	-	-	-	-	-	41	178	61	**606**
Grey-tailed Tattler	30	-	1	3	-	4	-	-	-	-	1	1	**40**
Grey Plover	38	20	9	6	-	9	-	-	2	102	43	4	**233**
Hooded Plover	30	10	34	15	2	15	-	2	4	7	21	19	**159**
Latham's Snipe	99	49	-	13	-	-	-	-	113	162	111	71	**618**
Lesser Sandplover	68	5	15	7	2	3	2	-	-	1	15	11	**129**
Little Stint	2	-	1	-	-	-	-	-	-	-	2	4	**9**
Long-toed Stint	-	-	-	-	-	-	-	-	-	1	-	-	**1**
Marsh Sandpiper	-	-	-	-	-	-	-	-	-	-	-	2	**2**
Masked Lapwing	6	11	94	18	8	13	4	1	4	5	22	17	**203**
Oriental Plover	-	-	-	-	-	-	-	-	-	1	-	-	**1**
Pacific Golden Plover	31	28	69	2	-	-	-	-	-	31	70	66	**297**
Painted Snipe	-	-	-	1	-	-	-	-	-	-	-	-	**1**
Pectoral Sandpiper	-	2	-	-	-	-	-	-	-	-	-	-	**2**
Pied Oystercatcher	203	285	412	695	811	1,143	956	522	242	42	68	121	**5,500**
Red-capped Plover	68	97	91	139	208	121	78	40	19	31	52	69	**1,013**
Red-kneed Dotterel	-	10	-	20	1	44	25	2	12	8	23	7	**152**
Red-necked Avocet	346	-	-	8	14	-	19	82	275	171	51	93	**1,059**
Red-necked Phalarope	-	-	-	-	-	-	-	-	-	-	-	1	**1**
Red-necked Stint	36,242	23,313	17,336	5,981	719	1,440	2,763	2,139	3,509	8,440	18,266	49,078	**169,226**
Red Knot	1,004	658	316	223	47	690	645	141	96	1,347	621	333	**6,121**
Ruddy Turnstone	510	825	3,705	2,486	49	23	79	179	138	242	1,843	1,101	**11,180**
Sanderling	376	976	3,682	1,199	-	-	-	5	-	265	1,113	881	**8,497**
Sharp-tailed Sandpiper	2,783	1,403	282	3	-	-	5	16	512	603	774	5,604	**11,985**
Sooty Oystercatcher	22	106	87	295	256	407	358	146	-	1	12	4	**1,694**
Terek Sandpiper	16	2	1	1	2	-	2	1	-	1	1	12	**39**
Whimbrel	3	2	41	-	-	1	-	-	1	4	3	-	**55**
Sum	**54,553**	**34,740**	**30,801**	**12,565**	**3,348**	**6,357**	**7,580**	**6,220**	**5,747**	**13,851**	**26,437**	**66,962**	**269,161**

Processed means that two or more of the following were recorded for each bird: band number, bill length, total head length, wing length, weight or primary moult/

Note: This table includes Latham's Snipe data collected as part of a collaborative project with Federation University Ballarat

The VWSG has caught samples of most species in all of the months in which they are present in the areas in which we catch. This was the focus of the catching programs in the 1980's and 1990's, when little was known about moult and weight cycles of our shorebirds. In more recent years, a large proportion of birds banded by the VWSG have been caught in summer months, in catches made to assess age ratios. There are still some catches made in other months, e.g. to retrieve geolocators, to catch oystercatchers, and for the Ruddy Turnstone and Sanderling research carried out in South Australia and on King Island.

Table 8: Waders leg-flagged by VWSG

Species	1979-89	1990-99	2001-09	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Sum
Australian Painted Snipe	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	**1**
Banded Stilt	-	-	334	56	333	15	1,127	-	80	-	-	-	-	-	-	**1,945**
Bar-tailed Godwit	-	1,400	3,071	349	284	262	10	178	139	195	24	49	101	-	5	**6,067**
Black-fronted Dotterel	-	-	1	-	-	-	-	-	-	-	-	4	-	-	-	**5**
Black-tailed Godwit	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	**1**
Black-winged Stilt	-	-	21	-	2	-	5	-	2	-	-	-	6	26	-	**62**
Broad-billed Sandpiper	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	**1**
Common Greenshank	-	-	65	-	-	-	-	4	2	-	-	1	-	-	-	**72**
Curlew Sandpiper	-	-	1,874	411	53	284	504	446	649	389	434	274	370	172	92	**5,952**
Double-banded Plover	-	-	237	11	38	73	18	129	75	24	60	82	10	12	16	**785**
Far Eastern Curlew	-	-	36	-	44	18	-	4	-	-	-	-	3	-	-	**105**
Great Knot	-	-	116	-	4	5	-	2	-	2	-	1	1	-	-	**131**
Grey Plover	-	-	43	-	2	-	-	10	5	4	2	-	6	-	-	**72**
Hooded Plover	-	-	5	2	7	1	6	13	16	22	21	7	2	12	9	**123**
Latham's Snipe	-	-	-	-	-	-	-	-	13	43	97	35	14	8	-	**210**
Little Stint	-	-	2	-	1	-	-	-	-	-	-	-	-	-	1	**4**
Masked Lapwing	-	-	29	-	1	2	-	2	3	-	-	3	-	-	-	**40**
Oriental Plover	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	**1**
Pacific Golden Plover	-	-	31	-	2	1	-	-	3	-	-	-	-	-	-	**37**
Pied Oystercatcher	589	1,456	1,761	79	177	309	222	168	178	75	89	12	16	7	15	**5,153**
Red Knot	-	-	1,399	21	50	80	4	21	74	48	41	13	2	-	9	**1,762**
Red-capped Plover	-	-	61	7	7	22	4	21	45	22	1	4	3	-	4	**201**
Red-kneed Dotterel	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	**1**
Red-necked Avocet	-	-	56	-	-	201	83	200	180	-	-	15	1	5	-	**741**
Red-necked Stint	66	29,956	48,324	1,797	2,768	2,224	2,525	2,425	4,031	2,488	2,292	406	748	617	720	**101,387**
Ruddy Turnstone	-	2	2,535	585	755	326	574	661	507	301	468	422	567	76	170	**7,949**
Sanderling	-	-	2,318	366	489	489	250	211	85	30	143	6	112	-	122	**4,621**
Sharp-tailed Sandpiper	-	-	3,155	12	120	102	141	108	575	40	34	480	132	103	99	**5,101**
Sooty Oystercatcher	68	395	817	68	8	66	40	41	49	19	14	4	2	1	2	**1,594**
Terek Sandpiper	-	-	4	-	-	-	-	-	-	-	-	-	-	-	1	**5**
Whimbrel	-	-	29	-	-	2	-	-	-	-	-	-	-	-	-	**31**
Sum	**723**	**33,209**	**66,327**	**3,765**	**5,145**	**4,482**	**5,513**	**4,645**	**6,711**	**3,702**	**3,720**	**1,818**	**2,096**	**1,039**	**1,265**	**144,160**

Table 9 Waders leg-flagged in South Australia

Species	1993	1995	1996	1997	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Sum
Banded Stilt	-	-	-	-	-	-	-	-	-	-	-	334	-	-	-	56	333	12	1,025	-	-	-	-	-	-	-	-	**1,760**
Bar-tailed Godwit	-	-	-	3	-	-	-	3	-	8	-	-	-	-	-	-	-	12	6	-	-	-	-	-	-	-	-	**32**
Broad-billed Sandpiper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	**1**
Curlew Sandpiper	-	-	-	-	-	-	-	-	11	3	125	12	30	38	1	4	18	-	7	8	-	2	3	-	-	-	-	**262**
Double-banded Plover	-	-	-	-	-	-	-	-	-	-	-	30	2	-	1	5	30	12	-	3	-	-	-	-	-	-	-	**83**
Great Knot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	2	-	-	-	-	-	-	-	**6**
Common Greenshank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	-	-	1	-	-	-	**7**
Grey Plover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	5	4	2	-	-	-	-	**21**
Hooded Plover	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	2	5	1	6	13	16	18	13	7	2	11	9	**107**
Masked Lapwing	-	-	-	-	-	-	-	-	4	2	2	4	2	-	-	-	1	-	-	-	3	-	-	-	-	-	-	**18**
Pacific Golden Plover	-	-	-	-	-	-	-	-	1	-	16	14	-	-	-	-	2	1	-	-	1	-	-	-	-	-	-	**35**
Pied Oystercatcher	-	-	-	-	2	-	-	-	6	3	-	4	1	-	7	5	5	15	11	10	3	9	6	10	4	6	5	**112**
Red-capped Plover	-	-	-	-	-	-	-	-	1	-	9	15	1	-	4	2	3	8	-	17	20	14	1	-	1	-	3	**99**
Red-necked Stint	1	116	34	53	66	396	16	-	165	106	205	520	58	99	202	238	445	99	417	390	121	166	18	69	218	-	42	**4,260**
Red Knot	-	-	-	-	-	-	-	-	-	1	-	12	-	-	-	-	-	1	-	1	-	-	20	-	-	-	-	**35**
Ruddy Turnstone	-	-	-	-	2	1	-	-	60	214	113	403	137	215	201	204	400	71	215	323	254	104	127	83	175	76	102	**3,480**
Sanderling	-	-	-	-	-	-	-	-	5	107	326	300	724	372	172	348	489	487	250	211	85	30	143	6	112	-	-	**4,167**
Sharp-tailed Sandpiper	-	-	-	-	-	-	-	-	5	73	28	21	-	15	-	-	81	41	1	23	5	-	-	2	-	-	-	**295**
Sooty Oystercatcher	-	-	-	-	-	-	-	-	1	-	-	-	-	-	4	1	-	2	8	3	-	-	1	3	2	1	1	**27**
Sum	**1**	**116**	**34**	**56**	**70**	**397**	**16**	**3**	**259**	**519**	**824**	**1,669**	**957**	**739**	**592**	**865**	**1,812**	**766**	**1,946**	**1,019**	**515**	**347**	**334**	**181**	**514**	**94**	**162**	**14,807**

VWSG Fieldwork Programme
September to December 2022

DATE	*PLACE AND OBJECTIVES*	**Tide time and height (m)**	
Mon 12 September	**Rhyll** Pied Oystercatchers.	1417 (Sunset approx. 1810)	2.91
Sunday 2 October	**A.G.M.** Zoom. 1400. Details to come.		
Mon 10 to Tues 11 October	**Corner Inlet Flag sightings** (Need to be on the mudflat at least three hours before high tide) Subject to PV availability.	1336 1445	2.24 2.28
Tues 18 to Fri 28 October	**South Australia, Carpenter Rocks** Retrieve and deploy geolocators on Ruddy Turnstone. Sanderling catches. Tues 18th and Friday 28th are travelling days to and from S.A.	1215 to 1308	0.74 to 0.94
Fri 4 to Sun 27 November	**AWSG NWA Expedition**		
Thurs 10 November	**Mud Islands** Caspian Tern chicks banding and Crested Tern adults.	0751	0.66 (low)
Thurs 1 to Fri 2 December	**Yallock Creek** Red-necked Stint, Curlew Sandpiper and Sharp-tailed Sandpiper. Set net Thurs around 2pm. Catch early Fri. Overnight at Harewood House.	0817 or 0801 (sunrise approx. 0603)	2.80 or 2.86
Wed 7 to Fri 16 December	**King Island** Retrieve and deploy geolocators on Ruddy Turnstones.	1138 to 1633	1.32 to 1.32
Fri 16 December	**Mud Islands** Caspian & Crested Tern chicks banding.	1144	0.60(low)
Tues 20 December	**Corner Inlet** Caspian & Crested Tern chicks banding Subject to PV availability. This may be pushed into 2023 if there is a late breeding event.	0925	1.34 (low)
Tues 27 to Fri 30 December.	**Western Treatment Plant (Werribee S.F)** *Set net Tuesday afternoon* Red-necked Stint, Curlew Sandpiper and Sharp-tailed Sandpiper	Wed 0753 Thurs 0829 Fri 0905	0.95 0.94 0.94

Please Note:

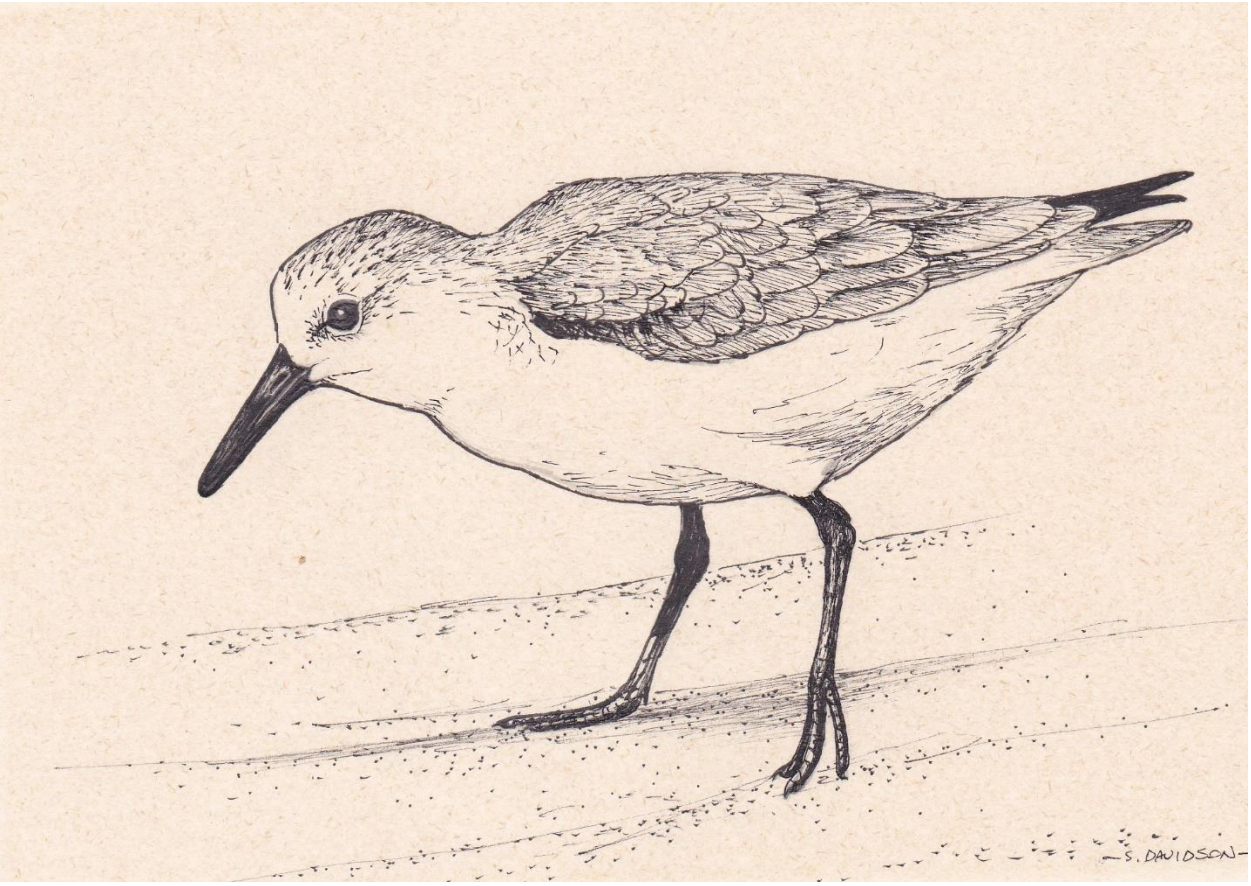
Additional fieldwork may be added for this period and you will be advised accordingly

Participant arrangements:

The meeting time is normally 5 hours before high tide.

You must let Penny or Rob know by email and leave a mobile phone number in case of last minute cancellations or change of meeting location several days before each fieldwork activity, if you plan to participate. This greatly helps reduce the number of phone calls which organizers have to make to complete a satisfactory team for each activity and meets Covid record keeping requirements.

Penny Johns	pennyjohns@hotmail.com 0419 366 507
Rob Patrick	farmingminds@gmail.com 0408 429 944



Recovery Report 2021 /2022

Ila Marks

Recovery Reports refer to birds that are seen in the field and reported to the Australian Bat and Bird Banding Scheme (ABBBS), who then notify the VWSG with a Recovery Report. These reports contain the band number, where the bird was seen, any engraved leg flag details, if it was injured, dead or alive, when and where the bird was banded, distance from the site where it was banded and age at the time of banding. Recoveries do not include Sightings; these are birds seen and reported directly to the VWSG database BirdMark. See a Sightings report elsewhere in the Bulletin.

Oystercatchers

Table 1. Pied Oystercatcher Recoveries 2021/2022

Date Banded	Place Banded	Place Reported	Date Reported	Age	Distance from Banding	Comment
12/8/2014	Roussac's Farm Vic	Clonmel Isl. Corner Inlet Vic	23/12/2021	10	47	ELF Yellow VL
12/8/2014	Rousac's Farm Vic	Clonmel Isl. Corner Inlet Vic	23/12/2021	9	47	ELF Yellow UM
12/8/2014	Rousac's Farm Vic	Sandbar Manning River NSW	17/3/2022`10	10	965	ELF Yellow VW
28/6/2014	Off Manns Beach Vic	Dream Isl. Nooramunga CP Vic	23/12/2021	11	2	ELF Yellow TE
24/6/2013	Off Manns Beach Vic	Dream Isl. Nooramunga CP Vic	23/12/2021	12	2i	ELF Yellow PS
25/5/2013	Roussac's Farm Vic	Clonmel Isl. Corner Inlet Vic	23/12/2021	9	47	ELF Yellow NW
3/7/2012	Stockyard Point Vic	Currarong Reef NSW	10/9/2021	13	602	ELF Red 56
20/6/2012	Off Manns Beach Vic	Currarong Reef NSW	7/9/2021	10	541	ELF Yellow JZ
20/6/2012	Off Manns Beach Vic	Currarong Beach NSW	3/9/2021	10	540	ELF Yellow JZ
14/8/2010	Barry Beach Vic	Friendly Beach Tas	17/7/2021	12	398	ELF Yellow 79
3/7/2012	Stockyard Point	Dream Isl. Nooramunga CP Vic	23/12/2021	10	120	ELF Red 69
21/6/2008	Off Manns Beach Vic	Dream Isl. Nooramunga CP Vic	24/1/2021	16	18	ELG Yellow 4T
13/8/2006	Barry Beach Vic	Dream Isl. Nooramunga CP Vic	24/11/2021	19	43	ELF Yellow 8H
16/7/1999	Off Manns Beach Vic	Dream Isl. Nooramunga CP Vic	24/11/2021	25	6	ELF Yellow 1N
11/9/1994	Stockyard Point Vic	Jam Jerrup Vic	21/11/2021	30	6	Found dead

Table 1 sets out the Pied Oystercatcher Recoveries for the 2021/2022 period. From the table the following observations can be made:

- There were 15 recoveries.
- The oldest bird, found dead, would have been at least 30 years old, it was banded at Stockyard Point, Westernport, Vic on 11 September 1994 and found at a beach near Jam Jerrup on 21 September 2021. The next oldest bird, aged 25, was banded off Manns Beach, Corner Inlet, Vic and observed at Dream Island, Nooramunga Marine and Coastal Park, Vic on the 24 November 2021.
- A bird banded at Barry Beach, Vic was observed at Friendly Beach, Tasmania. Last year there was also an observation from Tasmania.
- In the 2020/2021 Recovery Report two thirds of the observations were from NSW; this year there were only four. This discrepancy would be due to the lower number of people on the ground in NSW reporting their observations to the ABBBS.
- Two birds banded at Roussac's Farm, Vic on 12 August 2014 were observed together at nearby Clonmel Is, Corner Inlet, Vic on 23 December 2021. Another two birds banded Off Manns Beach, Corner Inlet, Vic on 20 June 2012 were both observed at Currarong Reef, NSW on 3 September 2021.

Sooty Oystercatcher Recoveries 2021/2022

One Recovery was received for a Sooty Oystercatcher with ELG R Black J5. It was banded at Pelican Point, Carpenter Rocks, SA in April 2014 when it was four years or older and was seen at Thunder Point, Warrnambool, Victoria in July 2021.

Table 2. Oystercatchers seen in SE Australia 2021/22

Species	Victoria	King Island	New South Wales	South Australia	Tasmania	Total sightings
Pied Oystercatcher	10		4		1	15
Sooty Oystercatcher	1					
Total	11		4		1	15

Crested Tern Recoveries 2021/2022

For the reporting period of this Bulletin, we have received only three Recoveries for Crested Tern from NSW, possibly due to fewer people being 'out and about' because of the COVID-19 pandemic restrictions. Two of the birds were seen at Flat Rock, East of Ballina, NSW in October and November, aged 18 and 11. Another was seen at Airforce Beach, Salty Lagoon, NSW, aged 10. These birds were 1,330 kilometres from where they were banded at either The Nobbies, Phillip Island, Vic or Mud Islands, Vic.

This year 15 birds were Recovered dead, the same number as last year. Eleven were under one year of age. They were banded at Mud Islands, Vic and were found in the Port Phillip Bay,

Vic area. One bird, aged 15, was banded at the Nobbies, Vic and found at Sorrento, Vic. Another, aged seven, was banded at Mud Islands and found at Newport, Vic.

There were no Caspian Tern, Fairy Tern, Little Tern, Whiskered or White-winged Tern Recoveries for the year.

Other Recovery Reports

Grey Plover

Grey Plover ELF CLW, banded at Thompson Beach, SA on 26 October 2014, was seen at Thompson Beach on 22 November 2022. It was banded as three-year-old making it 10 years old. This bird has been seen three times in the Thompson Beach area in December 2015, 2016, and 2020.

Red-necked Avocet

We received one Red-necked Avocet Recovery for the year. It was banded at Yallock Creek, Vic on 6 January 2013 and was seen 196 kilometres away in East Bairnsdale, Vic 8 years later.

Table 3. Red-necked Avocet Recoveries 2021/2022

Date Banded	Place Banded	Place Reported	Date Reported	Years B/T Banding/Recovery	Distance from Banding	Comment
6/1/2013	Yallock Creek Vic	Jones Wildlife Reserve, East Bairnsdale Vic	8/6/2021	8	196	ELF ANZ

Bar-tailed Godwit

We have a Recovery Report for a Bar-tailed Godwit from Palana, Kamchatka O, Koryak, Russia, where it was shot. It was banded Off Manns Beach, Corner Inlet, Vic on 4 July 2016. It was four years old. Sadly, shooting is a popular hobby in Kamchatka.

Another bird banded Off Manns Beach, Corner Inlet, Vic, on 22 June 2014, was seen at Port Hacking, Maianbar, NSW on 7 and 8 September respectively. It was seven years old. On 5 October a Bar-tailed Godwit, also banded Off Manns Beach, Vic, was seen at Maroom, QLD. It was also seven years old. These three birds would have been on their way to New Zealand, where ‘our’ adult Bar-tailed Godwit spend their austral summer.

Ruddy Turnstone

There are five Ruddy Turnstone Recoveries. Four were seen within 25 kilometres of their banding places. Once again, illustrating the site loyalty of Ruddy Turnstone.

Table 4. Ruddy Turnstone Recoveries 2021/2022

Date Banded	Place Banded	Place Reported	Date Reported	YearsB/T Banding-Recovery	Distance from Banding(Km)	Comment
4/12/2016	Bald Hill SA	Bald Hill SA	16/12/2021	5 (Age 7)	23	ELF VEU
17/4/2010	West Head Flinders Vic	Flinders Beach Vic	24/11/2021	11 (Age 11)	3	ELF CMS
5/3/2019	West Head Flinders Vic	Flinders Beach Vic	8/11/2021	2	3	ELF UTE
18/11/2015	Thompson Beach SA	Thompson Beach SA	22/11/2021	6	2	ELF XJC
1/11/2020	Blackfellows Caves, Carpenter Rocks SA	St Kilda Shoreline SA	4/9/2021	1	334	ELF SAT

Ruddy Turnstone CMS. Flinders, Vic. Photo: Con Duyvesten.

Curlew Sandpiper

We have only one Curlew Sandpiper Recovery in the past year, a juvenile banded at Western Treatment Plant, Vic on 28 December 2020 and seen at the Ocean Beach Flinders, Vic on 1 September 2021.

Red Knot

A Red Knot banded at Stockyard Point, Lang Lang, Westernport, Vic on 6 May 2012 was found dead at Manakapua Island, New Zealand on 20 March 2021. It was eight years old. Another Red Knot banded at Rhyll, Phillip Island, Vic on 26 January 2015 was seen at Stockton Sandpit, NSW on 2 October 2021. It was seven years old.

Sightings – Birds seen in 2021/2022 and reported to BirdMark

Ila Marks

In the past year there have been many sightings of birds banded by the Victorian Wader Study Group and reported to BirdMark. Reports of birds seen in Australian numbered 1,572 and bird seen in countries other than Australia numbered 358.

A Sharp-tailed Sandpiper was sighted by Rod Bird at Walker Island, Rangaunu Harbour, North Island, New Zealand. This is an unusual sighting. It was banded at the Werribee Treatment Plant on 28 December 2021, and aged 2+

In Australia the single bird most reported was a South Island Pied Oystercatcher, from 2016 to 2021, it has been reported 103 times.

VWSG Banded Birds Seen in Countries Other than Australia 2021								
	China	**Hong Kong**	**Japan**	**New Zealand**	**South Korea**	**Taiwan**	**Philip-ines**	**Total**
Bar-tailed Godwit	8		2	61	173			**244**
Curlew Sandpiper	3					9		**12**
Far Eastern Curlew	1				1			**2**
Great Knot	1							**1**
Red-necked Stint	2						1	**3**
Red Knot	4			53				**57**
Ruddy Turnstone	9	4	1			15		**29**
Sanderling	3							**3**
Sharp-tailed Sandpiper	3			1		3		**7**
Total	**34**	**4**	**3**	**115**	**174**	**27**	**1**	**358**

Ruddy Turnstone. Photo: Sarah Campbell

Tern Breeding and Banding Report 2021/2022

Ila Marks, Robyn Atkinson

Silver Gulls pestering nesting Crested Tern Mud Islands 10 November 2021. Photo Ila Marks

The Mud Islands trip to count, band and re-trap terns on 10 November 2021 was our first banding field work in Victoria since July 2021. It was not looking promising as team members left Melbourne and Sorrento in pouring rain in the early hours to meet the Parks Victoria boat at 8.30 am at the Queenscliff wharf. However, as often happens, when we arrived the clouds cleared, and a successful day followed. A second successful trip to Mud Islands occurred nearly a month later, on 14 December. The Corner Inlet field trip on 9 February 2022, to band Caspian Tern, was also successful, following many recces, emails and the organisation of details.

South-eastern Australia
Caspian Tern

The Caspian Tern colony at Mud Islands was in the same place as it was last year, a walk of about a kilometre from the boat drop off point. On the November visit, 18 breeding pairs of Caspian Tern were sighted along with 17 chicks. Seven chicks were banded. On the return visit in December, 15 pairs of adults were counted with seven fully fledged birds and three large chicks.

Banding terns at Corner Inlet is always an adventure with the boat trip out to the sand bars and islands. We thank Jonathon Stevenson for his many recces and value his detailed knowledge of that part of the Victorian coast. On 18 January he reported 40-50 Caspian Tern on the west end of Box Bank, with newly hatched chicks. The good results from the field trip that followed on 9 February were due to Jonathon's recces and to the fitness of the team who had to chase some large active chicks to eventually apply bands and engraved leg flags. On Clonmel Island there were 10 adults sitting on nests. Seven chicks were banded, three chicks did not receive bands

and there was one egg on a nest. On Box Bank 25 breeding pairs and approximately 10 eggs on nests were counted. Fifteen chicks were banded.

Given an email received from Jonathon on 11 January, where he described possible raven predation and water inundation on Caspian and Crested Tern nests, the above is a good result.

Thanks to Jonathon Stevenson and Steve Johnson for their boating expertise.

Caspian Tern - Breeding and Banding Table

Location	Breeding Pairs	Chicks banded
Mud Islands	18	7
Corner Inlet Clonmel Island	10	7
Corner Inlet Box Bank	25	15
Totals	53	29

South-eastern Australia
Crested Tern

On the 10 November 2021 trip to Mud Islands the team was reduced to six people due to COVID-19 pandemic restrictions on the number people allowed on the boat. However, we achieved all we set out to do. The Crested Tern colony had shifted since 2020. It was closer to the boat drop off point and spread out over 300 metres along the dunes. The team counted 2,675 Crested Tern sitting on nests, but no hatched chicks were seen. Last year we were on Mud Islands at the same time and several chicks had already hatched.

Silver Gulls were pestering the terns as they sat on their nests and the team wondered if predation of Crested Tern eggs and chicks would be a problem for the colony. We were able to read 112 band numbers, a difficult task as we were constantly bombarded by Crested Tern protecting their nests.

On the return trip to Mud Islands on 14 December, with a larger team, we were able to band 1,110 newly hatched Crested Tern chicks. Some Crested Tern were observed still sitting on eggs. Although pestering gulls were again present the tern colony was intact.

No Crested Tern were banded on the Nobbies, Philip Island, Victoria. The Crested Tern breeding colony now seems to be well established on nearby Seal Rocks with 1,243 breeding pairs counted in January 2022. These figures are established by analysing photos of the colony. This is coordinated by Ross Holmberg from the Phillip Island Nature Parks.

Jonathon Stevenson reported, from his recces at Corner Inlet, that there appeared to be little breeding success of Crested Tern. He saw a small number, seven, Crested Tern chicks at Clonmel Island, while the colony on Box Bank failed completely, most likely due to raven predation and inundation.

There was no tern count or banding on King Island in November 2021 due to COVID-19 pandemic restrictions.

Crested Tern - Breeding and Banding Table

Location	Breeding Pairs	Chicks Banded	Re-trapped banded adults
Mud Islands	2,675	1,110	112
The Nobbies	0	0	
Seal Rocks	1,243		
Corner Inlet	Colony failure		
King Island	Not known		
Totals	3,918	1,110	112

South-eastern Australia
Fairy Tern

On our visit to Mud Islands on 10 November 2021 there was no sign of a Fairy Tern colony. Although a group visiting the Australian Pelican colonies on 6 November 2021 saw 16-18 Fairy Tern flying around, we only saw four on our visit four days later.

On Cowrie Island, off Beachport in South Australia, 56 Fairy Tern were banded and there were three re-traps. See the report in this Bulletin from the South Australia team.

Fairy Terns. Cowrie Island, SA. Photo: Sarah Campbell

Latham's Snipe Project banding summary 2015 to 2021

Birgita Hansen

The Latham's Snipe Project commenced in 2014 initially with a focus on determining the relative use of urban and non-urban wetlands in south-west Victoria. The project started as a partnership between the South Beach Wetlands and Landcare Group and Federation University (through Birgita Hansen). In 2015, the team was successful in obtaining a small amount of funding from the Australia-Japan Foundation to deploy geolocators on snipe at the Powling Street Wetlands in Port Fairy. As part of the geolocator deployment and, later, two seasons of deployments of radio tags, all snipe captured were fitted with orange engraved leg flags. From 2016 onward the catching was expanded to the Jerrabomberra wetlands in Canberra with similar objectives to the Port Fairy study – namely to look at migration and movement using geolocators and radio tags. Over 200 snipe have been caught and banded in Port Fairy and Canberra since the project started (Table 1).

Table 1. Latham's Snipe banding summary

Season	Location	New	Recaptured	Total
2015-2016	Port Fairy	14	0	14
2016-2017	Port Fairy	39	6	45
2016-2017	Canberra	11	1	12
2017-2018	Port Fairy	71	11	82
2017-2018	Canberra	18	0	18
2018-2019	Canberra	25	5	30
2019-2020	Canberra	8	2	10
2021-2022	Canberra	11	0	11
TOTALS		197	25	222

While it was not a specific goal to obtain leg flag resightings, as it was assumed that snipe would be impossible to resight, Kelly's Swamp at Jerrabomberra has returned a number of resightings since catching started there. This is due to the presence of well-placed and well-constructed bird hides with a clear view of good snipe roosting habitat. These hides are regularly utilised by bird watchers and photographers. This has resulted in resightings of a number of snipe within the same capture season and also between capture seasons. Eight tagged snipe were resighted in subsequent years with one being resighted two years later (Table 2). This demonstrates that at least some snipe are site faithful as is the case with some other wader species.

Table 2. Resightings of flagged snipe at Jerrabomberra wetlands between seasons (years)

Snipe ELF ID	Date banded	Date resighted	Resighting method	Time since capture
R2	28/01/2017	31/12/2017	Photographed	11 months
94	29/01/2018	03/10/2018 to 17/10/18	Photographed	9 months
90	29/01/2018	October 2018 23/10/2018 & 8/02/2019 25/11/2019	Photographed Recaptured (twice) Photographed	9 months 9 months 12 months 21 months
92	29/01/2018	16/11/2018	Photographed	10 months
74	23/12/2018	16/09/2019	Photographed	10 months
87	22/10/2018	18/12/2019	Photographed	14 months
70	19/01/2019	5/09/2020	Photographed	8 months
58	9/01/2020	6/09/2020 11/01/2021	Photographed Photographed	8 months 12 months

Latham's Snipe ELF 58. Jerrabomberra. Photo: Allen Bills.

The VWSG Geolocator program 2021-22

Ken Gosbell, Robyn Atkinson, Roz Jessop, Ila Marks, Maureen Christie, Marcel Klaassen

Introduction

Due to COVID-19 pandemic restrictions and other issues, this last year has again been a difficult one all round. However, despite these problems, the geolocator program was able to again proceed. The following is a summary of our activities and some of the outcomes for the year – our 13th year of the program.

It must be noted that these outcomes have only been possible through the dedication and generosity of the VWSG field teams and supporters who have volunteered so many days, under sometimes difficult conditions, to deploy and retrieve these loggers.

Deployment and retrievals of geolocators by VWSG

The Table below shows the summary of deployments and retrievals by VWSG since 2009 in which a total of 1,288 geolocators have thus far been fitted to shorebirds expected to migrate to the northern hemisphere to breed. In summary, 833 geolocators have been deployed on Ruddy Turnstone (64% of the total deployed and 71% of those retrieved), 68 on Sanderling, 23 on Eastern Curlew,187 on Red-necked Stint (15% of all deployed and 10% of those retrieved) and 177 on Curlew Sandpiper (14% and 8% respectively). From the start of the program, we have concentrated on Ruddy Turnstone. Notably the focus on this species on King Island has contributed to a longitudinal study spanning 12 years to date. It is of interest that we now have 297viable tracks for Ruddy Turnstone showing indications of changing migratory behaviour in the face of the changes along their flyway (more on this below).

Over the past year there was only one visit to King Island and that was in March 2022. A total of five geolocators were retrieved during this visit and these were again replaced with new geolocators. Additionally, a further 35 geolocators were placed on birds which had not previously carried them, thus 40 geolocators in total were deployed. With only one visit possible during this non-breeding season instead of our normal two, our retrieval rate was well short of our long-term average of 42% for this site.

In Victoria, the focus was again on Red-necked Stint and Curlew Sandpiper at Yallock Creek. A total of five geolocators were retrieved from Red-necked Stint and seven from Curlew Sandpiper.

The South Australian team did a great effort in deploying 30 geolocators and retrieving two from Ruddy Turnstone. A team from Victoria assisted the SA group in April 2022.

Ruddy Turnstone BBD photographed at Mai Po, Hong Kong, 3 May 2021 Geolocator deployed Nene Valley, SA, 1 April 2018. Photo: John Holmes

Geolocators deployed/ retrieved each year by VWSG in SEA to 05/2022

Year	Ruddy Turnstone		Sanderling		Eastern Curlew		Red-necked Stint		Curlew Sandpiper		TOTAL		% retrieved by year
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	
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	52						14			88	66	75
2017	86	31						4	60		146	35	24
2018	79	41					60	1	60	10	199	52	26
2019	30	23					50	9	41	8	121	40	33
2020	83	9					16	12	9	7	108	28	26
2021	70	7							7	5	77	28	36
TOTAL	833	304	68	18	23	8	187	40	177	30	1288	416	36
%		39		26		35		23		15			

Publications

The scientific papers published so far based on the results of our geolocator studies were listed in the 2020 Report in the Bulletin and can also be found on the VWSG's "geolocator studies" webpage at https://vwsg.org.au/waders/geolocator-studies/. Further analyses are in train and additional papers will be published in the future.

A major outcome from the Yallock Creek program on Red-necked Stint and Curlew Sandpiper was the publication of the following paper: *Lisovski S, Gosbell K, Minton C, Klaassen M. Migration strategy as an indicator of resilience to change in two shorebird species with contrasting population trajectories. J Anim Ecol. 2020;00:1–10. https://doi.org/10.1111/1365-2656.13393*. More details on the migrations of the Red-necked Stint and Curlew Sandpiper in this paper can be found at https://slisovski.github.io/VWSGReport/

The Future

Following the initial geolocator deployments in 2009, the successful retrievals provided, for the first time, a picture of the migration tracks of Ruddy Turnstone. We had little idea then of the scale that the program would develop into and the incredible amount of information it would provide across several species. Thirteen years later the VWSG can be very proud of the leadership in this technology that it has provided and the valuable results it has recorded and published.

The deployment of geolocators on Ruddy Turnstone will continue at King Island and in the South-east of South Australia as these provide important data for longitudinal and local studies enabling, for instance, any impact from climate change to be observed. In addition, these instruments provide one of the only means of assessing the incubation characteristics of these species when on the breeding grounds. These days there are several alternative tracking devices, some of which are relatively smaller, and which can transmit data to mobile networks or fixed receivers. Some of these options will be considered for future use.

Curlew Sandpiper in full breeding plumage and carrying a geolocator from Yallock Creek photographed at Nanpu, China, in May 2021.

Photo: Shengcheng Yi

Red-necked Stint with geolocator at Yallock Creek

Photo: Ken Gosbell

Costs

The geolocators have been purchased at an average cost of close to $230 each. With 1200 units deployed over the last ten years this equates to a cost of around $280,000.

Funding has been obtained from a wide range of sources including significant contributions made by, or organised by, VWSG members (including legacies from two deceased members). Funds were also raised by a number of special activities, particularly at the AGM, which included raffles for items such as wine (generously donated by the Myer family) and books (kindly donated by Andrew Isles). We also acknowledge the contributions by the Norman Wettenhall Trust and Xenia Dennett to VWSG and Australian Research Council and Australian Geographic Society to Deakin University, collectively enabling this program. Moreover, Friends of Shorebirds SE (FoSSE) contributed $52,000 from sources including Nature Foundation SA, Kimberley Clark Aust P/L, Department of Environment and Water (DEW), Limestone Coast Landscape Board and the Newbery Park Primary School. All are greatly thanked for their most generous help which has been fundamental to us being able to undertake geolocator studies on a scale which is significant.

Conclusion

The VWSG's geolocator program commenced in early 2009 has proved to be an astounding success. We were, and still are, one of the world leaders in the use of geolocators to study shorebird migration. VWSG members are to be congratulated and thanked for the dedication and perseverance they have demonstrated through many hours of intensive field work which has enabled the deployment of over 1,200 geolocators at five sites in south-eastern Australia and such a satisfactory retrieval rate to be achieved. This has led to so much significant information on migration and other characteristics being obtained. Particular thanks to the field team leaders and also Ila and Eric for the work they do in mounting the geolocators on leg flags.

Risk and actions in response to a potential introduction of bird flu to Australia

Michelle Wille[1] and Marcel Klaassen[2]

1. Sydney Institute for Infectious Diseases, School of Life and Environmental Sciences and School of Medical Sciences, The University of Sydney, Sydney, New South Wales, Australia.

2. Centre for Integrative Ecology, Deakin University, Geelong, Victoria, Australia

The Global Situation

Since October 2021, there have been 3042 reported outbreaks of highly pathogenic avian influenza (HPAI), or bird flu, in wild birds, largely occurring in the Northern Hemisphere, involving 216 different bird species and at least 42,387 avian deaths (although this is likely a vast underestimate) (OIE/ WOAH, updated Aug 2022). While outbreaks of HPAI have been occurring regularly in the Northern Hemisphere since 2005, with a step-change in 2014 (Lycett *et al*. 2019), the intensity, geographic distribution, and number of wild bird species affected over the past year is unprecedented.

While we routinely collect samples for avian influenza from waders in Victoria, Tasmania and South Australia, we exclusively detect low pathogenic strains of avian influenza (Wille *et al.* 2022). These low pathogenic or LPAI strains are highly diverse and constitute a normal part of the virus community found in waders. These LPAI viruses do not cause notable disease and definitely no death in wild birds (Olsen *et al.* 2006). This is in contrast to HPAI, which causes substantial illness and death in wild birds and poultry. These HPAI viruses have been endemic in poultry in some parts of Asia for ~25 years (Lycett *et al.* 2019). In 2014 a new strain of HPAI emerged, which spread rapidly with wild birds, causing outbreaks in Asia, Europe and North America. We have seen another genetic change in the virus in 2021, and the result has been catastrophic (Wille & Barr, 2022).

Risk of an incursion to Australia

The risk of these HPAI viruses travelling to Australia has previously been low. It is believed that ducks are important in the movement of these viruses (Global Consortium for H5N8 and Related Influenza Viruses, 2016), and there are no duck species that migrate between Asia and Australia. Indeed, all Australian ducks are nomadic within the Australian-Papuan region (McCallum, et al. 2008). However, with the substantial increase in bird species in which these HPAI viruses have been found, including seabirds, there is a very real risk that these viruses may be carried to Australia on board a long-distance migratory bird.

While our research program has been devoted to LPAI, it is important to appreciate that these samples can also be used to test for HPAI. In addition to our research program, there is a national surveillance program for avian influenza: the National Avian Influenza in Wild Birds Program (https://wildlifehealthaustralia.com.au/ProgramsProjects/WildBirdSurveillance.aspx), which comprises a collaboration between all state laboratories, the Australian Centre for

Disease Preparedness, the Commonwealth Department of Agriculture and a number of university labs (including ours).

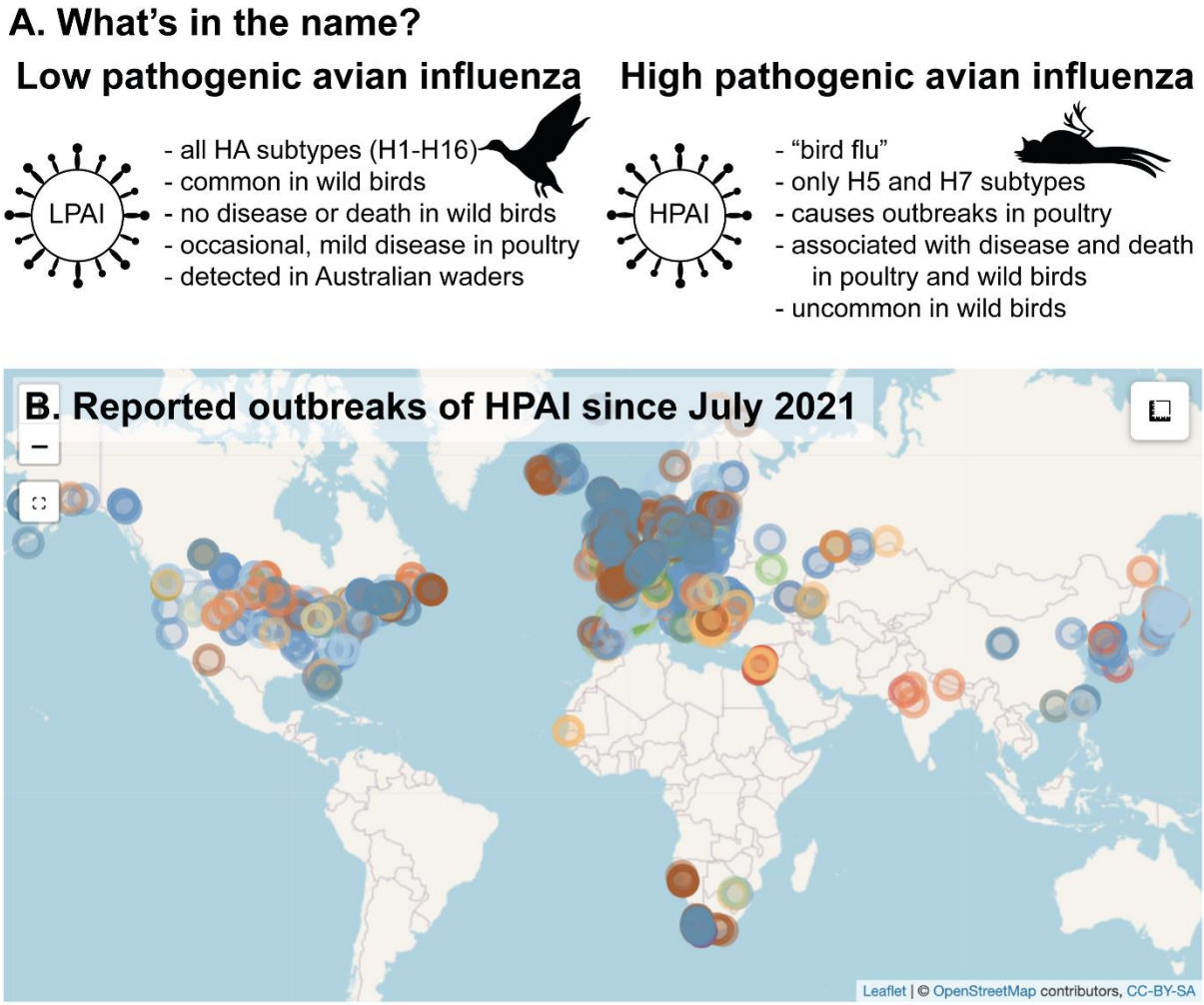


Figure 1. Outbreaks of HPAI. (A) A summary of the differences between LPAI and HPAI. Silhouettes generated by M. Wille (B) Map of outbreaks of HPAI in wild birds since July 2021. Each outbreak may comprise a single bird, or tens of thousands. Different colours comprise different avian orders. Data from the World Organisation for Animal Health (WOAH; founded as OIE).

Human health risk

A recent European assessment (EFSA et al. 2021) determined that the risk of infection with HPAI for the general population was low, and for occupationally exposed people (*e.g.* poultry workers) the risk was low to medium (but with high uncertainty).
To date, all human infections with HPAI have been in people interacting with birds, particularly poultry (chickens, turkeys and ducks). Human infections have occurred in China, Laos, Russia, Nigeria, the UK and USA (Wille & Barr, 2022). Reassuringly, no onward transmission between humans has been detected.

What to do if you see dead birds

If HPAI were to arrive in Australia, it would likely cause substantial avian mortality. If you see dead birds, we suggest:

(1) Do not touch dead birds
(2) Assess mortality using binoculars - information such as how many dead birds of which species is helpful to report
(3) Follow guidelines provided by state and national response teams
(4) Report dead birds to the authorities

Animal Health Australia Emergency Animal Disease Watch Hotline

1800 675 888

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VWSG Duck Catching for the Victorian Game Management Authority

Robyn Atkinson

The Victorian Game Management Authority (VGMA) Strategy and Research team is conducting new research into wounding rates in ducks resulting from duck hunting in Victoria. The project aims to provide a better understanding of wounding rates by using radiography (x-ray technology) on ducks caught in the winter months after duck season.

A small team from the VWSG undertook to help the VGMA catch ducks for this research project. This research will be used to monitor wounding rates over time. The frequency of wounding will be used to assess the impact of education programs, of changes in hunting practices and of changes in regulations. This ongoing research is based on similar research conducted on duck and goose populations in Denmark.

In preparation for the catches the VGMA fed ducks at the Western Treatment Plant for two weeks prior to our first catch attempt. The plan was to catch at the same site on three separate occasions over three weeks.

The net was set the afternoon before each catch but the projectiles were not placed down the cannons until the morning. Lots of food, corn and wheat, were spread out in front of the net well before daylight. Once the food was out, the projectiles were placed in the cannons and we adjourned to wait for daylight.

Each morning the ducks would begin to feed just before daylight, but would only feed for about an hour, and then lose interest and float away. This meant our window of opportunity was no more than 45 minutes as we had to wait until it was light enough to see the markers and safety zone.

The ducks congregated in the water in front of the net in a large group and slowly worked their way up to the food. They were very nervous, constantly flying back to the water, to again congregate at the edge of the water and work their way back to the food. Judging whether there were enough ducks in the catching area before they got too nervous and dashed back to the water was very nerve racking.

Seconds before firing in the early morning light.

The second catch was 132 and the third catch 67. Both these catches consisted of only Chestnut Teal and Grey Teal. We met our target of 300 birds.

The VWSG banded all the ducks using bands issued to the project. Surprisingly it is quite difficult at times to tell a female Chestnut Teal from a Grey Teal in the hand. Male Chestnut Teal take a size 10 band and female Chestnut Teal and Grey Teal take a size 9 band. Banded ducks were processed, mainly by VGMA staff with some help from the VWSG, and X-rayed. They were then handed to the Deakin team for collection of faecal swabs and blood samples to test for avian diseases and assess health.

Thanks to all the team for three very successful catches. We all learnt a lot about catching, banding and processing ducks. The project is planned to continue for two more years.

The VWSG team members who attended one or more catches were as follows:
Robyn Atkinson, Steve Atkinson, Bob Brinkman, Thomas Cansse, Bretan Clifford, Maureen Christie, Ila Marks, Gary Matthews, Eric Miller, Heidi Miller and Heather Phillipson.

VWSG members and VGMA, Deakin and ARI staff hard at work.

VWSG King Island Visit Report 18 – 28 March 2022

Robyn Atkinson, Roz Jessop and Rob Patrick

Since 2007 the Victorian Wader Study Group has been visiting King Island, Tasmania once or twice a year to study the Ruddy Turnstone population on the west coast of the island.

Our objectives for this trip were as usual

- to carry out a population count of Ruddy Turnstone on the entire west coast of the island.
- To evaluate the breeding success of Ruddy Turnstone the 2021 Arctic breeding season by measuring percentage of juveniles in catches.
- To deploy and retrieve geolocators on Ruddy Turnstone.
- To facilitate Deakin University's research project on the presence of avian diseases.

Due to COVID-19 pandemic border restrictions no visit was possible during 2020 and only one visit during 2021. It is hoped that we can now revert to two visits per year. It is intended that the twice-yearly visits (November/December and March/April) be continued into the future to extend our current sixteen year dataset on the Ruddy Turnstone of King Island.

Population Count

All the known locations for Ruddy Turnstone along the west coast of King Island were again counted over the high tide period on the 18 March 2022.

A total of 469 birds were observed during the count. This is the second lowest count we have recorded in our 16 years of visitations. The low numbers for this count may in part reflect the weather conditions on the day. The weather during the count was unusually calm, with no wave action, possibly allowing some birds to remain out on rocks and not be seen from shore. Slightly larger counts were obtained later in the trip on some beaches, but as no systematic recount could be done the total on the day will be used (fig 1).

Unfortunately, no counts were possible during 2020 due to the pandemic restrictions. Results of the counts since 2008 are shown in Figure 1.

Fig 1. Counts of Ruddy Turnstone on King Island: Feb/Mar/Apr.

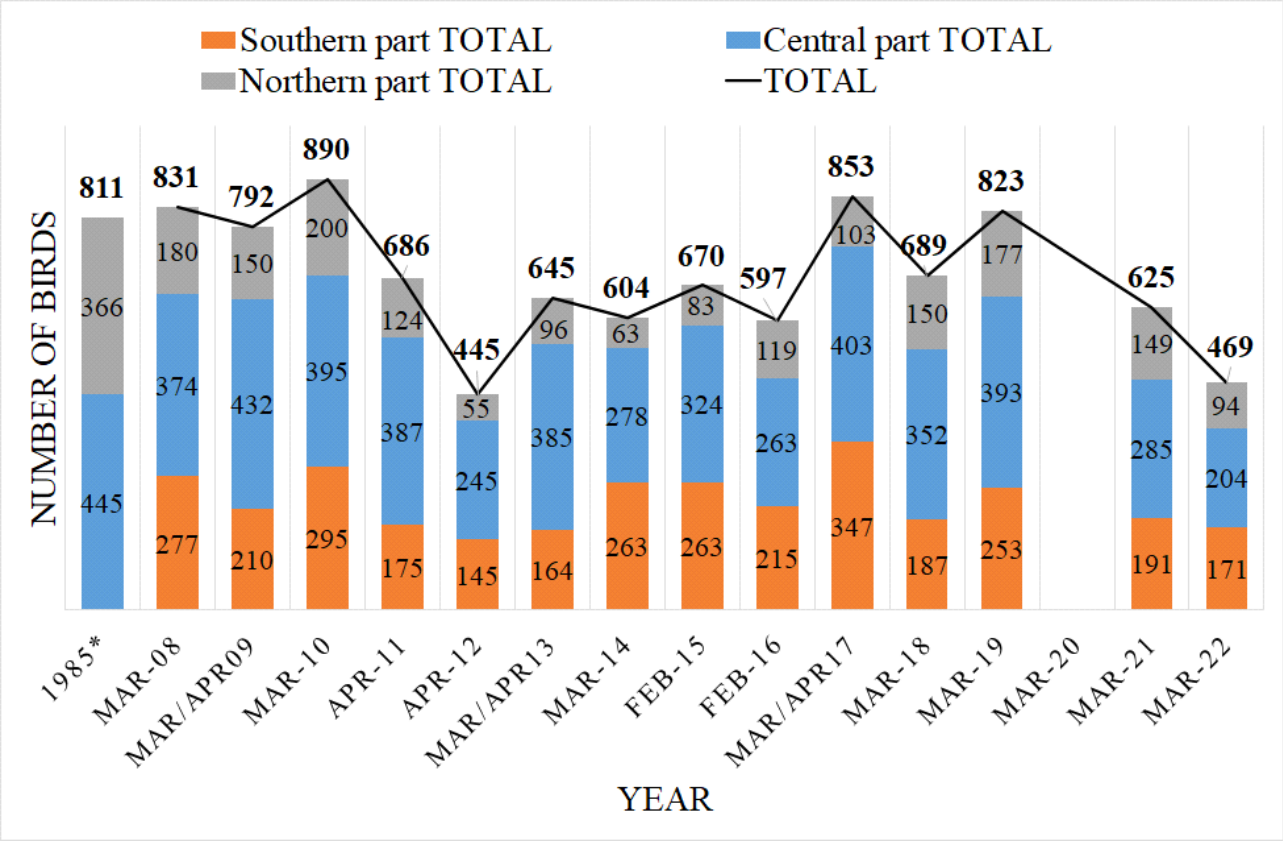

Table 1. Counts of Ruddy Turnstone on the west coast of King Island 2008 to 2022

Catching

As we had been unable to visit King Island in November/December 2021 due to pandemic restrictions, we were looking forward to retrieving some of the geolocators we had deployed in March 2021.

The weather was remarkably calm for most of the duration of our stay with very little wave action on many days. Although there was little kelp on the beaches there was plenty of seaweed and clouds of hatching flies and hoppers on every beach we visited. The plentiful supply of food on the beaches seemed to mean that the turnstone were spending much less time feeding than they normally would just prior to migration to the Arctic. Flocks were happy to sit on rocks rather than come ashore to feed, as would be expected at this time of the year. As a result of this we set many nets and spent a lot of time waiting for birds to come ashore. On many occasions they simply failed to do so. We fired six nets on small flocks and caught a total of 57 Ruddy Turnstone and one Double-banded Plover. We also retrieved five geolocators and deployed another forty new geolocators. Table 2 summarises the catch details and locations.

Table 2. VWSG Catch Details: King Island Visit 18-28 March 2022

West Coast of King Island	1985*	Mar-08	Mar/Apr 09	Mar-10	Apr-22	Apr-22	Mar/Apr -13	Mar-14	Feb-15	Feb-16	Mar/Apr -17	Mar-18	Mar-19	Mar-21	Mar-22
The Springs	-	n.c.	n.c.	45	50	20	26	28	23	24	30	50	64	42	31
Whistler Point	106	180	55	40	4	0	0	0	0	42	2	45	0	13	8
Duck Bay, Green Island Point, South Whistler	260	180	95	115	70	35	70	35	60	53	71	55	113	94	55
Northern Part TOTAL	**366**	**180**	**150**	**200**	**124**	**55**	**96**	**63**	**83**	**119**	**103**	**150**	**177**	**149**	**94**
Unlucky Bay	20	n.c.	20	10	48	15	25	15	19	1	40	28	7	0	14
South Porky	28	n.c.	40	0	9	40	25	0	38	35	70	65	35	68	52
Manuka – North (Whalebone)	-	220	65	15	60	35	30	60	63	33	60	32	116	47	40
Manuka - Central	67	220	68	150	50	50	70	50	84	58	54	36	39	29	0
Manuka - South	-	220	67	10	45	35	65	40	24	6	55	39	82	48	10
Dirty Bay	-	n.c.	22	30	13	n.c.	0	n.c.	0	0	0	8	n.c.	n.c.	n.c.
Currie Harbour	-	114	14	25	15	0	20	26	0	0	39	30	15	12	0
Currie Golf Course (Burgess Bay)	330	114	96	90	85	30	75	42	66	65	25	64	49	35	12
Dripping Wells	-	40	40	65	62	40	75	45	30	65	60	50	50	46	76
Central Part TOTAL	**445**	**374**	**432**	**395**	**387**	**245**	**385**	**278**	**324**	**263**	**403**	**352**	**393**	**285**	**204**
Seal Bay	-	20	n.c.	60	n.c.	n.c.	12	43	77	56	68	5	48	0	18
Surprise Bay (including Denby Beach)	-	187	80	105	75	70	80	106	71	90	116	43	89	102	70
Stokes Point to Surprise Bay	-	70	40	110	70	25	12	52	66	29	91	67	84	50	46
Stokes Point	-	70	90	20	30	50	60	62	49	40	72	72	32	39	37
Southern Part TOTAL	**0**	**277**	**210**	**295**	**175**	**145**	**164**	**263**	**263**	**215**	**347**	**187**	**253**	**191**	**171**
TOTAL COUNT	**811**	**831**	**792**	**890**	**686**	**445**	**645**	**604**	**670**	**597**	**853**	**689**	**823**	**625**	**469**

*** Australasian Wader Studies Group Counts 1984 and 1985** by D. B. Whitchurch – Ruddy Turnstone total in 1984 was 948 and in 1985 was 1252. Only comparable locations that were counted this trip are shown above as different locations were counted each year by Whitchurch (see Appendix 1 for full details).

Percentage Juveniles

For the Feb-Apr 2022 period the number of birds caught was small (57), and therefore too low to be statistically reliable for working out the percentage of juveniles on the island, from these we obtained a percentage juvenile of 8.8%. A sample of between 100 and 220 birds is the minimum used for percentage juvenile figures; this gives a juvenile fraction error range of 0.1 to 0.15 (Rogers & Standen 2019). For all states in SE Australia combined the figure was 13% (Jessop et al. in press).

This year's low percentage seemed to agree with the low numbers of juveniles observed in each of the flocks. Table 3 shows the percentage juveniles caught from 2006-07 to 2021-22 in the February-April period.

Table 3. Juvenile proportions in turnstone catches on King Island in the Feb-Apr period

Year	Total Caught	% Juveniles
2006-07	241	0%
2007-08	419	17.7%
2008-09	223	0%
2009-10	211	14.2%
2010-11	197	14.7%
2011-12	118	15.3%
2012-13	255	1.2%
2013-14	173	30.6%
2014-15	119	14.3%
2015-16	74	1.4%*
2016-17	218	31.2%
2017-18	149	2.7%
2018-19	249	25.3%
2019-20	0	-
2020-21	64	9.4%*
2021-22	57	8.9%*
TOTAL	2767	

*Approximate % juvenile. High degree of error in calculation due to insufficient total number of birds caught.

Sex Ratio

The ratio of males to females 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.

In almost all years there is a slight predominance of females in the birds caught.
This year there were 26 females and 24 males. (Table 4)

Table 4. Sex ratios of turnstone catches on King Island in Feb-Apr period 2007 to 2022

2007	126	116	241	51.9
2018	181	163	344	52.6
2009	103	120	223	46.2
2010	90	91	181	49.7

2011	80	88	168	47.6
2012	43	57	100	43.0
2013	118	134	252	46.8
2014	**46**	**74**	**120**	**38.3**
2015	-	-	-	-
2016	19	28	47	40.3
2017	70	79	149	47.0
2018	59	86	145	40.7
2019	82	104	186	44.1
2020	-	-	-	-
2021	25	27	64	48.1
2022	24	26	50	48.0

Weights
As discussed earlier the amount of food available to the Ruddy Turnstone appeared to be more than we had observed in the past, and the amount of time spent feeding appeared to be less than in previous years.

Each year there is a difference in adult mean weights between the different catching sites. This year the Ruddy Turnstone at Duck Bay were noticeably heavier than at other sites, with two of the nine birds caught weighing 187g. Table 5 shows the mean weights of the adult turnstone at the five different catch site.

Table 5. Mean weights of adult Ruddy Turnstone at each catch site on King Island

Site	No. of adults weighed	Mean weight (g)
South Manuka	11	154
Central Manuka	8	143
North Manuka	8	152
Porky Beach	16	145
Duck Bay	8	**177**

Geolocators
A total of 5 geolocators were retrieved and 40 geolocators in total were deployed. With only one visit possible during this non-breeding season our retrieval rate was again very low compared to previous years.

Flag-sightings
A huge effort was made, particularly by the Deakin University team, to record engraved leg flags whenever and wherever possible. This was particularly successful at locations where we spent a lot of time waiting for birds to come ashore and to potentially catch. A record number of 517 sightings were made in the field.

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

The March 2022 King Island Team
Robyn Atkinson, Steve Atkinson, Robert Bush, Roz Jessop, Steve Johnson, Marcel Klaassen, Rob Patrick, Toby Ross, Michelle Wille, Prue Wright and local King Island participants, Graeme and Margaret Batey, Margaret Bennett, Lizzie Cambra and Jenny Thorn.

10. Acknowledgments.

The VWSG would like to thank the following for their contribution towards another successful visit to King Island.

King Island locals Graham and Margaret Batey and Lizzie Cambra for their invaluable support and local knowledge. Without their help it would have been extremely difficult to organize the visit.

Heather and Roger Camm for generously allowing us to use their house in Naracoopa as our base for this visit.

Margaret Bennett and Gary Baker for kindly allowing us to store our field equipment in their shed.

Tasmanian Parks and Wildlife for the loan of their trailer to transport equipment.

Katherine Leung is thanked for updating the tables and figures for this report.

References

Jessop, R., R. Patrick, R. Atkinson, M. Christie & I. Marks. 2022. Wader breeding success in the 2021 Arctic summer, based on juvenile ratios of birds which spend the non-breeding season in Australia. *Stilt in press.*

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Daily summary of catching activities

Day 1. 18 March 2022

After arriving on King Island, and some complicated organizing of people and cars, we set out to count Ruddy Turnstone on the whole of the west coast. The weather was very calm, with little wave action, even at the most southerly point. The total count was low, but the calm weather may have allowed a few birds to stay out on rocks where they could not be seen.

King Island appearing out of the mist. Photo R. Jessop

Rob Bush and Steve Atkinson counting Manuka North. Photo R Jessop

View of the jetty at Naracoopa. Photo R Jessop.

Day 2. 19 March 2022

We set a net in the bay at Porky Beach where a good flock was seen during the count. No catch

Setting the net at Porky Beach. Photo R Jessop.

Day 3. 20 March 2022
We spent most of the day on flag reading and observation. In the afternoon we set a net in Currie Harbour, for a planned late catch. Unfortunately, the turnstone only returned in very small

numbers, as was the case on many occasions throughout the trip. Eventually we caught just one turnstone. Not a great start, but one is better than none.


View of Currie Harbour showing fishing vessels. Photo R Jessop.

Day 4. 21 March 2022
In the morning we set a net at Whalebone Bay. The problem everywhere was that birds were scattered with no real feeding hotspot that would bring the birds back into the catching area after we set the net.

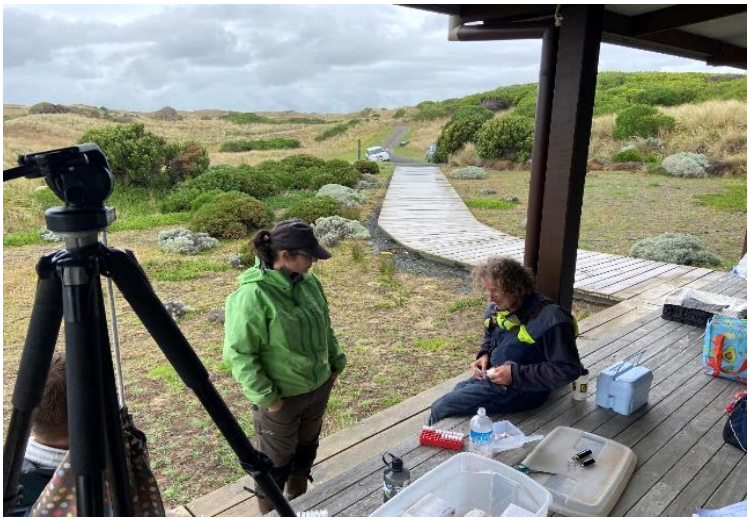

Looking for the best place to set the net at Whalebone, North Manuka. Photo R Jessop.

A small bay between Central and North Manuka, which we had never used before, was found with a small flock of foraging turnstone. Another net was set here with a plan to catch early the next morning. By now we were beginning to wonder if we would ever make a catch!

Setting the net in a small bay at Manuka Central. Photo R Jessop.

Day 5. 22 March 2022
Finally, a catch! Early in the morning we fired the net on the small bay between Central and North Manuka and caught nine turnstone. The net at Whalebone still had nothing so we left it there and set a net at Porky Beach in front of Turnstone House and quickly caught eighteen turnstone.

By the time we had the birds out of the net and into bird bags it was beginning to rain. Luckily, we were able to adjourn to the verandah of Turnstone House to process the birds, as we had done on a previous occasion. Birds and people were all warm and dry.



Processing at "Turnstone House" near Porky Beach. Photo R Jessop.

Day 6. 23 March 2022
We gave up on Whalebone and set a net at the traditional South Manuka site and another in a small bay to the north of South Manuka where a small flock was found feeding. This net was eventually fired with a catch of 12 turnstone

Net setting Manuka South. Photo R Jessop.

Day 7. 24 March 2022

A good flock had been seen at Duck Bay during the count on the first day. No geolocators have been put on at Duck Bay and, although we were mainly interested in recapturing geolocators, we headed off there to try our luck and hopefully make a large catch.

We set two four-cannon nets, to cover as much of the beach as possible, but, although some birds returned to the area, they were not interested in feeding in front of the net. After many twinkling attempts, from as far away as Green Island, we again had to admit defeat and went home leaving the nets for the next day.

Net setting Duck Bay. Photo R Jessop.

Day 8. 25 March 2022

After an early morning check of the nets at Duck Bay, with no success, we picked up one net and returned to North Manuka to set yet another net. Finally at 1700 we fired that net catching eight turnstone and one Double-banded Plover. After processing these birds, we returned to

Duck Bay to find a small flock of birds near the net. We fired the net at 1920 catching another nine turnstone. It had been a very long day, but at least we had had success.

Lots of choice for the Turnstone at Manuka North. Photo R Jessop.

Day 9. 26 March 2022

Where to set the net? We could find no feeding hot spots. Eventually Lizzie found seventeen at Currie Harbour. We headed there and set a net in the usual spot. We waited and waited and waited, sending twinklers to Burgess Bay and around the other side of the Harbour, but only three turnstone returned. They sat on a rock outside the catching area for a while and then left again. At 1830 we picked up the net and went home.

Currie Harbour. Photo R Jessop.

Day 10. 27 March 2022

This was a day for packing up equipment, cleaning, returning vehicles to the port and more leg flag reading. Due to problems with available flights on the weekend only four members of the group left on the afternoon flight, with the remaining members flying out the next morning.

Appendix 1. Australasian Wader Studies Group Counts 1984 and 1985 by D.B. Whitchurch for King Island

Summer Count 1984	**Location**																
Species	Bob Lagoon (39 41; 143 58)	Sea Elephant	Duck Bay	Yellow Rock Beach	Porky Beach	Stricklands	Currie (Burgess Bay - Netherby Pt)	Currie (Lighthouse Point)	British Admiral Bay	Ettrick River estuary (nth bank)	Ettrick River Sth bank	Ettrick - Kathryn Pt to Dripping	Fitzmaurice Bay 40 03 143 53	Fitzmaurice Bay (Bobby Creek) 40 03; 143 53	Surprise Bay (40 08; 143 54)	Lake Martha - Lavinia	**Total**
DATE (1984)	12 Feb.	12 Feb.		12 Feb.			11 Feb.	11 Feb.	11 Feb.	11 Feb.	11 Feb.		11 Feb.	11 Feb.	11 Feb.	12 Feb.	
Pied Oystercatcher		5		4			6		3	2							20
Sooty Oystercatcher							1	3			1				2		7
Pacific Golden Plover		2					3			2	12		1				20
Hooded Plover				7				2		4			2				15
Lesser Sand Plover																	0
Double-banded Plover																	0
Red-capped Plover		20		11			5		27				12		4	27	106
Black-fronted Plover	2			1							2					7	12
Ruddy Turnstone		**57**		**14**			**248**	**171**	**90**	**35**	**64**		**19**	**70**	**180**		**948**
Eastern Curlew																	0
Common Greenshank		7														1	8
Marsh Sandpiper																	0
Latham’s Snipe	7			1													8
Sharp-tailed Sandpiper	42																42
Red-necked Stint		469		4					105							27	605
Curlew Sandpiper	13						1		2								16
Sanderling																	0

Stricklands=Manuka

Summer Count 1985	**Location**										
Species	Sea Elephant	Duck Bay	Yellow Rock Beach	Porky Beach	Stricklands (Manuka)	Currie (Burgess Bay - Netherby Pt)	British Admiral Bay	Ettrick River estuary	Ettrick - Kathryn Pt to Dripping Well	Fitzmaurice Bay	**Total**
Date (1985)	10 Feb.	9 Feb.	9 Feb.	9 Feb.	9 Feb.	9 Feb.	9 Feb.	9 Feb.	9 Feb.	9 Feb.	
Pied Oystercatcher	6	7	7		13	4	3			5	45
Sooty Oystercatcher		15	2			5			2	5	29
Pacific Golden Plover	18	6			2	5	0	1	4		36
Hooded Plover	4		18	6	11		9	2		11	61
Lesser Sand Plover	4		2				1				7
Double-banded Plover	8										8
Red-capped Plover	34	2	5			12	25			18	96
Black-fronted Plover	6		2	4	2				2	4	20
Ruddy Turnstone	**309**	**260**	**106**	**28**	**67**	**330**	**63**	**3**	**60**	**26**	**1252**
Eastern Curlew									1		1
Common Greenshank	8										8
Marsh Sandpiper	5										5
Latham’s Snipe	12	7							5	3	27
Sharp-tailed Sandpiper		10	41								51
Red-necked Stint	267		145	10	2		47			35	506
Curlew Sandpiper		45		1							46
Sanderling		2									2

VWSG Field Trip Report South East, South Australia - 29 October to 3 November 2021

Jenny Hiscock

Aim

Retrieval and deployment of geolocators for Ruddy Turnstone, and percent juvenile data (a surrogate for breeding success).

Background

The trip dates had been set around the highest tides available for this time of year. However, tides were moving from one tide cycle a day to two cycles a day, beginning at 0.8m on 30 October and heading to 0.95m on 3 November. The tides were thus marginal for moving birds off rocky roosting sites to the beach weed sites for feeding at high tide. High tides were from 11am and moving later during the week. Poor tides meant that catching was only programmed for five days, several days shorter than average expeditions.

Local reconnaissance by the resident members of FoSSE and VWSG indicated the current situation of flocks of Ruddy Turnstone, in the Nene Valley and Blackfellows Caves area, which included birds carrying engraved flags and geolocators. There were also separate flocks of Ruddy Turnstone, some with birds carrying engraved flags, further to the north on the Beachport to Wright Bay beaches.

Of note was a general lack of weed on beaches and low amounts of food availability for birds. There were small numbers of hoppers where some weed was present, but no maggots were seen within the weed on beaches. Birds were mainly feeding on rocky reefs, with very little feeding behaviour on sandy beaches.

With COVID19 travel restrictions still in place for Victorian residents further than 70km from the SA/Victorian border, Christina from Nelson was the only Victorian able to be at the Field Trip.

Day 1. Saturday 30 October

The site chosen for the day's catch attempt was at the beach to the west of Nene Valley town beach, accessed at the western end of the township. Maureen and other locals had observed migratory birds feeding high on an area of the beach and a small flock of eight Ruddy Turnstone, two with geolocators, had been seen there consistently. Today's team of 10 volunteers included a local resident David New, with his young son, Albert.

The two-cannon net was set on the beach above the level high tide was expected to reach. Cars retreated and Graham and Mary-Ann were sent to the western end where Black Rock provided good roosting for Ruddy Turnstone. The small flock had retreated to this location. As the ebb and flow of the twinkle progressed, a flock of Red-necked Stint arrived. Also present were a Whimbrel and two pairs of Hooded Plover.

The net was fired at 11.40am and 32 Red-necked Stint were caught, but unfortunately no Ruddy Turnstone. Two processing teams were set up. There were no re-traps. There were eight juvenile birds among the 30 caught. The team took heart in the knowledge that, with few Red-necked Stint caught in Victoria this season, the percentage juvenile data would be very useful.

Processing. Nene Valley beach. Photo Phil Cole.

Included in the catch was one individual that weighed 24gm. With no-one in the team confident to determine whether it was a Red-necked or Little Stint, extra measurements and photos were taken. It proved to be a Red-necked Stint.

The day was partly successful. David New and Albert made a short video of the day's efforts. That was shared with the participants and Albert took it to his kindergarten early in the following week.

Day 2. Sunday 31 October

Nene Valley was again chosen as the target beach to attempt to retrieve and deploy geolocators. Reconnaissance found the Ruddy Turnstone flock frequenting the Blackfellows Caves area. Up to sixty Ruddy Turnstone frequented the point and weed on the rocks to the west of the beach access. However, there was no indication that these birds were moving to the adjacent beach to feed. Previous studies have established that the Ruddy Turnstone of

Nene Valley/Blackfellows Caves are faithful to the area. Flag readings during this expedition showed that a subset of this flock did fly to the Nene Valley beach to feed. This smaller group included Ruddy Turnstone with geolocators, and VAZ was one of them.

The three-cannon net was set at Nene Valley, this time closer to Black Rock to the west, and between Black Rock and the two rocks that are located some 400m to the east.
Weather was fine with high tide at around 11.20am. Two cars were positioned at some distance on either side of the net. Jenny and Phil were sent to find the larger flock of Ruddy Turnstone. A good flock of 40+ were in the weed and rocks just west of Black Rock. These were moved to the east a couple of times, but they returned to the west each time.

Some time after that, a small flock of eight Ruddy Turnstone, some with flags and geolocators, came onto the beach. They were very sticky to the two rocks some 100m away from the net. It was about 3.00pm by this time. Maureen did some twinkling with her car. This brought the birds closer to the net. They were sticking to small lumps of wet weed lower on the beach and were reluctant to move up the beach. All the time, the tide was retreating, decreasing the chance that they would move up the beach to feed. Some rocks were exposed by the retreating tide, and attempts were made, via the water, to bring the birds up again. The waves were of assistance here, as the birds moved when splashed. But it was to no avail.

Day 3. Monday 1 November
Flocks of Ruddy Turnstone further north at Beachport and north of Robe were reported by residents doing daily local reconnaissance. Cookie at Beachport was reporting on a flock of about 40 on Rivoli Bay. Holly at Robe reported good flocks at Boatswain Point. We met Cookie at Beachport at 8.30am (leaving Carpenter Rocks at 7.30am). A small flock was on the beach closer to the Surf Beach; we headed towards Southend to see if we could find any additional birds. No other flocks were found. Holly reported from near Robe that the Boatswain Point/Wright Bay flock had split into two groups with good numbers of turnstone at both sites. It was decided to travel to Robe and onwards.

It was a fine, sunny day with an expected maximum temperature of around 18^{o}C. Winds were light and expected to increase in the afternoon with the sea breeze.

With the turnstone of Boatswain Point feeding amongst large piles of weed it was considered that Wright Bay would offer an opportunity for the easier catch. There were some 36 Ruddy Turnstone on the eastern end of beach. With a spotting scope, Mary-Ann read nine turnstone flags and one Sooty Oystercatcher flag. Phil read two extra engraved flags from photographs, but no geolocators. Birds flew around the headland to the east and stayed near, so we set the net. Jenny and Phil drove to Boatswain to send along any birds that might be there. A flock of 30+ Ruddy Turnstone were moved off the beach at Boatswain and flew in the direction of the net set. Graham sent the birds around from the headland to the beach with the net.

Catching area at Wright Bay. Photo M-A Van Trigt.

On the beach were Ruddy Turnstone and a flock of Red-necked Stint. Most were sitting on the weed near the water or beside the catching area. They were in roosting mode. The moved flock arrived and landed in front of the net. Holly had been positioned to be able to move them along. Fortunately, the stints were roosting separately from the Ruddy Turnstone, so there was a chance to not include many of them. It was a matter of waiting as Holly moved gently forward and back to encourage the birds into the catching area. Jeff made the call when turnstones were in the catching area and it was safe. The two-cannon net was fired at 15.05pm. Sixteen Ruddy Turnstone and four Red-necked Stint were caught.

Two processing groups were set up. There were a number of retraps. The engraved flag of one bird had only a shadow of its number 01. Records showed this bird had been caught as a 1 year-old in March 2006 at Nora Creina. Both Maureen and Iain had been present at that catch and Iain had taken all of the measurements. On this day, 1 November 2021, both Maureen and Iain were again present at the catch.

It was late (8.00pm) when the groups arrived back at Carpenter Rocks and Mount Gambier after the 1.5 hr road trip. A long but successful day.

Flagged bird 01 before new flag SHK. Photo J Hiscock.

Day 4. Tuesday 2 November

Although we could rely on finding flocks of turnstone north of Robe, no geolocators had been seen there on the previous day, and so it was decided to give Nene Valley beach another try. The wind was off-shore and a warm day was predicted. On arrival at the beach, a fox was seen about 1km away at the foot of the dunes beside the beach. It went up into the dunes, but Maureen managed a photograph.

The net was set ready for the high tide that was expected after 11.30am. Jenny and Phil set off to find more Ruddy Turnstone than the small group that was frequenting this area. This morning, none could be seen to have flags, let alone geolocators. At Blackfellows Caves, the flock was on the point to the west of the beach access. On disturbance, they flew further to the west. Off we went in pursuit. There were none at East Livingston's so we checked at Kym's. It was not evident with binoculars that any birds were present, but when walking we found three separate flocks. All flew to the west – away from the beach with the net set. They were seen to land on the rocky outcrops at the eastern end of Livingston's Bay. With the tide now low enough to expose the rocky outcrops it was difficult to move the birds.

We returned to Blackfellows Caves and then to Nene Valley beach.

Meantime, those at the net set were searching in vain for any other flock that might be in the vicinity. The small group of Ruddy Turnstone stayed near the water's edge. It was about 2.00pm. We decided to wait an hour or so.

At 3.00pm, Jenny and Phil went back to Blackfellows Caves. Some 40 turnstone had returned. When these were flushed, they again flew further away from the net set. So, no birds. Checked Black Point, no birds.

There were still four Ruddy Turnstone on the beach. Maureen started the twinkle from her side. When they moved to the west of the net, Jenny walked in the water to move them east and, hopefully, up the beach. But all to no avail. Yet another day of packing up the equipment without having made a catch.

Day 5. Wednesday 3 November

The forecast was for thunderstorms and rain in the morning following an overnight westerly change. It was decided to take a trip into Canunda National Park. There had been a small flock of Ruddy Turnstone at Little Rock on 20 October along with 100 Sanderling. This offered a remote chance of geolocators. Also, given the Discovery Bay project on Sanderling, it was important to report on this species.

Another goal was to check on the fence installed at Number Two Rocks. Fairy Tern were discovered nesting there for the first time in November 2019, but vehicle disturbance had caused the site to be abandoned. FoSSE applied for a grant and a fence was erected earlier this year with the help of the Naracoorte and Mount Gambier 4WD Clubs and DEW. Since that time, Fairy Terns had been observed returning to the fenced area. Were there Fairy Terns there this season?

Graham and Jeff arrived at Carpenter Rocks at 8.00am. We headed off into a misty morning to Number Two Rocks, taking two cars. The fence cordons off quite a headland area. No tern nests were seen on top. However, while we were sheltering on the beach at morning tea, some 12 terns were seen flying to and fro. Some with fish in their bills. On the eastern side, Maureen spotted a flock of small waders. Turnstone had used the area in the past, so, with hopes high, we headed off to Longs Rock. No turnstone, but a good flock of Red-necked Stint was on the sand, along with many Red-capped Plovers. Mary-Ann spotted an unfledged chick. The dab-net had been left behind. The chick was caught by Graham and banded by Mary-Ann and returned to the waiting parents.

Next stop was Little Rock. A flock of about 100 Sanderling, one Ruddy Turnstone, a pair of Sooty Oystercatcher and one Pied Oystercatcher was present. A number engraved flags on the Sanderling could be read from photographs.

An attempt to catch the oystercatchers with the noose mat was made. A decoy Sooty Oystercatcher and a decoy Pied Oystercatcher were deployed at separate locations. The Pied Oystercatcher attacked the decoy Sooty Oystercatcher. So the noose mat was set adjacent

to the decoy Sooty Oystercatcher. The Pied Oystercatcher was now no longer interested; it was more interested in seeing off a pair of Sooty Oystercatchers that were feeding on some mussel covered rocks.

We returned to Carpenter Rocks in the early evening.

Two very similar moults, both showing four fully grown feathers and a 5th almost there.

SHH originally banded in 2015, so obviously an adult. Such advanced moults so early in the season was a surprise.

Outcomes
Captured 30 + 4 Red-necked Stints; 8 Juvenile.
Captured 16 Ruddy Turnstones; 1 Juvenile.
Retraps 7 Ruddy Turnstones
No geolocators retrieved or deployed.

Engraved Flags read

Ruddy Turnstone	41	Inc 6 with geos
Sanderling	4	AAS, AAY A4, 9Y
Hooded Plover	3	
Pied Oystercatcher	1	
Sooty Oystercatcher	1	

We read engraved flags of Ruddy Turnstones on many birds in addition to those we caught. Each has an interesting story to tell. Of particular interest is VAZ (aka ATZ). First caught 4.3.2006, he has been captured a total of 12 times, the last time being 1.11.2020. He is now carrying his sixth geolocator. To date we have data for six northern and five southern migrations.

Juveniles are known to range widely in their first winter here, but as adults are site faithful to their non-breeding grounds. XAJ was banded as a juvenile 15.4.2014 at Beachport but had moved to the Carpenter Rocks/Blackfellows Caves/Nene Valley area by August of the same year and has been seen there regularly ever since. In September 2015 it was seen on northern migration at Bawley Point, near Ulladulla, NSW.

VAH seems to have established a regular migration route via the Eyre Peninsula. Banded at Nene Valley in November 2016, Andrew Brooks has seen it twice at Cactus Beach in April 2017, in November 2017 at Point Bell and in March 2018 at Port Le Hunt.

Sanderling AAY in this report is interesting as it has been caught more recently at Yambuk, Victoria as part of the Discovery Bay Sanderling project. The bird was banded 25.4.2015 at Stony Drain (near Green Point), and reseen at Nene Valley west 16.4.2020. It was seen by our team at Little Rock Canunda 3.11.2021 and recaptured Yambuk 3.12.2021.

Field Trip Participants
Jeff Campbell, Sarah Campbell, Phil Cole, Maureen Christie, Graham Parkyn, Petra Hanke , Jennifer Hiscock, Holly Prest, Christina Loras, David and Albert New, Chris Sholtz, Iain Stewart, and Mary-Ann Van Trigt.

Sanderling A4
Photo
Sarah Campbell

VWSG Field Trip to Discovery Bay

Roz Jessop

Aim: Catch Sanderling to put on radio transmitters (20) and leg flags to support the project "Characterising patterns of habitat use among endangered migratory shorebirds using tagging and tracking technologies".

29 November to 5 December 2021.

Background

Shorebirds the world over are in decline, and migratory species using the East Asian-Australasian Flyway (EAAF) including the Sanderling *Calidris alba* are of foremost conservation concern. The reasons for dramatic population declines across the EAAF are diverse and include land reclamation / coastal development (both overseas and in Australia), climate change, invasive species, and human disturbance.

Sanderling are small shorebirds (<100g) that can be seen in flocks along the oceanic coastline of Discovery Bay and the lower SE of South Australia throughout the year. Adult birds spend the Austral summer here and then begin their journey along the East Asian-Australasian Flyway in May, breeding in the high Artic, arriving back in northern Australia in September, and then flying overland to southern locations after a brief rest. Juvenile birds remain in these areas all year until they are at least two years old.

Sanderling are declining throughout their range and the area from Killarney Beach near Warrnambool Vic to Canunda National Park in SA is their stronghold in Australia. The Glenelg Estuary and Discovery Bay Ramsar site is one of the most important sites for this species in Australia, holding over 1.4% of the flyway population.

Flocks frequent the oceanic beaches, running back and forth as the waves wash in and out, actively feeding on small animals that live between the sand grains. Sometimes they are concentrated in large flocks of up to 1500 birds if a hatching of insects from the sand is happening. Flocks offer protection from predators such as birds of prey.

Participants at a shorebird expert and land manager workshop held in Warrnambool in June 2019 agreed that the limited knowledge on roosting and foraging behaviours of Sanderling at Discovery Bay and SE SA is a barrier to effective species conservation.

This project aims to fill this knowledge gap by estimating the space use and time and energy budgets of foraging and roosting Sanderling using Discovery Bay and adjacent coastlines (Vic/SA). In doing so, the project seeks to define roosting and foraging habitat characteristics for Sanderling at Discovery Bay, which, once complete, will allow the better prioritisation of resources to safeguard critical habitat.

Roles and Responsibilities

Grant Applicant:	South West Environment Alliance.
Coordination:	Glenelg Hopkins CMA (Gavin Prentice)
Technical design:	BirdLife Australia - Dr Dan Lees, Arthur Rylah Institute – Dr Danny Rogers
Animal procedures and ethics:	Prof Marcel Klassen

Other partners and volunteers	
Land manager:	Parks Victoria
Volunteer support:	BirdLife Australia, Friends of Shorebirds SE, Victorian Wader Study Group, Nelson Coastcare, Friends of Great South West Walk, Nature Glenelg Trust

The VWSG agreed to support the program by catching Sanderling for the deployment of radio transmitters.

Field work was scheduled from 30 November to 10 December with 29 November and 10 December being travel days.

Prior to the field work commencing local volunteers surveyed the coast between Killarney Beach and Canunda National Park for flocks of Sanderling. Up to 1500 Sanderling were sighted at the mouth of the Glenelg Estuary in November 2021 and 400 were seen at Piccanninie Ponds SA.

Sanderling at the mouth of the Glenelg Estuary. Photo Dave Nichols-Glenelg Hopkins Catchment Management Authority 16/11/2021.

The team gathered in Nelson on 29 November after travelling from eastern Victoria and South Australia.

30 November
As the birds were not regularly in one site the team dispersed to check out possible catching locations.

Glenelg River mouth – At 06.30 a flock of Red-necked Stint and Red-capped Plover with a few Sanderling was present on the sandbar just inside the mouth. A canoe was used to transport volunteers to access the western side of the river mouth where Sanderling had been seen previously. No Sanderling were present.

Crossing the estuary to recce. Photo Roz Jessop

Estuary mouth where the birds were observed in previous days. Photo Roz Jessop.

Further recces were carried out after breakfast. At the Glenelg River mouth between 13.00 and 16.00 Caspian and Crested Tern were observed heading back to roost from off-shore fishing trips, a SA Red-necked Stint was observed in a flock of 250 along with 16 Sanderling, 50 Red-capped Plover, two Hooded Plover and a Pied Oystercatcher. The stints and Sanderling moved between roosting on the sand islands in the mouth of the estuary and the north-western shoreline where a small bay was a hot spot for feeding. The afternoon brought increased numbers of recreationists in boats and jet skis, and swimmers to the area, with the swimmers disturbing the feeding birds when they explored the western bank.

Roosting shorebirds on the sand island in the estuary. Photo Roz Jessop.

Elsewhere, a flock of Ruddy Turnstone was seen on Killarney Beach, but no Sanderling were present, nor were any seen on nearby beaches. However, a large flock was found feeding between Nobles Rocks and the mouth of the estuary. Unfortunately, this location was inaccessible other than by foot, so we decided a small team would go out the next day equipped with noose mats and attempt to catch birds for deployment of radio transmitters.

1 December

One volunteer commenced walking from Nobles Rocks and the others from the mouth of the estuary hoping to meet up with the Sanderling. The team was able to catch three birds which were fitted with radio transmitters – see photographs below.

The rest of the team then divided up to do further observations for flocks in suitable catching locations. Reports were also received from local volunteers. Sanderling were reported from beaches east of Port Fairy, but only small groups, some with suitable access.

Sanderling were feeding on the beach, they were caught by noose mats and fitted with radio trackers. Photo S. Woodend

Sanderling fitted with radio transmitter Photo S. Woodend.

2 December
As birds had not been seen in big flocks elsewhere the team decided a further day would be devoted to trying to catch birds using the roost mats near Nobles Rocks. VWSG, local volunteers and GHCMA personnel made up the team, leaving at 07.30 from the Nobles Rocks end and 07.30 from the estuary end. Although the flock and two transmitter birds were located using the radio receiver, no birds were captured.

The rest of the team split up with FOSSE volunteers from South Australia checking out access at Piccanninie Ponds – the cannon net equipment would need to be transported from there - and beaches nearby to see if any birds had split off the main flock.

A report was received from BirdLife Australia shorebird counters that a flock of 40 Sanderling had been seen at Yambuk at 09.00. So, part of the team hot-footed it to Yambuk and were able to catch up with the counter for the good news that birds had been seen below the main pathway and at the mouth of the estuary. The birds were still there at 12.35 roosting on the far side of the estuary and on a sandy beach on the eastern side of the outlet. The equipment would have to be carried 700m, so a request was sent out for the SA members to bring back barrows and trollies.

When we met in the evening, we planned to try catching at Yambuk the next day to put on the remaining transmitters.

3 December

Left at 07.00 for Yambuk and had the net set near the estuary entrance by 09.30. The birds quickly returned to their previous activities, having a quick feed, and then going to roost on the beach. We fired at 10.30 and made a good catch of 119 Sanderling including two birds previously banded in South Australia at Stony Drain near Port MacDonnell. The Birds Australia counter saw two additional leg-flagged birds which had been banded at Danger Point in South Australia. The remaining twelve transmitters were deployed making a total of fifteen.

4 December

We took a rest day on 4 December to go bird watching along the Glenelg River. When we returned to camp, we found that SA had bought in new COVID-19 restrictions. This meant the SA contingent had to return home or be subject to changed testing and quarantine requirements. The Victorian contingent returned home the next day.

Following the Field Trip, FOSSE and local volunteers have been monitoring the birds using receivers loaned to the project by Deakin University and searching for leg-flagged birds.

Glenelg Hopkins CMA have prepared a flyer and are undertaking publicity on social media to encourage reporting of leg flags and Sanderling. This includes a prize for the best photo of a leg-flagged bird - see

https://www.ghcma.vic.gov.au/2021/12/december-2021-newsletter/

Catch details

Date	Location	Species	New	Retrap	Total
01/12/2021	Discovery Bay	Sanderling	3	0	3
03/12/2021	Yambuk	Sanderling	117	2	119

VWSG/FOSSE April 2022 Ruddy Turnstone Expedition

Julian Correia

Aim
To retrieve and deploy geolocators for Ruddy Turnstone and collect juvenile percentage data.

Background
This field trip ran from 3 to 9 April 2022. The tides were quite favourable with high tide at 2:00 pm on 2 April and getting later during the week. Nets were able to be set on all days of the trip. Favourable tides were accompanied by mild temperatures and little to no rain or wind, making for great catching conditions.

Good numbers of our target species had been seen in the upcoming weeks to the catch by local members. In addition, Barry Schriever saw large numbers of Sanderling and turnstone further north at Nora Creina. With plenty of beach wrack (particularly at Nora Creina) there was an abundance of food for the birds, indicating that it was likely they would happily stay for the duration of the trip.

With last year's trip being limited in participants due to border restrictions, it was great to see a large turnout from the interstate volunteers this year, with a large contingent from Victoria as well as one person from New South Wales.

Everything seemed to be in our favour for a great week of catching.

Day 1. 3 April 2022
Following early morning reconnaissance by Jeff and Sarah on their way into Carpenter Rocks, Livingston Bay was selected for the first catch. With anticipation high, we arrived at the site around 8:40 am and were pleasantly surprised to see a large pod of around 80 dolphins about a hundred metres offshore

Photo Mary-Ann van Trigt.

With the tide low on arrival, turnstone were seen relaxing on the exposed rock along the eastern edge of the beach. After some deliberation by Roz, Eric, and Maureen, the four-cannon large-mesh net was set close to half-way along the beach.

Livingston Bay. Photo Petra Hanke.

As the tide rose the turnstone continued eastward away from the net, roosting on the rock spits nearby. Twinkling was attempted by Sally and Julian, sending the birds back towards the net; however, the birds refused to land on the beach. Maureen made the call that there were too many people on the beach, so all those remaining hid in the bushes at the top of the dune. After some back and forth between the rock spits, the birds eventually landed on the beach. Maureen gently moved them towards the net, and, with about a third of the flock under the net, we all were eager to fire. Unfortunately, and for no discernible reason, one turnstone flew off out to sea, taking the rest of the flock with it. This led to no catch for the day, but it was excellent for everyone to catch up again!

Day 2. 4 April 2022

As the birds had tended to fly eastwards out of Livingston Bay when disturbed, and after some reconnaissance by Jeff, we headed to Blackfellows Caves for the day. With turnstone again the target, we set up the four-cannon large-mesh net.

With high tide quite late, we enjoyed lunch in the shelter of the cars while we waited for the birds to arrive.

Similar to the previous day, the birds weren't interested in sitting in front of the net, with the flocks moving around Kym's Bay and into Livingston's beach when twinkled. With the birds landing in areas of the bay that were tricky to reach, twinkling proved to be difficult. A small flock finally landed in the catching area. Having seen the morning's flock gradually get smaller as they were twinkled, we were eager to catch whatever number we could.

As such, the net was fired leading to a catch of nine Ruddy Turnstone and a bycatch of 57 Red-necked Stint. Among these were two Ruddy Turnstone retraps, both originally banded

within the last two years, and three Red-necked Stint retraps. While it was unfortunate that not all the birds had returned to the net, after the previous day's failure, we were happy to have some birds banded.

Day 3. 5 April 2022

On the previous night, Maureen had received word from Barry Schriever of approximately 60 turnstone and hundreds of Sanderling showing well at Nora Creina. An early start was set to arrive there by 9:00 am. With grey skies and brisk temperatures, we were thankful that the turnstone were along the northern end of Stinky Bay. The four-cannon net was set up where there were feeding spots slightly further down the beach.

Nora Creina. Photo by Julian Correia

Nora Creina. Photo by Petra Hanke.

Setting the net. Nora Creina. Photo by Petra Hanke.

As the tide rose, the birds returned to where they had been previously, but they were quite flighty, moving between their original roost and much further down the beach. Twinkling by Graham and Sally pushed them back up the beach, and slow walking by Eric brought them directly in front of the net; however, they remained slightly too far out for the net to reach them. As the tide began to rise, attempts to push them further up the beach proved unsuccessful, with large seaweed barriers providing ample space for them to roost without interference from the water. Eric and Maureen continued trying to tempt them to move closer to the net. Unfortunately, the birds were not obliging, eventually flying off. With a long drive home, the catch was called off quite early.

While Sally had been down the beach twinkling, she had observed at least two pairs of Hooded Plovers, which led to some of the team staying back to continue observations and attempt to catch them using the noose mats. Unfortunately, this was unsuccessful, but Maureen managed to read the flag of an individual originally banded as a chick in Robe.

Day 4. 6 April 2022

Livingston Bay base camp. Photo Petra Hanke.

With Jeff reporting from the morning recce that the birds were back at Livingston's beach, we once again set off down the road. With high hopes, we set up both the nets, with the two-cannon net set quite close to base camp and the four-cannon net further down the beach in a similar location to the first day. Learning from the previous attempt at Livingston's beach, we left the car up at camp and everyone walked down and hid in the bushes. Not long after the net was set, and we had just begun digging into our lunch, did the countdown for the net fire begin. The birds had flown straight into the catching area! The net was fired leading to an excellent catch of 27 Ruddy Turnstone and a bycatch of eight Red-necked Stint.

Among the 26 Ruddy Turnstone, we had 8 retraps, of which half were banded in the last few years and half were first banded in 2015/16. Excitingly, we also succeeded in retrieving a geolocator from one of them! With a very solid catch, we deployed 17 of the remaining 22 geolocators, keeping five in reserve for future catches.

Day 5. 7 April 2022

During the usual morning recce both turnstone and Sanderling were seen at Nene Valley. We once again left at 8:30 am to commence set up. The four-cannon net was deployed a fair way down the beach. However, with steep dunes and no cover, this would mean that we were not able to hide close to the birds and would have to drive in when the net fired. Despite the first day's lack of success, partially due to vehicles being on the beach, our vehicles remained on the beach. We hoped the birds wouldn't be disturbed by our presence.

As the tide rose the birds began to show up, and fortunately tended to stay within the bay, making twinkling not too difficult. There were large mixed flocks of birds, with many Red-

necked Stint and Sanderling walking up and down the beach quite close to the vehicles, and also Curlew Sandpipers, some of which were in beautiful breeding plumage! As we weren't targeting these we were not concerned about our presence so close to them on the beach, especially as the majority of turnstone tended to be concentrated together.

Eric and Maureen again took positions either side of the birds to encourage them into the catching area. However, the birds weren't especially cooperative; they walked up onto the beach well past the cannons to feed. Robyn and Steve then drove along the track behind the net to attempt to push the birds back down towards the water. This was partially successful, and as only some birds in the safety area the jiggler was used to move the remaining birds into a position where a safe catch could occur.

After a long wait the net was fired at around 1:30 pm, achieving a large catch of 26 Ruddy Turnstone, 10 Sanderling, and 88 Red-necked Stint. Additionally, one Double-banded Plover was caught and released unbanded. With such a large stint bycatch we quickly got to work processing. Of the 26 turnstone, one was a juvenile, and four were recaptures originally banded in the last few years. As we were well over halfway through the expedition, we deployed the remaining five geolocators. Another great catch for the week!

The Sanderling pictured has flag 'AHX' and was banded in 2017 at Danger Point. Photo Mary-Ann van Trigt.

Curlew Sandpiper. Photo Mary-Ann van Trigt.

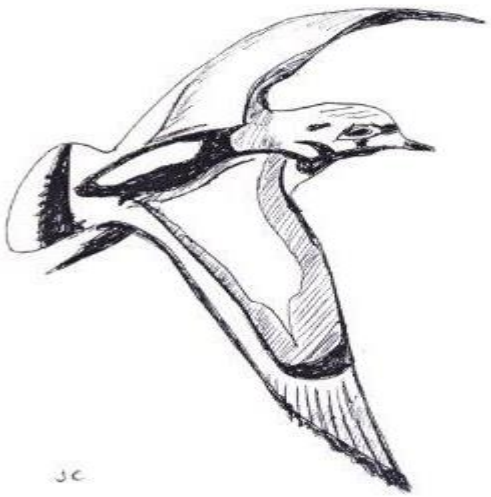
Day 6. 8 April 2022

Barry called again as he had seen substantial Sanderling numbers at Nora Creina. We rose early once more to make the long journey northwards. On arrival at Stinky Bay at around 9:00 am, we initially saw very little activity. With feeding holes sighted further down the beach, Roz, Robyn, and Maureen carefully selected where to place the net. Shortly, the two-cannon large-mesh net was deployed low on the beach with the expectation of a catch of Sanderling before high tide. With hopes of catching turnstone, the four-cannon net was set up where we had seen them earlier in the week.

Shortly after the net was set, we started seeing activity along the beach, with the Sanderling meandering further south. Maureen slowly ushered them up the beach, leading to a 1:00 pm catch. We had made an excellent catch of 66 Sanderling! With the birds in keeping cages, we began to process them.

Photo Mary-Ann van Trigt

But it wasn't long before we heard from Steve that turnstones with geolocators had shown up near the other net. We quickly stopped what we were doing and moved to the other net, waiting in anticipation for the turnstones to walk into the catching area. Maureen and Eric, one on each side of the birds, attempted to push them into the catching area, with Mary-Ann continuing to search for geolocators.



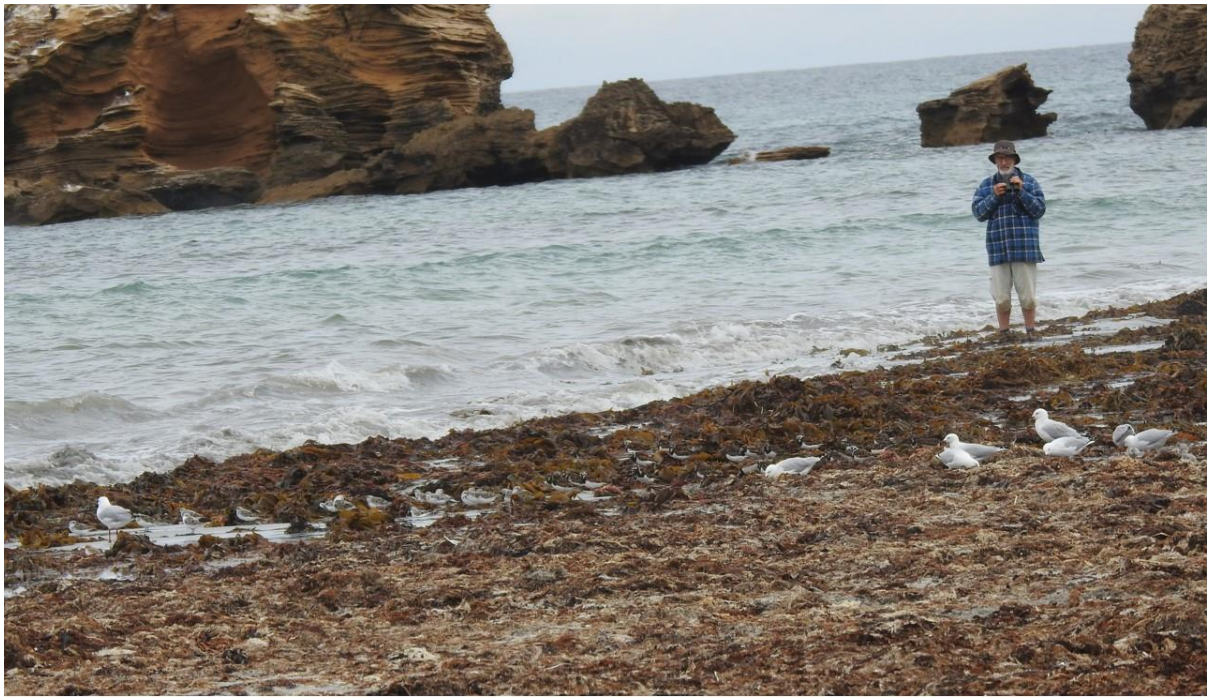


Photo Mary-Ann van Trigt.

After much waiting around, the turnstones unfortunately hadn't moved to where we needed them, and with limited time to process the Sanderling, we gave up on the turnstones. With the day finished, we headed to the tavern in Carpenter Rocks for a warm meal.

Of the 66 Sanderling banded we had eight retraps. Of note were three individuals that were banded in Yambuk, and one originally banded in 2011. It was unfortunate we couldn't catch the turnstone, but with such a large catch of Sanderling it was hard to feel too sorry for ourselves.

Day 7. 9 April 2022
Graham did an early morning recce around the local beaches and found substantial numbers of turnstones, a few of them with geolocators, at Blackfellows Caves. With the tide quite late in the day we headed out at the usual 8:30 am. Once again, we set the two-cannon and the four-cannon net, this time both below the expected high tide level, in anticipation of a catch before the tide had fully come in.

The birds were not particularly obliging, occasionally landing close to the catching area before flying off to the other nearby beaches. While the rest of the crew had lunch and prepared for a long wait, Maureen twinkled from Nene Valley while Graham and Robyn moved the birds from Kym's Bay. Mary-Ann searched among the Turnstone arriving near the net, for any birds with geolocators and continued reading leg flags.

While Maureen was twinkling she sent the unfortunate message that she had a flat tyre! Graham and Julian set off to provide assistance, and it was only after replacing one tyre that another tyre was found to be also deflated. Inflating it as much as possible, Maureen returned to base camp. No birds remained at Nene Valley.

Not long after the tyre debacle, the turnstone arrived back at Blackfellows Caves. Although viewing was difficult from the base camp, it was determined that there may be some with geolocators. After some gentle coaxing from Eric who was watching safety, the countdown began. The net was fired around 3:00 pm, catching 28 Ruddy Turnstone.

With hopes high for the retrieval of some geolocators from our final catch of the trip, we were disappointed to see we had only caught a single geolocator, and that it was one that we had deployed only days ago. Still, we banded 20 new birds and had eight recaptures, seven of which were banded in the last few years from the local area, and one originally banded in 2011! A lovely catch and a great last day out in the field.

Outcomes
While we were largely unsuccessful in retrieving geolocators, it was still a great week with many catches. In total:

- 90 Ruddy Turnstone, seven of which were juvenile
- 76 Sanderling
- 153 Red-necked Stint, 39 of which were juvenile.

Additionally, we deployed 30 new geolocators on Ruddy Turnstone, and retrieved one.

Flag readings were very successful. Mary-Ann in particular put in an incredible effort over the week, identifying 126 Ruddy Turnstone individuals. Similar to last year, far more birds were seen with flags than were caught. Of note, 31 flags were read from birds caught in a single catch from November of 2020 in Blackfellows Caves. This represents more than half of the birds banded from that catch, and further emphasizes how site devoted these birds are, with all resightings being from the local area.

Individuals of note include VAZ, who previously (and infamously) was ATZ. This bird has been caught 12 times since 2006, and has been seen over 60 times, yet in recent years has evaded capture. Currently equipped with a white geolocator, it was a high priority target. It

was present on sites throughout the week, but despite our best efforts, it refused a thirteenth capture.

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Additionally, it was good to see some Hooded Plovers, with most of the five sighted being originally banded as chicks or juveniles. As Sanderling were a secondary target for this trip there were fewer flag readings. However, after this trip the team travelled to Nelson for Sanderling catches and flag readings.

FLAGS SIGHTINGS	Total	Multiple sightings	Total individuals
Hooded Plover	5		5
Pied Oystercatcher	6		6
Sooty Oystercatcher	3	1	2
Ruddy Turnstone	171	45	126
Sanderling	15	3	12

Thanks to everyone who participated; it was excellent to have such a large team out for the week.

Field Trip Participants
Robyn Atkinson, Steve Atkinson, Jeff Campbell, Sarah Campbell, Maureen Christie, Peter Cook, Julian Correia, Petra Hanke, Vivien Holyoake, Roz Jessop, Sally Leonard, Ila Marks, Eric Miller, Heidi Miller, Dave Nichols, Graham Parykn, Chris Scholz, Barry Schriever, Mary-Ann van Trigt.

Catch details

Date	Location	Species	New	Retrap	Total
4/04/2022	Blackfellows Caves SA	Red-necked Stint	54	3	57
4/04/2022	Blackfellows Caves SA	Ruddy Turnstone	7	2	9
6/04/2022	Livingston Bay, Carpenter Rocks SA	Ruddy Turnstone	18	8	26
6/04/2022	Livingston Bay, Carpenter Rocks SA	Red-necked Stint	7	1	8
7/04/2022	Nene Valley SA	Red-necked Stint	87	1	88
7/04/2022	Nene Valley SA	Ruddy Turnstone	23	4	27
7/04/2022	Nene Valley SA	Sanderling	10	0	10
8/04/2022	Nora Creina SA	Sanderling	58	8	66
9/04/2022	Blackfellows Caves SA	Ruddy Turnstone	20	8	28
	Total		284	35	319

Western Victoria Catch Report 2022

Roz Jessop

https://vhost2009.hosted-sites.deakin.edu.au/birdmark/overviewSanderlings.php

Aim Sanderling Project - Leg flag up to 200 Sanderling and collect flag sightings and percentage juvenile data.

11 to 13 April based at Karnkendi Campsite, Nelson, Victoria.

Sanderling project **"Characterising patterns of habitat use among endangered migratory shorebirds using tagging and tracking technologies."**

Background
Shorebirds the world over are in decline, and migratory species using the East Asian-Australasian Flyway (EAAF) including the Sanderling *Calidris alba* are of foremost conservation concern. The reason for dramatic population declines across the EAAF are diverse and includes land reclamation / coastal development (both overseas and in Australia), climate change, invasive species, and human disturbance.

Sanderling are small shorebirds (<100g) that can be seen in flocks along the oceanic coastline of Discovery Bay and the lower SE of South Australia throughout the year. Adult birds spend the Austral summer here and then begin their journey along the East Asian Australasian Flyway in May, breeding in the high Arctic and arriving back in northern Australia in September and flying overland to southern locations after a brief rest. Juvenile birds remain in these areas all year until they are at least two years old.

Sanderling are declining throughout their range and the area from Killarney Beach near Warrnambool Vic to Canunda National Park in SA is their stronghold in Australia. The Glenelg Estuary and Discovery Bay Ramsar site is one of the most important sites for this species in Australia holding over 1.4% of the flyway population.

Flocks frequent the oceanic beaches, running back and forth as the waves wash in and out, actively feeding on small animals that live between the sand grains. Sometimes they are concentrated in large flocks of up to more than 1500 if a hatching of insects from the sand is happening. Flocks offer protection from predators such as birds of prey.

This project aims to fill this knowledge gap by estimating the space use, and time and energy budgets of foraging and roosting Sanderling using Discovery Bay and adjacent coastlines, (Vic/SA). In doing so, the project seeks to define roosting and foraging habitat characteristics for Sanderling in Discovery Bay. Once complete it will allow a better prioritisation of resources to safeguard critical habitat.

For updates on where the Sanderling are now, go to:

https://vhost2009.hosted-sites.deakin.edu.au/birdmark/overviewSanderlings.php

Karnkendi early in the morning (R. Jessop).

Glenelg River Estuary – lots of Pied Oystercatchers (R. Jessop)

Day 1. 11 April 2022 – Danger Point (Brown Bay, South Australia)
Information from local participants and collected on the journey from Carpenter Rocks to Nelson indicated a good flock of Sanderling could be found at Danger Point, South Australia.

An excellent catch of 86 Sanderling and two Red-necked Stint was made. Three of the Sanderling were retraps.

Day 2. 12 April 2022 – Green Point (South Australia) and Glenelg West (Victoria)
Previous observations had shown a lot of Sanderling using the area between Green Point and the Glenelg River.

A total of 55 Sanderling and 13 Red-necked Stint were caught. Six Sanderling and one Red-necked Stint were retraps.

View of the beach near Green Point, SA. (R. Jessop)

Day 3. 13 April 2022 – Blackfellows Caves (South Australia)

Having reached our target of over 200 Sanderling leg flagged (217) for the overall SA/Vic field trip, our focus turned to trying to catch Ruddy Turnstone to retrieve geolocators. Ten had been seen at Blackfellows Caves and our last day was dedicated to trying to catch them, with the focus very much on geolocator retraps.

The net was set to cover the area that seemed most attractive to the turnstone and a long wait ensued for the tide to be just right.

A close eye was kept on the catching area for geolocator birds and finally a bird with an old geolocator was in the catching site. The net was fired, and the bird captured.
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Blackfellows Caves beach, SA. (photo R. Jessop)

Thanks to everyone who participated and those that did surveys before and during our visit including members of BirdLife Australia, Friends of Shorebirds SE, Nelson Coastcare, Friends of the Great South West Walk, and Nature Glenelg Trust.

Special thanks to the farmers for allowing continued access across their properties to conduct this valuable research and to the managers of Karnkendi Campsite for looking after us. Thanks to the Glenelg Hopkins Catchment Management Authority and Southwest Environment Alliance for managing the costs of accommodation and travel.

Catch details

Date	Location	Species	New	Retrap	Total
11/04/2022	Brown Bay (Danger Point) SA	Red-necked Stint	2	0	2
11/04/2022	Brown Bay SA	Sanderling	83	3	86
12/04/2022	Brown Bay (Danger Point) SA	Red-necked Stint	12	1	13
12/04/2022	Glenelg West Vic	Sanderling	26	3	29
12/04/2022	Brown Bay (Green Point) SA	Sanderling	25	1	26
13/04/2022	Blackfellows Caves SA	Ruddy Turnstone	0	1	1
			148	9	157

Field Trip participants

Robyn Atkinson, Steve Atkinson, Jeff Campbell, Sarah Campbell, Maureen Christie, Rhiannon Fischer, Marcel Klassen, Vivien Holyoake, Colleen Hughson, Roz Jessop, Christina Loris, Ila Marks, Liam Meredith, Eric Miller, Heidi Miller, Dave Nichols, Gavin Prentice, Irin Sultana, Ewan Weaver.

South Australian Team Report
1 August 2021 – 31 July 2022

Maureen Christie and Jeff Campbell
Friends of Shorebirds SE Inc.

Local team catches, geolocators and VWSG visits

The 2021/22 season was the first in many years when catching in both SW Victoria and SE SA was planned for the same expedition. In both Nov/Dec, and April, expeditions where initially based at Carpenter Rocks followed by a stay at Karnkendi, in Nelson. Full reports of these expeditions are included elsewhere in this Bulletin. Despite the border being closed in Nov/Dec due to COVID-19 regulations, the 70km Cross-Border Community Zone meant that local SA team members could join the VWSG team at Karnkendi and Nelson resident Christina Loras could join us in SA. Thankfully, come April, borders were open, and it was wonderful to be in the field with members from Victoria and NSW. In all a total of 30 geolocators were deployed and two were retrieved.

In January we received reports of an injured Pied Oystercatcher at a secluded beach at Warrnambool. The pair were regularly monitored, so we set out armed with knowledge of how they normally used the beach. This information, and the help of a strong team, meant that a rescue was soon effected, and the injury treated. When it was resighted back at the site in June the injury was healed. It was originally banded at Rhyll aged 2, in 1991.

The South East team managed only three cannon net catches on their own account. These met with varied success, with the most interesting being a mid-August catch of 10 birds of five species. Double-banded Plover are no longer on our permit, so it was disappointing to release it unbanded. We also released unbanded a juvenile Hooded Plover which was missing its left foot. This injury did not appear to be hindering it as it weighed 97g compared to its healthy companion which was 83g.

Catching over winter is dependent on a good breeding season the preceding year. Twenty twenty-one was a below average breeding season for turnstone so it was not surprising that there were very few opportunities for a catch.

Beach Nesting Birds

We continue monitoring and protecting nests where possible.

Red-capped Plover

There were several Red-capped Plover nests early in the season with the first recorded on 21 August. However these early nests were lost to spring high tides and storm inundation. Later in the season chicks were observed at three sites but it is unknown if they fledged. We only have two Red-capped Plovers with engraved flags. B1 was banded as an adult in November 2017 in Livingston Bay. It has now been seen at Nene Valley West in the winters of 2021 and 2022 as part of a small flock. Despite regular monitoring of this beach, it has never been sighted there in summer.

Hooded Plover

Hooded Plovers were observed mating on 13 September 2021. The first nest with eggs was found in October 2021. Sixteen nests were located in the 2021/22 breeding season. Clutch size is usually two to three eggs, occasionally four. This season we recorded two nests with four eggs, the first record in our region since 1990. A count of fledged Hooded Plover chicks in 2022 sighted 15 compared to 24 the preceding season.

Data is being accumulated on the dispersal of fledged young.

ZH, banded as a chick in Little Dip Conservation Park in January and ES banded as a juvenile in Beachport in August have been regularly seen as part of a small flock on Nene Valley West. Photograph of ZH taken on 9 March.

Pied Oystercatchers

We have finally been able to band one of the adults which nest on the rocky headland at Black Rock, Nene Valley West. This has enabled us to confirm what we had long suspected – that they are the pair which have often been seen on the very westernmost end of Nene Valley beach with chicks. This year they successfully fledged two chicks, both of which we banded. They were last observed feeding together as a family group on 29 March, and Black 32 was observed with an unbanded juvenile and six adults on the following day (photo below).

We were not so successful with the experienced pair at Green Point. Both were flagged at Danger Point, C2 on 9 November 2011 aged 2 and R8 on 26 March 2016 aged 4+. The ever-vigilant parents always gave chicks ample warning so that their two chicks could retreat above the pebble bank into the impenetrable vegetation. One chick was banded. We also managed to band and flag a chick in Canunda National Park and one of two chicks at Danger Point. We recorded 11 chicks for the season, two of which fledged. A further two fledglings of unknown origin were also recorded.

Sooty Oystercatcher
Although no Sooty Oystercatcher nests were found, fledged young were observed dispersed along the coast. One small fluffy chick was found dead on Cowrie Island in late January.

Crested Tern
Crested Terns did not nest on the islet in Little Dip Conservation Park this season. Once again there was a large breeding colony at Penguin Island, Beachport and, yet again, we were unable to land on the island.

Fairy Tern
In December Fairy Terns were observed at three sites where breeding has occurred in past years. At No 2 Rocks, Canunda, they were heard calling. At Danger Point a pair was observed engaged in courting rituals. No evidence of breeding was found at either site on subsequent visits. At Cowrie island there were 60-70 flying around the island, some carrying fish. In early January terns were observed landing on the island, and a large chick was seen. On 8 January there were 30-40 adults present; also nests with eggs and chicks at all stages of development, including several that were already fledged. 53 chicks were banded. Unsuitable tides/weather meant that another visit was not made until 22 January. There were still two nests, each with an unhatched egg. We caught six chicks of which three were retraps.

We contribute to regular Zoom meetings held by the BirdLife BNB and Coastal Birds teams. Contributions are made to 'Word about the Hood'. Breeding records are entered into the BNB Portal. Three members attended the BNB Conference in Moonta.

The Glenelg Estuary and Discovery Bay Ramsar Site Project
This project has not only raised the profile of Sanderling throughout the flyway, but it has also encouraged us to make a special effort to read Sanderling flags right up to the time that they depart on migration. This has had the added advantage that we have been able to observe flocks with a high proportion of individuals showing varying amounts of breeding plumage. Full report of the project elsewhere in the Bulletin.

Last minute feeding frenzy, 4 May.

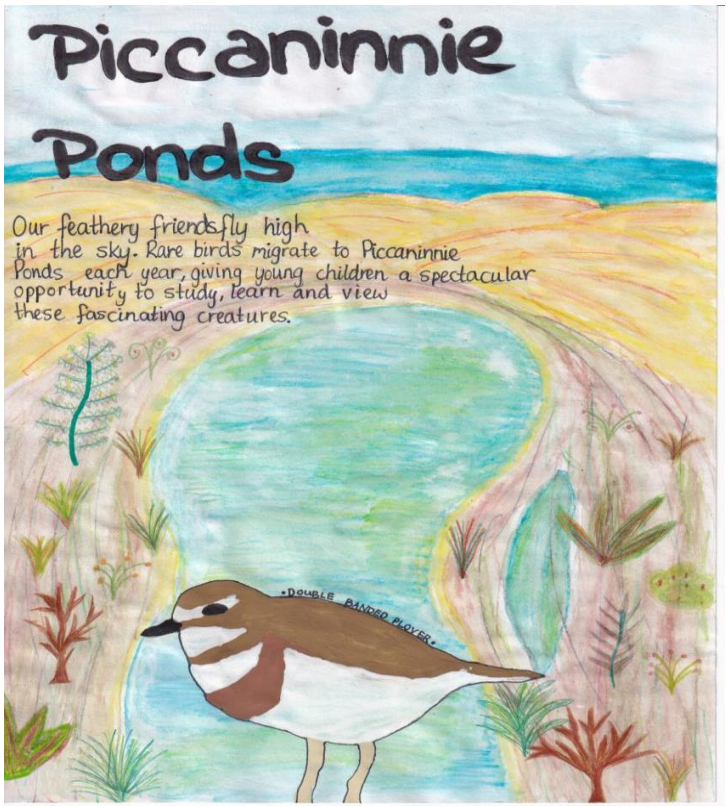
Work with schools
Waterwatch in October at Piccaninnie Ponds with the Landscape Education Team and March into May with Friends of Beachport and Canunda are now entrenched in our calendar.

We have actively promoted the Wing Threads Flight Around Oz and sponsored a leg.

Year 5 students from St Martins Lutheran College, Mount Gambier, did extremely well in the 2021 ANSTO Shorebirds Poster Competition. First, Third, one Highly Commended and one

Commended in the Schools section and in the Individuals section Third, two Highly Commended and three Commended.

This made a total of 10 certificates presented to the children following the College's Friday Worship on 12 Nov. FoSSE also gave each recipient a copy of the new migratory Wing Thing and a Ruddy Turnstone pin. Year 5 teacher, Janet Telford, and her students are warmly congratulated!



Winning Schools poster by Elvie.

Our Coorong / Our Coast
A continuing low uptake of bait is an indication that the fox baiting program is having an impact. All Site Action Plans have now been finalised and are available on the BirdLife web site. BirdLife have received additional funding to co-ordinate the implementation of selected local actions. The current project co-ordinator (Robbie Andrew) is busy working with schools to create a resident Flock. Also in the pipeline are shorebird banners to be placed at prominent roadside sites at SE towns. The project also funded the Limestone Coast Landscape logo on the wing spat of the Wing Threads ultra-light.

Healthy Coorong / Healthy Basin
Apart from being involved in public consultation on the project, our role centres around Lake Hawdon and the proposal to investigate putting in a regulator on Drain L to increase shorebird habitat in Lake Hawdon North. This has involved an on-ground inspection of the proposal, several meetings and a letter of support. In November we assisted Nature Glenelg Trust to complete a waterbird census of the lake. It is our understanding that a final decision has not yet been made as to whether this project will go ahead.

Enviro Fund Grant
The spread of Sea Wheat-grass along our coast has long been a concern. It dramatically alters the profile of the beach, creating a steeply sloping intertidal zone backed by a sand cliff. It also blocks blowouts. End result – nowhere for our beach nesting species to nest, or migrants to roost. FoSSE was successful in obtaining funding from the Federal Government's *Environment Restoration Fund – Threatened Species Strategy Action Plan – Priority Species Grants* for a project entitled *Protecting Hooded Plovers by controlling beach weeds on the Limestone Coast.* The grant is for $171,000 (plus GST). The weeds involved are Sea Wheat-grass (*Thinopyrum junceiforme*), Sea Spurge (*Euphorbia paralias),* Pyp Grass (*Ehrharta villosa)* and Beach Daisy (*Arctotheca populifolia)*.

Conservation
A managing vehicle access to South Australian beaches stakeholder forum was held in December. FoSSE is included in this, hopefully on-going, consultation. Red-necked Stint were killed by vehicles at a Kangaroo Island beach in April 2021, and Goolwa in January this year.

We were able to raise many of our concerns with the Hon. Susan Close, who is both Minister for Climate, Environment and Water and Deputy Premier, at a meeting at Bool Lagoon in July.

Dredging works at Port MacDonnell harbour were subject to an EPA licence. FoSSE has been involved in inspecting the area before dredging began to approve the spoil dumping site, and since for any evidence of impacts on shorebirds.

The Department of Environment and Water has commenced a review of the management of SE Coastal Lakes that are not protected by SA's protected area system. To date members have completed surveys and attended meetings. This will be an on-going conversation.

In addition to topics discussed in this report, comment was made on the following:
Ecological Assessment of the SA Beach-cast Marine Algae fishery under the EPBC Act.
Offshore Windfarm north of Kingston SE.
Grant Council proposed Free Camping sites.
Trial 'Dog off leash' areas. (Success - Wattle Range District Council removed two areas proposed for Beachport because of concerns shorebirds would be adversely affected).
EPBC listing of Little Tern (support).

There have been several interviews on local ABC radio, and occasional articles in the local press. A 'Shorebirds Notes' column is contributed to the Birds South East quarterly newsletter.

General
We continue to be involved in various counts and projects. Hooded Plover were counted from The Granites to the Victorian border in November and April. A summer count of Lake Hawdon South, summer and winter counts of Lake Bonney SE as well as our traditional sites of Port MacDonnell, Carpenter Rocks and Lake George were all successfully completed. Once again, we assisted in Latham's Snipe counts and the state-wide spring Wetlands and Waterfowl Survey. The waterfowl survey is held in November and this year at Lake Hawdon. Members assisted with both the summer and winter Coorong counts.

Jeff continues as both the Count and 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.

Ever changing COVID-19 regulations made organising our AGM challenging! Ross Anderson organised for us to meet in the grounds of Dingley Dell Conservation Park, for the lawns to be mown, the toilets cleaned and for us to have access to power! In the morning Roz gave a talk on Australian Pelicans and the Western Port Pelican Study Group project, followed by a picnic lunch, then the AGM. It was a great success! Thank you Ross for making this happen.

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 Limestone Coast Landscape Board 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.

SOUTH AUSTRALIAN TEAM CATCHES 01.08.2021 TO 31.07.2022

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
9.8.2021	Beachport		3			1							3		1			8
26.9.2021	Nene Valley West (net set, no catch)																	0
8.1.2022	Cowrie Island, Beachport																53	53
22.1.2022	Cowrie Island, Beachport																6	6
30.4.2022	Woolwash, Port MacDonnell														2			2
2021 Resident Permit	various noose mat & runners								4				1					5
2022 Resident Permit	various noose mat & runners	...							4						8			12
SA team this period			3			1			8				4		11		59	86
B/F SA team	26.11.2000 to 31.07.2022		691	13	106	543	107	18	69	12	1773	0	44	25	103	3	1261	4768
SA TEAM TO DATE			**694**	**13**	**106**	**544**	**107**	**18**	**77**	**12**	**1773**	**0**	**48**	**25**	**114**	**3**	**1320**	**4854**
special geo trips																		
30 Oct -2 Nov	multiple net sets SA only																	
30.10.2021	Nene Valley west					30												30
1.11.2021	Wright Bay		16			4												20
geo trip this year	migrant permit only		16			34												50
B/F geo trips	23.4.2009 - 31.7.2022		541		648	346	82	13	3	5			3			1	7	1649
GEO TRIPS TO DATE			**557**		**648**	**380**	**82**	**13**	**3**	**5**			**3**			**1**	**7**	**1699**
Thompson Beach		**18**	**31**	**21**		**61**	**42**	**1**	**6**			**21**	**10**			**13**	**31**	**255**
Eyre Peninsula			**68**		**262**	**393**	**23**	**8**	**12**	**4**	**15**		**21**			**2**	**1**	**809**
GRAND TOTAL SA TEAM	**excluding April expeditions**	**18**	**1350**	**34**	**1016**	**1378**	**254**	**40**	**98**	**21**	**1788**	**21**	**82**	**25**	**114**	**19**	**1359**	**7617**

21.01.2022 **Warrnambool** **Rescue of Pied Oystercatcher**

TOTAL TO DATE - TERNS

	SE	Yanerbie	T.Beach	Totals
Crested	1010	1	1	1012
Fairy	233		5	238
Caspian	1		11	12
Whiskered	6		14	20
Little	18		.	18
TOTAL TERNS	1268	1	31	1300

TOTAL TO DATE - OTHER

	SE	Yanerbie	T.Beach	Totals
Black-fronted Dotterel	3		.	3
Golden Plover	1		1	2
Broad-billed Sandpiper		1	.	1
Common Greenshank	.		7	7
Great Knot	.		6	6
TOTAL OTHER	4	1	14	19

SOUTH AUSTRALIAN TEAM CATCHES - Month Waders Caught 26.11.2000 TO 31.07.2022

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Ruddy Turnstone	6		16	266	48	16	46	90	98	1	107		694
Red Knot				1		12							13
Sanderling		17	2	82				5					106
Red-necked Stint		34	41	107	4	20	49	94	122	43	7	23	544
Sharp-tailed Sandpiper									6	101			107
Curlew Sandpiper						2	7	6		3			18
Pied Oystercatcher	28	5	1	1	1			2	1		10	28	77
Sooty Oystercatcher	3		2	4	2						1		12
Banded Stilt	208	173	12	351		54	429	520				26	1773
Red-capped Plover	5	5	9	6				9	1	7	2	4	48
Double-banded Plover			4	7		4		10					25
Black-fronted Dotterel			3										3
Hooded Plover	29	8	17	9	2			2	5	7	19	16	114
Little Tern	17	1											18
Fairy Tern	118	172	2										292
Crested Tern	1010												1010
TOTALS	1424	415	109	834	57	108	531	738	233	162	146	97	4854

excludes April expeditions & special geo expeditions by visiting Vic teams, Thompson Beach and Eyre Peninsula catches.

Dr Margaret Rowe and Terri Allen recognised on Queen's Birthday Honours List

Terri Allen and Dr Margaret Rowe have been awarded a Medal of the Order of Australia (OAM), after dedicating decades of their lives to a range of conservation projects and environmental groups. Margaret is a long term member of VWSG and Terri participated in field work in the 1990's and 2000's.

The retired school teachers were involved in many of the same groups such as the South Gippsland Conservation Society, Wonthaggi Seed Bank and Nursery and Latrobe Valley Field Naturalists. Both women were also part of the Prom'n'aides Survey Group, which undertook research at Wilsons Promontory following a 2005 bushfire in order to monitor the recovery of the area.

Intertidal areas are "very dear" to Dr Rowe and she's worked over many decades to protect such areas.(Photo: ABC Gippsland: Kerrin Thomas)

Dr Rowe's particular interest in the intertidal areas along the southern Gippsland coast led to her work urging conservation of the important ecological areas.

She has also been a member of the Victorian Wader Study Group for about 40 years. The group collects information on migratory shore birds and more recently started using satellite trackers to identify important areas for these birds on their international migration. **"**They feed

here before they take off for the north each year but they lose weight as they fly so they need to stop somewhere and get food," she said. "Then they continue and if they're in good condition when they get to the Arctic, they're ready to breed.

"The group is now helping Deakin University … they're using some of our data in ways that we weren't able to and working out a lot more about the life of the birds and where the important spots are."

Ms Allen at the Rifle Range Wetlands at Wonthaggi, a site she helped rejuvenate from an almost-bare field.(Photo: ABC Gippsland: Kerrin Thomas)

Spurred on by a lifelong love of botany, Ms Allen wrote a book, *Gippsland Lady Botanists*, in an attempt to rectify the lack of recognition for female botanists. "I identified eight people … and I thought these women had done such a great job in sending stuff to the herbarium and helping all the botanists, and yet they weren't acknowledged a lot," she said. "I thought I'd try and find out what they did for the community and I wrote it up and someone said we might as well publish it, so that's what we did."

Clive Minton Medallion citation 2021: Maureen Christie

Petra Hanke and Roz Jessop

The recipient of the 2021 Clive Minton Medallion is Maureen Christie. The award is a Medal of Merit for Outstanding Contribution to the Victorian Wader Study Group, awarded annually to an exceptional member. The Medallion was established when Clive Minton resigned as Chair of the VWSG, in honour of Clive's immense and lasting input into the group. Maureen is the third recipient of the Medallion, after Roz Jessop (2019) and Ken Gosbell (2020).

Maureen was awarded the Clive Minton Medallion 2021 during the virtual AGM of the VWSG on August 28, 2021. The physical presentation of the Medallion took place after the travel restrictions in Victoria had ended, at the group's Awards Presentation and Equipment Repair Day on May 21, 2022.

Maureen Christie has been involved with the VWSG since 1995 – the year after her early retirement and move to the South East of South Australia. When the VWSG team returned to the area to continue their study of Sanderling and Ruddy Turnstone, Maureen started out as a field assistant. From 1995, she trained as a bird bander and cannon-netter and received her Australian A-class bird banding authority with cannon-netting endorsement in 2001.

Since 2001, Maureen has dedicated her full-time volunteer work to migratory and resident shorebird conservation, research and education. She has been co-leading and leading shorebird fieldwork in South Australia ever since. This has included surveying and catching in the South East (determining Sanderling and Ruddy Turnstone departure weights, conducting monthly winter counts over five years, undertaking geolocator work), in the Thompson Beach area (satellite tracking of Grey Plovers), and on the Eyre Peninsula (Yanerbie 2011 led by Clive, and 2012/2013/2014 led by Maureen: studying Sanderling and Ruddy Turnstone site fidelity and migration). She has also been teaching bird banding trainees and educating the public about shorebirds and their needs.

Maureen has been involved in shorebird counts both along the coast at the Coorong and in the adjacent lakes systems. Other projects involving resident shorebirds include a study of Bush Stone-curlew in Bordertown, banding of Banded Stilt chicks at Lake Eyre and monitoring and protecting Hooded Plover and tern nests along the coast.

Maureen has participated in VWSG fieldwork in other states as well, e.g. on King Island, Tasmania, and at Werribee and Discovery Bay in Victoria, and has taken part in over ten of the annual shorebird and tern field work expeditions to the remote north-west of Western Australia run by the Australasian Wader Studies Group (AWSG), many of which she has also co-led.

In 2005, Maureen initiated the founding of Friends of Shorebirds SE (FoSSE), based in the South East of South Australia, which has complemented and supported the work of the VWSG. Maureen has served as FoSSE's Secretary and Treasurer since the group's inception.

Maureen has become widely known as a passionate, knowledgeable and skilled shorebird researcher, conservationist and educator, who has been working tirelessly and to the highest standards. She was the driving force behind the beach-wrack campaign 2014-2016 led by FoSSE, which ultimately succeeded at Administrative Appeals Tribunal level. In this campaign, FoSSE, based on long-term data collected by the VWSG and the AWSG, and with advice of colleagues from these groups, achieved a consent agreement in the South

Australian fisheries policy for harvesting beach-cast marine algae that has ensured adequate protection for the shorebird species that would otherwise have been negatively impacted.

Maureen has continually promoted shorebird conservation through hosting school outings, giving presentations at conferences and for community groups, radio interviews, dogs breakfasts, local museum displays, work with the South Australian Museum, representation at departmental and planning meetings and bylaw reviews, and participation in public consultation forums with the SA authorities such as the Department of Environment and Water and its predecessors. At a local level, she has run “Dollies” field days: shorebird surveying and leg flag reading along the coast for FoSSE members on almost every Wednesday throughout the year.

Maureen has also served as a member of the General Committee of the VWSG since (at least) 2003/2004, and on the group’s Scientific Advisory Committee since it was formally established in 2017/2018. Moreover, she has authored and co-authored many articles in the VWSG Bulletin, as well as numerous reports, scientific papers and newsletters in various other journals and outlets.

In short - Maureen is a passionate, competent, hard-working and ethical person, who has been involved with the VWSG since 1995 and has focussed her full-time volunteering on shorebird research, conservation and education since 2001. Maureen has undoubtedly made a remarkable contribution to the VWSG and is a deserving recipient of the Clive Minton Medallion.

In 2021/22 Maureen was also a finalist in the 2021 SA Environment Awards – Unsung Hero Award; listed on the South Australian Women’s Honour Roll; awarded the Australian Wildlife Society Serventy Conservation Award ($2,500 prize donated to VWSG) and a finalist in the SA Volunteer Awards – Joy Nobel Medal.

Photos: Prue Wright

Life Membership of Victorian Wader Study Group

The recipients of VWSG life membership in 2021 were Graeme and Margaret Rowe, Pat Minton and Paul Buchhorn. Life Membership is an honour bestowed on individual VWSG members whose exceptional, loyal, and outstanding service and contribution has provided measurable benefit to the VWSG over an extended time period.

They were awarded during the 2021 virtual AGM of the Victorian Wader Study Group on 28 August 2021. The physical presentation of the certificates took place after the travel restrictions in Victoria had ended, at the VWSG awards presentation and equipment repair day on 21 May 2022.

Graeme and Margaret Rowe
Graeme and Margaret have been members of the VWSG for 40 years. Graeme and Margaret are most active in the Gippsland Region within reach of their home base in Leongatha and have been key team members in most field work in this area over the decades. They were often accompanied into the field by their sons Michael and Chris while they were undertaking studies. Graeme specialized in maintaining technical equipment such as firing boxes and cables as well as often taking on the role of “firing” the net in the field. Both Graeme and Margaret took a leadership role in training new members in net setting, extraction, and processing, of shorebirds and terns ensuring minimum stress to the birds. Margaret has been an assistant editor for the VWSG Bulletin for several years.

Paul Buchhorn
Paul Buchhorn and his wife Anna have been members of the VWSG since 1998 and were actively in the field for many years, both attending field work and, in their kayaks, undertaking recces at Hastings for oystercatchers. Paul became the equipment officer in 2002 taking over from Allan Clarke. His background in engineering led to improvements in cannon design. He also undertook cannon, cartridge and projectile maintenance, production of cannons and projectiles, sourcing of materials for oystercatcher flags, and trailer maintenance – a major role in keeping the group active in the field.

Pat Minton
Pat has a long-standing interest in shorebird conservation and was involved in field work with the Wash Wader Ringing Group in the UK before migrating to Australia. She was a founding member of the VWSG in 1979. Pat actively participated in field work all over south east Australia and attended many Australasian Wader Studies Group expeditions to Broome in WA. Pat and the late Clive Minton’s residence has been the hub of the VWSG for decades, for equipment storage, annual general meetings, equipment mending days, and hosting interstate and international shorebird aficionados. The AGM was always a big affair with Pat in charge of catering – a role she also undertook on the early Australasian Wader Studies Group expeditions to Broome. In recent years her field role lessened but she was a key driver to ensure Clive could actively continue in the field and took a keen interest in all the behind-the-scenes work, often stepping in to type urgent emails. Pat continues to support the group by hosting VWSG events and storage of equipment.

Wader Breeding Success in the 2021 Arctic Summer, Based on Juvenile Ratios of Birds which Spend the Non-breeding Season in South-east Australia

Roz Jessop[1], Rob Patrick[2], Robyn Atkinson[3], Maureen Christie[4] and Ila Marks[5]

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Abstract
Overall, wader breeding success in 2021, based on the ratio of juvenile birds captured in south-east Australia and compared to the long-term averages (21-24 years), was average for three of the species successfully monitored: Curlew Sandpiper (16.9%), Sanderling (12.9%), and Sharp-tailed Sandpiper (17.7%), with Ruddy Turnstone (8.7%) and Red-necked Stint (10.8%) having low breeding success.

Introduction
Each year wader banders in Australia attempt to collect 'percentage juvenile' data to measure the annual breeding success of wader populations which spend the non-breeding season in south-east Australia. The Victorian Wader Study Group (VWSG) aims to monitor breeding success for seven species. All birds are caught by cannon netting between mid-November and March/early April (depending on the species) on the Victorian coast, on coasts in the south-east of South Australia (around Port MacDonnell to Nora Creina) and on the Bass Strait island of King Island, Tasmania.

In south-east Australia (SEA), birds are caught at a range of sites, mostly the same sites each year. The Coronavirus disease (COVID-19) pandemic in 2021/22 negatively impacted on the field season. Also, changes in beach morphology - especially sandbars where birds roost - meant no data were collected for Bar-tailed Godwit and Red Knot.

In 2021, Australian state governments' restrictions prevented the usual field trip in December to King Island, Tasmania to monitor Ruddy Turnstone. In addition no catching took place in north-west Australia due to travel restrictions; thus only SEA data is available.

Methods
In SEA sampling took place between mid-November 2021 and early April 2022. The usual techniques for catching/ageing birds etc. were employed (Minton *et al.* 2005). A sample of between 100 and 220 birds is the minimum used for percentage juvenile figures; this gives a juvenile fraction error range of 0.1 to 0.15 (Rogers & Standen 2019).

Results & Discussion
A total of 1879 birds, for five of the seven species targeted for annual monitoring were caught in south-eastern Australia (SEA) in the sampling period (Tables 1 and 2). As usual, Red-necked Stint topped the species catch total with 931 individuals caught during the mid-November to early April monitoring period.

Red-necked Stint: The percentage of juveniles (10.8%) is lower than last year (18.5%) and is lower than the long-term average (16.9%) (Tables 1 and 2). It should be noted that the catches used in this estimate, as for last year, were made at Yallock Creek in Victoria, a location where the proportion of juveniles is known to be higher than at other sites usually sampled (VWSG unpublished data). Due to changes in habitat management at the other

major catch site (the Western Treatment Plant) no significant catches of Red-necked Stint were made. This site typically has lower proportions of juveniles than Yallock Creek (VWSG unpublished data).

Curlew Sandpiper: With 16.9% juveniles in 2021, breeding success matches the long-term average breeding success of 16.9% (Tables 1 and 2).

Sharp-tailed Sandpiper: With 17.7% juveniles in 2021, similar to the long-term average (18.7%), these appear to have had average breeding success (note sample size is only 99 birds).

Sanderling: The percentage of juveniles in 2021 (12.9%) is similar to the long-term average (14.6%).

A total of 148 Ruddy Turnstone were caught during the sampling window. The breeding success (8.7%, Table 1) appears to be below average compared to the long-term average of 14.8% and follows last year's breeding success of 13.0% for this species (Table 2).

We always find Red Knot the hardest species to catch and monitor and in the 2021/22 non-breeding season we were not able to catch enough birds in the VWSG field sites. Similarly, we did not catch enough Bar-tailed Godwit to report on percentage juveniles in the populations.

Overall, wader breeding success in 2021, based on the ratio of juvenile birds in catches in south-east Australia and compared to the long-term averages (21-24 years), was average or for three of the species successfully monitored: Curlew Sandpiper (16.9%), Sanderling (12.9%), and Sharp-tailed Sandpiper (17.7%), with Ruddy Turnstone (8.7%) and Red-necked Stint (10.8%) having low breeding success.

Acknowledgements
All the relevant wildlife authorities are thanked for granting ethics, scientific and banding permits in Victoria, South Australia and Tasmania. The Australian Bird and Bat Banding Scheme issued a project permit and supplied metal bands.

VWSG acknowledge the Traditional Owners of the land on which we conduct field research and pay our respects to Elders past and present.

References
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Table 1. Percentage of juvenile (first year) waders in cannon-net catches in south-east Australia 2021-2022.

Species	No. of catches			Juveniles		Long-term average*		Assessment of 2021 breeding success
	Large (>50)	Small (<50)	Total caught	No.	%	% juvenile (no. years)		
Red-necked Stint *Calidris ruficollis*	5	3	931	101	**10.8**	16.9	(24)	Low
Curlew Sandpiper *C. ferruginea*	2	2	362	61	**16.9**	16.9	(23)	Average
Bar-tailed Godwit *Limosa lapponica*	-	-	--	-	-	-	-	(not assessed)
Red Knot *C. canutus*	-	-	--	-	-	-	-	(not assessed)
Ruddy Turnstone *Arenaria interpres*	0	11	148	13	**8.7**	14.8	(24)	Below average
Sanderling *C. alba*	3	4	339	44	**12.9**	14.6	(21)	Average
Sharp-tailed Sandpiper *C. acuminata*	1		99	17	**17.7**	18.7	(22)	Average

All birds cannon-netted in the period 2 November to 25March except Sharp-tailed Sandpiper (December only), Curlew Sandpiper to 5 March and some Ruddy Turnstone and Sanderling to early April and one Sanderling catch in late April (2015).
*Includes the 2021/22 figures.

Table 2. Percentage of juvenile (first year) birds in wader catches in south-east Australia 1998/1999 to 2021/22

Species	1998/99	99/00	2000/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/03	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	*Average*	Years
Red-necked Stint *Calidris ruficollis*	32	23	13	35	13	23	10	7.4	14	10	15	12	20	16	22	17	19	6	31.3	3.8	9.5	24.3	18.5	10.8	16.9	24
Curlew Sandpiper C. ferruginea	4.1	20	6.8	27	15	15	22	27	4.9	33	10	27	(-)	4	3.3	40	5.1	1.9	47.6	5.4	9.9	25.0	18.2	16.9	16.9	23
Bar-tailed Godwit *Limosa lapponica*	41	19	3.6	1.4	16	2.3	38	40	26	56	29	31	10	18	19	45	15	26.7	12.5	20.4	3	(-)	(-)	(-)		
Red Knot *C. canutus*	(2.8)	38	52	69	(92)	(86)	29	73	58	-75	(-)	(-)	78	68	(-)	(95)	(100)	(100)	90.3	33.3	(-)	(-)	(-)	(-)		
Ruddy Turnstone *Arenaria interpres*	6.2	29	10	9.3	17	6.7	12	28	1.3	19	0.7	19	26	10	2.4	38	17	2.3	28.6	7	25.7	17.4	13.0	8.7	14.8	24
Sanderling *C. alba*	10	13	2.9	10	43	2.7	16	62	0.5	14	2.9	19	21	2	2.8	21	14	6.8	17.5	(-)	11.6	(-)	(-)	12.9	14.6	21
Sharp-tailed Sandpiper *C. acuminata*	11	10	16	7.9	20	39	42	27	12	20	3.6	32	(-)	5	18	19	16	8.9	(-)	27.8	45.9	2.0	10.2	17.7	18.7	23

All birds cannon netted between 15 November and 25 March, except Sharp-tailed Sandpiper and Curlew Sandpiper to end February only and some Ruddy Turnstone and Sanderling to early April and one Sanderling catch in late April (2015). Averages (for 23 years) exclude figures in brackets (small samples) and include 2021/22 figures.

VWSG papers and presentations of interest: Access at vwsg.org.au

Choi, C.-Y., H.-B. Peng, P. He, X.-T. Ren, S. Zhang, M. V. Jackson, X. Gan, Y. Chen, Y. Jia, M. Christie, T. Flaherty, K.-S. K. Leung, C. Yy, N. J. Murray, T. Piersma, R. A. Fuller, and Z. Ma. 2019. Where to draw the line? Using movement data to inform protected area design and conserve mobile species. Biological Conservation **234**:64-71.

Clemens, R., Rogers, D., Minton, C., Rogers, K., Hansen, B., Choi Chi-Yeung & Fuller R., 2021; Favourable inland wetland conditions increase apparent survival of migratory shorebirds in Australia. Emu - Austal Ornithology 121, 211-222.

Hansen, B., & Bonney, P. 2022. Learning from successful long-term citizen science programs. Pacific Conservation Biology. doi:10.1071/PC21065

Hansen, Birgita D., Rogers, Danny I., Watkins, Doug, Weller, Dan R., Clemens, Robert S., Newman, Mike, Woehler, Eric J., Mundkur, Taej, and Fuller, Richard A. 2022. Generating population estimates for migratory shorebird species in the world's largest flyway. Ibis 164 (3) 735-749. https://doi.org/10.1111/ibi.13042

Hansen, B. D., Szabo, J. K., Fuller, R. A., Clemens, R. S., Rogers, D. I., & Milton, D. A. 2021. Insights from long-term shorebird monitoring for tracking change in ecological character of Australasian Ramsar sites. *Biological Conservation*, *260*, 109189.

Jessop, R. Bush, R, Patrick, R, Atkinson, R, Christie, M & I. Marks. 2020 Wader breeding success in the 2019 arctic summer, based on juvenile ratios of birds which spend the non-breeding season in Australia. – *Stilt 73 106-.108.*

Lisovski, S., Gosbell, Minton, C. & Klaassen, M. 2020. Migration strategy as an indicator of resilience to change in two shorebird species with contrasting population trajectories', *published* on line by Journal of Animal Ecology at https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2656.13393. Simeon has prepared a short introductory video to the paper at https://www.dropbox.com/s/6kvza5vn7m9atqu/lisovski_et_al_2020_v2.mp4?dl=0

McQueen, A., Klaassen, K. Tattersall, Atkinson, R., Jessop, R., Hassell, C. & Christie. M. **2022.** Thermal adaptation best explains Bergmann's and Allen's Rules across ecologically diverse shorebirds. Nature Communications .

Minton, C & Jessop, R. & Hassell, C. & Patrick, R & Atkinson, R & I. Marks. 2020. Wader breeding success in the 2018 arctic summer, based on juvenile ratios of birds which spend the non-breeding season in Australia. *Stilt 73 87-89.*

Minton, C, Atkinson, R, Leung, K. & Patrick. I. 2020 VWSG King Island visit report 22-31 March 2019.
73: 101-105.

Smith, B., Waudby, H., Alberthsen, C., & Hampton, J. 2022. Wildlife Research in Australia. CSIRO. (Contributor to chapter on Wildlife capture methods, Wildlife marking methods, Research methods for birds).

Conferences:

Society for Conservation Biology Twitter Conference #scbmelb20 (30-31 July 2020)
Michelle Wille - @vwsg_web - Forty years of citizen science monitoring reveals insights to the extraordinary lives of waders.

Through 40 years of cannon netting, banding and recently use of geolocators, the VWSG has revealed insights into the lives of waders. Specifically, habitat use, migration strategies longevity and survival, which all contribute to advancing wader science and conservation.

International Shorebird Twitter Conference
VWSG- Forty years of citizen science monitoring reveals insights into the extraordinary lives of waders
https://threadreaderapp.com/thread/1314135994887671809.html

Uncovering virus diversity and potential disease pressure on shorebirds -Michelle Wille - https://threadreaderapp.com/thread/1314113311466692609.html

Shorebirds like to stay low - wind support appears secondary factor in migratory flight altitude - Batbayar Galtbalt - https://threadreaderapp.com/thread/1314138423117012992.html

1st East Asian Australasian Flyway Shorebird Science Meeting November 3-5, 2020 (web conference)

Ken Gosbell, Victorian Wader Study Group: Insights from 10 years of geolocator studies in Australia with particular reference to changing migratory behaviour of Ruddy Turnstone

Marcel Klaassen, Deakin University: Survival of long-distance migrants evaluated from 40 years of Australian banding data

Victorian Wader Study Group Bulletin 2021.
Available at https://vwsg.org.au/wp-content/uploads/2021/08/VWSG-BUlletin-2021-amended.pdf

VWSG Financial Report for 2021/22

The COVID-19 pandemic has continued to make an impact for much of the year, but activities are picking up considerably.

Membership numbers are down a bit on previous years' numbers.

The total income for this year has more than doubled last year's. This is mainly due to the generosity of a few major donations from: Doris Graham, in her will; Friends of Mud Islands; and Maureen Christie, from her Serventy Award earlier this year. Many other members have made donations when paying their memberships. Thank you also to the many in-kind donations of time and effort given by so many.

The new design T-shirts have been very popular and are selling well.

The cost of the new BirdMark Website was shared equally between VWSG and AWSG, and Melbourne Water once again subsidised the cost of accommodation at Werribee (during field work at the Western Treatment Plant).

Other expenditures to note are the engraved leg flags; equipment upkeep; boating expenses; and a donation to the funding of Wing Threads, where Milly Formby did a flight of the migratory shorebirds to raise awareness and speak about shorebirds to schools.

The reserves are looking very healthy at this stage.

Tessa Lamin

Treasurer

Victorian Wader Study Group Inc

Income and Expenditure Statement for the year ended 30 June

Opening Balance 1/7/2021		**$ 80,431.31**
INCOME		
Membership	3665.00	
Donations	23965.63	
VWSG T Shirts	2296.95	
Petty Cash Deposit 117.70	0.00	
Interest Term Dep	93.43	
Interest Cash Reserve	5.42	
Stickers	115.50	
Melbourne Water acc refund	1000.00	
INT3	470.00	
AWSG support BirdMark	2750.00	
Total Income		$ 34,361.93

EXPENDITURE

Incorporation Fee	60.10	
Trailer Registration	61.40	
Engraved Flags	1341.53	
General Exp - Equip Upkeep	746.53	
T Shirts	1304.92	
BirdMark website	5500.00	
Accommodation, Werribee	1200.00	
Boat Hire mud islands	479.00	
Postage	494.81	
Stickers	147.90	
Donations	500.00	
TOTAL EXPENDITURE		11,836.19

BANK RECONCILIATION

Bank balance as per Statement		$ 40,558.93
Less unpresented cheques		$ -
		$ 40,558.93
Balance at 30 June 2022		
Westpac Cheque Account	40558.93	
Westpac Cash Reserve	17725.71	
Westpac Term Deposit	44672.41	
Total	$ 102957.05	

VWSG Membership 2022

Financial Members

Bev & Geoff Abbott
Charles & Jocelyn Allen
Mark Anderson
Deborah Andrew
Max Arney
Robyn & Steve Atkinson
Mile & Amanda Bamford
Ryan Barnaby
Graham & Jenny Beal
Andy Bennett & Kate Buchanan
Margaret Bennett
Rob & Gail Berry
David Billinghurst
Stephen Brend
Robert Brinkman
Malcolm & Judy Brown
Paul & Anna Buchhorn
Ian Cairns
Jeff & Sarah Campbell
Thomas Canasse
Mervyn & Ann Chappel
Smathie Chong
Maureen Christie
Allan Clarke & Marj Reni
Prue Clements
Bretan Clifford
Mike Connor
Julian Correia
Tahlia Cruise
Jackie Dargaville
Mike Dawkins
Bob Dawson
Xenia Dennett
Joris Driessen
Dianne Emslie
Jon Fallaw & Becky Hayward
Maureen & Robin Fitzgerald
Jason Flesch
Christine Freestone & family
Brett Gardner
Kate Gorringe-Smith
Ken & Carlene Gosbell
Andrew & Kath Gosden
Olivia Gourley
Nathan Gregory
Nicole Grenfell
Jim & Surong Gunn
Susie Guthrie
Angie Gutowski
Petra Hanke & Chris Scholz
Angela Hansen
Birgita Hansen
Jennifer Hiscock & Phil Cole
Trevor Hodson
Andrej Hohmann
David Hollands
Vivien Holyoake
Yvonne Honey
Tania Ireton
Roz Jessop
Peter, Murray & Hannah Johns
Steve Johnson
Sue Johnson
Geoff Jones
Keith Jones
Estelle Kayler-Thomson
Marcel Klaassen
Steve Klose
Tessa & Angus Lamin
John Lawson
Hannah Lee
Sally Leonard
Amanda Lilleyman
Janet Limb
Ludith & Greg Little
Gabriel Low
Gary Matthews
Anne McMillan
Alex McQueen
Ila Marks, Eric Miller & Heidi Gary Matthews
Jeanette Miller
Pat Minton
Lorraine Moore
Lynn Murdoch
Museums Victoria
John Newman
Maureen, Paul & Jordan O'Neill
Geoff Osler
Graham & Vicki Parkyn
Rob & Linda Patrick
Reece Pedler
Hugo Phillipps
Jim & Heather Phillipson
Alan & Wendy Pilkington
Mike Preeston
Thomas Putt
Ann & Peter Renkin
Jim & Jenni Reside
Roger & Annabel Richards
Hannah Elizabeth Roberts
Bruce Robertson
Danny Rogers
Evelyn Ronalds
Toby Ross
Graeme & Margaret Rowe
Liz Sarrailhe
Charles Silveira
Mark & Mem Smith
Bell Snow
Andrew & Suzie Spiers
Roger Standen
Kieran Stephenson-Banks
Ian Stevenson
Jonathon Stevenson
Iain & Sandy Stewart
James Stockton
John Stoney
Bob Swindley
Naoko Takeuchi
Laura Tan
Christine Taylor
Mattea Taylor
Derryn & Peter Thomas
Amy Tipton
David & Wendy Trudgen
David Van Veldhuisen
Mary-Ann Vantrigt
Helen Vaughan & Rodney McFarlane
Inka Veltheim
Will Webster
Mike Weston
David Wilbraham
Michelle Wille
Louise Williams
Ross Williamson
Jack Winterbottom
Bob & Dianne Winters
Jerry Wong
Sharon Woodend
Prue Wright
Vivian Zajicek

Unfinancial Members

Basil Artimedes
Sue Bryceson
Jenna Diehl
James Dunlop
Alice Ewing
Rory Ferguson
Gregg Kerr
Debbie King
Irma Kluger
Brett Lane
Moira Longden
Richard Loyn
Meg Macmillan
Pat Macwhirter
Piper Mangan
Laura Rhodes
Don & Jude Ripper
Luke Rozek
Sue & Rod Slater
Hannah Smith
Bill Steele
Doug Watkins
Jennifer Williams
Annette Willis

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

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Vignettes by Stephen Davidson & Jeff Campbell